

The background of the cover is a photograph of a red Siemens locomotive pulling several empty freight cars along a railway track. The train is moving towards the viewer on a gravel bed. In the background, there is a large body of water, likely a lake or a wide river, under a clear blue sky. A small white building is visible on the left side of the track.

SIEMENS

2022

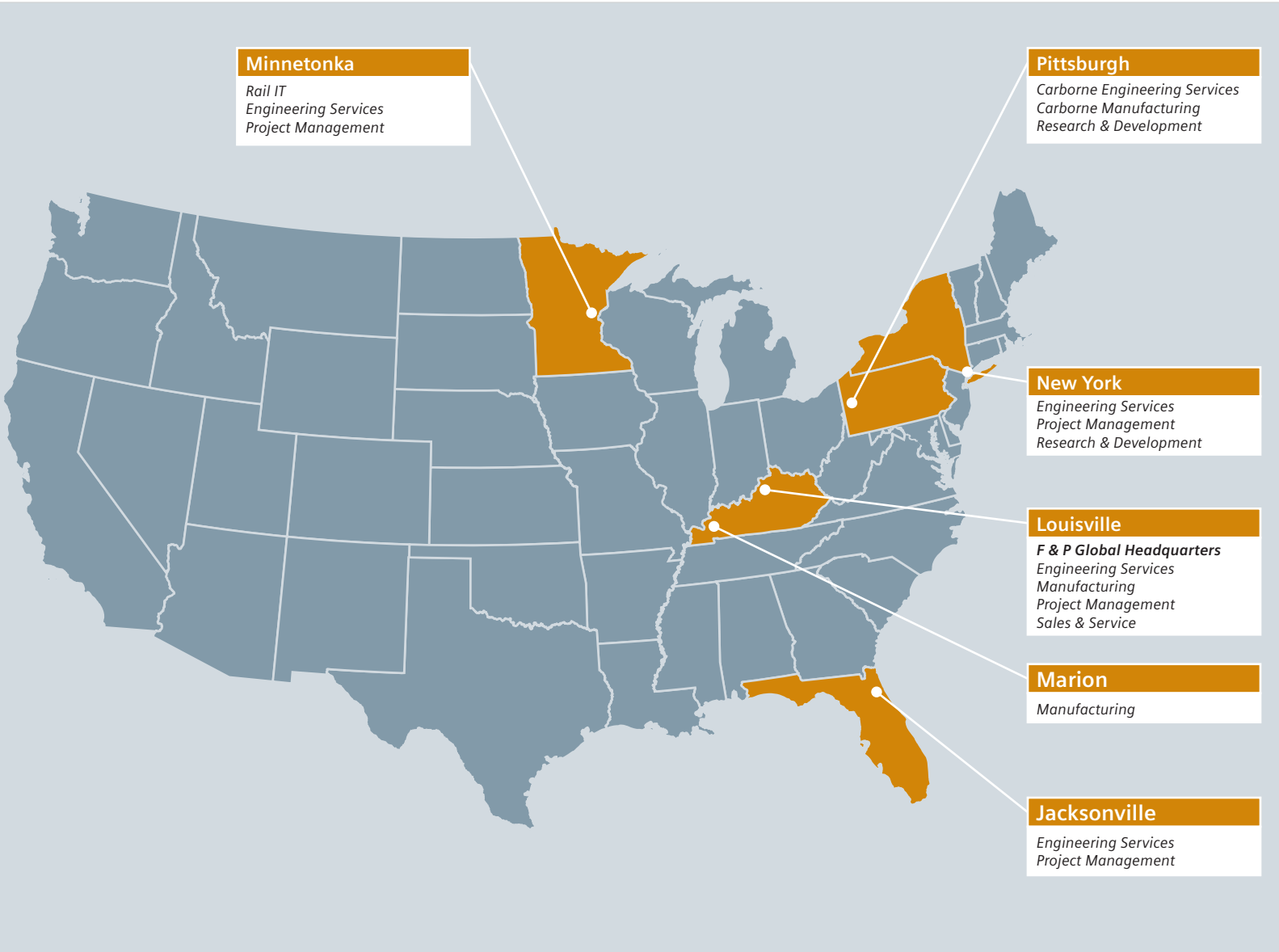
Rail Automation

Products Catalog

SIE-RA-CMP-001-18-EN

Offices in the United States

Offices in the United States for Rail Automation supports Engineering, Manufacturing, Research and Development systems and services in a way to receive timely and consistent help whenever you need it.



Technical Assistance

Technical Assistance for Rail Automation supports you with all technical inquiries relating to our products, systems and services in a way to receive timely and consistent help whenever you need it.

Any more questions?

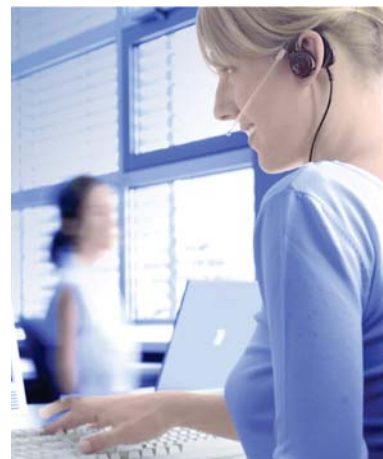
Our experts are there to help you by telephone or e-mail with technical assistance

Phone: 1 800 793 7233 Option 1
RA.RailTechSupport.ic@siemens.com



Competent and fast technical advice regarding:

- Product Configuration
- Product Selection
- Particular Requirements
- Special Variants
- Competitor Conversions



Part Number Nomenclature

You will notice some changes in regards to our part numbers.

In order to harmonize across our network, you will now see a prefix of either NYK: or US2: with our part numbers.

If you have a previous SIEMENS part number, a good rule of thumb to determine the new part number is to remove all of the dashes within the older part number and then add the prefix of NYK: on anything not related to a relay.

With a relay product, retain the dashes and add the prefix of US2:

FEEDBACK

We greatly value your feedback!

With the new and improved layout and updated information provided in this edition, we would appreciate any feedback you have as to how we can improve for future releases.

Please send any questions, comments or concerns to

RA.CustomerFeedback.lc@siemens.com

Catalog SIE-RA-CMP-001-18-EN



Twenty Fifth Edition: January 2018

Supersedes:

All previous catalogs

For additional questions,
Please contact your local Siemens branch.

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Contact Us



Freight Products

Telephone:

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Facsimile:

1 (502) 371-0701

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ra.csorders.ic@siemens.com

Repair Email:

ra.csrepair.ic@siemens.com

Estimating Email:

ra.estimateding.ic@siemens.com

Carborne Systems

Telephone:

1 (800) 793-7233 Option 2

Facsimile:

1 (855) 434-8436

Ordering / Repair Email: carbsys-custserv.mobility@siemens.com

Trademarks

All product designations may be registered trademarks or product names of Siemens AG or other supplying companies. Third parties using these trademarks or product names for their own purposes may infringe upon the rights of the trademark owners.

Further information about rail automation products:

usa.siemens.com/rail-automation

Standard Terms and Conditions of Sale

Siemens Industry, Inc.

Mobility –Mobility Management –Rail Automation Products

July 1, 2016 (Rev. 1.1)

1. Applicable Terms. This Agreement governs the sale of equipment, components, parts, and materials provided by Siemens (“Products”). Any applicable addenda, these terms, Siemens proposal, price quote, purchase order, or acknowledgement issued by Siemens form the parties’ final agreement (“Agreement”). In the event of a conflict between these documents, precedence shall apply in accordance with the order listed in the previous sentence. Siemens’ proposal, offer or acceptance is conditioned on Buyer’s acceptance of this Agreement. Any additional or conflicting terms in Buyer’s request for proposal, specifications, purchase order or any other written or oral communication are not binding on Siemens unless separately signed by Siemens. Siemens’ failure to object to Buyer’s additional or conflicting terms does not operate as a waiver of any terms contained in this Agreement.

2. Pricing & Payment. Prices and payment terms are: (i) as stated in Siemens’ proposal, or if none are stated; (ii) Siemens’ standard prices in effect when Siemens receives Buyer’s purchase order; or if neither (i) or (ii) apply, then Siemens’ standard prices in effect when the Products ship.

(a) **Payment.** Unless stated in Siemens’ proposal, all payments are due net thirty (30) days from the invoice date in United States Dollars.

(b) **Credit Approval.** All orders are subject to credit approval by Siemens. Siemens may modify, suspend or withdraw the credit amount or payment terms at any time. If there is doubt as to Buyer’s financial condition, Siemens may withhold manufacturing or shipment, require cash payments, or require other satisfactory security. Siemens may recover shipped Products from the carrier pending such assurances.

(c) **Installment Shipment.** Where Products are delivered in shipments or only part of a shipment fails to comply with this Agreement, the Buyer may only reject the non-compliant portion. Buyer will separately pay for each shipment. If Siemens holds or stores Products for Buyer, it shall do so at Buyer’s sole risk and expense.

(d) **Taxes, Shipping, Packing, Handling.** Unless stated in writing by Siemens, Siemens’ prices exclude charges for freight, unloading, storage, insurance, taxes, excises, fees, duties or other government charges related to the Products. Buyer will pay these amounts or reimburse Siemens. If Buyer claims a tax or other exemption or direct payment permit, Buyer will provide a valid exemption certificate or permit and indemnify, defend and hold Siemens harmless from any taxes, costs and penalties arising from same. Siemens’ prices include the costs of its standard domestic packing only. Any packing deviation, including U.S. Government sealed packing, will be charged to Buyer. Increases, changes (including in application), adjustments or surcharges which may be incurred are for Buyer’s account.

(e) **Late Payments.** Late payments shall bear interest at an annual percentage rate of twelve percent (12%) or the highest rate allowed by law, whichever is lower.

(f) **Disputed Invoice.** If Buyer disputes all or any portion of an invoice, it must first deliver written notice to Siemens of the disputed amount and the basis for the dispute within twenty-one (21) days of receiving the invoice. Failure of Buyer to timely notify Siemens of any dispute constitutes a waiver of Buyer’s claim. If Buyer only disputes a portion of the invoice, Buyer must pay the undisputed portion in accordance with Article 2(a). Upon resolution of the dispute, Buyer must pay the invoice or the remainder of the invoice, plus any accrued interest on the late payment.

(g) **Suspension/Termination Right.** Siemens may suspend work if an undisputed invoice is more than thirty (30) days past due. Siemens may terminate this Agreement if an undisputed invoice is more than sixty (60) days past due. Unless prohibited by law, Siemens may also terminate this Agreement immediately in the event of a material adverse change in Buyer’s financial condition including, but not limited to, bankruptcy, insolvency, liquidation or similar financial condition.

3. Delivery; Title; Risk of Loss. Products will be delivered F.O.B. Siemens point of shipment with title and risk of loss or damage passing to Buyer at that point. Buyer is responsible for all transportation, insurance and related expenses. The related expenses shall include any taxes, duties or documentation fees. Siemens may make partial shipments. Any shipping, delivery and installation dates are estimated dates only. Siemens is not liable for any loss or expense incurred by Buyer or Buyer’s customers if Siemens fails to meet its delivery schedule.

4. Deferment and Cancellation. Buyer has no right to defer shipment but may cancel this Agreement on thirty (30) days written notice if Siemens has not already performed. If Buyer cancels this Agreement, it shall pay all cancellation charges including, without limitation:

(i) the full price for any finished Product;

(ii) for partially completed product, the portion of the price determined to be due by Siemens based on its percentage of completion of the Product;

(iii) reasonable overhead and profit; and (iv) any payments due subcontractors and/or suppliers for any materials, components or products ordered which cannot be cancelled, refunded, or redirected for other beneficial use.

Standard Terms and Conditions of Sale *(continued...)*

Siemens Industry, Inc.

Mobility –Mobility Management –Rail Automation Products

July 1, 2016 (Rev. 1.1)

5. Transportation and Storage. (a) When Products are ready for shipment, Siemens will: (i) inform Buyer, and Buyer will then promptly give shipping instructions to Siemens; (ii) determine the method of transportation and shipment routing; and (iii) ship the Products with freight prepaid by normal transportation. If Buyer fails to provide timely shipping instructions, Siemens will ship the Products by normal transportation means to Buyer or to a storage location selected by Siemens. Buyer will pay or reimburse any excess transportation charges for special or expedited transportation.

(b) If Products are placed into storage, delivery occurs and risk of loss transfers to Buyer when the Products are placed on the carrier for shipment to the storage location. If the Products are to be stored in the facility where manufactured, delivery occurs and risk of loss transfers to Buyer when placed in the storage location. Buyer will pay all Siemens' storage expenses, including but not limited to, preparation for and placement into storage, handling, freight, storage, inspection, preservation, maintenance, taxes and insurance, upon receipt of an invoice(s) from Siemens. When conditions permit and upon payment to Siemens of all amounts due, Buyer must arrange, at its expense, to remove the Products from storage. Buyer bears the risk of loss, damage or destruction to Products in storage.

6. Force Majeure / Delays. If Siemens' performance is delayed by any cause beyond its reasonable control (regardless of whether the cause was foreseeable), including without limitation acts of God, strikes, labor shortage or disturbance, fire, accident, war or civil disturbance, delays of carriers, cyber-attacks, terrorist attacks, failure of normal sources of supply, or acts or inaction of government, Siemens' time of performance will be extended by a period equal to the length of the delay plus any consequences of the delay. Siemens will notify Buyer within a reasonable time after becoming aware of any such delay.

7. Buyer's Requirements. Siemens' performance is contingent upon Buyer timely fulfilling all of its obligations under this Agreement. These obligations include the Buyer supplying all documents and approvals needed for Siemens to perform, including but not limited to technical information and data, drawing and document approvals, and necessary commercial documentation. Siemens may request a change order for an equitable adjustment in prices and times for performance, as well as for any additional costs or any delay resulting from the failure of Buyer or Buyer's contractors, successors or assigns to meet these obligations.

8. Indemnity. Siemens and Buyer (each as an "Indemnitor") shall indemnify the other ("Indemnitee") from and against all third party claims alleging bodily injury, death or damage to a third party's tangible property, but only to the extent caused by the Indemnitor's negligent acts or omissions. If the injury or damage is caused by the parties' joint or contributory negligence, the loss and/or expenses shall be borne by each party in proportion to its degree of fault. No part of the Product(s) or Buyer's site is considered third party property. Indemnitee shall provide the Indemnitor with prompt written notice of any third party claims covered by this Article. Indemnitor has the unrestricted right to select and hire counsel and the exclusive right to conduct the legal defense and/or settle the claim on the Indemnitee's behalf. The Indemnitee shall not make any admission(s) which might be prejudicial to the Indemnitor and shall not enter into a settlement without the express permission of the Indemnitor.

9. Warranties. (a) Warranties. Siemens warrants that: (i) each Product is free from defects in material and workmanship; (ii) each Product materially conforms to Siemens' specifications that are attached to, or expressly incorporated into this Agreement; and (iii) at the time of delivery, Siemens has title to each Product free and clear of liens and encumbrances (collectively, the "Warranties"). The Warranties do not apply to software furnished by Siemens. The sole and exclusive warranties for any software are set forth in the applicable Software License/Warranty Addendum.

(b) Conditions to the Warranties. The Warranties are conditioned on: (i) no repairs, modifications or alterations being made to the Product other than by Siemens or its authorized representatives; (ii) Buyer handling, using, storing, installing, operating and maintaining the Product in compliance with any parameters or instructions in any specifications attached to, or incorporated into this Agreement; (iii) compliance with all generally accepted industry standards; (iv) Buyer discontinuing use of the Product after it has, or should have had, knowledge of any defect; (v) Buyer providing prompt written notice of any warranty claims within the warranty period described below; (vi) at Siemens' discretion, Buyer either removing and shipping the Product or non-conforming part thereof to Siemens, at Buyer's expense, or granting Siemens reasonable access to the Products to assess the warranty claims; (vii) Product not having been subjected to accident (including force majeure), alteration, abuse or misuse; and (viii) Buyer not being in default of any payment obligation.

(c) Exclusions from Warranty Coverage. The Warranties do not apply to any equipment not provided by Siemens under this Agreement.

Any Product that is described as being experimental, developmental, prototype, or pilot is specifically excluded from the Warranties and is provided to Buyer "as is" with no warranties of any kind. Normal wear and tear is excluded, including any expendable items that comprise part of the Product (such as fuses, light bulbs and lamps). Siemens does not warrant or guarantee that any Product will be secure from cyber threats, hacking or similar malicious activity. Products that are networked, connected to the internet, or otherwise connected to computers or other devices must be appropriately protected by Buyer and/or end user against unauthorized access.

(d) Warranty Period. Buyer must provide written notice of any claims for breach of Warranties by the earlier of twelve (12) months from initial operation of the Product or eighteen (18) months from shipment. Additionally, absent written notice within the warranty period, any use or possession of the Product after expiration of the warranty period is conclusive evidence that the Warranties have been satisfied.

(e) Remedies. Buyer's sole and exclusive remedies for breach of the Warranties are limited, at Siemens' discretion, to repair or replacement of the Product, or its non-conforming parts, within a reasonable time period, or refund of all or part of the purchase price. The warranty on repaired or replaced parts is limited to the remainder of the original warranty period. Unless Siemens agrees otherwise in writing, Buyer will be responsible for any costs associated with: (i) gaining access to the Product; (ii) removal, disassembly, replacement, installation, or reinstallation of any equipment, materials or structures to permit Siemens to perform its warranty obligations; (iii) transportation to and from the Siemens factory or repair facility; and (iv) damage to equipment components or parts resulting in whole or in part from non-compliance by the Buyer with Article 9(b) or from their deteriorated condition. All exchanged Products replaced under this Warranty will become the property of Siemens.

(f) Transferability. The Warranties are only transferable during the warranty period and only to the Product's initial end-user.

(g) THE WARRANTIES IN THIS ARTICLE 9 ARE SIEMENS' SOLE AND EXCLUSIVE WARRANTIES AND ARE SUBJECT TO THE LIMITS OF LIABILITY IN ARTICLE 10 BELOW. SIEMENS MAKES NO OTHER WARRANTIES, EXPRESS OR IMPLIED, INCLUDING, WITHOUT LIMITATION, WARRANTIES OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE, COURSE OF DEALING AND USAGE OF TRADE.

Standard Terms and Conditions of Sale *(continued...)*

Siemens Industry, Inc.

Mobility –Mobility Management –Rail Automation Products

July 1, 2016 (Rev. 1.1)

10. LIMITATION OF LIABILITY. NOTWITHSTANDING ANYTHING IN THIS AGREEMENT TO THE CONTRARY, SIEMENS IS NOT LIABLE, WHETHER BASED IN CONTRACT, WARRANTY, TORT (INCLUDING NEGLIGENCE), STRICT LIABILITY, INDEMNITY OR ANY OTHER LEGAL OR EQUITABLE THEORY, FOR: LOSS OF USE, REVENUE, SAVINGS, PROFIT, INTEREST, GOODWILL OR OPPORTUNITY, COSTS OF CAPITAL, COSTS OF REPLACEMENT OR SUBSTITUTE USE OR PERFORMANCE, LOSS OF INFORMATION AND DATA, LOSS OF POWER, VOLTAGE IRREGULARITIES OR FREQUENCY FLUCTUATION, CLAIMS ARISING FROM BUYER'S THIRD PARTY CONTRACTS, OR FOR ANY TYPE OF INDIRECT, SPECIAL, LIQUIDATED, PUNITIVE, EXEMPLARY, COLLATERAL, INCIDENTAL OR CONSEQUENTIAL DAMAGES, OR FOR ANY OTHER LOSS OR COST OF A SIMILAR TYPE.

SIEMENS' MAXIMUM LIABILITY UNDER THIS AGREEMENT IS THE ACTUAL PURCHASE PRICE RECEIVED BY SIEMENS FOR THE PRODUCT THAT GAVE RISE TO THE CLAIM.

BUYER AGREES THAT THE EXCLUSIONS AND LIMITATIONS IN THIS ARTICLE 10 WILL PREVAIL OVER ANY CONFLICTING TERMS AND CONDITIONS IN THIS AGREEMENT AND MUST BE GIVEN FULL FORCE AND EFFECT, WHETHER OR NOT ANY OR ALL SUCH REMEDIES ARE DETERMINED TO HAVE FAILED OF THEIR ESSENTIAL PURPOSE. THESE LIMITATIONS OF LIABILITY ARE EFFECTIVE EVEN IF SIEMENS HAS BEEN ADVISED BY BUYER OF THE POSSIBILITY OF SUCH DAMAGES. THE WAIVERS AND DISCLAIMERS OF LIABILITY, RELEASES FROM LIABILITY AND LIMITATIONS ON LIABILITY EXPRESSED IN THIS ARTICLE 10 EXTEND TO SIEMENS' AFFILIATES, PARTNERS, PRINCIPALS, SHAREHOLDERS, DIRECTORS, OFFICERS, EMPLOYEES, SUPPLIERS, AGENTS, AND SUCCESSORS AND ASSIGNS.

11. Patent and Copyright Infringement. Siemens will, at its option and expense, defend or settle any suit or proceeding brought against Buyer based on an allegation that any Product or use thereof for its intended purpose constitutes an infringement of any Patent Cooperation Treaty country member's patent or misappropriation of a third party's trade secret or copyright in the country where the Product is delivered by Siemens. Buyer will promptly give Siemens written notice of the suit or proceeding and the authority, information, and assistance needed to defend the claims. Siemens shall have the full and exclusive authority to defend and settle such claim(s) and will pay the damages and costs awarded in any suit or proceeding so defended. Buyer shall not make any admission(s) which might be prejudicial to Siemens and shall not enter into a settlement without Siemens' consent. Siemens is not responsible for any settlement made without its prior written consent. If the Product, or any part thereof, as a result of any suit or proceeding so defended is held to constitute infringement or its use by Buyer is enjoined, Siemens will, at its option and expense, either: (i) procure for Buyer the right to continue using said Product; (ii) replace it with substantially equivalent non-infringing Product; or (iii) modify the Product so it is non-infringing.

Siemens will have no duty or obligation under this Article 11 if the Product is: (i) supplied according to Buyer's design or instructions and compliance therewith has caused Siemens to deviate from its normal course of performance; (ii) modified by Buyer or its contractors after delivery; or (iii) combined by Buyer or its contractors with devices, methods, systems or processes not furnished hereunder and by reason of said design, instruction, modification, or combination a suit is brought against Buyer. In addition, if by reason of such design, instruction, modification or combination, a suit or proceeding is brought against Siemens, Buyer must protect Siemens in the same manner and to the same extent that Siemens has agreed to protect Buyer under this Article 11.

THIS ARTICLE 11 IS AN EXCLUSIVE STATEMENT OF SIEMENS' DUTIES AND BUYER'S REMEDIES RELATING TO PATENTS, TRADE SECRETS AND COPYRIGHTS, AND DIRECT OR CONTRIBUTORY INFRINGEMENT THEREOF.

12. Confidentiality. (a) Both during and after the term of this Agreement, the parties will treat as confidential all information obtained from the disclosing party and all information compiled or generated by the disclosing party under this Agreement for the receiving party, including but not limited to business information, manufacturing information, technical data, drawings, flow charts, program listings, software code, and other software, plans and projections. Neither party may disclose or refer to the work to be performed under this Agreement in any manner that identifies the other party without advance written permission. However, Siemens has the right to share confidential information with its affiliates and subcontractors, provided those recipients are subject to the same confidentiality obligations set forth herein.

(b) Nothing in this Agreement requires a party to treat as confidential any information which: (i) is or becomes generally known to the public, without the fault of the receiving party; (ii) is disclosed to the receiving party, without obligation of confidentiality, by a third party having the right to make such disclosure; (iii) was previously known to the receiving party, without obligation of confidentiality, which fact can be demonstrated by means of documents which are in the possession of the receiving party upon the date of this Agreement; (iv) was independently developed by receiving party or its representatives, as evidenced by written records, without the use of discloser's confidential information; or (v) is required to be disclosed by law, except to the extent eligible for special treatment under an appropriate protective order, provided that the party required to disclose by law will promptly advise the originating party of any requirement to make such disclosure to allow the originating party the opportunity to obtain a protective order and assist the originating party in so doing.

(c) It is Siemens' policy not to unlawfully or improperly receive or use confidential information, including trade secrets, belonging to others. This policy precludes Siemens from obtaining, directly or indirectly from any employee, contractor, or other individual rendering services to Siemens confidential information of a prior employer, client or any other person which such employee, contractor, or individual is under an obligation not to disclose. Buyer agrees to abide by this policy.

13. Compliance With Laws. The parties agree to comply with all applicable laws and regulations, including but not limited to those relating to the manufacture, purchase, resale, exportation, transfer, assignment or use of the Products.

14. Changes In Work. No change will be made to the scope of work unless Buyer and Siemens agree in writing to the change and any resulting price, schedule or other contractual modifications. If any change to any law, rule, regulation, order, code, standard or requirement impacts Siemens' obligations or performance under this Agreement, Siemens may request a change order for an equitable adjustment in the price and time of performance.

15. Non-Waiver. Any waiver by a party of strict compliance with this Agreement must be in writing, and any failure by the parties to require strict compliance in one instance will not waive its right to insist on strict compliance thereafter.

Standard Terms and Conditions of Sale *(continued...)*

Siemens Industry, Inc.

Mobility –Mobility Management –Rail Automation Products

July 1, 2016 (Rev. 1.1)

16. Modification of Terms. This Agreement may only be modified by a written instrument signed by authorized representatives of both parties.

17. Assignment. Neither party may assign all or part of this Agreement, or any rights or obligations under this Agreement, without the prior written consent of the other; but either party may assign its rights and obligations, without recourse or consent, to any parent, wholly owned subsidiary, or affiliate or affiliate's successor organization (whether as a result of reorganization, restructuring or sale of substantially all of a party's assets). However, Buyer shall not assign this Agreement to: a competitor of Siemens; an entity in litigation with Siemens; or an entity lacking the financial capability to satisfy Buyer's obligations. Any assignee expressly assumes the performance of any obligation assigned. Siemens may grant a security interest in this Agreement and/or assign proceeds of this Agreement without Buyer's consent.

18. Applicable Law and Jurisdiction. This Agreement is governed by and construed in accordance with the laws of the State of Delaware, without regard to its conflict of laws principles. The application of the United Nations Convention on Contracts for the International Sale of Goods is excluded. BOTH SIEMENS AND BUYER KNOWINGLY, VOLUNTARILY AND IRREVOCABLY WAIVE ALL RIGHTS TO A JURY TRIAL IN ANY ACTION OR PROCEEDING RELATED IN ANY WAY TO THIS AGREEMENT. Each party agrees that claims and disputes arising out of this Agreement must be decided exclusively in a federal or state court of competent jurisdiction located in a state in which either Buyer or Siemens maintains its principal place of business. Each party submits to the personal jurisdiction of such courts for the purpose of litigating any claims or disputes.

19. Severability. If any provision of this Agreement is held invalid, illegal or unenforceable, the remaining provisions will not in any way be affected or impaired. A court may modify the invalid, illegal or unenforceable provision to reflect, as closely as possible, the parties' original intent.

20. Export / Import Compliance. Buyer acknowledges that Siemens is required to comply with applicable export /import laws and regulations relating to the sale, export, import, transfer, assignment, disposal and use of the Products, including any export / import license requirements. Buyer agrees that Products will not at any time directly or indirectly be used, exported, imported, sold, transferred, assigned or otherwise disposed of in a manner which will result in non-compliance with any export / import laws and regulations. Siemens' continuing performance hereunder is conditioned on compliance with such export / import laws and regulations at all times.

21. Product Returns. Prior to the return of any Product to Siemens, Buyer must identify the Product or portion thereof and obtain written authorization and shipping instructions from Siemens. Siemens has the right, in its sole discretion, to permit or reject any such return. Siemens' authorization to return any Product to Siemens does not relieve Buyer of its obligation to pay for such Product. Upon receipt, inspection, and acceptance of the Product by Siemens, Siemens will issue a credit memo to Buyer, less applicable re-stocking fees. Siemens reserves the right to reject any hazardous material.

22. Nuclear. Unless expressly authorized in writing by Siemens, the Products must not be used in or in connection with a nuclear facility or application. If Buyer uses any Product in connection with any nuclear facility or activity, it does so at its own risk and Buyer will indemnify, defend and hold Siemens harmless, and waives and will require its insurers to waive all right of recovery against Siemens for any damage, loss, destruction, injury or death resulting from a "nuclear incident," as defined in the Atomic Energy Act of 1954, as amended, whether or not due to Siemens' negligence. Siemens' consent to Buyer's use of the Product in connection with any nuclear facility or application will be subject to additional terms and conditions that Siemens deems necessary to protect its interests.

23. Survival. The articles titled "Patent and Copyright Infringement," "Limitation of Liability," "Confidentiality," "Delivery; Title; Risk of Loss," "Export / Import Compliance," and "Nuclear" survive termination, expiration or cancellation of this Agreement.

Grade Crossing Control Systems Products

A1 - A44

Wayguard® SGCP 4000 / MS 4000 Series
Simple Grade Crossing Predictors / Motion Sensors

A1 - A4

Wayguard® GCP 4000 Series
Grade Crossing Predictors / Motion Sensors

A5 - A11

Wayguard® GCP 5000 Series
Grade Crossing Predictors / Motion Sensors

A12

Wayguard® SGCP 4000 / MS 4000 Series / GCP 4000 / GCP 5000 Series
Modules

A13 - A20

EGMS Series
Exit Gate Management System

A21 - A27

Wayside Inspector

A28

SSCC Series
Solid State Crossing Controllers

A29 - A34

ARGUS Series
Event Recorders

A35 - A37

Clearguard® ACM 200 Series
Axle Count Management System

A38

SEAR Series
Analyzer / Event Recorders

A39 - A42

MTSS
Mini Track Side Sensor

A43

iLOD
Intelligent Lights Out Detector

A44

Grade Crossing Auxiliary Products

A53 - A76

NBS Series
Narrow Band Shunts

A53 - A58

WBS Series
Wide Band Shunts

A59 - A60

TJC Series
Tunable Joint Couplers

A61 - A64

Bi-Directional Simulation
Couplers

A65 - A66

PSO Insulated Joint Bypass
Couplers

A67

Standard Impedance Receiver
Couplers

A68

High Impedance Receiver
Couplers

A69

Line to Rail Transmitter
Couplers

A70

Grade Crossing Auxiliary Products *(cont...)*

A1 - A44

Line to Rail Receiver
Couplers

A71

SZB 20 Series
Impedance Bonds

A72

Inductors
Simulated Track

A73 - A74

TS Series
Test Shunts

A75 - A76

Grade Crossing Signaling Systems Products

A77 - A126

Wayguard® S60 Series
Grade Crossing Gate Mechanisms

A77 - A84

Wayguard® EBell Series
Electronic Bells

A85 - A86

Mast Adapter Mounts

A87 - A88

Pinnacles

A89 - A92

Sidelight Cantilevered Mounts

A93 - A96

High Wind Brackets

A97 - A100

Cross Arms and Junction Boxes

A101 - A106

Wayguard® FLX Series
Flashing Light Signals

A107 - A110

Barrier Arm Components

A111 - A114

Conversion Brackets

A115 - A117

Barrier Arms

A118

Barrier Arm Sensors and Lights

A119 - A120

Masts, Bases and Junction Boxes

A121 - A124

Barrier Arm Sensors and Lights

A125 - A126

Wayside Control Systems Products

B1 - B24

Trackguard® GEO®
Geographic Signaling Systems

B1 - B8

Trackguard® VIU Series
Vital Interface Units

B9 - B20

Trackguard® PTC Series
Positive Train Control Console Units

B21 - B23

Trackguard® WayConneX Series
Wayside Signaling Systems

B24

Wayside Communications Systems Products

B25 - B42

Communications Modules

B25 - B27

WAMS
Wayside Alarm Management System

B29

OCG
Office Communications Gateway

B30

WCM Series
Wayside Communications Manager

B31 - B32

WCP Series
Wayside Communications Package

B33 - B40

WCP Series
Wayside Communications Package

B41 - B42

Wayside Signaling Systems Products

B43 - B50

CLS-20R Series
Housing and Lighting Modules

B43 - B44

CLS-20R Series
Visors

B45

CLS-20R Series
Snowshields

B46

CLS-20R Series
Backgrounds

B47

CLS-20R Series
Accessories

B48 - B49

CLS-20R Series
Mounting Brackets

B50

Wayside Wireless Pole Line Products

B51 - B56

WAG Series

Wireless Access Gateways

B51 - B52

ESSR Series

Ethernet Spread Spectrum Radios

B53 - B54

HD Link Modules

B55 - B56

Track Circuit Systems Products

C1 - C20

Clearguard® PSO Series

Phase Shift Overlay Track Circuit Modules

C1 - C4

IPITC Series

Intelligent Island Processor Track Circuit Modules

C5 - C8

Clearguard® SE-3 Series

Steady Energy Phase Selective Track Circuit Modules

C9 - C12

ST Series

Track Feed Reactors

C13 - C16

SOTC Series

Series Overlay Track Circuit Modules

C17 - C20

Foundation Products

D1 - D12

Anchor Bolts

Poured In Ground

D1 - D4

Structural Foundations

D5 - D12

Electromechanical Power Products

E1 - E12

CXP-3 Series

Track Circuit Uninterruptible Power Supplies

E1 - E2

ST-200-1 Series

Track Transformers

E3 - E4

ST-400 Series

Signal / Track Transformers

E5 - E6

SLT Series

Fixed Voltage Lighting Transformers

E7 - E8

LT Series

Lighting Transformers

E9 - E10

SJ Series

Battery Chargers

E11 - E12

Electromechanical Stabilization Products

E13 - E66**Clearview® Air Gap Arresters**

Electrical Circuits (Standard Duty)

E13 - E16**Clearview® Air Gap Arresters**

Electrical Circuits (Heavy Duty)

E17 - E18**Clearview® Air Gap Arresters**

Communications Circuits (Standard Duty)

E19 - E22**Clearview® Air Gap Equalizers**

Electrical Circuits (Standard Duty)

E23 - E30**701-1 Series**

AC Power Line Protectors

E31 - E34**SSP-11 Series**

Solid State Surge Protectors

E35 - E38**SP-17 Series**

Solid State Battery Line Surge Protectors

E39 - E40**SP-18 Series**

Solid State Battery Line Surge Protectors

E41 - E42**SP-19 Series**

Solid State Battery Line Surge Protectors

E43 - E44**SP-20 Series**

Solid State AC Power Surge Protectors

E45 - E48**SP-21 Series**

Solid State Code Line Surge Protectors

E49 - E50**SP-24 Series**

Solid State Battery Line Surge Protectors

E51 - E52**SP-15 and SP-26 Series**

Solid State Track Circuit Surge Protectors

E53 - E56**Resistance Units**

Fixed and Adjustable

E57 - E60**Surge Protection Panels****E61 - E65****Terminal Blocks****E66**

Relay Products

F2 - F20

ST-1 Series

F2 - F4

Biased Neutral, Regular Release, Regular Pickup

ST-1 Series

F5

Biased Neutral, Regular Release, Slow Pickup

ST-1 Series

F6 - F7

Biased Neutral, Slow Release, Regular Pickup

ST-1 Series

F7

Lamp Control, Regular Release, Regular Pickup

ST-1 Series

F8

Neutral Lights Out, Regular Release, Regular Pickup

ST-1 Series

F9 - F11

Biased Neutral, Slow Release, Regular Pickup

ST-1 Series

F14

Biased Neutral, Regular Release, Slow Pickup

ST-1 Series

F14

Biased Neutral, Slow Release, Regular Pickup

ST-1 Series

F14

Biased Neutral, Switch Overload, Regular Release, Regular Pickup

ST-1 Series

F14

Flasher

ST-1 Series

F15

Code Responsive

ST-1 Series

F16

Vane Track

ST-1 Series

F16

Power Transfer

ST-1 Series

F16

Magnetic Stick

Accessories

F18 - F20

Socket Bases, Terminal Inserts, Terminal Tabs

Locomotive Systems Products

G1 - G56

HOT Series Head of Train Devices	G1- G4
EOT Series End of Train Devices	G5 -G8
EOT Phone Home Series	G9 - G10
HOT / EOT Repeater Units	G11 - G12
Locomotive Testing Units	G13 - G16
Axle Drives	G17 - G20
Axle Generators	G21 - G22
Code Rate Generators / Decoders	G23 - G24
Odometers	G25 - G26
Speedometers	G27 - G30
Universal Interface Panels	G31 - G32
Ditch Lights	G33 - G36
HGR Series Heater Ground Relays	G37 - G39
MPBI - Multiple Penalty Brake Interface	G40
Maintenance Key Switch	G41
GPS Onboard Monitoring Unit	G42
Track Receiver Junction Box	G43
ADU Series Aspect Display Units	G44
Locomotive Power Supplies	G45 - G47
Q2518 - Locomotive Alerter System Controller	G48
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CHHM Series Crash Hardened Memory Modules	G51 - G52
Locomotive Event Recorders	G53 - G55
Event Recorder - CMM / EDAP / COMBINED	G56

Instrument Housing Products

H1 - H26

Instrument Houses	H1 - H2
Instrument Cases	H3 - H4
Pedestal Boxes	H5 - H10
Batter Trays and Rack	H11 - H14
Apparatus Boxes	H15 - H18
Relay Base and Shelves	H19 - H22
Environmental Control Systems	H23 - H26

Tools and Accesories

J1 - J29

Padlocks	J1 - J6
Greases and Oils	J7 - J8
AAR Terminal Wrenches Hand Tools	J11 - J14
Switch Adjustment Wrenches Hand Tools	J15 - J16
Torque Wrenche Hand Tools	J17
Crimping Pliers	J18
Bond Punches Hand Tools	J19 - J20
Miscellaneous Tools and Hardware	J21 - J29

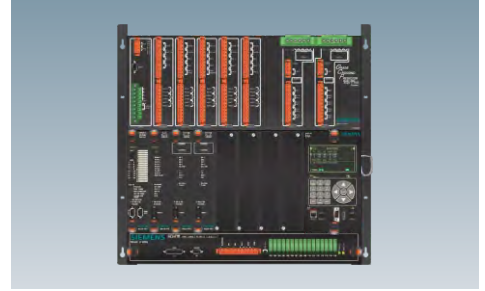
Grade Crossing Control Systems Products



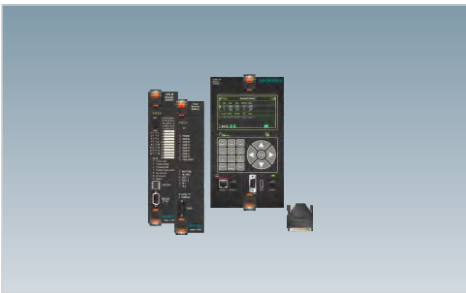
Wayguard® SSCP 4000 / MS 4000 Series
Simple Grade Crossing Predictors /
Motion Sensors **A1 - A4**



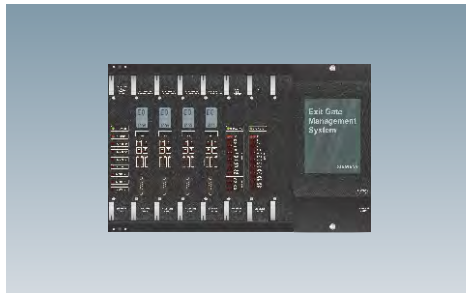
Wayguard® GCP 4000 Series
Grade Crossing Predictors **A5 - A12**



Wayguard® GCP 5000 Series
Grade Crossing Predictors **A13 - A18**



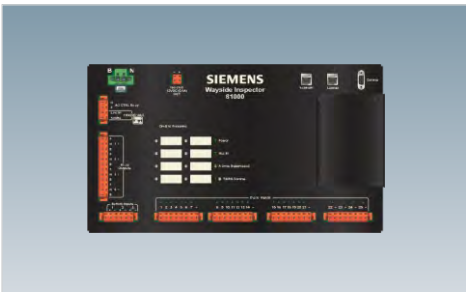
SSCP 4000 / MS 4000 /
GCP 4000 / GCP 5000 Series
Modules **A19 - A26**



EGMS Series
Exit Gate Management System **A27 - A29**



EGMS Series
Modules **A30 - A33**



Wayside Inspector **A34**



SSCC Series
Solid State Crossing Controllers **A35 - A40**



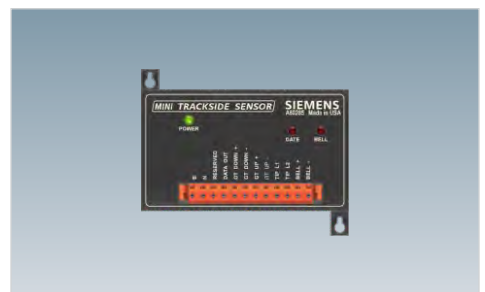
ARGUS Series
Event Recorders **A41 - A43**



Clearguard® ACM 200 Series
Axle Count Management System **A44**



SEAR Series
Analyzer / Event Recorders **A45 - A48**

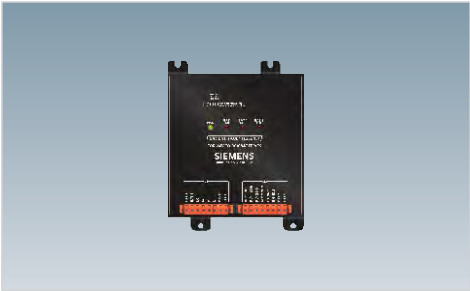


MTSS
Mini Track Side Sensor **A49**



iLOD
Intelligent Lights Out Detector

A50



GFT II Series
Ground Fault Sensors

A51 - A52



Wayguard®

SGCP 4000 / MS 4000 Series

Simple Grade Crossing Predictor / Motion Sensor

usa.siemens.com/rail-automation

Overview

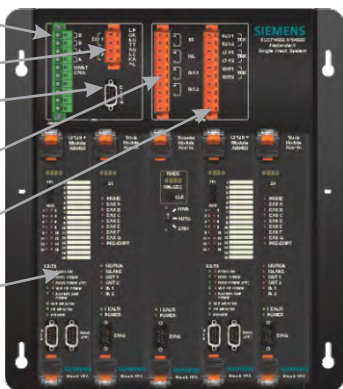
Power Supply Connector

Connector to
Echelon® LAN Interface

Diagnostic Connector
Port for direct
computer interfacing
Island, XR Relay and
Input connections

Track Receive, Transmit
and Check connections

Modules



SIEMENS SGCP 4000 / MS 4000 is an electronic, microprocessor based modular system designed to reliably detect the motion of an approaching train and start the crossing warning system.

Operation of the system is based on the maximum impedance of an unoccupied track circuit, which is determined by the location of termination shunts and rate of change in impedance resulting from physical location of a train as it moves within a track circuit.

System will apply a constant current AC signal to track and measures level of the resulting voltage. These levels vary with approach track impedance, which also varies due to distance of train from the crossing.

System detects inbound motion of train and activates crossing warning equipment.

When the train has cleared crossing, system no longer senses inbound motion and allows crossing warning signal system to recover.



When a train stops before reaching crossing, or reverses direction and backs away from the crossing, system will recover after a short (programmable) time-out as inbound motion is no longer detected.

Features

- Available in single track non-redundant and redundant models.
- Uses proven GCP 4000 / 5000 modules.
(All of which hot swappable and interchangeable with GCP systems)
- Reduced system size for installation in a smaller equipment house.
- Provides a simple user interface in order to easily setup unit.
- Programming can be confirmed by an Office Configuration Check Number (OCCN) and the track calibration information can be confirmed by a Track Check Number (TCN).
- Provides a diagnostic history log and train move history log capable of interfacing to a SEAR II Event Recorder/ Analyzer for additional capability.
- Supports the use of an external island using a vital input.
- Transfer module can be removed and a strap can be used to force either main or standby operation without transfer module being present.
(On Redundant A80490 models only)
- Can be configured as either a motion sensor or as a simple grade crossing predictor.



For additional optional modules,
See this section, Pages **A19 - A25**

NYK:8000804950000	NYK:8410804950000
	
<p>SGCP 4000 / MS 4000 Empty Narrow</p> <ul style="list-style-type: none">• Weight is approx. 8.25 lbs. (3.74 kgs.) including connectors.• Operates in -40° F to +160° F (-40°C to +70°C) @ up to 95% Non-Condensing Relative Humidity• Single one track narrow chassis• (1) NYK:8000804350001 SPI ECD module• (2) NYK:Z610393250001 blank module cover panels• NO other modules• Reduced footprint for installation almost anywhere• Simple interface for programming	<p>SGCP 4000 / MS 4000 Comprehensive Narrow</p> <ul style="list-style-type: none">• Weight is approx. 10.50 lbs. (4.76 kgs.) including connectors.• Operates in -40° F to +160° F (-40°C to +70°C) @ up to 95% Non-Condensing Relative Humidity• (1) NYK:8000804460003 Chassis• (1) NYK:8000804030003 CPU II+ module• (1) NYK:8000804180001 Track module• (1) NYK:8000804350001 SPI ECD module• Reduced footprint for installation almost anywhere• Simple interface for programming

Single One Track Non Redundant - Wide Chassis Configurations

NYK:8000804900000

**SGCP 4000 / MS 4000 Empty Wide**

- Weight is approx. 16.84 lbs. (7.64 kgs.) including connectors.
- Operates in -40° F to +160° F (-40°C to +70°C) @ up to 95% Non-Condensing Relative Humidity
- Single one track wide chassis
- (1) NYK:8000804350001 SPI ECD module
- (5) NYK:Z610393250001 blank module cover panels
- NO other modules

NYK:8110804900001

**SGCP 4000 / MS 4000 Basic Wide**

- Weight is approx. 19.80 lbs. (8.98 kgs.) including connectors.
- Operates in -40° F to +160° F (-40°C to +70°C) @ up to 95% Non-Condensing Relative Humidity
- (1) NYK:8000804910001 Chassis
- (1) NYK8000804030003 CPU II+ module
- (1) NYK:8000804180001 Track module
- (1) NYK:8000804350001 SPI ECD module
- (3) NYK:Z610393250001 blank module cover panels
- NO other modules

NYK:8421804900001

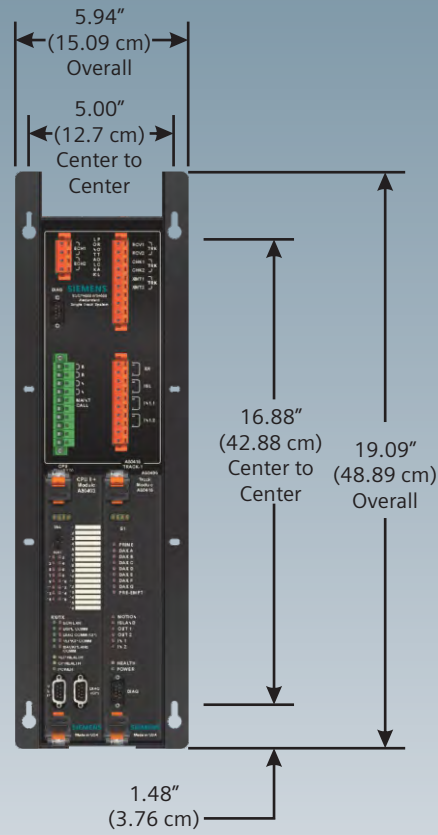
**SGCP 4000 / MS 4000 Comprehensive Wide**

- Weight is approx. 23.60 lbs. (10.70 kgs.) including connectors.
- Operates in -40° F to +160° F (-40°C to +70°C) @ up to 95% Non-Condensing Relative Humidity
- (1) NYK:8000804910001 Chassis
- (2) NYK:8000804030003 CPU II+ modules
- (2) NYK:8000804180001 Track modules
- (1) NYK:8000804060002 Transfer module
- (1) NYK:8000804350001 SPI ECD module
- NO other modules

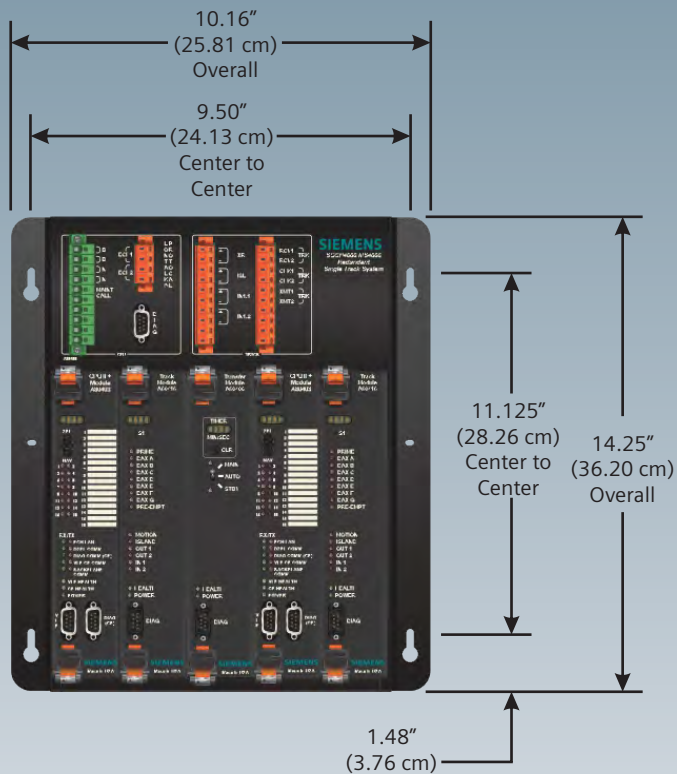


Assembly configurations shown are only a small sampling of commonly ordered assemblies. Other configurations may be available upon request. Please contact the Technical Assistance for Rail Automation team @ 1-800-793-7233 (Option 1) or RA.RailTechSupport.ic@siemens.com for additional details.

Narrow Chassis Assembly Configuration Dimensions



Wide Chassis Assembly Configuration Dimensions





Wayguard®

GCP 4000 Series

Grade Crossing Predictors

Overview

Connector to Echelon® LAN Interface
Diagnostic Connector
Port for direct computer interfacing
Power Supply Connector
Track Receive, Transmit Check and Input / Output connections
Solid State Crossing Controller connections
Modules



SIEMENS GCP 4000 is an electronic, microprocessor based modular system designed to reliably detect the motion of an approaching train and start the crossing warning system.

Utilizing up to (6) track circuits for train detection, with each track module having (9) track predictors that are configurable as motion sensors or predictors. Each track module has (2) vital inputs and (2) vital outputs. (2) track modules are required for each track circuit in redundant applications.

The Track Module Prime Predictor is generally used for control of local crossings. The Track Module DAX A through DAX G Predictors are generally used for control of remote crossings. The Track Module Preempt Predictor is generally used for interconnection with traffic signal systems. In addition to predictors, each track module is capable of providing a multifrequency island circuit.

Using internal SSCC IIIi crossing controller module(s), system is able to control the bells and gates of a crossing and up to (40) amps of light energy and each SSCC IIIi module contains (5) vital outputs. Providing up to (40) amps of lamp energy and controlling up to (4) gates.

Using internal PSO module(s) system is able to detect train direction on a bidirectional track circuit that allows the control of remote crossings (Bi-DAXing) and each PSO module contains (3) vital outputs and (2) vital inputs.

Using internal RIO modules system is able to extend I/O capability and each RIO modules contains (4) vital inputs and (4) vital outputs.

Features

- Capable of monitoring up to (6) track circuits including Intelligent Processor Island and Bi-DAXing.
(Number of maximum track modules dependent on chassis of GCP system selected.)
(On redundant systems, (2) track modules needed for each track circuit.)
- SEAR IIIi Event Analyzer / Recorder programmable via OCE and new display.
- Provides a diagnostic history log and train move history log utilizing a SEAR IIIi Event Recorder/ Analyzer.
- Internal logic utilizing vital AND gates and vital timers.
- Multiple ethernet ports available for interfacing with eSSR radio, vital communications as well as PTC applications.
(Depending on configuration, some ports may not be activated.)
- Enhanced user interface tools including OCE, WebUI and new display.
 - Common menu structure between all user interfaces.
 - Generate office configuration check number (OCCN).
 - Simple, tailored dropdown menus for user friendly configuration, diagnostics and troubleshooting.



For additional optional modules,
See this section, Pages **A19 - A25**

NYK:80008044500000



GCP 4000 Empty Single One Track

- Weight is approx. 8.25 lbs. (3.74 kgs.) including connectors.
- Operates in -40° F to +160° F (-40°C to +70°C) @ up to 95% Non-Condensing Relative Humidity
- Single one track narrow chassis
- (1) NYK:8000804350001 SPI ECD module
- (2) NYK:Z610393250001 blank module cover panels
- NO other modules
- Reduced footprint for installation almost anywhere
- Simple interface for programming

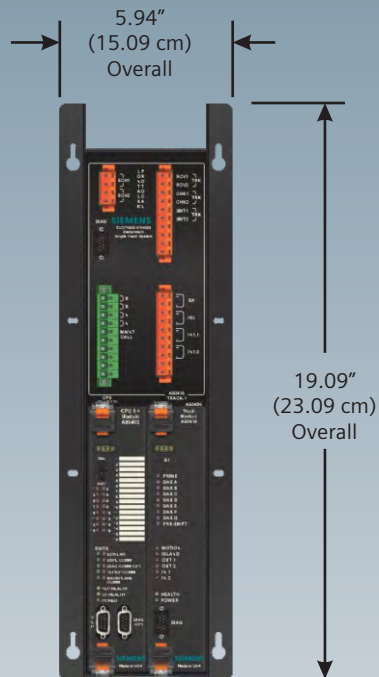
NYK:84108044500000



GCP 4000 Comprehensive Single One Track

- Weight is approx. 10.50 lbs. (4.76 kgs.) including connectors.
- Operates in -40° F to +160° F (-40°C to +70°C) @ up to 95% Non-Condensing Relative Humidity
- (1) NYK:80008044500000 Chassis
- (1) NYK:8000804030003 CPU II+ module
- (1) NYK:8000804180001 Track module
- (1) NYK:8000804350001 SPI ECD module
- Reduced footprint for installation almost anywhere
- Simple interface for programming

Applicable for all GCP 4000 Series Single One Track Non Redundant configurations



NYK:80008044000000



GCP 4000 Empty Single Five Track

- Weight is approx. 26.01 lbs. (11.80 kgs.) including connectors.
- Operates in -40° F to +160° F (-40°C to +70°C) @ up to 95% Non-Condensing Relative Humidity
- Single five track chassis
- (1) NYK:8000804350001 SPI ECD module
- (8) NYK:Z610393250001 blank module cover panels
- (1) NYK:Z610393260001 blank display cover panel
- (1) NYK:Z610393590001 blank SEAR cover panel
- NO other modules

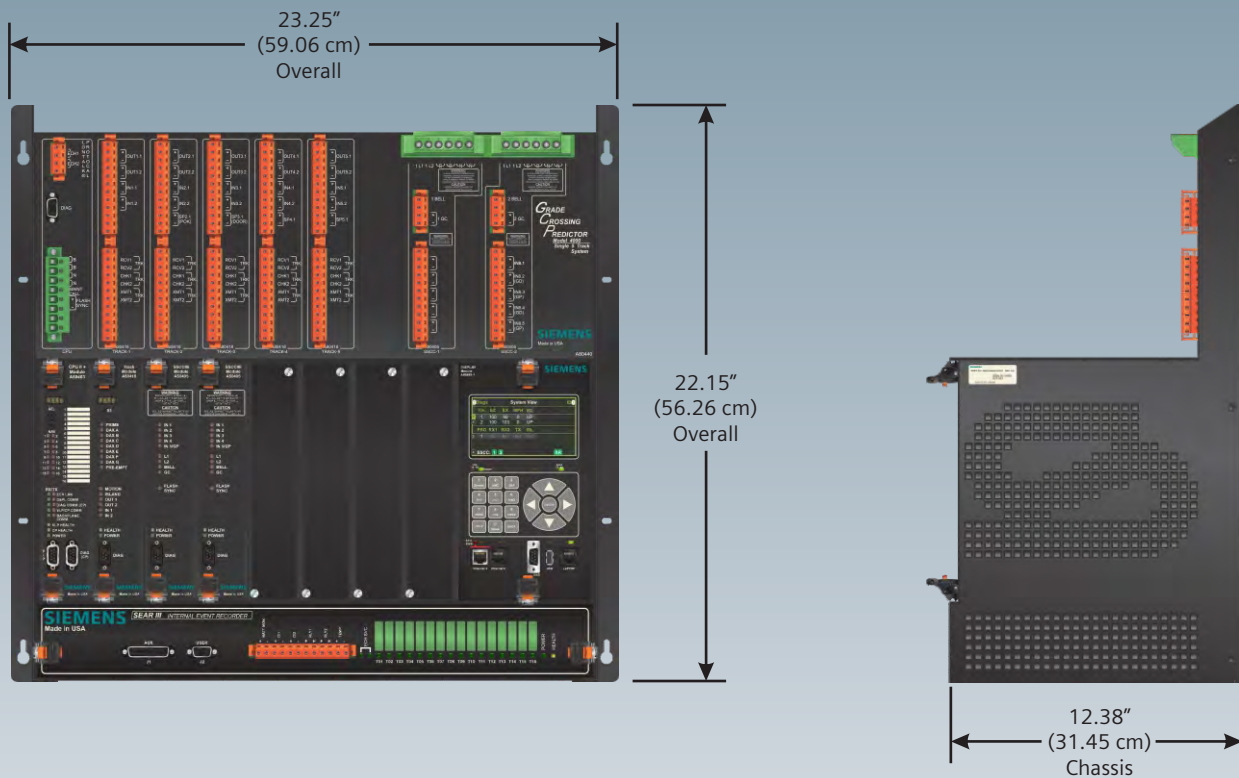
NYK:811080440002J3



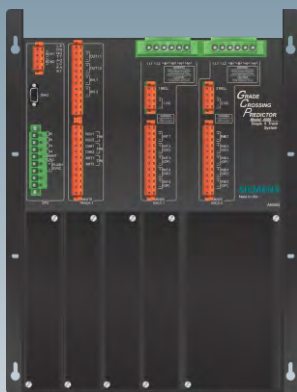
GCP 4000 Comprehensive Single Five Track

- Weight is approx. 48.60 lbs. (22.04 kgs.) including connectors.
- Operates in -40° F to +160° F (-40°C to +70°C) @ up to 95% Non-Condensing Relative Humidity
- (1) NYK:80008044000000 Chassis
- (1) NYK:8000804030001 CPU II+ module
- (1) NYK:8000804180001 Track module
- (1) NYK:8000804850001 Display module
- (1) NYK:8000804100001 SEAR IIIi module
- (2) NYK:8000804050001 SSCC IIIi modules
- (1) NYK:8000804350001 SPI ECD module
- (4) NYK:Z610393250001 blank module cover panels
- NO other modules

Applicable for all GCP 4000 Series Single Five Track Non Redundant configurations



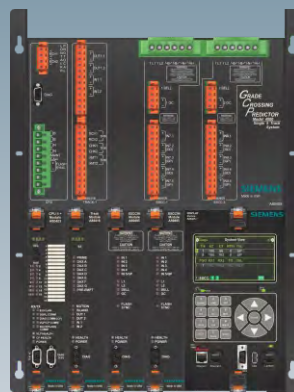
NYK:80008045500000



GCP 4000 Empty Single Basic Crossing

- Weight is approx. 13.33 lbs. (6.05 kgs.) including connectors.
- Operates in -40° F to +160° F (-40°C to +70°C) @ up to 95% Non-Condensing Relative Humidity
- Single basic crossing chassis
- (1) NYK:8000804350001 SPI ECD module
- (4) NYK:Z610393250001 blank module cover panels
- (1) NYK:Z610393260001 blank display cover panel
- NO other modules
- Reduced footprint for installation almost anywhere
- Simple interface for programming

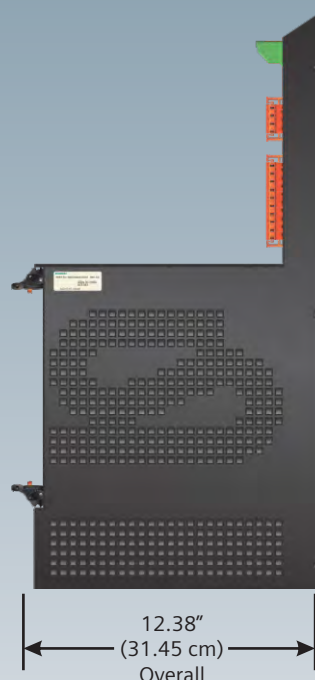
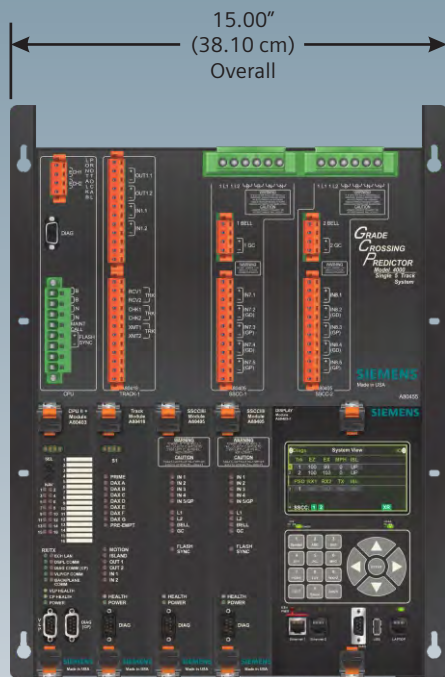
NYK:811080455002AC



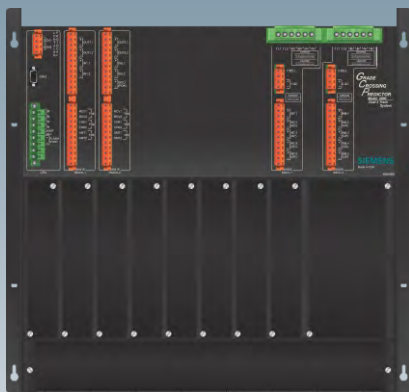
GCP 4000 Comprehensive Single Basic Crossing

- Weight is approx. 26.70 lbs. (12.11 kgs.) including connectors.
- Operates in -40° F to +160° F (-40°C to +70°C) @ up to 95% Non-Condensing Relative Humidity
- (1) NYK:80008045500000 Chassis
- (1) NYK:8000804030001 CPU III module
- (1) NYK:8000804180001 Track module
- (1) NYK:8000804850001 Display module
- (2) NYK:8000804050001 SSCC IIIi modules
- (1) NYK:8000804350001 SPI ECD module
- NO other modules
- Reduced footprint for installation almost anywhere
- Simple interface for programming

Applicable for all Wayguard® Grade Crossing Predictor GCP 4000 Series Basic Crossing Non Redundant configurations



NYK:80008046500000



GCP 4000 Empty Dual Two Track

- Weight is approx. 25.73 lbs. (11.67 kgs.) including connectors.
- Operates in -40° F to +160° F (-40°C to +70°C) @ up to 95% Non-Condensing Relative Humidity
- Dual two track chassis
- (1) NYK:8000804350001 SPI ECD module
- (8) NYK:Z610393250001 blank module cover panels
- (1) NYK:Z610393260001 blank display cover panel
- (1) NYK:Z610393590001 blank SEAR cover panel
- NO other modules
- Built in DAXing, ATCS communications protocols

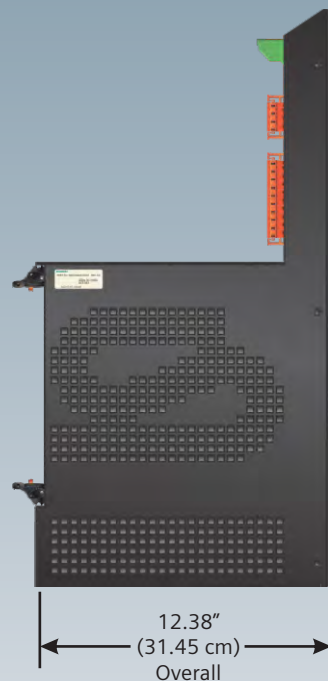
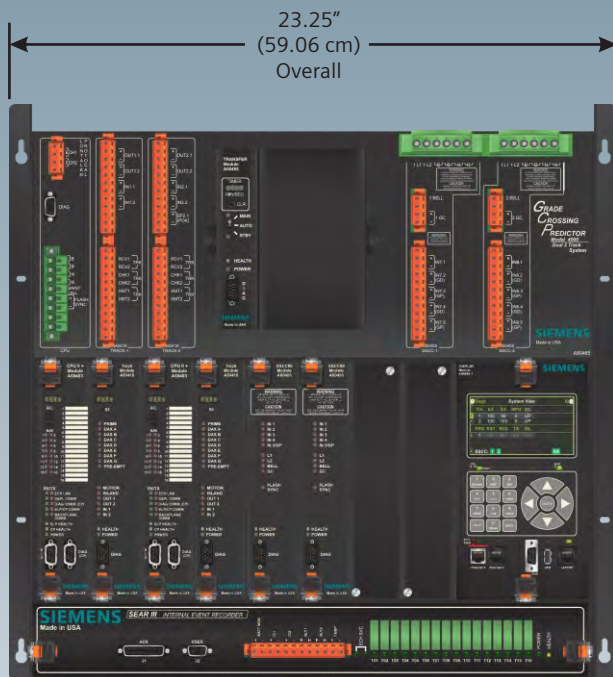
NYK:822080465002W3



GCP 4000 Comprehensive Dual Two Track

- Weight is approx. 50.10 lbs. (22.73 kgs.) including connectors.
- Operates in -40° F to +160° F (-40°C to +70°C) @ up to 95% Non-Condensing Relative Humidity
- (1) NYK:80008044000000 Chassis
- (2) NYK:8000804030001 CPU II+ module
- (2) NYK:8000804180001 Track module
- (1) NYK:8000804850001 Display module
- (1) NYK:8000804100001 SEAR IIIi module
- (2) NYK:8000804050001 SSCC IIIi modules
- (1) NYK:8000804680001 Transfer module
- (1) NYK:8000804350001 SPI ECD module
- (2) NYK:Z610393250001 blank module cover panels
- NO other modules
- Built in DAXing, ATCS communications protocols

Applicable for all Wayguard® Grade Crossing Predictor GCP 4000 Series Dual Two Track Redundant configurations



NYK:80008046000000



GCP 4000 Empty Dual Six Track

- Weight is approx. 35.59 lbs. (16.14 kgs.) including connectors.
- Operates in -40° F to +160° F (-40°C to +70°C) @ up to 95% Non-Condensing Relative Humidity
- Dual six track chassis
- (1) NYK:8000804350001 SPI ECD module
- (16) NYK:Z610393250001 blank module cover panels
- (2) NYK:Z610393260001 blank display cover panel
- (1) NYK:Z610393590001 blank SEAR cover panel
- NO other modules
- Built in DAXing, ATCS communications protocols

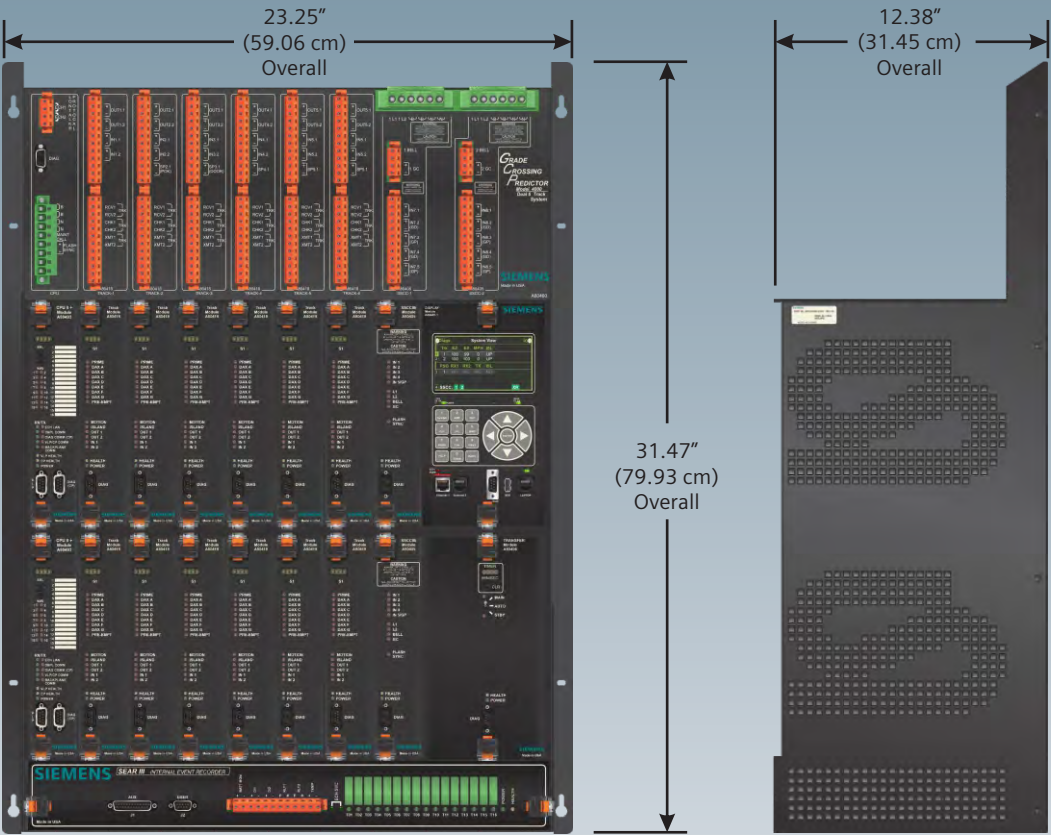
NYK:822080460002W3



GCP 4000 Comprehensive Dual Six Track

- Weight is approx. 66.84 lbs. (30.32 kgs.) including connectors.
- Operates in -40° F to +160° F (-40°C to +70°C) @ up to 95% Non-Condensing Relative Humidity
- (1) NYK:80008044000000 Chassis
- (2) NYK:8000804030001 CPU II+ module
- (12) NYK:8000804180001 Track module
- (1) NYK:8000804070003 Display module
- (1) NYK:8000804100001 SEAR III module
- (2) NYK:8000804050001 SSCC III modules
- (1) NYK:8000804060001 Transfer module
- (1) NYK:8000804350001 SPI ECD module
- NO other modules
- Built in DAXing, ATCS communications protocols

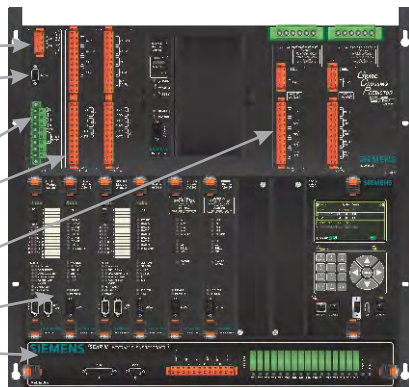
Applicable for all Wayguard® Grade Crossing Predictor GCP 4000 Series Dual Six Track Redundant configurations





Overview

Connector to Echelon® LAN Interface
Diagnostic Connector
Port for direct computer interfacing
Power Supply Connector
Track Receive, Transmit Check and Input / Output connections
Solid State Crossing Controller connections
Modules



SIEMENS GCP 5000 is an electronic, microprocessor based modular system designed to reliably detect the motion of an approaching train and start the crossing warning system.

Utilizing up to (6) track circuits for train detection, with each track module having (9) track predictors that are configurable as motion sensors or predictors. Each track module has (2) vital inputs and (2) vital outputs. (2) track modules are required for each track circuit in redundant applications.

The Track Module Prime Predictor is generally used for control of local crossings. The Track Module DAX A through DAX G Predictors are generally used for control of remote crossings. The Track Module Preempt Predictor is generally used for interconnection with traffic signal systems. In addition to predictors, each track module is capable of providing a multifrequency island circuit.

Using internal SSCC IIIi crossing controller module(s), system is able to control the bells and gates of a crossing and up to (40) amps of light energy and each SSCC IIIi module contains (5) vital outputs. Providing up to (40) amps of lamp energy and controlling up to (4) gates.

Using internal PSO module(s) system is able to detect train direction on a bidirectional track circuit that allows the control of remote crossings (Bi-DAXing) and each PSO module contains (3) vital outputs and (2) vital inputs.

Using internal RIO modules system is able to extend I/O capability and each RIO modules contains (4) vital inputs and (4) vital outputs.

Features

- Capable of monitoring up to (6) track circuits including Intelligent Processor Island and Bi-DAXing.
(Number of maximum track modules dependent on chassis of GCP system selected.)
(On redundant systems, (2) track modules needed for each track circuit.)
- SEAR IIIi Event Analyzer / Recorder programmable via OCE and new display.
- Provides a diagnostic history log and train move history log utilizing a SEAR IIIi Event Recorder/ Analyzer.
- Internal logic utilizing vital AND gates and vital timers.
- Multiple ethernet ports available for interfacing with eSSR radio (PoE) port, vital communications as well as PTC applications.
- Enhanced user interface tools including OCE, WebUI and new display.
 - Aligned menu structure between all user interfaces.
 - Generate office configuration check number (OCCN).
 - Simple, tailored dropdown menus for user friendly configuration, diagnostics and troubleshooting.
 - Improved diagnostics, track monitor saved to ECD and easily downloadable to USB flash drive.
- USB ECD storage of SEAR IIIi Event Recorder/ Analyzer parameters.



For additional optional modules,
See this section, Pages **A19 - A25**

NYK:80008090500000



GCP 5000 Empty Single Five Track

- Weight is approx. 26.01 lbs. (11.80 kgs.) including connectors.
- Operates in -40° F to +160° F (-40°C to +70°C) @ up to 95% Non-Condensing Relative Humidity
- Single five track chassis
- (1) NYK:8000804350001 SPI ECD module
- (1) NYK:8000804430001 Backplane ECD module
- (8) NYK:Z610393250001 blank module cover panels
- (1) NYK:Z610393260001 blank display cover panel
- (1) NYK:Z610393590001 blank SEAR cover panel
- NO other modules

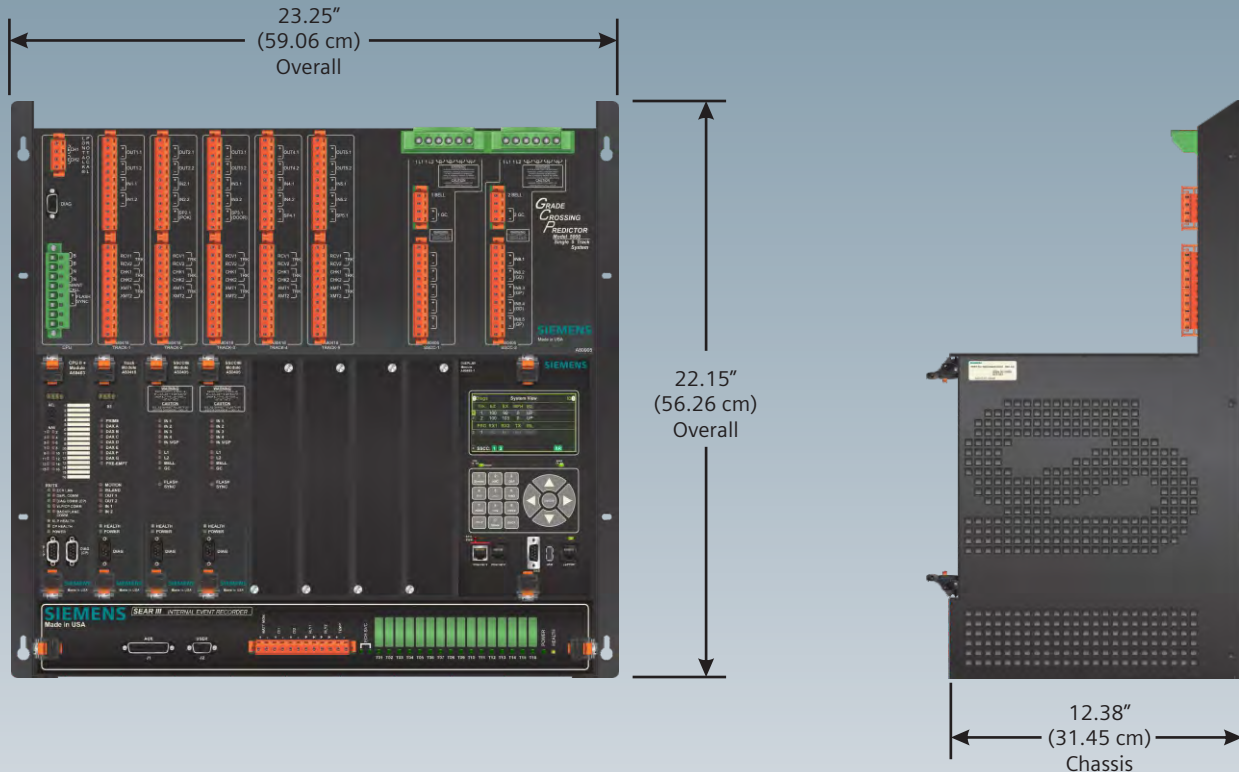
NYK:81018090500216



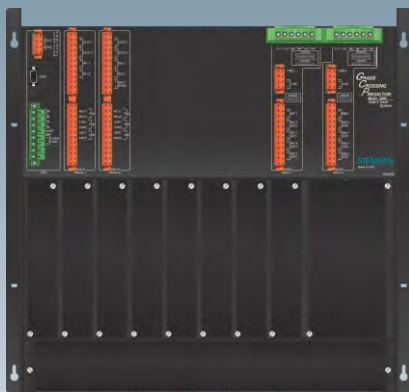
GCP 5000 Comprehensive Single Five Track

- Weight is approx. 48.60 lbs. (22.04 kgs.) including connectors.
- Operates in -40° F to +160° F (-40°C to +70°C) @ up to 95% Non-Condensing Relative Humidity
- (1) NYK:80008044000000 Chassis
- (1) NYK:8000804030001 CPU II+ module
- (1) NYK:8000804180001 Track module
- (1) NYK:8000804850001 Display module
- (1) NYK:8000804100001 SEAR IIIi module
- (2) NYK:8000804050001 SSCC IIIi modules
- (1) NYK:8000804350001 SPI ECD module
- (1) NYK:8000804430001 Backplane ECD module
- (4) NYK:Z610393250001 blank module cover panels
- NO other modules

Applicable for all GCP 5000 Series Single Five Track Non Redundant configurations



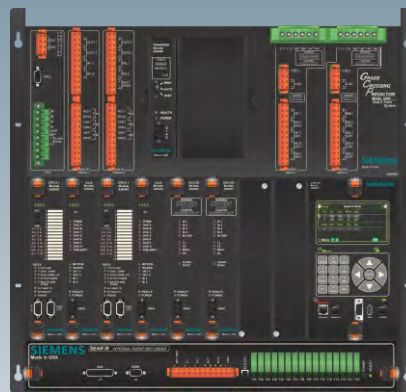
NYK:80008090200000



GCP 5000 Empty Dual Two Track

- Weight is approx. 25.73 lbs. (11.67 kgs.) including connectors.
- Operates in -40° F to +160° F (-40°C to +70°C) @ up to 95% Non-Condensing Relative Humidity
- Dual two track chassis
- (1) NYK:8000804350001 SPI ECD module
- (1) NYK:8000804430001 Backplane ECD module
- (8) NYK:Z610393250001 blank module cover panels
- (1) NYK:Z610393260001 blank display cover panel
- (1) NYK:Z610393590001 blank SEAR cover panel
- NO other modules

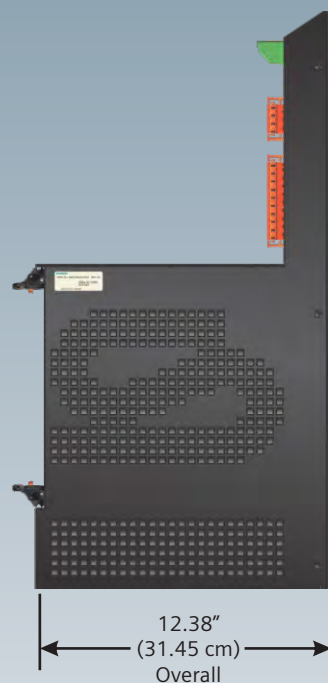
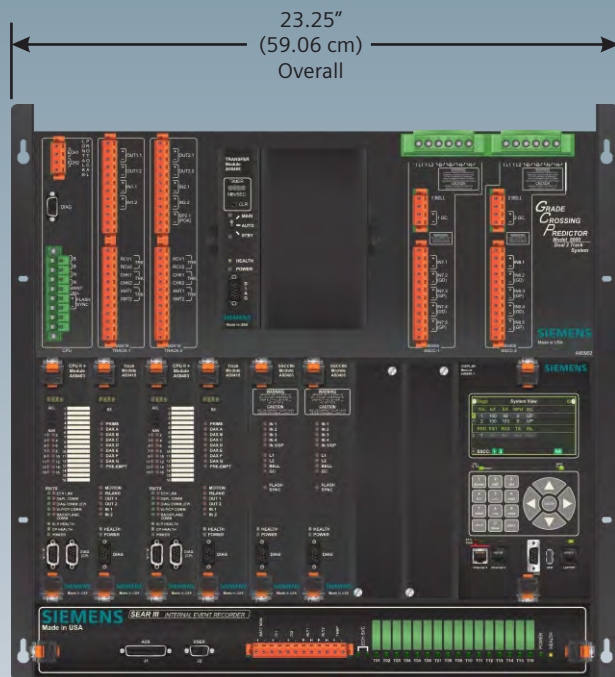
NYK:82028090200220



GCP 5000 Comprehensive Dual Two Track

- Weight is approx. 50.10 lbs. (22.73 kgs.) including connectors.
- Operates in -40° F to +160° F (-40°C to +70°C) @ up to 95% Non-Condensing Relative Humidity
- (1) NYK:80008044000000 Chassis
- (2) NYK:8000809030001 CPU III modules
- (2) NYK:8000804180001 Track modules
- (1) NYK:8000804850001 Display module
- (1) NYK:8000804100001 SEAR III module
- (2) NYK:8000804050001 SSCC III modules
- (1) NYK:8000804680001 Transfer module
- (1) NYK:8000804350001 SPI ECD module
- (1) NYK:8000804430001 Backplane ECD module
- (2) NYK:Z610393250001 blank module cover panels
- NO other modules

Applicable for all Wayguard® Grade Crossing Predictor GCP 4000 Series Dual Two Track Redundant configurations



NYK:80008090700000



GCP 5000 Empty Dual Three Track

- Weight is approx. 26.01 lbs. (11.80 kgs.) including connectors.
- Operates in -40° F to +160° F (-40°C to +70°C) @ up to 95% Non-Condensing Relative Humidity
- Single five track chassis
- (1) NYK:8000804350001 SPI ECD module
- (1) NYK:8000804430001 Backplane ECD module
- (8) NYK:Z610393250001 blank module cover panels
- (1) NYK:Z610393260001 blank display cover panel
- (1) NYK:Z610393590001 blank SEAR cover panel
- NO other modules

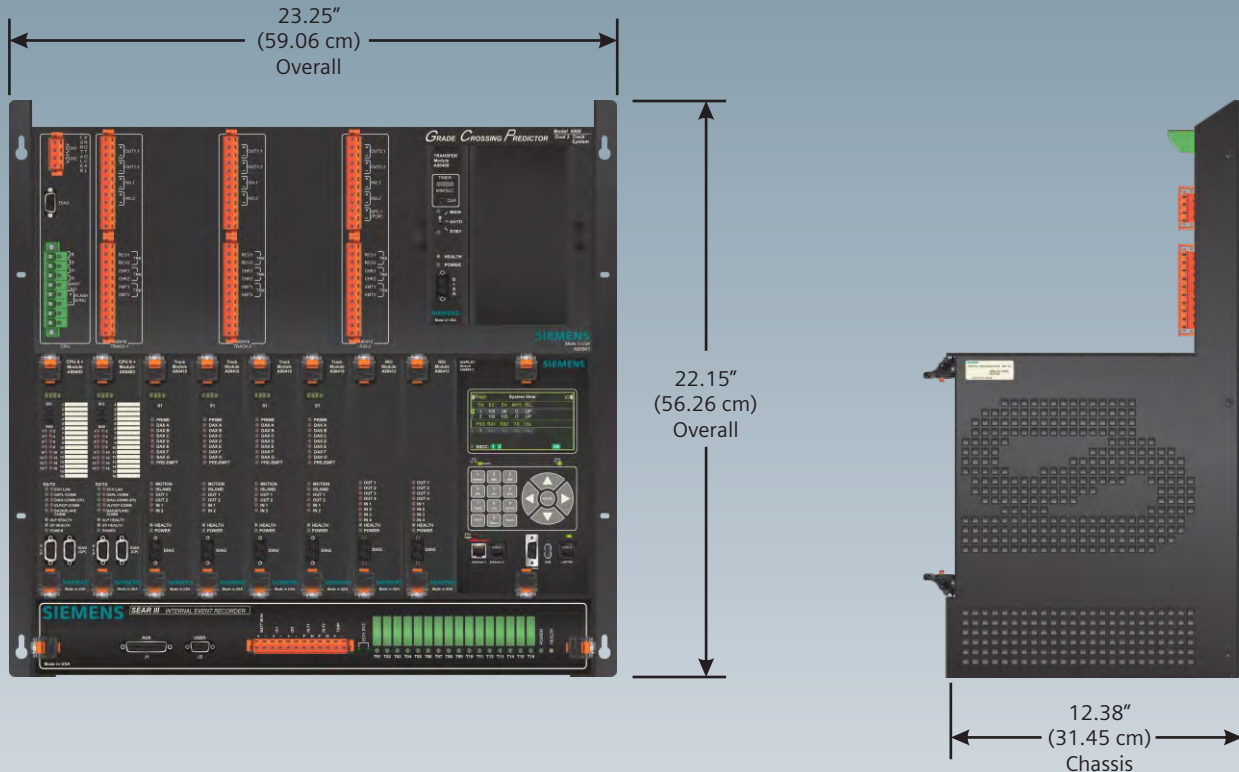
NYK:82038090700220



GCP 5000 Comprehensive Dual Three Track

- Weight is approx. 48.60 lbs. (22.04 kgs.) including connectors.
- Operates in -40° F to +160° F (-40°C to +70°C) @ up to 95% Non-Condensing Relative Humidity
- (1) NYK:80008044000000 Chassis
- (2) NYK:8000804030001 CPU II+ modules
- (1) NYK:8000804180001 Track module
- (1) NYK:8000804850001 Display module
- (1) NYK:8000804100001 SEAR IIIi module
- (2) NYK:8000804050001 SSCC IIIi modules
- (1) NYK:8000804350001 SPI ECD module
- (1) NYK:8000804430001 Backplane ECD module
- (4) NYK:Z610393250001 blank module cover panels
- NO other modules

Applicable for all GCP 5000 Series Single Five Track Non Redundant configurations



NYK:80008090000000



GCP 5000 Empty Dual Six Track

- Weight is approx. 35.59 lbs. (16.14 kgs.) including connectors.
- Operates in -40° F to +160° F (-40°C to +70°C) @ up to 95% Non-Condensing Relative Humidity
- Dual six track chassis
- (1) NYK:8000804350001 SPI ECD module
- (1) NYK:8000804430001 Backplane ECD module
- (16) NYK:Z610393250001 blank module cover panels
- (2) NYK:Z610393260001 blank display cover panel
- (1) NYK:Z610393590001 blank SEAR cover panel
- NO other modules

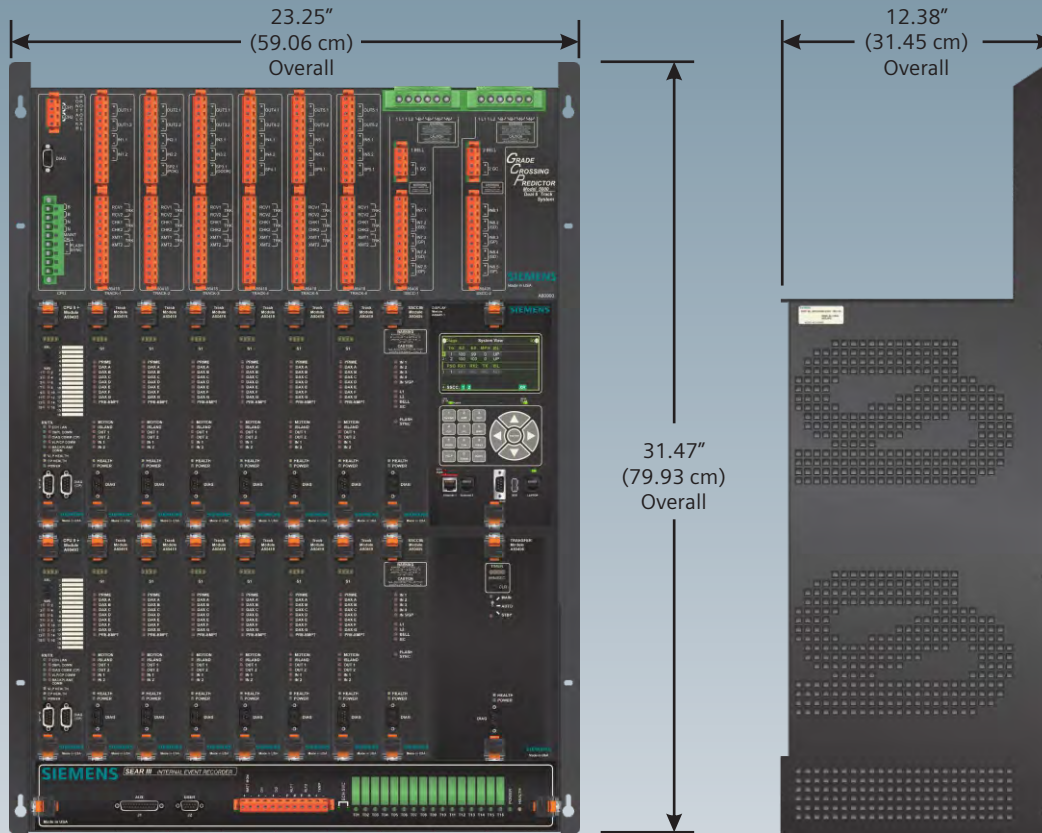
NYK:82028090000220



GCP 5000 Comprehensive Dual Six Track

- Weight is approx. 66.84 lbs. (30.32 kgs.) including connectors.
- Operates in -40° F to +160° F (-40°C to +70°C) @ up to 95% Non-Condensing Relative Humidity
- (1) NYK:80008044000000 Chassis
- (2) NYK:8000804030001 CPU II+ module
- (12) NYK:8000804180001 Track module
- (1) NYK:8000804070003 Display module
- (1) NYK:8000804100001 SEAR III module
- (2) NYK:8000804050001 SSCC IIIi modules
- (1) NYK:8000804060001 Transfer module
- (1) NYK:8000804350001 SPI ECD module
- (1) NYK:8000804430001 Backplane ECD module
- NO other modules

Applicable for all Wayguard® Grade Crossing Predictor GCP 5000 Series Dual Six Track Redundant configurations



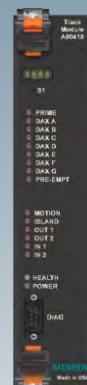
NYK:8000804030001



GCP CPU II+ Module

- Weight is approx. 1.25 lbs. (0.56 kgs.)
- Operates in -40° F to +160° F (-40°C to +70°C) @ up to 95% Non-Condensing Relative Humidity
- Programmable integrated circuits onboard 9V792-A03X, 9V691-A03X and 9V789-A06X
- Echelon® and communications capabilities

NYK:8000804180001



GCP Track Module

- Weight is approx. 1.0 lbs. (0.56 kgs.)
- Operates in -40° F to +160° F (-40°C to +70°C) @ up to 95% Non-Condensing Relative Humidity
- (9) Prediction functions

NYK:8000804050001



GCP SSCC IIIi Module

- Weight is approx. 3.6 lbs. (1.63 kgs.)
- Operates in -40° F to +160° F (-40°C to +70°C) @ up to 95% Non-Condensing Relative Humidity
- Isolated gate controller
- (20) Amp light controller

NYK:8000804850001



GCP 4000 / 5000 Display Module

- Weight is approx. 4 lbs. (1.81 kgs.)
- Operates in -40° F to +160° F (-40°C to +70°C) @ up to 95% Non-Condensing Relative Humidity
- (1) onboard USB port

<div>NYK:8000804060001</div> <div></div> <div><div>GCP Transfer Module, Wide</div><div>(For use with dual six track GCP 4000 configurations)</div><div><ul style="list-style-type: none">Weight is approx. 0.38 lbs. (0.17 kgs.)Operates in -40° F to +160° F (-40°C to +70°C) @ up to 95% Non-Condensing Relative Humidity</div></div>	<div>NYK:8000804680001</div> <div></div> <div><div>GCP Transfer Module, Chassis</div><div>(For use with dual two track GCP 4000 configurations)</div><div><ul style="list-style-type: none">Weight is approx. 1.5 lbs. (0.68 kgs.)Operates in -40° F to +160° F (-40°C to +70°C) @ up to 95% Non-Condensing Relative Humidity</div></div>
<div>NYK:8000804060002</div> <div></div> <div><div>GCP Transfer Module, Narrow</div><div>(For use with single one track SGCP / MS 4000 series)</div><div><ul style="list-style-type: none">Weight is approx. 3 lbs. (1.36 kgs.)Operates in -40° F to +160° F (-40°C to +70°C) @ up to 95% Non-Condensing Relative Humidity</div></div>	

NYK:8000804100001



GCP SEAR Ili Module

- Weight is approx. 5.25 lbs. (2.36 kgs.)
- Operates in -40° F to +160° F (-40°C to +70°C) @ up to 95% Non-Condensing Relative Humidity
- Utilizes 8000-80411-0001 recorder board

NYK:8000804100002



SEAR Ili Module

- Weight is approx. 5.25 lbs. (2.36 kgs.)
- Operates in -40° F to +160° F (-40°C to +70°C) @ up to 95% Non-Condensing Relative Humidity
- Utilizes 8000-80411-0002 recorder board

NYK:8000804100003



SEAR Ili Module

- Weight is approx. 6 lbs. (2.72 kgs.) not including cable
- Operates in -40° F to +160° F (-40°C to +70°C) @ up to 95% Non-Condensing Relative Humidity
- Utilizes 8000-80411-0001 recorder board
- (1) 8000-26654-0002 10' (3.05 m) SEAR to CRTU cable

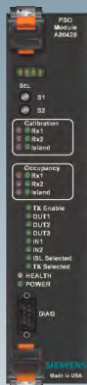
NYK:8000804100004



SEAR Ili Module

- Weight is approx. 6 lbs. (2.72 kgs.) not including cable
- Operates in -40° F to +160° F (-40°C to +70°C) @ up to 95% Non-Condensing Relative Humidity
- Utilizes 8000-80411-0002 recorder board
- (1) 8000-26654-0002 10' (3.05 m) SEAR to CRTU cable

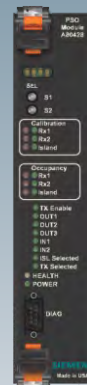
NYK:8000804280001



GCP Phase Shift Overlay (PSO) Module

- Weight is approx. 1.0 lbs. (0.56 kgs.)
- Operates in -40° F to +160° F (-40°C to +70°C) @ up to 95% Non-Condensing Relative Humidity
- Programmable integrated circuits onboard 9V386-A01X,

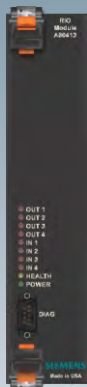
NYK:8000804280002



GCP Phase Shift Overlay (PSO) Module

- Weight is approx. 1.0 lbs. (0.56 kgs.)
- Operates in -40° F to +160° F (-40°C to +70°C) @ up to 95% Non-Condensing Relative Humidity



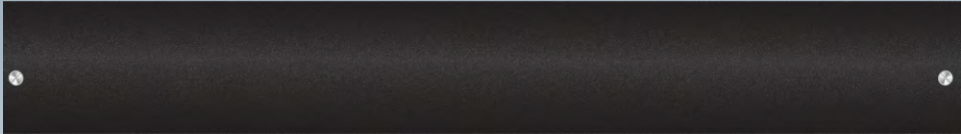
NYK:8000804130001





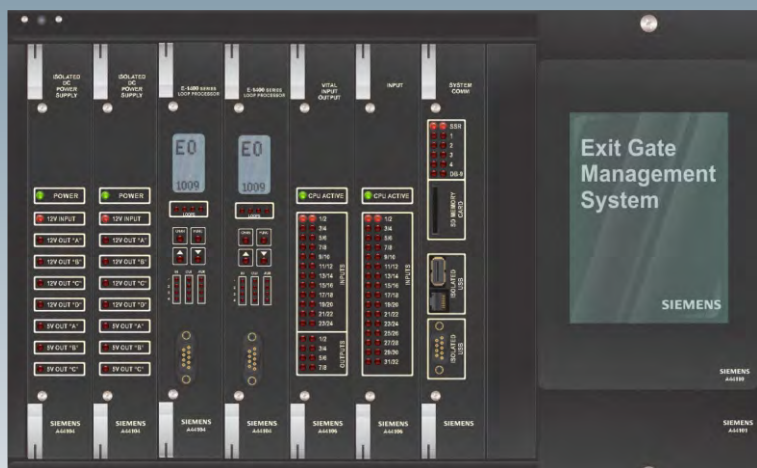
GCP Relay Input /Output (RIO) Module

- Weight is approx. 1.0 lbs. (0.56 kgs.)
- Operates in -40° F to +160° F (-40°C to +70°C) @ up to 95% Non-Condensing Relative Humidity
- (4) Inputs opto-isolated, vital
- (4) Outputs opto-isolated, vital
- Output voltage 12 VDC into 500 Ω
- Relay loads 100-2000 Ω
- Cab rates 75, 120, 180, 270,420
- Isolation 2000 VAC

Blank Filler Plates

NYK:Z610393250001	NYK:Z610393260001
	
<p>Blank Module Filler Plate, Narrow</p> <ul style="list-style-type: none">Weight is approx. 0.6 lbs. (0.27 kgs.)	<p>Blank Display Filler Plate, Wide</p> <ul style="list-style-type: none">Weight is approx. 0.8 lbs. (0.36 kgs.)
NYK:Z610393590001	
	
<p>Blank SEAR Filler Plate</p> <ul style="list-style-type: none">Weight is approx. 2.4 lbs. (2.72 kgs.)	

Grade Crossing Systems Grade Crossing Control Systems Products	NYK:8000804350001	NYK:8000804350002
	<div></div> <div><p>Serial Peripheral Interface / External Configuration Device (SPI / ECD) Module</p><ul style="list-style-type: none">• Weight is approx. 1.30 oz.. (0.04 kgs.)• (4) Megabyte memory capacity• (25) pin (DB25) male connector• Knurled barrel screw fasteners</div>	<div></div> <div><p>Serial Peripheral Interface / External Configuration Device (SPI / ECD) Module</p><ul style="list-style-type: none">• Weight is approx. 1.30 oz.. (0.04 kgs.)• (16) Megabyte memory capacity• (25) pin (DB25) male connector• Knurled barrel screw fasteners</div>

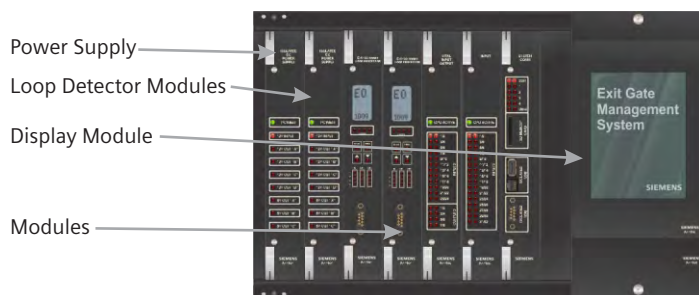


Wayguard®

EGMS
Series

Exit Gate Management System

Overview



Features

- Inductive Loop Operation
- (2) Levels of systems health monitoring
- Dynamic Exit Gate Operation

SIEMENS Wayguard® Exit Gate Management System (EGMS) is designed to perform exit gate timing and control as a part of an overall (4) Quadrant Gate - Warning System (4QG). Utilizing self checking inductive loop detectors to determine the presence of vehicles within the area between the entrance gates and exit gates also known as the Minimum Track Clearance Distance (MTCD).

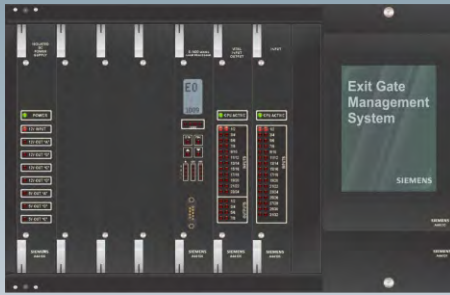
If a vehicle is detected within the MTCD, the exit gates will not be lowered until the vehicle clears the MTCD to avoid trapping vehicles within the crossing.

As a backup mode, automatic changeover to timed exit gate or exit gate fail-up mode in the event of inductive loop failure is available through front panel programming. Providing a touch-sensitive liquid crystal display (LCD) to allow data entry and access to all stored data.



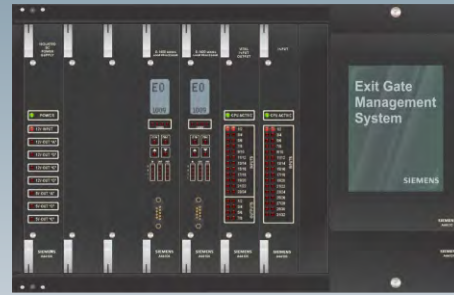
For additional optional modules,
See this section, Pages A30 - A33

NYK:525-0201-01

**4 Loop Assembly**

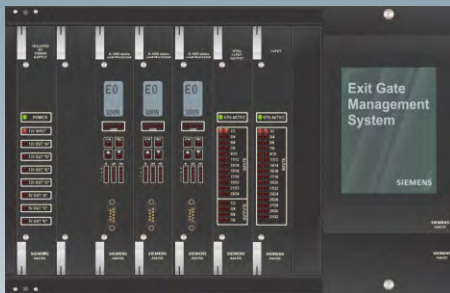
- Weight is approx. 52.2 lbs. (16.14 kgs.) including connectors.
- Operates in -40° F to +160° F (-40°C to +70°C) @ up to 95% Non-Condensing Relative Humidity
- (1) NYK:004-101-0001X Chassis
- (1) E1400S (4) Channel Presence Detector
- (1) NYK:010-101-0006 Power supply module
- (1) NYK:010-101-0002 Display module
- (1) NYK:010-101-0003 CPU module
- (1) NYK:010-101-0004 Vital input module
- (1) NYK:010-101-0009 Vital I/O module
- NO communications module

NYK:525-0201-02

**8 Loop Assembly**

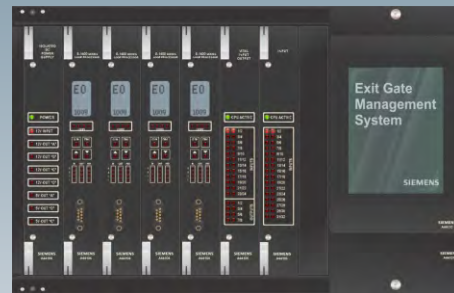
- Weight is approx. 52.8 lbs. (16.14 kgs.) including connectors.
- Operates in -40° F to +160° F (-40°C to +70°C) @ up to 95% Non-Condensing Relative Humidity
- (1) NYK:004-101-0001X Chassis
- (2) E1400S (4) Channel Presence Detector
- (1) NYK:010-101-0006 Power supply module
- (1) NYK:010-101-0002 Display module
- (1) NYK:010-101-0003 CPU module
- (1) NYK:010-101-0004 Vital input module
- (1) NYK:010-101-0009 Vital I/O module
- NO communications module

NYK:525-0201-03

**12 Loop Assembly**

- Weight is approx. 53.4 lbs. (16.14 kgs.) including connectors.
- Operates in -40° F to +160° F (-40°C to +70°C) @ up to 95% Non-Condensing Relative Humidity
- (1) NYK:004-101-0001X Chassis
- (3) E1400S (4) Channel Presence Detector
- (1) NYK:010-101-0006 Power supply module
- (1) NYK:010-101-0002 Display module
- (1) NYK:010-101-0003 CPU module
- (1) NYK:010-101-0004 Vital input module
- (1) NYK:010-101-0009 Vital I/O module
- NO communications module

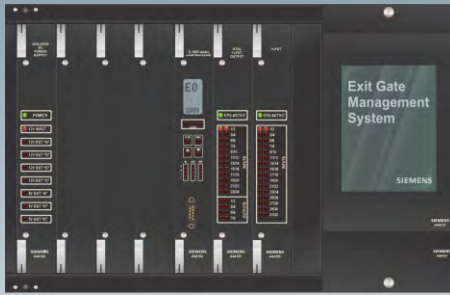
NYK:525-0201-04

**16 Loop Assembly**

- Weight is approx. 54.0 lbs. (16.14 kgs.) including connectors.
- Operates in -40° F to +160° F (-40°C to +70°C) @ up to 95% Non-Condensing Relative Humidity
- (1) NYK:004-101-0001X Chassis
- (4) E1400S (4) Channel Presence Detector
- (1) NYK:010-101-0006 Power supply module
- (1) NYK:010-101-0002 Display module
- (1) NYK:010-101-0003 CPU module
- (1) NYK:010-101-0004 Vital input module
- (1) NYK:010-101-0009 Vital I/O module
- NO communications module

Assemblies

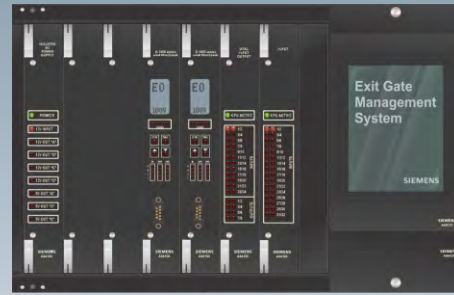
NYK:525-0202-01



4 Loop Assembly

- Weight is approx. 52.2 lbs. (16.14 kgs.) including connectors.
- Operates in -40° F to +160° F (-40°C to +70°C) @ up to 95% Non-Condensing Relative Humidity
- (1) NYK:004-101-0001X Chassis
- (1) E1400S (4) Channel Presence Detector
- (1) NYK:010-101-0006 Power supply module
- (1) NYK:010-101-0002 Display module
- (1) NYK:010-101-0003 CPU module
- (1) NYK:010-101-0004 Vital input module
- (1) NYK:010-101-0009 Vital I/O module
- (1) NYK:010-101-0008 Communications module

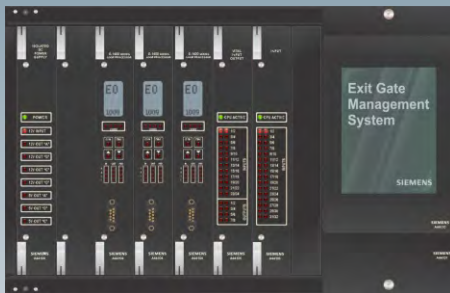
NYK:525-0202-02



8 Loop Assembly

- Weight is approx. 52.8 lbs. (16.14 kgs.) including connectors.
- Operates in -40° F to +160° F (-40°C to +70°C) @ up to 95% Non-Condensing Relative Humidity
- (1) NYK:004-101-0001X Chassis
- (2) E1400S (4) Channel Presence Detector
- (1) NYK:010-101-0006 Power supply module
- (1) NYK:010-101-0002 Display module
- (1) NYK:010-101-0003 CPU module
- (1) NYK:010-101-0004 Vital input module
- (1) NYK:010-101-0009 Vital I/O module
- (1) NYK:010-101-0008 Communications module

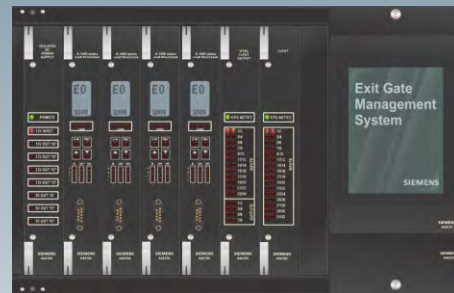
NYK:525-0202-03



12 Loop Assembly

- Weight is approx. 53.4 lbs. (16.14 kgs.) including connectors.
- Operates in -40° F to +160° F (-40°C to +70°C) @ up to 95% Non-Condensing Relative Humidity
- (1) NYK:004-101-0001X Chassis
- (3) E1400S (4) Channel Presence Detector
- (1) NYK:010-101-0006 Power supply module
- (1) NYK:010-101-0002 Display module
- (1) NYK:010-101-0003 CPU module
- (1) NYK:010-101-0004 Vital input module
- (1) NYK:010-101-0009 Vital I/O module
- (1) NYK:010-101-0008 Communications module

NYK:525-0202-04



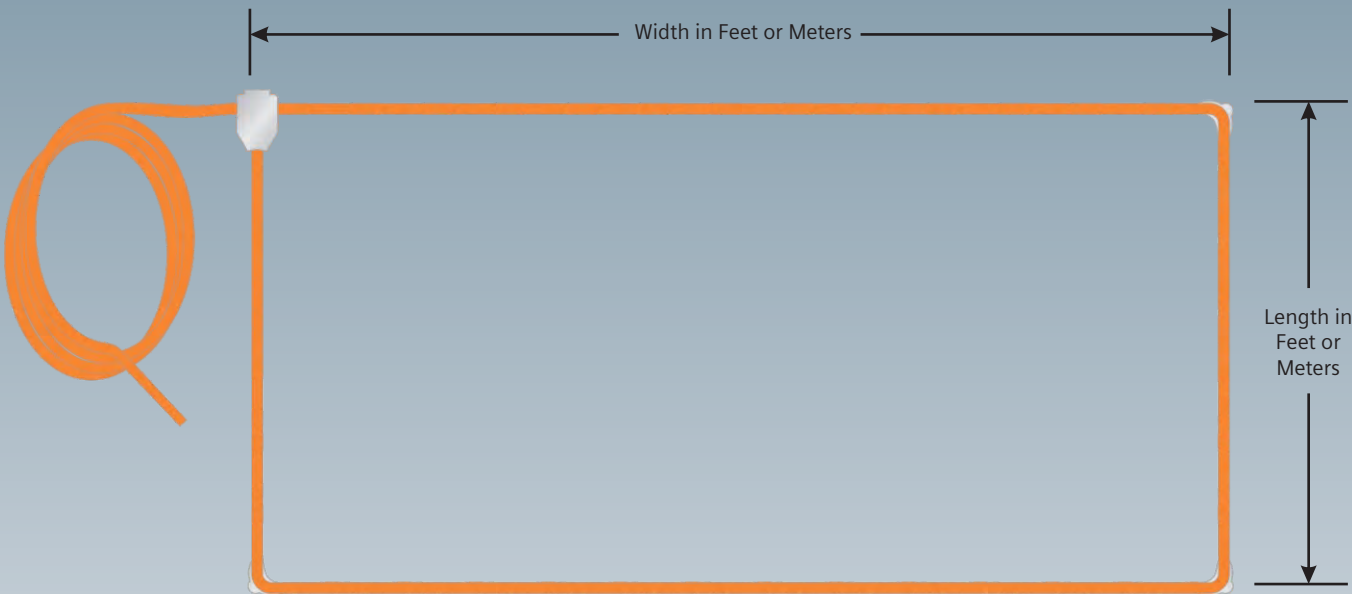
16 Loop Assembly

- Weight is approx. 54.0 lbs. (16.14 kgs.) including connectors.
- Operates in -40° F to +160° F (-40°C to +70°C) @ up to 95% Non-Condensing Relative Humidity
- (1) NYK:004-101-0001X Chassis
- (4) E1400S (4) Channel Presence Detector
- (1) NYK:010-101-0006 Power supply module
- (1) NYK:010-101-0002 Display module
- (1) NYK:010-101-0003 CPU module
- (1) NYK:010-101-0004 Vital input module
- (1) NYK:010-101-0009 Vital I/O module
- (1) NYK:010-101-0008 Communications module

NYK:017-100-0001	NYK:017-101-0001
	
<p>E1400S (4) Channel Presence Detector</p> <ul style="list-style-type: none">• Weight is approx. 1.0 lbs. (0.56 kgs.)• Operates in -40° F to +160° F (-40°C to +70°C) @ up to 95% Non-Condensing Relative Humidity	<p>P1400 (4) Channel Presence Detector</p> <ul style="list-style-type: none">• Weight is approx. 1.0 lbs. (0.56 kgs.)• Operates in -40° F to +160° F (-40°C to +70°C) @ up to 95% Non-Condensing Relative Humidity

<div>NYK:010-101-0006</div> <div></div> <div><div>EGMS Power Supply Module</div><ul style="list-style-type: none">Weight is approx. 1.0 lbs. (0.45 kgs.)Operates in -40° F to +160° F (-40°C to +70°C) @ up to 95% Non-Condensing Relative Humidity</div>	<div>NYK:010-101-0002</div> <div></div> <div><div>EGMS Display Module</div><ul style="list-style-type: none">Weight is approx. 2.1 lbs. (0.95 kgs.)Operates in -40° F to +160° F (-40°C to +70°C) @ up to 95% Non-Condensing Relative Humidity</div>
<div>NYK:010-101-0003</div> <div></div> <div><div>EGMS CPU Module</div><ul style="list-style-type: none">Weight is approx. 1.0 lbs. (0.45 kgs.)Operates in -40° F to +160° F (-40°C to +70°C) @ up to 95% Non-Condensing Relative Humidity</div>	<div>NYK:010-101-0004</div> <div></div> <div><div>EGMS Vital Input Module</div><ul style="list-style-type: none">Weight is approx. 1.0 lbs. (0.45 kgs.)Operates in -40° F to +160° F (-40°C to +70°C) @ up to 95% Non-Condensing Relative Humidity</div>

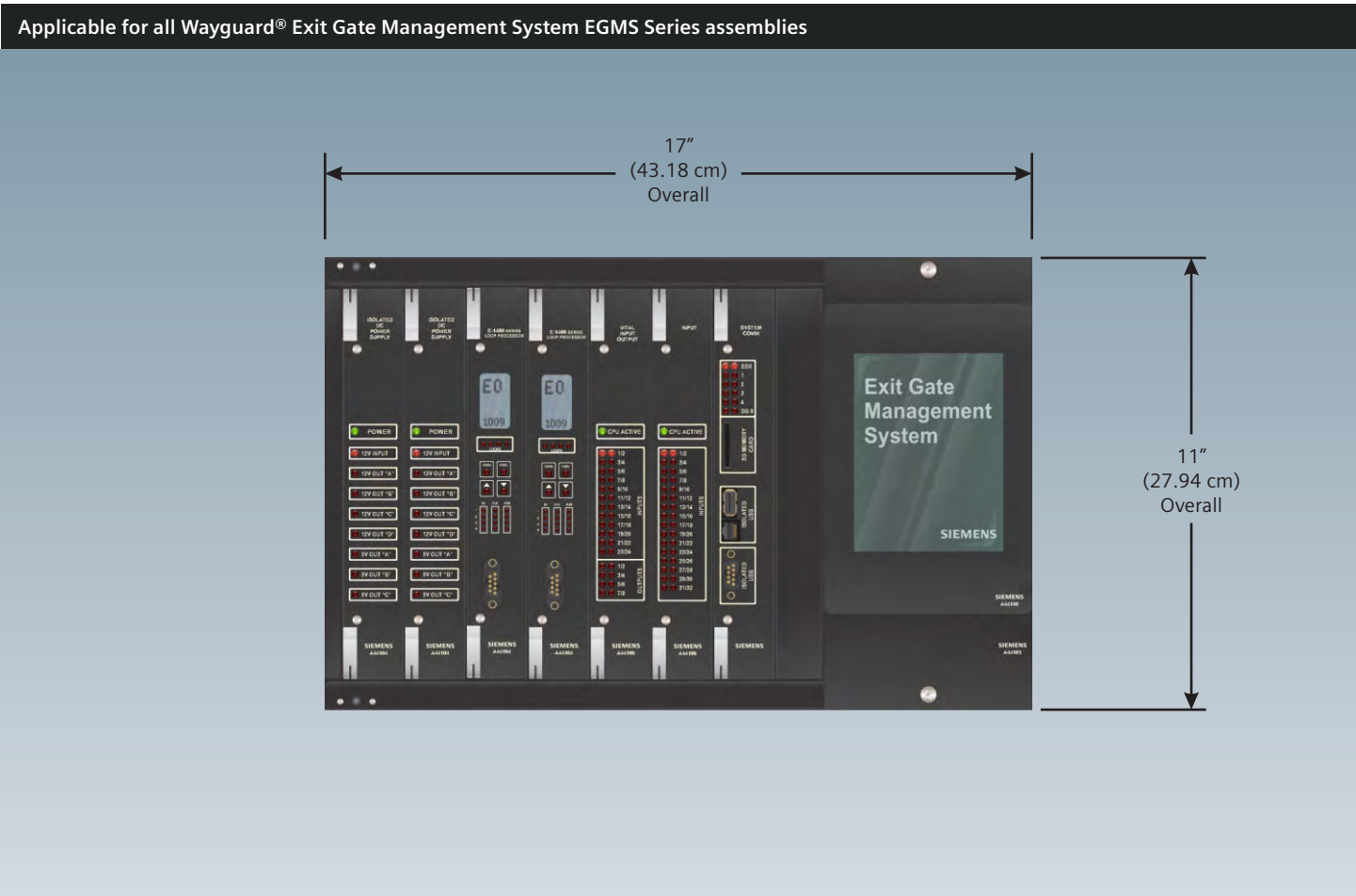
Preformed loops and accessories

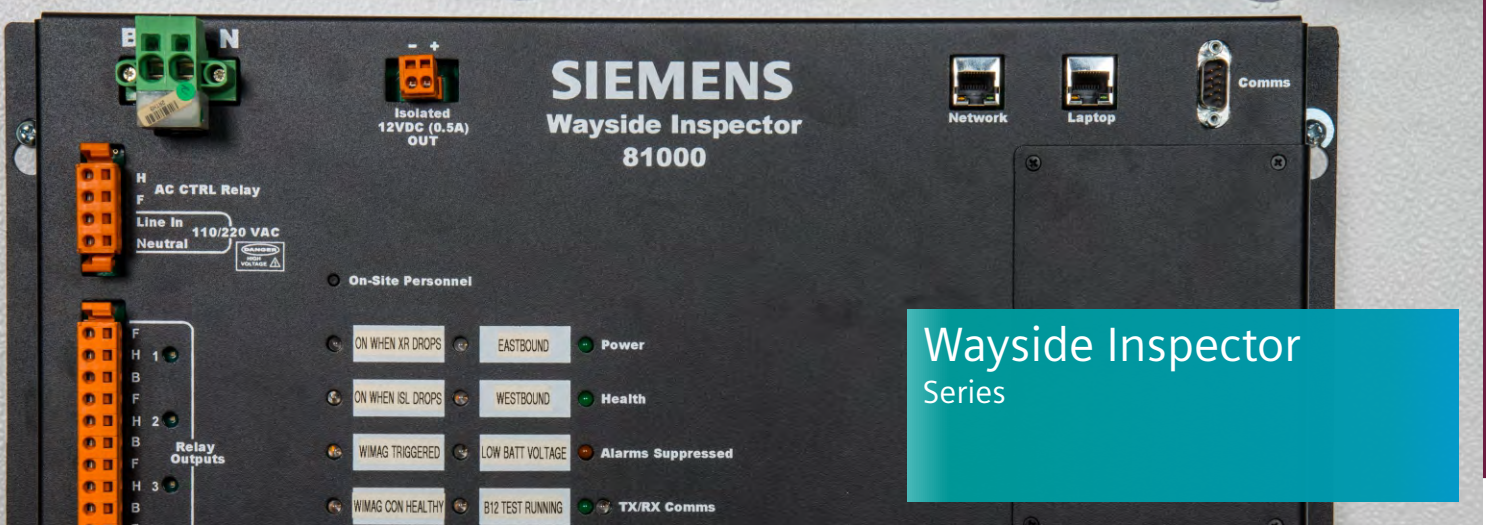


SIEMENS Part Number	Description
NYK:PLC-24-50	24' (7.3 m) long x 50' (15.2 m) wide
NYK:PLC-26-50	26' (7.9 m) long x 50' (15.2 m) wide
NYK:PLC-28-50	28' (8.5 m) long x 50' (15.2 m) wide
NYK:PLC-30-50	30' (9.1 m) long x 50' (15.2 m) wide
NYK:PLC-32-50	32' (9.8 m) long x 50' (15.2 m) wide
NYK:PLC-34-50	34' (10.4 m) long x 50' (15.2 m) wide
NYK:PLC-36-50	36' (11.0 m) long x 50' (15.2 m) wide
NYK:PLC-38-50	38' (11.6 m) long x 50' (15.2 m) wide
NYK:PLC-40-50	40' (12.2 m) long x 50' (15.2 m) wide
NYK:PLC-50-50	50' (15.2 m) long x 50' (15.2 m) wide
NYK:017-107-0001	Ø3/8" 4C #18 AWG RR-418 cable, double jacketed, per linear foot
NYK:07-020-011	Ø3/4" 4C #18 AWG RR-418 cable, triple jacketed, per linear foot
NYK:03-094-005	Home run cable

Accessories and Dimensions

Grade Crossing Systems Grade Crossing Control Systems Products	SIEMENS Part Number	Description
	NYK:03-083-003	TB-2 Wago® terminal strip for 1 st and 2 nd presence detectors
	NYK:03-083-004	TB-4 Wago® terminal strip for 3 rd and 4 th presence detectors
	NYK:07-020-006	Presence detector cable harness kit
	NYK:018-100-0001	Aluminum foundation mounted junction box
	NYK:018-101-0001	Aluminum pedestal mounted junction box
	NYK:04-004-005	1" NPT hub gland plate





Overview



SIEMENS Wayside Inspector Automated Grade Crossing Testing System automates periodic inspection of crossings such as monitoring the state of discrete I/O signals, battery voltages and AC power.

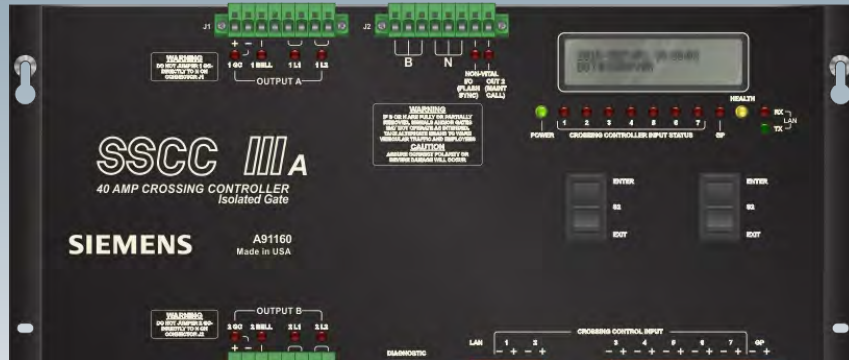
From that information, it analyzes the operation of the grade crossing's warning systems and provides a means for inspection of those systems.

It can send alarms and inspection report logs to a backoffice system or can interact thru a WebUI to allow field personnel to adjust system settings, view statuses etc.

Features

- Scheduled Annual Warning Time inspection available for both main and standby equipment, and for every directional approach and route through associated crossing.
(When used in conjunction with optional WiMag® sensor and specific setup procedures)
(Railroad personal must verify warning time)
- Scheduled Monthly Standby Power inspection available.
- Scheduled Monthly Ground inspection available.
(When used in conjunction with optional Ground Fault Tester - GFT II and specific setup procedures)
- All inspections can be tailored to meet individual railroad threshold requirements.

SIEMENS Part Number	Description
NYK:8000810000001	Wayside Inspector Unit
NYK:Z921004070000	WiMag VSN240-F Sensor
NYK:Z927004220000	WiMag Repeater Unit
NYK:Z927004210000	Access Point Base Station



Wayguard®

SSCC
Series

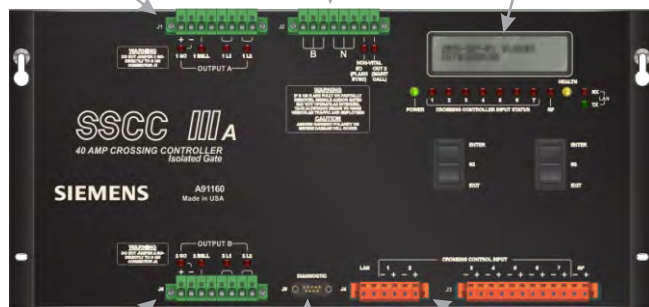
Solid State Crossing Controller

Overview

OUTPUT A Connector Controls:
(1) 20 A Flashing Light
(1) GC Output
(1) Electronic Bell

Power Supply Connector

Status and Program display and related indicators



OUTPUT B Connector Controls:
(1) 20 A Flashing Light
(2) GC Output
(1) Electronic Bell
(Available on 40 A SSCC Units ONLY!)

Diagnostic Connector Port for direct computer interfacing

Connector to Echelon® LAN Interface and Inputs from Crossing Controller

The **SIEMENS** Wayguard® Solid State Crossing Controller (SSCC) Series offers reliable and simple crossing control without breaking the bank.

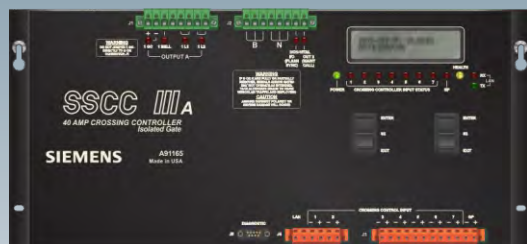
All parameters are easily set using built in liquid crystal display (LCD) screen and pushbuttons as well as protected against unauthorized changes using available password protection. Alternatively, passwords can also be uploaded or downloaded via computer.

With built in logic you can control a crossing more reliably and more cost effectively with greater flexibility. Eliminate need for relays and related wiring using the built in standardized logic, which can be customized to accommodate a vast array of crossing configurations.

Features

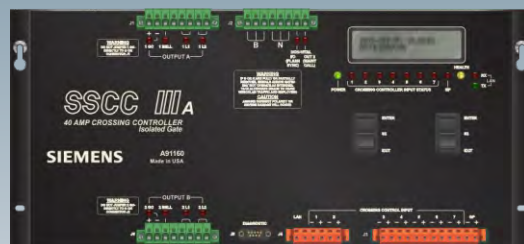
- Echelon® connectivity for communicating recorder and diagnostic information.
 - Programmable loss of shunt timers for each input.
 - Programmable vital control inputs.
Up to (8) including (1) input for gate position.
 - Programmable low battery indication threshold.
 - Programmable lamp flash rate.
 - Optional synchronized lamp flashing of multiple units.
 - Optional loss of shunt selection with configurable timers.
 - Non Volatile Real-Time Clock.
 - Expanded menu system includes pre-emption output drive logic.
 - "SERVICE" menu option to program Out-of-Service timers.
(Available on select models)
 - Communications via ATCS.
(Available on select models)
- 5 built in test modes**
- Lamps Steady - Allows the maintainer to continuously light a lamp for alignment purposes.
 - Flash Lamps - Allows the maintainer to flash a lamp to ensure it is working.
 - Timed Lamps - Allows the maintainer to set a timing sequence that will flash a lamp for "X" seconds.
 - Timed Lamps Repeat - Allows the maintainer to set a timing sequence that will flash a lamp for "X" seconds after "Y" and "2Y" delay.
 - Activate Crossing - Allows the maintainer to activate a crossing in a controlled manner.

NYK:9000911651101



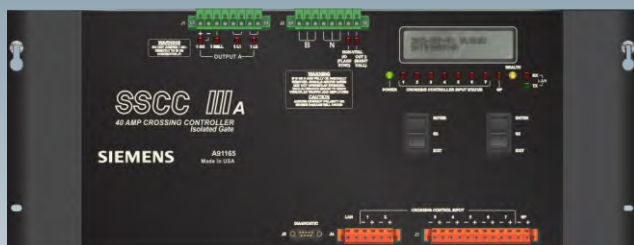
- Easily mountable on 19" (48.3 cm) racks.
- Weight is approx. 9.6 lbs. (4.32 kgs.) including connectors.
- Quiescent power consumption is approx. 0.75 A
- Operates in -40° F to +160° F (-40°C to +70°C) @ up to 95% Non-Condensing Relative Humidity
- Echelon® connectivity for communicating recorder and diagnostic information.
- Programmable loss of shunt timers for each input.
- Programmable low battery indication threshold.
- Programmable lamp flash rate.
- (1) gate control output
- (1) bell output
- (1) pair of lamp outputs (up to 20 amp load)

NYK:9000911601101



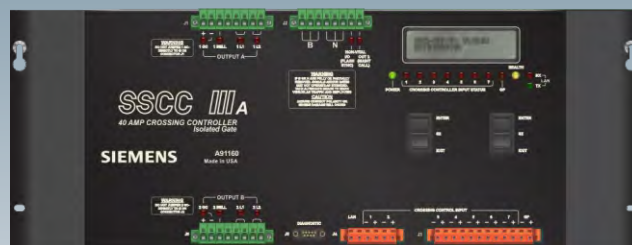
- Easily mountable on 19" (48.3 cm) racks.
- Weight is approx. 11.2 lbs. (5.08 kgs.) including connectors.
- Quiescent power consumption is approx. 0.95 A
- Operates in -40° F to +160° F (-40°C to +70°C) @ up to 95% Non-Condensing Relative Humidity
- Echelon® connectivity for communicating recorder and diagnostic information.
- Programmable loss of shunt timers for each input.
- Programmable low battery indication threshold.
- Programmable lamp flash rate.
- (2) gate control outputs
- (2) bell outputs
- (2) pairs of lamp outputs (up to 20 amp load)

NYK:9000911650101



- Easily mountable on 23" (58.4 cm) Mounting Rack
- Weight is approx. 9.8 lbs. (4.44 kgs.) including connectors.
- Quiescent power consumption is approx. 0.75 A
- Operates in -40° F to +160° F (-40°C to +70°C) @ up to 95% Non-Condensing Relative Humidity
- Echelon® connectivity for communicating recorder and diagnostic information.
- Programmable loss of shunt timers for each input.
- Programmable low battery indication threshold.
- Programmable lamp flash rate.
- (1) gate control output
- (1) bell output
- (1) pair of lamp outputs (up to 20 amp load)

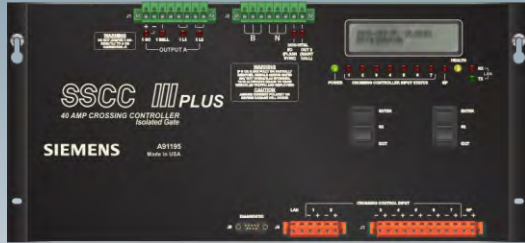
NYK:9000911600101



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- (2) gate control outputs
- (2) bell outputs
- (2) pairs of lamp outputs (up to 20 amp load)

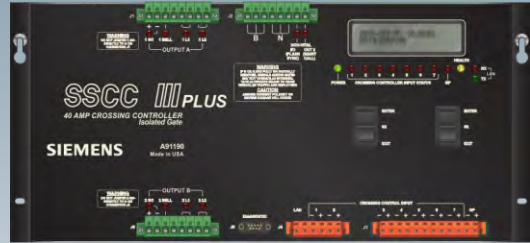
Assemblies

NYK:9000911951101



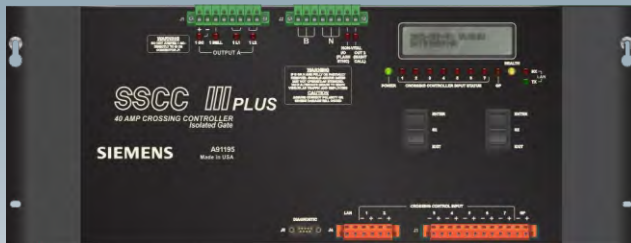
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- Echelon® connectivity for communicating recorder and diagnostic information.
- Programmable loss of shunt timers for each input.
- Programmable low battery indication threshold.
- Programmable lamp flash rate.
- (1) gate control output
- (1) bell output
- (1) pair of lamp outputs (up to 20 amp load)
- "Service" out of service timers

NYK:9000911901101



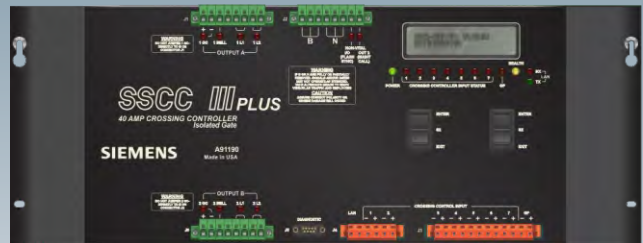
- Easily mountable on 19" (48.3 cm) racks.
- Weight is approx. 11.2 lbs. (5.08 kgs.) including connectors.
- Quiescent power consumption is approx. 0.95 A
- Operates in -40° F to +160° F (-40°C to +70°C) @ up to 95% Non-Condensing Relative Humidity
- Echelon® connectivity for communicating recorder and diagnostic information.
- Programmable loss of shunt timers for each input.
- Programmable low battery indication threshold.
- Programmable lamp flash rate.
- (2) gate control outputs
- (2) bell outputs
- (2) pairs of lamp outputs (up to 20 amp load)
- "Service" out of service timers

NYK:9000911950101



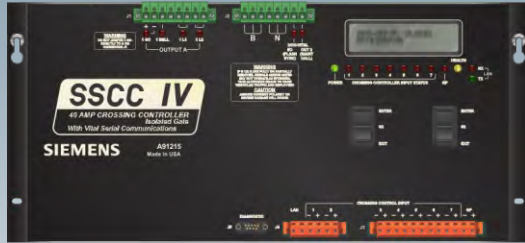
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- "Service" out of service timers

NYK:9000911900101



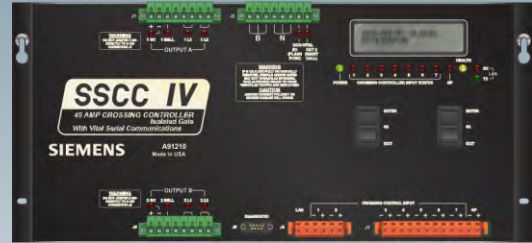
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- Weight is approx. 11.4 lbs. (5.13 kgs.) including connectors.
- Quiescent power consumption is approx. 0.95 A
- Operates in -40° F to +160° F (-40°C to +70°C) @ up to 95% Non-Condensing Relative Humidity
- Echelon® connectivity for communicating recorder and diagnostic information.
- Programmable loss of shunt timers for each input.
- Programmable low battery indication threshold.
- Programmable lamp flash rate.
- (2) gate control outputs
- (2) bell outputs
- (2) pairs of lamp outputs (up to 20 amp load)
- "Service" out of service timers

NYK:9000912151101



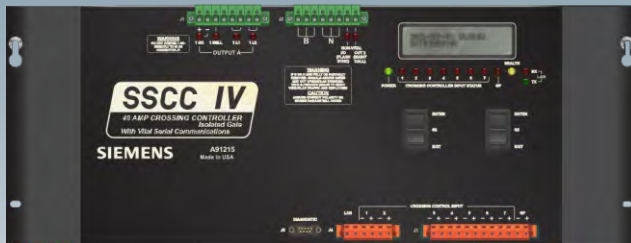
- Easily mountable on 19" (48.3 cm) racks.
- Weight is approx. 9.6 lbs. (4.32 kgs.) including connectors.
- Quiescent power consumption is approx. 0.75 A
- Operates in -40° F to +160° F (-40°C to +70°C) @ up to 95% Non-Condensing Relative Humidity
- Echelon® connectivity for communicating recorder and diagnostic information.
- Programmable loss of shunt timers for each input.
- Programmable low battery indication threshold.
- Programmable lamp flash rate.
- (1) gate control output
- (1) bell output
- (1) pair of lamp outputs (up to 20 amp load)
- "Service" out of service timers
- Communications via ATCS available

NYK:9000912101101



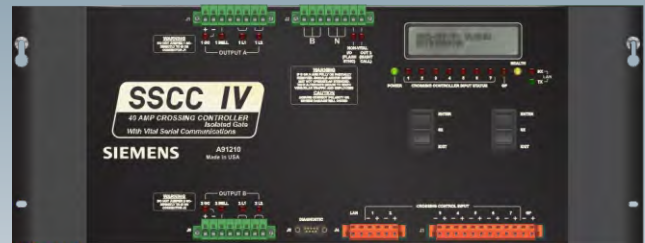
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- Programmable lamp flash rate.
- (2) gate control outputs
- (2) bell outputs
- (2) pairs of lamp outputs (up to 20 amp load)
- "Service" out of service timers
- Communications via ATCS available

NYK:9000912150101



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- (1) pair of lamp outputs (up to 20 amp load)
- "Service" out of service timers
- Communications via ATCS available

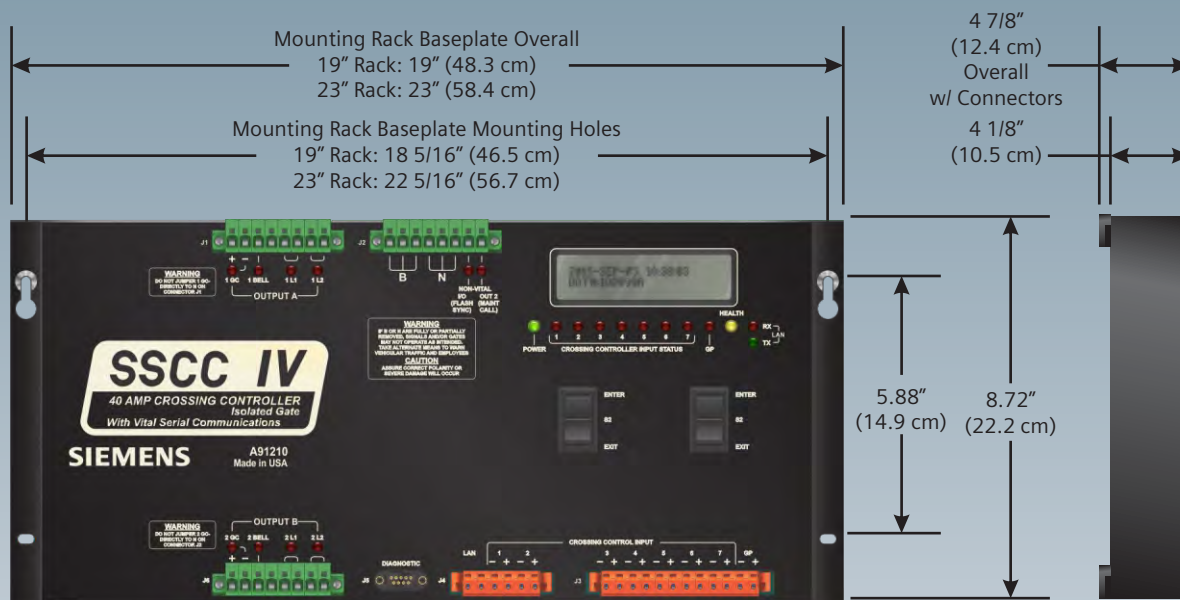
NYK:9000912100101



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- Quiescent power consumption is approx. 0.95 A
- Operates in -40° F to +160° F (-40°C to +70°C) @ up to 95% Non-Condensing Relative Humidity
- Echelon® connectivity for communicating recorder and diagnostic information.
- Programmable loss of shunt timers for each input.
- Programmable low battery indication threshold.
- Programmable lamp flash rate.
- (2) gate control outputs
- (2) bell outputs
- (2) pairs of lamp outputs (up to 20 amp load)
- "Service" out of service timers
- Communications via ATCS available

Dimensions

Applicable for all Wayguard® Solid State Crossing Controller SSCC Series assemblies



Comparison Chart

Model	SSCC III A	SSCC III PLUS	SSCC IV
			
Echelon® Compatible	✓	✓	✓
Programmable Loss of Shunt Timers	✓	✓	✓
Programmable Vital Control Inputs	✓	✓	✓
Programmable Low Battery Indicator	✓	✓	✓
Programmable Lamp Flash Rate	✓	✓	✓
Non Volatile Real-Time Clock	✓	✓	✓
Inbuilt onboard Application Configurations	✗	✓	✓
"SERVICE" Out of Service Timers	✗	✓	✓
Communication Via ATCS	✗	✗	✓



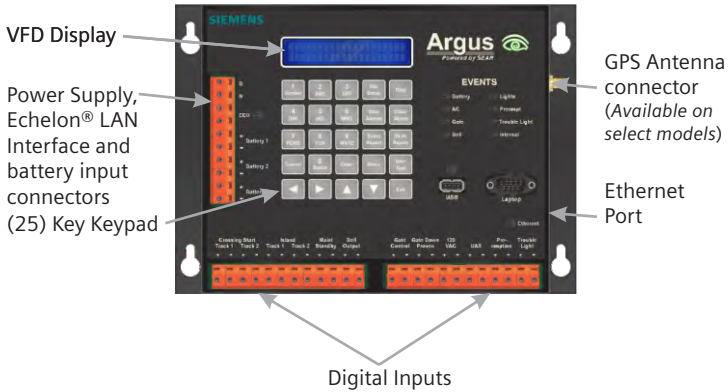
Wayguard®

ARGUS
Series

Event Recorder

Overview

Features

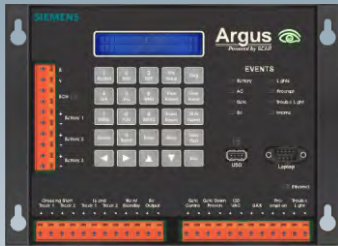


The **SIEMENS** Wayguard® Argus Event Recorder Series offers reliable and simple comprehensive monitoring, recording, reporting and alarm generation in one compact simple to install, simple to use unit without breaking the bank.

Immediately reporting anomalies to the where the client's maintainers' specify in order to investigate and maintain.

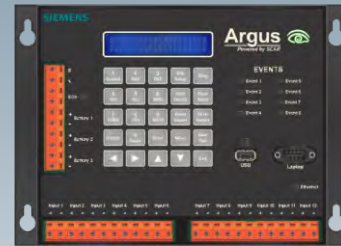
- Provides full monitoring, recording and reporting functions for most standard crossing configurations without the need for any other modules, except for light-out detectors or other optional supported devices (*check with **SIEMENS** Technical Assistance for Rail Automation Team for which other devices are currently supported*).
- Allows the railroad to have recorded proof-of-crossing operation. The log from the recorder contains anti-tampering information. Any editing of this log will be obvious to an auditor.
- Provides a user-friendly platform for site configuration and log retrieval, without the need for special hardware or software, via a USB 2.0 flash drive.
- Provides notification of alarm conditions to the Wayside Alarm Management System (WAMS) over a variety of communication networks (*check with **SIEMENS** Technical Assistance for Rail Automation Team for the networks and protocols currently supported*).
- Available with either **SIEMENS** proprietary silkscreening of predetermined events or inputs or a non proprietary silkscreening offering generic descriptions instead.

NYK:8000803110001



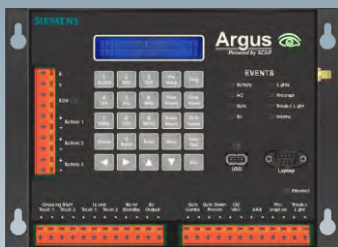
- Weight is approx. 2.8 lbs. (1.27 kgs.)
- Operates in -40° F to +160° F (-40°C to +70°C) @ up to 95% Non-Condensing Relative Humidity
- Proprietary silkscreen overlay
- Basic CDL program
- (1) Ethernet port
- NO GPS capability
- NO accessory kit

NYK:8000803110003



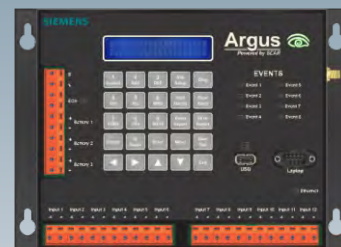
- Weight is approx. 2.8 lbs. (1.27 kgs.)
- Operates in -40° F to +160° F (-40°C to +70°C) @ up to 95% Non-Condensing Relative Humidity
- Non proprietary silkscreen overlay
- Basic CDL program
- (1) Ethernet port
- NO GPS capability
- NO accessory kit

NYK:8000803110004



- Weight is approx. 2.8 lbs. (1.27 kgs.)
- Operates in -40° F to +160° F (-40°C to +70°C) @ up to 95% Non-Condensing Relative Humidity
- Proprietary silkscreen overlay
- Basic CDL program
- (1) Ethernet port
- GPS capability
- NO accessory kit

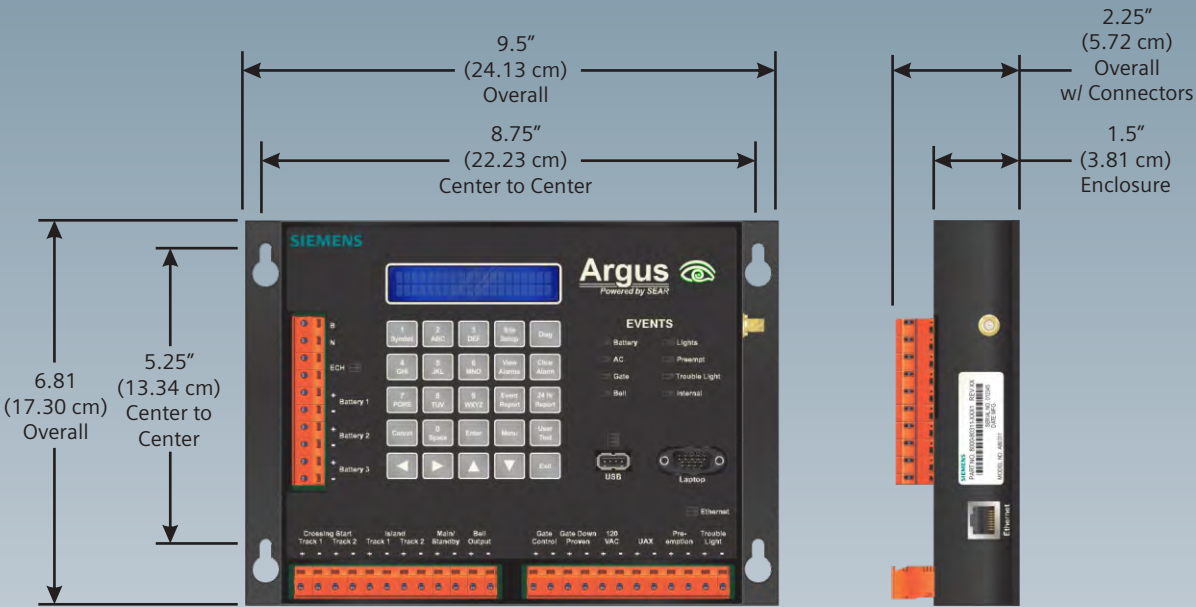
NYK:8000803110006



- Weight is approx. 2.8 lbs. (1.27 kgs.)
- Operates in -40° F to +160° F (-40°C to +70°C) @ up to 95% Non-Condensing Relative Humidity
- Non proprietary silkscreen overlay
- Basic CDL program
- (1) Ethernet port
- GPS capability
- NO accessory kit

Dimensions

Applicable for all Wayguard® ARGUS Series Event Recorder assemblies

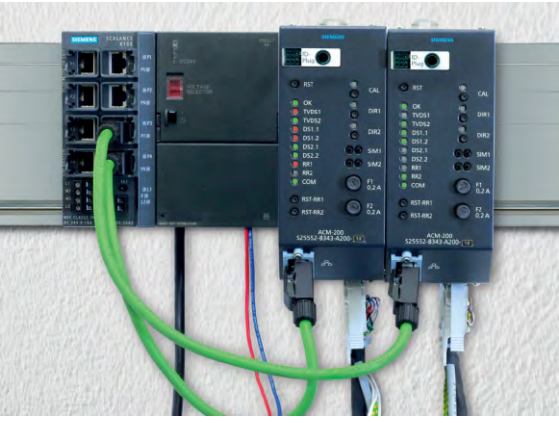


Preconfigured GPS Accessory Kits	
SIEMENS Part Number	Description
NYK:8000267600001	(2) 6' (1.8 m) Antenna / Surge cables, (1) SMA/M adapter, (1) DC Arrester
NYK:8000267600002	(1) 6' (1.8 m) Antenna / Surge cable, (1) 15' (4.6 m) Antenna / Surge cable, (1) SMA/M adapter, (1) DC Arrester
NYK:8000267600003	(1) 6' (1.8 m) Antenna / Surge cable, (1) 30' (9.2 m) Antenna / Surge cable, (1) SMA/M adapter, (1) DC Arrester
NYK:8000267600004	(1) 6' (1.8 m) Antenna / Surge cable, (1) 50' (15.2 m) Antenna / Surge cable, (1) SMA/M adapter, (1) DC Arrester
NYK:8000267600006	(2) 15' (4.6 m) Antenna / Surge cable, (1) SMA/M adapter, (1) DC Arrester
NYK:8000267600007	(1) 15' (4.6 m) Antenna / Surge cable, (1) 30' (9.2 m) Antenna / Surge cable, (1) SMA/M adapter, (1) DC Arrester
NYK:8000267600008	(1) 15' (4.6 m) Antenna / Surge cable, (1) 50' (15.2 m) Antenna / Surge cable, (1) SMA/M adapter, (1) DC Arrester
NYK:8000267600011	(2) 30' (9.2 m) Antenna / Surge cables, (1) SMA/M adapter, (1) DC Arrester
NYK:8000267600012	(1) 30' (9.2 m) Antenna / Surge cable, (1) 50' (15.2 m) Antenna / Surge cable, (1) SMA/M adapter, (1) DC Arrester
NYK:8000267600016	(2) 50' (15.2 m) Antenna / Surge cables, (1) SMA/M adapter, (1) DC Arrester



Wayguard®
ACM 200 Series
Axle Count Management System

Overview



SIEMENS Clearguard ACM 200 electronic wheel detection equipment is a wheel detection component for use in track vacancy detection systems using the axle counting method.

It is preferentially used in the outdoor equipment of the Clearguard Az S 350 U and Clearguard ACM 200 counting systems and comprises a double wheel detector and a trackside connection box. Clearguard ZP D 43 is the successor model to ZP 43 E and ZP 43 V.

DEK 43 double wheel detector

The DEK 43 double wheel detector is made up of a transmitter and a receiver in separate housings, each mounted with a reducing plate against the rail web.

Trackside connection box

The trackside connection box of the Clearguard ZP D 43 consists of a base plate and a cover which is made of either plastic or aluminum (selectable). The base plate supports a board module which in turn comprises a base plate, the application-specific printed circuit board and a protective cover.

Features

- Connection to electronic and relay interlockings
- HTML communication for attribute configuration, logging and diagnostics
- Modular, compact hardware
- Deployment of Clearguard ZP D 43 and Clearguard ZP 43 E/V counting heads

SIEMENS Part Number	Description
NYK:680001-0040	ZP D 43 Wheel Detector
NYK:680001-0019	ACM 200 ID Plug Module
NYK:680001-0083	SIPLUS SCALANCE X208 Ethernet Switch
NYK:6ES57108MA31	SIMATIC S7-300 Controller

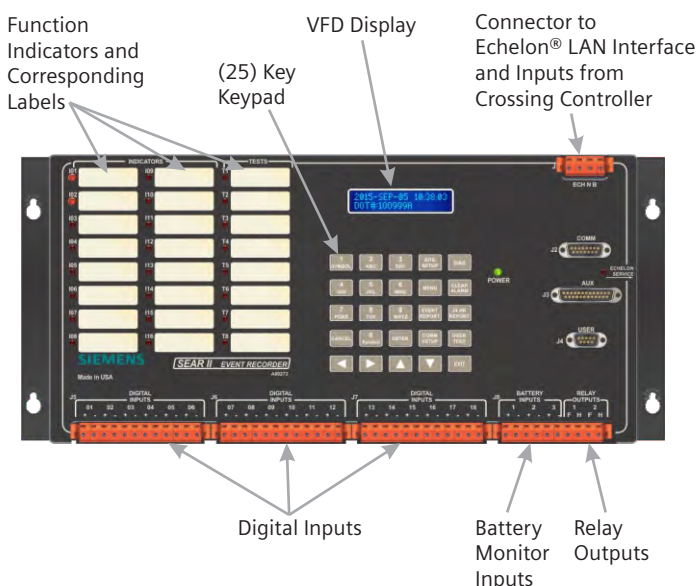


Wayguard®

SEAR II
Series

Event Analyzers / Recorders

Overview



SIEMENS SEAR II Event Analyzer / Recorder
model A80273 shown for reference purposes only!
Actual unit selected may vary in mounting and features.

Railroads have a duty of care to ensure that grade crossings operate safely. **SIEMENS** Wayguard® SEAR II Series Event Analyzer / Recorders immediately report anomalies to the where the client's maintainers' specify in order to investigate and maintain.

Offering reliable and simple comprehensive monitoring, recording, reporting and alarm generation in one compact simple to install, simple to use unit without breaking the bank.

Microprocessor controlled non-vital, stand alone alarm management system designed to provide continuous real-time general purpose status monitoring and event recording for a wide range of functions associated with grade crossings.

Features

- 24 x 7 monitoring and fault reporting.
- Echelon® connectivity for communicating recorder and diagnostic information.
- Non-contact detection of flashing lamps.
(Can detect a single failure within a lamp bank when **SIEMENS** Intelligent Lights Out Detector (iLOD) is installed)
- Isolated monitoring of up to 18 separate digital points.
- Isolated monitoring of 3 analog points.
(such as a battery)
- Configurable dry contact outputs for remote testing.
- Configurable internal logic to discriminate faults from normal operation.
- Configurable maintainer call on real alarms.
- Can be remotely interrogated.
- Direct interface to Grade Crossing Predictors
(such as a **SIEMENS** Wayguard® GCP 4000 Series model)
- Connects to analogue and digital expansion modules for even larger systems.
- Stores up to 150,000 events
(Up to 400,000 with extended memory module)
- Intranet or internet access.
- Push alarms to nominated staff.
- Shelf or rack mountable.

NYK:8000802730001



NYK:8000802730002

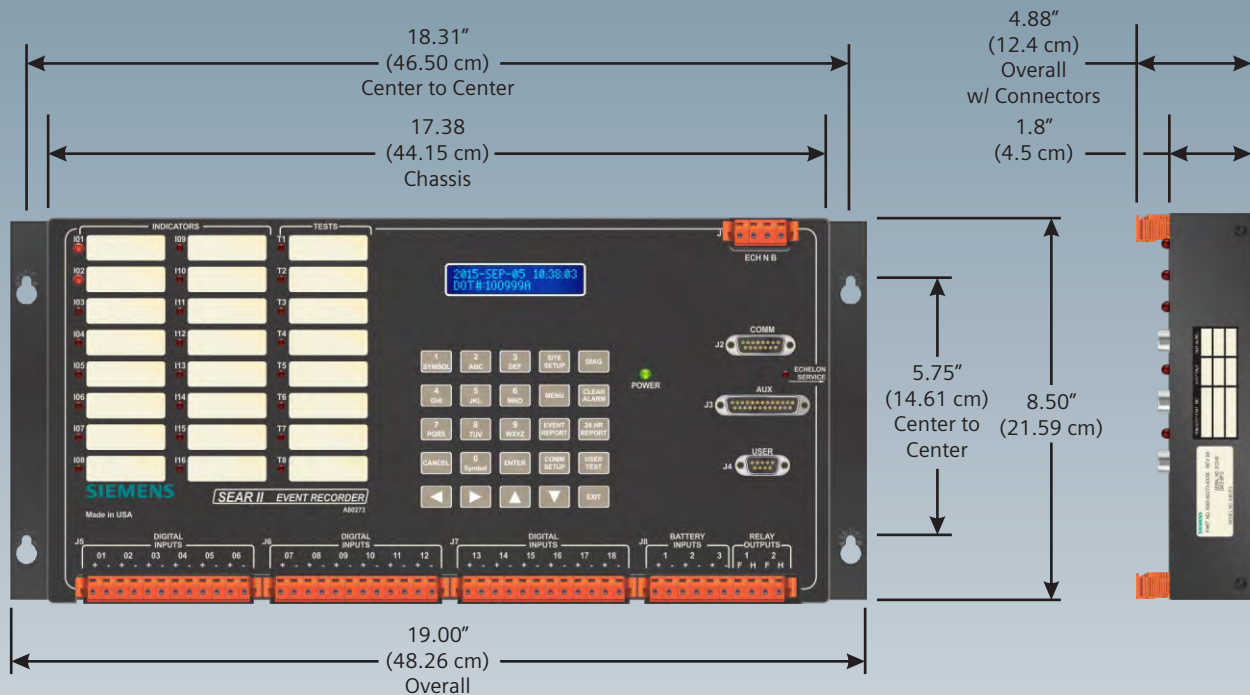
**SEAR w/o Internal Expansion Module**

- Weight is approx. 5.8 lbs. (2.63 kgs.)
- Operates in -40° F to +160° F (-40°C to +70°C) @ up to 95% Non-Condensing Relative Humidity
- Executive program installed

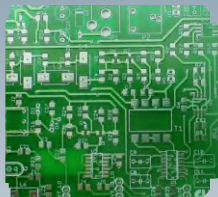
SEAR w/ Internal Expansion Module

- Weight is approx. 5.8 lbs. (2.63 kgs.)
- Operates in -40° F to +160° F (-40°C to +70°C) @ up to 95% Non-Condensing Relative Humidity
- Executive program installed

Applicable for all Wayguard® SEAR II Series Event Analyzer / Recorder assemblies

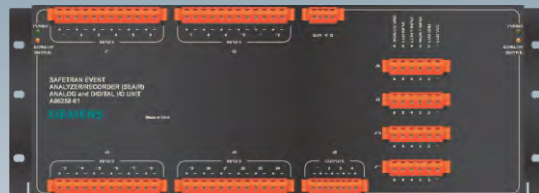


NYK:8000802550001

**Analog I/O Expansion Module**

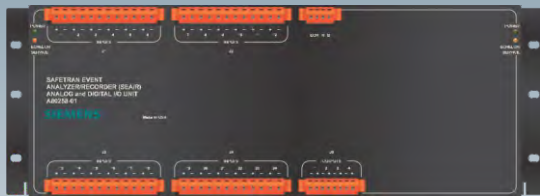
- Weight is approx. 1.6 lbs. (0.73 kgs.)
- Operates in -40° F to +160° F (-40°C to +70°C) @ up to 95% Non-Condensing Relative Humidity
- Executive program installed
- Internally installed in SEAR II

NYK:8000802580001

**Digital I/O Expansion Module**

- Weight is approx. 5.4 lbs. (2.45 kgs.) including connectors
- Operates in -40° F to +160° F (-40°C to +70°C) @ up to 95% Non-Condensing Relative Humidity
- Able to monitor up to (24) external digital inputs
- Able to monitor up to (4) external analog inputs (including high and low voltage sensing)
- Able to monitor internal temperature
- Able to monitor battery sensor functions

NYK:8000802580002

**Analog I/O Expansion Module**

- Weight is approx. 5.1 lbs. (2.31 kgs.)
- Operates in -40° F to +160° F (-40°C to +70°C) @ up to 95% Non-Condensing Relative Humidity
- Able to monitor up to (24) external digital inputs
- Able to monitor internal temperature
- Able to monitor battery sensor functions

NYK:8000802610001

**Analog Input Module**

- Weight is approx. 5.4 lbs. (2.45 kgs.) including connectors
- Operates in -40° F to +160° F (-40°C to +70°C) @ up to 95% Non-Condensing Relative Humidity
- Able to monitor up to (4) external analog inputs (including high and low voltage sensing)

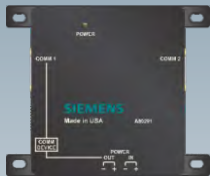
NYK:8000800630001



GCP to Echelon® Interface Module

- Weight is approx. 2.6 lbs. (1.18 kgs.)
- Operates in -40° F to +160° F (-40°C to +70°C) @ up to 95% Non-Condensing Relative Humidity

NYK:8000802910001



Communications Isolator Module

- Weight is approx. 5.4 lbs. (2.45 kgs.) including connectors
- Operates in -40° F to +160° F (-40°C to +70°C) @ up to 95% Non-Condensing Relative Humidity
- Able to monitor up to (24) external digital inputs
- Able to monitor up to (4) external analog inputs (including high and low voltage sensing)
- Able to monitor internal temperature
- Able to monitor battery sensor functions

NYK:8000802760001



VHF Communicator

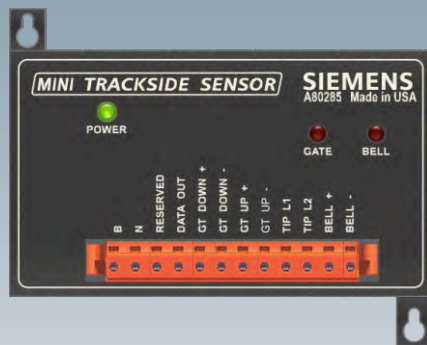
- Weight is approx. 5.1 lbs. (2.31 kgs.)
- Operates in -40° F to +160° F (-40°C to +70°C) @ up to 95% Non-Condensing Relative Humidity
- Able to monitor up to (24) external digital inputs
- Able to monitor internal temperature
- Able to monitor battery sensor functions
- SEAR transmit and receive indicators

NYK:8000802760002



VHF Communicator

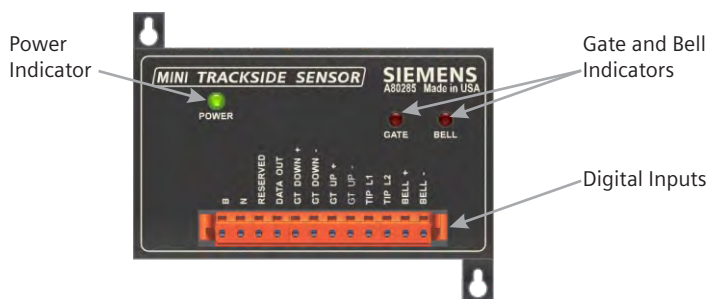
- Weight is approx. 5.1 lbs. (2.31 kgs.)
- Operates in -40° F to +160° F (-40°C to +70°C) @ up to 95% Non-Condensing Relative Humidity
- Able to monitor up to (24) external digital inputs
- Able to monitor internal temperature
- Able to monitor battery sensor functions
- Console transmit and receive indicators



MTSS

Mini Track Side Sensor

Overview



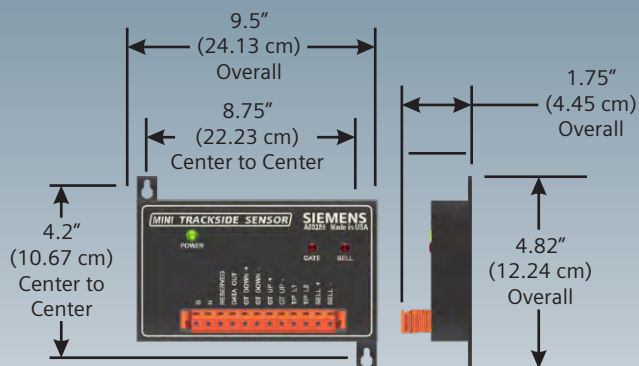
Model A80285

shown for reference purposes only!

Actual unit selected may vary in mounting and features.

SIEMENS Mini Track Side Sensor (MTSS) interfaces with the various monitored signals via connector J1, a 12-pin, mass-terminated Eurostyle terminal block (board header and wiring plug), and provides LED indicators for power, when the gate is horizontal and the bell is ringing.

NYK:8000802850001



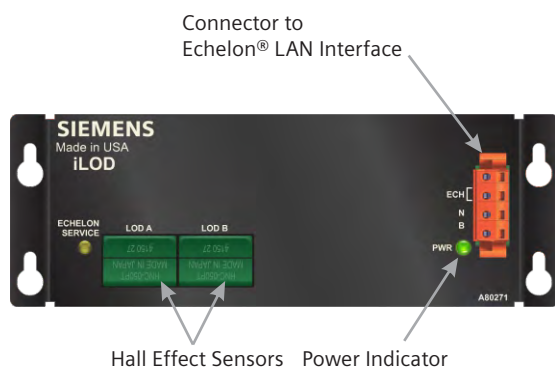
- Easily mountable on instrument house backboards.
- Weight is approx. 1.11 lbs. (0.50 kgs.) including connectors
- Operates in -40° F to +160° F (-40°C to +70°C) @ up to 95% Non-Condensing Relative Humidity



iLOD

Intelligent Lights Out Detector

Overview



Model A80271

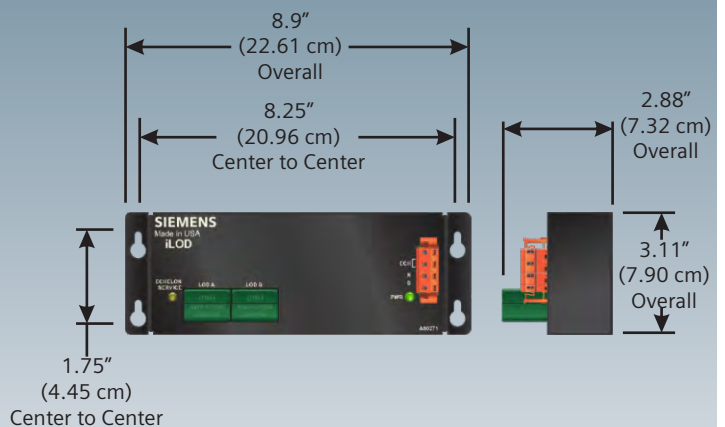
shown for reference purposes only!

Actual unit selected may vary in mounting and features.

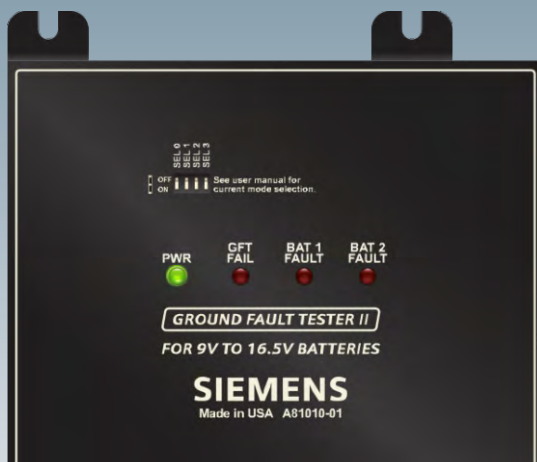
SIEMENS Intelligent Lights Out Detector (iLOD) adds programmable current sensing functionality to **SIEMENS** SEAR II/SEAR Ili Event Analyzer / Recorders.

Including (2) current sensing Hall-effect sensors with analog-digital conversion circuitry and it communicates with the **SIEMENS** SEAR II / SEAR Ili over the Echelon® network.

NYK:8000802710001



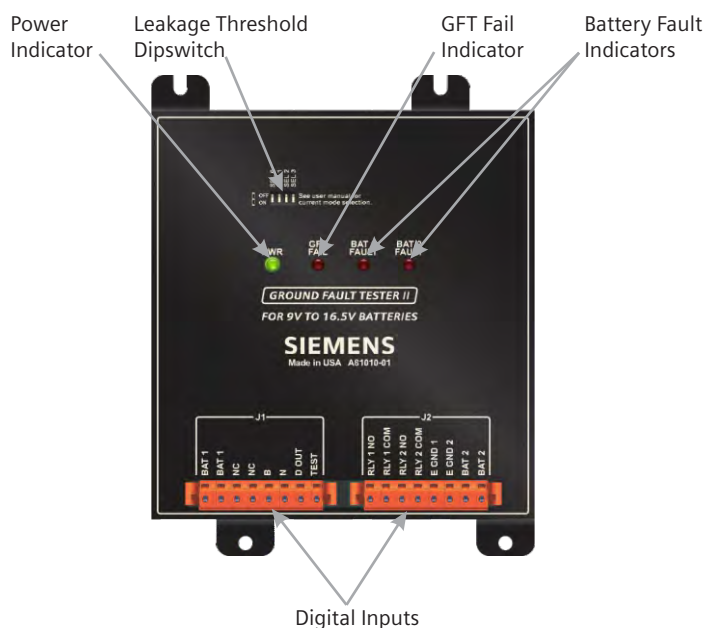
- Easily mountable on instrument house backboards.
- Quiescent power consumption is approx. 0.3 A @ 13.2 V, 0.4 A @ 9.0 V
- Weight is approx. 1.50 lbs. (0.68 kgs.) including connectors
- Operates in -40° F to +160° F (-40°C to +70°C) @ up to 95% Non-Condensing Relative Humidity



GFT II Series

Ground Fault Tester

Layout



- Monitors leakage resistance between battery terminals and earth ground.
- Can be used as a stand alone monitor or in conjunction with **SIEMENS** Wayguard® SEAR II Series Event Analyzer / Recorders for recording ground fault events.
- (10) Second fault debounce circuitry.
- (2) dry relay contacts to 3rd party inputs .
- Up to (8) leakage current mode detection settings.
- Dipswitch configurable leakage thresholds.

SIEMENS GFT II Model A81010 shown for reference purposes only!
Actual unit selected may vary in mounting and features.

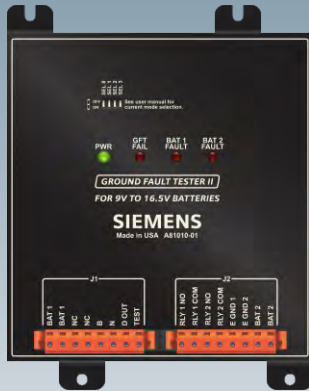
SIEMENS Ground Fault Tester (2nd Generation) GFT II Series can operate in two modes. In normal mode, the GFT II constantly monitors up to two batteries for ground faults and indicates battery fault status to the **SIEMENS** Wayguard® SEAR II Series Event Analyzer / Recorder if connected.

Information is provided to the SEAR II as a pulsed data signal via any unused digital input. The unit can also be placed in test mode where a simulated ground fault is placed internally on an isolated battery input to verify that the unit is properly detecting faults.

A separate internal circuit is used to verify the GFT II's health, as indicated by the status of the GFT FAIL LED on the front panel.

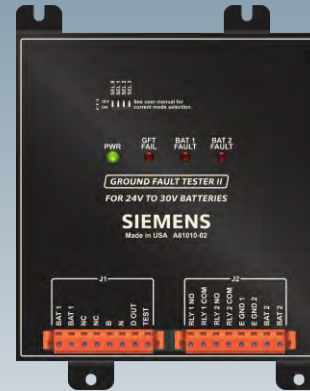
The GFT II can be powered by a 9-30 VDC (12 VDC nominal) operating battery, or independently powered from a battery being monitored.

NYK:8000810100001



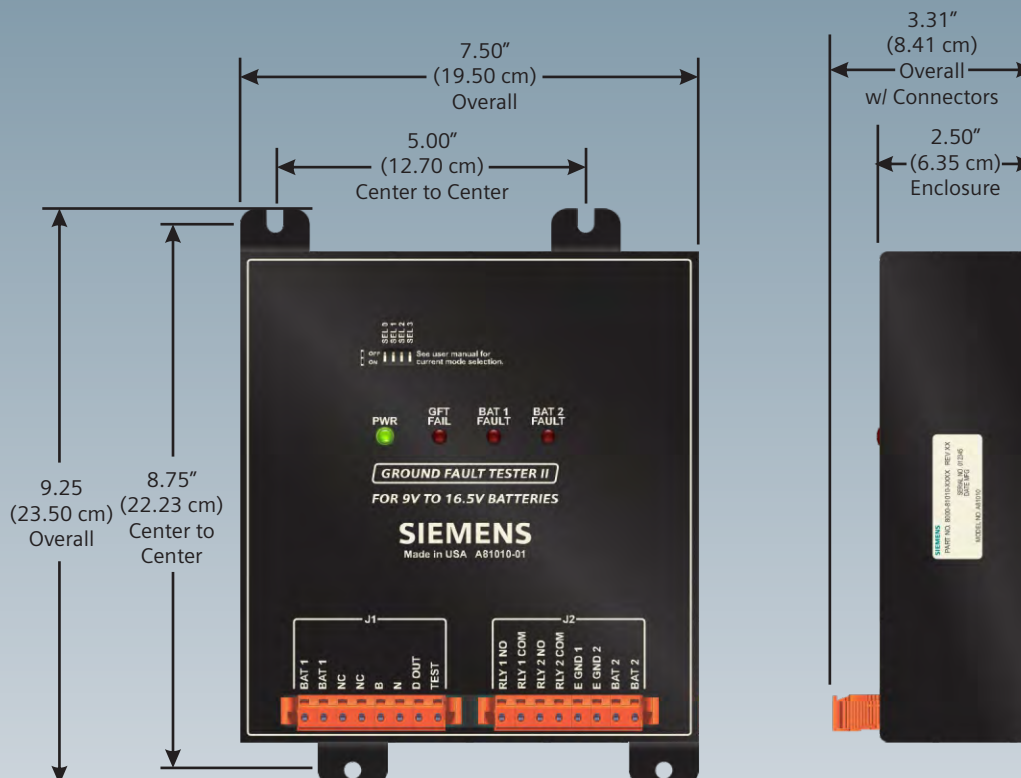
- Easily mountable on instrument house backboards.
- Quiescent power consumption is approx. 0.3 A @ 13.2 V, 0.5 A @ 9.0 V
- Weight is approx. 4.0 lbs. (1.81 kgs.) including connectors
- Operates in -40° F to +160° F (-40°C to +70°C) @ up to 95% Non-Condensing Relative Humidity
- For use with either 12 V or 16 V batteries
- Alarm threshold configurable from 1 mA to 4.5 mA
- NO ground integrity check feature

NYK:8000810100002



- Easily mountable on instrument house backboards.
- Quiescent power consumption is approx. 0.3 A @ 13.2 V, 0.5 A @ 9.0 V
- Weight is approx. 4.0 lbs. (1.81 kgs.) including connectors
- Operates in -40° F to +160° F (-40°C to +70°C) @ up to 95% Non-Condensing Relative Humidity
- For use with either 24 V or 30 V batteries
- Alarm threshold configurable from 1 mA to 4.5 mA
- NO ground integrity check feature

Applicable for all GFT II Series Ground Fault Tester assemblies



Grade Crossing Auxiliary Products



NBS Series
Narrow Band Shunts

A53 - A58



WBS Series
Wide Band Shunts

A59 - A60



TJC Series
Tunable Joint Couplers

A61 - A64



Bi-Directional Simulation
Couplers

A65 - A66



PSO Insulated Joint Bypass
Couplers

A67



Standard Impedance Receiver
Couplers

A68



High Impedance Receiver
Couplers

A69



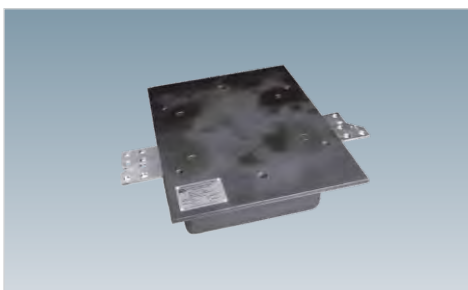
Line to Rail Transmitter
Couplers

A70



Line to Rail Receiver
Couplers

A71



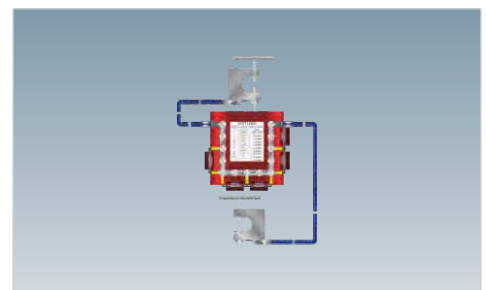
SZB 20 Series
Impedance Bonds

A72



Inductors
Simulated Track

A73 - A74



TS Series
Test Shunts

A75 - A76





NBS Series

Narrow Band Shunts

Overview

10 ft (3 m) long leads



Features

SIEMENS offers a variety of industry standard frequencies to choose from, ranging 86 Hz to 970 Hz. Some select models offer additional benefits such as higher than normal impedance or being designed for use in high power applications.

- Hermetically sealed in ABS shell casing.
- Available pre-wired internally with 10 ft (3 m) long leads, using either #6 AWG copper wire or #6 Erico® brand bondstrand.
- Requires no specialized tuning.

Model A62775 NBS Series Narrow Band Shunt shown for reference purposes only! Actual unit selected may vary in mounting and features.

SIEMENS Narrow Band Shunts (NBS) Series introduces low impedance to a selected narrow band of alternating current frequencies and high impedance to direct current as well as all alternating current frequencies outside the selected band, thus allowing the end user to properly terminate grade crossing approach circuits.

Pre-wired internally using either #6 AWG copper wire or Erico® brand bondstrand.

Assemblies

SIEMENS Part Number	Frequency	High Impedance	High Power	Multi Frequency	Wire Type		Weight	Grade Crossing Systems Grade Crossing Auxiliary Products
					#6 AWG Copper Wire	Erico® Bondstrand		
NYK:6000627750086	86 Hz	-	-	-	X	-	7.6 lbs (3.45 kgs)	
NYK:6000627750114	114 Hz	-	-	-	X	-	7.6 lbs (3.45 kgs)	
NYK:6000627750156	156 Hz	-	-	-	X	-	7.6 lbs (3.45 kgs)	
NYK:6000627750211	211 Hz	-	-	-	X	-	7.6 lbs (3.45 kgs)	
NYK:6000627750285	285 Hz	-	-	-	X	-	7.6 lbs (3.45 kgs)	
NYK:6000627750348	348 Hz	-	-	-	X	-	7.6 lbs (3.45 kgs)	
NYK:6000627750430	430 Hz	-	-	-	X	-	7.6 lbs (3.45 kgs)	
NYK:6000627750525	525 Hz	-	-	-	X	-	7.6 lbs (3.45 kgs)	
NYK:6000627750645	645 Hz	-	-	-	X	-	7.6 lbs (3.45 kgs)	
NYK:6000627750790	790 Hz	-	-	-	X	-	7.6 lbs (3.45 kgs)	
NYK:6000627750970	970 Hz	-	-	-	X	-	7.6 lbs (3.45 kgs)	
NYK:6E00627750086	86 Hz	-	-	-	-	X	7.6 lbs (3.45 kgs)	
NYK:6E00627750114	114 Hz	-	-	-	-	X	7.6 lbs (3.45 kgs)	
NYK:6E00627750156	156 Hz	-	-	-	-	X	7.6 lbs (3.45 kgs)	
NYK:6E00627750211	211 Hz	-	-	-	-	X	7.6 lbs (3.45 kgs)	
NYK:6E00627750285	285 Hz	-	-	-	-	X	7.6 lbs (3.45 kgs)	
NYK:6E00627750348	348 Hz	-	-	-	-	X	7.6 lbs (3.45 kgs)	
NYK:6E00627750430	430 Hz	-	-	-	-	X	7.6 lbs (3.45 kgs)	
NYK:6E00627750525	525 Hz	-	-	-	-	X	7.6 lbs (3.45 kgs)	
NYK:6E00627750645	645 Hz	-	-	-	-	X	7.6 lbs (3.45 kgs)	
NYK:6E00627750790	790 Hz	-	-	-	-	X	7.6 lbs (3.45 kgs)	
NYK:6E00627750970	970 Hz	-	-	-	-	X	7.6 lbs (3.45 kgs)	

NBS Series - Narrow Band Shunts

High Impedance Assemblies

Grade Crossing Systems Grade Crossing Auxiliary Products	SIEMENS Part Number	Frequency	High Impedance	High Power	Multi Frequency	Wire Type		Weight
						#6 AWG Copper Wire	Erico® Bondstrand	
	NYK:6000627800086	86 Hz	X	-	-	X	-	7.6 lbs (3.45 kgs)
	NYK:6000627800114	114 Hz	X	-	-	X	-	7.6 lbs (3.45 kgs)
	NYK:6000627800156	156 Hz	X	-	-	X	-	7.6 lbs (3.45 kgs)
	NYK:6000627800211	211 Hz	X	-	-	X	-	7.6 lbs (3.45 kgs)
	NYK:6000627800285	285 Hz	X	-	-	X	-	7.6 lbs (3.45 kgs)
	NYK:6000627800348	348 Hz	X	-	-	X	-	7.6 lbs (3.45 kgs)
	NYK:6000627800430	430 Hz	X	-	-	X	-	7.6 lbs (3.45 kgs)
	NYK:6000627800525	525 Hz	X	-	-	X	-	7.6 lbs (3.45 kgs)
	NYK:6000627800645	645 Hz	X	-	-	X	-	7.6 lbs (3.45 kgs)
	NYK:6000627800790	790 Hz	X	-	-	X	-	7.6 lbs (3.45 kgs)
	NYK:6000627800970	970 Hz	X	-	-	X	-	7.6 lbs (3.45 kgs)
	NYK:6E00627800086	86 Hz	X	-	-	-	X	7.6 lbs (3.45 kgs)
	NYK:6E00627800114	114 Hz	X	-	-	-	X	7.6 lbs (3.45 kgs)
	NYK:6E00627800156	156 Hz	X	-	-	-	X	7.6 lbs (3.45 kgs)
	NYK:6E00627800211	211 Hz	X	-	-	-	X	7.6 lbs (3.45 kgs)
	NYK:6E00627800285	285 Hz	X	-	-	-	X	7.6 lbs (3.45 kgs)
	NYK:6E00627800348	348 Hz	X	-	-	-	X	7.6 lbs (3.45 kgs)
	NYK:6E00627800430	430 Hz	X	-	-	-	X	7.6 lbs (3.45 kgs)
	NYK:6E00627800525	525 Hz	X	-	-	-	X	7.6 lbs (3.45 kgs)
	NYK:6E00627800645	645 Hz	X	-	-	-	X	7.6 lbs (3.45 kgs)
	NYK:6E00627800790	790 Hz	X	-	-	-	X	7.6 lbs (3.45 kgs)
	NYK:6E00627800970	970 Hz	X	-	-	-	X	7.6 lbs (3.45 kgs)

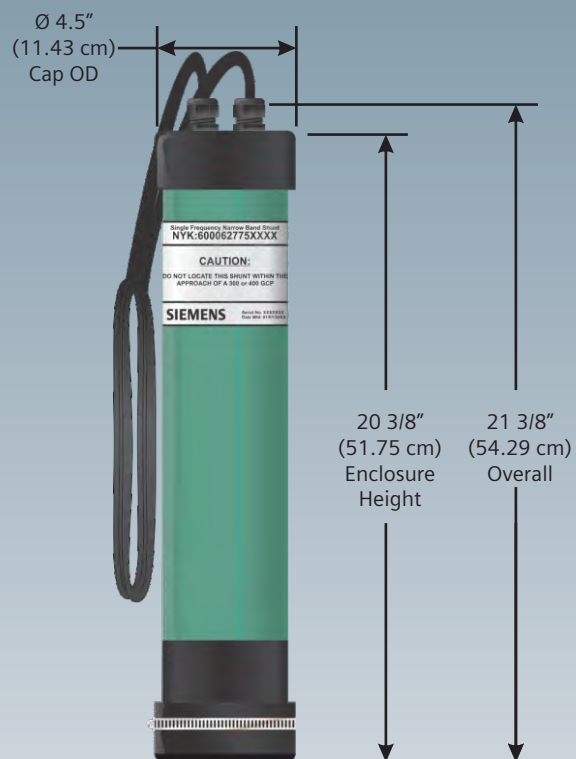
High Power and Multi Frequency Assemblies

SIEMENS Part Number	Frequency	High Impedance	High Power	Multi Frequency	Wire Type		Weight
					#6 AWG Copper Wire	Erico® Bondstrand	
NYK:6000627700086	86 Hz	-	X	-	X	-	7.6 lbs (3.45 kgs)
NYK:6000627700114	114 Hz	-	X	-	X	-	7.6 lbs (3.45 kgs)
NYK:6000627700156	156 Hz	-	X	-	X	-	7.6 lbs (3.45 kgs)
NYK:6000627700211	211 Hz	-	X	-	X	-	7.6 lbs (3.45 kgs)
NYK:6000627700285	285 Hz	-	X	-	X	-	7.6 lbs (3.45 kgs)
NYK:6000627700348	348 Hz	-	X	-	X	-	7.6 lbs (3.45 kgs)
NYK:6000627758621	86 - 211 Hz	-	-	X	X	-	7.6 lbs (3.45 kgs)
NYK:6000627751543	156 - 430 Hz	-	-	X	X	-	7.6 lbs (3.45 kgs)
NYK:6000627752152	211 - 525 Hz	-	-	X	X	-	7.6 lbs (3.45 kgs)
NYK:6000627752879	285 - 790 Hz	-	-	X	X	-	7.6 lbs (3.45 kgs)
NYK:6000627753497	348 - 970 Hz	-	-	X	X	-	7.6 lbs (3.45 kgs)
NYK:6E00627758621	86 - 211 Hz	-	-	X	-	X	7.6 lbs (3.45 kgs)
NYK:6E00627751543	156 - 430 Hz	-	-	X	-	X	7.6 lbs (3.45 kgs)
NYK:6E00627752152	211 - 525 Hz	-	-	X	-	X	7.6 lbs (3.45 kgs)
NYK:6E00627752879	285 - 790 Hz	-	-	X	-	X	7.6 lbs (3.45 kgs)
NYK:6E00627753497	348 - 970 Hz	-	-	X	-	X	7.6 lbs (3.45 kgs)

Grade Crossing Systems
Grade Crossing Auxiliary Products

Dimensions

Applicable for all NBS Series Narrow Band Shunts

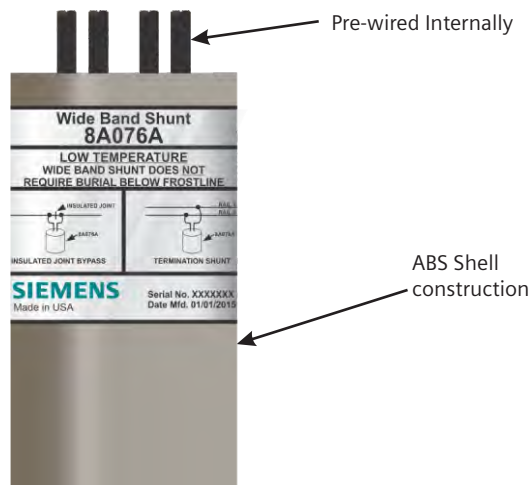




WBS
Series

Wide Band Shunts

Overview



*Model A8A076 WBS Series Wide Band Shunt shown for reference purposes only!
Actual unit selected may vary in mounting and features.*

SIEMENS Wide Band Shunts (WBS) Series introduces low impedance to all frequencies of alternating current and high impedance to direct current energy, thus allowing the end user to properly terminate grade crossing approach circuits.

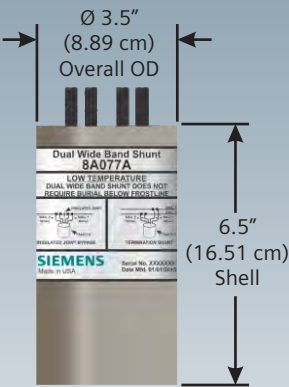
Pre-wired internally using either #6 AWG copper wire or Erico® brand bondstrand.

Assemblies

SIEMENS Part Number	Voltage	Lead Length	No of Bands		Wire Type		Weight
			Single	Dual	#6 AWG Copper Wire	Erico® Bondstrand	
NYK:80008A0760001	3 V	10 ft	X	-	X	-	7.6 lbs (3.45 kgs)
NYK:80008A0760002	3 V	14 ft	X	-	X	-	7.6 lbs (3.45 kgs)
NYK:80008A0760011	20 V	10 ft	X	-	X	-	7.6 lbs (3.45 kgs)
NYK:80008A0760012	20 V	14 ft	X	-	X	-	7.6 lbs (3.45 kgs)
NYK:8E008A0760001	3 V	10 ft	X	-	-	X	7.6 lbs (3.45 kgs)
NYK:8E008A0760002	3 V	14 ft	X	-	-	X	7.6 lbs (3.45 kgs)
NYK:8E008A0760011	20 V	10 ft	X	-	-	X	7.6 lbs (3.45 kgs)
NYK:8E008A0760012	20 V	14 ft	X	-	-	X	7.6 lbs (3.45 kgs)
NYK:80008A0770001	3 V	10 ft	X	-	X	-	7.6 lbs (3.45 kgs)
NYK:80008A0770002	3 V	14 ft	X	-	X	-	7.6 lbs (3.45 kgs)
NYK:80008A0770011	20 V	10 ft	-	X	X	-	7.6 lbs (3.45 kgs)
NYK:80008A0770012	20 V	14 ft	-	X	X	-	7.6 lbs (3.45 kgs)
NYK:8E008A0770001	3 V	10 ft	-	X	-	X	7.6 lbs (3.45 kgs)
NYK:8E008A0770002	3 V	14 ft	-	X	-	X	7.6 lbs (3.45 kgs)
NYK:8E008A0770011	20V	10 ft	-	X	-	X	7.6 lbs (3.45 kgs)
NYK:8E008A0770012	20 V	14 ft	-	X	-	X	7.6 lbs (3.45 kgs)

Grade Crossing Systems
Grade Crossing Auxiliary Products

Applicable for all WBS Series Wide Band Shunts





TJC
Series

Tunable Joint Couplers

Overview

10 ft (3 m) long leads



*Model A62875 Tunable Joint Coupler shown for reference purposes only!
Actual unit selected may vary in mounting and features.*

SIEMENS TJC Series Tunable Joint Couplers are pre-wired internally using either #6 AWG copper wire or Erico® brand bondstrand.

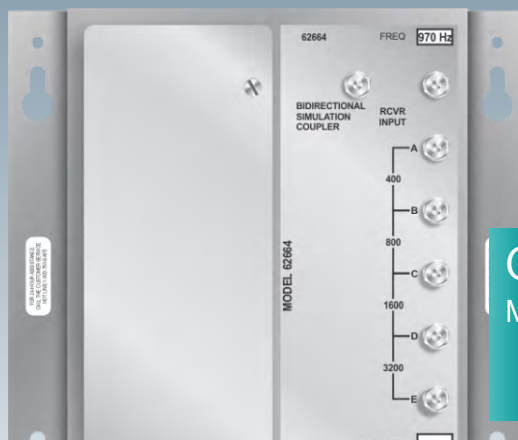
Assemblies

SIEMENS Part Number	Frequency	Wire Type		Weight	Grade Crossing Systems Grade Crossing Auxiliary Products
		#6 AWG Copper Wire	Erico® Bondstrand		
NYK:6000627850086	86 Hz	X	-	7.6 lbs (3.45 kgs)	
NYK:6000627850114	114 Hz	X	-	7.6 lbs (3.45 kgs)	
NYK:6000627850156	156 Hz	X	-	7.6 lbs (3.45 kgs)	
NYK:6000627850211	211 Hz	X	-	7.6 lbs (3.45 kgs)	
NYK:6000627850285	285 Hz	X	-	7.6 lbs (3.45 kgs)	
NYK:6000627850348	348 Hz	X	-	7.6 lbs (3.45 kgs)	
NYK:6000627850430	430 Hz	X	-	7.6 lbs (3.45 kgs)	
NYK:6000627850525	525 Hz	X	-	7.6 lbs (3.45 kgs)	
NYK:6000627850645	645 Hz	X	-	7.6 lbs (3.45 kgs)	
NYK:6000627850790	790 Hz	X	-	7.6 lbs (3.45 kgs)	
NYK:6000627850970	970 Hz	X	-	7.6 lbs (3.45 kgs)	
NYK:6E00627850086	86 Hz	-	X	7.6 lbs (3.45 kgs)	
NYK:6E00627850114	114 Hz	-	X	7.6 lbs (3.45 kgs)	
NYK:6E00627850156	156 Hz	-	X	7.6 lbs (3.45 kgs)	
NYK:6E00627850211	211 Hz	-	X	7.6 lbs (3.45 kgs)	
NYK:6E00627850285	285 Hz	-	X	7.6 lbs (3.45 kgs)	
NYK:6E00627850348	348 Hz	-	X	7.6 lbs (3.45 kgs)	
NYK:6E00627850430	430 Hz	-	X	7.6 lbs (3.45 kgs)	
NYK:6E00627850525	525 Hz	-	X	7.6 lbs (3.45 kgs)	
NYK:6E00627850645	645 Hz	-	X	7.6 lbs (3.45 kgs)	
NYK:6E00627850790	790 Hz	-	X	7.6 lbs (3.45 kgs)	
NYK:6E00627850970	970 Hz	-	X	7.6 lbs (3.45 kgs)	

Dimensions

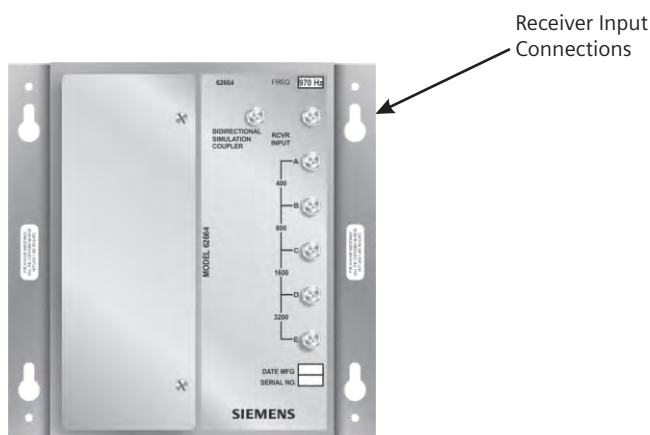
Applicable for all TJC Series Tunable Joint Couplers





Couplers Miscellaneous

Overview



Features

- Provides the benefits of a bidirectional installation
- Compatible with all Wayguard® Simple Grade Crossing Predictors / Motion Sensors (SGCP / MS) 4000 Series and Wayguard® Grade Crossing Predictors (GCP) 4000 Series units
- Adjustable to match track approach length
- Compact size can easily be wall or shelf mounted

Model A62664 Bi-Directional Simulation Coupler
shown for reference purposes only!
Actual unit selected may vary in mounting and features.

SIEMENS Bidirectional Simulation Coupler is designed for use at unidirectional Wayguard® Simple Grade Crossing Predictors / Motion Sensors (SGCP / MS) 4000 Series and Wayguard® Grade Crossing Predictors (GCP) 4000 Series installations, obtaining the operating benefits associated with a bidirectional installation. Includes a narrow-band shunt, of the same frequency as the SGCP / MS 4000 or GCP 4000 Series unit and is designed for use with coded DC track circuits or where other audio frequencies or AC signals are present.

GCP 4000 Series units must also set up for bidirectional operation. The bidirectional simulation coupler must not be used with a unidirectional which is providing a DAX start for an adjacent street.

The compact unit is housed in a brushed aluminum case containing a single plug-in-type printed circuit board and four toroid-wound inductors, each of which simulates a specific track length.

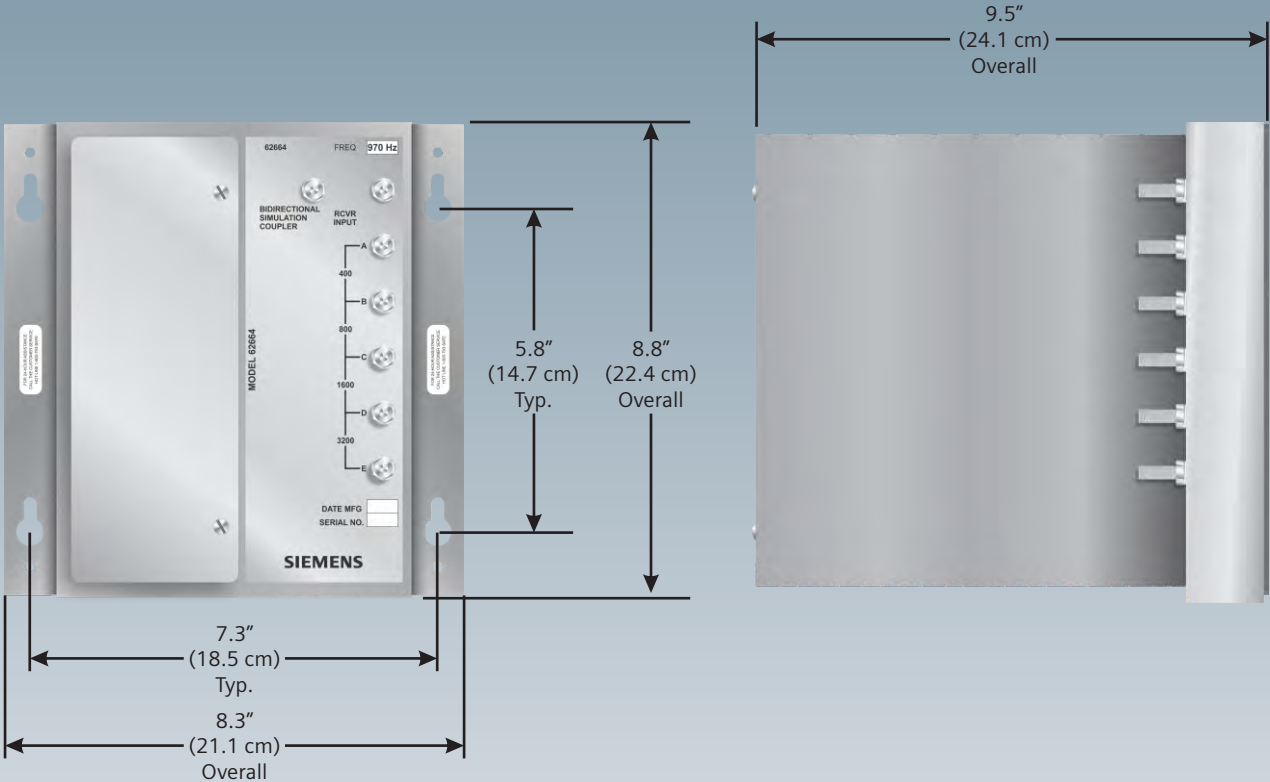
The inductors are wired in series with taps provided to enable strapping of front panel terminals for selecting approach distances (to closely match the actual track approach) that range from 400' (122 m) to 6,000' (1829 m).

SIEMENS Part Number	Frequency	Weight
NYK:6000626640086	86 Hz	7.6 lbs (3.45 kgs)
NYK:6000626640114	114 Hz	7.6 lbs (3.45 kgs)
NYK:6000626640156	156 Hz	7.6 lbs (3.45 kgs)
NYK:6000626640211	211 Hz	7.6 lbs (3.45 kgs)
NYK:6000626640285	285 Hz	7.6 lbs (3.45 kgs)
NYK:6000626640348	348 Hz	7.6 lbs (3.45 kgs)
NYK:6000626640430	430 Hz	7.6 lbs (3.45 kgs)
NYK:6000626640525	525 Hz	7.6 lbs (3.45 kgs)
NYK:6000626640645	645 Hz	7.6 lbs (3.45 kgs)
NYK:6000626640790	790 Hz	7.6 lbs (3.45 kgs)
NYK:6000626640970	970 Hz	7.6 lbs (3.45 kgs)

Grade Crossing Systems

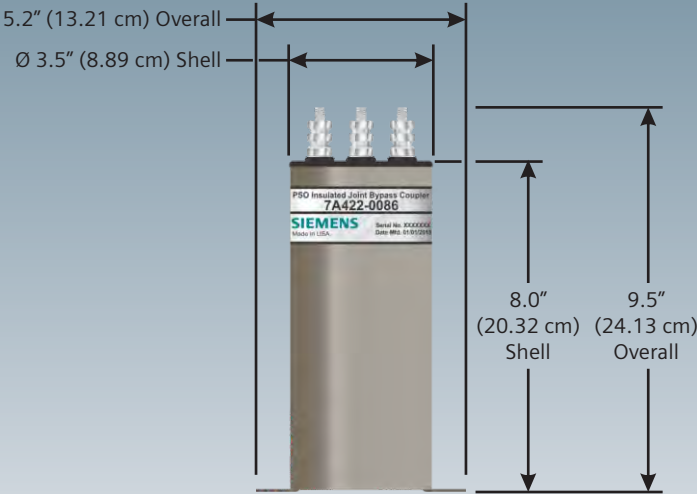
Grade Crossing Auxiliary Products

Applicable for all Bi-Directional Simulation Couplers



Grade Crossing Systems Grade Crossing Auxiliary Products	SIEMENS Part Number	Frequency	Weight
	NYK:70007A4220156	156 Hz	7.6 lbs (3.45 kgs)
	NYK:70007A4220211	211 Hz	7.6 lbs (3.45 kgs)
	NYK:70007A4220285	285 Hz	7.6 lbs (3.45 kgs)
	NYK:70007A4220348	348 Hz	7.6 lbs (3.45 kgs)
	NYK:70007A4220430	430 Hz	7.6 lbs (3.45 kgs)
	NYK:70007A4220525	525 Hz	7.6 lbs (3.45 kgs)
	NYK:70007A4220645	645 Hz	7.6 lbs (3.45 kgs)
	NYK:70007A4220790	790 Hz	7.6 lbs (3.45 kgs)
	NYK:70007A4220970	970 Hz	7.6 lbs (3.45 kgs)
	NYK:70007A4221180	1180 Hz	7.6 lbs (3.45 kgs)
	NYK:70007A4221450	1450 Hz	7.6 lbs (3.45 kgs)
	NYK:70007A4221770	1770 Hz	7.6 lbs (3.45 kgs)
	NYK:70007A4222140	2140 Hz	7.6 lbs (3.45 kgs)
	NYK:70007A4222630	2630 Hz	7.6 lbs (3.45 kgs)
	NYK:70007A4223240	3240 Hz	7.6 lbs (3.45 kgs)
	NYK:70007A4224000	4000 Hz	7.6 lbs (3.45 kgs)

Applicable for all PSO Insulated Joint Bypass Couplers



SIEMENS Part Number	Frequency	Weight
NYK:70007A3550156	156 Hz	7.6 lbs (3.45 kgs)
NYK:70007A3550211	211 Hz	7.6 lbs (3.45 kgs)
NYK:70007A3550285	285 Hz	7.6 lbs (3.45 kgs)
NYK:70007A3550348	348 Hz	7.6 lbs (3.45 kgs)
NYK:70007A3550430	430 Hz	7.6 lbs (3.45 kgs)
NYK:70007A3550525	525 Hz	7.6 lbs (3.45 kgs)
NYK:70007A3550645	645 Hz	7.6 lbs (3.45 kgs)
NYK:70007A3550790	790 Hz	7.6 lbs (3.45 kgs)
NYK:70007A3550970	970 Hz	7.6 lbs (3.45 kgs)
NYK:70007A3551180	1180 Hz	7.6 lbs (3.45 kgs)
NYK:70007A3551450	1450 Hz	7.6 lbs (3.45 kgs)
NYK:70007A3551770	1770 Hz	7.6 lbs (3.45 kgs)
NYK:70007A3552140	2140 Hz	7.6 lbs (3.45 kgs)
NYK:70007A3552630	2630 Hz	7.6 lbs (3.45 kgs)
NYK:70007A3553240	3240 Hz	7.6 lbs (3.45 kgs)
NYK:70007A3554000	4000 Hz	7.6 lbs (3.45 kgs)

Grade Crossing Systems

Grade Crossing Auxiliary Products

Applicable for all Standard Impedance Couplers

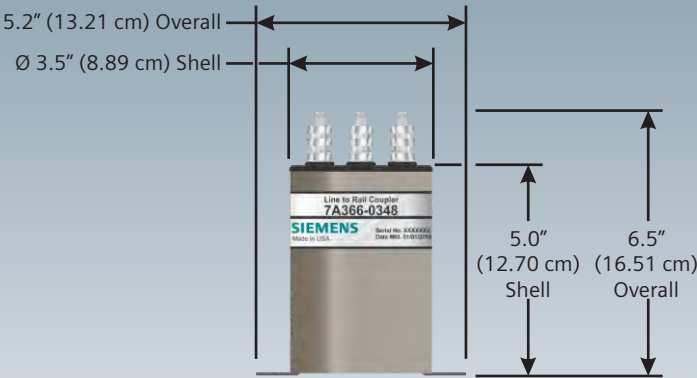
The diagram shows a Siemens Toned Receiver Coupler (part 7A355-00156) with the following dimensions:

- Overall width: 5.2" (13.21 cm)
- Shell diameter: Ø 3.5" (8.89 cm)
- Shell height: 6.0" (15.24 cm)
- Overall height: 7.5" (19.05 cm)

The coupler is a cylindrical metal component with three mounting studs on top. The label on the coupler reads: "Toned Receiver Coupler 7A355-00156 SIEMENS Serial No. XXXXXX Date Mfg. 11/01/2010".

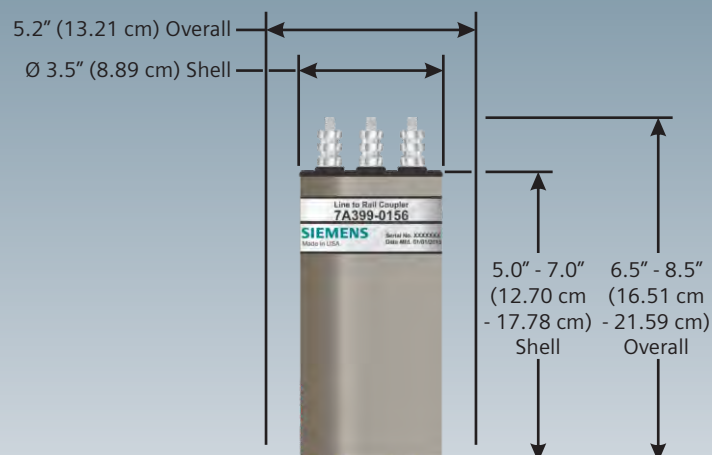
Grade Crossing Systems Grade Crossing Auxiliary Products	SIEMENS Part Number	Frequency	Weight
	NYK:70007A3660156	156 Hz	7.6 lbs (3.45 kgs)
	NYK:70007A3660211	211 Hz	7.6 lbs (3.45 kgs)
	NYK:70007A3660285	285 Hz	7.6 lbs (3.45 kgs)
	NYK:70007A3660348	348 Hz	7.6 lbs (3.45 kgs)
	NYK:70007A3660430	430 Hz	7.6 lbs (3.45 kgs)
	NYK:70007A3660525	525 Hz	7.6 lbs (3.45 kgs)
	NYK:70007A3660645	645 Hz	7.6 lbs (3.45 kgs)
	NYK:70007A3660790	790 Hz	7.6 lbs (3.45 kgs)
	NYK:70007A3660970	970 Hz	7.6 lbs (3.45 kgs)
	NYK:70007A3661180	1180 Hz	7.6 lbs (3.45 kgs)
	NYK:70007A3661450	1450 Hz	7.6 lbs (3.45 kgs)
	NYK:70007A3661770	1770 Hz	7.6 lbs (3.45 kgs)
	NYK:70007A3662140	2140 Hz	7.6 lbs (3.45 kgs)
	NYK:70007A3662630	2630 Hz	7.6 lbs (3.45 kgs)
	NYK:70007A3663240	3240 Hz	7.6 lbs (3.45 kgs)
	NYK:70007A3664000	4000 Hz	7.6 lbs (3.45 kgs)

Applicable for all High Impedance Couplers



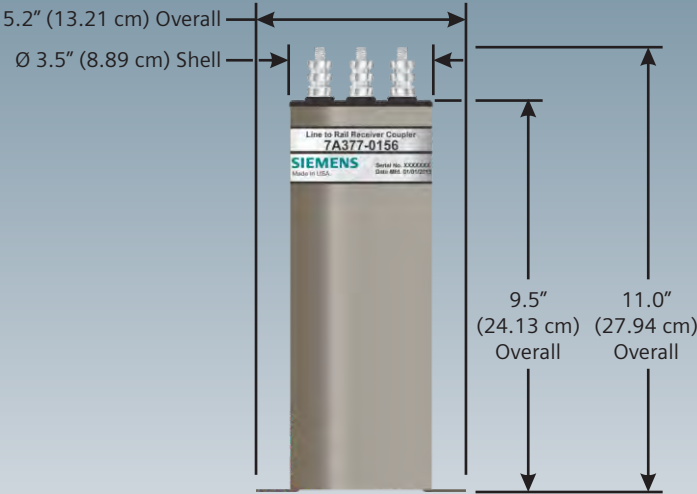
SIEMENS Part Number	Frequency	Weight
NYK:70007A3990156	156 Hz	7.6 lbs (3.45 kgs)
NYK:70007A3990211	211 Hz	7.6 lbs (3.45 kgs)
NYK:70007A3990285	285 Hz	7.6 lbs (3.45 kgs)
NYK:70007A3990348	348 Hz	7.6 lbs (3.45 kgs)
NYK:70007A3990430	430 Hz	7.6 lbs (3.45 kgs)
NYK:70007A3990525	525 Hz	7.6 lbs (3.45 kgs)
NYK:70007A3990645	645 Hz	7.6 lbs (3.45 kgs)
NYK:70007A3990790	790 Hz	7.6 lbs (3.45 kgs)
NYK:70007A3990970	970 Hz	7.6 lbs (3.45 kgs)
NYK:70007A3991180	1180 Hz	7.6 lbs (3.45 kgs)
NYK:70007A3991450	1450 Hz	7.6 lbs (3.45 kgs)
NYK:70007A3991770	1770 Hz	7.6 lbs (3.45 kgs)
NYK:70007A3992140	2140 Hz	7.6 lbs (3.45 kgs)
NYK:70007A3992630	2630 Hz	7.6 lbs (3.45 kgs)
NYK:70007A3993240	3240 Hz	7.6 lbs (3.45 kgs)
NYK:70007A3994000	4000 Hz	7.6 lbs (3.45 kgs)

Applicable for all Line to Rail Transmitter Couplers



Grade Crossing Systems Grade Crossing Auxiliary Products	SIEMENS Part Number	Frequency	Weight
	NYK:70017A3770156	156 Hz	7.6 lbs (3.45 kgs)
	NYK:70017A3770211	211 Hz	7.6 lbs (3.45 kgs)
	NYK:70017A3770285	285 Hz	7.6 lbs (3.45 kgs)
	NYK:70017A3770348	348 Hz	7.6 lbs (3.45 kgs)
	NYK:70017A3770430	430 Hz	7.6 lbs (3.45 kgs)
	NYK:70017A3770525	525 Hz	7.6 lbs (3.45 kgs)
	NYK:70017A3770645	645 Hz	7.6 lbs (3.45 kgs)
	NYK:70017A3770790	790 Hz	7.6 lbs (3.45 kgs)
	NYK:70017A3770970	970 Hz	7.6 lbs (3.45 kgs)
	NYK:70017A3771180	1180 Hz	7.6 lbs (3.45 kgs)
	NYK:70017A3771450	1450 Hz	7.6 lbs (3.45 kgs)
	NYK:70017A3771770	1770 Hz	7.6 lbs (3.45 kgs)
	NYK:70017A3772140	2140 Hz	7.6 lbs (3.45 kgs)
	NYK:70017A3772630	2630 Hz	7.6 lbs (3.45 kgs)
	NYK:70017A3773240	3240 Hz	7.6 lbs (3.45 kgs)
	NYK:70017A3774000	4000 Hz	7.6 lbs (3.45 kgs)

Applicable for all Line to Rail Receiver Couplers



SZB Series

Impedance Bonds

Overview



Model 012 SZB 20 Series Impedance Bond shown for reference purposes only! Actual unit selected may vary in mounting and features.

SIEMENS SZB 20 Series Impedance Bonds are designed to permit propulsion current to bypass insulated joints, while providing operation and isolation of adjacent signaling track circuits.

Unique construction of copper coils constructed from large cross sectional area copper bars, encased in a magnetic circuit of air gapped ferrous "C" cores. Construction exceeds magnetic characteristics of conventional laminated transformer cores; thereby reducing size and weight.

Coil / core assemblies are then sealed in a protective varnish to provide a medium for heat transfer to outside air, and to provide protection against the rigors of the trackside environment.

Epoxy sealed versions are also available which will withstand total immersion in seawater.

Models SZB-23 and SZB-24 are low profile design allowing mounting above the tie level and between the rails. Model SZB-25 is similar to the entry level model SZB-20, except that it is higher impedance for use with audio frequency track circuits or where minimum attenuation of signal track circuits is required.

A 3000 volt AC test of insulation between all parts of electrical circuits and other metallic parts is conducted. In ideal conditions, the traction return current flows equally in both rails and in each half of the bond. If under traction fault conditions, "out of balance" occurs, the gap prevents the core from saturating. Direct current bonds will accept 12% unbalance current, while maintaining 90% of the specified impedance.

Features

- Maintenance free, weather and damage resistant design.
- Solid State. No mechanical components to breakdown.
- Designed for AC or DC propulsion.
- Available in either tunable or untuned models.
- Tested at full rated current prior to shipment.
- All housings consist of steel and/or cast iron construction.
- AREMA® Compliant.

Reference to any specific commercial products, processes, or services, or the use of any trade, firm, or corporation name is for the information and convenience of the public and does not constitute endorsement, recommendation, or favoring by their respective entities





Inductors

Simulated Track

Overview



*Model A8V617 Simulated Track Inductor shown for reference purposes only!
Actual unit selected may vary in mounting and features.*

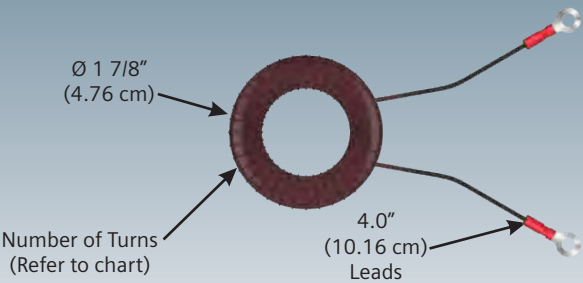
SIEMENS Simulated Track Inductors are used in bidirectional installations of MS / SGCP or GCP units, where insulated joints located in an approach sometimes may prevent both termination shunts from being installed with the same approximate length from the MS / SGCP or GCP feed point.

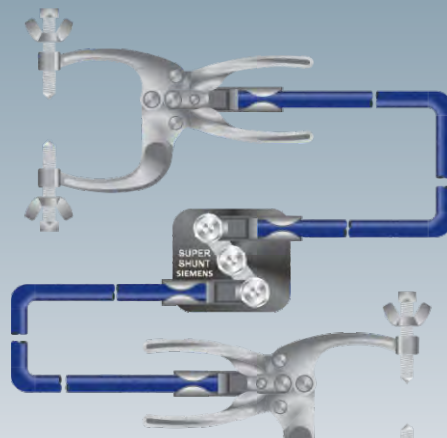
When using **SIEMENS** multi frequency NBS Series Narrow Band Shunts to terminate approaches, these can be installed inline with the shunt to simulate a longer track condition to compensate for the difference in available length in the shorter approach.

SIEMENS Part Number	Length of Track Simulated	Number of Turns	Inductance $\pm 10\%$ (Henry)	Weight
NYK:8V617-0100	100 ft (30.5 m)	18	0.00005 H	7.6 lbs (3.45 kgs)
NYK:8V617-0200	200 ft (61.0 m)	25	0.0001 H	7.6 lbs (3.45 kgs)
NYK:8V617-0400	400 ft (121.9 m)	35	0.0002 H	7.6 lbs (3.45 kgs)
NYK:8V617-0600	600 ft (182.9 m)	43	0.0003 H	7.6 lbs (3.45 kgs)
NYK:8V617-0800	800 ft (243.8 m)	49	0.0004 H	7.6 lbs (3.45 kgs)
NYK:8V617-1000	1000 ft (304.8 m)	55	0.0005 H	7.6 lbs (3.45 kgs)
NYK:8V617-1200	1200 ft (365.8 m)	60	0.0006 H	7.6 lbs (3.45 kgs)
NYK:8V617-1400	1400 ft (426.7 m)	65	0.0007 H	7.6 lbs (3.45 kgs)
NYK:8V617-1600	1600 ft (487.7 m)	70	0.0008 H	7.6 lbs (3.45 kgs)
NYK:8V617-1800	1800 ft (548.6 m)	74	0.0009 H	7.6 lbs (3.45 kgs)
NYK:8V617-2000	2000 ft (609.6 m)	78	0.0010 H	7.6 lbs (3.45 kgs)
NYK:8V617-2200	2200 ft (670.6 m)	82	0.0011 H	7.6 lbs (3.45 kgs)
NYK:8V617-2400	2400 ft (731.5 m)	86	0.0012 H	7.6 lbs (3.45 kgs)
NYK:8V617-2600	2600 ft (792.5 m)	89	0.0013 H	7.6 lbs (3.45 kgs)
NYK:8V617-2800	2800 ft (853.4 m)	93	0.0014 H	7.6 lbs (3.45 kgs)
NYK:8V617-3000	3000 ft (914.4 m)	96	0.0015 H	7.6 lbs (3.45 kgs)
NYK:8V617-4000	4000 ft (1219.2 m)	111	0.0020 H	7.6 lbs (3.45 kgs)
NYK:8V617-4400	4400 ft (1341.1 m)	112	0.0022 H	7.6 lbs (3.45 kgs)
NYK:8V617-5200	5200 ft (1585.0 m)	125	0.0026 H	7.6 lbs (3.45 kgs)

Grade Crossing Systems
Grade Crossing Auxiliary Products

Applicable for all High Impedance Couplers





TS
Series

Test Shunts

Overview



*Model NYK:021500-25X Super Shunt shown for reference purposes only!
Actual unit selected may vary in mounting and features.*

SIEMENS TS Series Test Shunts are a portable track test shunts which combines greater ease in use with positive shunting.

Toggle clamps are used for quick attachment or removal to either the base or ball of rail. These clamps provide a positive grip with release lever for easy removal.

Hardened steel points bite through rust and scale for better electrical contact. Jaws are adjustable to accommodate any size rail. Clamps of cadmium plated steel, conductors of #6 copper cable with neoprene jacket, and center block of compression molded high impact plastic allow the Super Shunt to withstand rugged field use. The center block contains a sealed 0.06 Ω resistor as well as two test links to provide open circuit, zero resistance, and 0.06 Ω shunting in the same unit.

SIEMENS Part Number	Shunt Type	Application			Shunt Resistance Values in Ohms									
		Base of Rail	Ball of Rail	Locking Pliers (Base of Rail)	0.0	0.06	0.2	0.25	0.5	1.0	1.2	1.3	1.41	Open
NYK:021500-5X	TS-1 Shunt	X			X	X								
NYK:021500-5VGX	TS-1 Shunt			X	X	X								
NYK:021500-6X	TS-1B Shunt		X		X	X								
NYK:021500-6VGX	TS-1 Shunt			X	X	X								
NYK:021500-25X	Super Shunt	X	X		X	X								X
NYK:021500-25VGX	Super Shunt			X	X	X								X
NYK:021500-40X	TS-1B Shunt		X		X		X							
NYK:021500-40VGX	TS-1 Shunt			X	X		X							
NYK:021500-42X	TS-1 Shunt	X			X		X							
NYK:021500-56X	TS-1 Shunt	X			X	X	X	X		X	X			
NYK:021500-57X	TS-4 Shunt	X			X	X	X	X	X	X	X	X	X	X

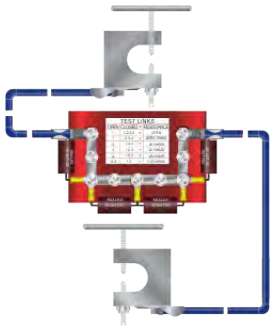
Grade Crossing Systems
Grade Crossing Auxiliary Products



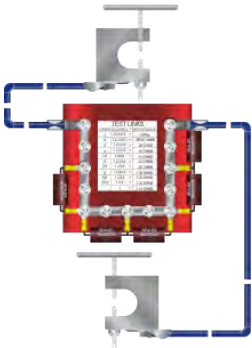
NYK:021500-25



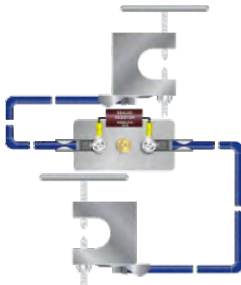
NYK:021500-25VGX



NYK:021500-56X

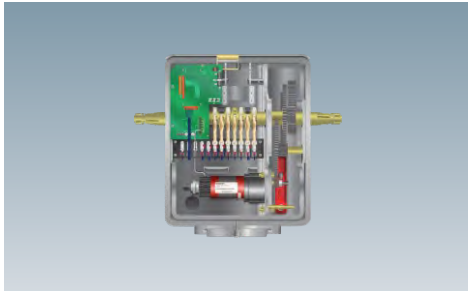


NYK:021500-57X



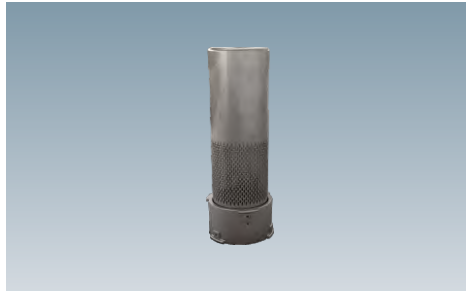
NYK:021500-5X

Grade Crossing Signaling Systems Products



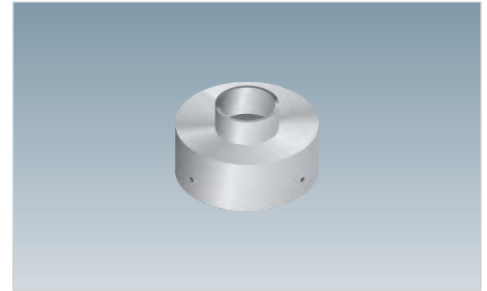
Wayguard® S60 Series
Grade Crossing Gate Mechanisms

A77 - A84



Wayguard® EBel Series
Electronic Bells

A85 - A86



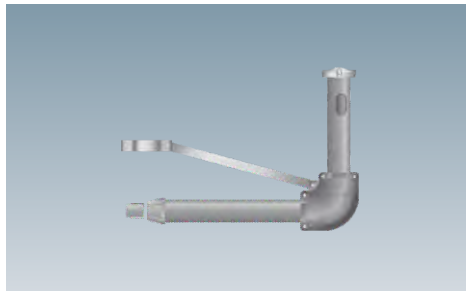
Mast Adapter Mounts

A87 - A88



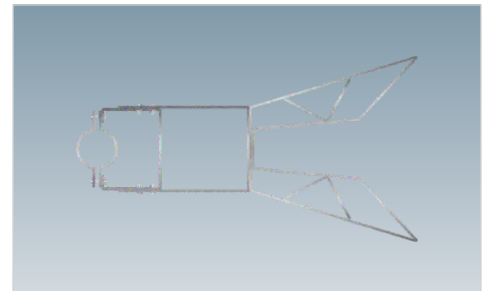
Pinnacles

A89 - A92



Sidelight Cantilevered Mounts

A93 - A96



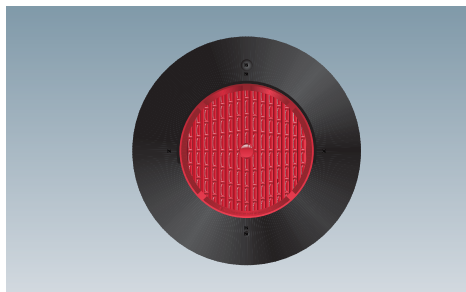
High Wind Brackets

A97 - A100



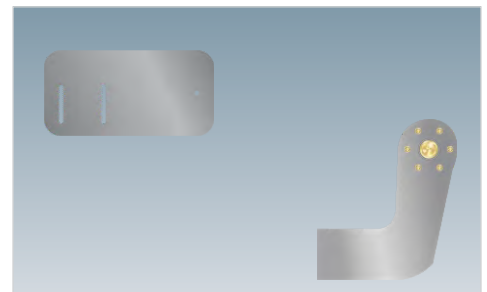
Cross Arms and Junction Boxes

A101 - A106



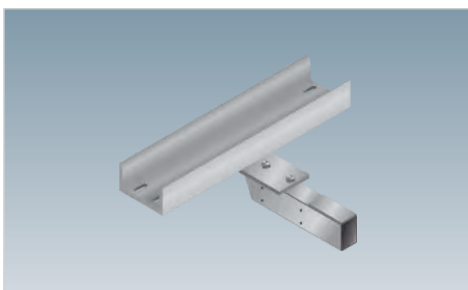
Wayguard® FLX Series
Flashing Light Signals

A107 - A110



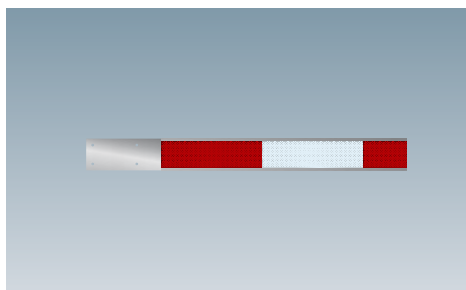
Barrier Arm Components

A111 - A114



Conversion Brackets

A115 - A117



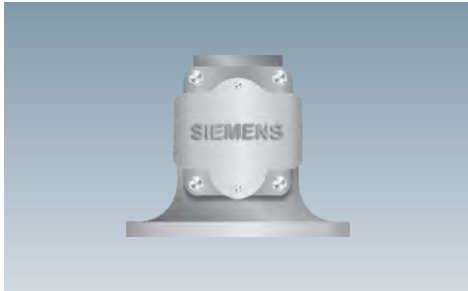
Barrier Arms

A118



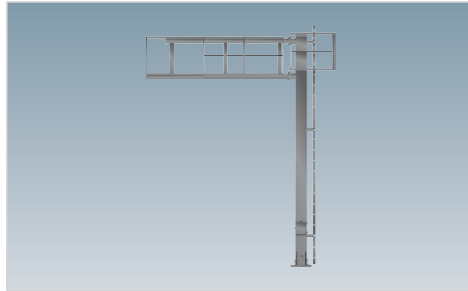
Barrier Arm Sensors and Lights

A119 - A120



Masts, Bases and Junction Boxes

A121 - A124



WT / F Series
Walkout Trussed / Flanged Cantilevers

A125 - A126

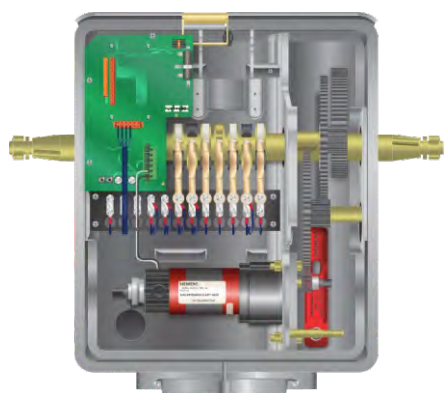


Wayguard®

S60
Series

Grade Crossing Gate Mechanisms

Overview



*Model A074007 Entrance Gate Mechanism shown for reference purposes only!
Actual unit selected may vary in mounting and features.*

SIEMENS Wayguard® S-60 Series Grade Crossing Gate Mechanisms are ideal for operating grade crossing entrance and exit barrier arms up to 40' (12 m) in length.

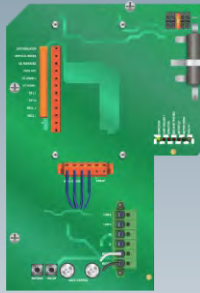
Built on proven robust reputation of the legacy S-20 and S-40 iterations, it retains a high strength cast aluminum housing, maintenance free bearings, reliable gear train and rotary circuit controller.

Optional Mini Trackage Sensor (MTSS) consolidate the monitoring of barrier position, electronic bell and tip lights to the Wayguard® SEAR II Series Event Recorder.

Features

- Maintenance free, weatherproof design
- Safely lock gate in any position with the patented locking bar
- On board diagnostic LEDs simplify troubleshooting
- Optional module for Bell and Gate monitoring
- A 90% spare part compatibility between the entrance and exit gate mechanism, reduces your cost of ownership
- Integrated PC board with over-speed control
- Adjustable circuit to set descend times
- Electronic auto-reset overload for motor protection
- Standard gate mechanism is equipped with (4) arrangements. With configurations up to (7) cam arrangements.
- Maintenance operation to power down counterweights when the gate arm is broken
- Single and two-wire gate control capability
- Horizontal and vertical buffers adjusted from outside of mechanism
- Lifting eyebolt for ease of installation

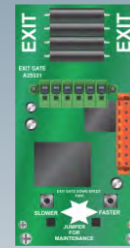
NYK:9000255270001



Entrance Gate Printed Circuit Board

- Weight is approx. 5.0 lbs. (2.27 kgs.)
- Operates in -40° F to +160° F (-40°C to +70°C) @ up to 95% Non-Condensing Relative Humidity

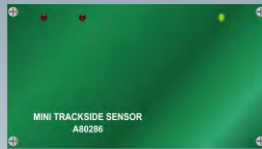
NYK:9000255310001



Exit Gate Printed Circuit Board

- Weight is approx. 3.0 lbs. (1.36 kgs.)
- Operates in -40° F to +160° F (-40°C to +70°C) @ up to 95% Non-Condensing Relative Humidity

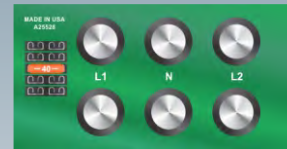
NYK:8000802860002



Mini Trackside Sensor Printed Circuit Board

- Weight is approx. 0.3 lbs. (0.14 kgs.)
- Operates in -40° F to +160° F (-40°C to +70°C) @ up to 95% Non-Condensing Relative Humidity

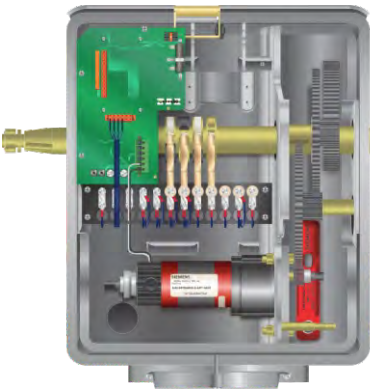
NYK:9000255280001



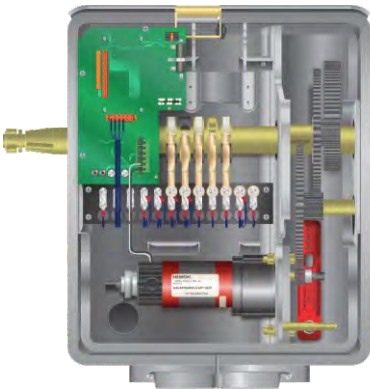
Barrier Arm Light Printed Circuit Board

- Weight is approx. 3.0 lbs. (1.36 kgs.)
- Operates in -40° F to +160° F (-40°C to +70°C) @ up to 95% Non-Condensing Relative Humidity

Grade Crossing Systems Grade Crossing Signaling Systems Products	Entrance Gate Configurations					
	SIEMENS Part Number	Power Connection	No. of Cams	Defroster	Mini Track Side Sensor	Weight
	4 Cams					
	NYK:074007-X001	12 VDC	(4)	(1) 12 VDC	-	210.0 lbs (95.25 kgs)
	NYK:074007-X001A1	12 VDC	(4)	(1) 12 VDC	-	211.5 lbs (95.93 kgs)
	NYK:074007-X001B1	12 VDC	(4)	(1) 12 VDC	X	213.5 lbs (96.84 kgs)
	NYK:074007-X001A2	12 VDC	(4)	(1) 24 VDC	-	211.5 lbs (95.93 kgs)
	NYK:074007-X001B2	12 VDC	(4)	(1) 24 VDC	X	213.5 lbs (96.84 kgs)
	NYK:074007-X001A3	12 VDC	(4)	(1) 115 VAC	-	211.5 lbs (95.93 kgs)
	NYK:074007-X001B3	12 VDC	(4)	(1) 115 VAC	X	213.5 lbs (96.84 kgs)
	5 Cams					
	NYK:074007-X002	12 VDC	(5)	(1) 12 VDC	-	211.5 lbs (95.93 kgs)
	NYK:074007-X002A1	12 VDC	(5)	(1) 12 VDC	-	213.5 lbs (96.84 kgs)
	NYK:074007-X002B1	12 VDC	(5)	(1) 12 VDC	X	215.5 lbs (97.75 kgs)
	NYK:074007-X002A2	12 VDC	(5)	(1) 24 VDC	-	213.5 lbs (96.84 kgs)
	NYK:074007-X002B2	12 VDC	(5)	(1) 24 VDC	X	215.5 lbs (97.75 kgs)
	NYK:074007-X002A3	12 VDC	(5)	(1) 115 VAC	-	213.5 lbs (96.84 kgs)
	NYK:074007-X002B3	12 VDC	(5)	(1) 115 VAC	X	215.5 lbs (97.75 kgs)

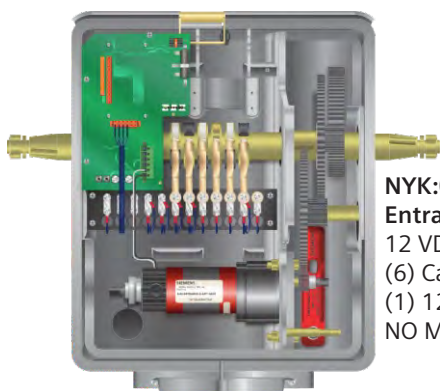


NYK:074007-X001
Entrance Gate
12 VDC Power
(4) Cams
(1) 12 VDC Defroster
NO Mini Track
Side Sensor

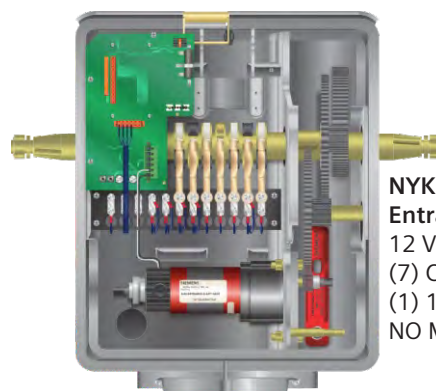


NYK:074007-X002
Entrance Gate
12 VDC Power
(5) Cams
(1) 12 VDC Defroster
NO Mini Track
Side Sensor

Entrance Gate Configurations					
SIEMENS Part Number	Power Connection	No. of Cams	Defroster	Mini Track Side Sensor	Weight
6 Cams					
NYK:074007-X003	12 VDC	(6)	(1) 12 VDC	-	213.5 lbs (96.84 kgs)
NYK:074007-X003A1	12 VDC	(6)	(1) 12 VDC	-	215.5 lbs (97.75 kgs)
NYK:074007-X003B1	12 VDC	(6)	(1) 12 VDC	X	217.5 lbs (98.66 kgs)
NYK:074007-X003A2	12 VDC	(6)	(1) 24 VDC	-	215.5 lbs (97.75 kgs)
NYK:074007-X003B2	12 VDC	(6)	(1) 24 VDC	X	217.5 lbs (98.66 kgs)
NYK:074007-X003A3	12 VDC	(6)	(1) 115 VAC	-	215.5 lbs (97.75 kgs)
NYK:074007-X003B3	12 VDC	(6)	(1) 115 VAC	X	217.5 lbs (98.66 kgs)
7 Cams					
NYK:074007-X004	12 VDC	(7)	(1) 12 VDC	-	215.5 lbs (97.75 kgs)
NYK:074007-X004A1	12 VDC	(7)	(1) 12 VDC	-	217.5 lbs (98.66 kgs)
NYK:074007-X004B1	12 VDC	(7)	(1) 12 VDC	X	219.5 lbs (99.56 kgs)
NYK:074007-X004A2	12 VDC	(7)	(1) 24 VDC	-	217.5 lbs (98.66 kgs)
NYK:074007-X004B2	12 VDC	(7)	(1) 24 VDC	X	219.5 lbs (99.56 kgs)
NYK:074007-X004A3	12 VDC	(7)	(1) 115 VAC	-	217.5 lbs (98.66 kgs)
NYK:074007-X004B3	12 VDC	(7)	(1) 115 VAC	X	219.5 lbs (99.56 kgs)

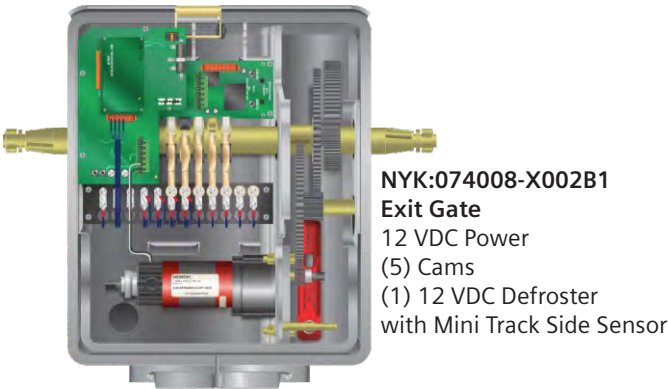
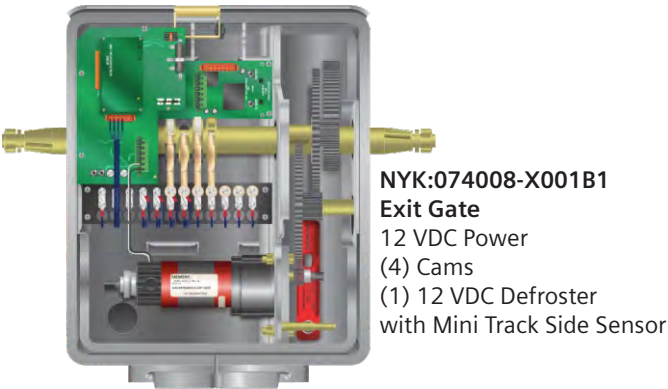


NYK:074007-X003
Entrance Gate
 12 VDC Power
 (6) Cams
 (1) 12 VDC Defroster
 NO Mini Track Side Sensor

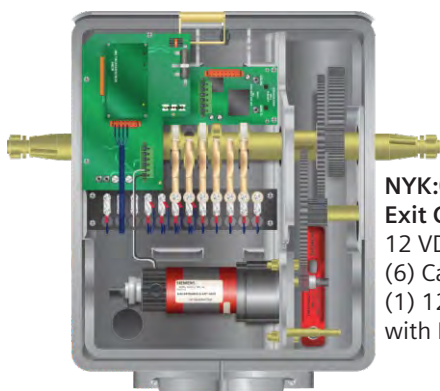


NYK:074007-X004
Entrance Gate
 12 VDC Power
 (7) Cams
 (1) 12 VDC Defroster
 NO Mini Track Side Sensor

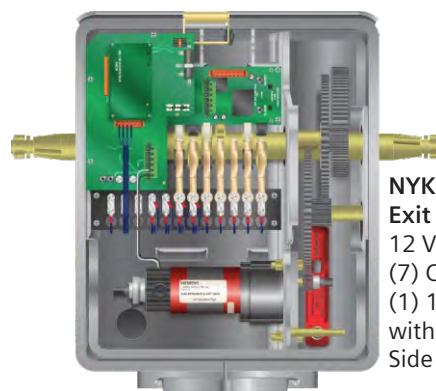
Grade Crossing Systems Grade Crossing Signaling Systems Products	Exit Gate Configurations					
	SIEMENS Part Number	Power Connection	No. of Cams	Defroster	Mini Track Side Sensor	Weight
	4 Cams					
	NYK:074008-X001	12 VDC	(4)	(1) 12 VDC	-	211.5 lbs (95.93 kgs)
	NYK:074008-X001A1	12 VDC	(4)	(1) 12 VDC	-	213.5 lbs (96.84 kgs)
	NYK:074008-X001B1	12 VDC	(4)	(1) 12 VDC	X	215.5 lbs (97.75 kgs)
	NYK:074008-X001A2	12 VDC	(4)	(1) 24 VDC	-	213.5 lbs (96.84 kgs)
	NYK:074008-X001B2	12 VDC	(4)	(1) 24 VDC	X	215.5 lbs (97.75 kgs)
	NYK:074008-X001A3	12 VDC	(4)	(1) 115 VAC	-	213.5 lbs (96.84 kgs)
	NYK:074008-X001B3	12 VDC	(4)	(1) 115 VAC	X	215.5 lbs (97.75 kgs)
	5 Cams					
	NYK:074008-X002	12 VDC	(5)	(1) 12 VDC	-	213.5 lbs (96.84 kgs)
	NYK:074008-X002A1	12 VDC	(5)	(1) 12 VDC	-	215.5 lbs (97.75 kgs)
	NYK:074008-X002B1	12 VDC	(5)	(1) 12 VDC	X	217.5 lbs (98.66 kgs)
	NYK:074008-X002A2	12 VDC	(5)	(1) 24 VDC	-	215.5 lbs (97.75 kgs)
	NYK:074008-X002B2	12 VDC	(5)	(1) 24 VDC	X	217.5 lbs (98.66 kgs)
	NYK:074008-X002A3	12 VDC	(5)	(1) 115 VAC	-	215.5 lbs (97.75 kgs)
	NYK:074008-X002B3	12 VDC	(5)	(1) 115 VAC	X	217.5 lbs (98.66 kgs)



Exit Gate Configurations					
SIEMENS Part Number	Power Connection	No. of Cams	Defroster	Mini Track Side Sensor	Weight
6 Cams					
NYK:074008-X003	12 VDC	(6)	(1) 12 VDC	-	215.5 lbs (97.75 kgs)
NYK:074008-X003A1	12 VDC	(6)	(1) 12 VDC	-	217.5 lbs (98.66 kgs)
NYK:074008-X003B1	12 VDC	(6)	(1) 12 VDC	X	219.5 lbs (99.56 kgs)
NYK:074008-X003A2	12 VDC	(6)	(1) 24 VDC	-	217.5 lbs (98.66 kgs)
NYK:074008-X003B2	12 VDC	(6)	(1) 24 VDC	X	219.5 lbs (99.56 kgs)
NYK:074008-X003A3	12 VDC	(6)	(1) 115 VAC	-	217.5 lbs (98.66 kgs)
NYK:074008-X003B3	12 VDC	(6)	(1) 115 VAC	X	219.5 lbs (99.56 kgs)
7 Cams					
NYK:074008-X004	12 VDC	(7)	(1) 12 VDC	-	217.5 lbs (98.66 kgs)
NYK:074008-X004A1	12 VDC	(7)	(1) 12 VDC	-	219.5 lbs (99.56 kgs)
NYK:074008-X004B1	12 VDC	(7)	(1) 12 VDC	X	221.5 lbs (100.47 kgs)
NYK:074008-X004A2	12 VDC	(7)	(1) 24 VDC	-	219.5 lbs (99.56 kgs)
NYK:074008-X004B2	12 VDC	(7)	(1) 24 VDC	X	221.5 lbs (100.47 kgs)
NYK:074008-X004A3	12 VDC	(7)	(1) 115 VAC	-	219.5 lbs (99.56 kgs)
NYK:074008-X004B3	12 VDC	(7)	(1) 115 VAC	X	221.5 lbs (100.47 kgs)



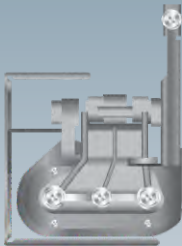
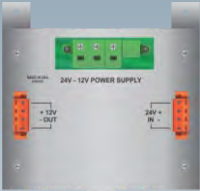
NYK:074008-X003B1
Exit Gate
12 VDC Power
(6) Cams
(1) 12 VDC Defroster
with Mini Track Side Sensor



NYK:074008-X004B1
Exit Gate
12 VDC Power
(7) Cams
(1) 12 VDC Defroster
with Mini Track
Side Sensor

Accessories

Grade Crossing Systems
Grade Crossing Signaling
Systems Products

NYK:074025-1X		NYK:9000255330001	
			
<p>S-40 Hold Clear Wheel Assembly</p> <ul style="list-style-type: none">Weight is approx. 16.0 lbs. (7.26 kgs.)		<p>24 V - 12 V Power Supply</p> <ul style="list-style-type: none">Weight is approx. 2.0 lbs. (0.91 kgs.)Operates in -40° F to +160° F (-40°C to +70°C) @ up to 95% Non-Condensing Relative Humidity	



Wayguard®

EBell
Series

Electronic Bells

Overview



*Model A80301 Wayguard® EBell Series Electronic Bell
shown for reference purposes only!
Actual unit selected may vary in mounting and features.*

SIEMENS Wayguard® EBell Series Electronic Bells are installed at railroad crossings as part of a complete grade crossing protection system in conjunction with devices, such as flashing lights and gates, to alert vehicular and pedestrian road traffic to an approaching train.

Available Microphone Sensor allows it to be used with any of SIEMENS grade crossing monitoring and diagnostic systems thru use of a microphone inside the bell which "listens" for the sound of the bell and reports to other equipment.

When used with a SIEMENS MTSS Series Mini Trackside Sensor coupled with a SIEMENS Wayguard® SEAR II Series Event Analyzer / Recorder inside the instrument house, the diagnostic information can alert the railroad of a bell system failure.

Features

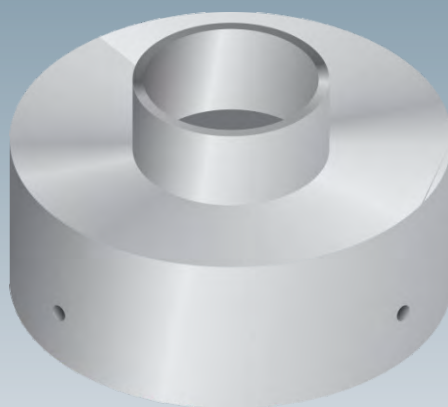
- Maintenance free, weatherproof design
- Solid State. No mechanical components to breakdown.
- Available in either LOUD or SOFT tone volume
- Available in either FAST or SLOW tone rate.
- Available Microphone Sensor which monitors bell operation.
- Available with either Siemens or Weidmüller® brand terminal block. *Weidmüller® terminal block is not AREMA® Compliant*
- Able to be mounted on either 4" (114 mm) or 5" (140 mm) standard masts. *May be mounted to other size masts using available adapter mounts.*
- AREMA® and FCC® Compliant. *On certain configurations only*

Reference to any specific commercial products, processes, or services, or the use of any trade, firm, or corporation name is for the information and convenience of the public and does not constitute endorsement, recommendation, or favoring by their respective entities

Assemblies

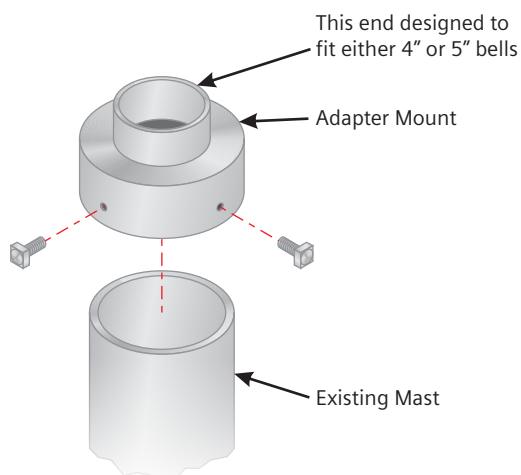
SIEMENS Part Number	Tone Volume	Tone Rate	Pulse Speed	Pulse Rate (per min)	Microphone Sensor	Weight	Grade Crossing Systems Grade Crossing Signaling Systems Products
NYK:8000803010001	Loud	94 dBA @10 ft (3.0 m)	Fast	200	X	15.0 lbs (6.8 kgs)	
NYK:8000803010002	Loud	94 dBA @10 ft (3.0 m)	Slow	160	X	15.0 lbs (6.8 kgs)	
NYK:8000803010003	Soft	82 dBA @10 ft (3.0 m)	Fast	200	X	15.0 lbs (6.8 kgs)	
NYK:8000803010004	Soft	82 dBA @10 ft (3.0 m)	Slow	160	X	15.0 lbs (6.8 kgs)	
NYK:8000803011001	Loud	94 dBA @10 ft (3.0 m)	Fast	200	-	15.0 lbs (6.8 kgs)	
NYK:8000803011002	Loud	94 dBA @10 ft (3.0 m)	Slow	160	-	15.0 lbs (6.8 kgs)	
NYK:8000803011003	Soft	82 dBA @10 ft (3.0 m)	Fast	200	-	15.0 lbs (6.8 kgs)	
NYK:8000803011004	Soft	82 dBA @10 ft (3.0 m)	Slow	160	-	15.0 lbs (6.8 kgs)	





Mast Adapter Mounts

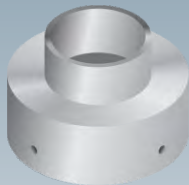
Overview



*Model 035048-500X Adapter Mount shown for reference purposes only!
Actual unit selected may vary in mounting and features.*

SIEMENS Adapter Mounts are designed of cast aluminum and are intended to transition between one mast diameter size and another for mounting items such as a pinnacle or **SIEMENS** Wayguard® E Bell Series Electronic Bells.

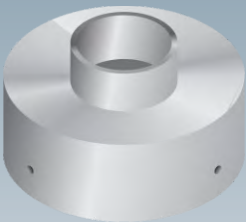
NYK:035048-500X



Adapter Mount - From 4" (114 mm) pipe to 8" (215 mm) pipe

- Weight is approx. 6 lbs. (2.72 kgs.)
- Cast aluminum

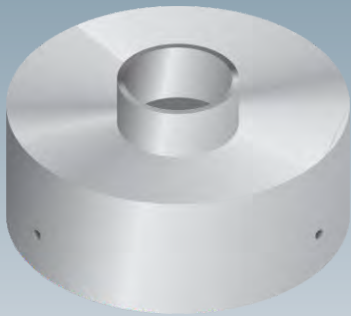
NYK:035063-X



Adapter Mount - From 4" (114 mm) pipe to 10" (275 mm) pipe

- Weight is approx. 6.5 lbs. (2.95 kgs.)
- Cast aluminum

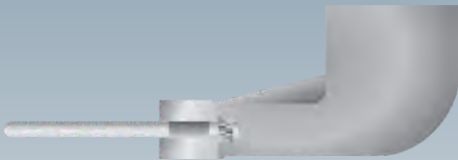
NYK:035062-X



Adapter Mount - From 4" (114 mm) pipe to 12" (320 mm) pipe

- Weight is approx. 7 lbs. (3.18 kgs.)
- Cast aluminum

NYK:040290-X100



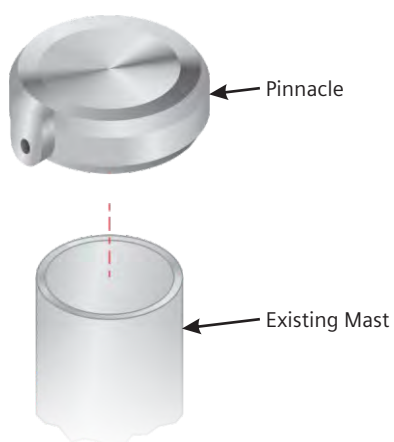
Adapter Mount - Mast Offset Bracket

- Weight is approx. 6 lbs. (2.72 kgs.)
- Cast aluminum
- Mounts to standard 4" (114 mm) or 5" (140 mm) mast



Pinnacles

Overview



*Model 035045-502 Pinnacle shown for reference purposes only!
Actual unit selected may vary in mounting and features.*

SIEMENS Pinnacles are designed out of aluminum and are intended to cap the top of a mast when the top does not have another item such as the **SIEMENS** Wayguard® Electronic Bell installed to prevent debris accumulation inside the mast.

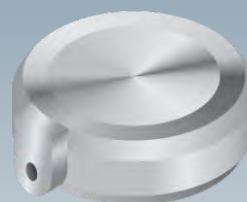
NYK:035045-502



Standard Pinnacle

- Weight is approx. 3 lbs. (1.36 kgs.)
- Cast aluminum
- NO mounting hardware

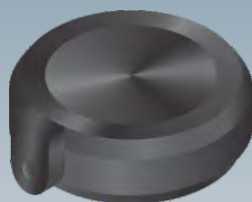
NYK:035045-11X



Standard Pinnacle

- Weight is approx. 3.5 lbs. (1.59 kgs.)
- (1) 035045-502 pinnacle
- Stainless steel hardware included

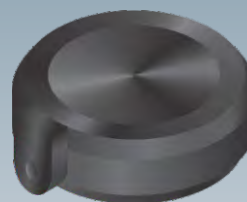
NYK:035045-502B



Standard Pinnacle, Black



- Weight is approx. 3 lbs. (1.36 kgs.)
- Cast aluminum
- NO mounting hardware
- Powder coated BLACK

NYK:035045-502XEB

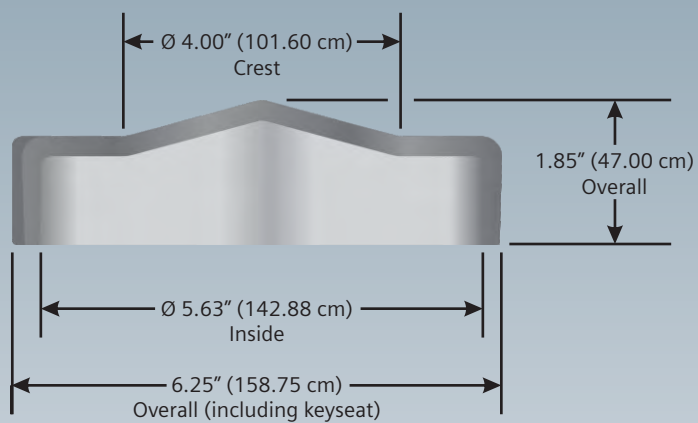


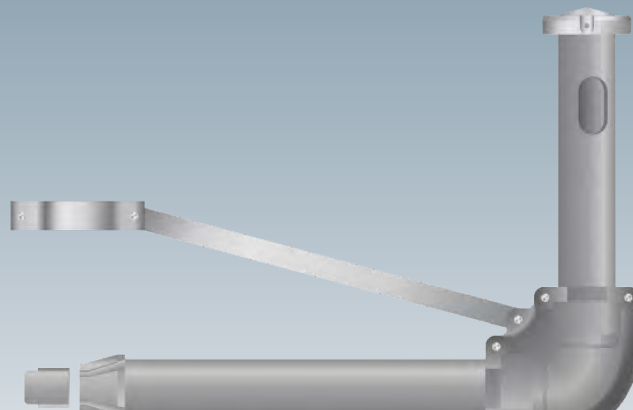
Standard Pinnacle, Black

- Weight is approx. 3.5 lbs. (1.59 kgs.)
- (1) 035045-502B pinnacle
- Stainless steel hardware included

NYK:035044-501		NYK:035044-501X	
			
<p>Standard Pinnacle, w/ Wire Chase</p> <ul style="list-style-type: none">• Weight is approx. 3 lbs. (1.36 kgs.)• Cast aluminum• NO mounting hardware• Access hole for wire chase		<p>Standard Pinnacle, w/ Wire Chase</p> <ul style="list-style-type: none">• Weight is approx. 3.5 lbs. (1.59 kgs.)• (1) 035044-501 pinnacle• Stainless steel hardware included	

Applicable for all Pinnacles





Mounts

Sidelight Cantilevered

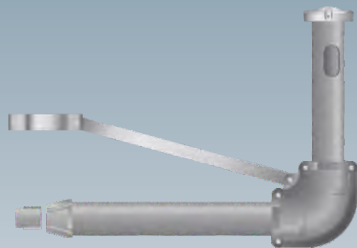
Overview



*Model 041442-53X-3 Sidelight Cantilevered Mount
shown for reference purposes only!
Actual unit selected may vary in mounting and features.*

SIEMENS Sidelight Cantilevered Mounts are designed out of aluminum and are intended for allowing numerous configurations of **SIEMENS** Wayguard® Flashing Light Signal (FLX) Series lighting modules

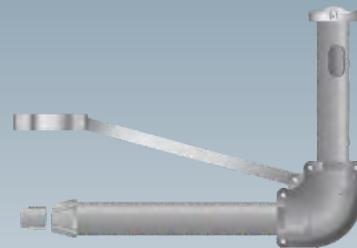
NYK:041442-70X



4" (10 cm) Mast 36" (91 cm) Offset 1 Way Version

- Weight is approx. 22.5 lbs. (10.21 kgs.)
- Aluminum construction
- Carbon steel hardware included

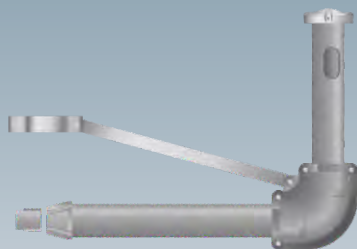
NYK:041442-26X



5" (13 cm) Mast 36" (91 cm) Offset 1 Way Version

- Weight is approx. 22.5 lbs. (10.21 kgs.)
- Aluminum construction
- Carbon steel hardware included

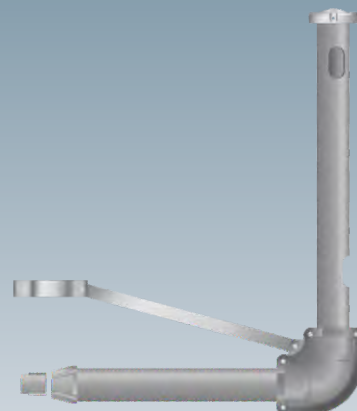
NYK:041442-27X



4" (10 cm) Mast 42" (107 cm) Offset, 1 Way Version

- Weight is approx. 29.5 lbs. (13.38 kgs.)
- Aluminum construction
- Carbon steel hardware included

NYK:041442-55X



5" (13 cm) Mast 36" (91 cm) Offset, 2 Way Version 45°

- Weight is approx. 38.0 lbs. (17.24 kgs.)
- Aluminum construction
- Carbon steel hardware included

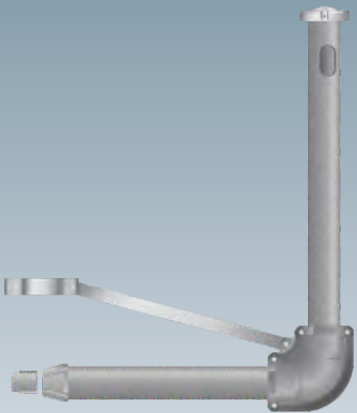
NYK:041442-53X-1



5" (13 cm) Mast 36" (91 cm) Offset, 2 Way Version 90°

- Weight is approx. 38.0 lbs. (17.24 kgs.)
- Aluminum construction
- 5" (13 cm) mast mounting hardware

NYK:041442-53X-2



5" (13 cm) Mast 36" (91 cm) Offset, 2 Way Version 135°


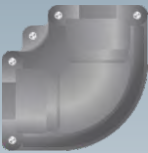
- Weight is approx. 38.0 lbs. (17.24 kgs.)
- Aluminum construction
- 5" (13 cm) mast mounting hardware

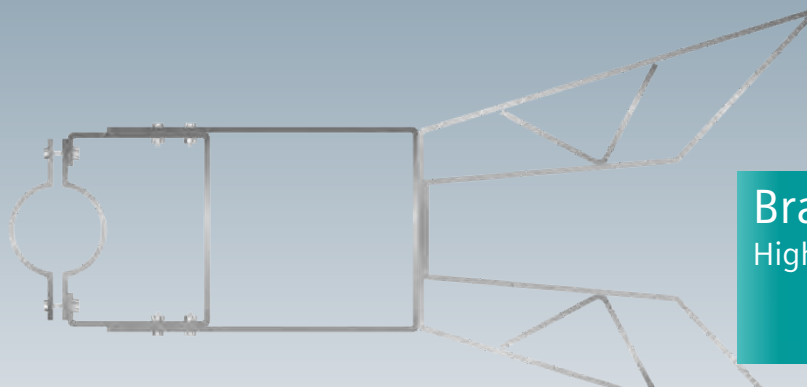
NYK:041442-53X-3



5" (13 cm) Mast 36" (91 cm) Offset, 2 Way Version 150°

- Weight is approx. 38.0 lbs. (17.24 kgs.)
- Aluminum construction
- 5" (13 cm) mast mounting hardware

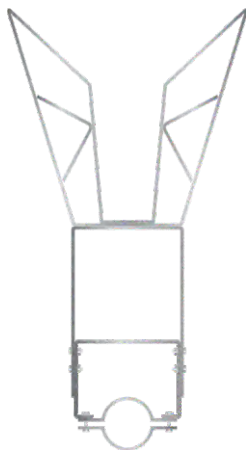
NYK:041442-25X	NYK:041442-515
	
<div>Mast 36" (91 cm) Offset Extensions<ul style="list-style-type: none">• Weight is approx. 22.5 lbs. (10.21 kgs.)• Aluminum construction• Carbon steel hardware included</div>	<div>Boot<ul style="list-style-type: none">• Weight is approx. 22.5 lbs. (10.21 kgs.)• Aluminum construction• Carbon steel hardware included</div>



Brackets

High Wind

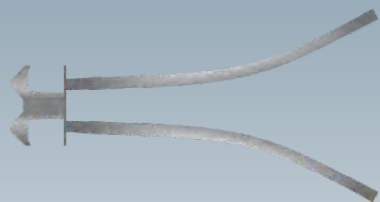
Overview



*Model 076203-28X High Wind Bracket
shown for reference purposes only!
Actual unit selected may vary in mounting and features.*

SIEMENS High Wind Brackets are designed out of aluminum and are intended capture the barrier arm when it is in the upright, non actuated position and keep it in place during periods of high wind to prevent the barrier arm from being damaged.

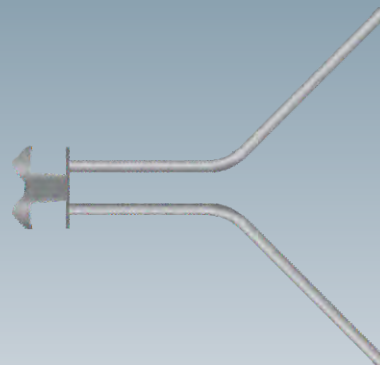
NYK:259371-T10128



Tubular Sweep Version 4" (10 cm) mounting

- Weight is approx. 10.1 lbs. (4.58 kgs.)
- Aluminum construction
- 4" (10 cm) mast mounting hardware

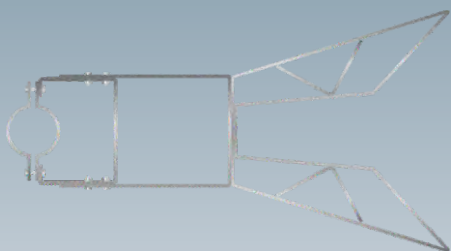
NYK:076203-47X



Tubular Angle Version 5" (13 cm) mounting

- Weight is approx. 12.1 lbs. (5.49 kgs.)
- Aluminum construction
- 5" (13 cm) mast mounting hardware

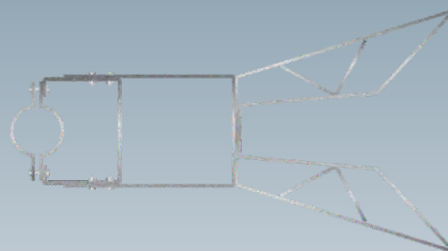
NYK:076203-28X



Structural Version 4" (10 cm) mounting

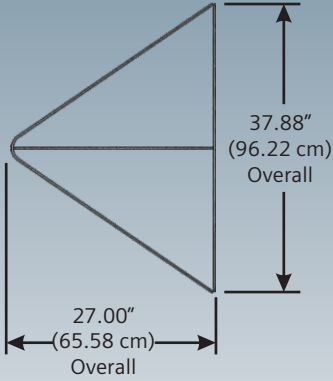
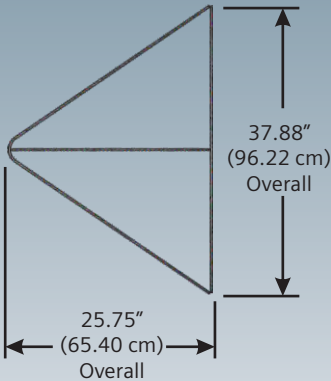
- Weight is approx. 12.2 lbs. (5.53 kgs.)
- Aluminum construction
- 4" (10 cm) mast mounting hardware

NYK:076203-518X



Structural Version 5" (13 cm) mounting

- Weight is approx. 10.4 lbs. (4.72 kgs.)
- Aluminum construction
- 5" (13 cm) mast mounting hardware

NYK:076203-59X		NYK:076203-67X	
 <p>Diagram of the NYK:076203-59X bracket assembly. It is a triangular bracket with a horizontal base. The overall height is 37.88" (96.22 cm) and the overall width is 27.00" (65.58 cm).</p>		 <p>Diagram of the NYK:076203-67X bracket assembly. It is a triangular bracket with a horizontal base. The overall height is 37.88" (96.22 cm) and the overall width is 25.75" (65.40 cm).</p>	
<ul style="list-style-type: none">• Weight is approx. 11 lbs. (4.99 kgs.)• Steel construction		<ul style="list-style-type: none">• Weight is approx. 3 lbs. (1.36 kgs.)• Steel construction	



Crossarms and Junction Boxes

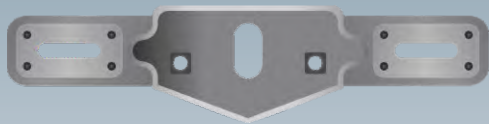
Overview



*Model 042073-4BX Crossarm shown for reference purposes only!
Actual unit selected may vary in mounting and features.*

SIEMENS Crossarms are designed out of aluminum and are intended for mounting numerous configurations of **SIEMENS** Wayguard® Flashing Light Signal (FLX) Series lighting modules to the main mast of a grade crossing assembly

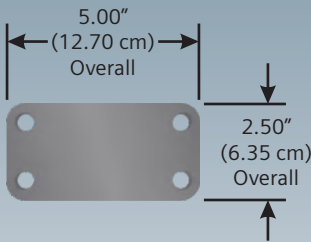
NYK:042003-18



Crossarm Junction Box w/ Control Box Vents

- Weight is approx. 22 lbs. (9.97 kgs.)
- Cast aluminum
- NO cover plates
- NO hardware

NYK:042041



Crossarm Junction Box Cover Plate

- Weight is approx. 0.27 lbs. (0.12 kgs.)
- Cast aluminum
- NO hardware

NYK:042041-X



Crossarm Junction Box Cover Plate Kit

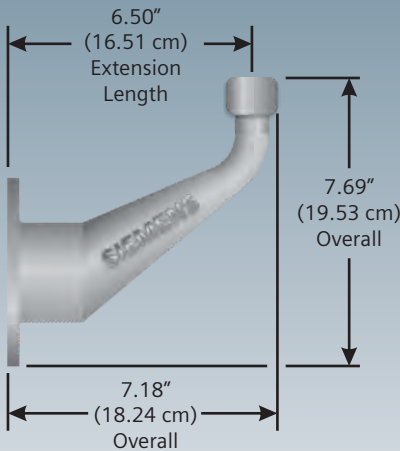
- Weight is approx. 1.4 lbs. (0.64 kgs.)
- (1) 042041 crossarm junction box cover plate
- Includes hardware

NYK:041291



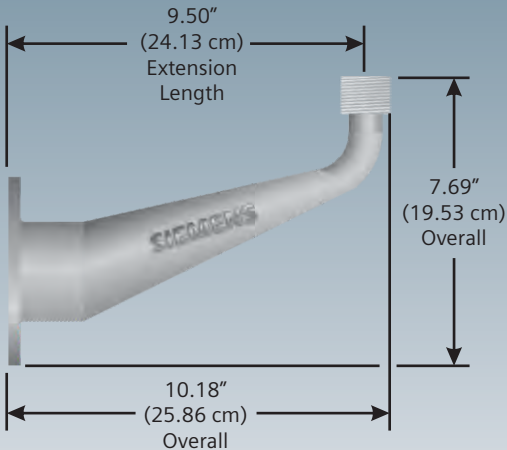
- Crossarm Junction Box Gasket**
- Weight is approx. 0.15 lbs. (0.07 kgs.)
 - Plain fine cork
 - NO hardware

NYK:041279-7



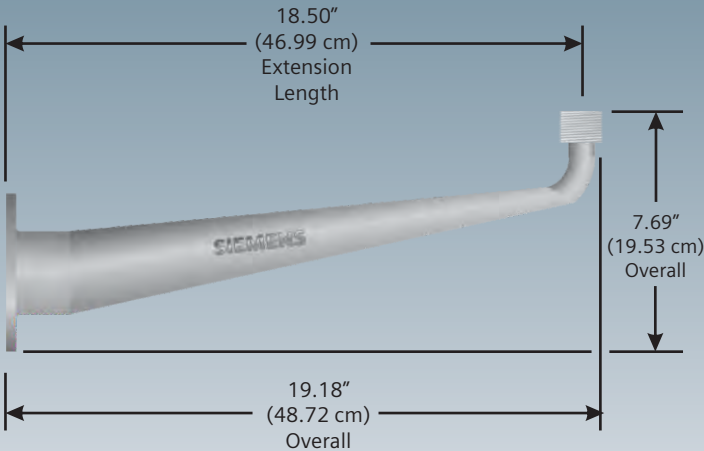
- Crossarm Junction Box 90° Lamp Mounting Extension Arm**
- Weight is approx. 3 lbs. (1.36 kgs.)
 - Cast aluminum
 - NO hardware
 - 90° angle transition
 - 6.50" (16.51 cm) extension

NYK:041279-500



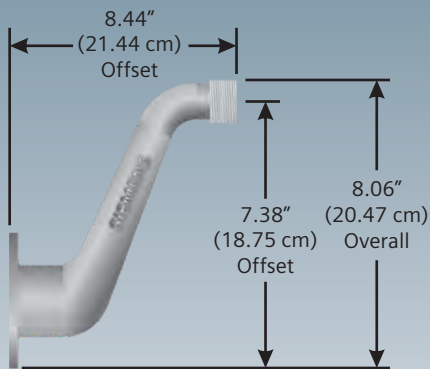
- Crossarm Junction Box 90° Lamp Mounting Extension Arm**
- Weight is approx. 4 lbs. (1.81 kgs.)
 - Cast aluminum
 - NO hardware
 - 90° angle transition
 - 9.50" (24.13 cm) extension

NYK:041279-19



- Crossarm Junction Box 90° Lamp Mounting Extension Arm**
- Weight is approx. 5 lbs. (2.27 kgs.)
 - Cast aluminum
 - NO hardware
 - 90° angle transition
 - 18.50" (46.99 cm) extension

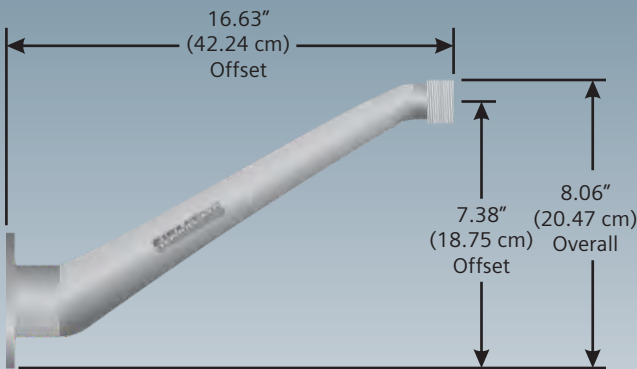
NYK:042027-4



Crossarm Junction Box Offset Lamp Mounting Extension Arm

- Weight is approx. 2 lbs. (0.91 kgs.)
- Cast aluminum
- NO hardware
- 7.38" (18.75 cm) x 8.44" (21.44 cm) offset transition

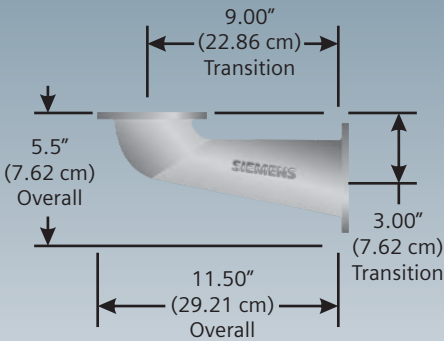
NYK:042027-3



Crossarm Junction Box Offset Lamp Mounting Extension Arm

- Weight is approx. 4 lbs. (1.81 kgs.)
- Cast aluminum
- NO hardware
- 7.38" (18.75 cm) x 16.63" (42.24 cm) offset transition

NYK:041279-501



Crossarm Junction Box 90° Transition

- Weight is approx. 4 lbs. (1.81 kgs.)
- Cast aluminum
- NO hardware

NYK:042006-X



Crossarm Control Box Cover

- Weight is approx. 2.5 lbs. (1.13 kgs.)
- Cast aluminum
- NO hardware

NYK:042073-4BX



**Crossarm Junction Box Terminal Box Assembly
4" (10 cm) mounting**

- Weight is approx. 47 lbs. (21.32 kgs.)
- (1) NYK:042003-18 - Crossarm Junction Box w/ Control Box Vents
- (1) NYK:042007-15X - 4" (10 cm) u-bolt
- (1) NYK:042006 Control box cover plate
- (2) NYK:042041 Junction box cover plates
- (2) NYK:041264-FX Threaded elbows *(not shown)*
- (2) NYK:041279-7 Crossarm Junction Box 90° Lamp Mounting Extension Arm *(not shown)*

NYK:042073-4X01



**Crossarm Junction Box Terminal Box Assembly
4" (10 cm) mounting**

- Weight is approx. 47 lbs. (21.32 kgs.)
- (1) NYK:042003-18 - Crossarm Junction Box w/ Control Box Vents
- (1) NYK:042007-15X - 4" (10 cm) u-bolt
- (1) NYK:042006 Control box cover plate
- (2) NYK:042041 Junction box cover plates
- (2) NYK:041264-FX Threaded elbows *(not shown)*
- (2) NYK:041279-7 Crossarm Junction Box 90° Lamp Mounting Extension Arm *(not shown)*
- (1) NYK:042073-01 Hardware kit with gold test nuts *(not shown)*
- (1) NYK:022316-6-1X Wire and terminal block kit *(not shown)*

NYK:042073-4X02



**Crossarm Junction Box Terminal Box Assembly
(4" (10 cm) mounting)**

- Weight is approx. 45 lbs. (20.41 kgs.)
- (1) NYK:042003-18 - Crossarm Junction Box w/ Control Box Vents
- (1) NYK:042007-15X - 4" (10 cm) u-bolt
- (1) NYK:042006 Control box cover plate
- (2) NYK:042041 Junction box cover plates
- (2) NYK:041264-FX Threaded elbows *(not shown)*
- (2) NYK:041279-7 Crossarm Junction Box 90° Lamp Mounting Extension Arm *(not shown)*
- (1) NYK:042073-02 Hardware kit with slide links *(not shown)*
- (1) NYK:022316-6-1X Wire and terminal block kit *(not shown)*

NYK:042073-7BX



**Crossarm Junction Box Terminal Box Assembly
5" (13 cm) mounting**

- Weight is approx. 47 lbs. (21.32 kgs.)
- (1) NYK:042003-18 - Crossarm Junction Box w/ Control Box Vents
- (1) NYK:042007-15X - 5" (13 cm) u-bolt
- (1) NYK:042006 Control box cover plate
- (2) NYK:042041 Junction box cover plates
- (2) NYK:041264-FX Threaded elbows *(not shown)*
- (2) NYK:041279-7 Crossarm Junction Box 90° Lamp Mounting Extension Arm *(not shown)*

NYK:042073-7X01



**Crossarm Junction Box Terminal Box Assembly
5" (13 cm) mounting**

- Weight is approx. 47 lbs. (21.32 kgs.)
- (1) NYK:042003-18 - Crossarm Junction Box w/ Control Box Vents
- (1) NYK:042007-15X - 5" (13 cm) u-bolt
- (1) NYK:042006 Control box cover plate
- (2) NYK:042041 Junction box cover plates
- (2) NYK:041264-FX Threaded elbows *(not shown)*
- (2) NYK:041279-7 Crossarm Junction Box 90° Lamp Mounting Extension Arm *(not shown)*
- (1) NYK:042073-01 Hardware kit with gold test nuts *(not shown)*
- (1) NYK:022316-6-1X Wire and terminal block kit *(not shown)*

NYK:042073-7X02



**Crossarm Junction Box Terminal Box Assembly
5" (13 cm) mounting**

- Weight is approx. 45 lbs. (20.41 kgs.)
- (1) NYK:042003-18 - Crossarm Junction Box w/ Control Box Vents
- (1) NYK:042007-15X - 5" (13 cm) u-bolt
- (1) NYK:042006 Control box cover plate
- (2) NYK:042041 Junction box cover plates
- (2) NYK:041264-FX Threaded elbows *(not shown)*
- (2) NYK:041279-7 Crossarm Junction Box 90° Lamp Mounting Extension Arm *(not shown)*
- (1) NYK:042073-02 Hardware kit with slide links *(not shown)*
- (1) NYK:022316-6-1X Wire and terminal block kit *(not shown)*



Wayguard®

FLX
Series

Flashing Light Signals

Overview



*Model 042003-M122W Wayguard® Flashing Light Signal FLX 12
shown for reference purposes only!
Actual unit selected may vary in mounting and features.*

SIEMENS Wayguard® Flashing Light Signals FLX 12 and FLX 4000 series provide a highly intense beam for both distant and close up viewing. The lamp housings are of precision die-cast aluminum construction, providing superior strength and precise optical alignment.

SIEMENS Wayguard® Flashing Light Signals FLX 12 employs an improved reflector and precision lamp bracket. A precision molded plastic reflector, with aluminized coated front surface for exceptional light output, is reinforced by channel at the outer rim, for additional dimensional stability. The reflector is essentially unbreakable in normal use.

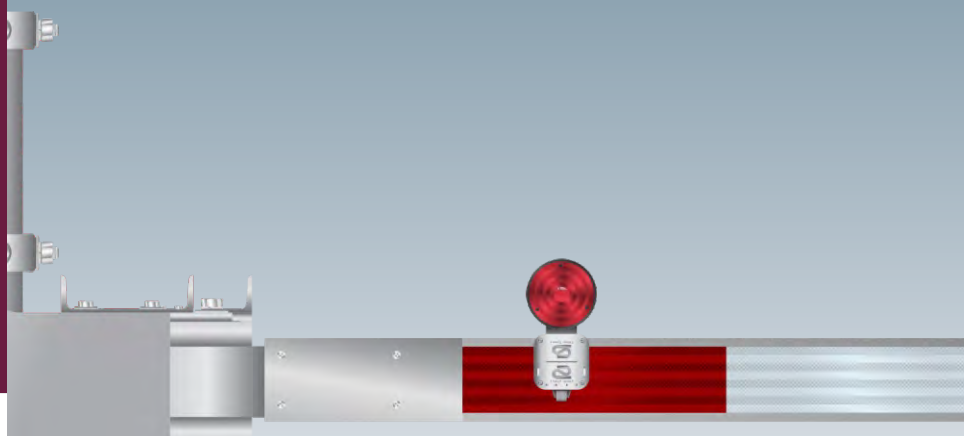
SIEMENS Wayguard® Flashing Light Signals FLX 4000 utilizes all of the proven designs of the FLX 12 series with the adoption of an LED module instead of the incandescent bulb.

SIEMENS Part Number	Description
FLX-12 Series Housing	
NYK:042950-X	FLX-12 Housing
FLX-12 Series Lenses	
NYK:040405-4730	RED 12" Lens 20° / 32° Bullseye
NYK:040405-5230	RED 12" Lens 30° / 15° Bullseye
NYK:040405-5030	RED 12" Lens 70° / 0° Bullseye
FLX-12 Series Head Assemblies	
NYK:042000-000180	FLX-12 Housing w/ RED 12" Lens 30° / 15° Bullseye, 10V-25W Bulb
NYK:042000-000601	FLX-12 Housing w/ RED 12" Lens 30° / 15° Bullseye, 10V-25W Gem Bulb
NYK:042000-000250	FLX-12 Housing w/ RED 12" Lens 30° / 15° Bullseye, 10V-18W Bulb
NYK:042000-000689	FLX-12 Housing w/ RED 12" Lens 30° / 15° Bullseye, 10V-18W Gem Bulb
FLX-12 Series Housing	
NYK:042975-LX	FLX-4000 Housing
FLX-12 Series Head Assemblies	
NYK:042975-9X	FLX-4000 Housing w/ RED 12" Gelcore® LED Module
NYK:042975-15X	FLX-4000 Housing w/ RED 12" RDG® LED Module
NYK:042975-8X	FLX-4000 Housing w/ RED 12" Dialight® LED Module

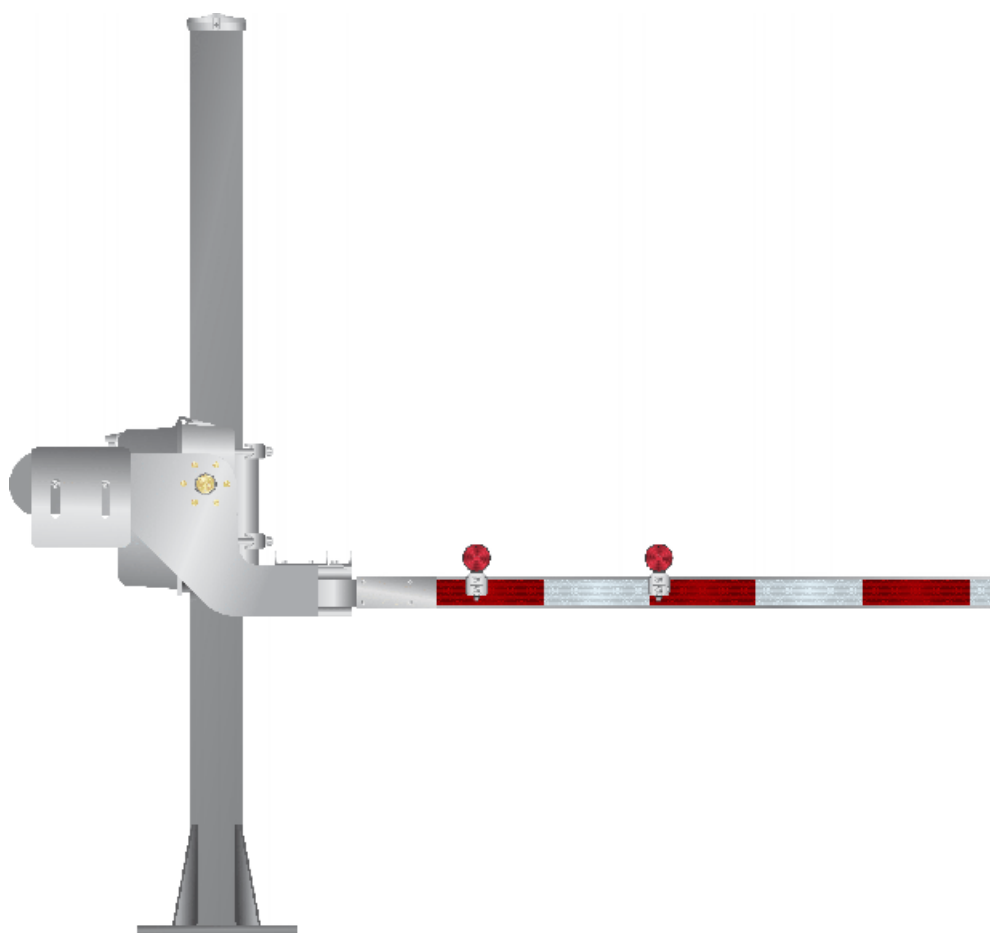
Grade Crossing Systems Grade Crossing Signaling Systems Products	SIEMENS Part Number	Description
	FLX Series Aluminum Visors	
	NYK:042005-103	Aluminum 12" Long Visor w/o Hardware
	NYK:042005-103X	Aluminum 12" Long Visor w/ Hardware
	FLX Series Polycarbonate Visors	
	NYK:042005-80	Polyethylene 16" Long Visor w/o Hardware
	NYK:042005-80X	Polyethylene 16" Long Visor w/ Hardware
	FLX Series Steel Visors	
	NYK:042005-30	Steel 12" Long Visor w/o Hardware
	NYK:042005-30AX	Steel 12" Long Visor w/ Hardware




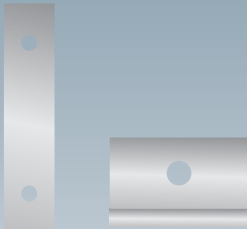
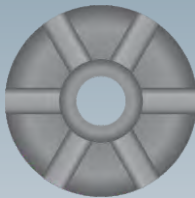
FLX Series Aluminum Background	
NYK:042004-32	(1) Aspect Aluminum w/o Hardware
NYK:042004-32X	(1) Aspect Aluminum w/ Hardware
FLX Series Polycarbonate Background	
NYK:042004-41	(1) Aspect Polyethylene w/o Hardware
NYK:042004-41AX	(1) Aspect Polyethylene w/ Hardware
FLX Series Steel Background	
NYK:042004-30	(1) Aspect Steel w/o Hardware
NYK:042004-30X	(1) Aspect Steel w/ Hardware

SIEMENS Part Number	Description	Grade Crossing Systems Grade Crossing Signaling Systems Products
FLX-12, One Way Incandescent Assemblies		
NYK:042003-M121W	Main Mast Assembly	
NYK:042003-A121W	Arm Assembly	
NYK:042003-GM12	Gate Assembly	
NYK:042003-SL121W	Main Mast w/ Sidelight Assembly	
FLX-12, Two Way Incandescent Assemblies		
NYK:042003-M122W	Main Mast Assembly	
NYK:042003-A122W	Arm Assembly	
NYK:042003-SL122W	Main Mast w/ Sidelight Assembly	
FLX-4000, One Way Incandescent Assemblies		
NYK:042003-MLED121W	Main Mast Assembly	
NYK:042003-ALED121W	Arm Assembly	
NYK:042003-GLEDM12	Gate Assembly	
NYK:042003-SLLED121W	Main Mast w/ Sidelight Assembly	
FLX-4000, Two Way Incandescent Assemblies		
NYK:042003-MLED122W	Main Mast Assembly	
NYK:042003-ALED122W	Arm Assembly	
NYK:042003-SLLED122W	Main Mast w/ Sidelight Assembly	

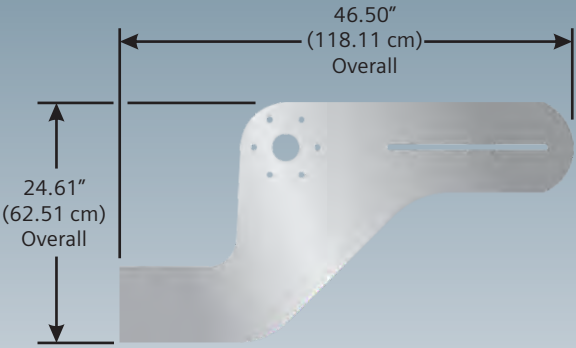


Barrier Arm Components



NYK:070755-34G		NYK:070755-4G	
			
Short Counterweight Plate <ul style="list-style-type: none">• Weight is approx. 32 lbs. (14.5 kgs.)• Hot dip galvanized steel construction		Long Counterweight Plate <ul style="list-style-type: none">• Weight is approx. 60 lbs. (27.2 kgs.)• Hot dip galvanized steel construction	
NYK:070756-7X	NYK:070925-X	NYK:070756-7X	
			
Counterweight Mounting Plate <ul style="list-style-type: none">• Weight is approx. 15 lbs. (6.8 kgs.)• Steel with yellow zinc dichromate finished construction	Clamp and Roller Assembly <ul style="list-style-type: none">• Weight is approx. 2.5 lbs. (1.13 kgs.)• (1) 070925-1 locking collar• (1) 070925-2 spacer• (1) 070925-3 bar clamp	Barrier Arm Support Arm Hub <ul style="list-style-type: none">• Weight is approx. 32 lbs. (14.5 kgs.)• Aluminum construction	

NYK:070920-L



Left Hand Support Arm, Long

- Weight is approx. 32 lbs. (14.5 kgs.)
- Aluminum construction

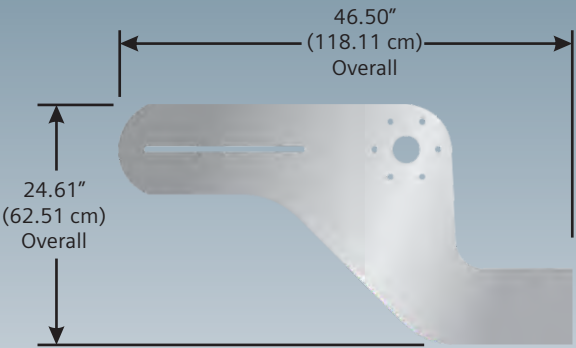
NYK:070920-LX



Left Hand Support Arm, Long, Assembly

- Weight is approx. 45 lbs. (20.41 kgs.)
- (1) 070920-L left hand support arm, long
- (1) 070923-3 barrier arm support arm hub
- Includes hardware

NYK:070920-R



Right Hand Support Arm, Long

- Weight is approx. 32 lbs. (14.5 kgs.)
- Aluminum construction

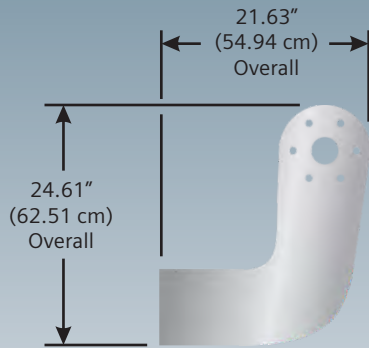
NYK:070920-RX



Right Hand Support Arm, Long, Assembly

- Weight is approx. 45 lbs. (20.41 kgs.)
- (1) 070920-R right hand support arm, long
- (1) 070923-3 barrier arm support arm hub
- Includes hardware

NYK:070921-L



Left Hand Support Arm, Short

- Weight is approx. 32 lbs. (14.5 kgs.)
- Aluminum construction

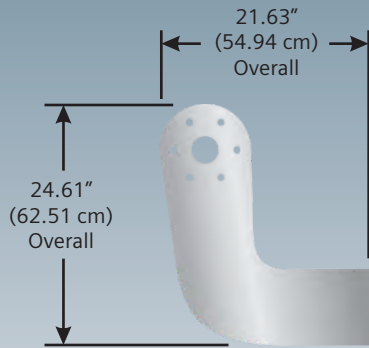
NYK:070921-LX



Left Hand Support Arm, Short, Assembly

- Weight is approx. 45 lbs. (20.41 kgs.)
- (1) 070921-L left hand support arm, short
- (1) 070923-3 barrier arm support arm hub
- Includes hardware

NYK:070921-R



Right Hand Support Arm, Short

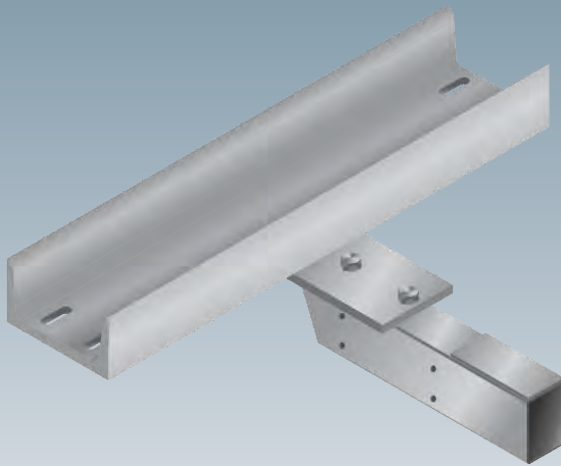
- Weight is approx. 32 lbs. (14.5 kgs.)
- Aluminum construction

NYK:070921-RX



Right Hand Support Arm, Short, Assembly

- Weight is approx. 45 lbs. (20.41 kgs.)
- (1) 070921-R right hand support arm, short
- (1) 070923-3 barrier arm support arm hub
- Includes hardware



Conversion Brackets

Overview

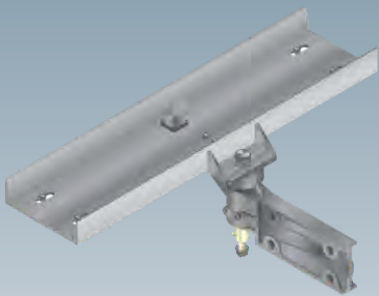


*Model 076227 Conversion Bracket shown for reference purposes only!
Actual unit selected may vary in mounting and features.*

SIEMENS Conversion Brackets are manufactured from stainless steel alloys to provide many years of reliable service. The integral counter provides statistical data to help in determining the required maintenance frequency and activation history of each application.

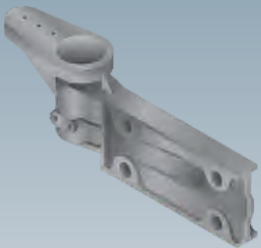
The conversion bracket design features a pivot pin that rotates the gate arm parallel to the highway so that maintenance work can be performed from the highway shoulder, away from traffic flows.

NYK:076227-7X1

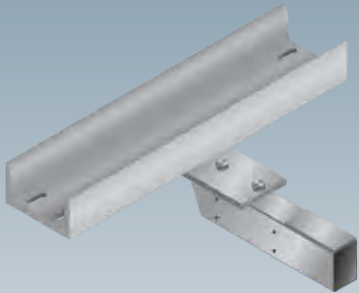





- Complete Assembly w/ Cast Adapter**
- Weight is approx. 87.5 lbs. (39.69 kgs.)
 - Steel construction


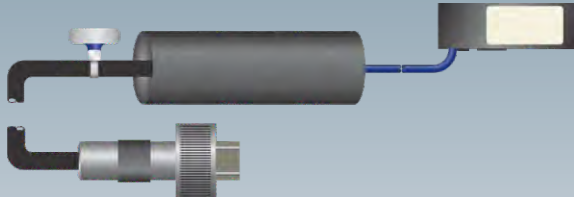
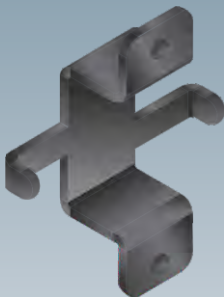

NYK:076203-510X

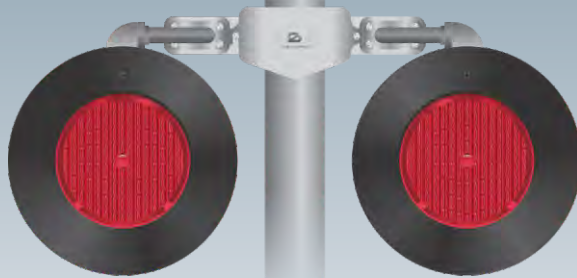


- Cast Adapter Mount w/ Mounting Pin**
- Weight is approx. 17.5 lbs. (7.94 kgs.)
 - Steel construction

NYK:076227-22X1		NYK:076203-501X	
			
<p>Complete Assembly w/ Fabricated Adapter</p> <ul style="list-style-type: none">• Weight is approx. 95.0 lbs. (43.09 kgs.)• Steel construction		<p>Fabricated Adapter w/ Mounting Pin</p> <ul style="list-style-type: none">• Weight is approx. 23.0 lbs. (10.43 kgs.)• Steel construction	
NYK:076215-X		NYK:076203-506X	
			
<p>Shear Bolt Assembly</p> <ul style="list-style-type: none">• Weight is approx. 0.5 lbs. (0.23 kgs.)• Silicon bronze construction		<p>Replacement Mounting Pin</p> <ul style="list-style-type: none">• Weight is approx. 0.5 lbs. (0.23 kgs.)• Steel construction	

SIEMENS Part Number	Description	Grade Crossing Systems Grade Crossing Signaling Systems Products
Barrier Arms, Base Section		
NYK:076260-8AHX	8’ (2.4 m) Long, Aluminum, High Intensity Tape	
NYK:076260-8AHDX	8’ (2.4 m) Long, Aluminum, Diamond Grade Tape	
NYK:076260-16AHX	16’ (4.8 m) Long, Aluminum, High Intensity Tape	
NYK:076260-16AHDX	16’ (4.8 m) Long, Aluminum, Diamond Grade Tape	
NYK:076260-16HX	16’ (4.8 m) Long, Fiberglass, High Intensity Tape	
NYK:076260-16HDX	16’ (4.8 m) Long, Fiberglass, Diamond Grade Tape	
Barrier Arms, 2nd Section		
NYK:076261-8HX	8’ (2.4 m) Long, Fiberglass, High Intensity Tape	
NYK:076261-8HDX	8’ (2.4 m) Long, Fiberglass, Diamond Grade Tape	
NYK:076261-12HX	12’ (3.6 m) Long, Fiberglass, High Intensity Tape	
NYK:076261-12HDX	12’ (3.6 m) Long, Fiberglass, Diamond Grade Tape	
NYK:076261-16HX	16’ (4.8 m) Long, Fiberglass, High Intensity Tape	
NYK:076261-16HDX	16’ (4.8 m) Long, Fiberglass, Diamond Grade Tape	
Barrier Arms, 3rd Section		
NYK:076262-8HX	8’ (2.4 m) Long, Fiberglass, High Intensity Tape	
NYK:076262-8HDX	8’ (2.4 m) Long, Fiberglass, Diamond Grade Tape	
NYK:076262-12HX	12’ (3.6 m) Long, Fiberglass, High Intensity Tape	
NYK:076262-12HDX	12’ (3.6 m) Long, Fiberglass, Diamond Grade Tape	
NYK:076262-16HX	16’ (4.8 m) Long, Fiberglass, High Intensity Tape	
NYK:076262-16HDX	16’ (4.8 m) Long, Fiberglass, Diamond Grade Tape	
Barrier Arms, Adapter Sleeves		
NYK:076203-6	1’ (0.3 m) to 11’ (3.4 m) Sleeve, Aluminum	
NYK:076203-4	12’ (3.7 m) to 24’ (7.3 m) Sleeve, Aluminum	
NYK:076203-5	25’ (7.6 m) to 40’ (12.2 m) Sleeve, Aluminum	

<div><p>NYK:8000802810001</p></div> <div>A small, rectangular, black sensor with a yellow label and a blue cable attached to the bottom left.</div>	<div><p>NYK:8000802810002</p></div> <div>A black cylindrical assembly with a blue cable connected to a yellow-labeled sensor at the end. A separate cable with a connector is shown below.</div>
<div><p>Barrier Arm Tip Sensor</p></div> <div><ul style="list-style-type: none">• Meets or exceeds applicable AREMA® specifications• Weight is approx. 0.2 lbs. (0.09 kgs.)• Operates in -40° F to +160° F (-40°C to +70°C) @ up to 95% Non-Condensing Relative Humidity</div>	<div><p>Barrier Arm Tip Sensor Assembly</p></div> <div><ul style="list-style-type: none">• Meets or exceeds applicable AREMA® specifications• Weight is approx. 211.5 lbs. (95.93 kgs.)• Operates in -40° F to +160° F (-40°C to +70°C) @ up to 95% Non-Condensing Relative Humidity• (1) 8000-80281-0001 barrier arm tip sensor• (1) Z706-00258-0000 cable assembly</div>
<div><p>NYK:075955-XM694</p></div> <div>A black, L-shaped metal mounting bracket with two holes for screws.</div>	<div><p>NYK:075970-AX</p></div> <div>A red, circular light assembly with a silver base and a black cable.</div>
<div><p>Barrier Arm Tip Sensor Mounting Bracket</p></div> <div><ul style="list-style-type: none">• Weight is approx. 0.5 lbs. (0.27 kgs.)• (1) 075955-M694 mounting bracket• (1) 075955-M695 drive bit• (1) 075955-M696 self tapping screws</div>	<div><p>Barrier Arm Light Assembly</p></div> <div><ul style="list-style-type: none">• Easily mountable on instrument house backboards.• Quiescent power consumption is approx. 0.3 A @ 13.2 V, 0.4 A @ 9.0 V• Weight is approx. 1.50 lbs. (0.68 kgs.) including connectors• Operates in -40° F to +160° F (-40°C to +70°C) @ up to 95% Non-Condensing Relative Humidity</div>



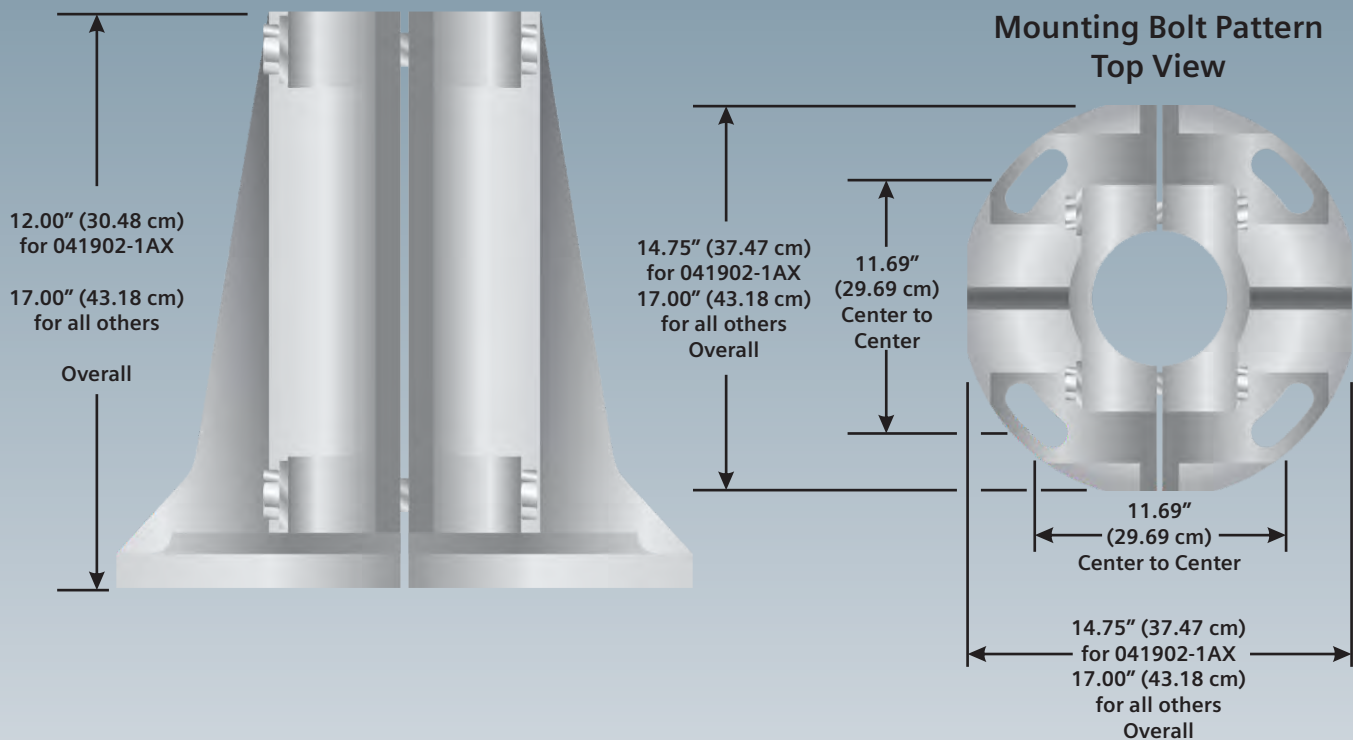
Mast Bases

Overview

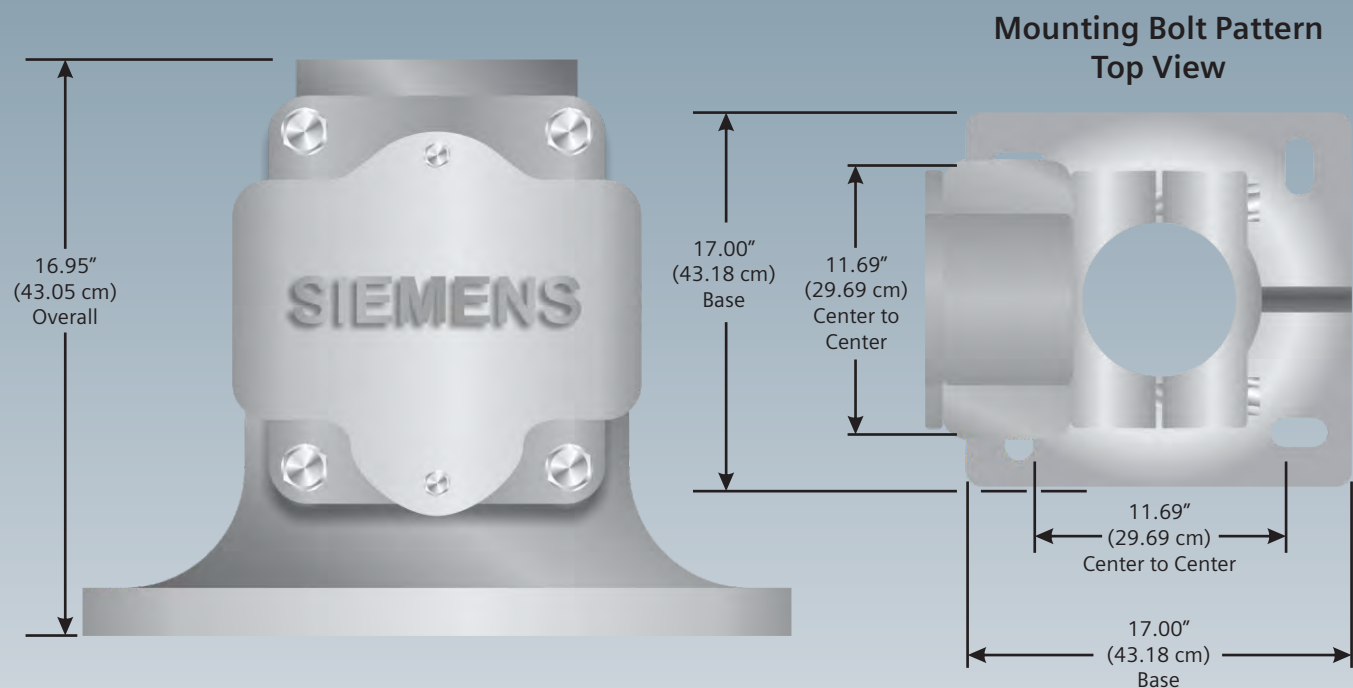


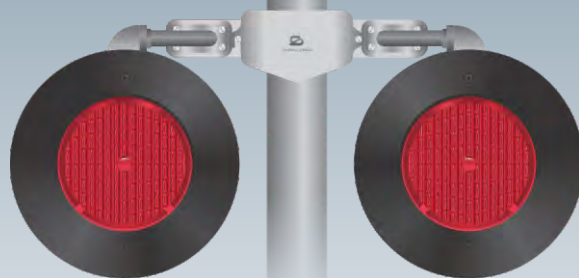
SIEMENS Part Number	Description
Split Bases w/o Junction Boxes for Light Loading	
NYK:041901-AX	For 4" (10.16 cm) Masts
Split Bases w/o Junction Boxes for Heavy Loading	
NYK:041902-AX	For 4" (10.16 cm) Masts
NYK:041933-X	For 5" (12.70 cm) Masts
NYK:041918-X	For 8" (20.32 cm) Masts
Split Bases w/ Junction Boxes	
NYK:041931-1X	For 4" (10.16 cm) Masts
NYK:041931-2X	For 5" (12.70 cm) Masts

Applicable for all Split Bases w/o Junction Boxes



Applicable for all Split Bases w/ Junction Boxes

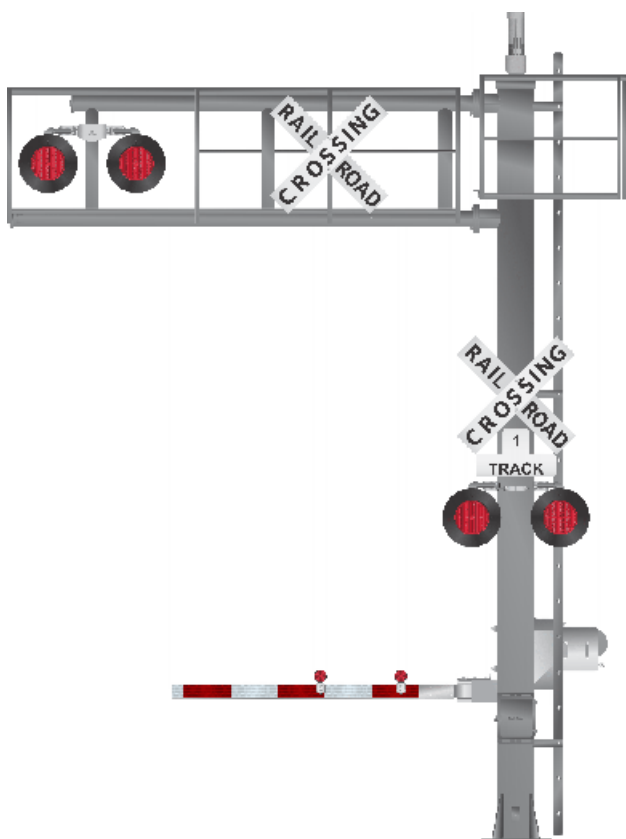




WT / F
Series

Walkout Trussed / Flanged Cantilevers

Overview



SIEMENS Wayguard® Flashing Light Signals FLX 12 and FLX 4000 series provide a highly intense beam for both distant and close up viewing. The lamp housings are of precision die-cast aluminum construction, providing superior strength and precise optical alignment.

SIEMENS Wayguard® Flashing Light Signals FLX 12 employs an improved reflector and precision lamp bracket. A precision molded plastic reflector, with aluminized coated front surface for exceptional light output, is reinforced by channel at the outer rim, for additional dimensional stability. The reflector is essentially unbreakable in normal use.

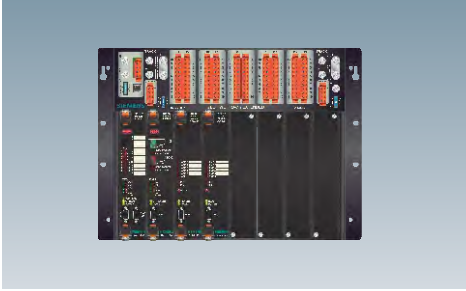
SIEMENS Wayguard® Flashing Light Signals FLX 4000 utilizes all of the proven designs of the FLX 12 series with the adoption of an LED module instead of the incandescent bulb.

*Model 042003-M122W Wayguard® Flashing Light Signal FLX 12 shown for reference purposes only!
Actual unit selected may vary in mounting and features.*

Single Mast Configurations								Grade Crossing Systems Grade Crossing Signaling Systems Products
SIEMENS Part Number	Cantilever Arm Length	Overall Length	Clearance Height	Overall Height	Transition Platform	OSHA Ladder w/ Guard	Weight	
NYK:071270-12XXXX	12 ft (3.66 m)	17 ft - 7 in (5.36 m)	17 ft (5.18 m)	22 ft - 4 1/2 in (5.18 m)	X	X	1,025.0 lbs (464.9 kgs)	
NYK:071270-14XXXX	14 ft (4.27 m)	19 ft - 7 in (5.97 m)	17 ft (5.18 m)	22 ft - 4 1/2 in (5.18 m)	X	X	1,090.0 lbs (494.4 kgs)	
NYK:071270-16XXXX	16 ft (4.88 m)	21 ft - 7 in (6.58 m)	17 ft (5.18 m)	22 ft - 4 1/2 in (5.18 m)	X	X	1,155.0 lbs (523.9 kgs)	
NYK:071270-18XXXX	18 ft (5.49 m)	23 ft - 7 in (7.19 m)	17 ft (5.18 m)	22 ft - 4 1/2 in (5.18 m)	X	X	1,320.0 lbs (598.7 kgs)	
NYK:071270-20XXXX	20 ft (6.10 m)	25 ft - 7 in (7.80 m)	17 ft (5.18 m)	22 ft - 4 1/2 in (5.18 m)	X	X	1,625.0 lbs (731.1 kgs)	
NYK:071270-22XXXX	22 ft (6.71 m)	27 ft - 7 in (8.41 m)	17 ft (5.18 m)	22 ft - 4 1/2 in (5.18 m)	X	X	1,790.0 lbs (811.9 kgs)	
NYK:071270-24XXXX	24 ft (7.32 m)	29 ft - 7 in (9.02 m)	17 ft (5.18 m)	22 ft - 4 1/2 in (5.18 m)	X	X	2,090.0 lbs (948.0 kgs)	
NYK:071270-26XXXX	26 ft (7.92 m)	31 ft - 7 in (9.63 m)	17 ft (5.18 m)	22 ft - 4 1/2 in (5.18 m)	X	X	2,170.0 lbs (984.3 kgs)	
NYK:071270-28XXXX	28 ft (8.53 m)	33 ft - 7 in (10.24 m)	17 ft (5.18 m)	22 ft - 4 1/2 in (5.18 m)	X	X	2,360.0 lbs (1,070.5 kgs)	
NYK:071270-30XXXX	30 ft (9.14 m)	35 ft - 7 in (10.85 m)	17 ft (5.18 m)	22 ft - 4 1/2 in (5.18 m)	X	X	2,494.0 lbs (1,131.3 kgs)	

Double Mast Configurations							
SIEMENS Part Number	Cantilever Arm Length	Overall Length	Clearance Height	Overall Height	Transition Platform	OSHA Ladder w/ Guard	Weight
NYK:071270-32XXXX	32 ft (9.75 m)	37 ft - 7 in (11.46 m)	17 ft (5.18 m)	22 ft - 4 1/2 in (5.18 m)	X	X	2,790.0 lbs (1,265.5 kgs)
NYK:071270-34XXXX	34 ft (10.36 m)	39 ft - 7 in (12.07 m)	17 ft (5.18 m)	22 ft - 4 1/2 in (5.18 m)	X	X	2,850.0 lbs (1,292.7 kgs)
NYK:071270-36XXXX	36 ft (10.97 m)	41 ft - 7 in (12.68 m)	17 ft (5.18 m)	22 ft - 4 1/2 in (5.18 m)	X	X	2,975.0 lbs (1,349.4 kgs)
NYK:071270-38XXXX	38 ft (11.58 m)	43 ft - 7 in (13.29 m)	17 ft (5.18 m)	22 ft - 4 1/2 in (5.18 m)	X	X	3,010.0 lbs (1,365.3 kgs)
NYK:071270-40XXXX	40 ft (11.58 m)	45 ft - 7 in (13.90 m)	17 ft (5.18 m)	22 ft - 4 1/2 in (5.18 m)	X	X	3,100.0 lbs (1,406.1 kgs)

Wayside Control Systems Products



Trackguard® GEO®
Geographic Signaling Systems

B1 - B8



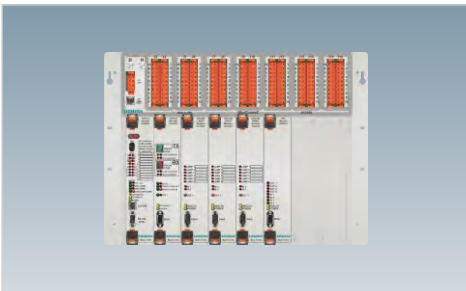
Trackguard® VIU Series
Vital Interface Units

B9 -B20



Trackguard® PTC Series
Positive Train Control Console Units

B21 - B23



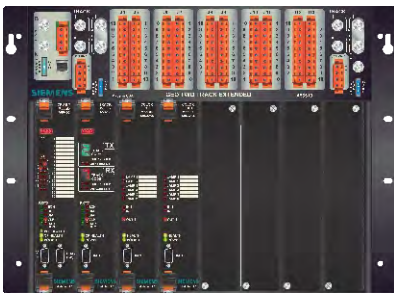
Trackguard® WayConneX Series
Wayside Signaling System

B24





Overview



*Model A53510 Trackguard® GEO® Geographic Signaling System shown for reference purposes only!
Actual unit selected may vary in mounting and features.*

SIEMENS Trackguard® GEO® Geographic Signaling System is a vital microprocessor-controlled system that generates an electronic DC coded track circuit and operates intermediate signal locations and single or multiple switch interlocking.

It is available as a color-light system and will operate in cab signal territory. Compatible with Electro Code 4, Electro Code 4/4 Plus, Electro Code 2, Genrakode™, and E-Code™.

With the addition of a **SIEMENS** Wayguard® SEAR II Series Event analyzer / Recorder and a Wayside Communications Package (WCP) module, it will interface with all of the major codeline protocols including ATCS.

Supporting coded track applications, coded line applications, and vital radio based signaling. Vital network applications are supported via spread-spectrum radio, Echelon®, RS-232, and RS-422.

Features

- Using Standard Boolean Logic with the GEO® Configuration Suite (GCS) which has been enhanced to provide users with the option to write their own signaling logic equations in boolean format. Users may also produce a relay diagram plot of the boolean logic and print this as a PDF file.

Users no longer need to use the existing GEO® GOL libraries and geographic signaling logic; they can write their own logic in traditional boolean format and print the relay equivalent circuits. The resulting MCF will run with the existing GEO® CPU2+ MEFs.

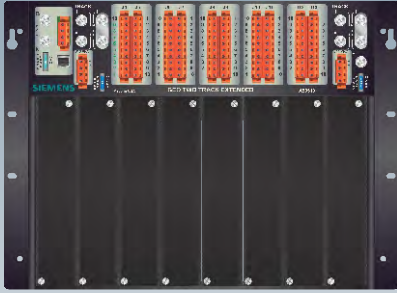
- Object based logic with the GEO® Configuration Suite (GCS)

The GEO® Configuration Suite is a Windows® based design tool used to program the GEO® unit for specific applications. In the GCS, each signal function (signal head, turnout, etc.) is represented by a unique icon or Geographic Signaling "Object".

Each object represents the rules of signaling for that object. The complete signal system is assembled by the CPU based on which "objects" are used and how they are interconnected.

GCS is available on CD-ROM. System design can be performed by the user or can be supplied by **SIEMENS**.

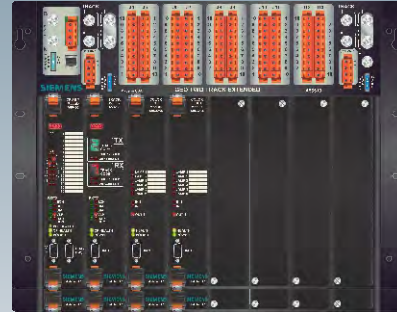
NYK:9000535110001



Empty Two Track Extended

- Used for two track extended wayside applications
- Weight is approx. 26.1 lbs. (11.84 kgs.) including connectors.
- Operates in -40° F to +160° F (-40°C to +70°C) @ up to 95% Non-Condensing Relative Humidity
- Two track extended chassis
- (1) NYK:8000804380001 SPI ECD module
- (8) NYK:Z610393250001 blank module cover panels
- NO other modules

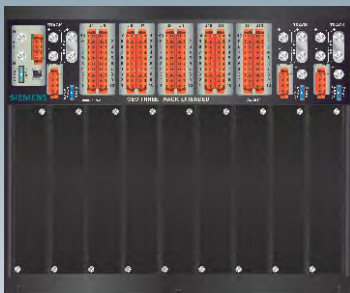
NYK:9112535102000



Comprehensive Two Track Extended

- Used for two track extended wayside applications
- Weight is approx. 30.5 lbs. (13.83 kgs.) including connectors.
- Operates in -40° F to +160° F (-40°C to +70°C) @ up to 95% Non-Condensing Relative Humidity
- Two track extended chassis
- (1) NYK:8000804380001 SPI ECD module
- (1) NYK:8000804030002 CPU II module
- (1) NYK:9000532850001 Track module, standard power
- (2) NYK:9000532840001 Colorlight modules
- (4) NYK:Z610393250001 blank module cover panels
- NO other modules

NYK:9000535140001



Empty Three Track Extended

- Used for three track extended wayside applications
- Weight is approx. 28.5 lbs. (12.93 kgs.) including connectors.
- Operates in -40° F to +160° F (-40°C to +70°C) @ up to 95% Non-Condensing Relative Humidity
- Three track extended chassis
- (1) NYK:8000804380001 SPI ECD module
- (9) NYK:Z610393250001 blank module cover panels
- NO other modules

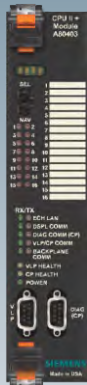
NYK:93125351323003



Comprehensive Three Track Extended

- Used for three track extended wayside applications
- Weight is approx. 34.1 lbs. (15.47 kgs.) including connectors.
- Operates in -40° F to +160° F (-40°C to +70°C) @ up to 95% Non-Condensing Relative Humidity
- Three track extended chassis
- (1) NYK:8000804380001 SPI ECD module
- (1) NYK:8000804030002 CPU II module
- (3) NYK:9000532850001 Track modules, standard power
- (2) NYK:9000532840001 Colorlight modules
- (3) NYK:Z610393250001 blank module cover panels
- NO other modules

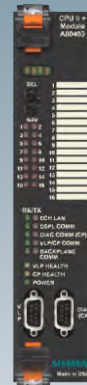
NYK:8000804030002



Non Appliance CPU II+ Module

- Weight is approx. 1.25 lbs. (0.56 kgs.)
- Operates in -40° F to +160° F (-40°C to +70°C) @ up to 95% Non-Condensing Relative Humidity
- Programmable integrate circuits onboard 9V732-A03X, 9V733-A03X, 9V789-A05X and 9V691-A03X
- Echelon® and communications capabilities

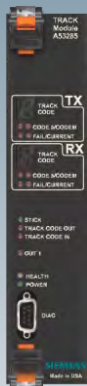
NYK:8000804030003



Appliance CPU II+ Module

- Weight is approx. 1.25 lbs. (0.56 kgs.)
- Operates in -40° F to +160° F (-40°C to +70°C) @ up to 95% Non-Condensing Relative Humidity
- Programmable integrate circuits onboard 9V884-A03X, 9V691-A03X, 9V883-A03X and 9V789-A06X
- Echelon® and communications capabilities

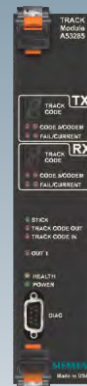
NYK:9000532850001



Track Module, Standard Power

- Weight is approx. 1.0 lbs. (0.56 kgs.)
- Operates in -40° F to +160° F (-40°C to +70°C) @ up to 95% Non-Condensing Relative Humidity

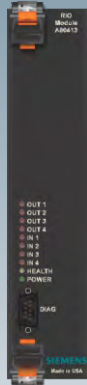
NYK:9000532850003



Track Module, High Power

- Weight is approx. 1.0 lbs. (0.56 kgs.)
- Operates in -40° F to +160° F (-40°C to +70°C) @ up to 95% Non-Condensing Relative Humidity

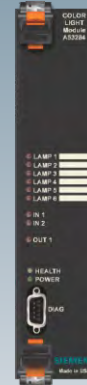
NYK:8000804130001



Relay Input /Output (RIO) Module

- Weight is approx. 1.0 lbs. (0.56 kgs.)
- Operates in -40° F to +160° F (-40°C to +70°C) @ up to 95% Non-Condensing Relative Humidity
- (4) Inputs opto-isolated, vital
- (4) Outputs opto-isolated, vital
- Output voltage 12 VDC into 500 Ω
- Relay loads 100-2000 Ω
- Cab rates 75, 120, 180, 270,420
- Isolation 2000 VAC

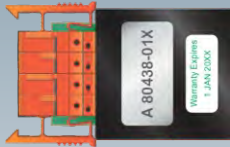
NYK:9000532840001



Colorlight Lamp Module

- Weight is approx. 1.0 lbs. (0.56 kgs.)
- Operates in -40° F to +160° F (-40°C to +70°C) @ up to 95% Non-Condensing Relative Humidity
- (2) Inputs opto-isolated, vital
- (1) Output opto-isolated, vital
- (2) Lamp drivers at 25 watts
- Input voltage 9.0-16.0 VDC 13.6 VDC Nominal
- Cab rates 75, 120, 180, 270,420
- Isolation 2000 VAC

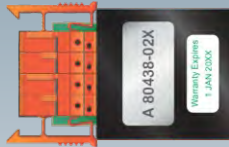
NYK:8000804380001



External Configuration Device (ECD Plus) Module

- Weight is approx. 1.30 oz.. (0.04 kgs.)

NYK:8000804380002



External Configuration Device (ECD Plus) Module

- Weight is approx. 1.30 oz.. (0.04 kgs.)

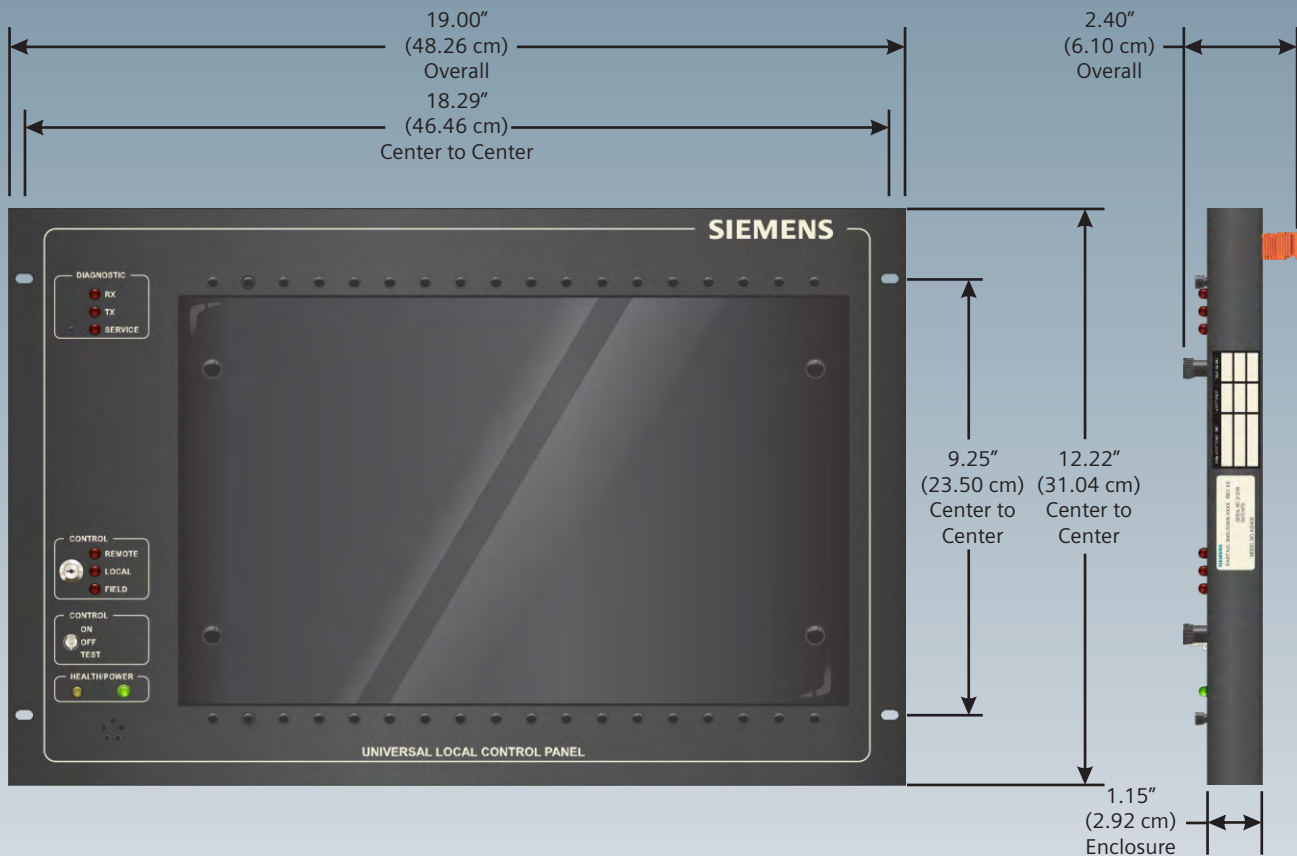
NYK:9000506920002



Universal Local Control Panel

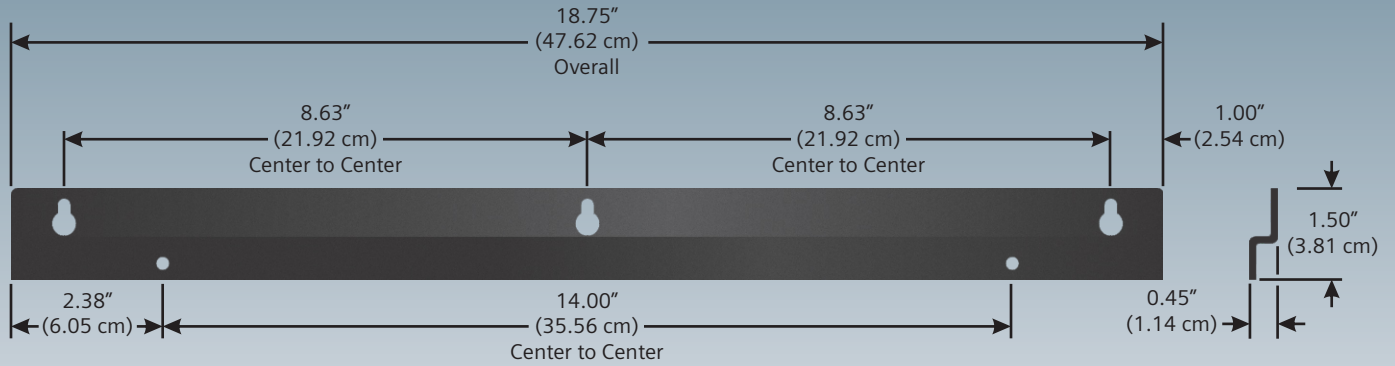
- Neuron® Echelon® 10 MHz
- Echelon® LonTalk® port for maintenance
- Easily mountable on standard relay racks, instrument house backboards or can even be shelf mounted
- Weight is approx. 4.6 lbs. (2.09 kgs.)
- Operates in -40° F to +160° F (-40°C to +70°C) @ up to 95% Non-Condensing Relative Humidity
- Solid state design
- Input power 9 VDC - 16 VDC

Applicable for all Universal Local Control Panels



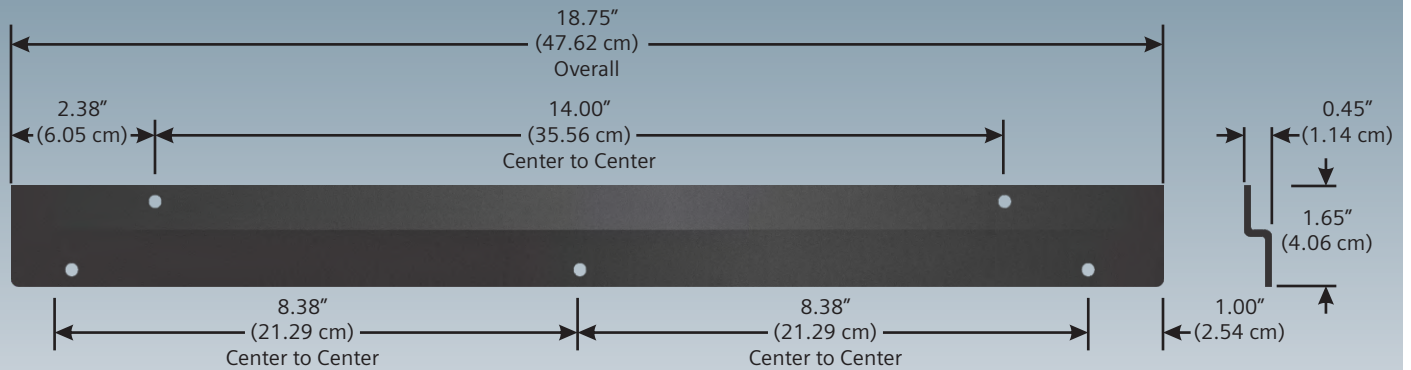
Mounting Brackets

NYK:Z610395850001

**Top Mounting Bracket, Keyhole**

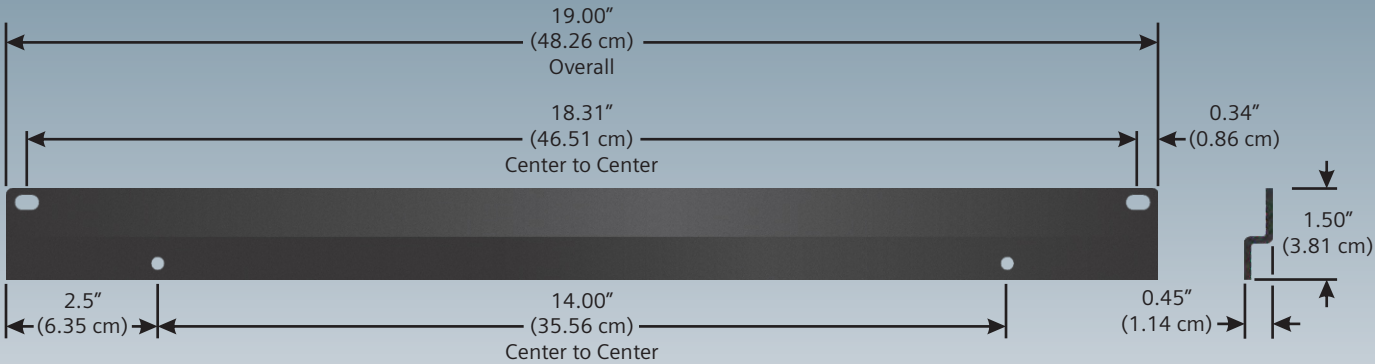
- Weight is approx. 1.6 lbs. (0.73 kgs.)
- Steel construction

NYK:Z610395850002

**Bottom Mounting Bracket, Keyhole**

- Weight is approx. 1.6 lbs. (0.73 kgs.)
- Steel construction

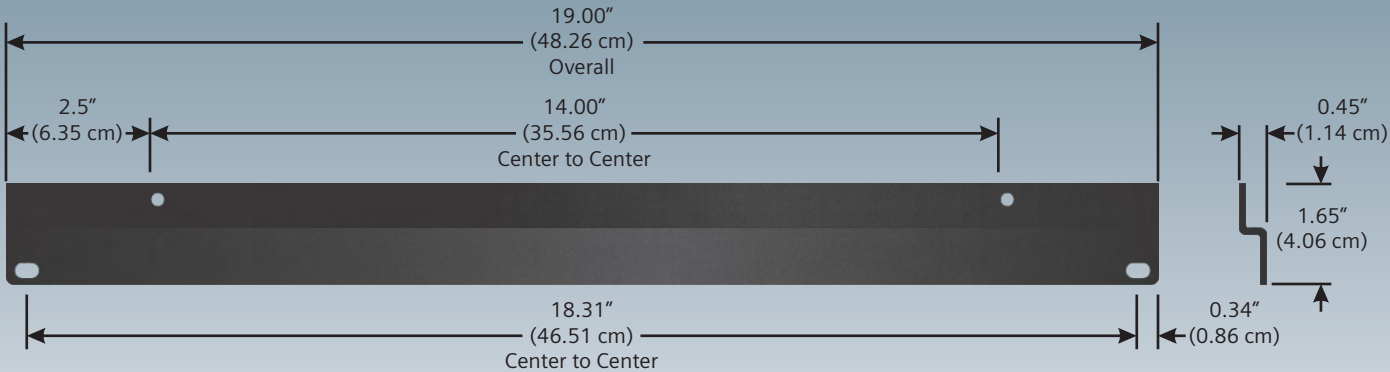
NYK:Z610395850003



Top Mounting Bracket, Slotted

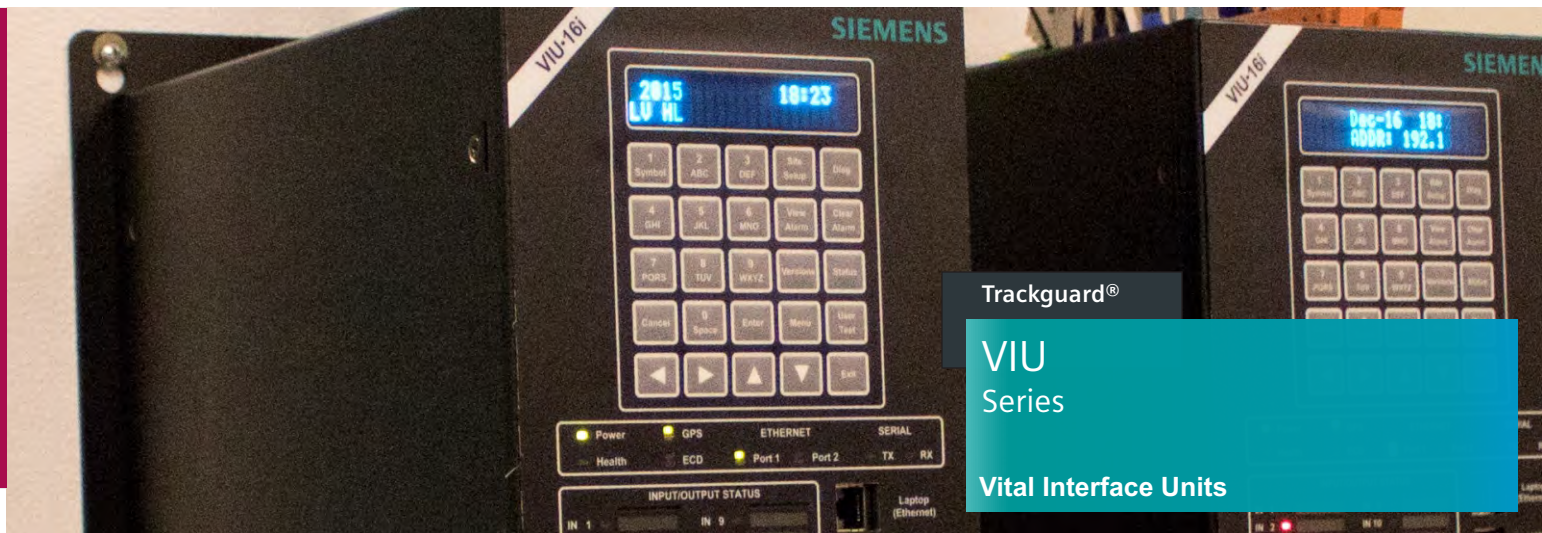
- Weight is approx. 1.6 lbs. (0.73 kgs.)
- Steel construction

NYK:Z610395850004



Bottom Mounting Bracket, Slotted

- Weight is approx. 1.6 lbs. (0.73 kgs.)
- Steel construction

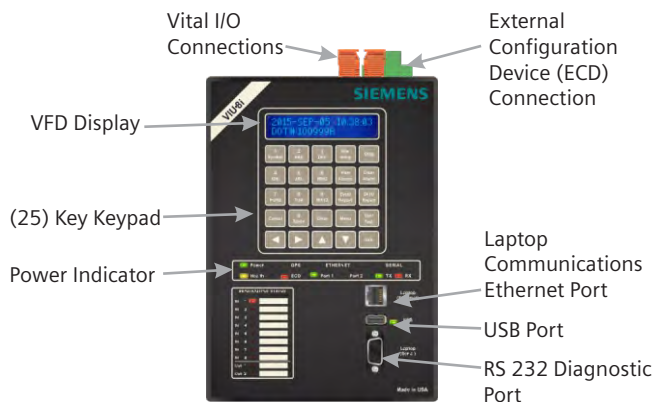


Trackguard®

VIU
Series

Vital Interface Units

Overview



Model A80540 Trackguard® VIU Series Vital Interface Unit shown for reference purposes only! Actual unit selected may vary in mounting and features.

SIEMENS Trackguard® VIU Series Vital Interface Unit is a general purpose programmable logic controller. The VIU can monitor the state of its inputs, control vital outputs, perform logic functions and generate vital communications messages to report its status or the status of devices connected to it. The primary purpose of the VIU- 16i/8i is to control wayside signal lamps by using current sensors or by controlling the lamp voltage (AC or DC).

Features

- Radio frequency rate of up to 2.7 Mbps.
- Integrated IP Connectivity.
- Built-in keypad and display for configuration, troubleshooting and diagnostics.
- Standard USB interface allows download of event logs and configuration information or upload of executive and application software.
- Access from a laptop using standard web browser.
- Consolidated event logging for distributed / networked units.
- User programmable (Boolean Logic), generic lamp/ switch monitoring application for all locations.
- Use to interface locomotive-based equipment to wayside equipment to allow for display of signal aspects in-cab.

NYK:80008055000100

**VIU 8i Module w/o Relay I/O Module**

- Weight is approx. 3 lbs. (1.36 kgs.)
- Operates in -40° F to +160° F (-40°C to +70°C) @ up to 95% Non-Condensing Relative Humidity
- Integrated IP Connectivity
- (8) digital inputs
- (2) digital outputs
- (1) NYK:8000805200001 GPS Module (Installed Internally)
- NO Relay I/O Module
- NO Mounting Plate

NYK:80008055000110

**VIU 8i Module w/ Relay I/O Module**

- Weight is approx. 3 lbs. (1.36 kgs.)
- Operates in -40° F to +160° F (-40°C to +70°C) @ up to 95% Non-Condensing Relative Humidity
- Integrated IP Connectivity
- (8) digital inputs
- (2) digital outputs
- (1) NYK:8000805200001 GPS Module (Installed Internally)
- (1) NYK:8000805330001 Relay I/O Module (Installed Internally)
- NO Mounting Plate

NYK:80008055000101

**VIU 8i Module w/o Relay I/O Module**

- Weight is approx. 3 lbs. (1.36 kgs.)
- Operates in -40° F to +160° F (-40°C to +70°C) @ up to 95% Non-Condensing Relative Humidity
- Integrated IP Connectivity
- (8) digital inputs
- (2) digital outputs
- (1) NYK:8000805200001 GPS Module (Installed Internally)
- NO Relay I/O Module
- (1) NYK:Z620396190001 Mounting Plate

NYK:80008055000111

**VIU 8i Module w/ Relay I/O Module**

- Weight is approx. 3 lbs. (1.36 kgs.)
- Operates in -40° F to +160° F (-40°C to +70°C) @ up to 95% Non-Condensing Relative Humidity
- Integrated IP Connectivity
- (8) digital inputs
- (2) digital outputs
- (1) NYK:8000805200001 GPS Module (Installed Internally)
- (1) NYK:8000805330001 Relay I/O Module (Installed Internally)
- (1) NYK:Z620396190001 Mounting Plate

VIU 8i Modules

NYK:80008055000102

**VIU 8i Module w/o Relay I/O Module**

- Weight is approx. 3 lbs. (1.36 kgs.)
- Operates in -40° F to +160° F (-40°C to +70°C) @ up to 95% Non-Condensing Relative Humidity
- Integrated IP Connectivity
- (8) digital inputs
- (2) digital outputs
- (1) NYK:8000805200001 GPS Module (Installed Internally)
- NO Relay I/O Module
- (1) NYK:Z620396200001 Mounting Plate

NYK:80008055000112

**VIU 8i Module w/ Relay I/O Module**

- Weight is approx. 3 lbs. (1.36 kgs.)
- Operates in -40° F to +160° F (-40°C to +70°C) @ up to 95% Non-Condensing Relative Humidity
- Integrated IP Connectivity
- (8) digital inputs
- (2) digital outputs
- (1) NYK:8000805200001 GPS Module (Installed Internally)
- (1) NYK:8000805330001 Relay I/O Module (Installed Internally)
- (1) NYK:Z620396200001 Mounting Plate

NYK:80008055500100

**VIU 16i Module w/o Relay I/O Module**

- Weight is approx. 3 lbs. (1.36 kgs.)
- Operates in -40° F to +160° F (-40°C to +70°C) @ up to 95% Non-Condensing Relative Humidity
- Integrated IP Connectivity
- (16) digital inputs
- (4) digital outputs
- (1) NYK:8000805200001 GPS Module (Installed Internally)
- NO Relay I/O Module
- NO Mounting Plate

NYK:80008055500110

**VIU 16i Module w/ Relay I/O Module**

- Weight is approx. 3 lbs. (1.36 kgs.)
- Operates in -40° F to +160° F (-40°C to +70°C) @ up to 95% Non-Condensing Relative Humidity
- Integrated IP Connectivity
- (16) digital inputs
- (4) digital outputs
- (1) NYK:8000805200001 GPS Module (Installed Internally)
- (1) NYK:8000805330001 Relay I/O Module (Installed Internally)
- NO Mounting Plate

NYK:80008055500101

**VIU 16i Module w/o Relay I/O Module**

- Weight is approx. 3 lbs. (1.36 kgs.)
- Operates in -40° F to +160° F (-40°C to +70°C) @ up to 95% Non-Condensing Relative Humidity
- Integrated IP Connectivity
- (16) digital inputs
- (4) digital outputs
- (1) NYK:8000805200001 GPS Module (Installed Internally)
- NO Relay I/O Module
- (1) NYK:Z620396190001 Mounting Plate

NYK:80008055500111

**VIU 16i Module w/ Relay I/O Module**

- Weight is approx. 3 lbs. (1.36 kgs.)
- Operates in -40° F to +160° F (-40°C to +70°C) @ up to 95% Non-Condensing Relative Humidity
- Integrated IP Connectivity
- (16) digital inputs
- (4) digital outputs
- (1) NYK:8000805200001 GPS Module (Installed Internally)
- (1) NYK:8000805330001 Relay I/O Module (Installed Internally)
- (1) NYK:Z620396190001 Mounting Plate

VIU 16i Modules

NYK:80008055500102

**VIU 16i Module w/o Relay I/O Module**

- Weight is approx. 3 lbs. (1.36 kgs.)
- Operates in -40° F to +160° F (-40°C to +70°C) @ up to 95% Non-Condensing Relative Humidity
- Integrated IP Connectivity
- (16) digital inputs
- (4) digital outputs
- (1) NYK:8000805200001 GPS Module (Installed Internally)
- NO Relay I/O Module
- (1) NYK:Z620396200001 Mounting Plate

NYK:80008055500112

**VIU 16i Module w/ Relay I/O Module**

- Weight is approx. 3 lbs. (1.36 kgs.)
- Operates in -40° F to +160° F (-40°C to +70°C) @ up to 95% Non-Condensing Relative Humidity
- Integrated IP Connectivity
- (16) digital inputs
- (4) digital outputs
- (1) NYK:8000805200001 GPS Module (Installed Internally)
- (1) NYK:8000805330001 Relay I/O Module (Installed Internally)
- (1) NYK:Z620396200001 Mounting Plate

NYK:80008051500100

**VIU 20 Module w/o Relay I/O Module**

- Weight is approx. 3 lbs. (1.36 kgs.)
- Operates in -40° F to +160° F (-40°C to +70°C) @ up to 95% Non-Condensing Relative Humidity
- Integrated IP Connectivity
- (20) digital inputs
- (1) NYK:8000805200001 GPS Module (Installed Internally)
- NO Relay I/O Module
- NO Mounting Plate

NYK:80008051500110

**VIU 20 Module w/ Relay I/O Module**

- Weight is approx. 3 lbs. (1.36 kgs.)
- Operates in -40° F to +160° F (-40°C to +70°C) @ up to 95% Non-Condensing Relative Humidity
- Integrated IP Connectivity
- (20) digital inputs
- (1) NYK:8000805200001 GPS Module (Installed Internally)
- (1) NYK:8000805330001 Relay I/O Module (Installed Internally)
- NO Mounting Plate

NYK:80008051500101

**VIU 20 Module w/o Relay I/O Module**

- Weight is approx. 3 lbs. (1.36 kgs.)
- Operates in -40° F to +160° F (-40°C to +70°C) @ up to 95% Non-Condensing Relative Humidity
- Integrated IP Connectivity
- (20) digital inputs
- (1) NYK:8000805200001 GPS Module (Installed Internally)
- NO Relay I/O Module
- (1) NYKZ620396190001 Mounting Plate

NYK:80008051500111

**VIU 20 Module w/ Relay I/O Module**

- Weight is approx. 3 lbs. (1.36 kgs.)
- Operates in -40° F to +160° F (-40°C to +70°C) @ up to 95% Non-Condensing Relative Humidity
- Integrated IP Connectivity
- (20) digital inputs
- (1) NYK:8000805200001 GPS Module (Installed Internally)
- (1) NYK:8000805330001 Relay I/O Module (Installed Internally)
- (1) NYK:Z620396190001 Mounting Plate

VIU 20 Modules

NYK:80008051500102

**VIU 20 Module w/o Relay I/O Module**

- Weight is approx. 3 lbs. (1.36 kgs.)
- Operates in -40° F to +160° F (-40°C to +70°C) @ up to 95% Non-Condensing Relative Humidity
- Integrated IP Connectivity
- (20) digital inputs
- (1) NYK:8000805200001 GPS Module (Installed Internally)
- NO Relay I/O Module
- (1) NYK:Z620396200001 Mounting Plate

NYK:80008051500112

**VIU 20 Module w/ Relay I/O Module**

- Weight is approx. 3 lbs. (1.36 kgs.)
- Operates in -40° F to +160° F (-40°C to +70°C) @ up to 95% Non-Condensing Relative Humidity
- Integrated IP Connectivity
- (20) digital inputs
- (1) NYK:8000805200001 GPS Module (Installed Internally)
- (1) NYK:8000805330001 Relay I/O Module (Installed Internally)
- (1) NYK:Z620396200001 Mounting Plate

NYK:80008054000100



VIU 20e Module w/o Relay I/O Module

- Weight is approx. 3 lbs. (1.36 kgs.)
- Operates in -40° F to +160° F (-40°C to +70°C) @ up to 95% Non-Condensing Relative Humidity
- Integrated IP Connectivity
- (20) digital inputs
- (1) NYK:8000805200001 GPS Module (Installed Internally)
- NO Relay I/O Module
- NO Mounting Plate

NYK:80008054000110



VIU 20e Module w/ Relay I/O Module

- Weight is approx. 3 lbs. (1.36 kgs.)
- Operates in -40° F to +160° F (-40°C to +70°C) @ up to 95% Non-Condensing Relative Humidity
- Integrated IP Connectivity
- (20) digital inputs
- (1) NYK:8000805200001 GPS Module (Installed Internally)
- (1) NYK:8000805330001 Relay I/O Module (Installed Internally)
- NO Mounting Plate

NYK:80008054000101



VIU 20e Module w/o Relay I/O Module

- Weight is approx. 3 lbs. (1.36 kgs.)
- Operates in -40° F to +160° F (-40°C to +70°C) @ up to 95% Non-Condensing Relative Humidity
- Integrated IP Connectivity
- (20) digital inputs
- (1) NYK:8000805200001 GPS Module (Installed Internally)
- NO Relay I/O Module
- (1) NYK:Z620396190001 mounting plate

NYK:80008054000111



VIU 20e Module w/ Relay I/O Module

- Weight is approx. 3 lbs. (1.36 kgs.)
- Operates in -40° F to +160° F (-40°C to +70°C) @ up to 95% Non-Condensing Relative Humidity
- Integrated IP Connectivity
- (20) digital inputs
- (1) NYK:8000805200001 GPS Module (Installed Internally)
- (1) NYK:8000805330001 Relay I/O Module (Installed Internally)
- (1) NYK:Z620396190001 mounting plate

VIU 20e Modules

NYK:80008054000102

**VIU 20e Module w/o Relay I/O Module**

- Weight is approx. 3 lbs. (1.36 kgs.)
- Operates in -40° F to +160° F (-40°C to +70°C) @ up to 95% Non-Condensing Relative Humidity
- Integrated IP Connectivity
- (20) digital inputs
- (1) NYK:8000805200001 GPS Module (Installed Internally)
- NO Relay I/O Module
- (1) NYK:Z620396200001 Mounting Plate

NYK:80008054000112

**VIU 20e Module w/ Relay I/O Module**

- Weight is approx. 3 lbs. (1.36 kgs.)
- Operates in -40° F to +160° F (-40°C to +70°C) @ up to 95% Non-Condensing Relative Humidity
- Integrated IP Connectivity
- (20) digital inputs
- (1) NYK:8000805200001 GPS Module (Installed Internally)
- (1) NYK:8000805330001 Relay I/O Module (Installed Internally)
- (1) NYK:Z620396200001 Mounting Plate

NYK:8000805260000



VIU-CAT Module w/o Relay I/O Module

- Weight is approx. 3 lbs. (1.36 kgs.)
- Operates in -40° F to +160° F (-40°C to +70°C) @ up to 95% Non-Condensing Relative Humidity
- Integrated IP Connectivity
- Able to transmit and receive PSO information
- (4) digital inputs
- (4) digital outputs
- (1) NYK:8000805200001 GPS Module (Installed Internally)
- NO Relay I/O Module
- NO Mounting Plate

NYK:8000805260001



VIU-CAT Module w/o Relay I/O Module

- Weight is approx. 3 lbs. (1.36 kgs.)
- Operates in -40° F to +160° F (-40°C to +70°C) @ up to 95% Non-Condensing Relative Humidity
- Integrated IP Connectivity
- Able to transmit and receive PSO information
- (4) digital inputs
- (4) digital outputs
- (1) NYK:8000805200001 GPS Module (Installed Internally)
- NO Relay I/O Module
- (1) NYK:Z620396190001 Mounting Plate

NYK:8000805260002

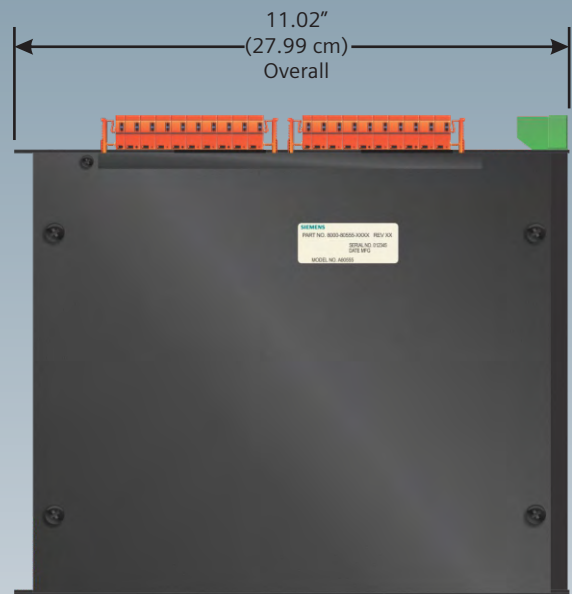
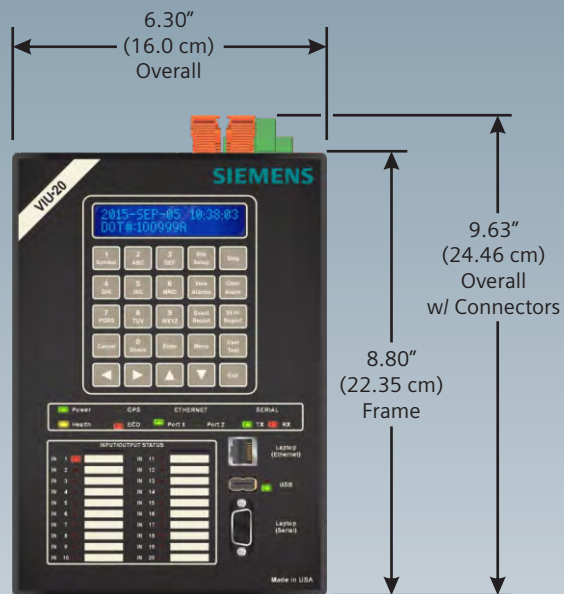


VIU-CAT Module w/o Relay I/O Module

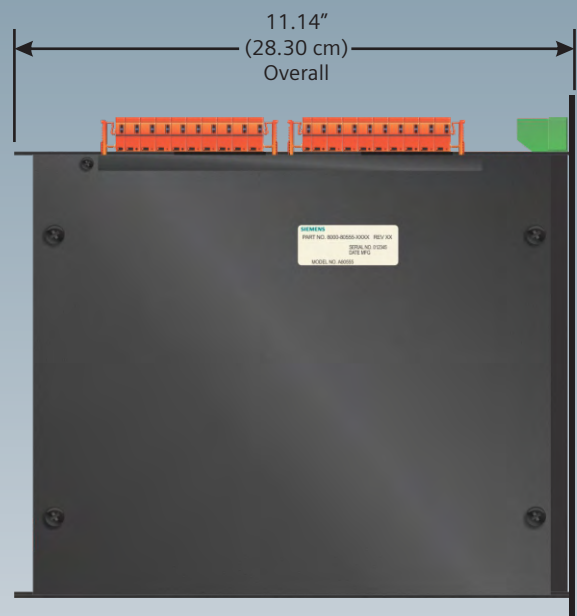
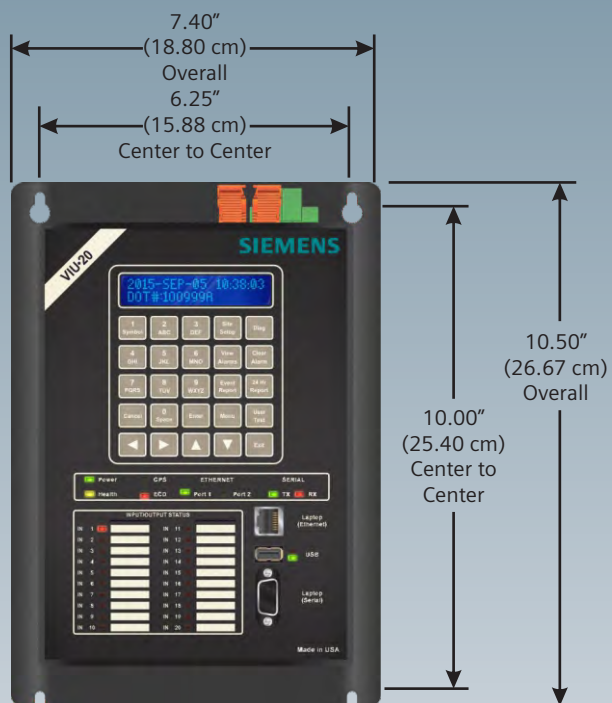
- Weight is approx. 3 lbs. (1.36 kgs.)
- Operates in -40° F to +160° F (-40°C to +70°C) @ up to 95% Non-Condensing Relative Humidity
- Integrated IP Connectivity
- Able to transmit and receive PSO information
- (4) digital inputs
- (4) digital outputs
- (1) NYK:8000805200001 GPS Module (Installed Internally)
- NO Relay I/O Module
- (1) NYK:Z620396200001 Mounting Plate

DIMENSIONS

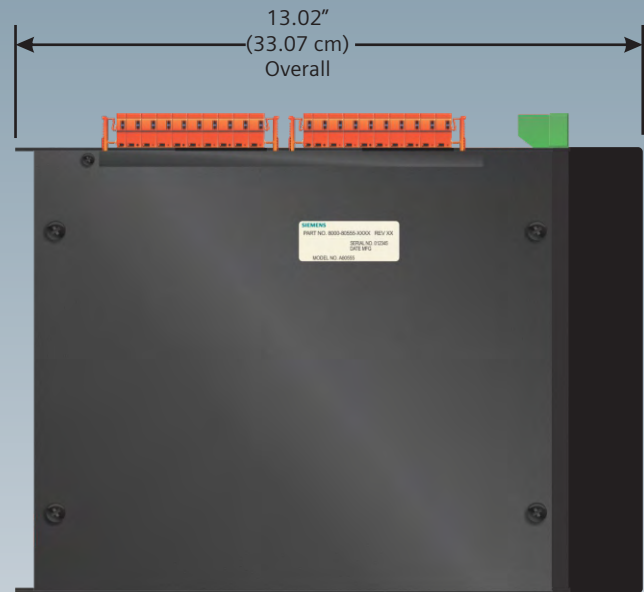
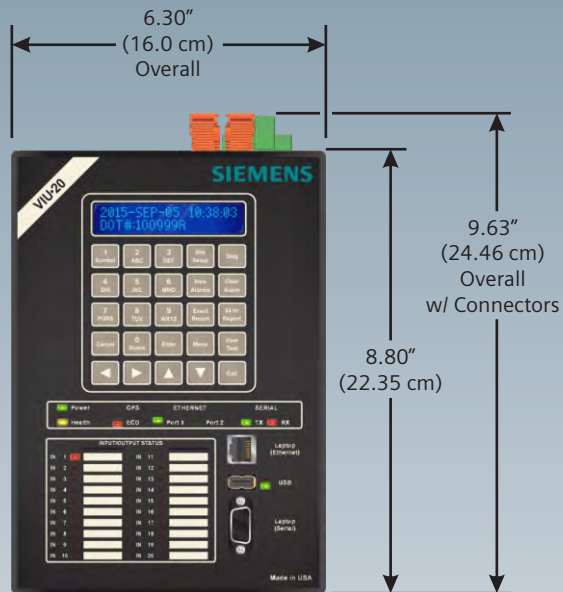
Applicable for all VIU Modules w/ Mounting Plate

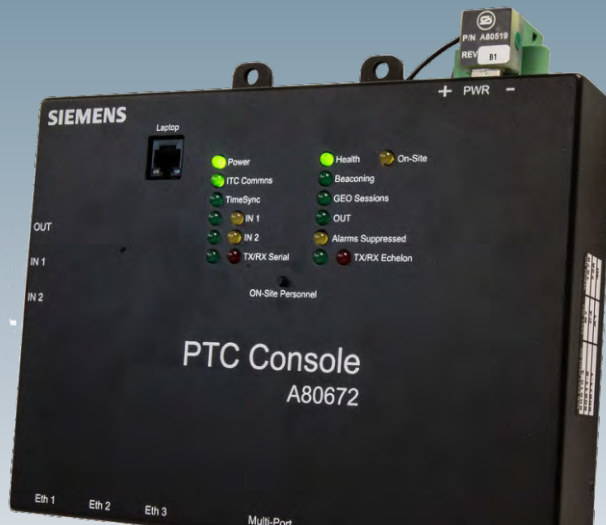


Applicable for all VIU Modules w/ Z62039619001 Mounting Plate



Applicable for all VIU Modules w/ NYK:Z620396200001 Mounting Plate



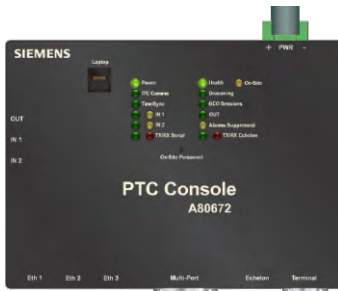


Trackguard®

PTC
Series

Positive Train Control Console Units

Overview



Features

- Provides Network Time Protocol (NTP) functionality.
- Provides consolidated logging for PTC enabled Trackguard® GEO® units.
- Ability to run vital logic, non-vital logic as well as customizable CDL functionality thus supporting Simple Network Management Protocol (SNMP) message trapping.
- Contains dual 400 MHZ processors, with up to (8) GB of onboard flash memory per processor.
- Allows for remote monitoring, even in Dark Territory locations.
- Optional internal A80611 GPS I/O wifi adapter card available.

SIEMENS Trainguard® PTC Console Positive Train Control console unit is an electronic wayside monitoring unit which can be configured for a variety of applications including Positive Train Control (PTC) enabled equipment.

Inputs include:

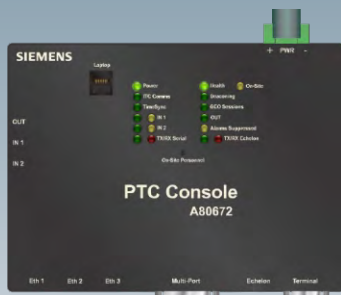
- (1) ethernet laptop port
- (3) ethernet network ports
- (2) RS-232 serial ports
- (1) Echelon® network port

LEDs provide status of unit at a glance. An optional Vital I/O module is available within the console with (2) vital input channels and (1) vital output channel.

Unit is well suited for "Dark Territory Switch Monitoring" and can be used as a low cost monitor for a switch point or other wayside hazard that PTC monitoring.

Allows for remote monitoring, consolidated logging, log access as well as maintainer interface of Positive Train Control (PTC) equipment when used in conjunction with a PTC Enabled Trackguard® GEO® unit.

NYK:8000806720000

**PTC Condole Unit w/o GPS**

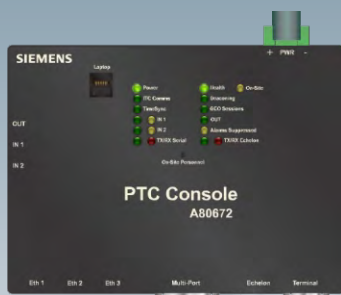
- Weight is approx. 4.3 lbs. (1.95 kgs.)
- Operates in -40° F to +160° F (-40°C to +70°C) @ up to 95% Non-Condensing Relative Humidity
- Dual 400 MHZ processors
- Flash memory expandable up to 8 GB
- No GPS I/O wifi adapter card
- NO vital application software loaded
- NO Mounting Plate

NYK:8000806720001

**PTC Condole Unit w/o GPS**

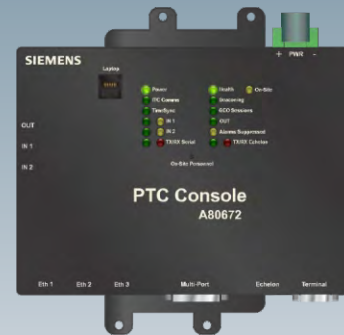
- Weight is approx. 6.3 lbs. (2.86 kgs.)
- Operates in -40° F to +160° F (-40°C to +70°C) @ up to 95% Non-Condensing Relative Humidity
- Dual 400 MHZ processors
- Flash memory expandable up to 8 GB
- No GPS I/O wifi adapter card
- NO vital application software loaded
- (1) NYK:Z610398070001 mounting Plate

NYK:8000806720010

**PTC Condole Unit w/ GPS**

- Weight is approx. 4.3 lbs. (1.95 kgs.)
- Operates in -40° F to +160° F (-40°C to +70°C) @ up to 95% Non-Condensing Relative Humidity
- Dual 400 MHZ processors
- Flash memory expandable up to 8 GB
- Vital application software loaded
- NO Mounting Plate
- (1) NYK:8000806110001 GPS I/O wifi adapter card

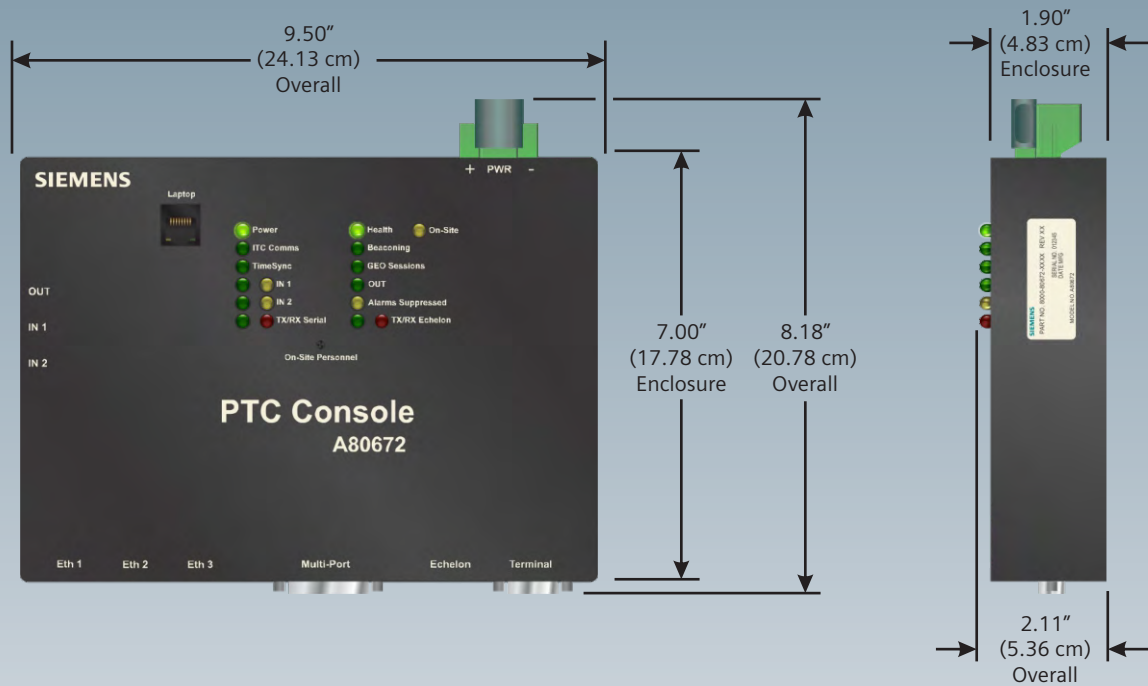
NYK:8000806720011

**PTC Condole Unit w/ GPS**

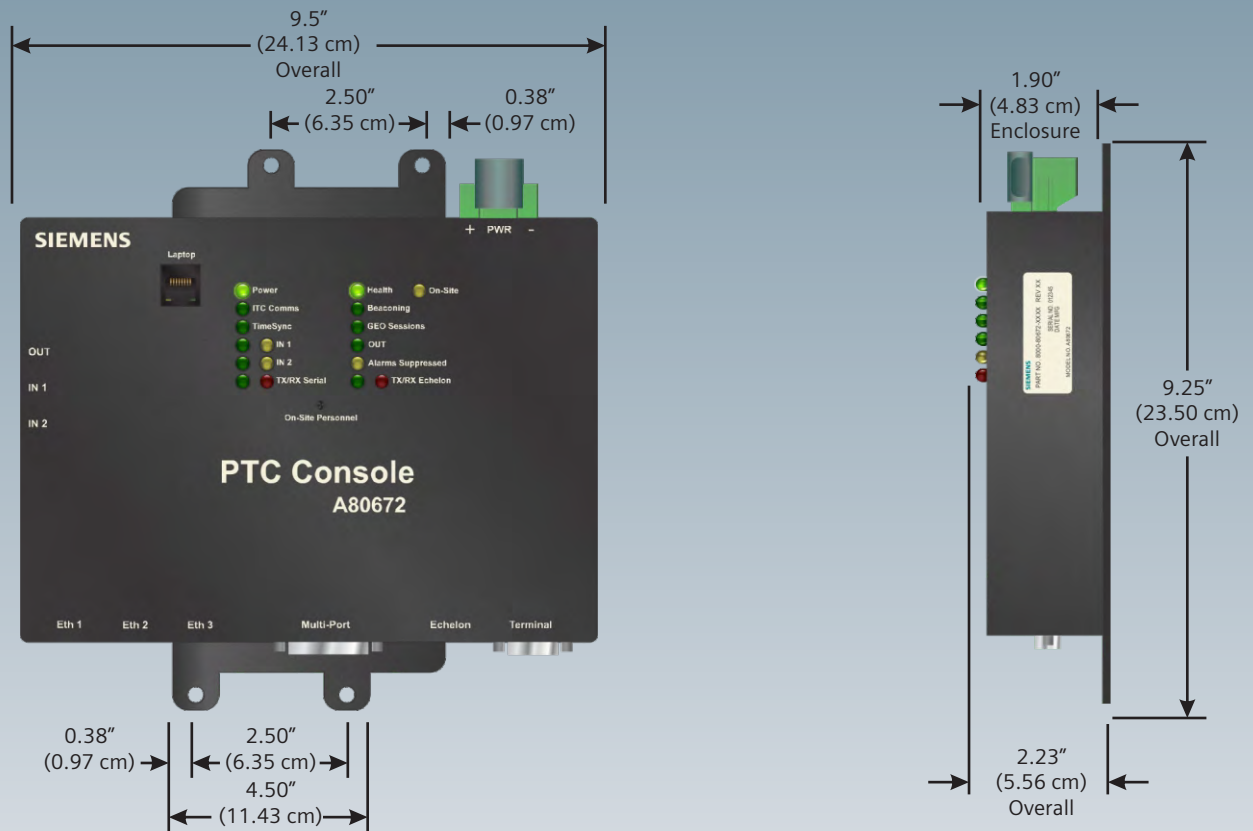
- Weight is approx. 6.3 lbs. (2.86 kgs.)
- Operates in -40° F to +160° F (-40°C to +70°C) @ up to 95% Non-Condensing Relative Humidity
- Dual 400 MHZ processors
- Flash memory expandable up to 8 GB
- NO vital application software loaded
- (1) NYK:Z610398070001 mounting Plate
- (1) NYK:8000806110001 GPS I/O wifi adapter card

Dimensions

Applicable for all PTC Console Modules w/o Mounting Plate

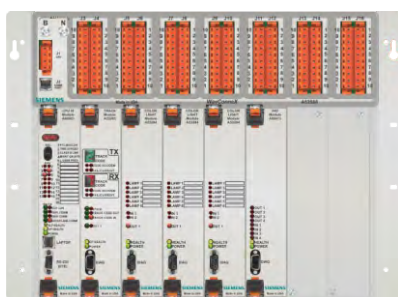


Applicable for all PTC Console Modules w/ Mounting Plate





Overview



SIEMENS Trackguard® WayConneX™ Wayside Control System is a vital microprocessor controlled system that generates an electronic DC coded track circuit and operates intermediate signal locations and single or multiple switch interlockings.

It is available as a color-light or search-light system and will operate in cab signal territory. It provides built-in PTC compatibility and systems management as well as compatibility with Genrakode™, ECode™ and MicroTrax®. All modules are interchangeable between units and all modules are designed to be “hot-swappable”.

With the addition of a **SIEMENS** Wayguard® SEAR II Series Event Analyzer / Recorder and a **SIEMENS** Wayside Communications Package (WCP) module, system will interface with all of the major codeline protocols including Advanced Train Control System (ATCS).

Vital network applications are supported using **SIEMENS** Ethernet Spread Spectrum Radio (ESSR) or Echelon®.

A new configuration tool known as the WayConneX™ Configuration Tool (WCCT) has been created to allow users to create their own Boolean signaling logic. The tool allows the user to see the relay equivalent circuits of the Boolean logic as it is being developed and also provides a logic simulation capability which allows the user to animate the relay contacts and coils as the change state.

Features

WayConneX™ Wayside Control System (3) track extended chassis includes new modules, such as;

- CPU III module
- WayTraX™ module
- PSO-E module.

WayConneX™ Configuration Tool (WCCT) provides a simple graphical user interface which allows users:

- To specify which modules are in the system and how they are configured, and as well as which I/O points on the modules will be used.
- To define the PTC messages generated by the WCX.
- To create vital communications channels between WCX's.
- To specify interface to non-vital controller system (SEAR II).

The tool allows the user to add field configurable timers and Boolean properties, and to specify which ones are included in the systems Unique Check Number (UCN).



Wayside Communications Systems Products



Communications Modules

B25 - B27



WAMS
Wayside Alarm Management System



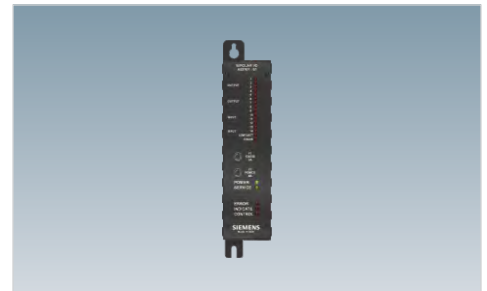
OCG
Office Communications Gateway **B30**



WCM Series
Wayside Communications Manager **B31 - B32**

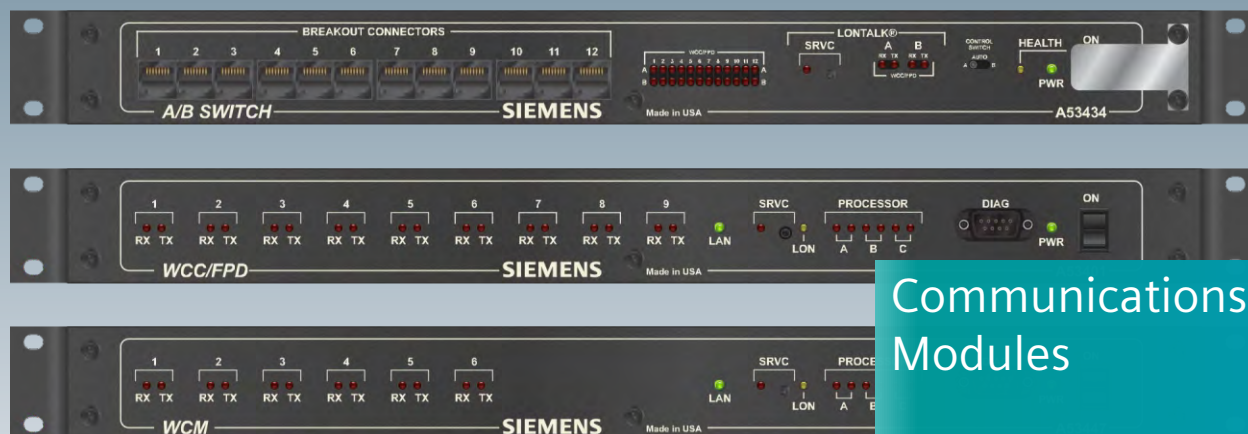


WCP Series
Wayside Communications Package **B33 - B40**



I/O Modules
B41 - B42





Communications Modules

Overview



*Model A53434 AB Switch shown for reference purposes only!
Actual unit selected may vary in mounting and features.*

SIEMENS AB Switch, (53434 Series) is a general purpose device used to provide RS-232 redundant switching for office and field applications. It is normally used in conjunction with two of **SIEMENS** 9-port Wayside Communications Controller / Field Protocol Device, WCC/FPD's (53401 Series) to provide redundant communication with code lines.

SIEMENS AB Switch and the two connected **SIEMENS** WCC/FPD units communicate via an Echelon® (LonTalk®) LAN. The AB Switch is constantly checking the health of the the WCC/FPD's and if any problem is detected with the primary unit, the AB Switch automatically switches all lines to the backup unit.

The AB Switch utilizes magnetically-latched relays for line control. In the unlikely event that the AB Switch should fail, the relays will remain latched in the current state and the on-line WCC/FPD unit will continue to operate without interruption. Once the relays are latched in the failed state, a switchover is not possible until the AB Switch is once again operational.

SIEMENS Wayside Communications Controller/Field Protocol Devices, WCC/FPD's (53401 Series) is a general purpose communications controller and protocol converter for use in communications systems. It is configured for use through the local diagnostic port and/or remotely via dial-up or LAN/WAN connections. The unit is fully compatible with **SIEMENS** ASERVER & WCC MAINT. Utilities, and can be diagnosed and monitored remotely. Multiple units can be clustered together to perform front end processing and Cluster Controller functionally.

NYK:9000534340001



AB Switch Module

- Neuron® Echelon® 10 MHz
- Echelon® LonTalk® port for maintenance
- Easily mountable on standard relay racks, instrument house backboards or can even be shelf mounted
- Weight is approx. 4.6 lbs. (2.09 kgs.)
- Operates in -40° F to +160° F (-40°C to +70°C) @ up to 95% Non-Condensing Relative Humidity
- (12) RS-232 ports
- Solid state design
- Provides automatic fail detection and switch over operation for primary to backup
(When used in conjunction with the WCC/FPD)
- Input power 9 VDC - 16 VDC
- (12) inputs
- (12) outputs
- NO cable routing bracket

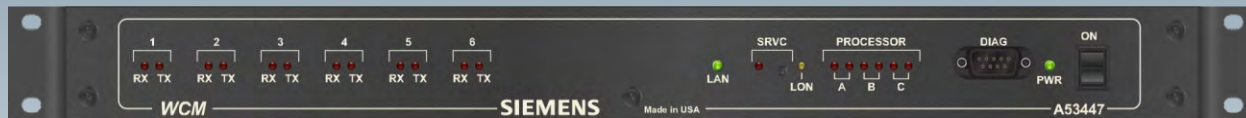
NYK:9000534010101



Packet Switch Module

- Echelon® LonTalk® port for maintenance
- Easily mountable on standard relay racks, instrument house backboards or can even be shelf mounted
- Weight is approx. 4.6 lbs. (2.09 kgs.)
- Operates in -40° F to +160° F (-40°C to +70°C) @ up to 95% Non-Condensing Relative Humidity
- Solid state design
- Input power 30 VDC - 80 VDC
- Supported protocols: ATCS Spec 200, X.25, HDLC-LAPB/LAPD/UI, Genisys/PRCCI, Flexicode, 504/506/514, Datatrain, J&K, E2, MCS1/MCS2/HDP-3 SCS-128 and 2000 A&B

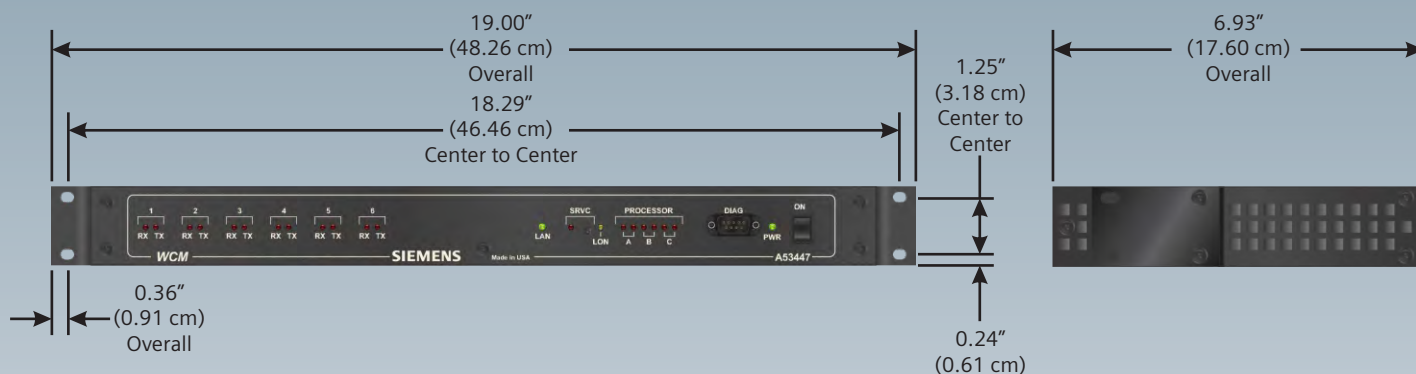
NYK:9000534470001



Wayside Communications Module

- Echelon® LonTalk® port for maintenance
- Easily mountable on standard relay racks, instrument house backboards or can even be shelf mounted
- Weight is approx. 4.6 lbs. (2.09 kgs.)
- Operates in -40° F to +160° F (-40°C to +70°C) @ up to 95% Non-Condensing Relative Humidity
- Solid state design
- Input power 10 VDC - 30 VDC
- Power consumption 10 W
- (8) inputs
- (8) outputs

Applicable for all Communications Modules





WAMS

Wayside Alarm Management System

Overview

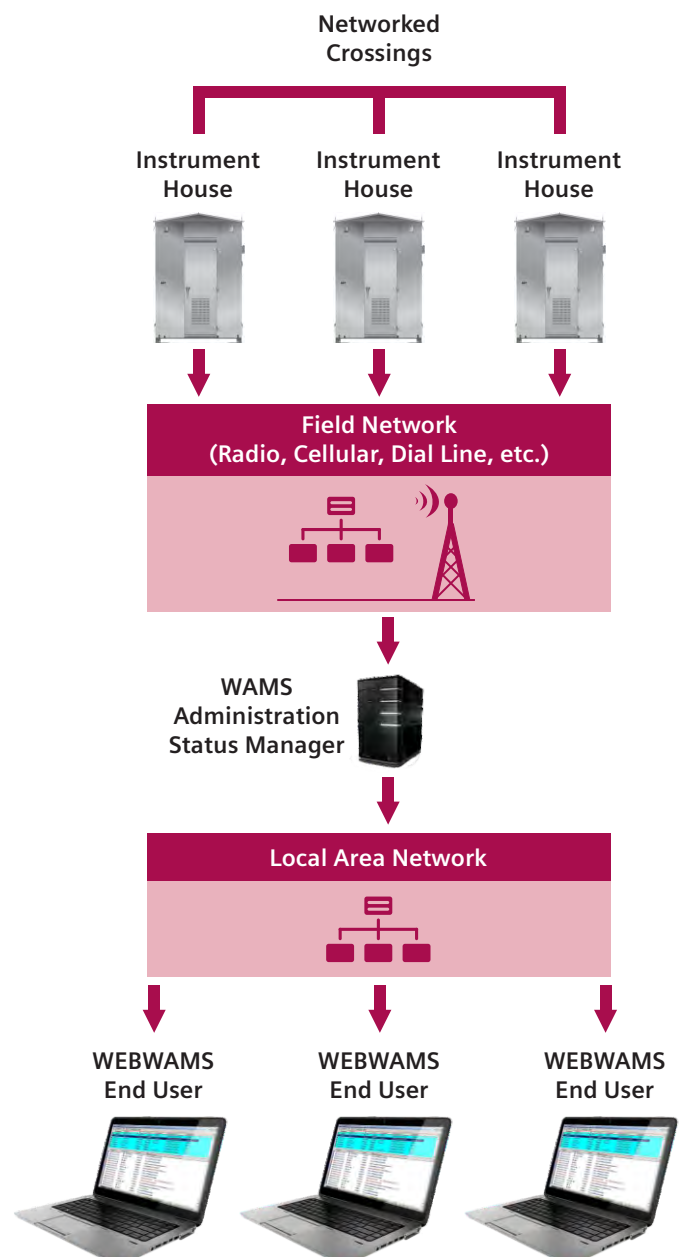
SIEMENS Wayside Alarm Management System (WAMS) manages data collected from event recorders supporting railroad operations.

WAMS Status Manager application collects data from the network and notifies users with e-mail, cell phone text messages, and FAX. Users can use WebWAMS to log into WAMS system remotely and check the status of railroad wayside locations.

WAMS supports federally-mandated inspection of railroad wayside equipment by automating many inspection steps and by providing a secure, on-line process for handling inspection reports.

Real time monitoring and complete status documenting at your finger tips. WAMS is an invaluable operations and maintenance tool and a cost effective management resource.

System





OCG

Office Communications Gateway

Overview

SIEMENS Office Communications Gateway (OCG) is a standalone executable program that runs on the Windows® operating system.

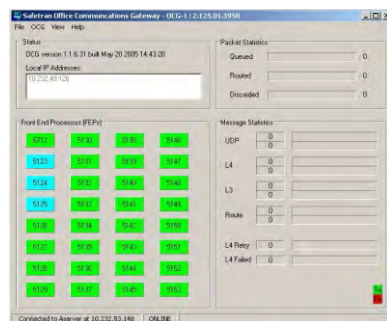
It was designed to bring the ATCS over IP and NMS functionality of the Siemens Wayside Cluster Controller (WCC) to the PC platform. OCG adds diversity and scalability to Advanced Train Control System (ATCS) networks, providing an open-ended means to control large systems with no investment in hardware other than the PC Workstation/Server.

OCG provides the interface between the Office Dispatch System and the Field Code Line Network for ATCS networks. OCG is functionally identical to the Siemens Wayside Communications Controller (WCC), with the exception of the serial interface protocols, as OCG is an IP based system.

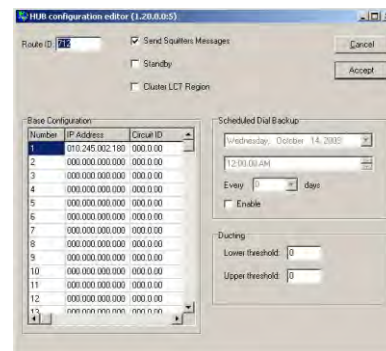
OCG is capable of controlling more Front End Processor (FEP) (HUB/LCT) processes than the WCC. In its current release, OCG supports up to (32) simultaneous FEP processes while the WCC supports up to (3) FEP processes. OCG is backward compatible with WCC clusters, and may be freely integrated into existing systems, intermixing with conventional WCCs as part of a migration strategy.

Appropriately configured individual codelines are quickly and easily transferred from the WCC to OCG (and back) using the **SIEMENS** suite of network management utilities (Aserver/WCCMaint). OCG will run HUB and Line Control Task (LCT) processes in any combination.

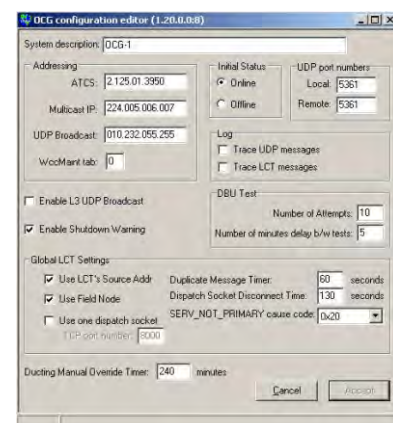
Screenshots



Main Menu



Hub Editor



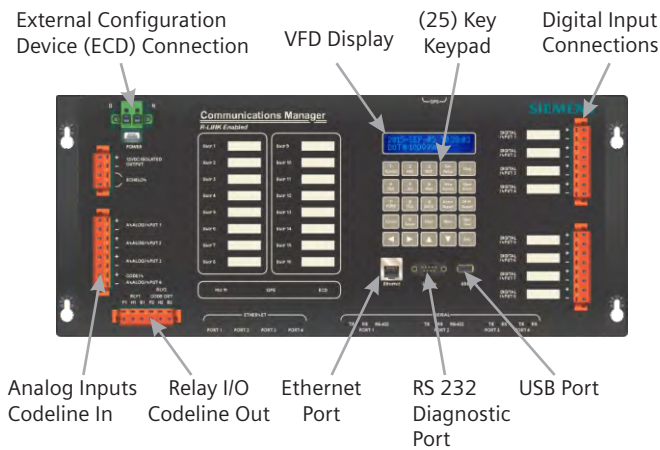
Configuration Editor



WCM
Series

Wayside Communications Manager

Overview



*Model A53475 WCM Series Wayside Communication Manager shown for reference purposes only!
Actual unit selected may vary in mounting and features.*

Features

- Communication protocols suite for both Positive Train Control (PTC) and Advanced Train Control System (ATCS) based radios for interoperability
- Supports multiple ethernet and serial interfaces to interconnect to wayside devices
- Integrates seamlessly with existing Centralized Traffic Control (CTC) systems, Network Management System (NMS) tools and Simple Network Management Protocol (SNMP) based architecture.
- Provides a complete migration path to PTC while leveraging existing assets
- Unmatched connectivity options to data radios

SIEMENS Wayside Communications Manager (WCM) allows end users to consolidate multiple communication and signaling devices operating on public and private communications networks into a centralized communications system.

Providing simple user interfaces for monitoring and configuration. For control point applications, the WCM provides a minimal signal input capability with built-in logic execution which can be communicated over the user's network.

As a communication protocol converter the WCM supports a wide range of modern and legacy communication protocols and provides inter-message protocol conversion communications. As a message router, the WCM provides configurable and automatic routing capabilities within many different kinds of networks as well as provides network redundancy support.

NYK:9000534750001

NYK:9000534770001



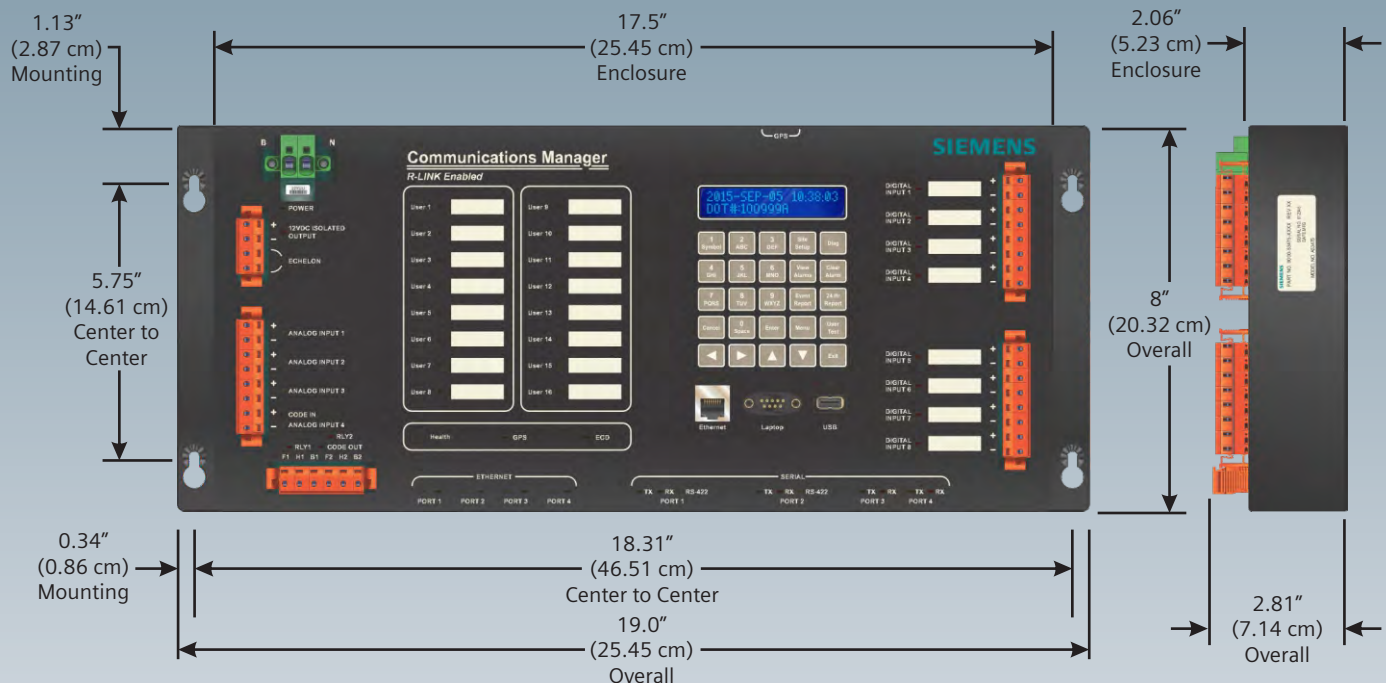
Wayside Communications Manager

- Converts Echelon® messages to ethernet messages
- Easily mountable on standard relay racks, instrument house backboards or can even be shelf mounted
- Weight is approx. 8.3 lbs. (3.76 kgs.)
- Operates in -40° F to +160° F (-40°C to +70°C) @ up to 95% Non-Condensing Relative Humidity
- Input voltage 9 VDC to 32 VDC, isolated, reverse polarity
- (4) Ethernet ports
- (1) DB-25 RS-232 / RS-422 Sync / Async ports
- (8) digital inputs

Power Interface Module

- Weight is approx. 1.4 lbs. (0.63 kgs.)
- Operates in -40° F to +160° F (-40°C to +70°C) @ up to 95% Non-Condensing Relative Humidity

Applicable for A53475 Wayside Communications Manager





WCP
Series

Wayside Communications Package

Overview



WCP Series Wayside Communications shown for reference purposes only!
Actual unit selected may vary in mounting and features.

Features

- Separate CPU II, DC / DC Converter and Radio modules provided to simplify system maintenance issues and provide for more flexible installation options
- RS-232 / RS422 connection option on two client ports
- High-speed (1.2Mb/s) client LAN port allows WCP CPU II to directly connect to other vital and non-vital I/O modules concurrently
- Front-panel push-button configuration no laptop needed during routine maintenance
- Outbound RSSI reading provides additional system information of signal strength at WCP location
- Optional on-board ladder-logic processing for code system applications
- Protocol emulation and conversion of many industry standard code-line protocols
- Full non-volatile event log built in with hardware real-time clock
- Full duplexer operation at 4800 baud using GMSK direct FM signaling with extensive error detection and correction

NYK:9000531050001



WCP CPU Module

- Converts Echelon® messages to ethernet messages
- Easily mountable on standard relay racks, instrument house backboards or can even be shelf mounted
- Weight is approx. 4.6 lbs. (2.09 kgs.)
- Operates in -40° F to +160° F (-40°C to +70°C) @ up to 95% Non-Condensing Relative Humidity
- Quiescent power consumption is approx. 295 mA @ 13.8 V
- Input voltage 10 VDC to 36 VDC
- (2) RS-232 25 pin connectors
- (1) DB-9 9 pin connector
- (1) 09500 cable

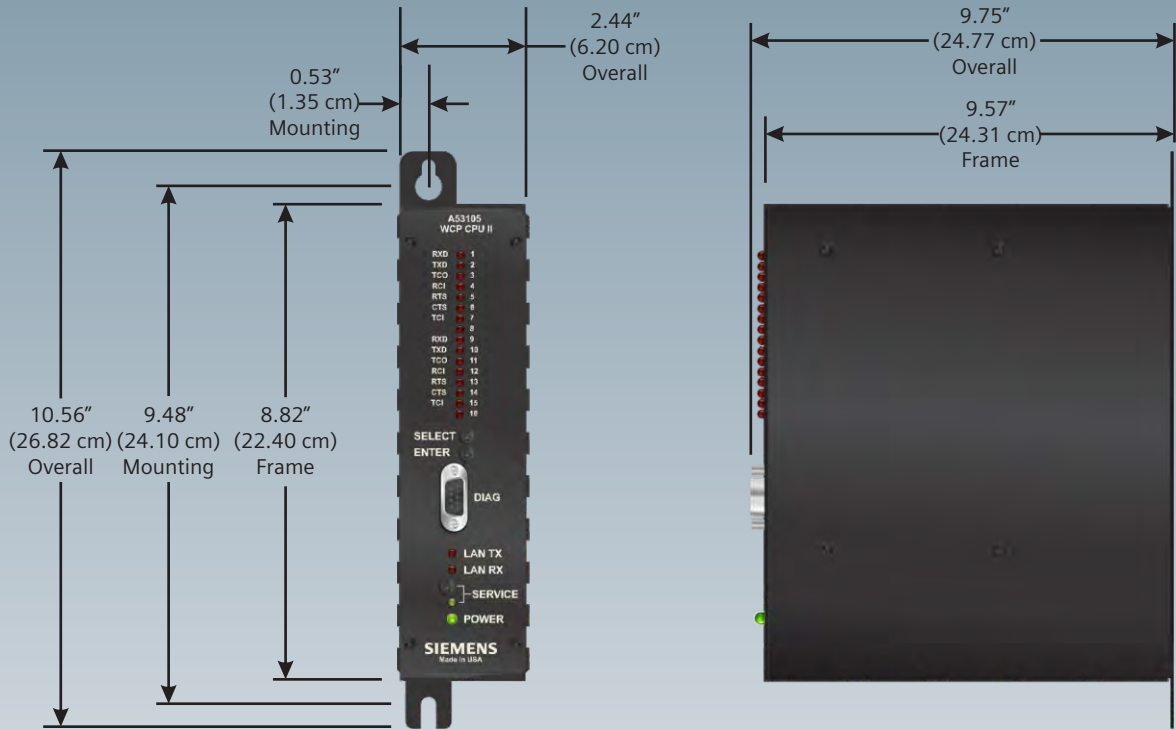
NYK:9000531050002



WCP CPU Module

- Converts Echelon® messages to ethernet messages
- Easily mountable on standard relay racks, instrument house backboards or can even be shelf mounted
- Weight is approx. 4.6 lbs. (2.09 kgs.)
- Operates in -40° F to +160° F (-40°C to +70°C) @ up to 95% Non-Condensing Relative Humidity
- Quiescent power consumption is approx. 295 mA @ 13.8 V
- Input voltage 10 VDC to 36 VDC
- (2) RS-232 25 pin connectors
- (1) DB-9 9 pin connector
- NO cables

Applicable for all WCP CPU Modules



NYK:9000531060001



WCP DC / DC Converter w/ Chassis Grounding

- Easily mountable on standard relay racks, instrument house backboards or can even be shelf mounted
- Weight is approx. 8 lbs. (3.62 kgs.) including connectors
- Operates in -40° F to +160° F (-40°C to +70°C) @ up to 95% Non-Condensing Relative Humidity
- Input voltage 12 VDC
- Output voltage 12 VDC
- Power rating 150 W maximum

NYK:9000531060004



WCP DC / DC Converter w/ Chassis Grounding

- Easily mountable on standard relay racks, instrument house backboards or can even be shelf mounted
- Weight is approx. 8 lbs. (3.62 kgs.) including connectors
- Operates in -40° F to +160° F (-40°C to +70°C) @ up to 95% Non-Condensing Relative Humidity
- Input voltage 24 VDC
- Output voltage 12 VDC
- Power rating 200 W maximum

NYK:9000531060001



WCP DC / DC Converter w/ Floating Grounding

- Easily mountable on standard relay racks, instrument house backboards or can even be shelf mounted
- Weight is approx. 8 lbs. (3.62 kgs.) including connectors
- Operates in -40° F to +160° F (-40°C to +70°C) @ up to 95% Non-Condensing Relative Humidity
- Input voltage 12 VDC
- Output voltage 13.8 VDC
- Power rating 150 W maximum

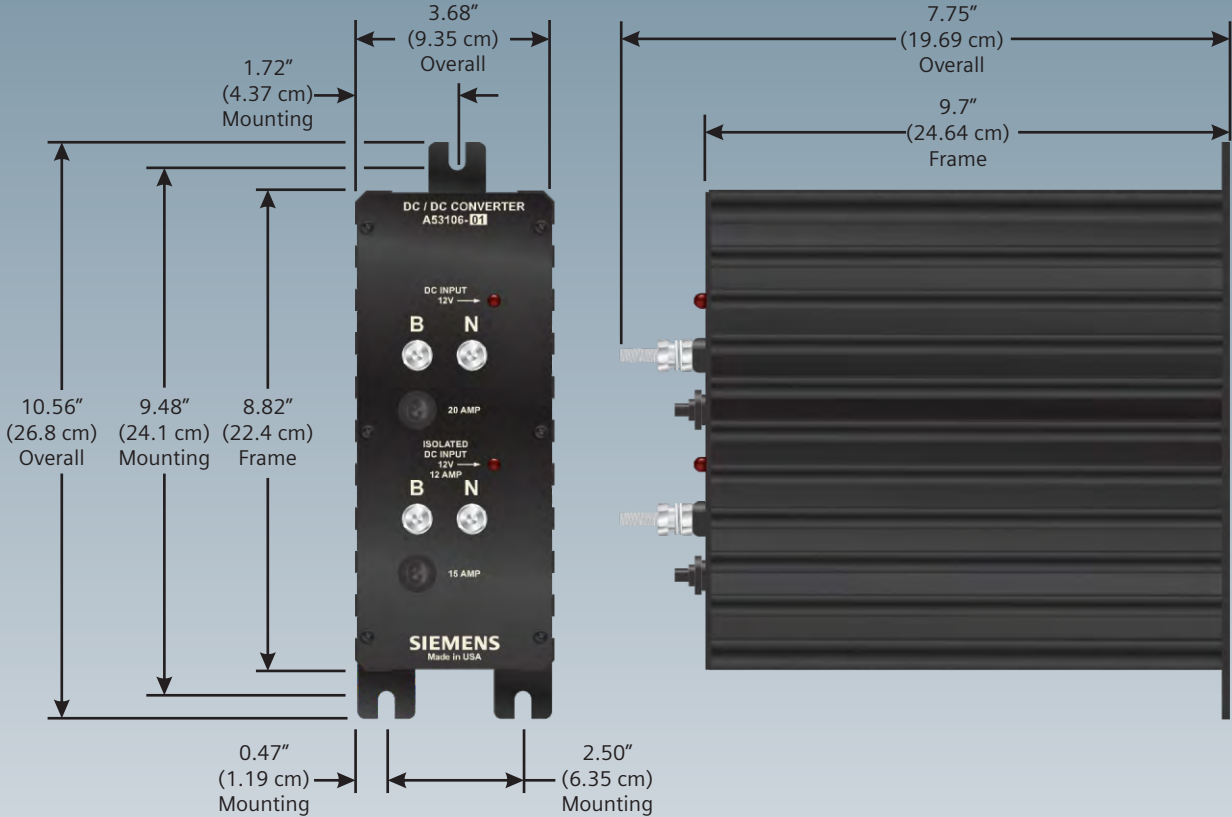
NYK:9000531060004



WCP DC / DC Converter w/ Floating Grounding

- Easily mountable on standard relay racks, instrument house backboards or can even be shelf mounted
- Weight is approx. 8 lbs. (3.62 kgs.) including connectors
- Operates in -40° F to +160° F (-40°C to +70°C) @ up to 95% Non-Condensing Relative Humidity
- Input voltage 10 VDC to 36 VDC
- Output voltage 13.8 VDC
- Power rating 200 W maximum

Applicable for all WCP DC / DC Converter Modules



NYK:900053412100B



WCP Radio

- Easily mountable on standard relay racks, instrument house backboards or can even be shelf mounted
- Weight is approx. 9.4 lbs. (4.26 kgs.) including connectors
- Operates in -40° F to +160° F (-40°C to +70°C) @ up to 95% Non-Condensing Relative Humidity
- Input voltage 10 VDC to 36 VDC
- (1) twist connector for radio
- 935.8875 MHz transmit channel
- 896.8875 MHz receive channel
- MDS SD9 radio
- (1) Z706-00275-0000 radio coax cable
- (1) Z801-08475-0004 antenna cable (4' (1.2 m) long)

NYK:900053412100C



WCP Radio

- Easily mountable on standard relay racks, instrument house backboards or can even be shelf mounted
- Weight is approx. 9.4 lbs. (4.26 kgs.) including connectors
- Operates in -40° F to +160° F (-40°C to +70°C) @ up to 95% Non-Condensing Relative Humidity
- Input voltage 10 VDC to 36 VDC
- (1) twist connector for radio
- 935.8875 MHz transmit channel
- 896.8875 MHz receive channel
- MDS SD9 radio
- (1) Z706-00275-0000 radio coax cable
- (1) Z801-08474-0010 antenna cable (10' (3 m) long)

NYK:900053412100D



WCP Radio

- Easily mountable on standard relay racks, instrument house backboards or can even be shelf mounted
- Weight is approx. 9.4 lbs. (4.26 kgs.) including connectors
- Operates in -40° F to +160° F (-40°C to +70°C) @ up to 95% Non-Condensing Relative Humidity
- Input voltage 10 VDC to 36 VDC
- (1) twist connector for radio
- 935.8875 MHz transmit channel
- 896.8875 MHz receive channel
- MDS SD9 radio
- (1) Z706-00275-0000 radio coax cable
- NO antenna cable

NYK:900053412200D



WCP Radio

- Easily mountable on standard relay racks, instrument house backboards or can even be shelf mounted
- Weight is approx. 9.4 lbs. (4.26 kgs.) including connectors
- Operates in -40° F to +160° F (-40°C to +70°C) @ up to 95% Non-Condensing Relative Humidity
- Input voltage 10 VDC to 36 VDC
- (1) twist connector for radio
- 935.9375 MHz transmit channel
- 896.9375 MHz receive channel
- MDS SD9 radio
- (1) Z706-00275-0000 radio coax cable
- NO antenna cable

NYK:900053412500B



WCP Radio

- Easily mountable on standard relay racks, instrument house backboards or can even be shelf mounted
- Weight is approx. 9.4 lbs. (4.26 kgs.) including connectors
- Operates in -40° F to +160° F (-40°C to +70°C) @ up to 95% Non-Condensing Relative Humidity
- Input voltage 10 VDC to 36 VDC
- (1) twist connector for radio
- 936.9375 MHz transmit channel
- 897.9375 MHz receive channel
- MDS SD9 radio
- (1) Z706-00275-0000 radio coax cable
- (1) Z801-08475-0004 antenna cable (4' (1.2 m) long)

NYK:900053412500C



WCP Radio

- Easily mountable on standard relay racks, instrument house backboards or can even be shelf mounted
- Weight is approx. 9.4 lbs. (4.26 kgs.) including connectors
- Operates in -40° F to +160° F (-40°C to +70°C) @ up to 95% Non-Condensing Relative Humidity
- Input voltage 10 VDC to 36 VDC
- (1) twist connector for radio
- 936.9375 MHz transmit channel
- 897.9375 MHz receive channel
- MDS SD9 radio
- (1) Z706-00275-0000 radio coax cable
- (1) Z801-08474-0010 antenna cable (10' (3 m) long)

NYK:900053412500D



WCP Radio

- Easily mountable on standard relay racks, instrument house backboards or can even be shelf mounted
- Weight is approx. 9.4 lbs. (4.26 kgs.) including connectors
- Operates in -40° F to +160° F (-40°C to +70°C) @ up to 95% Non-Condensing Relative Humidity
- Input voltage 10 VDC to 36 VDC
- (1) twist connector for radio
- 936.9375 MHz transmit channel
- 897.9375 MHz receive channel
- MDS SD9 radio
- (1) Z706-00275-0000 radio coax cable
- NO antenna cable

NYK:900053412600D

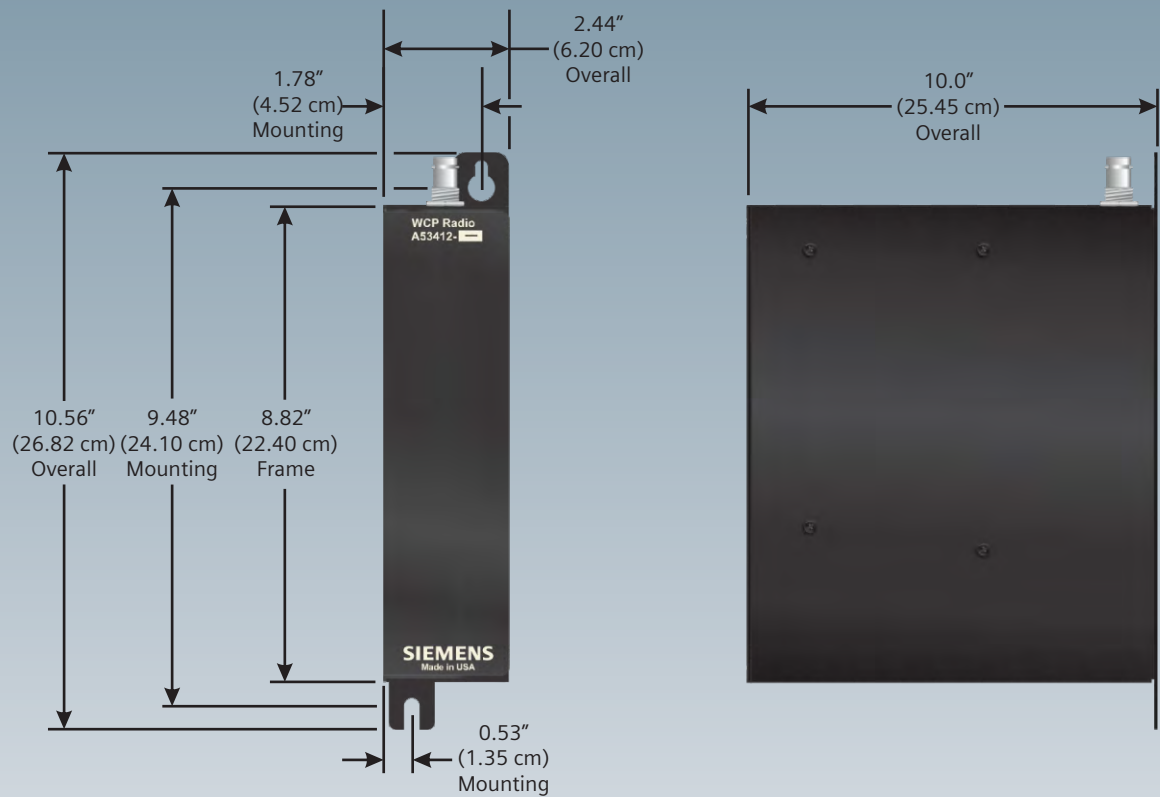


WCP Radio

- Easily mountable on standard relay racks, instrument house backboards or can even be shelf mounted
- Weight is approx. 9.4 lbs. (4.26 kgs.) including connectors
- Operates in -40° F to +160° F (-40°C to +70°C) @ up to 95% Non-Condensing Relative Humidity
- Input voltage 10 VDC to 36 VDC
- (1) twist connector for radio
- 936.9875 MHz transmit channel
- 897.9875 MHz receive channel
- MDS SD9 radio
- (1) Z706-00275-0000 radio coax cable
- NO antenna cable

Wayside Systems Wayside Communications Systems Products	SIEMENS Part Number	Description	Weight
	WCP Antenna Kits		
	NYK:Z913000010000	Yagi antenna <ul style="list-style-type: none"> • 6061/T6 aluminum element • N type female connectors • 12.6 dBi (10.5 dBd) Gain • 928 MHz to 956 MHz • Vertical / Horizontal Polarization • 1.5:1 VSWR 	8.4 lbs. (3.81 kgs.)
	NYK:Z801084680000	Antenna mast mount, 90 degree. <ul style="list-style-type: none"> • Accommodates masts up to Ø2.38" 	6.4 lbs. (2.90 kgs.)
	NYK:Z801084690000	Antenna mast mount, 90 degree. <ul style="list-style-type: none"> • Accommodates masts from Ø1.5" to Ø3.5" 	6.4 lbs. (2.90 kgs.)
	WCP Antenna Surge Arresters		
	NYK:Z803227100000	Bulkhead Mounting <ul style="list-style-type: none"> • Meets or exceeds applicable IEC® 60529 IP65 specifications • 5/8-24 screw type connectors • 125 MHz - 1000Hz • 1.1:1 VSWR • 20kA ANSI® C62.1 8/20 µs waveform • Weatherproof 	2 lbs. (0.91 kgs.)
	NYK:Z803227220000	Hardware Kit for Z803-22710-0000	N/A
	NYK:Z935000060000	Coaxial RF cable, Ø1/2" 50 Ω, foam dielectric	N/A
	NYK:Z935000080000	Coaxial RF cable, Ø7/8" 50 Ω, foam dielectric	N/A
	NYK:9000265610001	Coaxial RF cable, 50 Ω, foam dielectric, mini UHF male to type N male, Ø1/2" X 4' (1.2 m) long	4.2 lbs. (1.91 kgs.)
	NYK:Z801084740000	Coaxial RF cable, 50 Ω, foam dielectric, mini UHF male to type N male, Ø1/2" X 10' (3 m) long	7.4 lbs. (3.36 kgs.)

Applicable for all WCP Radios





I / O Modules

Overview



*Model A53101 I / O Module shown for reference purposes only!
Actual unit selected may vary in mounting and features.*

SIEMENS Bipolar I/O module supplies eight bipolar outputs to replace an LCS unit and to drive existing final stick relays. A total of 14 unipolar indication inputs are also available. The module is controlled by an on-board Echelon® Neuron™ LAN and delivered to the bipolar outputs either continuously or in pulsed format (configurable). Opto-isolated read-back circuits verify delivery of each input. All inputs and outputs are also fully optically isolated to prevent common-mode problems and to enhance their ability to withstand voltage surges.

Inputs are sensed at a configurable rate and the module generates an indication message via LonTalk™ each time a change of state occurs. A programmable indication hold-off time allows interlocking circuits to stabilize before the change-of-state message is generated. The module provides an indication battery output (KINDIS) that can be fed into the input circuits to allow the unit to sense input circuit relay contact states. Additional LonTalk™ messages supported include recheck, diagnostics, configuration control, and error status updates.

Features

- Bipolar outputs for final stick relays
- Front panel LED status indicators are provided for each I/O circuit for ease of maintenance and troubleshooting.
- Input/Output termination points and interface to the module are accomplished via a top-mounted, removable plug connector. Configuration data for the module is retained in a user-programmable EEPROM device located in the connector. This allows the module to be replaced during maintenance without the need for reconfiguration.
- The module operates directly from the signal battery and 2,000 volts rms isolation is provided by the transformer-coupled LonTalk™ interface.
- Unipolar outputs for interface or vital relay drive. It essentially identical to the Bipolar I/O module except that a total of (30) unipolar circuits are supplied. The circuits can be allocated for any combination of inputs and outputs.
- Relay outputs, while sharing roughly the same physical characteristics as the bipolar and unipolar I/O modules, the relay output module contains 15 individually controllable, nonvital relays that provide contact options that can be jumpered to provide a combination of Form A and Form C outputs.
- The module is available with either latched or non-latched relays. Latched relays remain in the previously-set state position and are unaffected by equipment restarts or power failure.
- A latched relay module is typically used to drive vital signal control relays.

NYK:9000531010001



Bipolar I/O Module (12 V version)

- Easily mountable on standard relay racks, instrument house backboards or can even be shelf mounted
- Weight is approx. 8.2 lbs. (3.72 kgs.) including connectors
- Operates in -40° F to +160° F (-40°C to +70°C) @ up to 95% Non-Condensing Relative Humidity
- Input voltage 9 VDC to 30 VDC
- (14) bipolar inputs
- (8) bipolar outputs
- (1) KINDIS battery output indicators
- Utilizes 9000-53001-0001 I/O Card

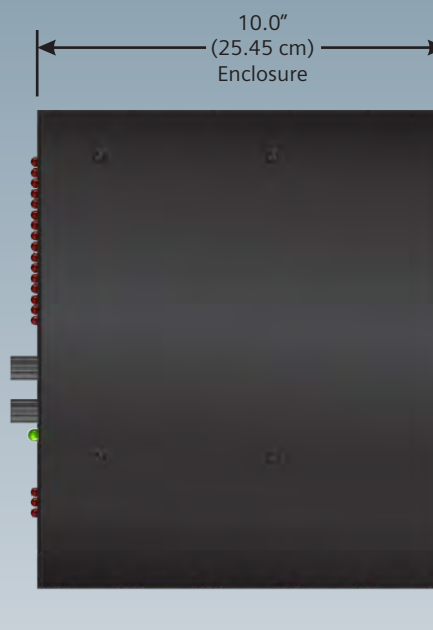
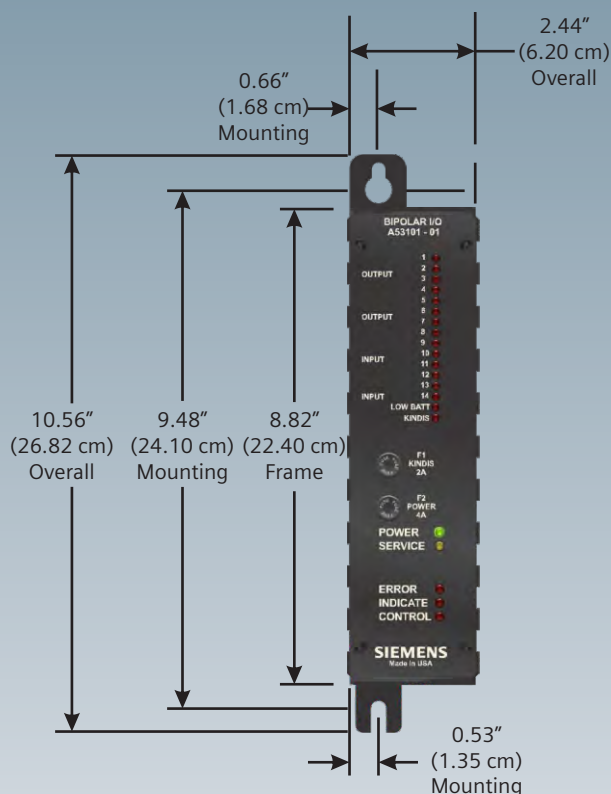
NYK:9000531020001



Unipolar I/O Module (12 V version)

- Easily mountable on standard relay racks, instrument house backboards or can even be shelf mounted
- Weight is approx. 8.2 lbs. (3.72 kgs.) including connectors
- Operates in -40° F to +160° F (-40°C to +70°C) @ up to 95% Non-Condensing Relative Humidity
- Input voltage 9 VDC to 30 VDC
- Open collector voltage
- Up to (30) unipolar outputs in groups of (8)
- Up to (30) unipolar inputs in groups of (8)
- Utilizes 9000-53004-0001 I/O Card

Applicable for all I/O Modules

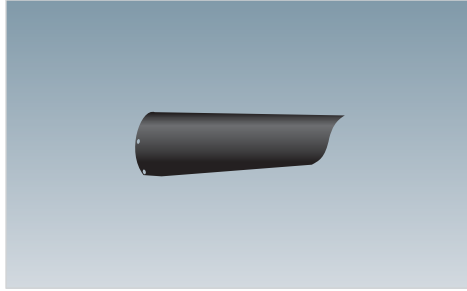


Wayside Signaling Systems Products

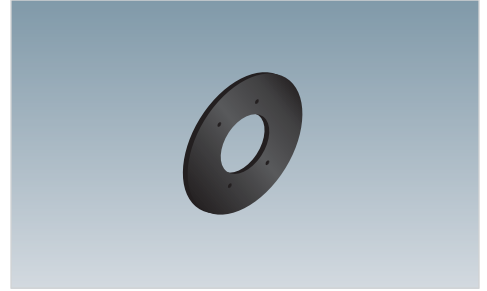


CLS-20R Series
Housing and Lighting Modules

B43 - B44



CLS-20R Series
Visors



CLS-20R Series
Snowshields

B46



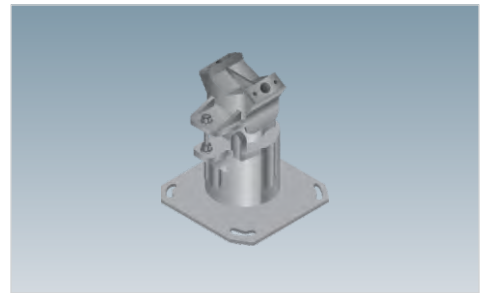
CLS-20R Series
Backgrounds

B47



CLS-20R Series
Accessories

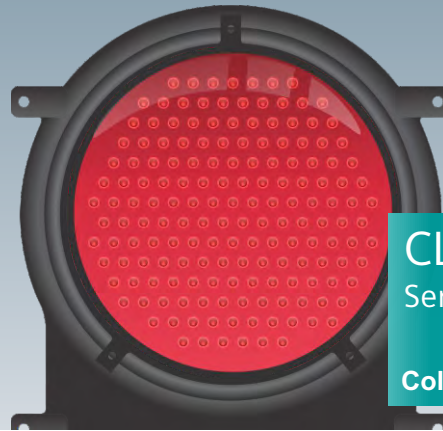
B48 - B49



CLS-20R Series
Mounting Brackets

B50





CLS-20R
Series

Colorlight Signaling Systems

Overview



*CLS-20R Colorlight Assembly for (2) Aspects shown for reference purposes only!
Actual unit selected may vary in mounting and features.*

SIEMENS CLS-20R color light signals have a rear-serviceable optical module which includes both inner and outer doublet lenses, as well as the prefocused lamp and socket. Both outer and inner lenses can be inspected, cleaned or replaced without going around to the front of the signal. The background and visor remain in place on the signal housing so the optical module is small, light in weight and easily handled.

The optical module assembly is built with a precision die cast aluminum body and lamp mounting. This assures that the optics will remain rigidly aligned during servicing and light output will be maintained. Doors are interlocked to prevent opening any door that may give less restrictive indication from light entering an open door. This maintains the convenience of individual doors without the possibility of displaying an improper aspect during servicing.

The outer housing is black painted precision die cast aluminum and provides space for AREMA® binding post type terminal blocks, resistors or transformers.

SIEMENS Part Number	Description
CLS-20R Housing	
NYK:044600-01X	CLS-20R Housing
CLS-20R Lenses and Lighting Modules	
NYK:044054-40	Clear 40° Deflection Lens
NYK:044054	Clear Center Deflection Lens
NYK:044603-L12-R	RED LED 12VDC Lighting Module
NYK:044603-L12-G	GREEN LED 12VDC Lighting Module
NYK:044603-L12-Y	YELLOW LED 12VDC Lighting Module
NYK:044603-L12-L	LUNAR LED 12VDC Lighting Module
CLS-20R Rods	
NYK:044036-1	Locking Rod (1) Aspect
NYK:044036-2	Locking Rod (2) Aspect
NYK:044036	Locking Rod (3) Aspect
NYK:044006-1X	Clamp On Sighting Tool (Requires NYK:044008-1X lifting bracket. See Page B31)
NYK:044004	Lampholder Post
NYK:044005	Lampholder Slide
NYK:042019-10	Bulb Socket



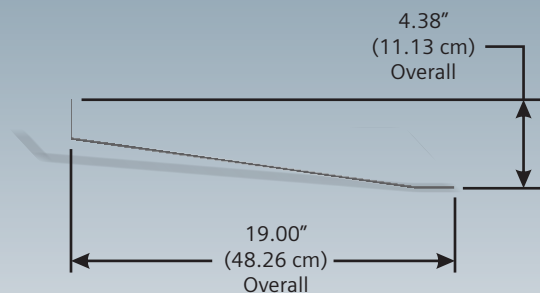
Wayside Systems Wayside Signaling Systems Products	SIEMENS Part Number	Description
	CLS-20R Aluminum Visors	
	NYK:042005-107	Aluminum 6 3/8" Long Visor w/o Hardware
	NYK:042005-107X	Aluminum 6 3/8" Long Visor w/ Hardware
	NYK:044018	Aluminum 12" Long Visor w/o Hardware
	NYK:044018-X	Aluminum 12" Long Visor w/ Hardware
	CLS-20R Polycarbonate Visors	
	NYK:042005-19	Polycarbonate 6 3/8" Long Visor w/o Hardware
	NYK:042005-19X	Polycarbonate 6 3/8" Long Visor w/ Hardware
	NYK:042005-147	Polycarbonate 16" Long Visor w/o Hardware
	NYK:042005-147X	Polycarbonate 16" Long Visor w/ Hardware
	CLS-20R Steel Visors	
	NYK:042005-35	Steel 6 3/8" Long Visor w/o Hardware
	NYK:042005-35X	Steel 6 3/8" Long Visor w/ Hardware
	NYK:042005-30	Steel 12" Long Visor w/o Hardware
	NYK:042005-30AX	Steel 12" Long Visor w/ Hardware

SIEMENS Part Number	Description
CLS-20R Aluminum Snowshields	
NYK:042005-130	(1) Aspect Aluminum w/o Hardware
NYK:042005-130X	(1) Aspect Aluminum w/ Hardware
NYK:042005-131	(2) Aspect Aluminum w/o Hardware
NYK:042005-131X	(2) Aspect Aluminum w/ Hardware
NYK:042005-130	(3) Aspect Aluminum w/o Hardware
NYK:042005-130X	(3) Aspect Aluminum w/ Hardware
CLS-20R Steel Snowshields	
NYK:042005-128	(1) Aspect Steel w/o Hardware
NYK:042005-128X	(1) Aspect Steel w/ Hardware
NYK:042005-125	(2) Aspect Steel w/o Hardware
NYK:042005-125X	(2) Aspect Steel w/ Hardware
NYK:042005-115	(3) Aspect Steel w/o Hardware
NYK:042005-115X	(3) Aspect Steel w/ Hardware

CLS-20R Series - Color Light Signals
Backgrounds

Wayside Systems Wayside Signaling Systems Products	SIEMENS Part Number	Description
	CLS-20R Aluminum Background	
	NYK:044021-5	(1) Aspect Aluminum w/o Hardware
	NYK:044021-X	(1) Aspect Aluminum w/ Hardware
	NYK:044020-7	(2) Aspect Aluminum w/o Hardware
	NYK:044020-X	(2) Aspect Aluminum w/ Hardware
	NYK:044019-11	(3) Aspect Aluminum w/o Hardware
	NYK:044019-X	(3) Aspect Aluminum w/ Hardware
	CLS-20R Polycarbonate Background	
	NYK:044021-4	(1) Aspect Polycarbonate w/o Hardware
	NYK:044021-1X	(1) Aspect Polycarbonate w/ Hardware
	NYK:044020-6	(2) Aspect Polycarbonate w/o Hardware
	NYK:044020-1X	(2) Aspect Polycarbonate w/ Hardware
	NYK:044019-10	(3) Aspect Polycarbonate w/o Hardware
	NYK:044019-1X	(3) Aspect Polycarbonate w/ Hardware
	CLS-20R Steel Background	
	NYK:044021-6	(1) Aspect Steel w/o Hardware
	NYK:044021-2X	(1) Aspect Steel w/ Hardware
	NYK:044020-8	(2) Aspect Steel w/o Hardware
	NYK:044020-2X	(2) Aspect Steel w/ Hardware
	NYK:044019-12	(3) Aspect Steel w/o Hardware
	NYK:044019-2X	(3) Aspect Steel w/ Hardware

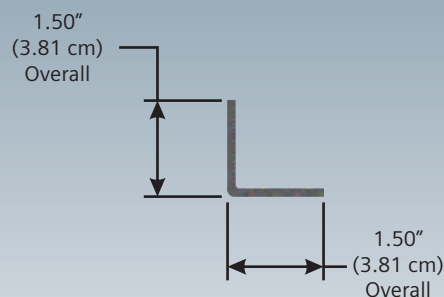
NYK:042005-134



CLS-20R, Visor Brace

- Weight is approx. 0.38 lbs. (0.17 kgs.)
- Aluminum construction
- NO mounting hardware

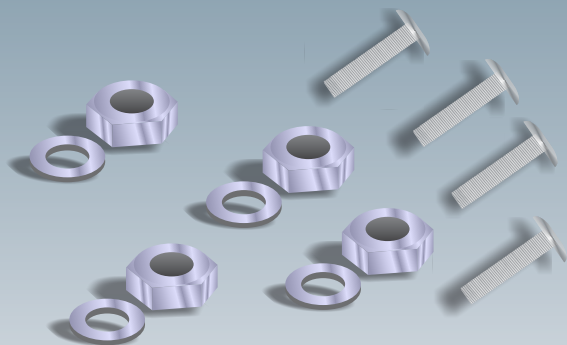
NYK:042005-135



CLS-20R, Visor Brace Angle

- Weight is approx. 0.20 lbs. (0.09 kgs.)
- Aluminum construction
- NO mounting hardware

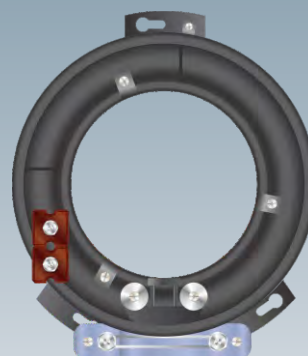
NYK:042077-500X



Hardware Kit for Visors, Snowshields and Backgrounds

- Weight is approx. 0.5 lbs. (0.23 kgs.)
- (8) 002590-TEJ mach truss head bolt
- (4) 023832 AAR clamp nuts
- (4) 023834 AAR beveled washers

NYK:044603-9GX



CLS-20R, Lens Bracket

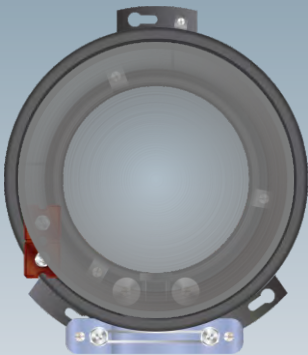
- Weight is approx. 5.0 lbs. (2.27 kgs.)
- Aluminum construction
- NO mounting hardware

NYK:044008-1X



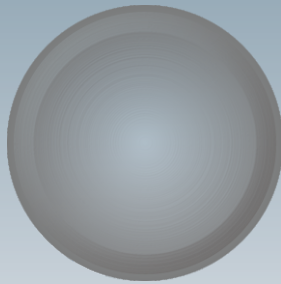
- CLS-20R Module Lifting Bracket**
- Weight is approx. 1.6 lbs. (0.73 kgs.)
 - Aluminum construction
 - NO mounting hardware

NYK:044603-1RX



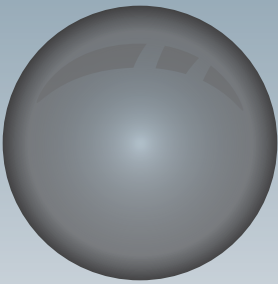
- Lens Bracket Assembly**
- Weight is approx. 5.0 lbs. (2.27 kgs.)
 - Aluminum construction
 - NO mounting hardware

NYK:042258-2



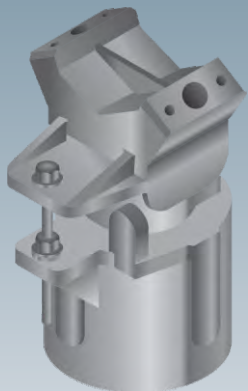
- CLS Anti Phantom Screen Lens**
- Weight is approx. 0.5 lbs. (0.23 kgs.)

NYK:044607-BX



- CLS Blackout Lens Kit**
- Weight is approx. 0.3 lbs. (0.13 kgs.)
 - Includes blackout lens and gasket

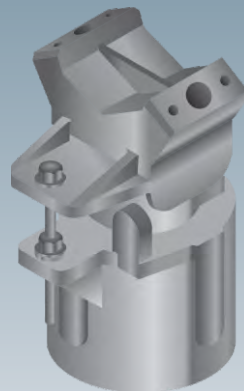
NYK:044011-4X



Top of Mast Bracket

- Weight is approx. 15.5 lbs. (7.03 kgs.)
- Aluminum construction
- Includes mounting hardware

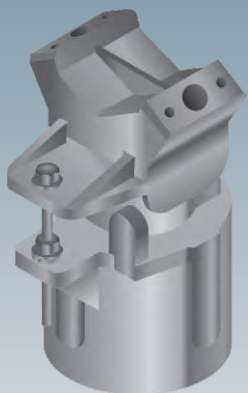
NYK:044011-5X



Top of Mast Bracket

- Weight is approx. 15.5 lbs. (7.03 kgs.)
- Aluminum construction
- Includes mounting hardware

NYK:044011-14X



Top of Mast Bracket

- Weight is approx. 15.5 lbs. (7.03 kgs.)
- Aluminum construction
- Includes mounting hardware

Wayside Wireless Pole Line Products



WAG Series
Wireless Access Gateways

B51 - B52



ESSR Series
Ethernet Spread Spectrum Radios

B53 - B54



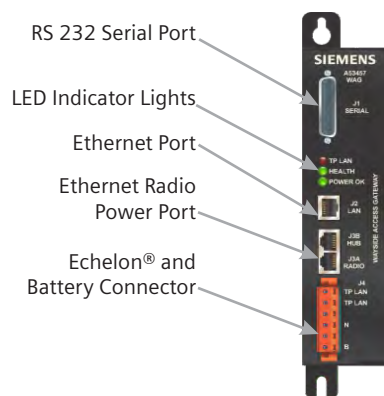
HD Link Modules

B55 - B56





Overview



*Model A53355 ESSR Series Ethernet Spread Spectrum Radio shown for reference purposes only!
Actual unit selected may vary in mounting and features.*

SIEMENS WAG Series Wireless Access Gateway offers a reliable and simple method of attaching legacy field devices to your corporate WAN without breaking the bank.

WAG Series converts Echelon® messages to industry standard ethernet messages. This connectivity allows the WAG to communicate to ethernet networks through other wireless pole line products such as the HD / Link module and the Ethernet Spread Spectrum Radio (ESSR).

WAG Series connects vital and non-vital field equipment using industry standard protocols and off the shelf IT hardware.

Features

- Echelon®, ethernet and serial communications media converter
- Isolated from battery supply
- Advanced Train Control Systems (ATCS) Specification 200, Version 4.0 Communications Systems Architecture addressable for intelligent message routing
- Connects communications between various Grade Crossing Control Systems Products such as Grade Crossing Predictor (GCP) series, Intelligent Lights Out Detectors (iLod) and Analyzer / Event Recorders (SEAR II) series to Wayside Wireless Pole Line Products such as HD / Link Module and Ethernet Spread Spectrum Radios (ESSR)

WAG Series units can be configured individually utilizing Microsoft® HyperTerminal, or can be configured globally over network utilizing Telnet software.

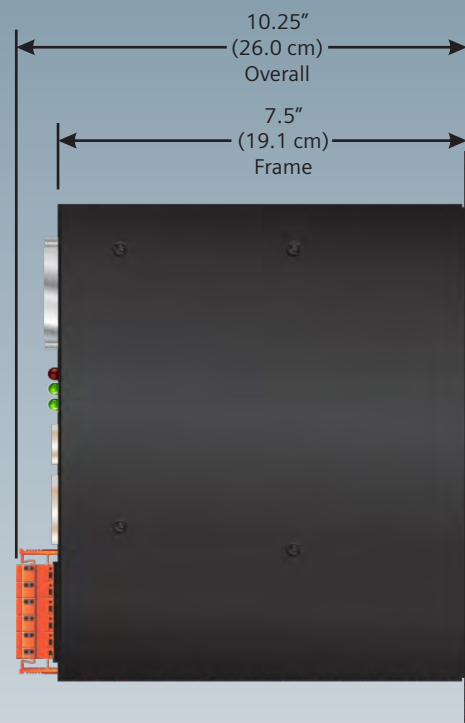
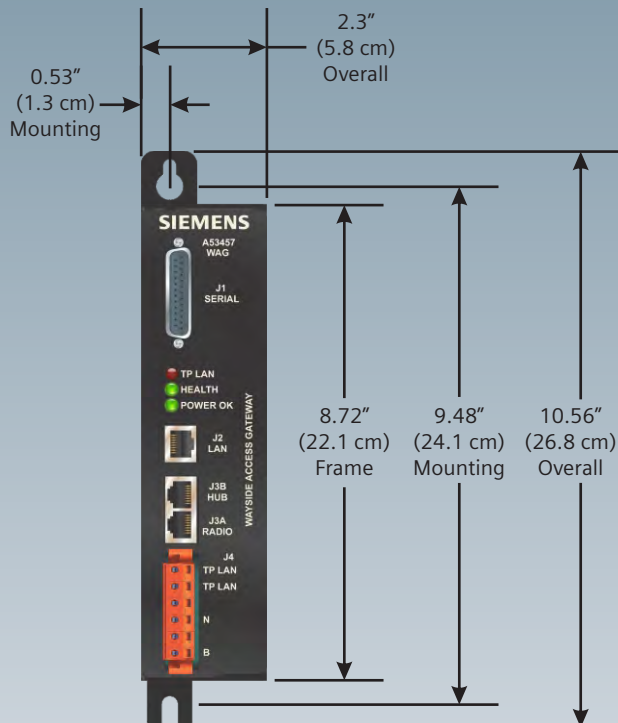
Embedded configuration tools and simple to use menu selections make it easy to set up, run diagnostics and create detailed operational logs either locally or remotely.

NYK:9000534570002



- Converts Echelon® messages to ethernet messages
- Easily mountable on standard relay racks, instrument house backboards or can even be shelf mounted when removing included mounting bracket
- Weight is approx. 4 lbs. (1.81 kgs.) including connectors
- Operates in -40° F to +160° F (-40°C to +70°C) @ up to 95% Non-Condensing Relative Humidity
- (1) RS 232 Serial Port at 115 Kbps transfer rate
- (1) Ethernet radio port at 100 Mbps transfer rate
- (1) Echelon® port at 1.25 Mbps transfer rate
- 12 VDC, 60 Hz power voltage
- ATCS Specification 200, Version 4.0 (Type 3 or Type 7) addressability
- Includes network converter module

Applicable for A53457 WAG Series Wireless Access Gateways

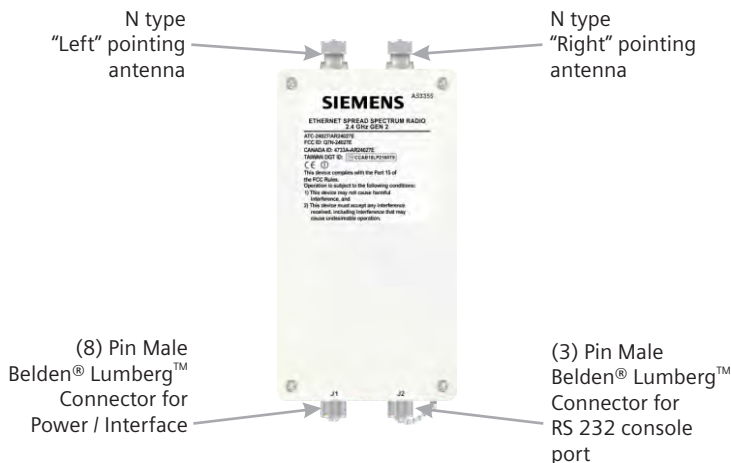




ESSR Series

Ethernet Spread Spectrum Radios

Overview



*Model A53355 ESSR Series Ethernet Spread Spectrum Radio shown for reference purposes only!
Actual unit selected may vary in mounting and features.*

SIEMENS ESSR Series Ethernet Spread Spectrum Radio Series offers the ability to establish point to point, point to multipoint, linear, tree and roaming networks without the expense, labor and time involved in installing cables.

ESSR Series connects vital and non-vital field equipment using industry standard protocols and off the shelf IT hardware. Can be used as a stand alone direct connection through ethernet protocols or as a bridge to serial or Echelon® connections when used in conjunction with a **SIEMENS** WAG Series Wireless Access Gateway unit.

Able to join multiple segment networks across multiple channels without the concern of interfering with each other.

Able to access data logs as well as configure networks easily either through a laptop connected to any node or monitor locations with SNMP based systems.

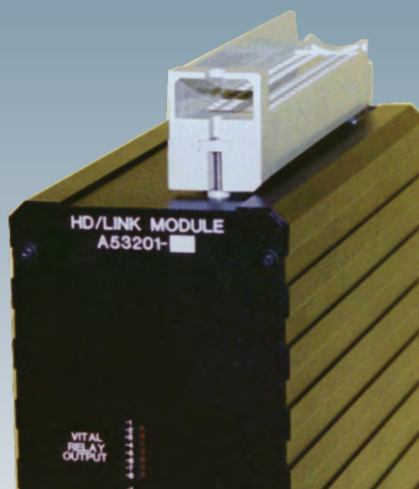
Features

- Radio frequency rate of up to 2.7 Mbps
- Secure RF protocols for vital train control systems
- Intelligent routing for vital, high and normal priority level messages
- Low latency messaging for critical point to point applications
- Intelligent tools for spectrum and network analysis
- Single hop ranges of up to 80 km with clear line of sight

ESSR Series units can be configured individually for data rate and minimum received signal level to suit application requirements. Can also be configured to accommodate the time division duplex cycle time to optimize network throughput and latency.

ESSR Series units can be deployed one node at a time and can be extended at any time by adding additional nodes. Encased in a weather resistant housing that allows the ESSR Series unit to be mounted in close proximity to transmission antenna without the concern of RF loss due to long, expensive cabling.

SIEMENS Part Number	Signal Bandwidth	Options	Mounting Bracket	Power Source	Channel Blocking	Encryption Type		Firmware Configuration		
						DES 56	AES 128	ATC	TDD	Cluster Hub
NYK:9000533550001	4.6 MHz	Tree	V Pole			X			X	
NYK:9000533550002	4.6 MHz		V Pole			X		X		
NYK:9000533550003	4.6 MHz		V Pole		X	X		X		
NYK:9000533550004	4.6 MHz	Tree	V Pole			X			X	
NYK:9000533550005	4.6 MHz		V Pole			X				X
NYK:9000533550006	4.6 MHz		V Pole	AC Inserter Euro Cord		X				X
NYK:9000533550007	4.6 MHz	Tree / RM	V Pole		X	X			X	
NYK:9000533550008	4.6 MHz	Tree	V Pole		X		X		X	
NYK:9000533550013	AC Inserter Euro Cord		V Pole				X			X
NYK:9000533550014		Tree / RM	V Pole				X		X	
NYK:9000533550015			V Pole	AC Inserter US Cord	X		X			X
NYK:9000533550016			V Pole	AC Inserter US Cord	X	X				X
NYK:9000533550009			V Pole				X	X		
NYK:9000533550010			V Pole				X	X		
NYK:9000533550011		Tree	V Pole	AC Inserter US Cord	X		X		X	
NYK:9000533550012			V Pole		X		X			X
NYK:9000533550017				DC Inserter w/ Pigtail		X				X
NYK:9000533550018		Tree	V Pole	AC Inserter Euro Cord		X			X	
NYK:9000533550019		Tree / RM	V Pole	AC Inserter US Cord	X	X			X	
NYK:9000533550020				AC Inserter Euro Cord	X	X				X
NYK:9000533550021				AC Inserter Euro Cord		X				X
NYK:9000533550022						X				X
NYK:9000533550023						X				X
NYK:9000533550024				DC Inserter w/ Pigtail		X				X



HD Link Modules

Overview



*Model A53201 HD Link Module shown for reference purposes only!
Actual unit selected may vary in mounting and features.*

SIEMENS HD Link™ is designed to be used in conjunction with a Ethernet Spread Spectrum Radio (ESSR), in order to function in a communications network system as a vital I/O unit.

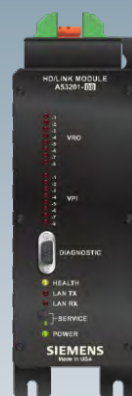
An HD Link™ system provides the capability to read the state of a vital input at one location, typically a relay contact, and use this input state to drive a vital output, typically a relay coil, at the same or another location.

NYK:9000532010004



- Weight is approx. 4 lbs. (1.81 kgs.)
- Operates in -40° F to +160° F (-40°C to +70°C) @ up to 95% Non-Condensing Relative Humidity
- (4) I/O circuits
- NO serial EPROM

NYK:9000532010008



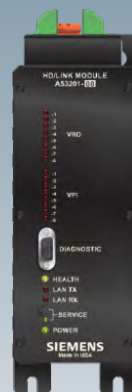
- Weight is approx. 4 lbs. (1.81 kgs.)
- Operates in -40° F to +160° F (-40°C to +70°C) @ up to 95% Non-Condensing Relative Humidity
- (8) I/O circuits
- NO serial EPROM

NYK:9000532010014



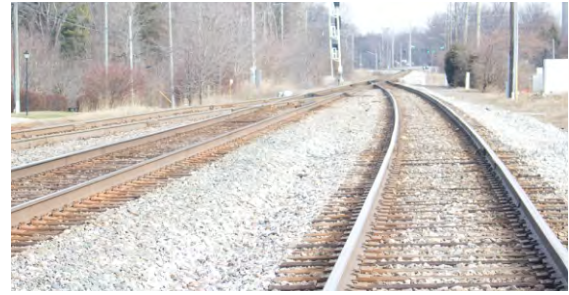
- Weight is approx. 4.2 lbs. (1.91 kgs.)
- Operates in -40° F to +160° F (-40°C to +70°C) @ up to 95% Non-Condensing Relative Humidity
- (4) I/O circuits
- (1) 9000-53122-0001 serial EPROM

NYK:9000532010018



- Weight is approx. 4.2 lbs. (1.91 kgs.)
- Operates in -40° F to +160° F (-40°C to +70°C) @ up to 95% Non-Condensing Relative Humidity
- (8) I/O circuits
- (1) 9000-53122-0001 serial EPROM

Track Circuit Systems Products



Clearguard® PSO Series
Phase Shift Overlay
Track Circuit Modules

C1 - C4



IPITC Series
Intelligent Processor Island
Track Circuit Modules

C5 - C8



Clearguard® SE-3 Series
Steady Energy Phase Selective
Track Circuit Modules

C9 - C12



ST Series
Track Feed Reactors

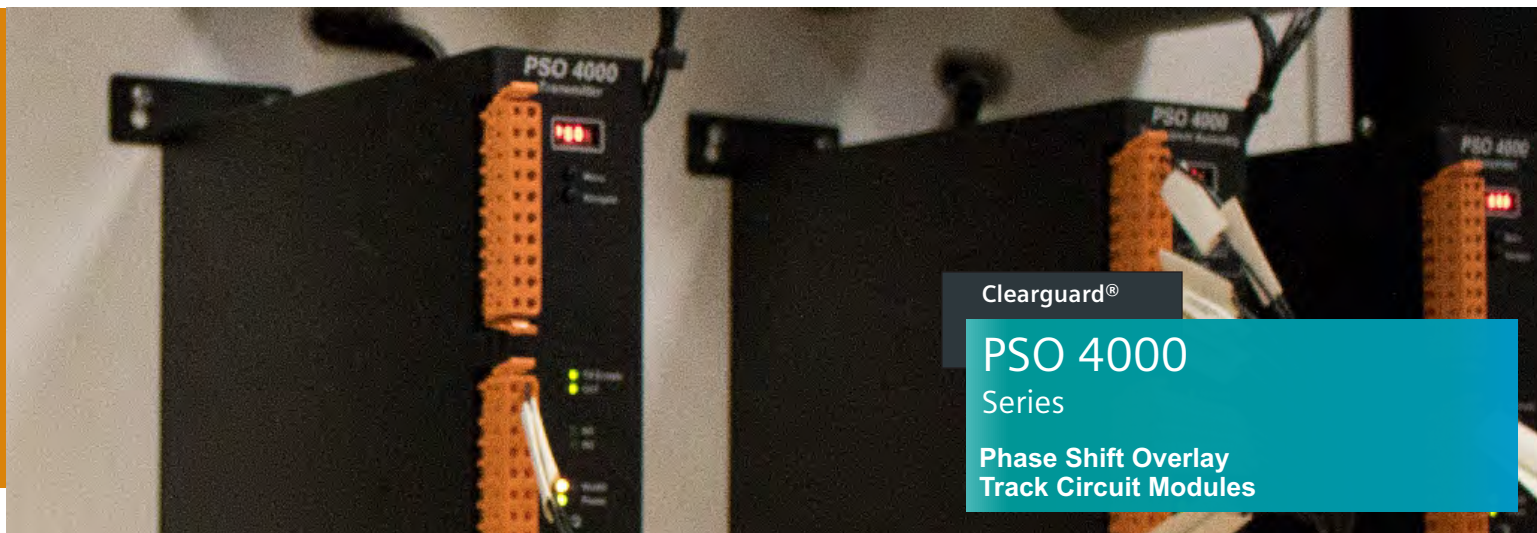
C13 - C16



SOTC Series
Series Overlay
Track Circuit Modules

C17 - C20





Overview



PSO 4000 Series Phase Shift Overlay Track Circuit Modules shown for reference purposes only! Actual unit selected may vary in mounting and features.

SIEMENS Clearguard® PSO 4000 Series Phase Shift Overlay Track Circuit Modules provides track occupancy information for a train detection system.

They offer a reliable and secure, microprocessor based, vital system for use in a variety of complex installations.

They are able to differentiate between its operation signal and all other signals present on the track is due to the non-symmetrical coded modulation and receiver decoding techniques which ensure that the systems is immune to random or foreign AM, FM and beat signals.

Features

- Vital processor based
- Available in Transmitter, Receiver, Transceiver and Crossing Modules
- Programmable for all common PSO II and III, AFTAC and METRA carrier channels
- Internally programmable pick-up and drop delay times
- PSO channels compatible with existing PSO-II and PSO-III equipment
- Program selectable modulation codes "A," "C," (8 bit) "D" "E" and "F" (16 bit)
- Ability to dynamically select codes via vital inputs or ATCS interface

NYK:70007A4710001



Transmitter Module

- Weight is approx. 6.1 lbs. (2.77 kgs.) including connectors.
- Quiescent power consumption is approx. 0.85 A @ 9 V
- Operates in -40° F to +160° F (-40°C to +70°C) @ up to 90% Non-Condensing Relative Humidity
- Frequency stability is $\pm 0.01\%$ (Hz) of the selected frequency
- Frequency modulation with 8 bit serial address
- Track transmitter load 25 Ω
- Track receiver load 250 Ω
- Relay coil resistance 400 Ω - 1,000 Ω
- Input power supply can be 9VDC, 12VDC (nominal) or 16.5VDC
- Power supply ripple is 1.0VDC Peak to Peak maximum
- (2) Vital inputs

NYK:70007A4730001



Receiver Module

- Weight is approx. 6.1 lbs. (2.77 kgs.) including connectors.
- Quiescent power consumption is approx. 1.02 A @ 9 V
- Operates in -40° F to +160° F (-40°C to +70°C) @ up to 90% Non-Condensing Relative Humidity
- Frequency stability is $\pm 0.01\%$ (Hz) of the selected frequency
- Frequency modulation with 8 bit serial address
- Track transmitter load 25 Ω
- Track receiver load 250 Ω
- Relay coil resistance 400 Ω - 1,000 Ω
- Input power supply can be 9VDC, 12VDC (nominal) or 16.5VDC
- Power supply ripple is 1.0VDC Peak to Peak maximum
- (2) Vital inputs
- (3) Vital relay outputs

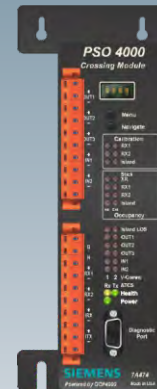
NYK:70007A4750001



Transceiver Module

- Weight is approx. 6.1 lbs. (2.77 kgs.) including connectors.
- Quiescent power consumption is approx. 1.12 A @ 9 V
- Operates in -40° F to +160° F (-40°C to +70°C) @ up to 90% Non-Condensing Relative Humidity
- Frequency stability is $\pm 0.01\%$ (Hz) of the selected frequency
- Frequency modulation with 8 bit serial address
- Track transmitter load 25 Ω
- Track receiver load 250 Ω
- Relay coil resistance 400 Ω - 1,000 Ω
- Input power supply can be 9VDC, 12VDC (nominal) or 16.5VDC
- Power supply ripple is 1.0VDC Peak to Peak maximum
- (2) Vital inputs
- (3) Vital relay outputs

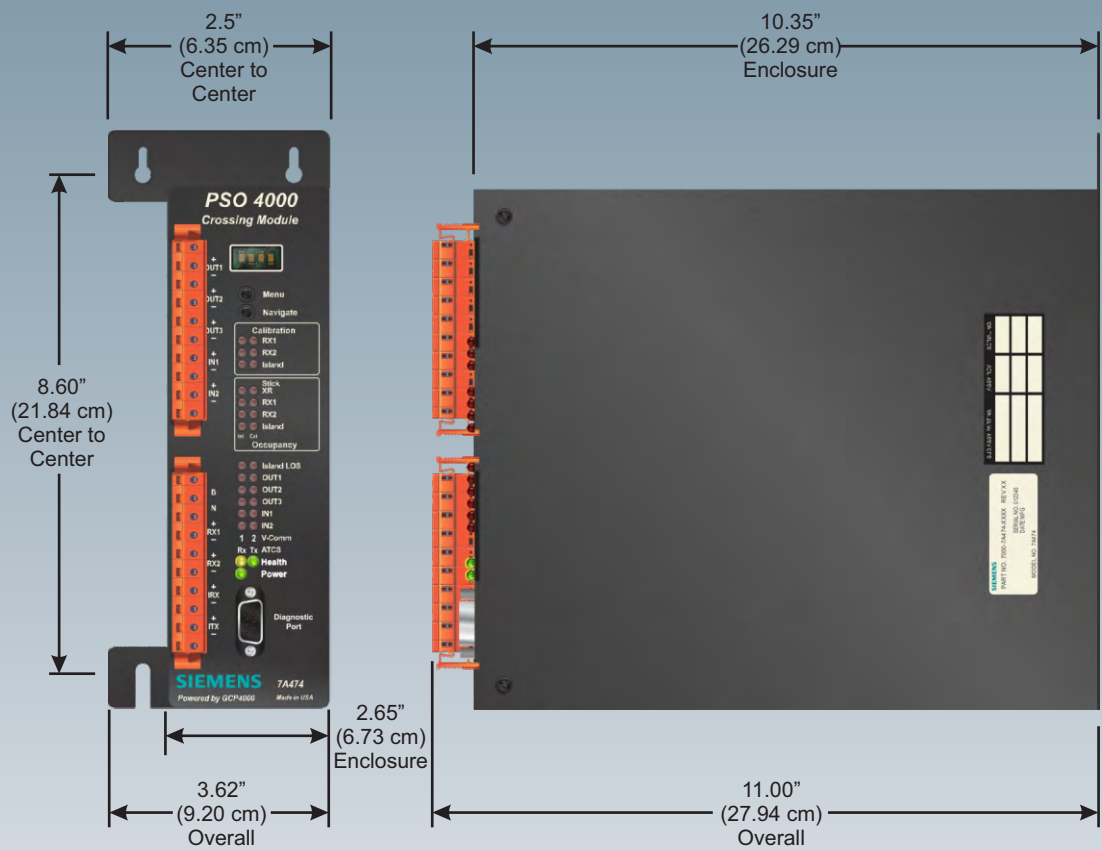
NYK:70007A4740001

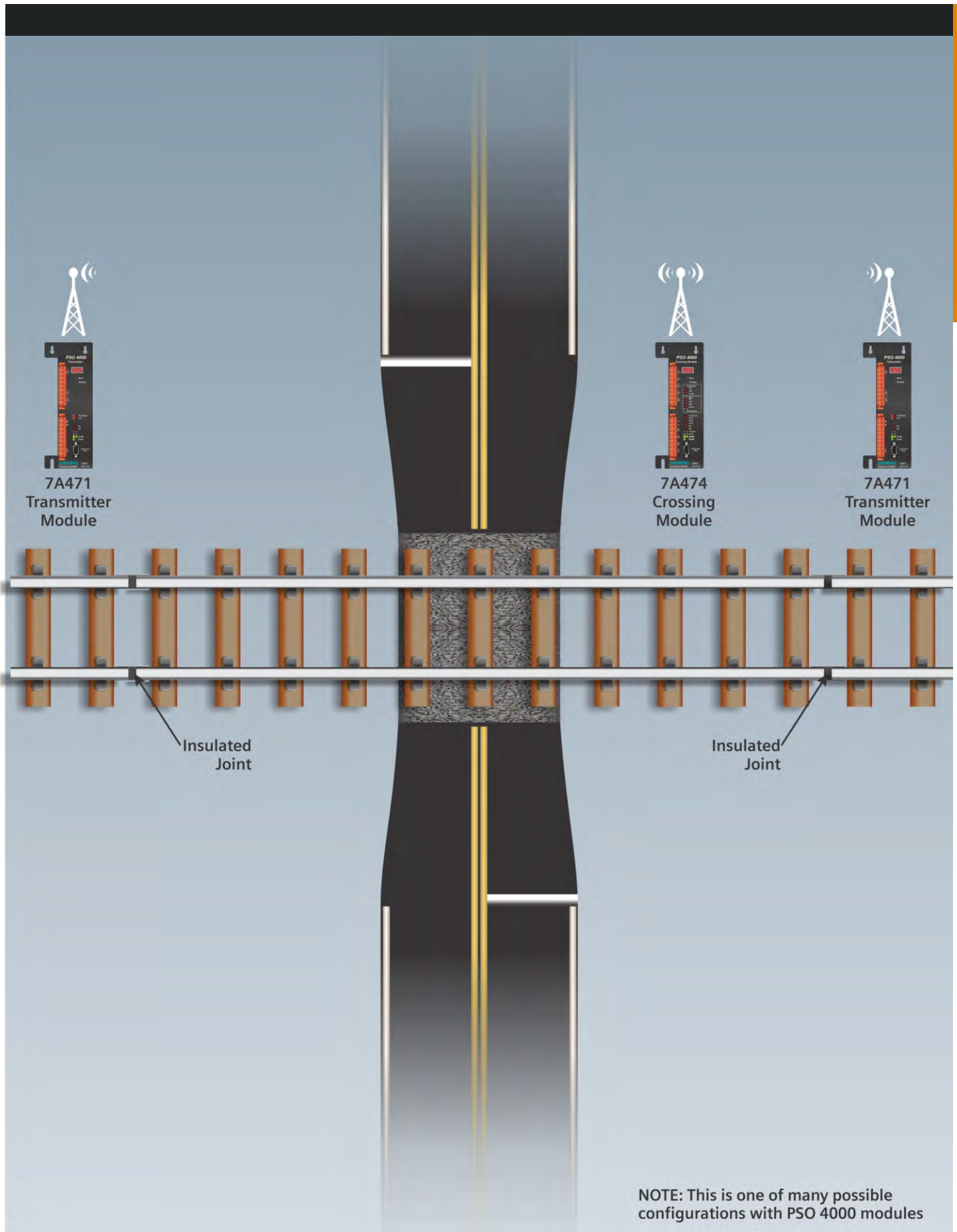


Crossing Module

- Weight is approx. 6.1 lbs. (2.77 kgs.) including connectors.
- Quiescent power consumption is approx. 0.87 A @ 9 V
- Operates in -40° F to +160° F (-40°C to +70°C) @ up to 90% Non-Condensing Relative Humidity
- Frequency stability is $\pm 0.01\%$ (Hz) of the selected frequency
- Frequency modulation with 8 bit serial address
- Track transmitter load 25 Ω
- Track receiver load 250 Ω
- Relay coil resistance 400 Ω - 1,000 Ω
- Input power supply can be 9VDC, 12VDC (nominal) or 16.5VDC
- Power supply ripple is 1.0VDC Peak to Peak maximum
- (2) Vital inputs
- (3) Vital relay outputs

Applicable for all Clearguard® PSO 4000 Series - Phase Shift Overlay Track Circuit Modules







Overview

Transmitter Output
Connections

Receiver Input
Connections



Model A71150 Clearguard® IPITC Series Intelligent Processor Island Track Circuit Module shown for reference purposes only!
Actual unit selected may vary in mounting and features.

SIEMENS Clearguard® IPITC Series Intelligent Processor Island Track Circuit Module provides a stand alone island circuit solution at grade crossings.

Unit is a single board, microprocessor based, multi-frequency, modulated, short range (120' - 350' [37 - 107m]) track occupancy detector.

Designed to detect poor shunting conditions and provides a simple automated process for track circuit calibration.

Module is frequency programmable via an on board jumper and the operating program is contained in a flash memory device on board.

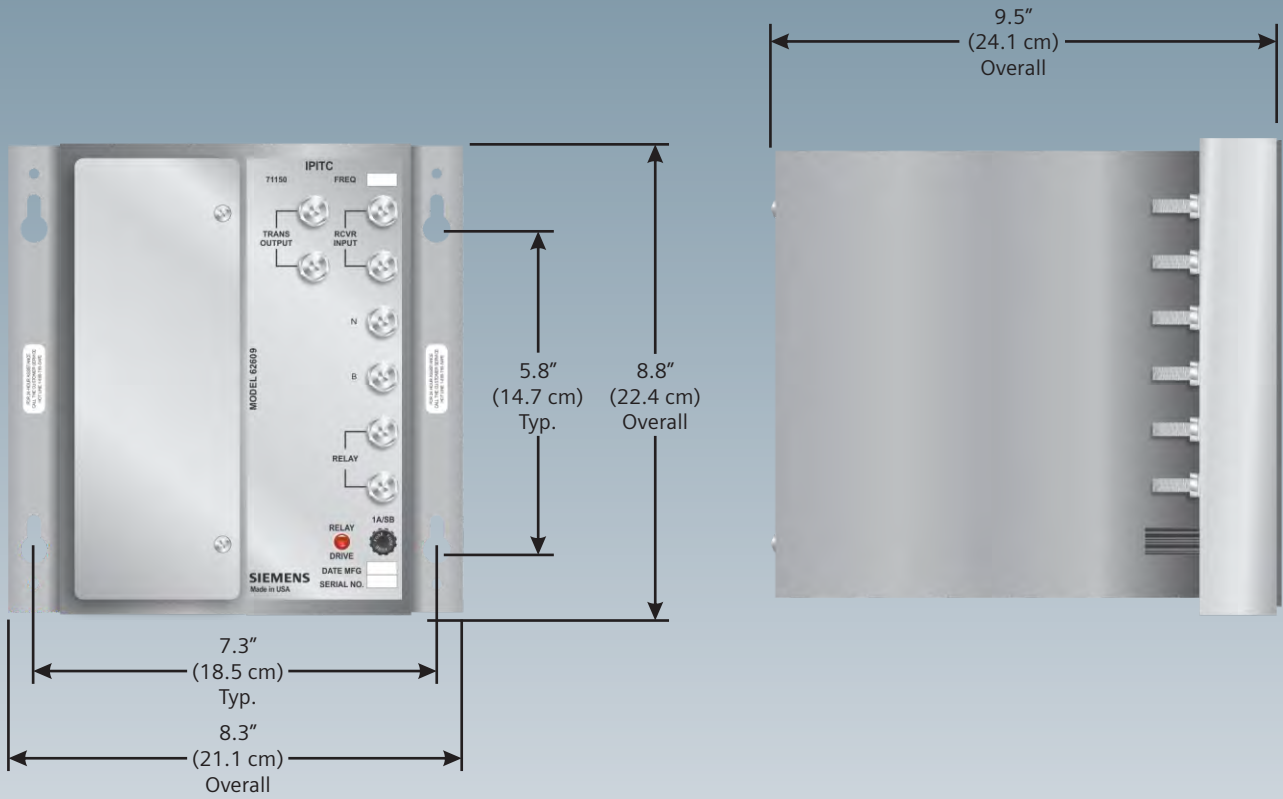
Direct replacement for legacy Short Modulated Track Circuit (SMTC) series.

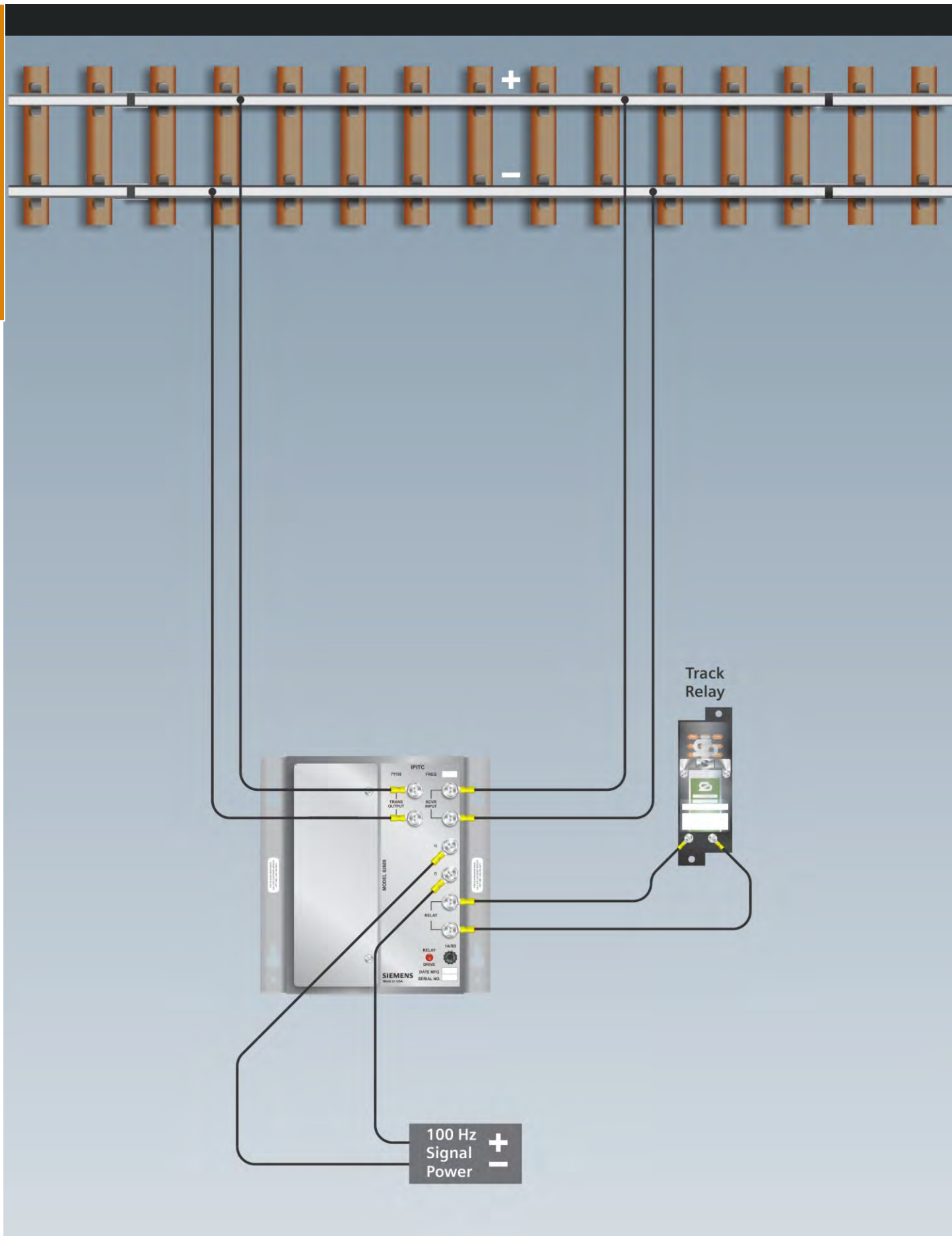
NYK:7000711500001



- Microprocessor based
- Weight is approx. 5.0 lbs. (2.27 kgs.)
- Operates in -40° F to +160° F (-40°C to +70°C) @ up to 95% Non-Condensing Relative Humidity
- 9 - 16.5 VDC Input voltage
- 550mA VDC Input current (nominal)
- 0.1 Amp Transmitter output current (maximum)
- Field selectable frequencies: 2.14 kHz, 2.63 kHz, 3.24 kHz, 4.00 kHz, 4.90 kHz, 5.90 kHz, 7.10 kHz, 8.30 kHz, 10.0 kHz, 11.5 kHz, 13.2 kHz, 15.2 kHz, 17.5 kHz and 20.2 kHz

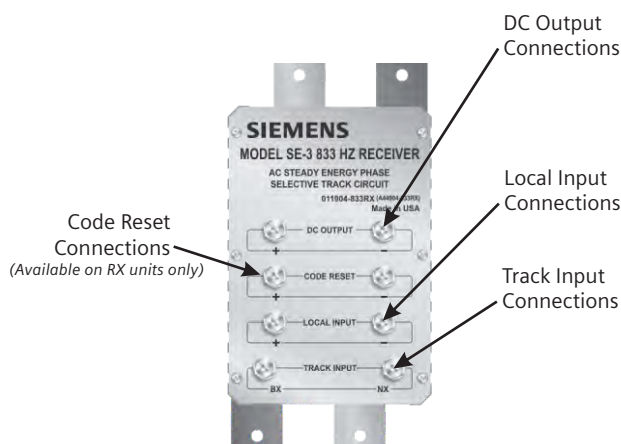
Applicable for all Clearguard® IPITC Series - Intelligent Processor Island Track Circuit Module







Overview



Model A44904 SE-3 Series Steady Energy Phase Selective Track Circuit Module shown for reference purposes only! Actual unit selected may vary in mounting and features.

SIEMENS Clearguard® SE-3 Series Steady Energy Phase Selective Track Circuit Modules provides a solution where traction or other severe electromagnetic interference conditions could interfere with signaling circuits.

Designed to detect train presence and/or broken rail conditions in electric traction territory, or where high levels of induced AC interference occur.

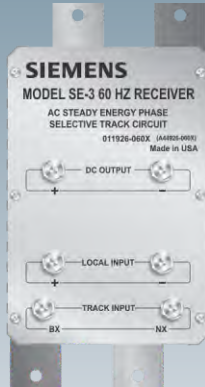
They can be used in conjunction with impedance bonds for traction current return or with either balanced or unbalanced (single rail) track circuits using insulated joints without impedance bonds.

They are solid state and requires no regular maintenance. They are a passive component design, utilizing no active electronic circuits.

Features

- Available in (8) configurations;
- Rejects all AC traction frequencies
- No active internal electronics
- Compatible with coded cab signal systems
- Mutually compatible with audio frequency track circuits
- Code reset option resets the track feed to steady energy after the block is cleared.

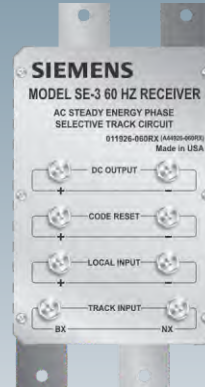
NYK:400044926060X



SE-3 60Hz Receiver Module

- Meets or exceeds applicable AREMA® specifications
- Weight is approx. 14.0 lbs. (6.35 kgs.) including hardware
- Operates in -40° F to +160° F (-40°C to +70°C) @ up to 95% Non-Condensing Relative Humidity
- 91.7 Hz receiving frequency
- (1) pair DC outputs (to track relay)
- (1) pair local inputs (to inverter)
- (1) pair track inputs (to track transformer)
- 40° ± 20° Phase angle relationship
- 200 - 500 mΩ shunting sensitivity

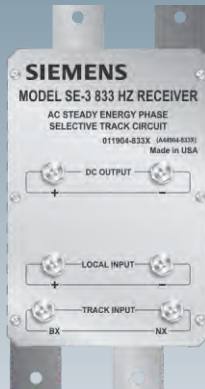
NYK:400044926060RX



SE-3 60 Hz Receiver Module with Code Reset

- Meets or exceeds applicable AREMA® specifications
- Weight is approx. 14.0 lbs. (6.35 kgs.) including hardware
- Operates in -40° F to +160° F (-40°C to +70°C) @ up to 95% Non-Condensing Relative Humidity
- 91.7 Hz receiving frequency
- (1) pair DC outputs (to track relay)
- (1) pair local inputs (to inverter)
- (1) pair track inputs (to track transformer)
- (1) pair code reset outputs (to code recognition system)
- 40° ± 20° Phase angle relationship
- 200 - 500 mΩ shunting sensitivity

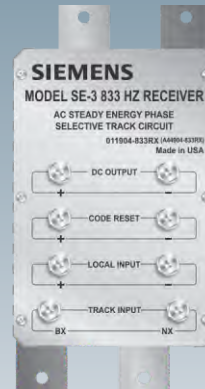
NYK:400044904833X



SE-3 83.3Hz Receiver Module

- Meets or exceeds applicable AREMA® specifications
- Weight is approx. 14.0 lbs. (6.35 kgs.) including hardware
- Operates in -40° F to +160° F (-40°C to +70°C) @ up to 95% Non-Condensing Relative Humidity
- 100 Hz receiving frequency
- (1) pair DC outputs (to track relay)
- (1) pair local inputs (to inverter)
- (1) pair track inputs (to track transformer)
- 40° ± 20° Phase angle relationship
- 200 - 500 mΩ shunting sensitivity

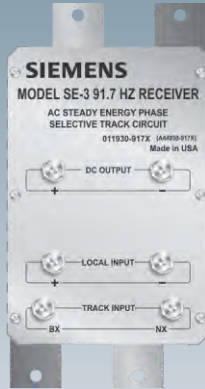
NYK:400044904833RX



SE-3 83.3Hz Receiver Module with Code Reset

- Meets or exceeds applicable AREMA® specifications
- Weight is approx. 14.0 lbs. (6.35 kgs.) including hardware
- Operates in -40° F to +160° F (-40°C to +70°C) @ up to 95% Non-Condensing Relative Humidity
- 100 Hz receiving frequency
- (1) pair DC outputs (to track relay)
- (1) pair local inputs (to inverter)
- (1) pair track inputs (to track transformer)
- (1) pair code reset outputs (to code recognition system)
- 40° ± 20° Phase angle relationship
- 200 - 500 mΩ shunting sensitivity

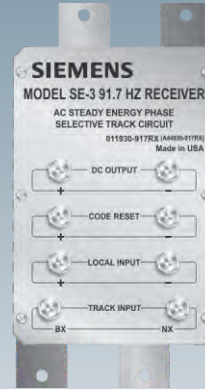
NYK:400044930917X



SE-3 91.7Hz Receiver Module

- Meets or exceeds applicable AREMA® specifications
- Weight is approx. 14.0 lbs. (6.35 kgs.) including hardware
- Operates in -40° F to +160° F (-40°C to +70°C) @ up to 95% Non-Condensing Relative Humidity
- 91.7 Hz receiving frequency
- (1) pair DC outputs (to track relay)
- (1) pair local inputs (to inverter)
- (1) pair track inputs (to track transformer)
- 40° ± 20° Phase angle relationship
- 200 - 500 mΩ shunting sensitivity

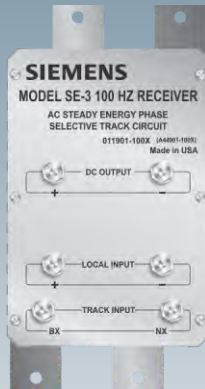
NYK:400044930917RX



SE-3 91.7Hz Receiver Module with Code Reset

- Meets or exceeds applicable AREMA® specifications
- Weight is approx. 14.0 lbs. (6.35 kgs.) including hardware
- Operates in -40° F to +160° F (-40°C to +70°C) @ up to 95% Non-Condensing Relative Humidity
- 91.7 Hz receiving frequency
- (1) pair DC outputs (to track relay)
- (1) pair local inputs (to inverter)
- (1) pair track inputs (to track transformer)
- (1) pair code reset outputs (to code recognition system)
- 40° ± 20° Phase angle relationship
- 200 - 500 mΩ shunting sensitivity

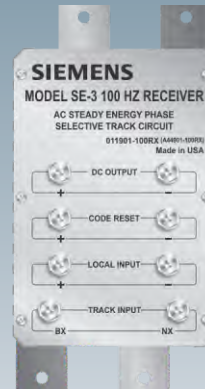
NYK:400044901100X



SE-3 100Hz Receiver Module

- Meets or exceeds applicable AREMA® specifications
- Weight is approx. 14.0 lbs. (6.35 kgs.) including hardware
- Operates in -40° F to +160° F (-40°C to +70°C) @ up to 95% Non-Condensing Relative Humidity
- 100 Hz receiving frequency
- (1) pair DC outputs (to track relay)
- (1) pair local inputs (to inverter)
- (1) pair track inputs (to track transformer)
- 40° ± 20° Phase angle relationship
- 200 - 500 mΩ shunting sensitivity

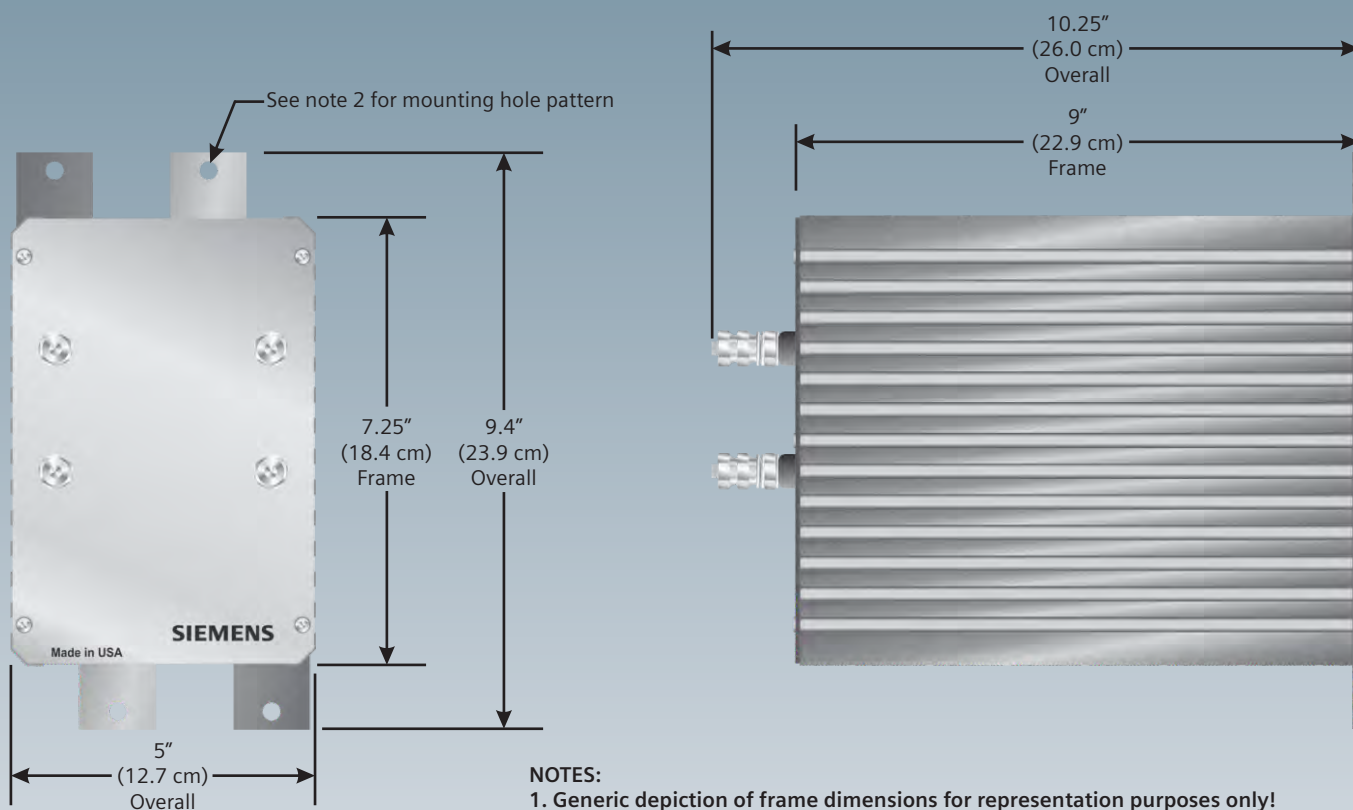
NYK:400044901100RX



SE-3 100Hz Receiver Module with Code Reset

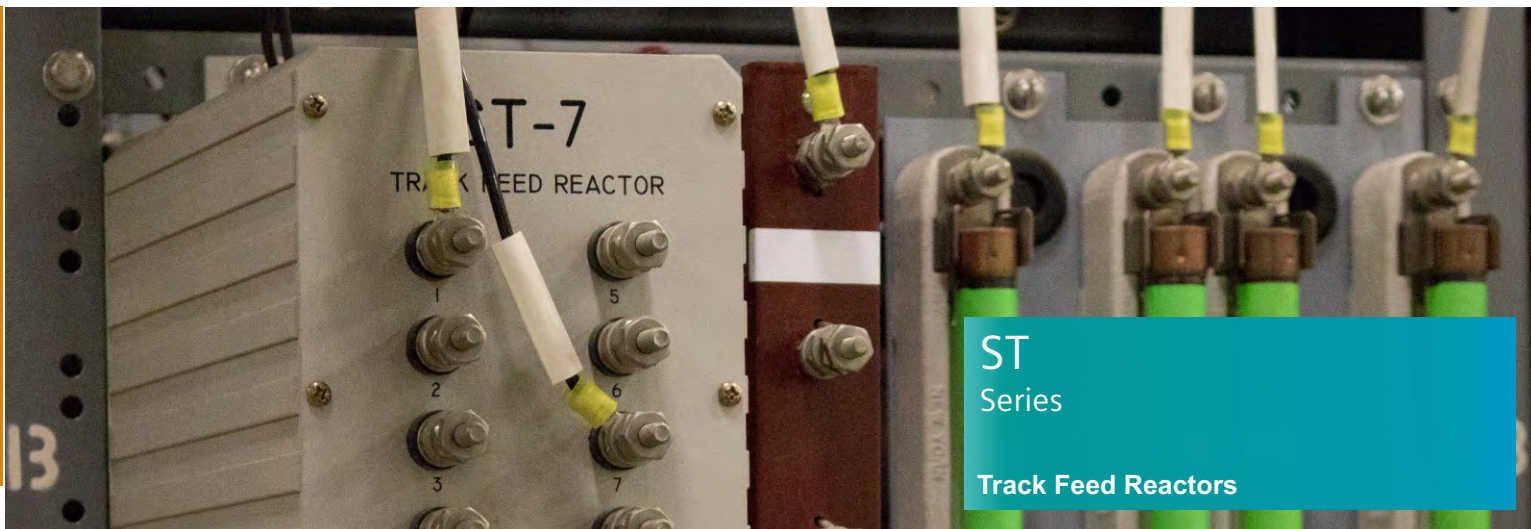
- Meets or exceeds applicable AREMA® specifications
- Weight is approx. 14.0 lbs. (6.35 kgs.) including hardware
- Operates in -40° F to +160° F (-40°C to +70°C) @ up to 95% Non-Condensing Relative Humidity
- 100 Hz receiving frequency
- (1) pair DC outputs (to track relay)
- (1) pair local inputs (to inverter)
- (1) pair track inputs (to track transformer)
- (1) pair code reset outputs (to code recognition system)
- 40° ± 20° Phase angle relationship
- 200 - 500 mΩ shunting sensitivity

Applicable for all Clearguard® SE-3 Series - Steady Energy Phase Selective Track Circuit Modules



NOTES:

1. Generic depiction of frame dimensions for representation purposes only!
2. Staggered mounting bracket hole pattern is 3" (7.6 cm) on center and matches relay bar mounting hole configuration for center to center dimensions.



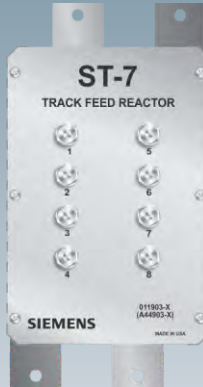
Overview



*Model A44903 ST-7 Series Track Feed Reactors
shown for reference purposes only!
Actual unit selected may vary in mounting and features.*

SIEMENS ST Series Track Feed Reactors varies the amount of phase shift desired in the track circuit. Available in (3) models with varying inductance loads to accommodate wide variety of track design needs.

NYK:400044903000X



ST-7 Track Feed Reactor

- Meets or exceeds applicable AREMA® specifications
- Weight is approx. 6.5 lbs. (2.95 kgs.) including hardware
- Operates in -40° F to +160° F (-40°C to +70°C) @ up to 95% Non-Condensing Relative Humidity
- 0.09 mH - 2.0 mH inductance

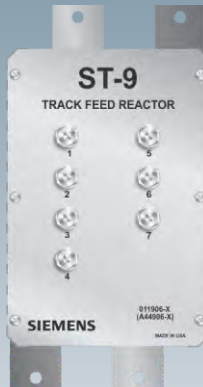
NYK:400044909000X



ST-8 Track Feed Reactor

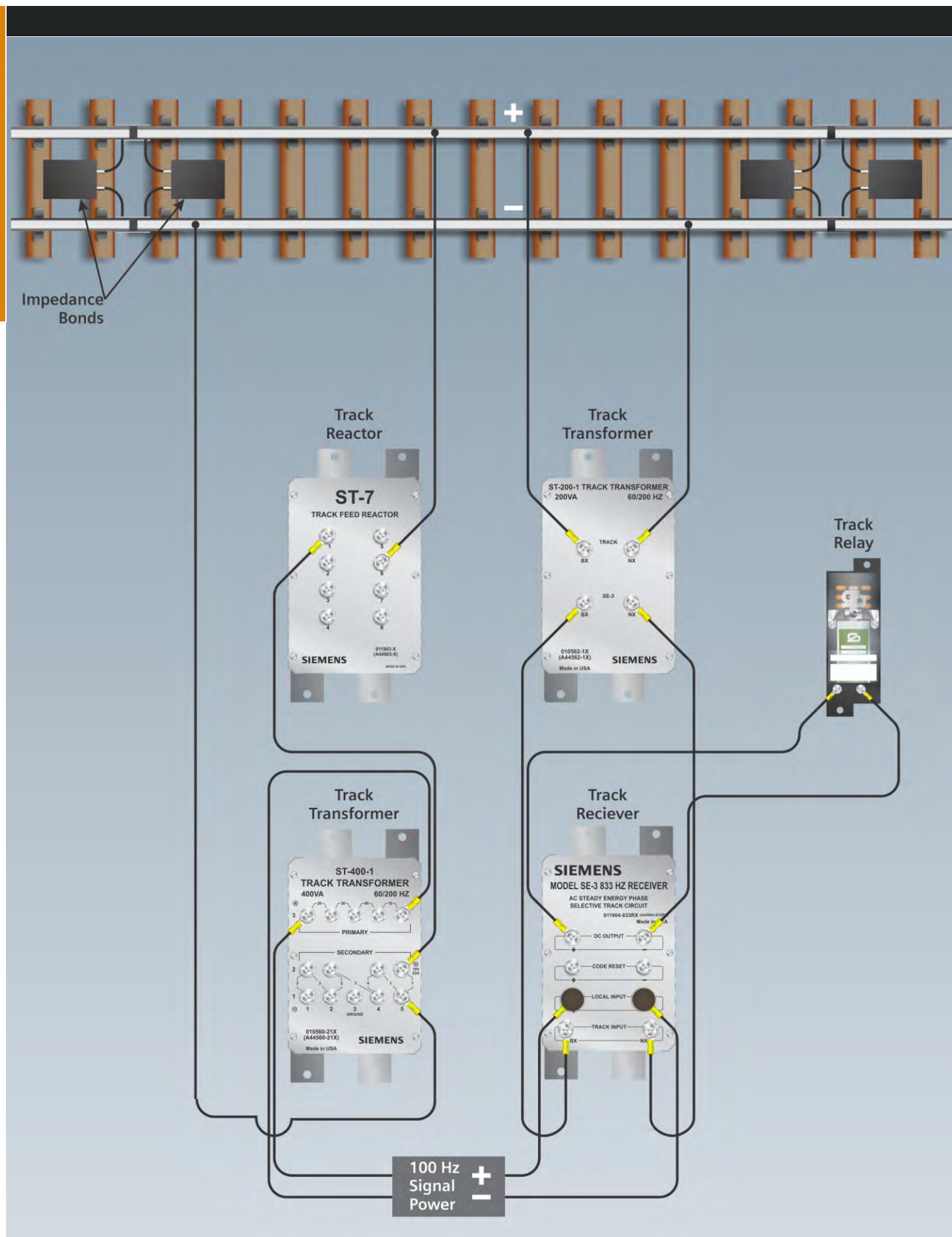
- Meets or exceeds applicable AREMA® specifications
- Weight is approx. 6.5 lbs. (2.95 kgs.) including hardware
- Operates in -40° F to +160° F (-40°C to +70°C) @ up to 95% Non-Condensing Relative Humidity
- 1.8 mH - 5.7 mH inductance

NYK:400044906000X



ST-9 Track Feed Reactor

- Meets or exceeds applicable AREMA® specifications
- Weight is approx. 6.5 lbs. (2.95 kgs.) including hardware
- Operates in -40° F to +160° F (-40°C to +70°C) @ up to 95% Non-Condensing Relative Humidity
- 4.4 mH - 14.1 mH inductance





Overview



*Model A7A190 SOTC Series Overlay Track Circuit Module shown for reference purposes only!
Actual unit selected may vary in mounting and features.*

SIEMENS Clearguard® SOTC Series Overlay Track Circuit modules are an adjustable length audio frequency track circuit intended primarily for obtaining release of electrically locked switches (through a normally deenergized external relay) by occupying the main track immediately ahead of the switch points.

Compact design is available in (3) frequencies and except for primary arresters, no external surge protection devices are required.

NYK:70007A1905900



- Meets or exceeds applicable AREMA® specifications
- Weight is approx. 4.0 lbs. (1.81 kgs.) including hardware
- Operates in -40° F to +160° F (-40°C to +70°C) @ up to 95% Non-Condensing Relative Humidity
- 5.9 KHz

NYK:70007A19010.0



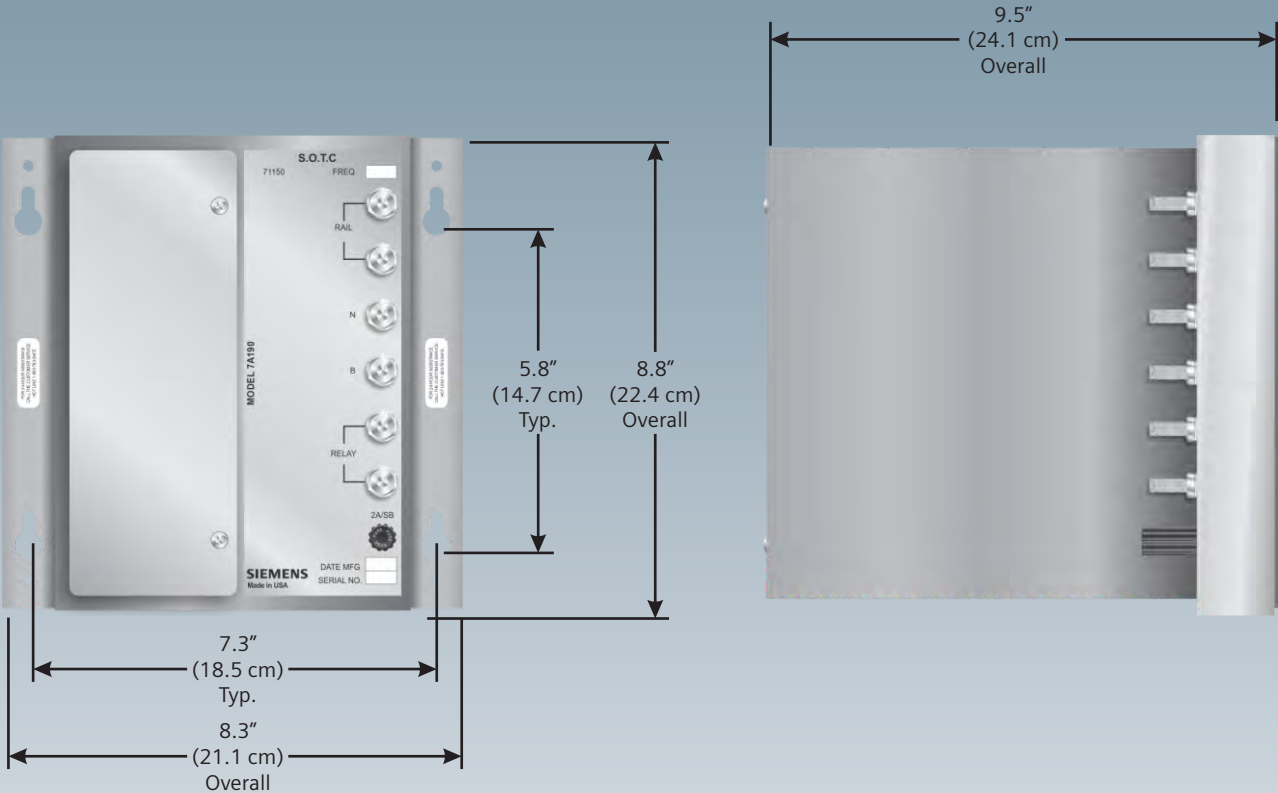
- Meets or exceeds applicable AREMA® specifications
- Weight is approx. 4.0 lbs. (1.81 kgs.) including hardware
- Operates in -40° F to +160° F (-40°C to +70°C) @ up to 95% Non-Condensing Relative Humidity
- 10.0 KHz

NYK:70007A19026.0

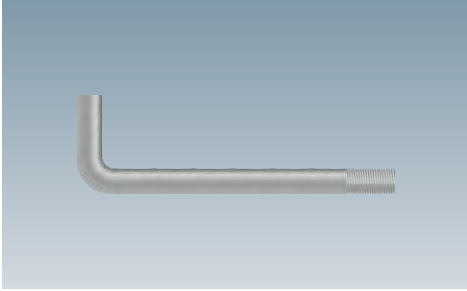


- Meets or exceeds applicable AREMA® specifications
- Weight is approx. 4.0 lbs. (1.81 kgs.) including hardware
- Operates in -40° F to +160° F (-40°C to +70°C) @ up to 95% Non-Condensing Relative Humidity
- 26.0 KHz

Applicable for all Clearguard® SOTC Series - Series Overlay Track Circuit Modules

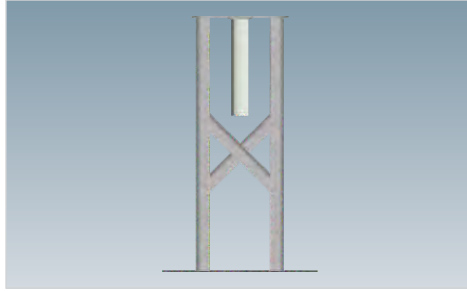


Foundation Products



Anchor Bolts - Poured In Ground

D1 - D4



Structural Foundations

D5 - D12





Anchor Bolts

Poured In Ground

Overview



*Model A131702 Anchor Bolt shown for reference purposes only!
Actual unit selected may vary in mounting and features.*

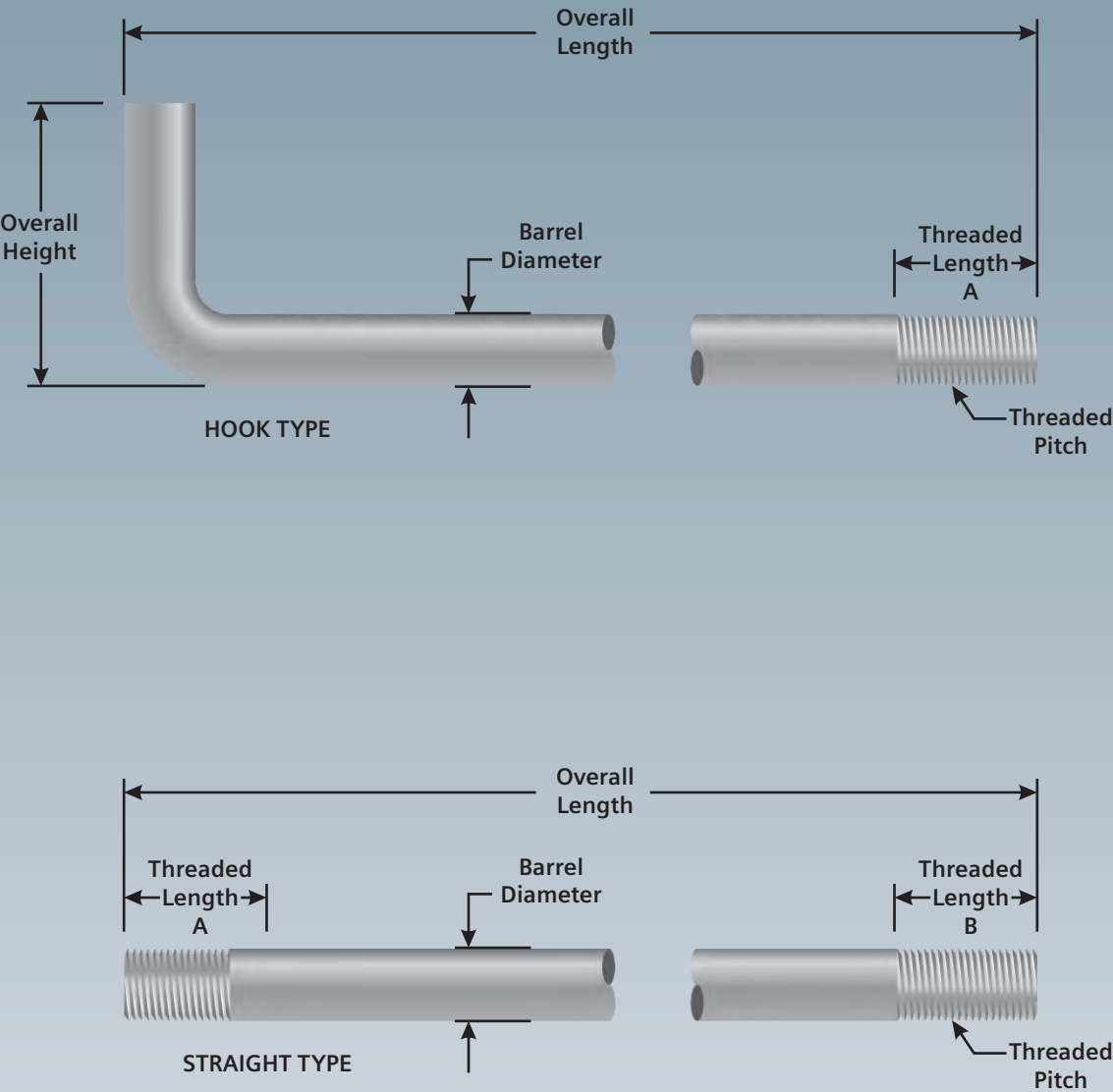
SIEMENS Anchor Bolts are of steel construction, galvanized to help prevent corrosion. All assemblies listed include one galvanized steel wrought washer and hex nut.

SIEMENS Part Number	Overall Length	Overall Height	Threaded Length A	Threaded Pitch	Barrel Diameter	Weight	Foundation Products
NYK:131702-4X	9 in (22.86 cm)	4 1/4 in (10.80 cm)	3 in (7.62 cm)	3/4-10	3/4 in (1.91 cm)	0.7 lbs (0.32 kgs)	
NYK:131702-18X	9 1/2 in (24.13 cm)	4 in (10.16 cm)	3 in (7.62 cm)	3/4-10	3/4 in (1.97 cm)	0.6 lbs (0.27 kgs)	
NYK:131702-1X	12 in (30.48 cm)	4 1/4 in (10.80 cm)	3 in (7.62 cm)	1/2-13	1/2 in (1.27 cm)	1.2 lbs (0.54 kgs)	
NYK:131702-2X	12 in (30.48 cm)	4 1/4 in (10.80 cm)	3 in (7.62 cm)	3/4-10	3/4 in (1.97 cm)	1.4 lbs (0.64 kgs)	
NYK:131702-3X	12 in (30.48 cm)	4 1/4 in (10.80 cm)	3 in (7.62 cm)	1-8	1 in (2.54 cm)	1.8 lbs (0.82 kgs)	
NYK:131702-6X	16 in (40.64 cm)	4 3/8 in (10.80 cm)	3 in (7.62 cm)	3/4-10	3/4 in (1.97 cm)	1.8 lbs (0.82 kgs)	
NYK:131702-7X	16 in (40.64 cm)	4 3/8 in (10.80 cm)	3 in (7.62 cm)	1-8	1 in (2.54 cm)	2.0 lbs (0.91 kgs)	
NYK:131702-15X	18 in (25.72 cm)	4 in (10.16 cm)	3 in (7.62 cm)	3/4-10	3/4 in (1.97 cm)	2.0 lbs (0.91 kgs)	
NYK:131702-10X	20 in (50.80 cm)	4 in (10.16 cm)	1 1/2 in (3.81 cm)	1/2-13	1/2 in (1.27 cm)	1.8 lbs (0.82 kgs)	
NYK:131702-14X	24 in (60.96 cm)	4 in (10.16 cm)	3 in (7.62 cm)	3/4-10	3/4 in (1.97 cm)	2.2 lbs (0.99 kgs)	
NYK:131702-26X	36 in (91.44 cm)	5 3/8 in (13.67 cm)	5 1/2 in (13.97 cm)	1-8	1 in (2.54 cm)	3.6 lbs (1.63 kgs)	
NYK:131702-19X	36 in (91.44 cm)	4 in (10.16 cm)	2 in (5.08 cm)	1 1/4-7	1 1/4 in (3.15 cm)	3.2 lbs (1.45 kgs)	
NYK:131702-11X	42 in (106.68 cm)	4 in (10.16 cm)	2 in (5.08 cm)	1 1/4-7	1 1/4 in (3.15 cm)	3.6 lbs (1.63 kgs)	
NYK:131702-48X	42 in (106.68 cm)	6 in (15.24 cm)	6 1/2 in (16.51 cm)	1 1/2-6	1 1/2 in (3.81 cm)	4.2 lbs (1.91 kgs)	
NYK:131702-96X	54 in (137.16 cm)	6 in (15.24 cm)	6 1/2 in (16.51 cm)	1 1/2-6	1 1/2 in (3.81 cm)	5.5 lbs (2.49 kgs)	
NYK:131702-16X	60 in (152.40 cm)	4 in (10.16 cm)	2 in (5.08 cm)	1-8	1 in (2.54 cm)	4.2 lbs (1.91 kgs)	
NYK:131702-13X	60 in (152.40 cm)	6 in (15.24 cm)	5 1/2 in (13.97 cm)	1-8	1 in (2.54 cm)	6.2 lbs (2.81 kgs)	
NYK:131702-22X	74 in (187.96 cm)	6 3/8 in (16.21 cm)	3 1/2 in (8.89 cm)	1 1/4-7	1 1/4 in (3.15 cm)	5.5 lbs (2.49 kgs)	
NYK:131702-23X	74 in (187.96 cm)	6 3/8 in (16.21 cm)	8 in (20.32 cm)	1 1/4-7	1 1/4 in (3.15 cm)	11.2 lbs (5.08 kgs)	
NYK:131702-21X	87 in (220.98 cm)	4 in (10.16 cm)	2 in (5.08 cm)	1 1/4-7	1 1/4 in (3.15 cm)	8.4 lbs (3.81 kgs)	
NYK:131702-20X	120 in (304.80 cm)	6 in (15.24 cm)	5 1/2 in (13.97 cm)	1-8	1 in (2.54 cm)	12.2 lbs (5.5 kgs)	

Anchor Bolts - Poured In Ground
Straight Type Anchor Bolts

Foundation Products	SIEMENS Part Number	Overall Length	Threaded Length A	Threaded Length B	Threaded Pitch	Barrel Diameter	Weight
	NYK:131702-4X	45 1/4 in (114.94 cm)	2 1/4 in (5.72 cm)	1 in (2.54 cm)	1-8	1 in (2.54 cm)	4.2 lbs (1.91 kgs)
	NYK:131702-18X	57 1/4 in (145.42 cm)	2 1/4 in (5.72 cm)	1 in (2.54 cm)	1-8	1 in (2.54 cm)	5.6 lbs (2.54 kgs)
	NYK:131702-1X	69 1/4 in (175.90 cm)	2 1/4 in (5.72 cm)	1 in (2.54 cm)	1/2-13	1/2 in (1.27 cm)	6.6 lbs (2.99 kgs)
	NYK:131702-3X	81 1/4 in (206.38 cm)	2 1/4 in (5.72 cm)	1 in (2.54 cm)	1-8	1 in (2.54 cm)	7.4 lbs (3.36 kgs)

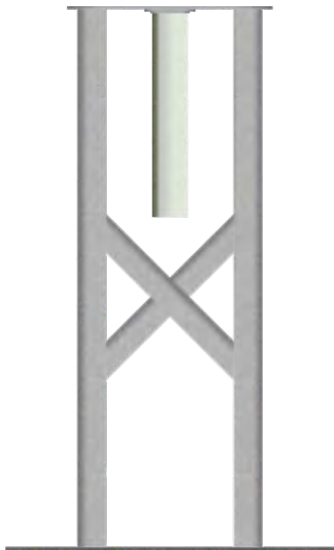
Applicable for all Anchor Bolts - Poured in Ground





Foundations Structural

Overview



*Model A035903 Structural Foundation - Square Type
shown for reference purposes only!
Actual unit selected may vary in mounting and features.*

SIEMENS Structural foundations are constructed of 2 1/2" X 2 1/2" x 1/4" steel angle and 1/4" inch steel plate welded together, then galvanize finished for durability.

Wayside signal foundations have 3/4"-10 X 2 3/4" long mounting bolts and will accommodate 8" X 8", 6 3/4" X 6-3/4" and 6" X 8" inch bolt spacings.

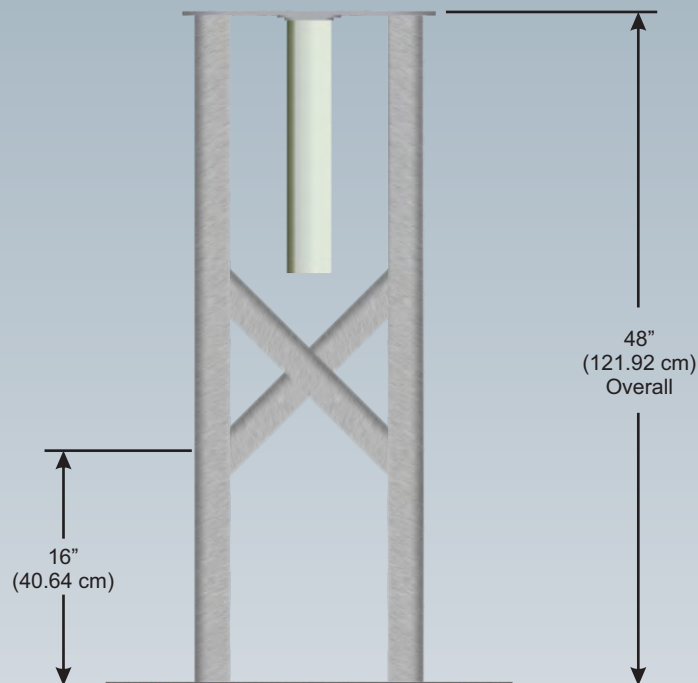
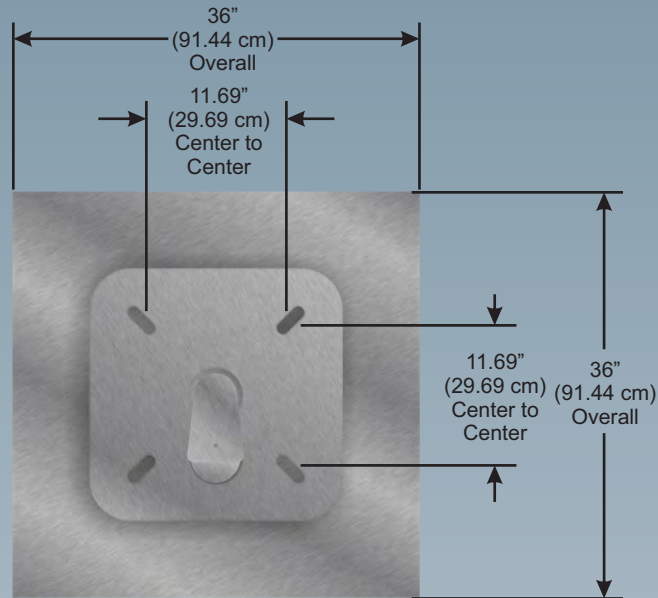
Flashing Light Signal foundations have 3/4"-10 X 2 3/4" long mounting bolts and will accommodate 9 1/2" X 9 1/2" and 11 11/16" X 11 11/16" inch bolt spacings.

Also, they are equipped with cable riser assemblies which provide a protective wire chase to either the split or junction box type base.

SIEMENS
Part Number

NYK:035903-911-1X

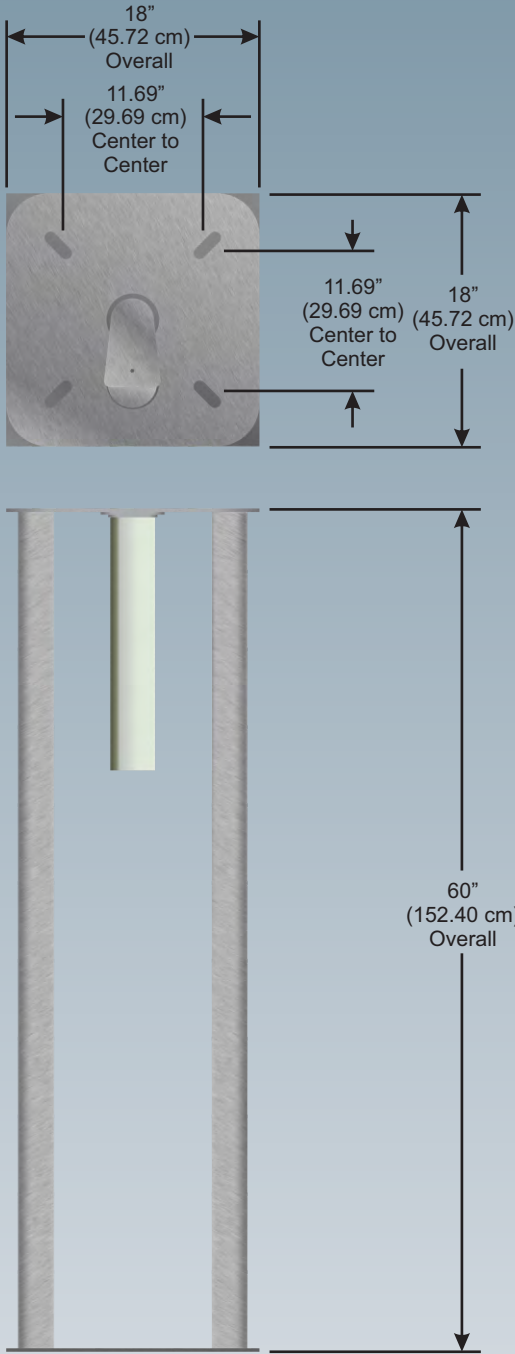
Foundation Products



Pier Foundation 48" (121.92 cm) Tall w/ Riser

- Weight is approx. 155.0 lbs. (70.31 kgs.)
- Sturdy steel construction
- (1) 035908-1X Cable riser assembly

SIEMENS Part Number	NYK:035903-911-3X	
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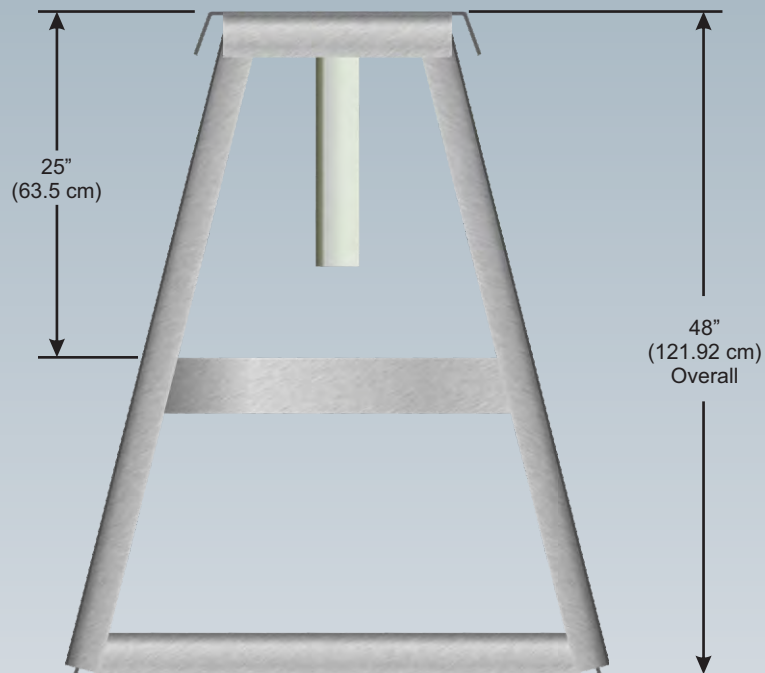
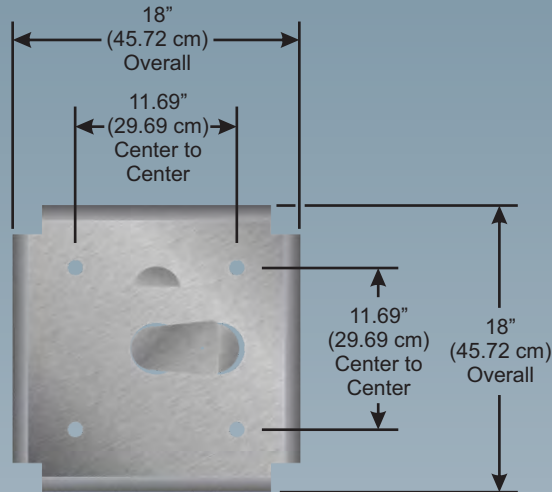


- Pier Foundation 60" (152.40 cm) Tall w/ Riser**
- Weight is approx. 240.0 lbs. (108.86 kgs.)
 - Sturdy steel construction
 - (1) 035908-1X Cable riser assembly

SIEMENS
Part Number

NYK:035903-200X

Foundation Products

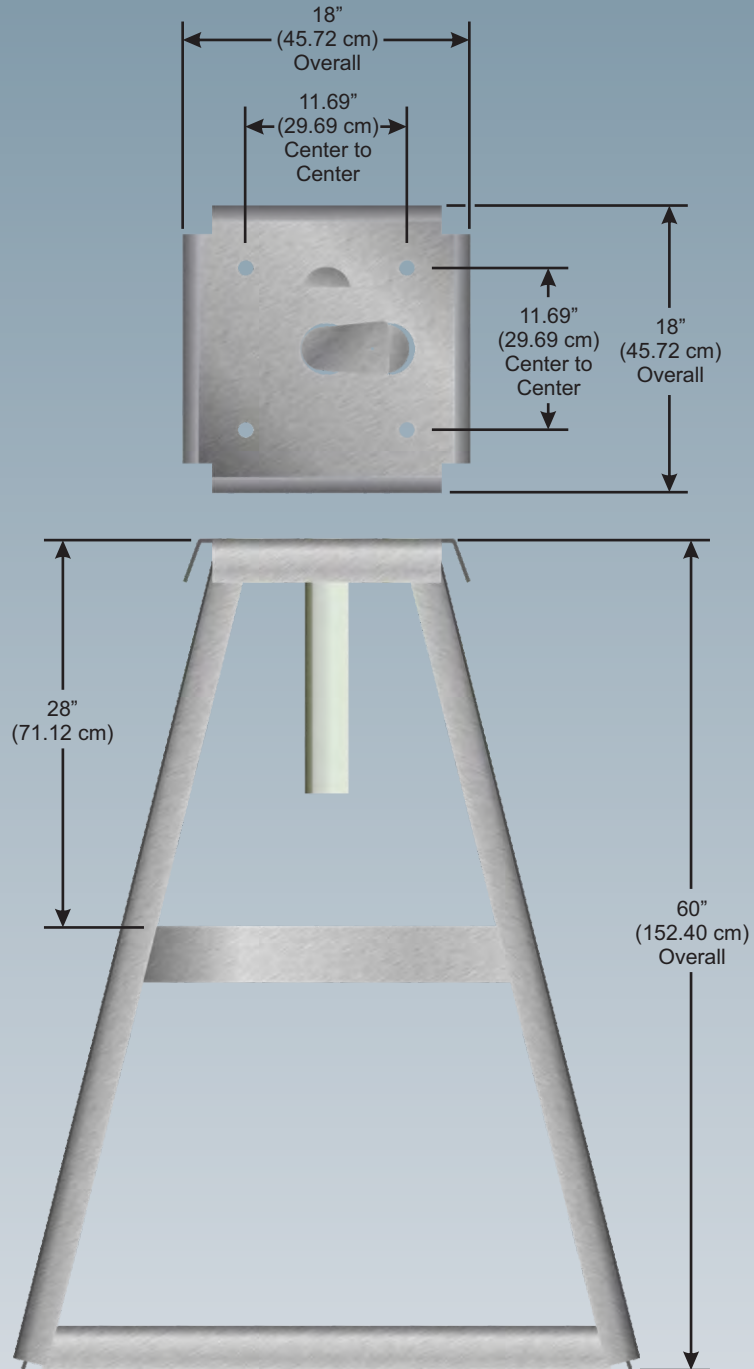


Pyramid Foundation 48" (121.92 cm) Tall w/ Riser

- Weight is approx. 215.0 lbs. (97.52 kgs.)
- Sturdy steel construction
- (1) 035908-1X Cable riser assembly

SIEMENS
Part Number

NYK:035903-500X



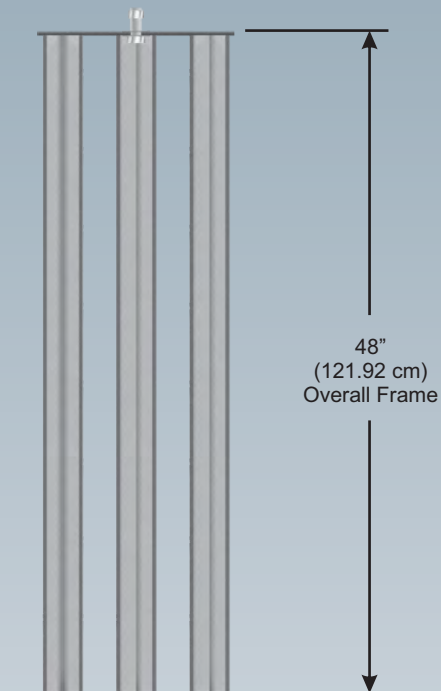
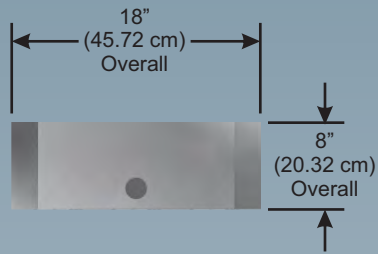
Pyramid Foundation 60" (152.40 cm) Tall w/ Riser

- Weight is approx. 250.0 lbs. (113.40 kgs.)
- Sturdy steel construction
- (1) 035908-1X Cable riser assembly

SIEMENS
Part Number

NYK:035800-2X

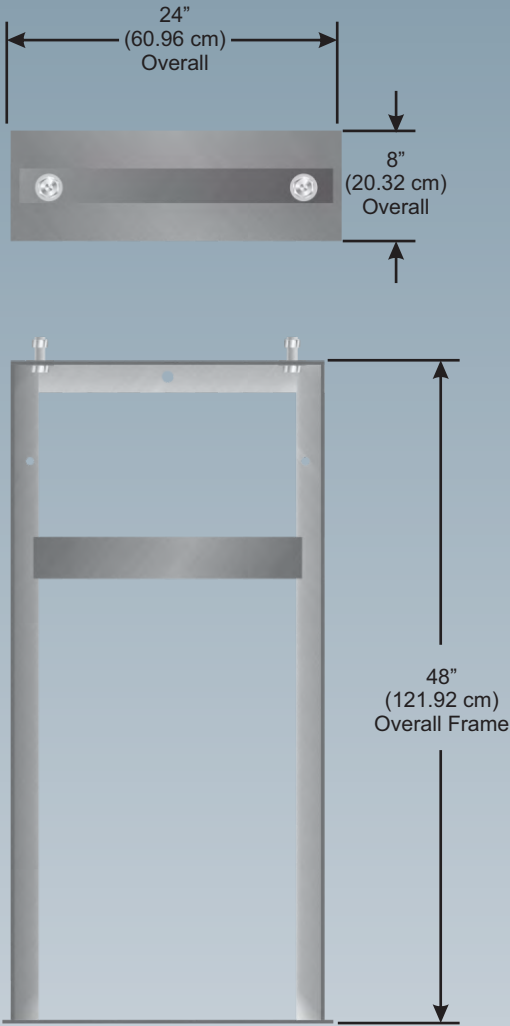
Foundation Products



Triangle Pier Foundation 48" (121.92 cm) Tall

- Weight is approx. 60.0 lbs. (27.22 kgs.)
- Sturdy steel construction

SIEMENS Part Number	NYK:035900-X	
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Block Pier Foundation 48" (121.92 cm) Tall

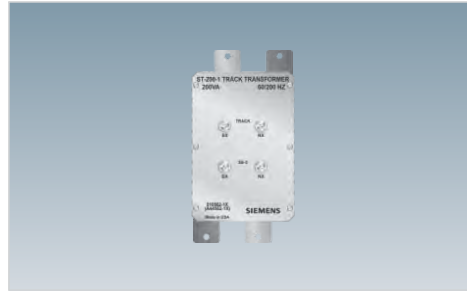
- Weight is approx. 124.0 lbs. (56.25 kgs.)
- Sturdy steel construction

Electromechanical Power Products



CXP-3 Series
Track Circuit Uninterruptible
Power Supplies

E1 - E2



ST-200-1 Series
Track Transformers

E3 - E4



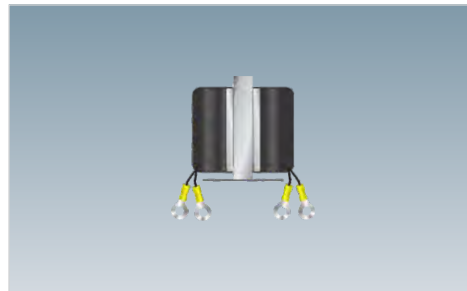
ST-400 Series
Signal / Track Transformers

E5 - E6



SLT Series
Fixed Voltage Lighting Transformers

E7 - E8



LT Series
Lighting Transformers

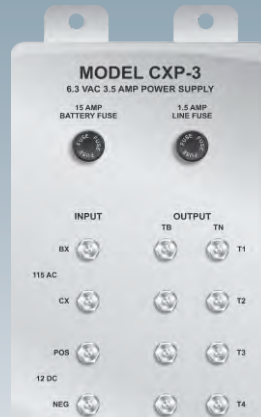
E9 - E10



SJ Series
Battery Chargers

E11 - E12

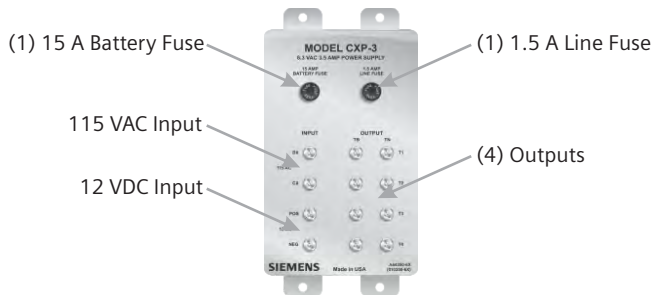




CXP-3 Series

Track Circuit
Uninterruptible Power Supply

Overview



Model A44350
shown for reference purposes only!
Actual unit selected may vary in mounting and features.

SIEMENS Track Circuit Uninterruptible Power Supply (CXP-3) offers a track feed transformer, a power transfer relay and a standby inverter all in a single compact housing.

When used as part of a Type C track circuit, the CXP-3 acts as a track feed transformer and is operated utilizing 115 VAC input power. When unforeseen AC power interruptions occur, the CXP-3 converts standby battery power to output voltage matching the same RMS value as the output would see under normal operating conditions.

The standby inverter is activated through the internal power transfer relay, which is triggered AC power is lost and operates at high efficiency (88% at half power) to maximize run time on battery life.

The operating frequency is maintained to within 1 Hz of nominal power consumption under any normal voltage, load or temperature condition.

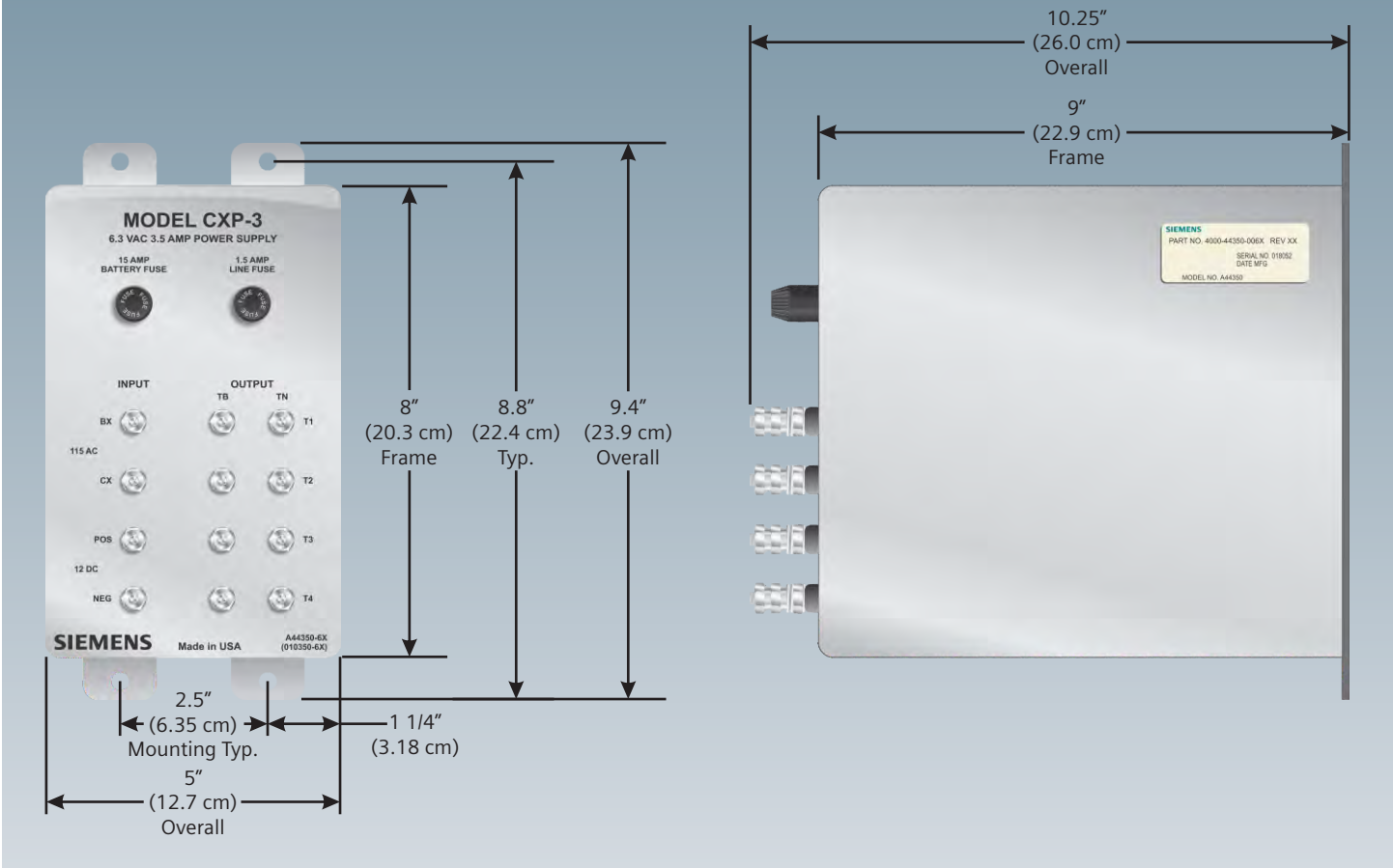
Surge protection for solid state circuitry consists of (7) separate stages, including metal oxide varistors (MOV's), transorbs, zeners, inductors and capacitors. All electronic components are isolated from chassis and outputs are isolated from the operating battery.

NYK:400044350006X



- Meets or exceeds applicable AREMA® specifications on recommended practices regarding 3000 VAC breakdown voltage.
- Easily mountable on standard relay racks, instrument house backboards or can even be shelf mounted when removing included mounting bracket
- Weight is approx. 15 lbs. (6.80 kgs.) including connectors
- Operates in -40° F to +160° F (-40°C to +70°C) @ up to 95% Non-Condensing Relative Humidity
- 6.3 VAC 3.5 Amp power supply
- (1) 15 Amp battery fuse
- (1) 1.5 Amp line fuse
- (4) Output battery connections
- 115 VAC Input connection
- 12 VDC Input connection

Narrow Chassis Assembly Configuration Dimensions

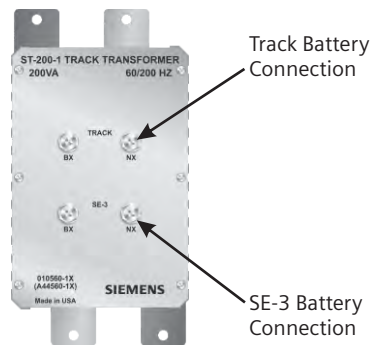




ST-200-1 Series

Track Transformers

Overview



Model A44562 ST-200-1 Series Track Transformer shown for reference purposes only! Actual unit selected may vary in mounting and features.

SIEMENS ST-200-1 Track Transformer is a 200 VA, 60 Hz to 250 Hz transformer, developed for use with Siemens SE-3 Track Circuits. It may also be used as a general purpose step up, or step down transformer for many applications. It has a two terminal track winding which will accept or deliver up to 12 volts (16 amps). The two terminal receiver winding is isolated from the former, and will accept or deliver up to 120 volts (1.6 amps).

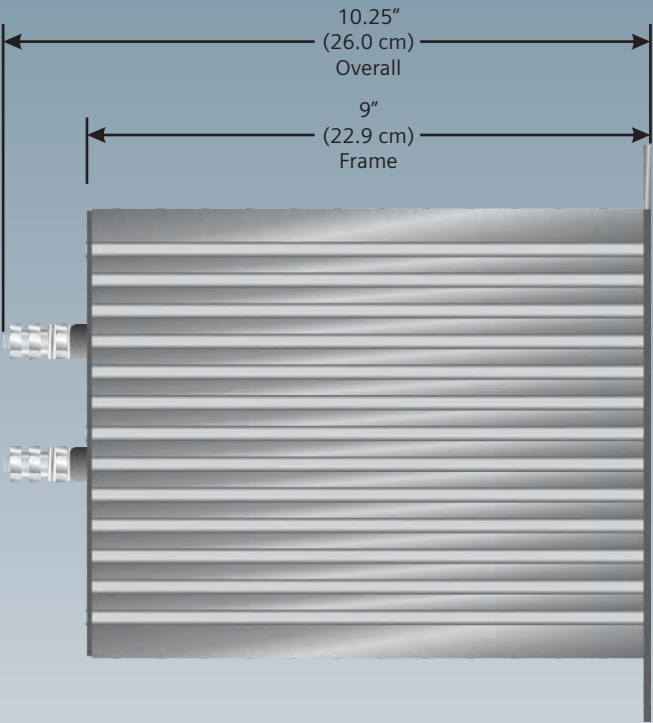
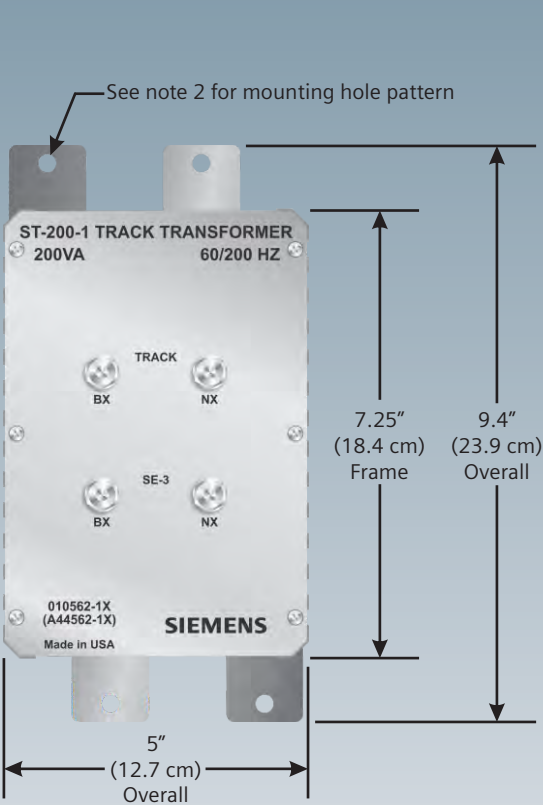
The ST-200-1 is mounted in an aluminum extruded housing, which provides excellent heat transfer from the windings, and also allows flexibility in mounting. Tab brackets located in slots in the extrusion, allow mounting directly to a relay rack, where the transformer mounts in the same space as an ST-2 relay frame footprint. Tab brackets can be easily relocated for backboard or shelf mounting as well. Terminals are the standard AREMA® post type, rather than the commercial spade type.

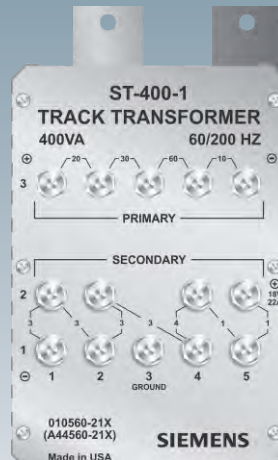
NYK:400044560001X



- Meets or exceeds applicable AREMA® specifications on recommended practices regarding 3000 VAC breakdown voltage.
- Easily mountable on standard relay racks, instrument house backboards or can even be shelf mounted when removing included mounting bracket
- Weight is approx. 15 lbs. (6.80 kgs.) including connectors
- Operates in -40° F to +160° F (-40°C to +70°C) @ up to 95% Non-Condensing Relative Humidity
- 6.3 VAC 3.5 Amp power supply
- (1) 15 Amp battery fuse
- (1) 1.5 Amp line fuse
- (4) Output battery connections
- 115 VAC Input connection
- 12 VDC Input connection

Applicable for all ST-200 Series Track Transformers

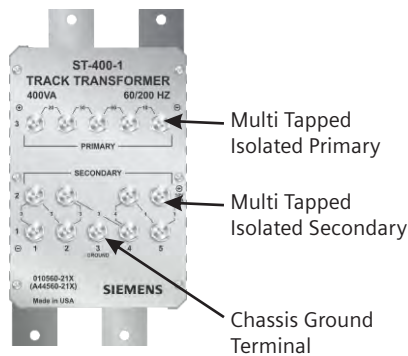




ST-400 Series

Signal / Track Transformers

Overview



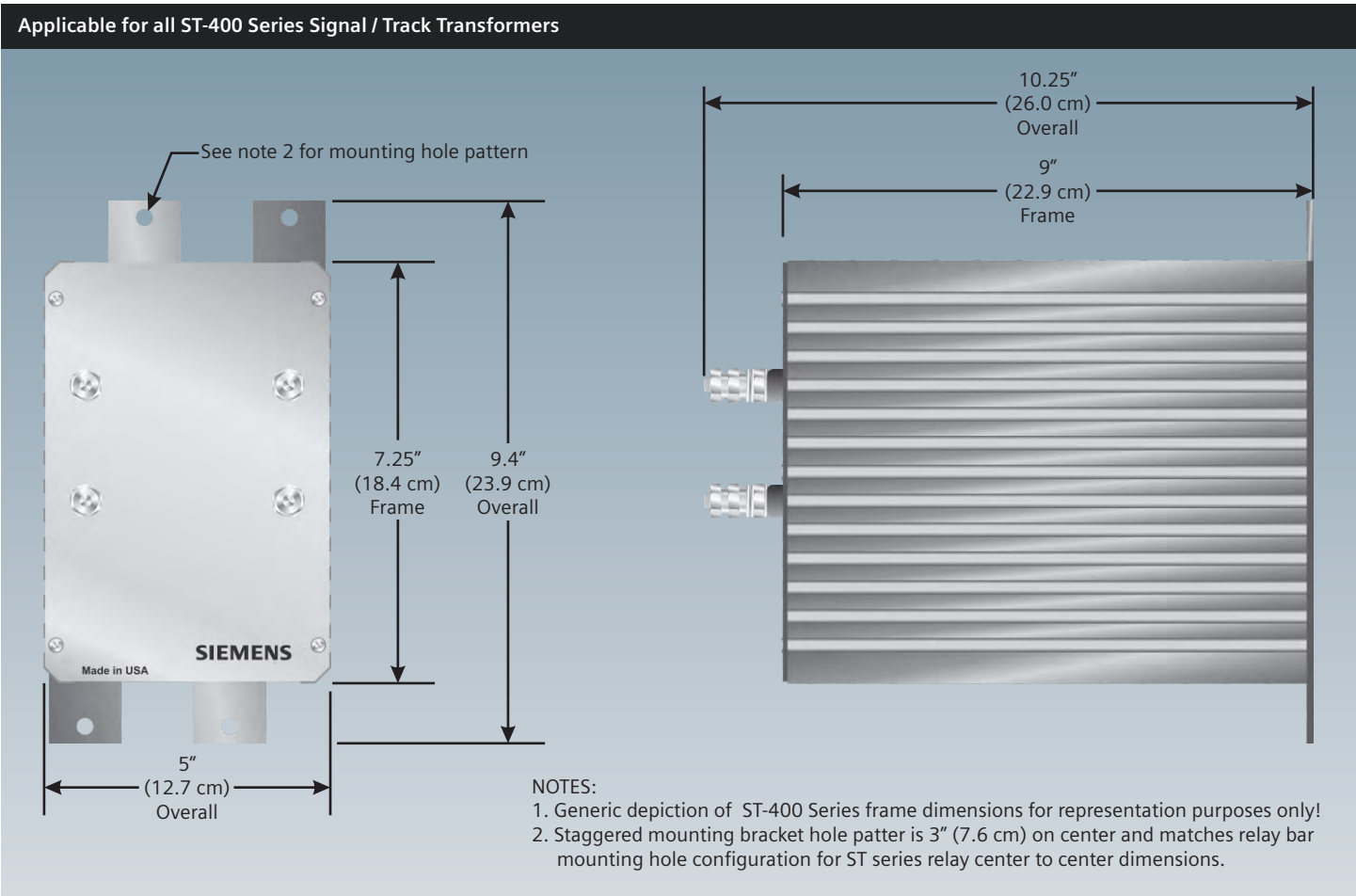
Model A44560
shown for reference purposes only!
Actual unit selected may vary in mounting and features.

SIEMENS ST-400 Signal / Track Transformer is a 400 VA, 60 Hz to 200 Hz transformer, developed for use with **SIEMENS** SE-3 Track Circuits.

It may also be used as a general purpose step up, or step down transformer for many applications. It has a two terminal track winding which will accept or deliver up to 12 volts (16 amps). The two terminal receiver winding is isolated from the former, and will accept or deliver up to 120 volts (1.6 amps).

The ST-400 is mounted in an aluminum extruded housing, which provides excellent heat transfer from the windings, and also allows flexibility in mounting. Tab brackets located in slots in the extrusion, allow mounting directly to a relay rack, where the transformer mounts in the same space as an ST-2 relay frame footprint. Tab brackets can be easily relocated for backboard or shelf mounting as well. Terminals are the standard AREMA® post type, rather than the commercial spade type.

SIEMENS Part Number	Output Voltage	Primary Tap / Voltage Amperage	Secondary Tap / Voltage Amperage	Hertz	Weight
NYK:010560-X	396 VA Max.	120 VAC / 1.65 A	18 VAC, 11.0 A	50 / 200	27.0 lbs (12.25 kgs.)
NYK:010560-X-1	396 VA Max.	120 VAC / 1.65 A	18 VAC, 11.0 A	50 / 200	20.0 lbs (9.07 kgs.)
NYK:010560-X-2	400 VA Max.	120 VAC / 3.30 A	18 VAC, 22.0 A	60 / 200	27.0 lbs (12.25 kgs.)





SLT
Series

Fixed Signal Lighting Transformers

Overview



*Model A44520 SLT Series Fixed Signal Lighting Transformer
shown for reference purposes only!
Actual unit selected may vary in mounting and features.*

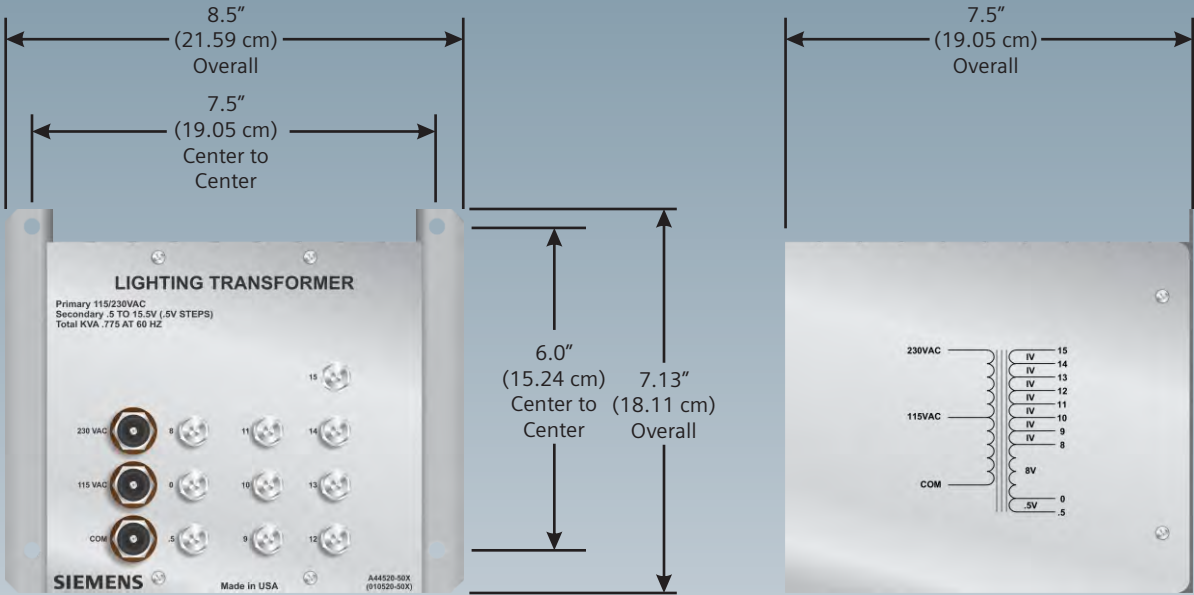
SIEMENS Fixed Lighting Transformers (SLT Series) are available in two models of 20 and 50 amperes.

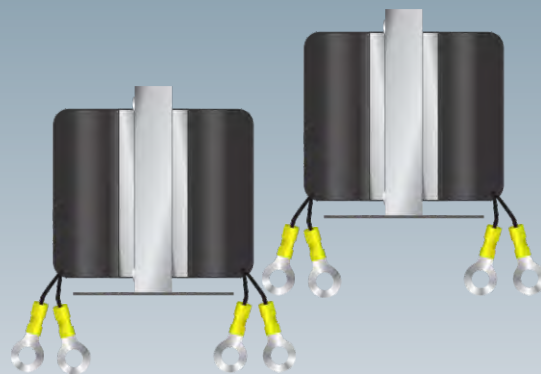
Secondary voltage taps are provided for 1 to 15.5 VAC. Excellent voltage regulation is assured through use of heavy cores and windings. These transformers may be shelf, backboard, or relay rack mounted.

Terminals are the standard AREMA® post type, rather than the commercial spade type.

SIEMENS Part Number	Primary Voltage	Secondary Voltage	Output Amperage	Weight
NYK:400044520020X	115 / 230 VAC	1 - 15.5 VAC	20 A	15.0 lbs (6.80 kgs.)
NYK:400044520050X	115 / 230 VAC	1 - 15.5 VAC	50 A	27.0 lbs (12.25 kgs.)

Applicable for all SLT Series Fixed Signal Lighting Transformers





LT
Series

Lighting Transformers

Overview



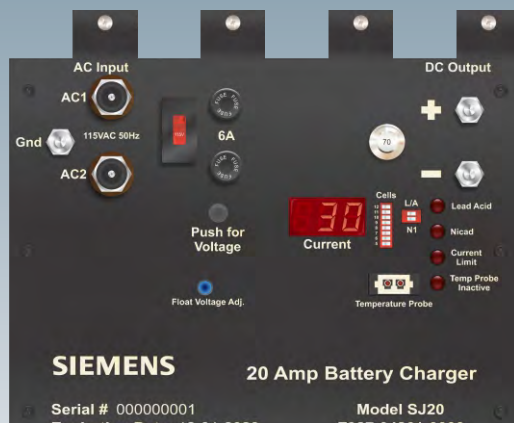
*Model A44599 LT Series Lighting Transformer
shown for reference purposes only!
Actual unit selected may vary in mounting and features.*

SIEMENS Lighting Transformers (LT Series) are available in two models of 20 and 50 amperes.

Secondary voltage taps are provided for 1 to 15.5 VAC. Excellent voltage regulation is assured through use of heavy cores and windings. These transformers may be shelf, backboard, or relay rack mounted.

Terminals are the standard AREMA® post type, rather than the commercial spade type.

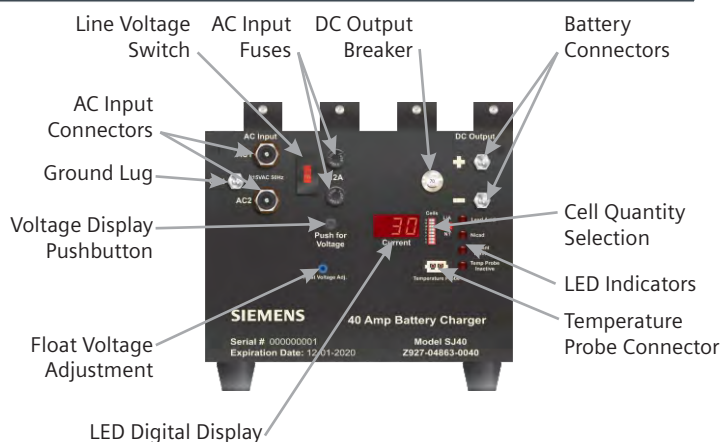
SIEMENS Part Number	Primary Voltage	Secondary Voltage	Output Amperage	Weight
NYK:400044599101X	115 VAC	10.0 - 13.5 VAC	5 A	4.0 lbs. (1.81 kgs.)
NYK:400044599103X	230 VAC	10.0 - 13.0 VAC	5 A	4.0 lbs. (1.81 kgs.)
NYK:400044599106X	115 VAC	0.2 - 13.5 VAC	5 A	4.0 lbs. (1.81 kgs.)
NYK:400044599110X	115 VAC	4.0 - 24.0 VAC	50 VA	4.0 lbs. (1.81 kgs.)



SJ
Series

Battery Chargers

Overview



Features

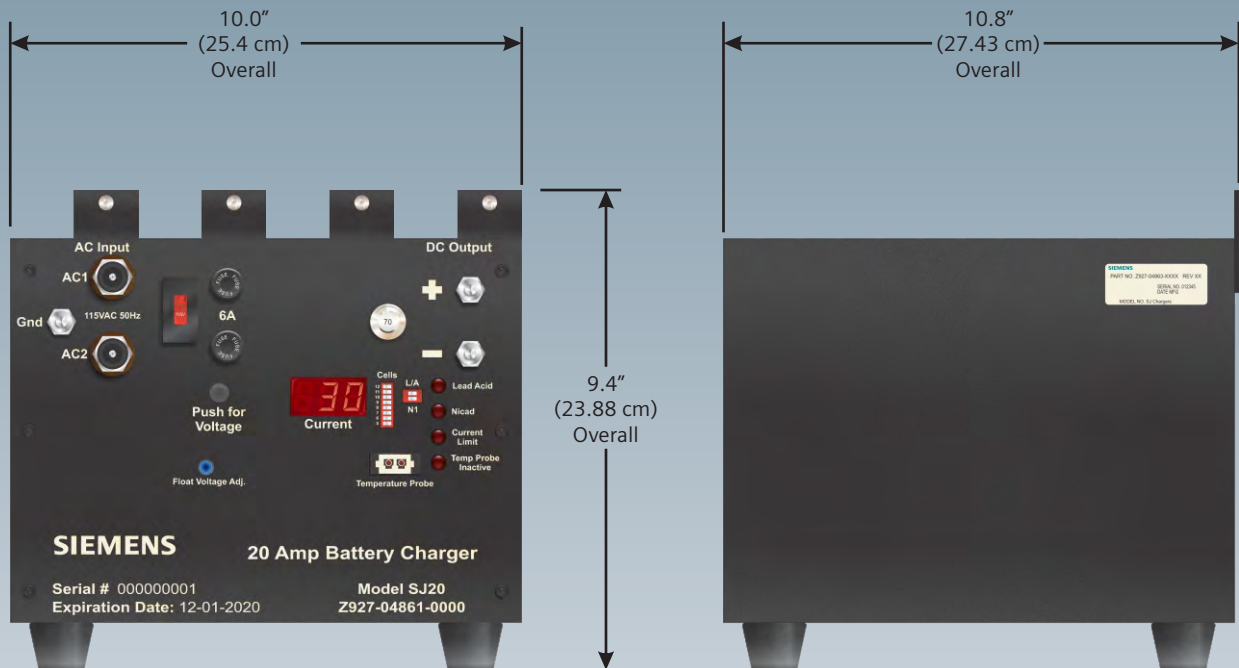
- (2) Battery selection modes
Lead Acid or Nickle Cadmium (NiCad)
- (2) Operation modes
Constant Current or Constant Voltage
- Float voltage can be adjusted with the battery connected.
(When in Constant Voltage mode)
- Pushbutton to display voltage on demand
- LED indicators and digital display
- Supplied with transient suppression devices across the input and output terminals

*Model A04863 SJ Series Battery Charger shown for reference purposes only!
Actual unit selected may vary in mounting and features.*

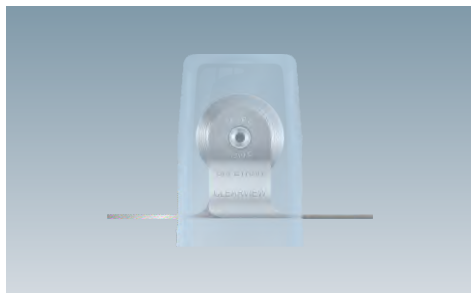
SIEMENS Battery Charger (SJ) Series offers long term, reliable charge maintenance of lead acid and nickle cadmium (NiCad) batteries and are ideally suited where remote installation, extreme temperatures and minimal maintainer involvement is expected.

SIEMENS Part Number	Primary Voltage (VAC)	Output Voltage (VDC)	Output Current	Current Limit	Cell Selection Range	Weight
NYK:Z927048610000	8.2 A @ 115 4.1 A @ 230	10.0 - 18.8 (Lead Acid) 6.5 - 19.0 (NiCad)	20 A	21.5 (± 5%)	5-8 (Lead Acid) 15-12 (NiCad)	27.0 lbs (12.25 kgs.)
NYK:Z927048630030	24.6 A @ 115 12.3 A @ 230	22.0 - 42.4 (Lead Acid) 24.7 - 41.0 (NiCad)	30 A	32.0 (± 5%)	11-18 (Lead Acid) 19-26 (NiCad)	60.0 lbs (27.22 kgs.)
NYK:Z927048630040	16.4 A @ 115 8.2 A @ 230	10.0 - 18.9 (Lead Acid) 6.5 - 19.0 (NiCad)	40 A	43.0 (± 5%)	5-8 (Lead Acid) 15-12 (NiCad)	45.0 lbs (20.41 kgs.)
Optional Accessories						
SIEMENS Part Number	Description					
NYK:052619-1	Lagdown brace					
NYK:3250775319	Temperature probe with 12' (3.66 m) cable					
NYK:3250775328	Temperature probe with 15' (4.57 m) cable					

Applicable for all SJ Series Battery Chargers

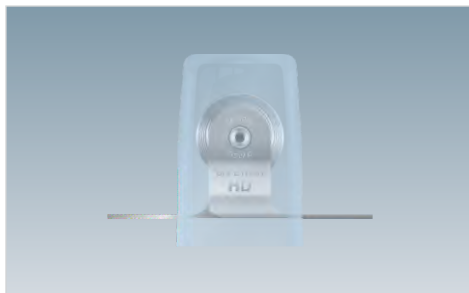


Electromechanical Stabilization Products



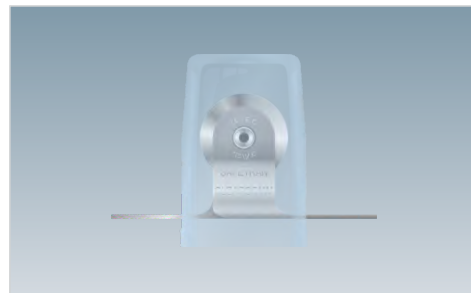
Clearview® Air Gap Arresters
Electrical Circuits
(Standard Duty)

E13 - E16



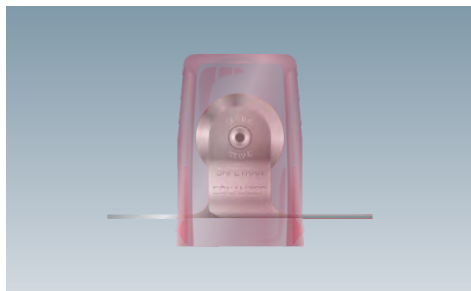
Clearview® Air Gap Arresters
Electrical Circuits
(Heavy Duty)

E17 - E18



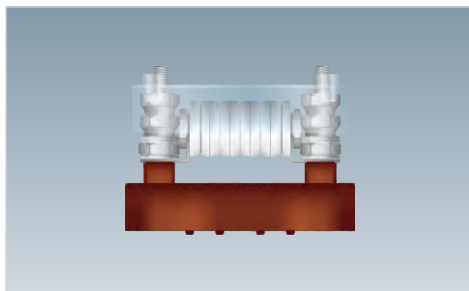
Clearcomm® Air Gap Arresters
Communications Circuits
(Standard Duty)

E19 - E22



Clearview® Air Gap Equalizers
Electrical Circuits
(Standard Duty)

E23 - E30



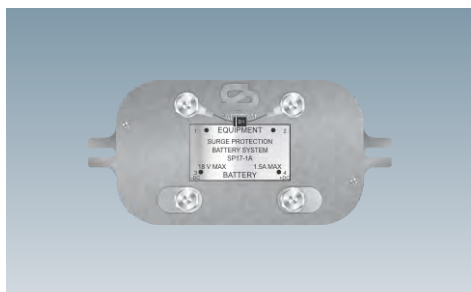
701-1 Series
AC Power
Line Protectors

E31 - E34



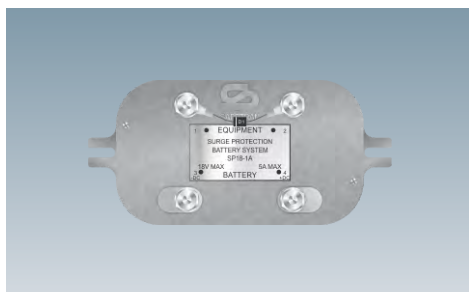
SSP-11
Solid State
Surge Protector

E35 - E38



SP-17
Solid State Battery Line
Surge Protectors

E39 - E40



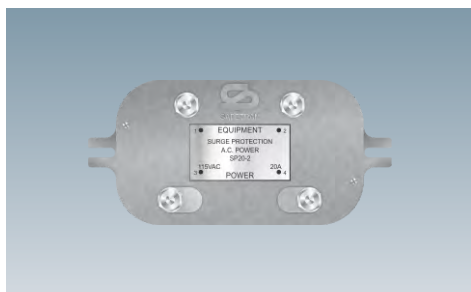
SP-18
Solid State Battery Line
Surge Protectors

E41 - E42



SP-19
Solid State Battery Line
Surge Protectors

E43 - E44



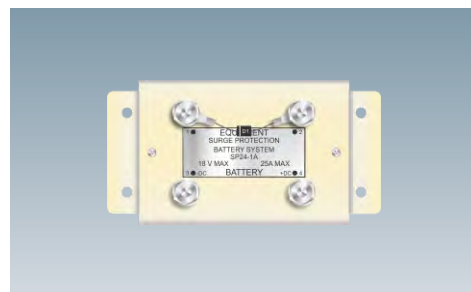
SP-20
Solid State AC Power
Surge Protectors

E45 - E48



SP-21
Solid State Code Line
Surge Protectors

E49 - E50



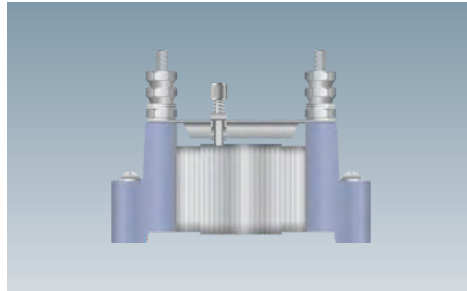
SP-24
Solid State Battery Line
Surge Protectors

E51 - E52



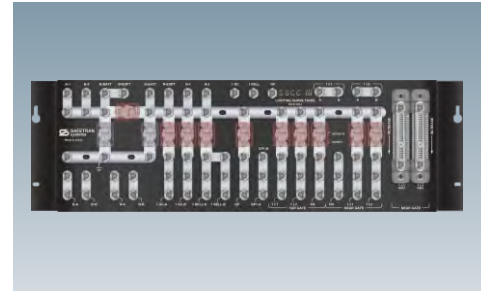
SP-15 and SP-26
Solid State Track Circuit
Surge Protectors

E53 - E56



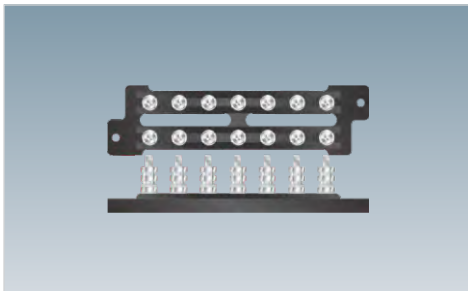
Resistance Units
Fixed and Adjustable

E57 -E60



Surge Protection Panels
Various

E61 - E65



Terminal Blocks
Various

E66



Clearview®

Air Gap Arresters

Electrical Circuits (Standard Duty)

Overview



Model A44485 Clearview® Air Gap Arrester
shown for reference purposes only!
Actual unit selected may vary in mounting and features.

SIEMENS Clearview® Air Gap Arresters for Electrical Circuits (Standard Duty) have a significant safety factor against shorting because of the open tooth discharge point electrode design.

Operating on 0-50 VDC for use on all low voltage signal circuits and 0-175 VAC for 115 VAC power circuits. Unit has a consistent breakdown voltage of 700 - 1000 volts.

Clearly marked with CLEARVIEW stamped on the mounting leg for identification and protected with a clear lexan cap. Easily mounts to racks, panels and/or bars due to the standard 2 3/8" mounting centers.

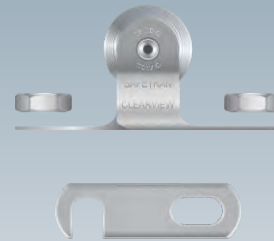
NYK:Z820000140000



Clear Air Gap Arrester Cover

- Meets or exceeds applicable AREMA® specifications
- Weight is approx. 0.2 lbs. (0.09 kgs.) including connectors
- Clear lexan construction

NYK:400044485036X



Air Gap Arrester Basic Assembly w/o Cover w/ Buss Connector

- Meets or exceeds applicable AREMA® specifications
- Weight is approx. 0.5 lbs. (0.23 kgs.) including connectors
- Operates in -40° F to +160° F (-40°C to +70°C) @ up to 95% Non-Condensing Relative Humidity
- NO protective cap
- (1) Clearview® discharge unit
- (1) set mounting legs
- (1) NYK:023839-3 connector buss link
- (2) NYK:023832 AAR clamp nuts

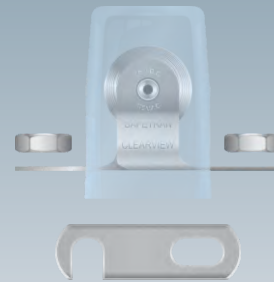
NYK:40004448528AX



Air Gap Arrester Basic Assembly w/ Cover

- Meets or exceeds applicable AREMA® specifications
- Weight is approx. 0.7 lbs. (0.32 kgs.) including connectors
- Operates in -40° F to +160° F (-40°C to +70°C) @ up to 95% Non-Condensing Relative Humidity
- (1) NYK:Z820000140000 clear lexan protective cap
- (1) Clearview® discharge unit
- (1) set mounting legs

NYK:400044485028X



Air Gap Arrester Basic Assembly w/ Cover and Buss Connector

- Meets or exceeds applicable AREMA® specifications
- Weight is approx. 1.0 lbs. (0.45 kgs.) including connectors
- Operates in -40° F to +160° F (-40°C to +70°C) @ up to 95% Non-Condensing Relative Humidity
- (1) NYK:Z820000140000 clear lexan protective cap
- (1) Clearview® discharge unit
- (1) set mounting legs
- (1) NYK:023839-3 connector buss link
- (2) NYK:023832 AAR clamp nuts

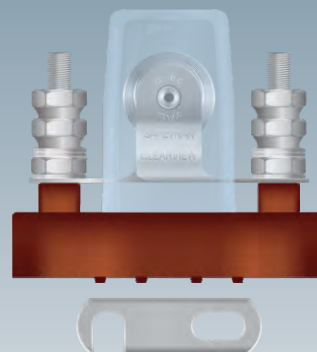
NYK:40004448528X1



Air Gap Arrester Basic Assembly w/ Cover and Buss Connector

- Meets or exceeds applicable AREMA® specifications
- Weight is approx. 1.0 lbs. (0.45 kgs.) including connectors
- Operates in -40° F to +160° F (-40°C to +70°C) @ up to 95% Non-Condensing Relative Humidity
- (1) NYK:Z820000140000 clear lexan protective cap
- (1) Clearview® discharge unit
- (1) set mounting legs
- (1) NYK:023839-2 connector buss link
- (2) NYK:023832 AAR clamp nuts

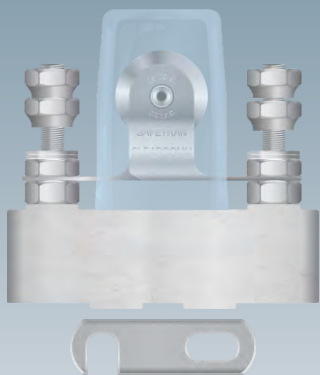
NYK:400044485031X



Air Gap Arrester Basic Assembly w/ (2) Post Bakelite Base

- Meets or exceeds applicable AREMA® specifications
- Weight is approx. 2.0 lbs. (0.91 kgs.) including connectors
- Operates in -40° F to +160° F (-40°C to +70°C) @ up to 95% Non-Condensing Relative Humidity
- (1) NYK:Z820000140000 clear lexan protective cap
- (1) Clearview® discharge unit
- (1) set mounting legs
- (1) NYK:023839-3 connector buss link
- (4) NYK:023831 AAR binding nuts
- (6) NYK:023834 AAR beveled washers
- (2) NYK:023832 AAR clamp nuts
- (1) NYK:Z820000300000 molded bakelite base

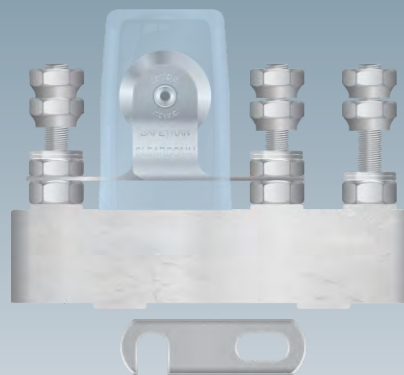
NYK:400044485032X



Air Gap Arrester Basic Assembly w/ (2) Post Porcelain Base

- Meets or exceeds applicable AREMA® specifications
- Weight is approx. 2.2 lbs. (1.00 kgs.) including connectors
- Operates in -40° F to +160° F (-40°C to +70°C) @ up to 95% Non-Condensing Relative Humidity
- (1) NYK:Z820000140000 clear lexan protective cap
- (1) Clearview® discharge unit
- (1) set mounting legs
- (1) NYK:023839-3 connector buss link
- (4) NYK:023831 AAR binding nuts
- (6) NYK:023834 AAR beveled washers
- (2) NYK:023832 AAR clamp nuts
- (1) NYK:400044485005X porcelain base

NYK:400044485033X



Air Gap Arrester Basic Assembly w/ (3) Post Porcelain Base

- Meets or exceeds applicable AREMA® specifications
- Weight is approx. 2.6 lbs. (1.18 kgs.) including connectors
- Operates in -40° F to +160° F (-40°C to +70°C) @ up to 95% Non-Condensing Relative Humidity
- (1) NYK:Z820000140000 clear lexan protective cap
- (1) Clearview® discharge unit
- (1) set mounting legs
- (1) NYK:023839-3 connector buss link
- (6) NYK:023831 AAR binding nuts
- (6) NYK:023834 AAR beveled washers
- (2) NYK:023832 AAR clamp nuts
- (1) NYK:4000-44485-005X porcelain base

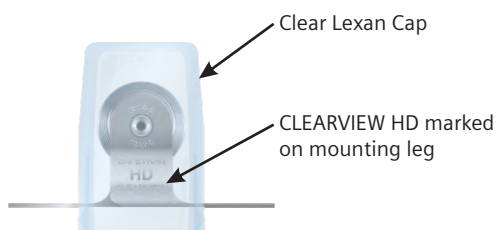


Clearview®

Air Gap Arresters

Electrical Circuits (Heavy Duty)

Overview



Model A44485 Clearview® Air Gap Arrester
shown for reference purposes only!
Actual unit selected may vary in mounting and features.

SIEMENS Clearview® Air Gap Arresters for Electrical Circuits (Heavy Duty) have a significant safety factor against shorting because of the discharge unit has circular rather than point discharge electrodes.

Operating on 0-50 VDC for use on all low voltage signal circuits and 0-175 VAC for 115 VAC power circuits. Unit has a consistent breakdown voltage of 700 - 1000 volts.

Clearly marked with CLEARVIEW HD stamped on the mounting leg for identification and protected with a clear lexan cap. Easily mounts to racks, panels and/or bars due to the standard 2 3/8" mounting centers.

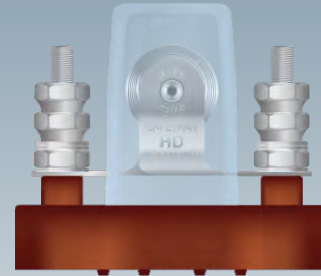
NYK:400044585001X



Air Gap Arrester Heavy Duty Assembly w/ Cover

- Meets or exceeds applicable AREMA® specifications
- Weight is approx. 0.7 lbs. (0.32 kgs.) including connectors
- Operates in -40° F to +160° F (-40°C to +70°C) @ up to 95% Non-Condensing Relative Humidity
- (1) NYK:Z820000140000 Clear lexan protective cap
- (1) Clearview® heavy duty discharge unit
- (1) set mounting legs

NYK:400044585003X



Air Gap Arrester Heavy Duty Assembly w/ (2) Post Bakelite Base

- Meets or exceeds applicable AREMA® specifications
- Weight is approx. 2.0 lbs. (0.91 kgs.) including connectors
- Operates in -40° F to +160° F (-40°C to +70°C) @ up to 95% Non-Condensing Relative Humidity
- (1) NYK:Z820000140000 Clear lexan protective cap
- (1) Clearview® heavy duty discharge unit
- (1) set mounting legs
- (1) NYK:023839-3 connector buss link
- (4) NYK:023831 AAR binding nuts
- (6) NYK:023834AAR beveled washers
- (2) NYK:023832 AAR 14-24 clamp nuts
- (1) NYK:Z820000300000 molded bakelite base

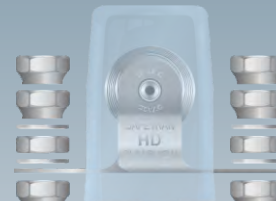
NYK:400044585004X



Air Gap Arrester Heavy Duty Assembly w/ Hardware

- Meets or exceeds applicable AREMA® specifications
- Weight is approx. 2.0 lbs. (0.91 kgs.) including connectors
- Operates in -40° F to +160° F (-40°C to +70°C) @ up to 95% Non-Condensing Relative Humidity
- (1) NYK:Z820000140000 clear lexan protective cap
- (1) Clearview® heavy duty discharge unit
- (1) set mounting legs
- (4) NYK:023831 AAR binding nuts
- (4) NYK:023834 AAR beveled washers
- (2) NYK:023832 AAR clamp nuts

NYK:400044585005X



Air Gap Arrester Heavy Duty Assembly w/ Hardware

- Meets or exceeds applicable AREMA® specifications
- Weight is approx. 2.0 lbs. (0.91 kgs.) including connectors
- Operates in -40° F to +160° F (-40°C to +70°C) @ up to 95% Non-Condensing Relative Humidity
- (1) NYK:Z820000140000 clear lexan protective cap
- (1) Clearview® heavy duty discharge unit
- (1) set mounting legs
- (6) NYK:023831 AAR binding nuts
- (6) NYK:023834 AAR beveled washers
- (2) NYK:023832 AAR clamp nuts

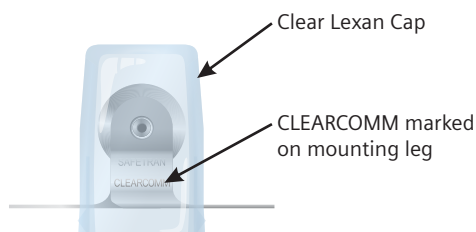


Clearcomm®

Air Gap Arresters

Communication Circuits (Standard Duty)

Overview



Model A44485 Clearcomm® Air Gap Arrester
shown for reference purposes only!
Actual unit selected may vary in mounting and features.

SIEMENS Clearcomm® Air Gap Arrester for Communication Circuits have a significant safety factor against shorting because of the open tooth discharge point electrode design. Operating on 0-50 VDC for use on all low voltage signal circuits and 0-175 VAC for 115 VAC power circuits. Unit has a consistent breakdown voltage of 700 - 1000 volts.

Clearly marked with CLEARCOMM stamped on the mounting leg for identification and protected with a clear lexan cap. Easily mounts to racks, panels and/or bars due to the standard 2 3/8" mounting centers.

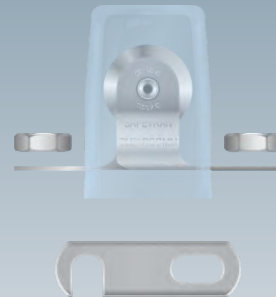
NYK:400044485054X



Air Gap Arrester Basic Assembly w/o Cover (Communications)

- Meets or exceeds applicable AREMA® specifications
- Weight is approx. 0.5 lbs. (0.23 kgs.) including connectors
- Operates in -40° F to +160° F (-40°C to +70°C) @ up to 95% Non-Condensing Relative Humidity
- NO protective cap
- (1) Clearcomm® discharge unit
- (1) set mounting legs
- (1) NYK:023839-3 connector buss link
- (2) NYK:023832 AAR clamp nuts

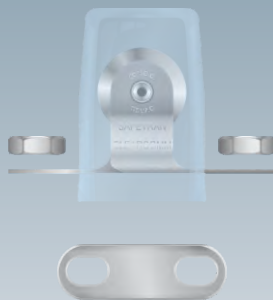
NYK:400044485050X



Air Gap Arrester Basic Assembly w/ Cover and Buss Connector (Communications)

- Meets or exceeds applicable AREMA® specifications
- Weight is approx. 0.5 lbs. (0.23 kgs.) including connectors
- Operates in -40° F to +160° F (-40°C to +70°C) @ up to 95% Non-Condensing Relative Humidity
- (1) NYK:Z820000140000 clear lexan protective cap
- (1) Clearcomm® discharge unit
- (1) set mounting legs
- (1) NYK:023839-3 connector buss link
- (2) NYK:023832 AAR clamp nuts

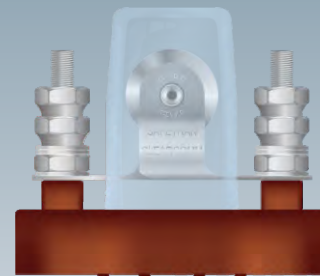
NYK:40004448550X1



Air Gap Arrester Basic Assembly w/ Cover and Buss Connector (Communications)

- Meets or exceeds applicable AREMA® specifications
- Weight is approx. 1.0 lbs. (0.45 kgs.) including connectors
- Operates in -40° F to +160° F (-40°C to +70°C) @ up to 95% Non-Condensing Relative Humidity
- (1) NYK:Z820000140000 clear lexan protective cap
- (1) Clearcomm® discharge unit
- (1) set mounting legs
- (1) NYK:023839-2 connector buss link
- (2) NYK:023832 AAR 14-24 clamp nuts

NYK:400044485051X



Air Gap Arrester Basic Assembly w/ (2) Post Bakelite Base (Communications)

- Meets or exceeds applicable AREMA® specifications
- Weight is approx. 2.0 lbs. (0.91 kgs.) including connectors
- Operates in -40° F to +160° F (-40°C to +70°C) @ up to 95% Non-Condensing Relative Humidity
- (1) NYK:Z820000140000 clear lexan protective cap
- (1) Clearcomm® discharge unit
- (1) set mounting legs
- (4) NYK:023831 AAR binding nuts
- (6) NYK:023834 AAR beveled washers
- (2) NYK:023832 AAR clamp nuts
- (1) NYK:Z820000300000 molded bakelite base

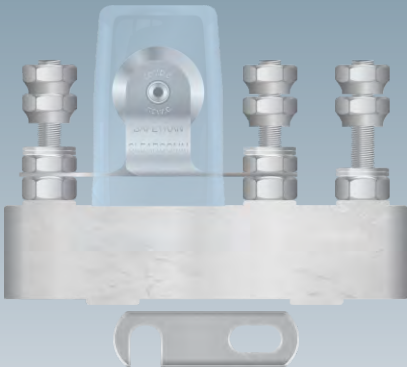
NYK:400044485052X



Air Gap Arrester Basic Assembly w/ (2) Post Porcelain Base (Communications)

- Meets or exceeds applicable AREMA® specifications
- Weight is approx. 2.2 lbs. (1.00 kgs.) including connectors
- Operates in -40° F to +160° F (-40°C to +70°C) @ up to 95% Non-Condensing Relative Humidity
- (1) NYK:Z820000140000 clear lexan protective cap
- (1) Clearcomm® discharge unit
- (1) set mounting legs
- (4) NYK:023831 AAR binding nuts
- (6) NYK:023834 AAR beveled washers
- (2) NYK:023832 AAR clamp nuts
- (1) NYK:40004421708X1 porcelain base

NYK:400044485053X



Air Gap Arrester Basic Assembly w/ (3) Post Porcelain Base (Communications)

- Meets or exceeds applicable AREMA® specifications
- Weight is approx. 2.6 lbs. (1.18 kgs.) including connectors
- Operates in -40° F to +160° F (-40°C to +70°C) @ up to 95% Non-Condensing Relative Humidity
- (1) NYK:Z820000140000 clear lexan protective cap
- (1) Clearcomm® discharge unit
- (1) set mounting legs
- (1) NYK:023839-3 connector buss link
- (6) NYK:023831 AAR binding nuts
- (6) NYK:023834 AAR beveled washers
- (2) NYK:023832 AAR clamp nuts
- (1) NYK:400044485005X porcelain base

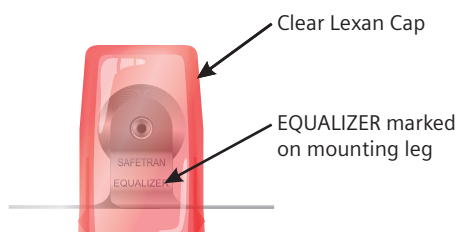


Clearview®

Air Gap Equalizers

Electrical Circuits (Standard Duty)

Overview



*Model A44700 Clearview® Air Gap Equalizer
shown for reference purposes only!
Actual unit selected may vary in mounting and features.*

SIEMENS Clearview® Air Gap Equalizer is a closed circuit shunt type protector for use on up to 24 VDC circuits with a minimum resistance of 1000 Ω .

Clearly marked with EQUALIZER stamped on the mounting leg for identification and protected with a red lexan cap. Easily mounts to racks, panels and/or bars due to the standard 2 3/8" mounting centers.

Sealed equalizer designs are also available for when equipment has the potential to be exposed to moisture.

NYK: Z820000280000



Clear Air Gap Equalizer Cover

- Meets or exceeds applicable AREMA® specifications
- Weight is approx. 0.2 lbs. (0.09 kgs.) including connectors
- Red lexan construction

NYK:400044700007X



Air Gap Equalizer Basic Assembly w/o Cover w/ Hardware

- Meets or exceeds applicable AREMA® specifications
- Weight is approx. 0.5 lbs. (0.23 kgs.) including connectors
- Operates in -40° F to +160° F (-40°C to +70°C) @ up to 95% Non-Condensing Relative Humidity
- NO protective cap
- (1) Equalizer discharge unit
- (1) set mounting legs
- (1) NYK:023839-3 connector buss link
- (2) NYK:023832 AAR clamp nuts

NYK:40004470001AX



Air Gap Equalizer Basic Assembly w/ Cover

- Meets or exceeds applicable AREMA® specifications
- Weight is approx. 0.7 lbs. (0.32 kgs.) including connectors
- Operates in -40° F to +160° F (-40°C to +70°C) @ up to 95% Non-Condensing Relative Humidity
- (1) NYK:Z820000280000 red lexan protective cap
- (1) Equalizer discharge unit
- (1) set mounting legs

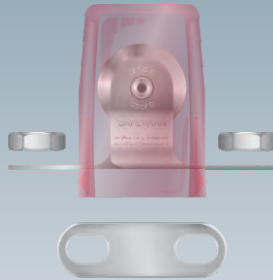
NYK:400044700001X



Air Gap Equalizer Basic Assembly w/ Cover and Hardware

- Meets or exceeds applicable AREMA® specifications
- Weight is approx. 1.0 lbs. (0.45 kgs.) including connectors
- Operates in -40° F to +160° F (-40°C to +70°C) @ up to 95% Non-Condensing Relative Humidity
- (1) NYK:Z820000280000 red lexan protective cap
- (1) Equalizer discharge unit
- (1) set mounting legs
- (2) NYK:023832 AAR clamp nuts
- (1) NYK:023839-3 connector buss link

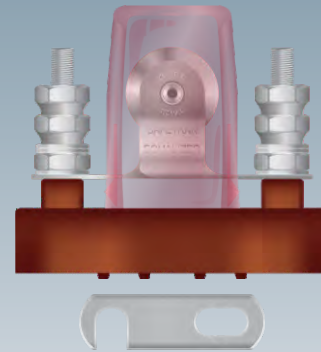
NYK:40004470001X1



Air Gap Equalizer Basic Assembly w/ Cover and Hardware

- Meets or exceeds applicable AREMA® specifications
- Weight is approx. 1.0 lbs. (0.45 kgs.) including connectors
- Operates in -40° F to +160° F (-40°C to +70°C) @ up to 95% Non-Condensing Relative Humidity
- (1) NYK:Z820000280000 red lexan protective cap
- (1) Equalizer discharge unit
- (1) set mounting legs
- (1) NYK:023839-2 connector buss link
- (2) NYK:023832 AAR clamp nuts

NYK:400044700005X



Air Gap Equalizer Basic Assembly w/ (2) Post Bakelite Base

- Meets or exceeds applicable AREMA® specifications
- Weight is approx. 2.0 lbs. (0.91 kgs.) including connectors
- Operates in -40° F to +160° F (-40°C to +70°C) @ up to 95% Non-Condensing Relative Humidity
- (1) NYK:Z820000280000 red lexan protective cap
- (1) Equalizer discharge unit
- (1) set mounting legs
- (4) NYK:023831 AAR binding nuts
- (6) NYK:023834 AAR beveled washers
- (2) NYK:023832 AAR clamp nuts
- (1) NYK:Z820000300000 molded bakelite base

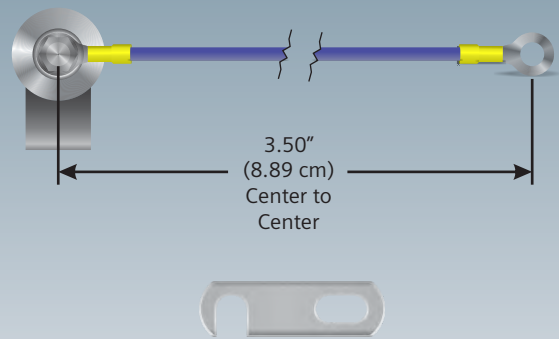
NYK:400044700002X



Air Gap Equalizer Basic Assembly w/ (2) Post Porcelain Base

- Meets or exceeds applicable AREMA® specifications
- Weight is approx. 2.2 lbs. (1.00 kgs.) including connectors
- Operates in -40° F to +160° F (-40°C to +70°C) @ up to 95% Non-Condensing Relative Humidity
- (1) NYK:Z820000280000 red lexan protective cap
- (1) Equalizer discharge unit
- (1) set mounting legs
- (4) NYK:023831 AAR binding nuts
- (6) NYK:023834 AAR beveled washers
- (2) NYK:023832 AAR clamp nuts
- (1) NYK:40004421708X1 porcelain base

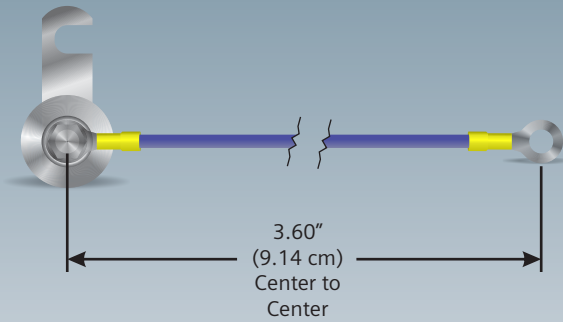
NYK:400044700030X



Rope Equalizer 3 1/2"

- Meets or exceeds applicable AREMA® specifications
- Weight is approx. 0.7 lbs. (0.32 kgs.) including connectors
- Operates in -40° F to +160° F (-40°C to +70°C) @ up to 95% Non-Condensing Relative Humidity
- NO protective cap
- (1) Equalizer discharge unit
- (1) mounting clip
- (1) 10 AWG blue wire
- (2) NYK:024628-17F terminal rings

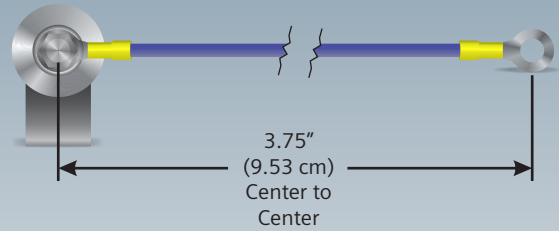
NYK:400044700033X



Rope Equalizer 3 5/8"

- Meets or exceeds applicable AREMA® specifications
- Weight is approx. 0.7 lbs. (0.32 kgs.) including connectors
- Operates in -40° F to +160° F (-40°C to +70°C) @ up to 95% Non-Condensing Relative Humidity
- NO protective cap
- (1) Equalizer discharge unit
- (1) 023839-3 connector buss link
- (1) 10 AWG blue wire
- (2) 024628-17F terminal rings

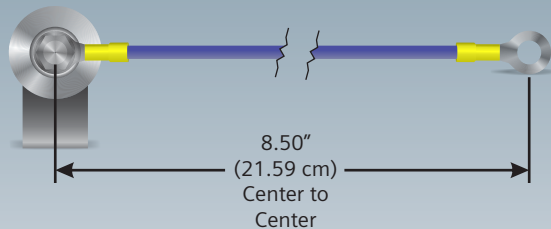
NYK:400044700032X



Rope Equalizer 3 3/4"

- Meets or exceeds applicable AREMA® specifications
- Weight is approx. 0.7 lbs. (0.32 kgs.) including connectors
- Operates in -40° F to +160° F (-40°C to +70°C) @ up to 95% Non-Condensing Relative Humidity
- NO protective cap
- (1) Equalizer discharge unit
- (1) mounting clip
- (1) 10 AWG blue wire
- (2) 024628-17F terminal rings

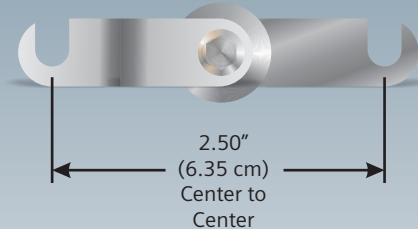
NYK:400044700031X



Rope Equalizer 8 1/2"

- Meets or exceeds applicable AREMA® specifications
- Weight is approx. 0.7 lbs. (0.32 kgs.) including connectors
- Operates in -40° F to +160° F (-40°C to +70°C) @ up to 95% Non-Condensing Relative Humidity
- NO protective cap
- (1) Equalizer discharge unit
- (1) mounting clip
- (1) 10 AWG blue wire
- (2) 024628-17F terminal rings

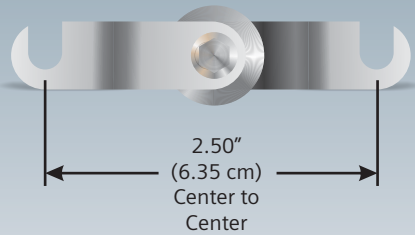
NYK:400044700021X



Blade Equalizer 2 1/2"

- Meets or exceeds applicable AREMA® specifications
- Weight is approx. 0.7 lbs. (0.32 kgs.) including connectors
- Operates in -40° F to +160° F (-40°C to +70°C) @ up to 95% Non-Condensing Relative Humidity
- 2000 Ω resistance minimum
- NO protective cap
- (2) Equalizer discharge units
- (1) pair SA mounting legs

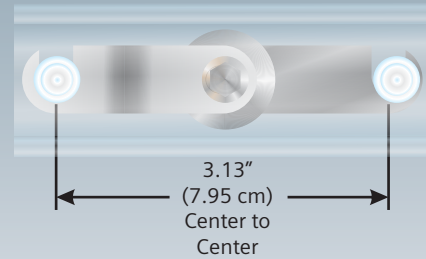
NYK:400044700046X



Blade Equalizer 2 1/2"

- Meets or exceeds applicable AREMA® specifications
- Weight is approx. 0.7 lbs. (0.32 kgs.) including connectors
- Operates in -40° F to +160° F (-40°C to +70°C) @ up to 95% Non-Condensing Relative Humidity
- 2000 Ω resistance minimum
- NO protective cap
- (2) Equalizer discharge units
- (1) pair SE mounting legs

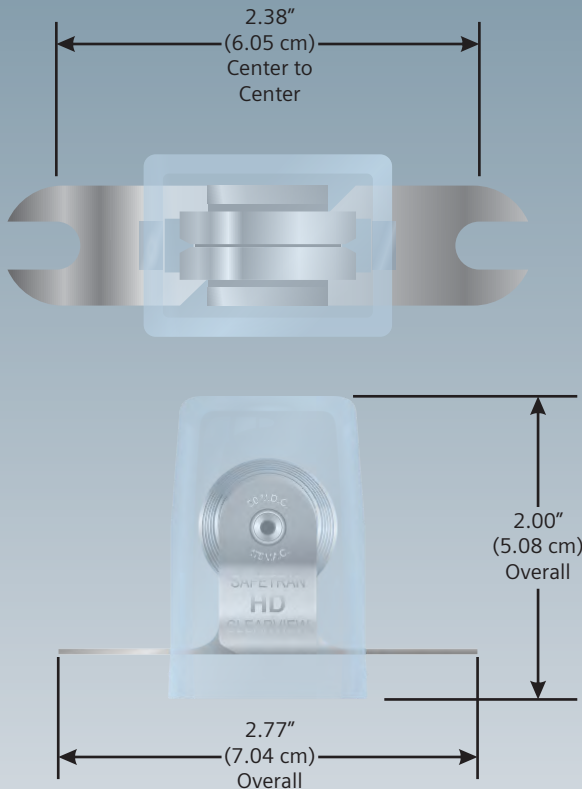
NYK:400044700047X



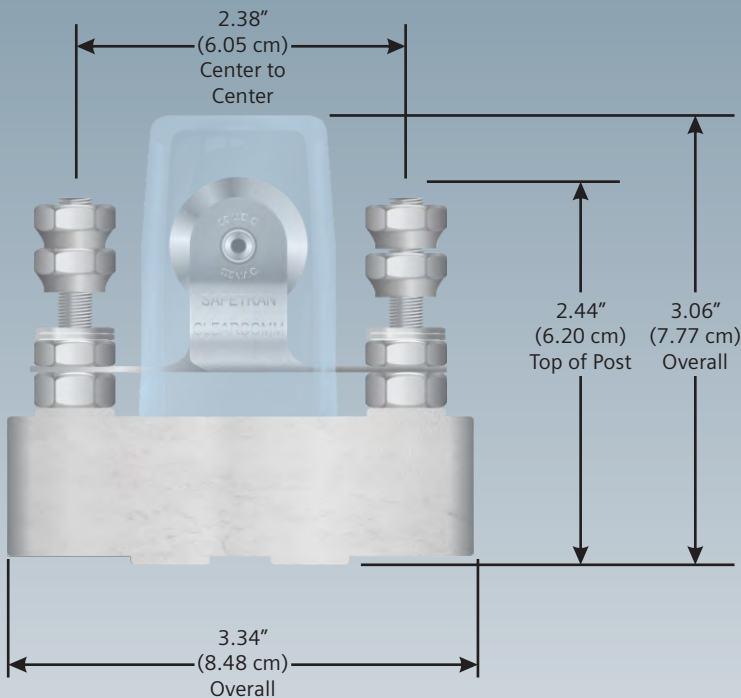
Blade Equalizer 2 1/2" w/ Cover

- Meets or exceeds applicable AREMA® specifications
- Weight is approx. 0.7 lbs. (0.32 kgs.) including connectors
- Operates in -40° F to +160° F (-40°C to +70°C) @ up to 95% Non-Condensing Relative Humidity
- 2000 Ω resistance minimum
- Z820-00054-0000 clear lexan protective cap
- (2) Equalizer discharge units
- (1) pair SE mounting legs

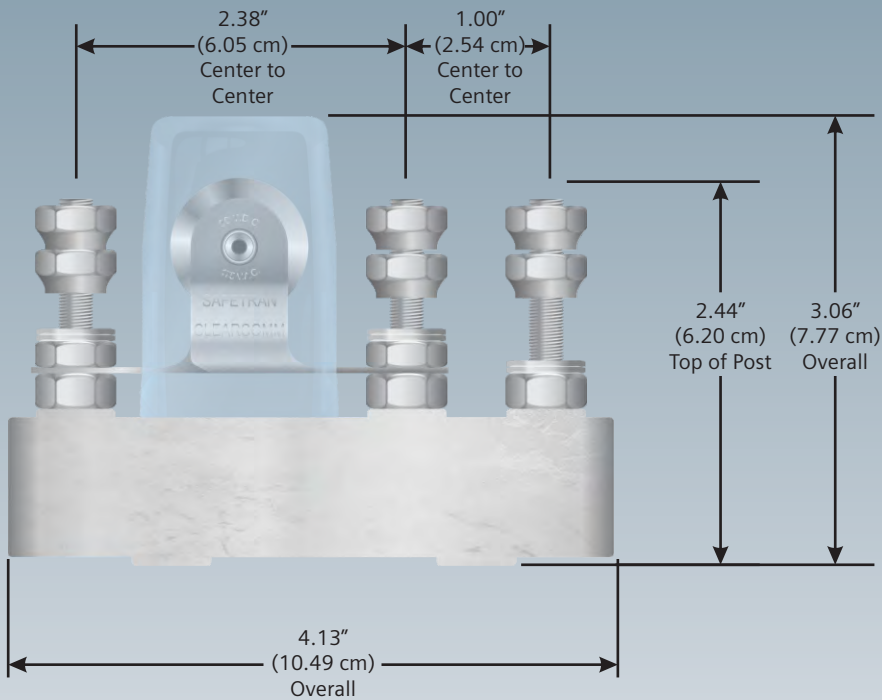
Applicable for all Air Gap Arresters and Air Gap Equalizers without a base

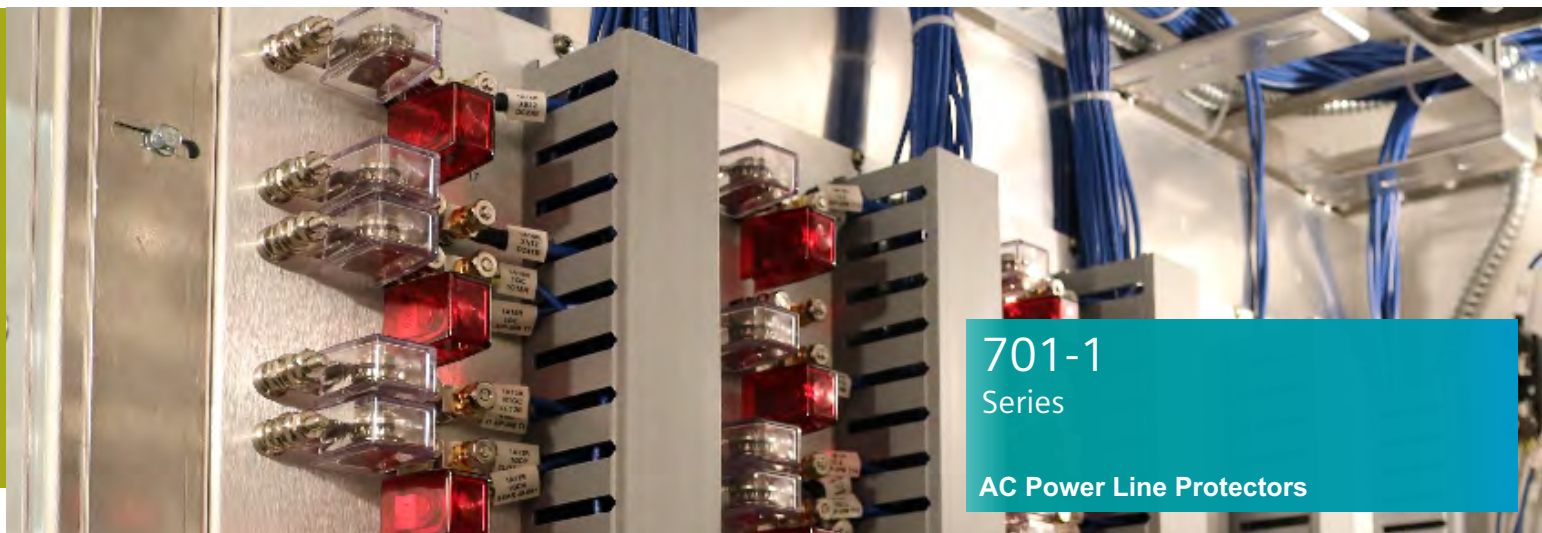


Applicable for all Air Gap Arresters and Air Gap Equalizers with 2 post base

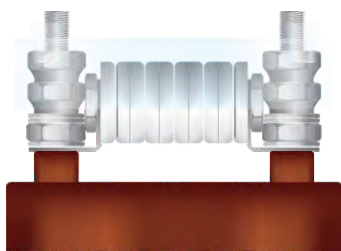


Applicable for all Air Gap Arresters with 3 post base



**701-1**
Series**AC Power Line Protectors**



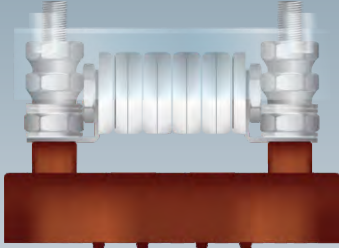

Overview



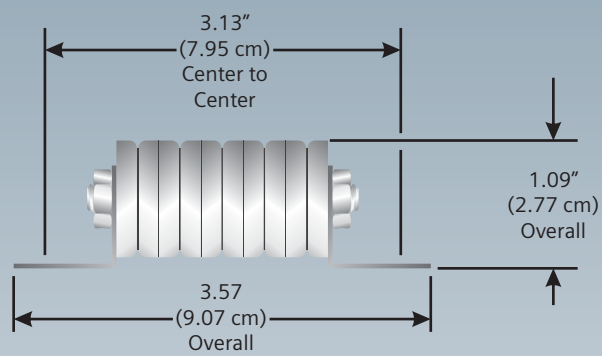
*Model A29245 701-1 Series AC Power Line Protector
shown for reference purposes only!
Actual unit selected may vary in mounting and features.*

SIEMENS AC Power Line Protector, model 701-1 is a shunt type heavy duty arrester for AC power lines. Applied across the incoming AC power leads, this unit is designed to shunt the surge and recover to normal under full AC power. No fuses or disconnects are required to protect this arrester. For supply transformers up to 1 KVA at 115 VAC, the transformer provides adequate series reactance to limit follow-through current. For capacities greater than 1 KVA at 115 VAC, two 701-1 protectors must be used in series to limit current so that the protectors can recover after a surge.

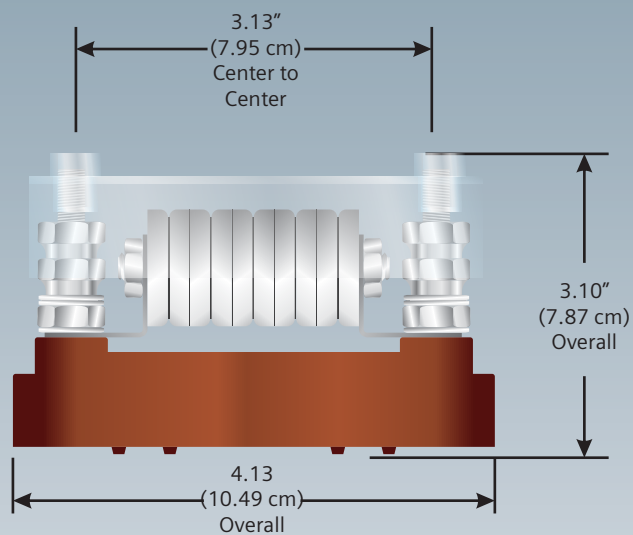
This unit has a 1000 V breakdown between its terminals. **SIEMENS** AC Power Line Protector, model 701-1, can be furnished either as a single unit for mounting on 3-1/8 inch centers, or mounted on bakelite base. The Model 701-1 protector is the same protector as used on the AC Line Surge Protection Networks; therefore, this unit may be used as a direct replacement part for those networks. For 230 VAC systems, two 701-1 protectors must be used in series.

<div>NYK:4000447010000</div> <div></div> <div><div>Discharge Unit</div><ul style="list-style-type: none">• Weight is approx. 0.6 lbs. (0.27 kgs.)• 115 VAC protection</div>	<div>NYK:400044701001X</div> <div></div> <div><div>Discharge Unit w/ Cover</div><ul style="list-style-type: none">• Weight is approx. 1.3 lbs. (0.27 kgs.)• 115 VAC protection• (1) NYK:4000447010000 discharge unit• (1) NYK:022701-4 plastic cap</div>
<div>NYK:400044701002X</div> <div></div> <div><div>Discharge Unit w/ Cover and (2) Post Bakelite Base</div><ul style="list-style-type: none">• Weight is approx. 3.6 lbs. (1.63 kgs.)• 115 VAC protection• (1) NYK:4000447010000 discharge units• (1) NYK:022701-4 plastic cap• (1) NYK:Z820000310000 bakelite terminal block base</div>	<div>NYK:400044701029X</div> <div></div> <div><div>Discharge Unit w/ Cover</div><ul style="list-style-type: none">• Weight is approx. 1.3 lbs. (0.27 kgs.)• 115 VAC protection• (1) NYK:4000447010000 discharge unit• (1) NYK:022701-4 plastic cap</div>

Applicable for all 701-1 Series AC Power Line Protectors without a base



Applicable for all 701-1 Series AC Power Line Protectors with a 2 post base

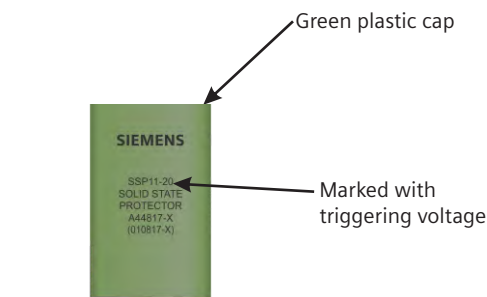




SSP-11 Series

Solid State Surge Protectors

Overview



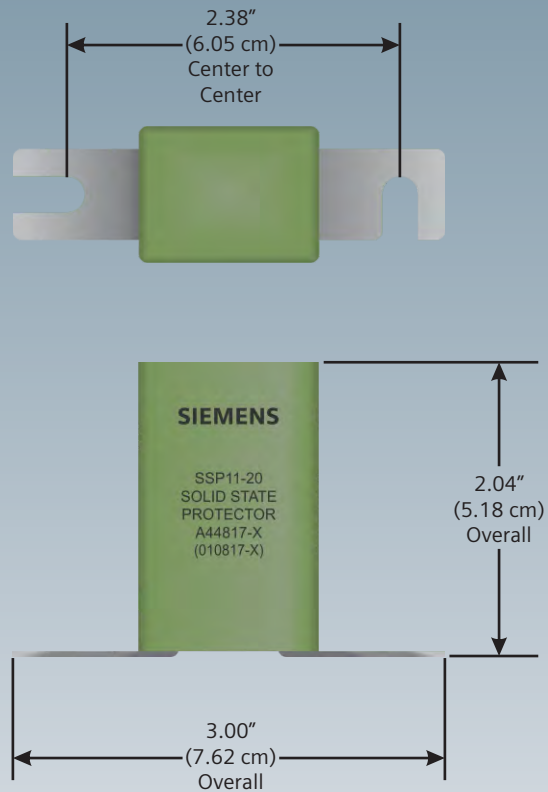
*Model A44817 Series
shown for reference purposes only!
Actual unit selected may vary in mounting and features.*

SIEMENS SSP Series is a closed circuit shunt type protector designed to trigger at the marked specified voltage to provide the desired protection for solid state equipment.

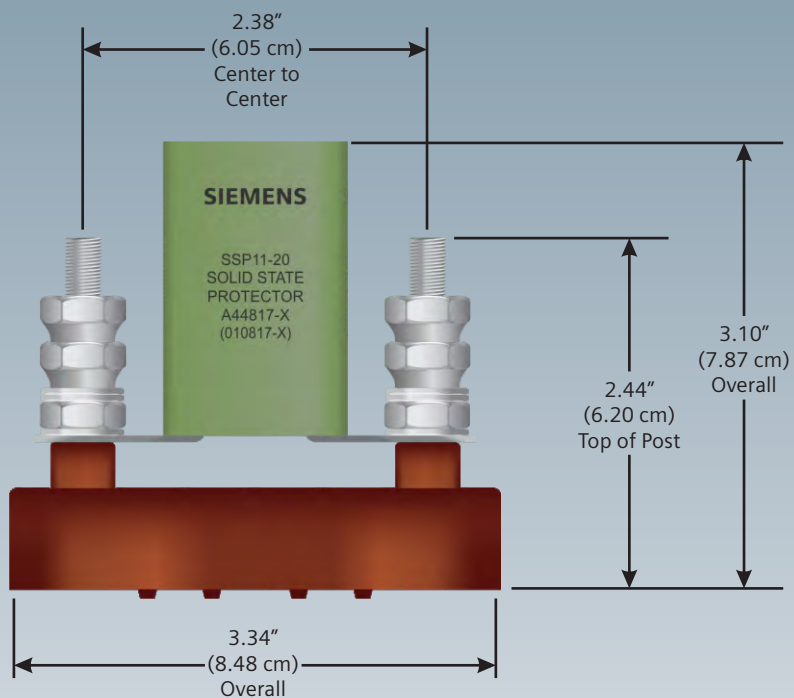
Maximum steady state voltage (DC) will “clamp” on higher voltages after triggering.

SIEMENS Part Number	Trigger Voltage	DIAC(s)	TRIAC(s)	RECTIFIER(s) / DIODE(s)	Included bakelight base and associated hardware	Weight	Electromechanical Systems Electromechanical Stabilization Products
NYK:400044817000X	20 V	(1) HS-20	(1) PT230	(4) MR754	-	0.6 lbs (0.27 kgs)	
NYK:400044817001X	30 V	(1) 1N5761A	(1) PT230	(4) MR754	-	0.6 lbs (0.27 kgs)	
NYK:400044817002X	40 V	(1) HS-20	(1) PT230	(2) IN4746A	-	0.6 lbs (0.27 kgs)	
NYK:400044817003X	50 V	(1) 1N5761A	(1) PT230	(2) IN4746A	-	0.6 lbs (0.27 kgs)	
NYK:400044817004X	100 V	(1) 1N5761A	(1) PT230	(4) MR754 (2) IN4760A	-	0.6 lbs (0.27 kgs)	
NYK:400044817005X	200 V	(1) HS-20	(1) PT230	(4) MR754 (2) IN5593B	-	0.6 lbs (0.27 kgs)	
NYK:400044817006X	300 V	(1) HS-20	(1) PT630	(4) MR754 (2) IN5593B	-	0.6 lbs (0.27 kgs)	
NYK:400044817007X	400 V	(1) HS-20	(1) PT630	(4) MR754 (2) IN5593B	-	0.6 lbs (0.27 kgs)	
NYK:400044818000X	20 V	(1) HS-20	(1) PT230	(4) MR754	X	1.8 lbs (0.82 kgs)	
NYK:400044818001X	30 V	(1) 1N5761A	(1) PT230	(4) MR754	X	1.8 lbs (0.82 kgs)	
NYK:400044818002X	40 V	(1) HS-20	(1) PT230	(2) IN4746A	X	1.8 lbs (0.82 kgs)	
NYK:400044818003X	50 V	(1) 1N5761A	(1) PT230	(2) IN4746A	X	1.8 lbs (0.82 kgs)	
NYK:400044818004X	100 V	(1) 1N5761A	(1) PT230	(4) MR754 (2) IN4760A	X	1.8 lbs (0.82 kgs)	
NYK:400044818005X	200 V	(1) HS-20	(1) PT230	(4) MR754 (2) IN5593B	X	1.8 lbs (0.82 kgs)	
NYK:400044818006X	300 V	(1) HS-20	(1) PT630	(4) MR754 (2) IN5593B	X	1.8 lbs (0.82 kgs)	
NYK:400044818007X	400 V	(1) HS-20	(1) PT630	(4) MR754 (2) IN5593B	X	1.8 lbs (0.82 kgs)	

Applicable for all SSP-11 Series Solid State Surge Protectors without a base



Applicable for all SSP-11 Series Solid State Surge Protectors with a 2 post base

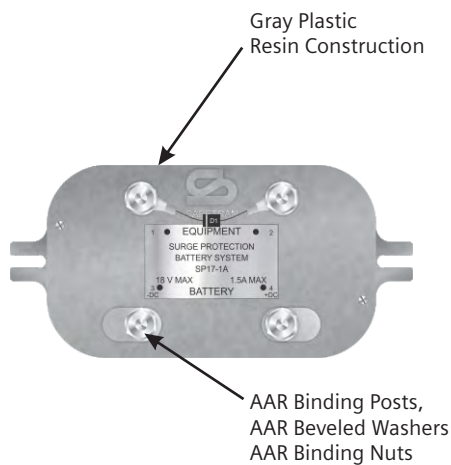




SP-17
Series

Solid State Battery Line Surge Protectors

Overview

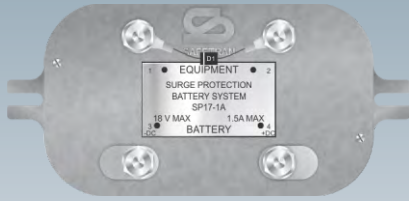


Model A44804 Solid State Battery Line Surge Protector
shown for reference purposes only!
Actual unit selected may vary in mounting and features.

SIEMENS SP-17 Solid State Battery Line Surge Protector Series is designed to provide solid state equipment protection for devices using DC power and to provide protection against AC power line surges. Enclosed in gray plastic resin housing with cover and comes equipped with AAR binding posts, beveled washers and binding nuts for quick and simple installation.

Designed with either a 18 VDC or 32 VDC TranZorb™ diode. Battery wires must be at least 12 gauge or larger or a fuse must be used in conjunction to prevent possible damage. Some models also are equipped with an equalizer for maximum equipment protection of 18V and 1.5A maximum.

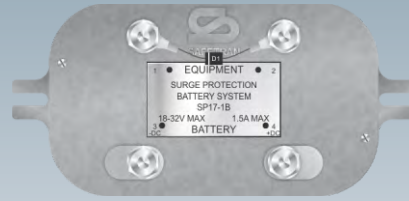
NYK:40004480400AX



SP17-1A Battery System Model

- Weight is approx. 1.6 lbs. (0.73 kgs.)
- 18 VDC maximum
- 1.5 Amp current maximum
- 1.1 Ω resistance per line
- 550 μ H per line
- (1) 18 volt TranZorb™ 5KE20 diode

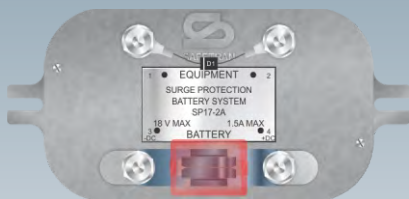
NYK:40004480400BX



SP17-1B Battery System Model

- Weight is approx. 1.6 lbs. (0.73 kgs.)
- 32 VDC maximum
- 1.5 Amp current maximum
- 1.1 Ω resistance per line
- 550 μ H per line
- (1) 32 volt TranZorb™ 1.5KE36A diode

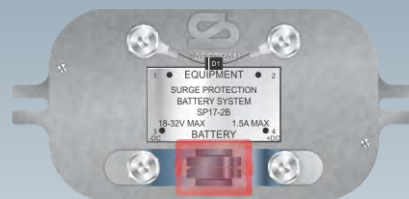
NYK:40004480405AX



SP17-2A Battery System Model

- Weight is approx. 2.6 lbs. (1.18 kgs.)
- 18 VDC maximum
- 1.5 Amp current maximum
- 1.1 Ω resistance per line
- 550 μ H per line
- (1) 18 volt TranZorb™ 5KE20 diode
- (1) NYK:400044700001X equalizer

NYK:40004480405BX



SP17-2B Battery System Model

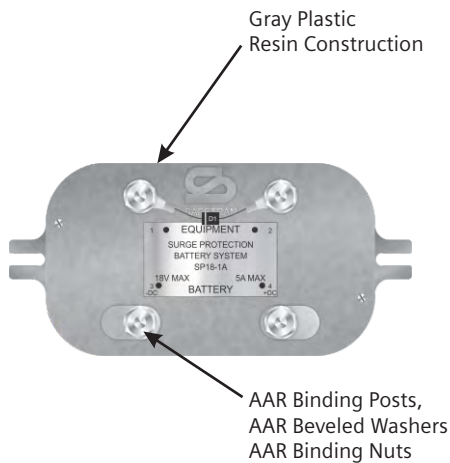
- Weight is approx. 2.6 lbs. (1.18 kgs.)
- 32 VDC maximum
- 1.5 Amp current maximum
- 1.1 Ω resistance per line
- 550 μ H per line
- (1) 32 volt TranZorb™ 1.5KE36A diode
- (1) NYK:400044700001X equalizer



SP-18 Series

Solid State Battery Line Surge Protectors

Overview

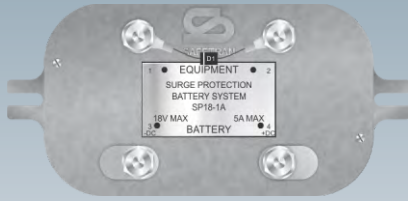


Model A44805 Solid State Battery Line Surge Protector
shown for reference purposes only!
Actual unit selected may vary in mounting and features.

SIEMENS SP-18 Solid State Battery Line Surge Protector Series is designed to provide solid state equipment protection for devices using DC power and to provide protection against AC power line surges. Enclosed in gray plastic resin housing with cover and comes equipped with AAR binding posts, beveled washers and binding nuts for quick and simple installation.

Designed with either a 18 VDC or 32 VDC TranZorb™ diode. Battery wires must be at least 12 gauge or larger or a fuse must be used in conjunction to prevent possible damage. Some models also are equipped with an equalizer for maximum equipment protection of 18V and 1.5A maximum.

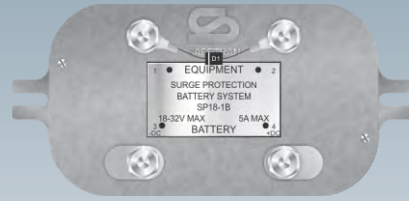
NYK:40004480500AX



SP18-1A Battery System Model

- Weight is approx. 1.6 lbs. (0.73 kgs.)
- 18 VDC maximum
- 5 Amp current maximum
- 0.35 Ω resistance per line
- 185 μ H per line
- (1) 18 volt TranZorb™ 5KE20 Diode

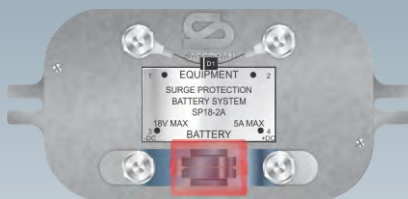
NYK:40004480500BX



SP18-1B Battery System Model

- Weight is approx. 1.6 lbs. (0.73 kgs.)
- 32 VDC maximum
- 5 Amp current maximum
- 0.35 Ω resistance per line
- 185 μ H per line
- (1) 32 volt TranZorb™ 1.5KE36A Diode

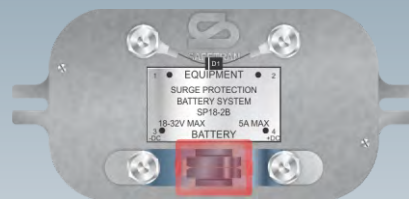
NYK:40004480504AX



SP18-2A Battery System Model

- Weight is approx. 2.6 lbs. (1.18 kgs.)
- 18 VDC maximum
- 5 Amp current maximum
- 0.35 Ω resistance per line
- 185 μ H per line
- (1) 18 volt TranZorb™ 5KE20 Diode
- (1) NYK:400044700001X equalizer

NYK:40004480504BX



SP18-2B Battery System Model

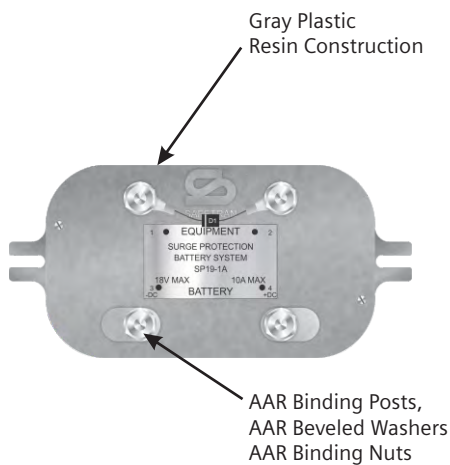
- Weight is approx. 2.6 lbs. (1.18 kgs.)
- 32 VDC maximum
- 5 Amp current maximum
- 0.35 Ω resistance per line
- 185 μ H per line
- (1) 32 volt TranZorb™ 1.5KE36A Diode
- (1) NYK:400044700001X equalizer



SP-19
Series

Solid State Battery Line Surge Protectors

Overview

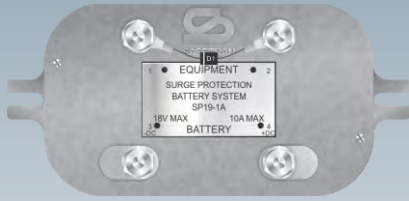


Model A44806 Solid State Battery Line Surge Protector
shown for reference purposes only!
Actual unit selected may vary in mounting and features.

SIEMENS SP-19 Solid State Battery Line Surge Protector Series is designed to provide solid state equipment protection for devices using DC power and to provide protection against AC power line surges. Enclosed in gray plastic resin housing with cover and comes equipped with AAR binding posts, beveled washers and binding nuts for quick and simple installation.

Designed with either a 18 VDC or 32 VDC TranZorb™ diode. Battery wires must be at least 12 gauge or larger or a fuse must be used in conjunction to prevent possible damage. Some models also are equipped with an equalizer for maximum equipment protection of 18V and 1.5A maximum.

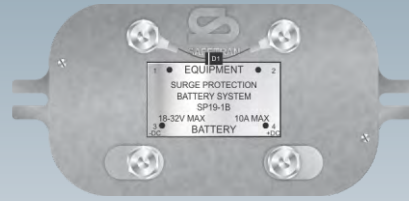
NYK:40004480600AX



SP19-1A Battery System Model

- Weight is approx. 1.6 lbs. (0.73 kgs.)
- 18 VDC maximum
- 10 Amp current maximum
- 0.02 Ω resistance per line
- 18 μ H per line
- (1) 18 volt TranZorb™ 5KE20 Diode

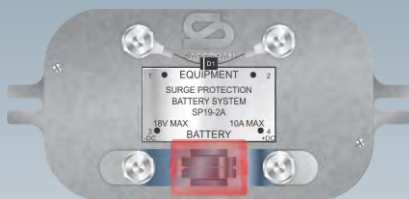
NYK:40004480600BX



SP19-1B Battery System Model

- Weight is approx. 1.6 lbs. (0.73 kgs.)
- 32 VDC maximum
- 10 Amp current maximum
- 0.02 Ω resistance per line
- 18 μ H per line
- (1) 32 volt TranZorb™ 1.5KE36A Diode

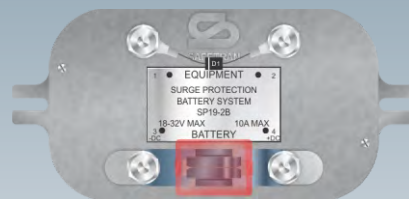
NYK:40004480603AX



SP19-2A Battery System Model

- Weight is approx. 2.6 lbs. (1.18 kgs.)
- 18 VDC maximum
- 10 Amp current maximum
- 0.02 Ω resistance per line
- 18 μ H per line
- (1) 18 volt TranZorb™ 5KE20 Diode
- (1) NYK:400044700001X equalizer

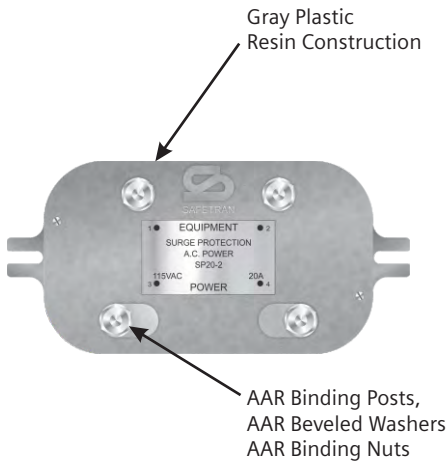
NYK:40004480603BX



SP19-2B Battery System Model

- Weight is approx. 2.6 lbs. (1.18 kgs.)
- 32 VDC maximum
- 10 Amp current maximum
- 0.02 Ω resistance per line
- 18 μ H per line
- (1) 32 volt TranZorb™ 1.5KE36A Diode
- (1) NYK:400044700001X equalizer

Overview



**Model A44807 AC Power Surge Protector
shown for reference purposes only!
Actual unit selected may vary in mounting and features.**

SIEMENS SP-20 Solid State AC Power Surge Protector Series is designed to provide solid state equipment protection for devices using DC power and to provide protection against AC power line surges. Enclosed in gray plastic resin housing with cover and comes equipped with AAR binding posts, beveled washers and binding nuts for quick and simple installation.

Designed with either a 18 VDC or 32 VDC TranZorb™ diode. Battery wires must be at least 12 gauge or larger or a fuse must be used in conjunction to prevent possible damage. Some models also are equipped with an equalizer for maximum equipment protection of 18V and 1.5A maximum.

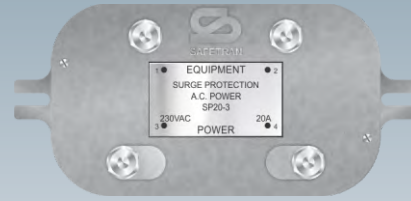
NYK:40004480700AX



SP20-2 AC Line Model

- Weight is approx. 1.6 lbs. (0.73 kgs.)
- 115 VAC maximum
- 20 Amp current maximum
- 0.01 Ω resistance per line
- 18 μ H per line

NYK:40004480700BX



SP20-3 AC Line Model

- Weight is approx. 1.6 lbs. (0.73 kgs.)
- 230 VAC maximum
- 20 Amp current maximum
- 0.01 Ω resistance per line
- 18 μ H per line

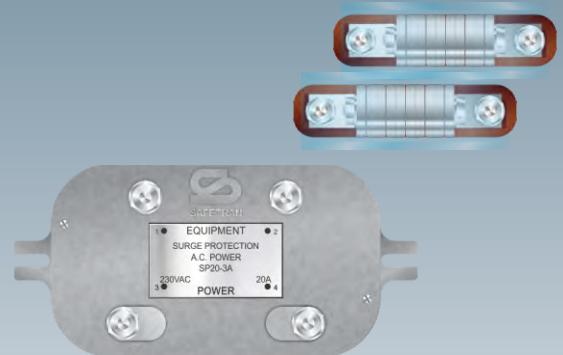
NYK:40004480706AX



SP20-2A AC Line Model

- Weight is approx. 2.9 lbs. (1.32 kgs.)
- 115 VAC maximum
- 20 Amp current maximum
- 0.01 Ω resistance per line
- 18 μ H per line
- (1) NYK:400044701001X AC power line protector

NYK:40004480707AX



SP20-3A AC Line Model

- Weight is approx. 3.8 lbs. (1.72 kgs.)
- 230 VAC maximum
- 20 Amp current maximum
- 0.01 Ω resistance per line
- 18 μ H per line
- (2) NYK:400044701002X AC power line protectors

NYK:400044807023X



SP20-4 AC Line Model

- Weight is approx. 2.4 lbs. (1.09 kgs.)
- 115 VAC maximum
- 20 Amp current maximum
- 0.02 Ω resistance per line
- 36 μ H per line
- (2) Insulated caps

NYK:400044807023AX



SP20-4A AC Line Model

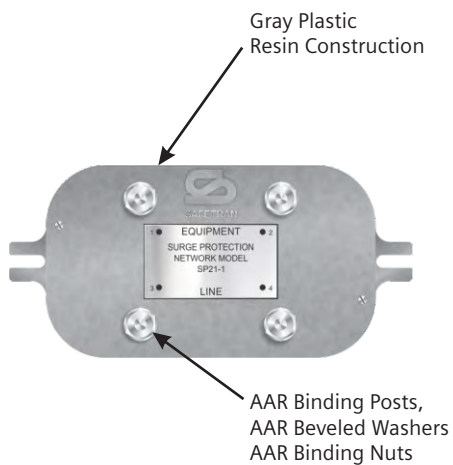
- Weight is approx. 3.6 lbs. (1.63 kgs.)
- 115 VAC maximum
- 20 Amp current maximum
- 0.02 Ω resistance per line
- 36 μ H per line
- (1) NYK:400044701002X AC power line protector
- (2) Insulated caps



SP-21
Series

Solid State Code Line Surge Protectors

Overview



Model A44808 AC Power Surge Protector shown for reference purposes only! Actual unit selected may vary in mounting and features.

SIEMENS SP-21 Solid State Code Line Surge Protector Series is designed to provide solid state equipment protection for communication devices. Enclosed in gray plastic resin housing with cover and comes equipped with AAR binding posts, beveled washers and binding nuts for quick and simple installation.

Connection wires must be at least 12 gauge or larger to prevent possible damage. Some models also are equipped with either a Clearview® Air Gap Arresters for Electrical Circuits or Clearview® Air Gap Arresters for Communication Circuits as well as a SSP-11 Solid State Surge Protectors.

NYK:400044808000X



SP21-1 Code Line Model

- Weight is approx. 1.6 lbs. (0.73 kgs.)
- 400 VDC maximum
- 20 Amp current maximum
- 0.01 Ω resistance per line
- 18 μ H per line

NYK:400044808005X



SP21-2 Code Line Model

- Weight is approx. 1.6 lbs. (0.73 kgs.)
- 400 VDC maximum
- 20 Amp current maximum
- 0.01 Ω resistance per line
- 18 μ H per line
- (1) NYK:400044817001X 30V solid state protector

NYK:400044808006X



SP21-3 Code Line Model

- Weight is approx. 3.8 lbs. (1.72 kgs.)
- 400 VDC maximum
- 20 Amp current maximum
- 0.01 Ω resistance per line
- 18 μ H per line
- (1) NYK:400044817001X 30V solid state protector
- (1) NYK:4000448528AX arrester

NYK:400044808010X

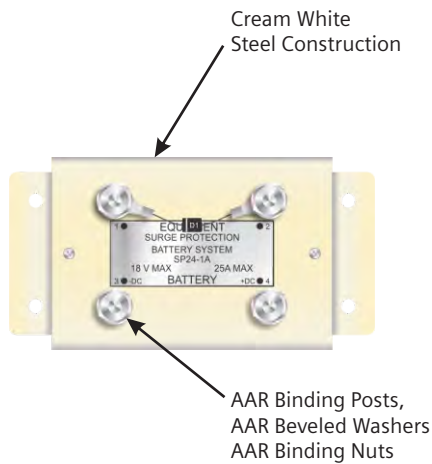


SP21-5 Code Line Model

- Weight is approx. 3.8 lbs. (1.72 kgs.)
- 400 VDC maximum
- 20 Amp current maximum
- 0.01 Ω resistance per line
- 18 μ H per line
- (1) NYK:400044817002X 40V solid state protector
- (1) NYK:4000448528AX arrester



Overview



Model A44811 Solid State Battery Line Surge Protector
shown for reference purposes only!
Actual unit selected may vary in mounting and features.

SIEMENS SP-24 Solid State Battery Line Surge Protector Series is designed to provide solid state equipment protection for devices using DC power and to provide protection against AC power line surges. Enclosed in cream white steel housing with cover and comes equipped with AAR binding posts, beveled washers and binding nuts for quick and simple installation.

Designed with either a 18 VDC or 32 VDC TranZorb™ diode. Battery wires must be at least 12 gauge or larger or a fuse must be used in conjunction to prevent possible damage. Some models also are equipped with an equalizer for maximum equipment protection of 18V and 25A maximum.

NYK:40004481104AX



SP24-1A Battery System Model

- Weight is approx. 2.4 lbs. (1.09 kgs.)
- 18 VDC maximum
- 25 Amp current maximum
- 0.006 Ω resistance per line
- 8 μ H per line
- (1) 18 volt TranZorb™ 5KE20 Diode

NYK:40004481104BX



SP24-1B Battery System Model

- Weight is approx. 2.4 lbs. (1.09 kgs.)
- 32 VDC maximum
- 25 Amp current maximum
- 0.006 Ω resistance per line
- 8 μ H per line
- (1) 32 volt TranZorb™ 1.5KE36A Diode

NYK:40004481105AX



SP24-2A Battery System Model

- Weight is approx. 3.8 lbs. (1.72 kgs.)
- 18 VDC maximum
- 25 Amp current maximum
- 0.006 Ω resistance per line
- 8 μ H per line
- (1) 18 volt TranZorb™ 5KE20 Diode
- (1) NYK:400044700001X equalizer

NYK:40004481105BX



SP24-2B Battery System Model

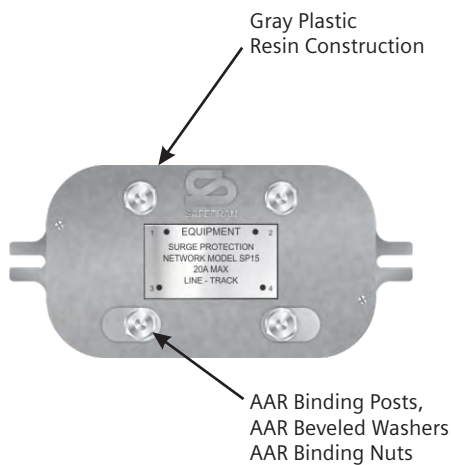
- Weight is approx. 3.8 lbs. (1.72 kgs.)
- 32 VDC maximum
- 25 Amp current maximum
- 0.006 Ω resistance per line
- 8 μ H per line
- (1) 32 volt TranZorb™ 1.5KE36A Diode
- (1) NYK:400044700001X equalizer



SP-15 and SP-26 Series

Solid State Track Circuit Surge Protectors

Overview



Model A44814 Solid State Battery Line Surge Protector
shown for reference purposes only!
Actual unit selected may vary in mounting and features.

SIEMENS SP-15 and SP-26 Solid State Track Circuit Surge Protector Series is designed to provide solid state equipment protection for track circuit devices. Enclosed in gray plastic resin housing with cover and comes equipped with AAR binding posts, beveled washers and binding nuts for quick and simple installation.

Connection wires must be at least 12 gauge or larger to prevent possible damage. Some models also are equipped with a Clearview® Air Gap Equalizer or a SSP-11 Solid State Surge Protectors.

NYK:400044802000X



SP15-1 Track Circuit Model

- Weight is approx. 0.6 lbs. (0.27 kgs.)
- 5 VDC maximum
- 20 Amp current maximum
- 0.01 Ω resistance per line
- 18 μ H per line

NYK:400044802014X



SP15-2 Track Circuit Model

- Weight is approx. 0.6 lbs. (0.27 kgs.)
- 5 VDC maximum
- 20 Amp current maximum
- 0.01 Ω resistance per line
- 18 μ H per line
- (1) NYK:400044817001X 30V solid state protector

NYK:400044814000X



SP26-2 Track Circuit Model

- Weight is approx. 0.6 lbs. (0.27 kgs.)
- 5 VDC maximum
- 25 Amp current maximum
- 0.01 Ω resistance per line
- 8 μ H per line

NYK:400044814006X



SP26-6 Track Circuit Model

- Weight is approx. 0.6 lbs. (0.27 kgs.)
- 5 VDC maximum
- 25 Amp current maximum
- 0.01 Ω resistance per line
- 8 μ H per line
- (1) NYK:400044700001X equalizer

NYK:400044814007X



SP26-2-50 Track Circuit Model

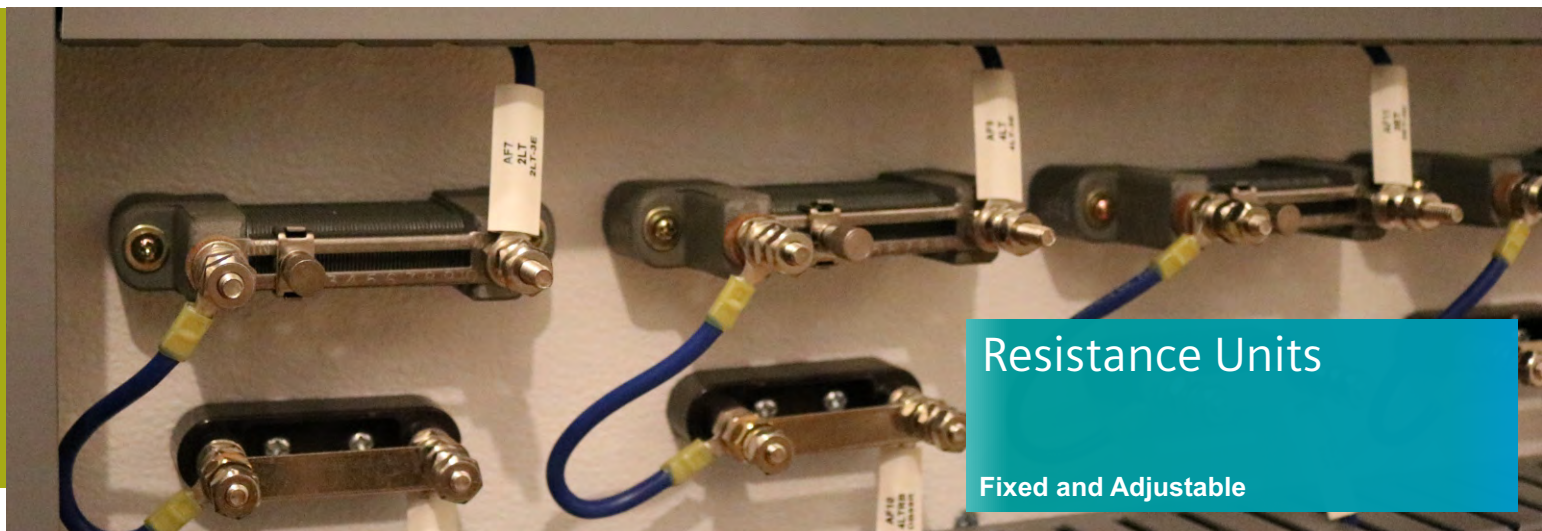
- Weight is approx. 1.6 lbs. (0.73 kgs.)
- 5 VDC maximum
- 25 Amp current maximum
- 0.01 Ω resistance per line
- 8 μ H per line

NYK:400044814008X



SP26-2 Track Circuit Model

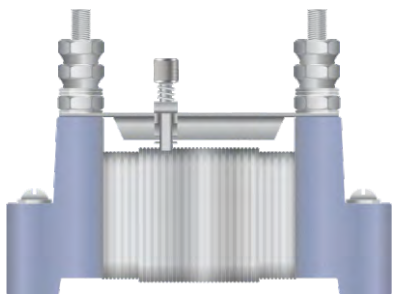
- Weight is approx. 1.6 lbs. (0.73 kgs.)
- 5 VDC maximum
- 25 Amp current maximum
- 0.01 Ω resistance per line
- 8 μ H per line



Resistance Units

Fixed and Adjustable

Overview



*Model A029602 Adjustable Resistance Unit shown for reference purposes only!
Actual unit selected may vary in mounting and features.*

SIEMENS Fixed Resistance Units employ the same materials and construction used in the adjustable types. A metal tag attached to one post gives specifications of the unit. All units are 100% tested for resistance. The tolerance is +10, -0% of the rated value. This is the same range as a + 5% resistor, except that each unit is guaranteed to have a nominal value not below the rated value.

A fiber guard for protection against touching of adjacent units, and a spacer for use where excessive heating occurs, are available. Safetran adjustable and Fixed Resistance Units are marked in AREMA® wattage, specified in Manual Part 14.2.15. Maximum temperatures rise of hottest part of resistor body is 1800° C (3560° F) above ambient temperature.

SIEMENS Adjustable Resistance Units provide a sliding contact with resistance graduations. The resistance wire is made of a corrosion resistant alloy, and has an electrically resistant oxide coating which prevents shorts from incidental contact of wires. The wire is wound around a patented porcelain base with grooves for locating the windings.

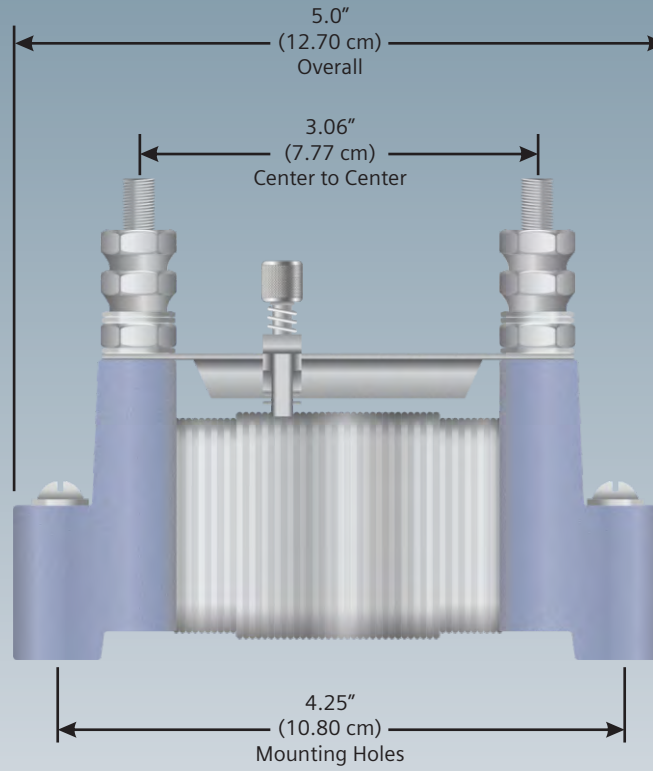
The wire is attached to the terminal posts by a washer and (2) nuts located inside the porcelain block. A stainless steel channel type bridge, used to insure against bowing and consequent loss of contact pressure, is marked in ten equal divisions of the total range of adjustment, to facilitate settings and recording of critical circuits. The bridge is marked with minimum and maximum resistance values as well.

The stainless steel contact assembly has two stainless steel springs, one of which is mounted between the sliding member and the double contact, keeping pressure on the contact, so the circuit is always closed under spring pressure, while making adjustment. A Hex-head screw passes through both springs to exert direct pressure on the double contact, allowing it to lock the sliding assembly in place on the bridge.

SIEMENS Part Number	Resistance Range ± 10%	Current	Turns	Length	Type		Weight	Electromechanical Systems Electromechanical Stabilization Products
					Fixed	Adj		
NYK:029602-1X	0.068 Ω - 0.630 Ω	8.89 A	N/A	N/A	-	X	0.92 lbs (0.42 kgs)	
NYK:029602-2X	0.085 Ω - 0.800 Ω	3.97 A	N/A	N/A	-	X	0.92 lbs (0.42 kgs)	
NYK:029602-3X	0.106 Ω - 1.000 Ω	3.87 A	N/A	N/A	-	X	0.92 lbs (0.42 kgs)	
NYK:029602-4X	0.136 Ω - 1.300 Ω	3.40 A	N/A	N/A	-	X	0.92 lbs (0.42 kgs)	
NYK:029602-5X	0.172 Ω - 1.600 Ω	3.06 A	N/A	N/A	-	X	0.92 lbs (0.42 kgs)	
NYK:029602-6X	0.213 Ω - 2.000 Ω	2.74 A	N/A	N/A	-	X	0.92 lbs (0.42 kgs)	
NYK:029602-7X	0.270 Ω - 2.500 Ω	2.45 A	N/A	N/A	-	X	0.92 lbs (0.42 kgs)	
NYK:029602-8AX	0.340 Ω - 3.000 Ω	2.24 A	N/A	N/A	-	X	0.92 lbs (0.42 kgs)	
NYK:029602-51X	0.170 Ω - 0.700 Ω	-	N/A	N/A	-	X	0.92 lbs (0.42 kgs)	
NYK:029602-51X	0.035 Ω - 1.500 Ω	-	N/A	N/A	-	X	0.92 lbs (0.42 kgs)	
NYK:029603-1X	0.380 Ω - 4.000 Ω	1.94 A	N/A	N/A	-	X	0.92 lbs (0.42 kgs)	
NYK:029603-2X	0.482 Ω - 5.000 Ω	1.73 A	N/A	N/A	-	X	0.92 lbs (0.42 kgs)	
NYK:029603-3X	0.605 Ω - 6.300 Ω	1.54 A	N/A	N/A	-	X	0.92 lbs (0.42 kgs)	
NYK:029603-4X	0.770 Ω - 8.000 Ω	1.37 A	N/A	N/A	-	X	0.92 lbs (0.42 kgs)	
NYK:029603-5X	0.960 Ω - 10.000 Ω	1.22 A	N/A	N/A	-	X	0.92 lbs (0.42 kgs)	
NYK:029603-6X	1.220 Ω - 12.500 Ω	1.09 A	N/A	N/A	-	X	0.92 lbs (0.42 kgs)	
NYK:029603-7X	1.530 Ω - 16.000 Ω	0.97 A	N/A	N/A	-	X	0.92 lbs (0.42 kgs)	
NYK:029603-8X	1.700 Ω - 17.000 Ω	0.94 A	N/A	N/A	-	X	0.92 lbs (0.42 kgs)	
NYK:029603-9X	2.120 Ω - 22.000 Ω	0.83 A	N/A	N/A	-	X	0.92 lbs (0.42 kgs)	

Electromechanical Systems Electromechanical Stabilization Products	SIEMENS Part Number	Resistance Range ± 10%	Current	Turns	Length	Type		Weight
						Fixed	Adj	
	NYK:029603-10X	2.120 Ω - 22.000 Ω	0.73 A	N/A	N/A	-	X	0.92 lbs (0.42 kgs)
	NYK:029603-11X	3.370 Ω - 35.000 Ω	0.65 A	N/A	N/A	-	X	0.92 lbs (0.42 kgs)
	NYK:029603-12X	4.270 Ω - 44.000 Ω	0.58 A	N/A	N/A	-	X	0.92 lbs (0.42 kgs)
	NYK:029603-13X	5.400 Ω - 56.000 Ω	0.52 A	N/A	N/A	-	X	0.92 lbs (0.42 kgs)
	NYK:029603-14X	6.750 Ω - 70.000 Ω	0.46 A	N/A	N/A	-	X	0.92 lbs (0.42 kgs)
	NYK:029603-15X	8.500 Ω - 87.000 Ω	0.42 A	N/A	N/A	-	X	0.92 lbs (0.42 kgs)
	NYK:029603-16X	10.800 Ω - 111.000 Ω	0.37 A	N/A	N/A	-	X	0.92 lbs (0.42 kgs)
	NYK:029603-22X	1.480 Ω - 20.000 Ω	1.58 A	N/A	N/A	-	X	0.92 lbs (0.42 kgs)
	NYK:029603-23X	1.530 Ω - 16.000 Ω	0.87 A	N/A	N/A	-	X	0.92 lbs (0.42 kgs)
	NYK:029603-25X	16.5000 Ω - 221.000 Ω	0.26 A	N/A	N/A	-	X	0.92 lbs (0.42 kgs)
	NYK:029603-26X	22.200 Ω - 300.000 Ω	0.22 A	N/A	N/A	-	X	0.92 lbs (0.42 kgs)
	NYK:029604-1X	0.19 Ω	8.89 A	6	2.25 ft	X	-	0.79 lbs (0.36 kgs)
	NYK:029604-2X	0.50 Ω	5.48 A	18	6.75 ft	X	-	0.79 lbs (0.36 kgs)
	NYK:029604-3X	1.50 Ω	3.87 A	18	6.75 ft	X	-	0.79 lbs (0.36 kgs)
	NYK:029604-4X	1.20 Ω	3.54 A	23	8.62 ft	X	-	0.79 lbs (0.36 kgs)
	NYK:029604-5X	2.00 Ω	2.74 A	26	9.80 ft	X	-	0.79 lbs (0.36 kgs)
	NYK:029604-6X	2.50 Ω	2.45 A	29	10.80 ft	X	-	0.79 lbs (0.36 kgs)
	NYK:029604-7X	3.00 Ω	2.24 A	35	13.00 ft	X	-	0.79 lbs (0.36 kgs)
	NYK:029604-8X	6.00 Ω	1.58 A	44	16.30 ft	X	-	0.79 lbs (0.36 kgs)
	NYK:029604-9X	8.30 Ω	1.34 A	49	18.20 ft	X	-	0.79 lbs (0.36 kgs)
	NYK:029604-10X	3.50 Ω	2.07 A	41	15.20 ft	X	-	0.79 lbs (0.36 kgs)
	NYK:029604-11X	0.40 Ω	5.26 A	14	4.88 ft	X	-	0.79 lbs (0.36 kgs)

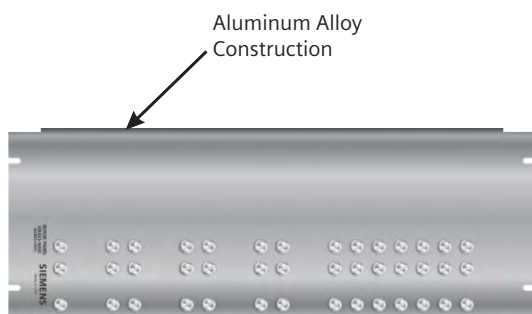
Applicable for all Fixed and Adjustable Resistance Units





Surge Protection Panels

Overview



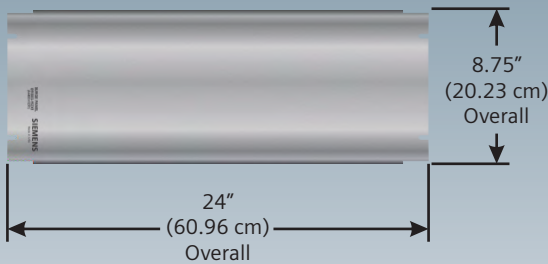
*Model A44883 Surge Protection Panel shown for reference purposes only!
Actual unit selected may vary in mounting and features.*

SIEMENS manufactures a number of surge suppression panels for both general and specific applications. The 44883 Series of vertical surge panels is available in a variety of configurations to meet specific client requirements. Each panel in this series is silkscreened to anticipate a variety of general purpose applications, but does not come equipped with any Clearview® Air Gap Arrester or Equalizers.

SIEMENS A80026 Series of track and battery surge panels is also available in a variety of configurations to meet specific client requirements. However each panel in this series does come equipped with Clearview® Air Gap Arrester or Equalizers.

SIEMENS A91170 and A91181 lighting panels provide external I/O primary surge protection for grade crossing gate controller circuitry. Both have built in secondary surge protection for all external I/O or body is 1800° C (3560° F) above ambient temperature.

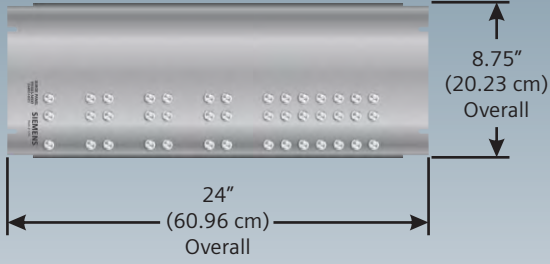
NYK:400044883152X1



General Purpose Panel (Blank)

- 5052-H32 Aluminum Alloy
- Weight is approx. 3.2 lbs. (1.45 kgs.) including hardware

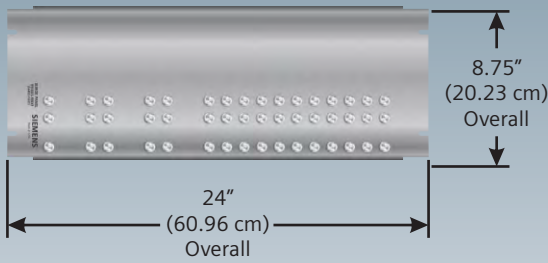
NYK:400044883149X1



General Purpose Panel (12 Positions)

- 5052-H32 Aluminum Alloy
- Weight is approx. 4.2 lbs. (1.91 kgs.) including hardware

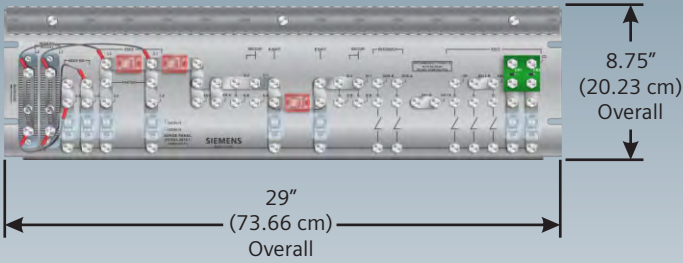
NYK:400044883199X1



General Purpose Panel (16 Positions)

- 5052-H32 Aluminum Alloy
- Weight is approx. 4.7 lbs. (2.13 kgs.) including hardware

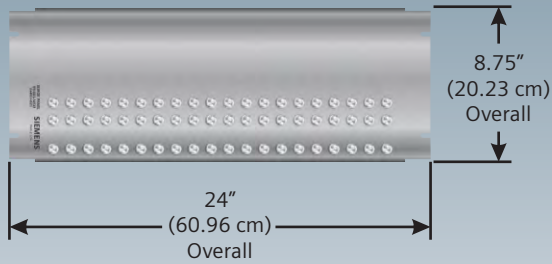
NYK:400044883201X1



General Purpose Panel (Signal Panel)

- 5052-H32 Aluminum Alloy
- Weight is approx. 9.2 lbs. (4.17 kgs.) including hardware
- Full length 1 1/2" slotted duct system

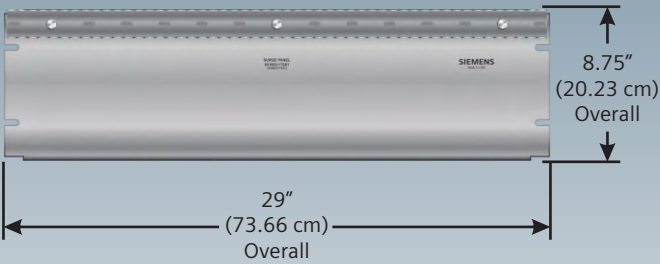
NYK:400044883145X1



General Purpose Panel (20 Positions)

- 5052-H32 Aluminum Alloy
- Weight is approx. 5.2 lbs. (13.21 kgs.) including hardware

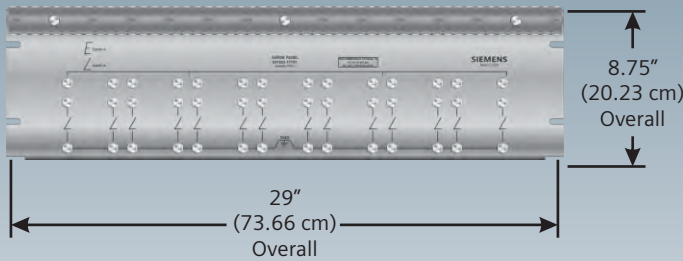
NYK:400044883170X1



General Purpose Panel (Blank w/ Slotted Duct)

- 5052-H32 Aluminum Alloy
- Weight is approx. 4.2 lbs. (1.91 kgs.) including hardware
- Full length 1 1/2" slotted duct system

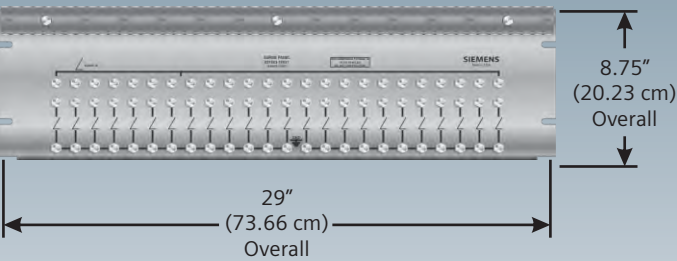
NYK:400044883177X1



General Purpose Panel (14 Positions w/ Slotted Duct)

- 5052-H32 Aluminum Alloy
- Weight is approx. 4.7 lbs. (2.13 kgs.) including hardware
- Full length 1 1/2" slotted duct system

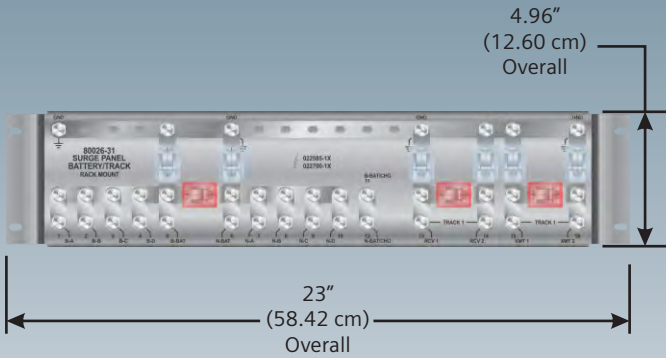
NYK:400044700176X1



General Purpose Panel (24 Positions w/ Slotted Duct)

- 5052-H32 Aluminum Alloy
- Weight is approx. 5.4 lbs. (2.45 kgs.) including hardware
- Full length 1 1/2" slotted duct system

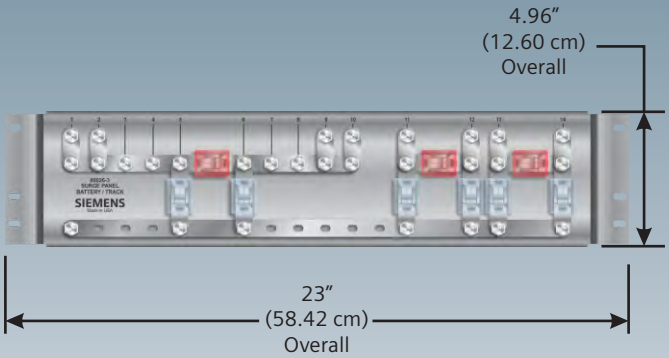
NYK:8000800260031



Battery and (1) Track Panel

- 5052-H32 Aluminum Alloy
- Weight is approx. 6.5 lbs. (2.95 kgs.) including hardware

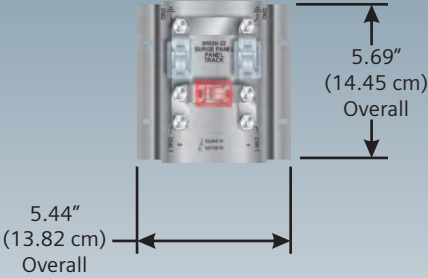
NYK:8000800260003



Battery and (1) Track Panel

- 5052-H32 Aluminum Alloy
- Weight is approx. 6.5 lbs. (2.95 kgs.) including hardware

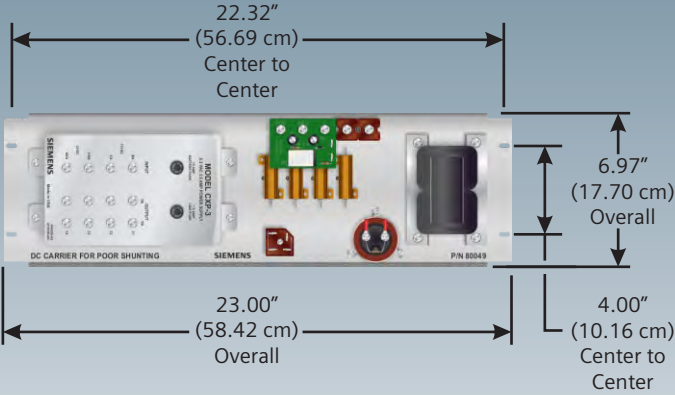
NYK:8000800260022



(1) Track Panel

- 5052-H32 Aluminum Alloy
- Weight is approx. 4.2 lbs. (1.91 kgs.) including hardware
- Isolated gate control

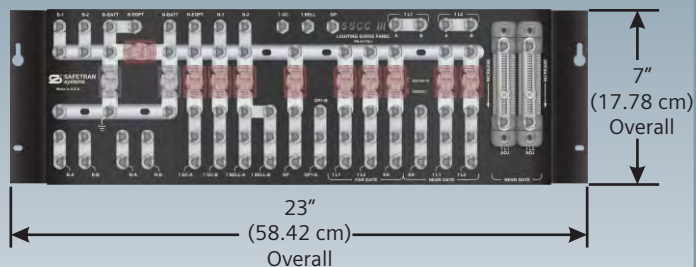
NYK:8000800490001



DC Enhancer Panel

- 5052-H32 Aluminum Alloy
- Weight is approx. 10.2 lbs. (25.91 kgs.) including hardware
- Improved track shunting in dark territory

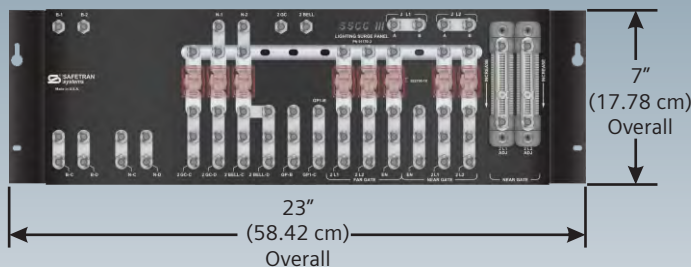
NYK:9000911700001



Common Gate Control Panel

- 5052-H32 Aluminum Alloy
- Weight is approx. 3.2 lbs. (1.45 kgs.) including hardware

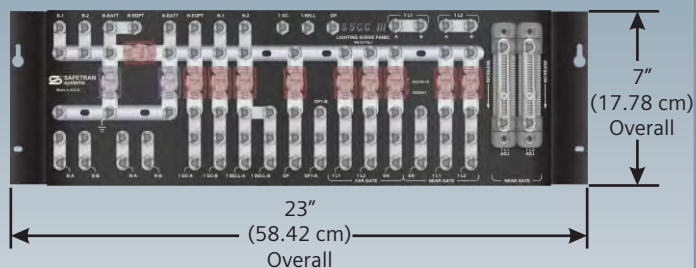
NYK:9000911700002



Common Gate Control Panel

- 5052-H32 Aluminum Alloy
- Weight is approx. 4.2 lbs. (1.91 kgs.) including hardware

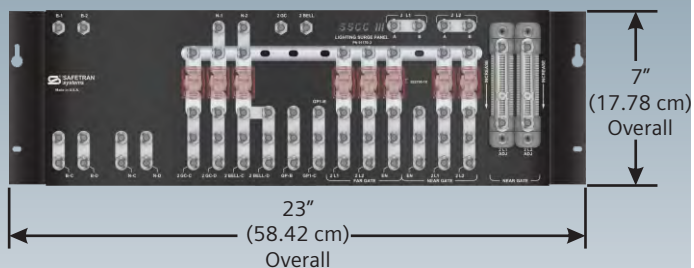
NYK:9000911810001



Isolated Gate Control Panel

- 5052-H32 Aluminum Alloy
- Weight is approx. 10 lbs. (4.54 kgs.) including hardware

NYK:9000911810002

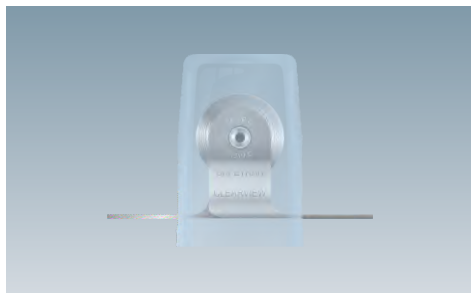


Isolated Gate Control Panel

- 5052-H32 Aluminum Alloy
- Weight is approx. 10 lbs. (4.54 kgs.) including hardware

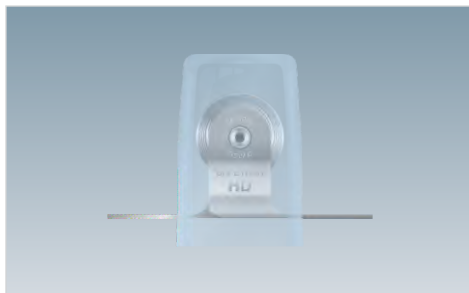
SIEMENS Part Number	Overall Length	Post Center to Center	Base Material	No of Posts	Hardware Included	Electromechanical Systems Electromechanical Stabilization Products
Type 217 Block Porcelain Terminal Blocks						
NYK:40004421712X1	3.34" (8.48 cm)	1.00" (2.54 cm)	Porcelain	2	-	
NYK:400044217012X	3.34" (8.48 cm)	1.00" (2.54 cm)	Porcelain	2	X	
NYK:40004421708X1	3.34" (8.48 cm)	2.38" (6.05 cm)	Porcelain	2	-	
NYK400044217008X	3.34" (8.48 cm)	2.38" (6.05 cm)	Porcelain	2	X	
NYK40004421703X1	6.00" (15.24 cm)	5.13" (13.03 cm)	Porcelain	2	-	
NYK400044217003X	6.00" (15.24 cm)	5.13" (13.03 cm)	Porcelain	2	X	
Type 390 1" Square Terminal Blocks						
NYK:023390-5-1X	1.00" (2.54 cm)	N/A	Bakelite	1	-	
NYK:023390-5-2X	2.00" (5.08 cm)	1.00" (2.54 cm)	Bakelite	2	-	
NYK:023390-5-3X	3.00" (7.62 cm)	1.00" (2.54 cm)	Bakelite	3	-	
NYK:023390-5-4X	4.00" (10.16 cm)	1.00" (2.54 cm)	Bakelite	4	-	
NYK:023390-5-5X	5.00" (12.70 cm)	1.00" (2.54 cm)	Bakelite	5	-	
NYK:023390-5-6X	6.00" (15.24cm)	1.00" (2.54 cm)	Bakelite	6	-	
NYK:023390-5-7X	7.00" (17.78 cm)	1.00" (2.54 cm)	Bakelite	7	-	
NYK:023390-5-8X	8.00" (20.32 cm)	1.00" (2.54 cm)	Bakelite	8	-	
NYK:023390-5-9X	9.00" (22.86 cm)	1.00" (2.54 cm)	Bakelite	9	-	
NYK:023390-5-10X	10.00" (25.40 cm)	1.00" (2.54 cm)	Bakelite	10	-	
NYK:023390-5-11X	11.00" (27.94 cm)	1.00" (2.54 cm)	Bakelite	11	-	
Type 274 Rounded (2) Post Wide Terminal Block						
NYK:023374-24X	1 Row, 2 Posts each row		Bakelite	2	-	
NYK:023374-23X	1 Row, 2 Posts each row		Bakelite	2	X	
NYK:023374-40X	2 Rows, 2 Posts each row		Bakelite	4	-	
NYK:023374-503X	2 Rows, 2 Posts each row		Bakelite	4	X	
NYK:023374-501X	2 Rows, 6 Posts each row		Bakelite	6	-	
NYK:023374-21X	2 Rows, 6 Posts each row		Bakelite	6	X	
13 Way Terminal Block						
NYK:051883-26X2	w/o Hardware					
NYK:051883-26X1	w/ Hardware					
14 Way Terminal Block						
NYK:051883-18X2	w/o Hardware					
NYK:051883-18X1	w/ Hardware					

Electromechanical Stabilization Products



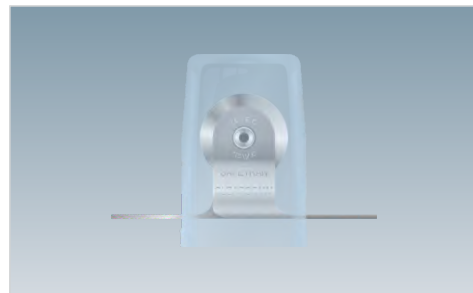
Clearview® Air Gap Arresters
Electrical Circuits
(Standard Duty)

E13 - E16



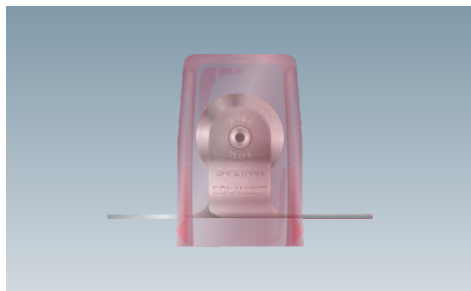
Clearview® Air Gap Arresters
Electrical Circuits
(Heavy Duty)

E17 - E18



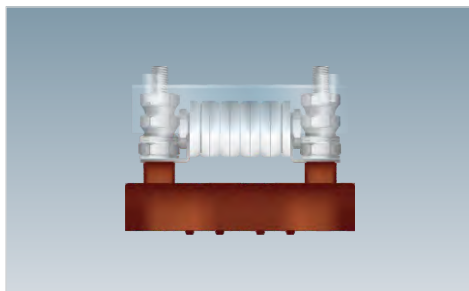
Clearcomm® Air Gap Arresters
Communications Circuits
(Standard Duty)

E19 - E22



Clearview® Air Gap Equalizers
Electrical Circuits
(Standard Duty)

E23 - E30



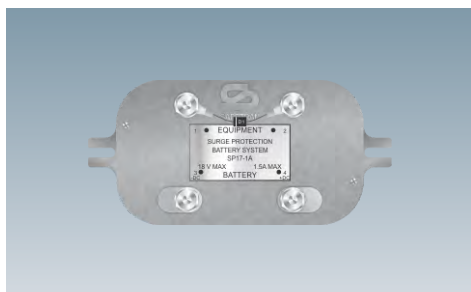
701-1 Series
AC Power
Line Protectors

E31 - E34



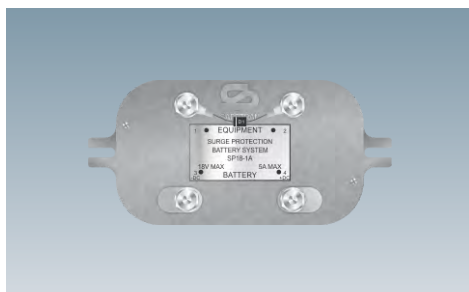
SSP-11
Solid State
Surge Protector

E35 - E38



SP-17
Solid State Battery Line
Surge Protectors

E39 - E40



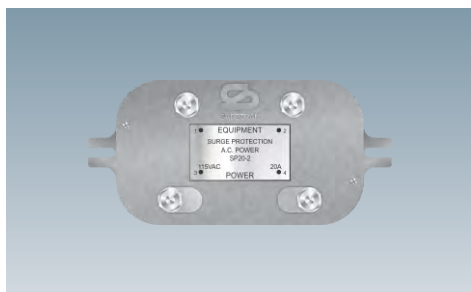
SP-18
Solid State Battery Line
Surge Protectors

E41 - E42



SP-19
Solid State Battery Line
Surge Protectors

E43 - E44



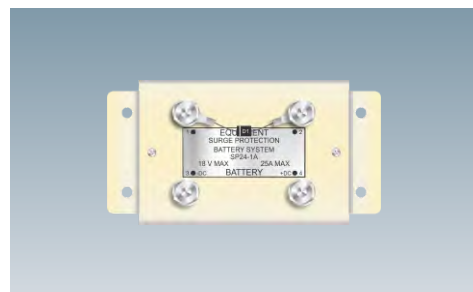
SP-20
Solid State AC Power
Surge Protectors

E45 - E48



SP-21
Solid State Code Line
Surge Protectors

E49 - E50



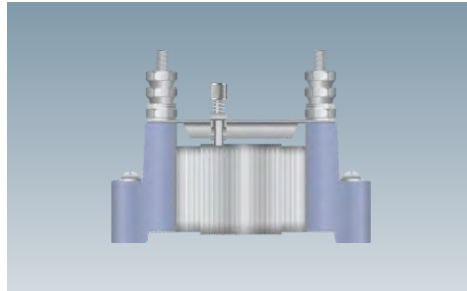
SP-24
Solid State Battery Line
Surge Protectors

E51 - E52



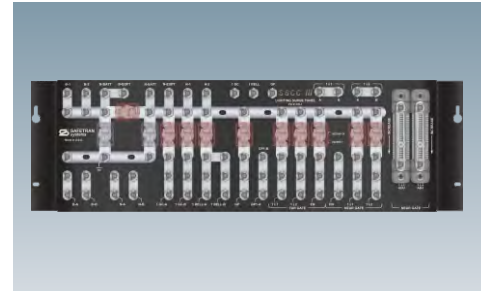
SP-15 and SP-26
Solid State Track Circuit
Surge Protectors

E53 - E56



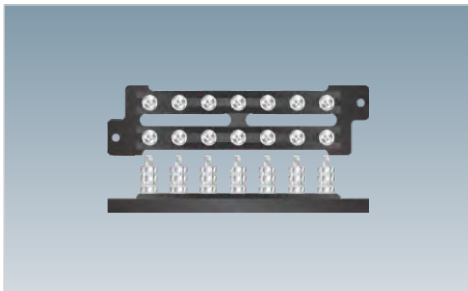
Resistance Units
Fixed and Adjustable

E57 -E60



Surge Protection Panels
Various

E61 - E65

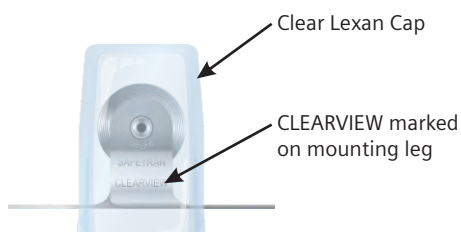


Terminal Blocks
Various

E66



Overview



Model A44485 Clearview® Air Gap Arrester
shown for reference purposes only!
Actual unit selected may vary in mounting and features.

SIEMENS Clearview® Air Gap Arresters for Electrical Circuits (Standard Duty) have a significant safety factor against shorting because of the open tooth discharge point electrode design.

Operating on 0-50 VDC for use on all low voltage signal circuits and 0-175 VAC for 115 VAC power circuits. Unit has a consistent breakdown voltage of 700 - 1000 volts.

Clearly marked with CLEARVIEW stamped on the mounting leg for identification and protected with a clear lexan cap. Easily mounts to racks, panels and/or bars due to the standard 2 3/8" mounting centers.

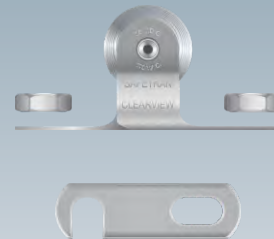
NYK:Z820000140000



Clear Air Gap Arrester Cover

- Meets or exceeds applicable AREMA® specifications
- Weight is approx. 0.2 lbs. (0.09 kgs.) including connectors
- Clear lexan construction

NYK:400044485036X



Air Gap Arrester Basic Assembly w/o Cover w/ Buss Connector

- Meets or exceeds applicable AREMA® specifications
- Weight is approx. 0.5 lbs. (0.23 kgs.) including connectors
- Operates in -40° F to +160° F (-40°C to +70°C) @ up to 95% Non-Condensing Relative Humidity
- NO protective cap
- (1) Clearview® discharge unit
- (1) set mounting legs
- (1) NYK:023839-3 connector buss link
- (2) NYK:023832 AAR clamp nuts

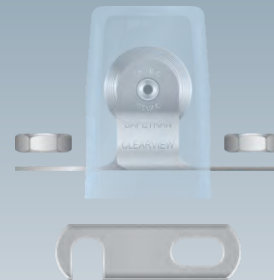
NYK:40004448528AX



Air Gap Arrester Basic Assembly w/ Cover

- Meets or exceeds applicable AREMA® specifications
- Weight is approx. 0.7 lbs. (0.32 kgs.) including connectors
- Operates in -40° F to +160° F (-40°C to +70°C) @ up to 95% Non-Condensing Relative Humidity
- (1) NYK:Z820000140000 clear lexan protective cap
- (1) Clearview® discharge unit
- (1) set mounting legs

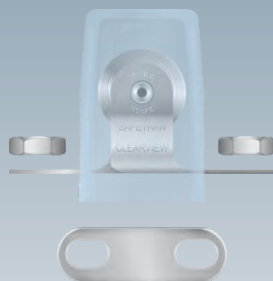
NYK:400044485028X



Air Gap Arrester Basic Assembly w/ Cover and Buss Connector

- Meets or exceeds applicable AREMA® specifications
- Weight is approx. 1.0 lbs. (0.45 kgs.) including connectors
- Operates in -40° F to +160° F (-40°C to +70°C) @ up to 95% Non-Condensing Relative Humidity
- (1) NYK:Z820000140000 clear lexan protective cap
- (1) Clearview® discharge unit
- (1) set mounting legs
- (1) NYK:023839-3 connector buss link
- (2) NYK:023832 AAR clamp nuts

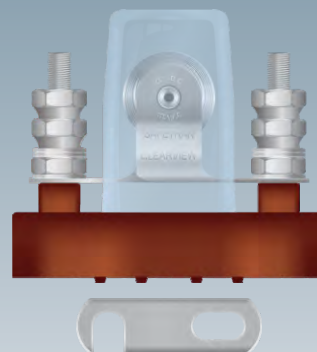
NYK:40004448528X1



Air Gap Arrester Basic Assembly w/ Cover and Buss Connector

- Meets or exceeds applicable AREMA® specifications
- Weight is approx. 1.0 lbs. (0.45 kgs.) including connectors
- Operates in -40° F to +160° F (-40°C to +70°C) @ up to 95% Non-Condensing Relative Humidity
- (1) NYK:Z820000140000 clear lexan protective cap
- (1) Clearview® discharge unit
- (1) set mounting legs
- (1) NYK:023839-2 connector buss link
- (2) NYK:023832 AAR clamp nuts

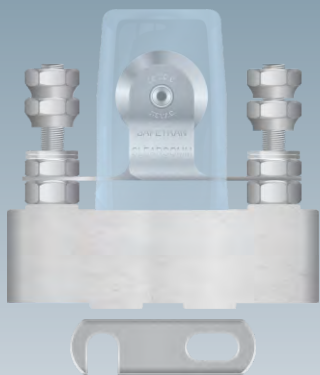
NYK:400044485031X



Air Gap Arrester Basic Assembly w/ (2) Post Bakelite Base

- Meets or exceeds applicable AREMA® specifications
- Weight is approx. 2.0 lbs. (0.91 kgs.) including connectors
- Operates in -40° F to +160° F (-40°C to +70°C) @ up to 95% Non-Condensing Relative Humidity
- (1) NYK:Z820000140000 clear lexan protective cap
- (1) Clearview® discharge unit
- (1) set mounting legs
- (1) NYK:023839-3 connector buss link
- (4) NYK:023831 AAR binding nuts
- (6) NYK:023834 AAR beveled washers
- (2) NYK:023832 AAR clamp nuts
- (1) NYK:Z820000300000 molded bakelite base

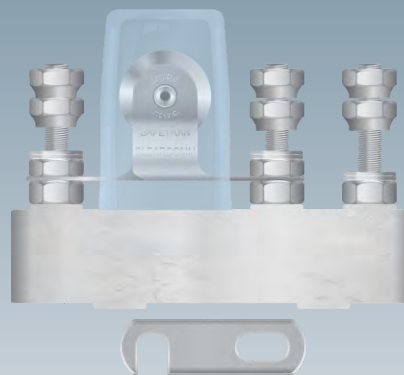
NYK:400044485032X



Air Gap Arrester Basic Assembly w/ (2) Post Porcelain Base

- Meets or exceeds applicable AREMA® specifications
- Weight is approx. 2.2 lbs. (1.00 kgs.) including connectors
- Operates in -40° F to +160° F (-40°C to +70°C) @ up to 95% Non-Condensing Relative Humidity
- (1) NYK:Z820000140000 clear lexan protective cap
- (1) Clearview® discharge unit
- (1) set mounting legs
- (1) NYK:023839-3 connector buss link
- (4) NYK:023831 AAR binding nuts
- (6) NYK:023834 AAR beveled washers
- (2) NYK:023832 AAR clamp nuts
- (1) NYK:400044485005X porcelain base

NYK:400044485033X



Air Gap Arrester Basic Assembly w/ (3) Post Porcelain Base

- Meets or exceeds applicable AREMA® specifications
- Weight is approx. 2.6 lbs. (1.18 kgs.) including connectors
- Operates in -40° F to +160° F (-40°C to +70°C) @ up to 95% Non-Condensing Relative Humidity
- (1) NYK:Z820000140000 clear lexan protective cap
- (1) Clearview® discharge unit
- (1) set mounting legs
- (1) NYK:023839-3 connector buss link
- (6) NYK:023831 AAR binding nuts
- (6) NYK:023834 AAR beveled washers
- (2) NYK:023832 AAR clamp nuts
- (1) NYK:4000-44485-005X porcelain base

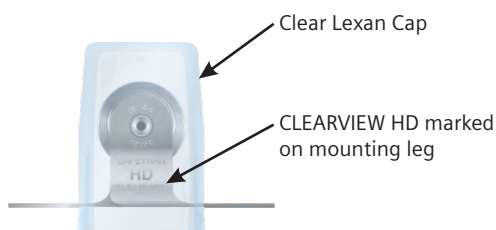


Clearview®

Air Gap Arresters

Electrical Circuits (Heavy Duty)

Overview



Model A44485 Clearview® Air Gap Arrester
shown for reference purposes only!
Actual unit selected may vary in mounting and features.

SIEMENS Clearview® Air Gap Arresters for Electrical Circuits (Heavy Duty) have a significant safety factor against shorting because of the discharge unit has circular rather than point discharge electrodes.

Operating on 0-50 VDC for use on all low voltage signal circuits and 0-175 VAC for 115 VAC power circuits. Unit has a consistent breakdown voltage of 700 - 1000 volts.

Clearly marked with CLEARVIEW HD stamped on the mounting leg for identification and protected with a clear lexan cap. Easily mounts to racks, panels and/or bars due to the standard 2 3/8" mounting centers.

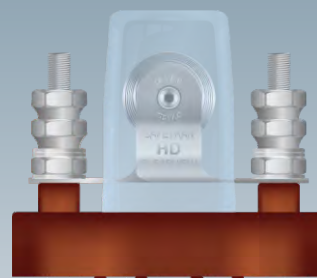
NYK:400044585001X



Air Gap Arrester Heavy Duty Assembly w/ Cover

- Meets or exceeds applicable AREMA® specifications
- Weight is approx. 0.7 lbs. (0.32 kgs.) including connectors
- Operates in -40° F to +160° F (-40°C to +70°C) @ up to 95% Non-Condensing Relative Humidity
- (1) NYK:Z820000140000 Clear lexan protective cap
- (1) Clearview® heavy duty discharge unit
- (1) set mounting legs

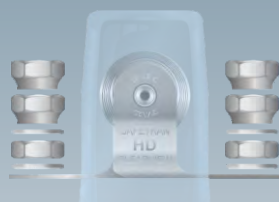
NYK:400044585003X



Air Gap Arrester Heavy Duty Assembly w/ (2) Post Bakelite Base

- Meets or exceeds applicable AREMA® specifications
- Weight is approx. 2.0 lbs. (0.91 kgs.) including connectors
- Operates in -40° F to +160° F (-40°C to +70°C) @ up to 95% Non-Condensing Relative Humidity
- (1) NYK:Z820000140000 Clear lexan protective cap
- (1) Clearview® heavy duty discharge unit
- (1) set mounting legs
- (1) NYK:023839-3 connector buss link
- (4) NYK:023831 AAR binding nuts
- (6) NYK:023834AAR beveled washers
- (2) NYK:023832 AAR 14-24 clamp nuts
- (1) NYK:Z820000300000 molded bakelite base

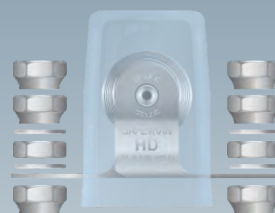
NYK:400044585004X



Air Gap Arrester Heavy Duty Assembly w/ Hardware

- Meets or exceeds applicable AREMA® specifications
- Weight is approx. 2.0 lbs. (0.91 kgs.) including connectors
- Operates in -40° F to +160° F (-40°C to +70°C) @ up to 95% Non-Condensing Relative Humidity
- (1) NYK:Z820000140000 clear lexan protective cap
- (1) Clearview® heavy duty discharge unit
- (1) set mounting legs
- (4) NYK:023831 AAR binding nuts
- (4) NYK:023834 AAR beveled washers
- (2) NYK:023832 AAR clamp nuts

NYK:400044585005X



Air Gap Arrester Heavy Duty Assembly w/ Hardware

- Meets or exceeds applicable AREMA® specifications
- Weight is approx. 2.0 lbs. (0.91 kgs.) including connectors
- Operates in -40° F to +160° F (-40°C to +70°C) @ up to 95% Non-Condensing Relative Humidity
- (1) NYK:Z820000140000 clear lexan protective cap
- (1) Clearview® heavy duty discharge unit
- (1) set mounting legs
- (6) NYK:023831 AAR binding nuts
- (6) NYK:023834 AAR beveled washers
- (2) NYK:023832 AAR clamp nuts

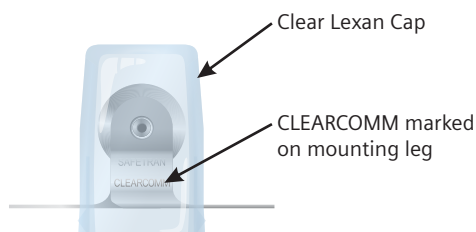


Clearcomm®

Air Gap Arresters

Communication Circuits (Standard Duty)

Overview



Model A44485 Clearcomm® Air Gap Arrester
shown for reference purposes only!
Actual unit selected may vary in mounting and features.

SIEMENS Clearcomm® Air Gap Arrester for Communication Circuits have a significant safety factor against shorting because of the open tooth discharge point electrode design. Operating on 0-50 VDC for use on all low voltage signal circuits and 0-175 VAC for 115 VAC power circuits. Unit has a consistent breakdown voltage of 700 - 1000 volts.

Clearly marked with CLEARCOMM stamped on the mounting leg for identification and protected with a clear lexan cap. Easily mounts to racks, panels and/or bars due to the standard 2 3/8" mounting centers.

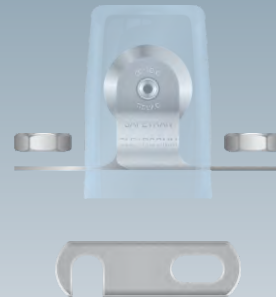
NYK:400044485054X



Air Gap Arrester Basic Assembly w/o Cover (Communications)

- Meets or exceeds applicable AREMA® specifications
- Weight is approx. 0.5 lbs. (0.23 kgs.) including connectors
- Operates in -40° F to +160° F (-40°C to +70°C) @ up to 95% Non-Condensing Relative Humidity
- NO protective cap
- (1) Clearcomm® discharge unit
- (1) set mounting legs
- (1) NYK:023839-3 connector buss link
- (2) NYK:023832 AAR clamp nuts

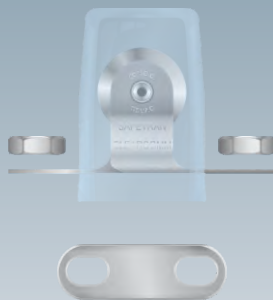
NYK:400044485050X



Air Gap Arrester Basic Assembly w/ Cover and Buss Connector (Communications)

- Meets or exceeds applicable AREMA® specifications
- Weight is approx. 0.5 lbs. (0.23 kgs.) including connectors
- Operates in -40° F to +160° F (-40°C to +70°C) @ up to 95% Non-Condensing Relative Humidity
- (1) NYK:Z820000140000 clear lexan protective cap
- (1) Clearcomm® discharge unit
- (1) set mounting legs
- (1) NYK:023839-3 connector buss link
- (2) NYK:023832 AAR clamp nuts

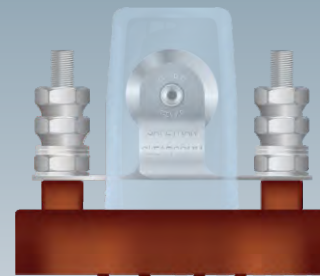
NYK:40004448550X1



Air Gap Arrester Basic Assembly w/ Cover and Buss Connector (Communications)

- Meets or exceeds applicable AREMA® specifications
- Weight is approx. 1.0 lbs. (0.45 kgs.) including connectors
- Operates in -40° F to +160° F (-40°C to +70°C) @ up to 95% Non-Condensing Relative Humidity
- (1) NYK:Z820000140000 clear lexan protective cap
- (1) Clearcomm® discharge unit
- (1) set mounting legs
- (1) NYK:023839-2 connector buss link
- (2) NYK:023832 AAR 14-24 clamp nuts

NYK:400044485051X



Air Gap Arrester Basic Assembly w/ (2) Post Bakelite Base (Communications)

- Meets or exceeds applicable AREMA® specifications
- Weight is approx. 2.0 lbs. (0.91 kgs.) including connectors
- Operates in -40° F to +160° F (-40°C to +70°C) @ up to 95% Non-Condensing Relative Humidity
- (1) NYK:Z820000140000 clear lexan protective cap
- (1) Clearcomm® discharge unit
- (1) set mounting legs
- (4) NYK:023831 AAR binding nuts
- (6) NYK:023834 AAR beveled washers
- (2) NYK:023832 AAR clamp nuts
- (1) NYK:Z820000300000 molded bakelite base

NYK:400044485052X



Air Gap Arrester Basic Assembly w/ (2) Post Porcelain Base (Communications)

- Meets or exceeds applicable AREMA® specifications
- Weight is approx. 2.2 lbs. (1.00 kgs.) including connectors
- Operates in -40° F to +160° F (-40°C to +70°C) @ up to 95% Non-Condensing Relative Humidity
- (1) NYK:Z820000140000 clear lexan protective cap
- (1) Clearcomm® discharge unit
- (1) set mounting legs
- (4) NYK:023831 AAR binding nuts
- (6) NYK:023834 AAR beveled washers
- (2) NYK:023832 AAR clamp nuts
- (1) NYK:40004421708X1 porcelain base

NYK:400044485053X



Air Gap Arrester Basic Assembly w/ (3) Post Porcelain Base (Communications)

- Meets or exceeds applicable AREMA® specifications
- Weight is approx. 2.6 lbs. (1.18 kgs.) including connectors
- Operates in -40° F to +160° F (-40°C to +70°C) @ up to 95% Non-Condensing Relative Humidity
- (1) NYK:Z820000140000 clear lexan protective cap
- (1) Clearcomm® discharge unit
- (1) set mounting legs
- (1) NYK:023839-3 connector buss link
- (6) NYK:023831 AAR binding nuts
- (6) NYK:023834 AAR beveled washers
- (2) NYK:023832 AAR clamp nuts
- (1) NYK:400044485005X porcelain base

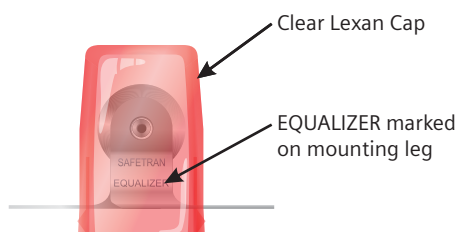


Clearview®

Air Gap Equalizers

Electrical Circuits (Standard Duty)

Overview



*Model A44700 Clearview® Air Gap Equalizer
shown for reference purposes only!
Actual unit selected may vary in mounting and features.*

SIEMENS Clearview® Air Gap Equalizer is a closed circuit shunt type protector for use on up to 24 VDC circuits with a minimum resistance of 1000 Ω .

Clearly marked with EQUALIZER stamped on the mounting leg for identification and protected with a red lexan cap. Easily mounts to racks, panels and/or bars due to the standard 2 3/8" mounting centers.

Sealed equalizer designs are also available for when equipment has the potential to be exposed to moisture.

NYK: Z820000280000



Clear Air Gap Equalizer Cover

- Meets or exceeds applicable AREMA® specifications
- Weight is approx. 0.2 lbs. (0.09 kgs.) including connectors
- Red lexan construction

NYK:400044700007X



Air Gap Equalizer Basic Assembly w/o Cover w/ Hardware

- Meets or exceeds applicable AREMA® specifications
- Weight is approx. 0.5 lbs. (0.23 kgs.) including connectors
- Operates in -40° F to +160° F (-40°C to +70°C) @ up to 95% Non-Condensing Relative Humidity
- NO protective cap
- (1) Equalizer discharge unit
- (1) set mounting legs
- (1) NYK:023839-3 connector buss link
- (2) NYK:023832 AAR clamp nuts

NYK:40004470001AX



Air Gap Equalizer Basic Assembly w/ Cover

- Meets or exceeds applicable AREMA® specifications
- Weight is approx. 0.7 lbs. (0.32 kgs.) including connectors
- Operates in -40° F to +160° F (-40°C to +70°C) @ up to 95% Non-Condensing Relative Humidity
- (1) NYK:Z820000280000 red lexan protective cap
- (1) Equalizer discharge unit
- (1) set mounting legs

NYK:400044700001X



Air Gap Equalizer Basic Assembly w/ Cover and Hardware

- Meets or exceeds applicable AREMA® specifications
- Weight is approx. 1.0 lbs. (0.45 kgs.) including connectors
- Operates in -40° F to +160° F (-40°C to +70°C) @ up to 95% Non-Condensing Relative Humidity
- (1) NYK:Z820000280000 red lexan protective cap
- (1) Equalizer discharge unit
- (1) set mounting legs
- (2) NYK:023832 AAR clamp nuts
- (1) NYK:023839-3 connector buss link

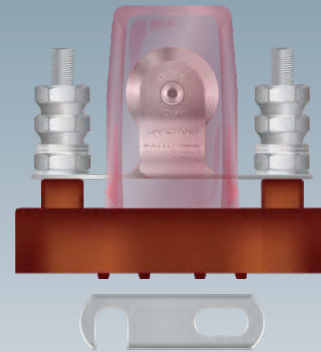
NYK:40004470001X1



Air Gap Equalizer Basic Assembly w/ Cover and Hardware

- Meets or exceeds applicable AREMA® specifications
- Weight is approx. 1.0 lbs. (0.45 kgs.) including connectors
- Operates in -40° F to +160° F (-40°C to +70°C) @ up to 95% Non-Condensing Relative Humidity
- (1) NYK:Z820000280000 red lexan protective cap
- (1) Equalizer discharge unit
- (1) set mounting legs
- (1) NYK:023839-2 connector buss link
- (2) NYK:023832 AAR clamp nuts

NYK:400044700005X



Air Gap Equalizer Basic Assembly w/ (2) Post Bakelite Base

- Meets or exceeds applicable AREMA® specifications
- Weight is approx. 2.0 lbs. (0.91 kgs.) including connectors
- Operates in -40° F to +160° F (-40°C to +70°C) @ up to 95% Non-Condensing Relative Humidity
- (1) NYK:Z820000280000 red lexan protective cap
- (1) Equalizer discharge unit
- (1) set mounting legs
- (4) NYK:023831 AAR binding nuts
- (6) NYK:023834 AAR beveled washers
- (2) NYK:023832 AAR clamp nuts
- (1) NYK:Z820000300000 molded bakelite base

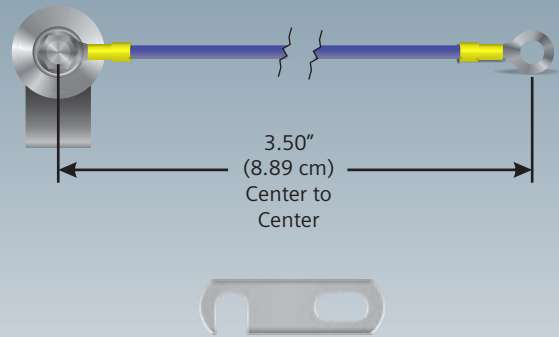
NYK:400044700002X



Air Gap Equalizer Basic Assembly w/ (2) Post Porcelain Base

- Meets or exceeds applicable AREMA® specifications
- Weight is approx. 2.2 lbs. (1.00 kgs.) including connectors
- Operates in -40° F to +160° F (-40°C to +70°C) @ up to 95% Non-Condensing Relative Humidity
- (1) NYK:Z820000280000 red lexan protective cap
- (1) Equalizer discharge unit
- (1) set mounting legs
- (4) NYK:023831 AAR binding nuts
- (6) NYK:023834 AAR beveled washers
- (2) NYK:023832 AAR clamp nuts
- (1) NYK:40004421708X1 porcelain base

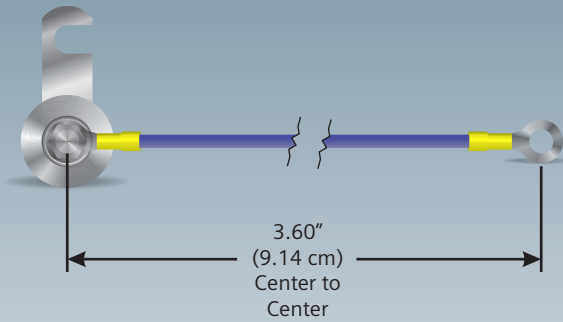
NYK:400044700030X



Rope Equalizer 3 1/2"

- Meets or exceeds applicable AREMA® specifications
- Weight is approx. 0.7 lbs. (0.32 kgs.) including connectors
- Operates in -40° F to +160° F (-40°C to +70°C) @ up to 95% Non-Condensing Relative Humidity
- NO protective cap
- (1) Equalizer discharge unit
- (1) mounting clip
- (1) 10 AWG blue wire
- (2) NYK:024628-17F terminal rings

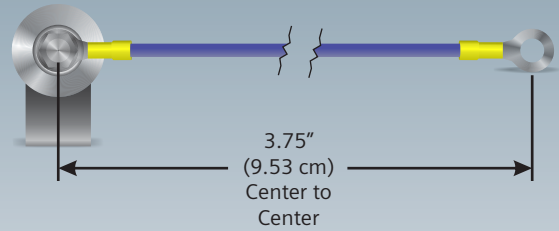
NYK:400044700033X



Rope Equalizer 3 5/8"

- Meets or exceeds applicable AREMA® specifications
- Weight is approx. 0.7 lbs. (0.32 kgs.) including connectors
- Operates in -40° F to +160° F (-40°C to +70°C) @ up to 95% Non-Condensing Relative Humidity
- NO protective cap
- (1) Equalizer discharge unit
- (1) 023839-3 connector buss link
- (1) 10 AWG blue wire
- (2) 024628-17F terminal rings

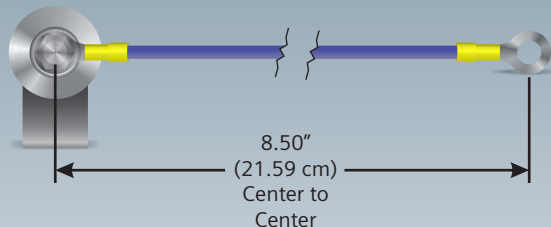
NYK:400044700032X



Rope Equalizer 3 3/4"

- Meets or exceeds applicable AREMA® specifications
- Weight is approx. 0.7 lbs. (0.32 kgs.) including connectors
- Operates in -40° F to +160° F (-40°C to +70°C) @ up to 95% Non-Condensing Relative Humidity
- NO protective cap
- (1) Equalizer discharge unit
- (1) mounting clip
- (1) 10 AWG blue wire
- (2) 024628-17F terminal rings

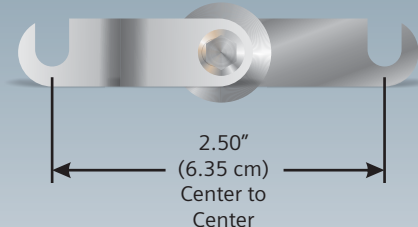
NYK:400044700031X



Rope Equalizer 8 1/2"

- Meets or exceeds applicable AREMA® specifications
- Weight is approx. 0.7 lbs. (0.32 kgs.) including connectors
- Operates in -40° F to +160° F (-40°C to +70°C) @ up to 95% Non-Condensing Relative Humidity
- NO protective cap
- (1) Equalizer discharge unit
- (1) mounting clip
- (1) 10 AWG blue wire
- (2) 024628-17F terminal rings

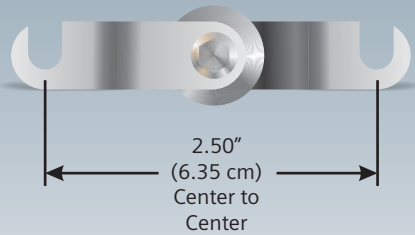
NYK:400044700021X



Blade Equalizer 2 1/2"

- Meets or exceeds applicable AREMA® specifications
- Weight is approx. 0.7 lbs. (0.32 kgs.) including connectors
- Operates in -40° F to +160° F (-40°C to +70°C) @ up to 95% Non-Condensing Relative Humidity
- 2000 Ω resistance minimum
- NO protective cap
- (2) Equalizer discharge units
- (1) pair SA mounting legs

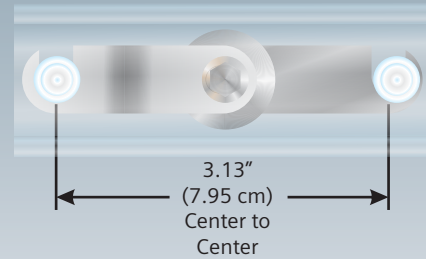
NYK:400044700046X



Blade Equalizer 2 1/2"

- Meets or exceeds applicable AREMA® specifications
- Weight is approx. 0.7 lbs. (0.32 kgs.) including connectors
- Operates in -40° F to +160° F (-40°C to +70°C) @ up to 95% Non-Condensing Relative Humidity
- 2000 Ω resistance minimum
- NO protective cap
- (2) Equalizer discharge units
- (1) pair SE mounting legs

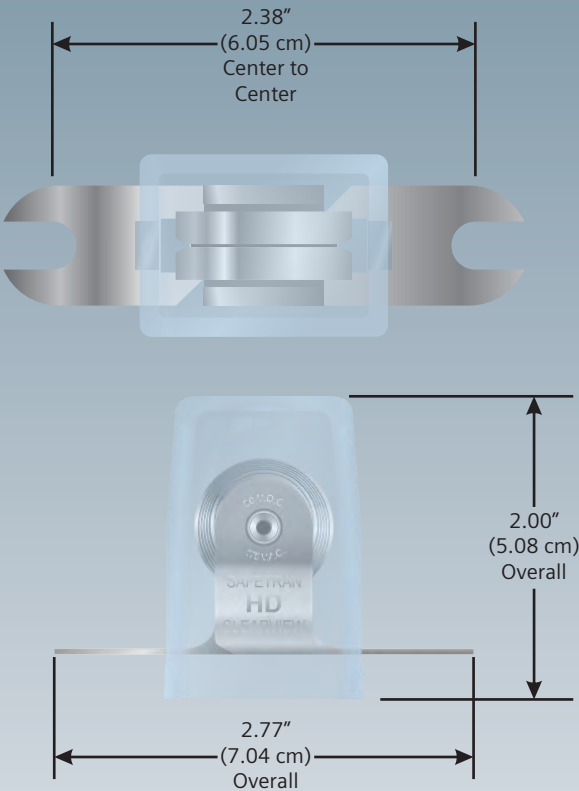
NYK:400044700047X



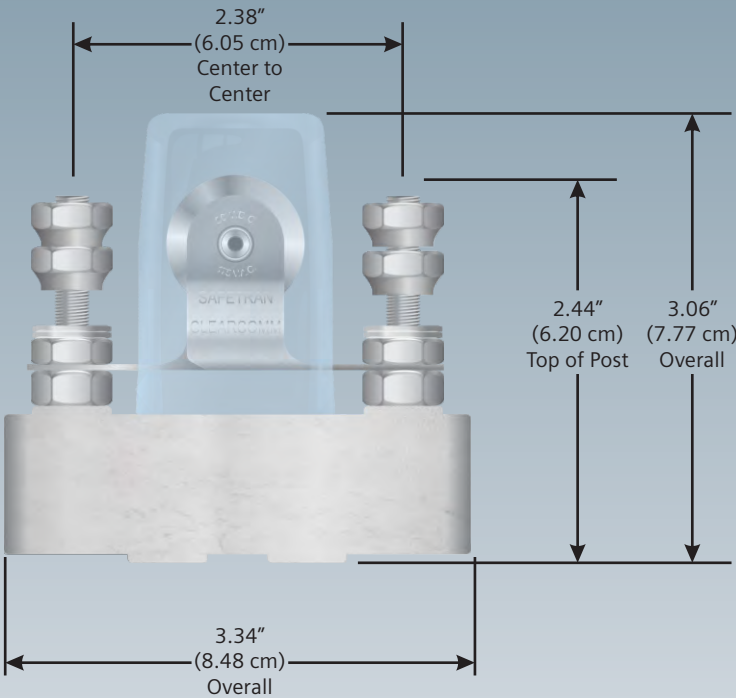
Blade Equalizer 2 1/2" w/ Cover

- Meets or exceeds applicable AREMA® specifications
- Weight is approx. 0.7 lbs. (0.32 kgs.) including connectors
- Operates in -40° F to +160° F (-40°C to +70°C) @ up to 95% Non-Condensing Relative Humidity
- 2000 Ω resistance minimum
- Z820-00054-0000 clear lexan protective cap
- (2) Equalizer discharge units
- (1) pair SE mounting legs

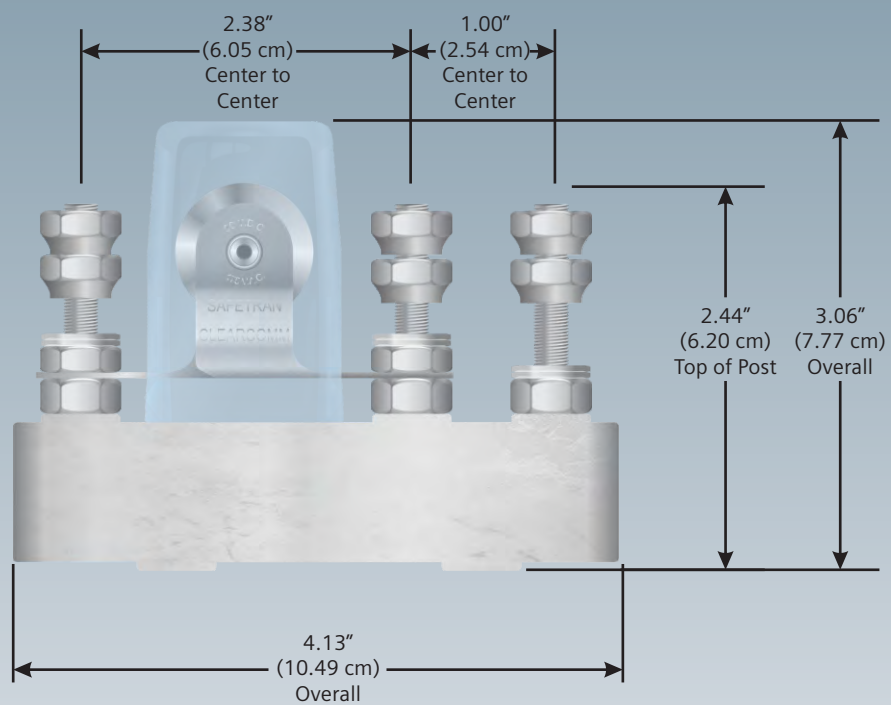
Applicable for all Air Gap Arresters and Air Gap Equalizers without a base



Applicable for all Air Gap Arresters and Air Gap Equalizers with 2 post base

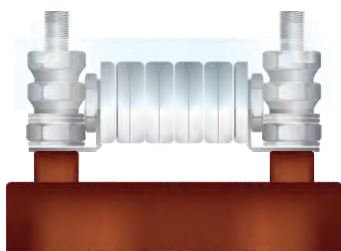


Applicable for all Air Gap Arresters with 3 post base



**701-1**
Series**AC Power Line Protectors**



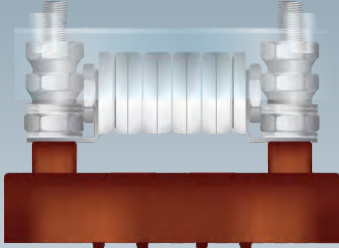

Overview



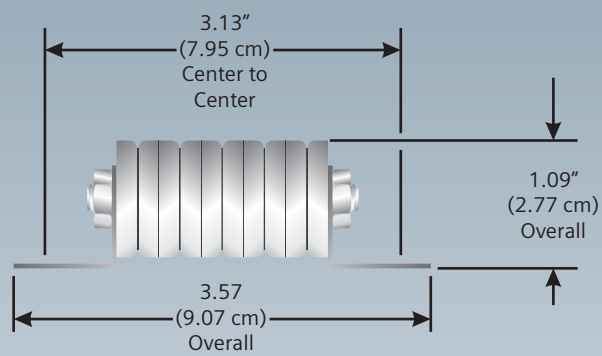
*Model A29245 701-1 Series AC Power Line Protector
shown for reference purposes only!
Actual unit selected may vary in mounting and features.*

SIEMENS AC Power Line Protector, model 701-1 is a shunt type heavy duty arrester for AC power lines. Applied across the incoming AC power leads, this unit is designed to shunt the surge and recover to normal under full AC power. No fuses or disconnects are required to protect this arrester. For supply transformers up to 1 KVA at 115 VAC, the transformer provides adequate series reactance to limit follow-through current. For capacities greater than 1 KVA at 115 VAC, two 701-1 protectors must be used in series to limit current so that the protectors can recover after a surge.

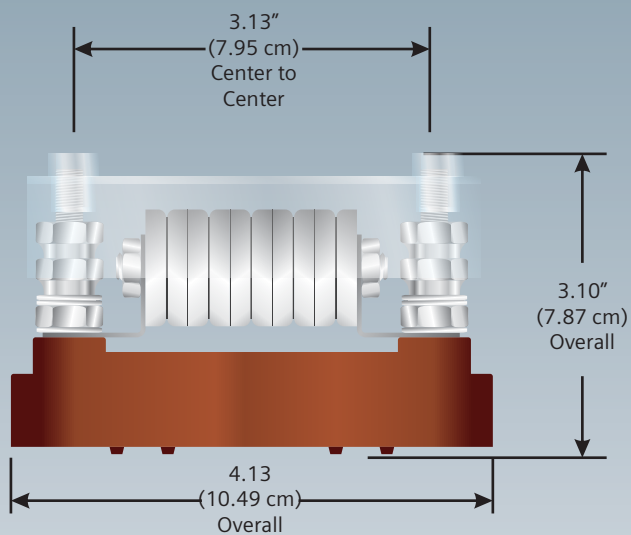
This unit has a 1000 V breakdown between its terminals. **SIEMENS** AC Power Line Protector, model 701-1, can be furnished either as a single unit for mounting on 3-1/8 inch centers, or mounted on bakelite base. The Model 701-1 protector is the same protector as used on the AC Line Surge Protection Networks; therefore, this unit may be used as a direct replacement part for those networks. For 230 VAC systems, two 701-1 protectors must be used in series.

<div>NYK:4000447010000</div> <div></div> <div><div>Discharge Unit</div><ul style="list-style-type: none">• Weight is approx. 0.6 lbs. (0.27 kgs.)• 115 VAC protection</div>	<div>NYK:400044701001X</div> <div></div> <div><div>Discharge Unit w/ Cover</div><ul style="list-style-type: none">• Weight is approx. 1.3 lbs. (0.27 kgs.)• 115 VAC protection• (1) NYK:4000447010000 discharge unit• (1) NYK:022701-4 plastic cap</div>
<div>NYK:400044701002X</div> <div></div> <div><div>Discharge Unit w/ Cover and (2) Post Bakelite Base</div><ul style="list-style-type: none">• Weight is approx. 3.6 lbs. (1.63 kgs.)• 115 VAC protection• (1) NYK:4000447010000 discharge units• (1) NYK:022701-4 plastic cap• (1) NYK:Z820000310000 bakelite terminal block base</div>	<div>NYK:400044701029X</div> <div></div> <div><div>Discharge Unit w/ Cover</div><ul style="list-style-type: none">• Weight is approx. 1.3 lbs. (0.27 kgs.)• 115 VAC protection• (1) NYK:4000447010000 discharge unit• (1) NYK:022701-4 plastic cap</div>

Applicable for all 701-1 Series AC Power Line Protectors without a base



Applicable for all 701-1 Series AC Power Line Protectors with a 2 post base

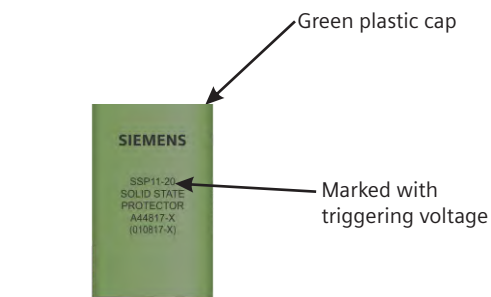




SSP-11 Series

Solid State Surge Protectors

Overview



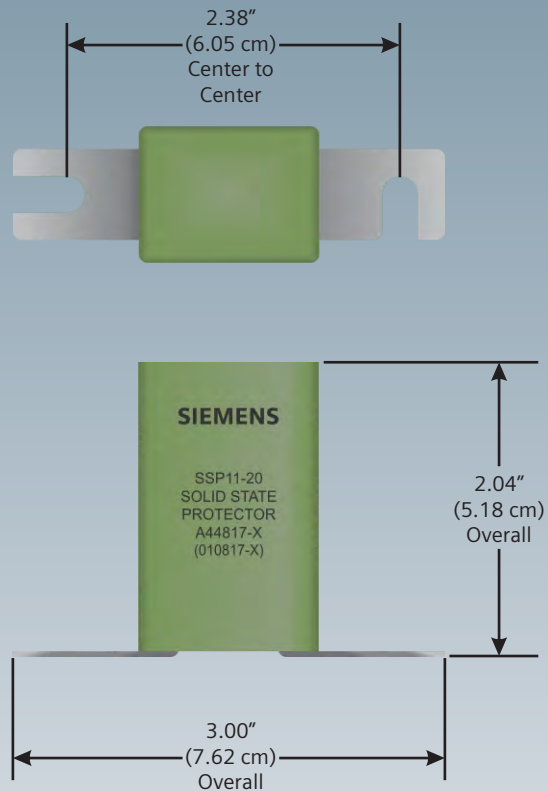
Model A44817 Series
shown for reference purposes only!
Actual unit selected may vary in mounting and features.

SIEMENS SSP Series is a closed circuit shunt type protector designed to trigger at the marked specified voltage to provide the desired protection for solid state equipment.

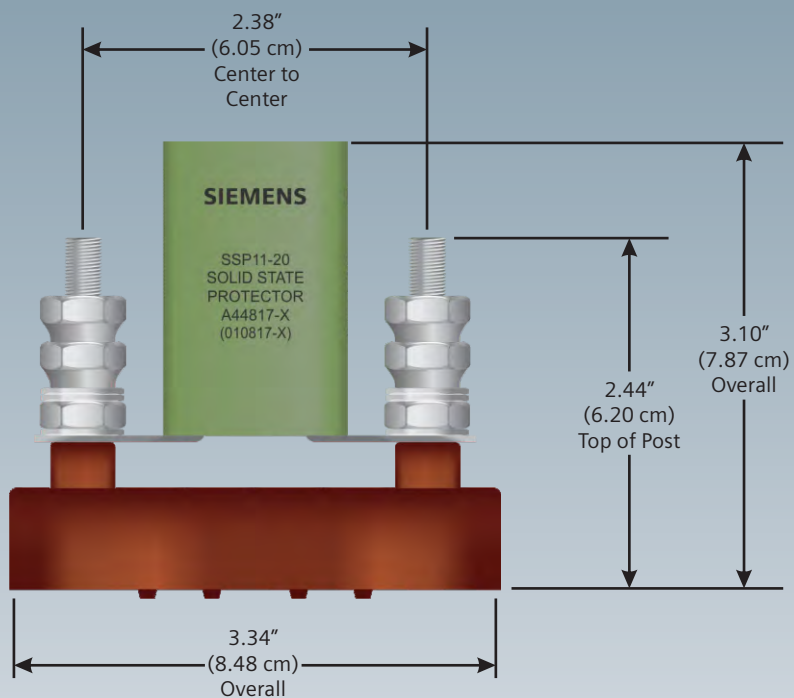
Maximum steady state voltage (DC) will “clamp” on higher voltages after triggering.

SIEMENS Part Number	Trigger Voltage	DIAC(s)	TRIAC(s)	RECTIFIER(s) / DIODE(s)	Included bakelight base and associated hardware	Weight	Electromechanical Systems Electromechanical Stabilization Products
NYK:400044817000X	20 V	(1) HS-20	(1) PT230	(4) MR754	-	0.6 lbs (0.27 kgs)	
NYK:400044817001X	30 V	(1) 1N5761A	(1) PT230	(4) MR754	-	0.6 lbs (0.27 kgs)	
NYK:400044817002X	40 V	(1) HS-20	(1) PT230	(2) IN4746A	-	0.6 lbs (0.27 kgs)	
NYK:400044817003X	50 V	(1) 1N5761A	(1) PT230	(2) IN4746A	-	0.6 lbs (0.27 kgs)	
NYK:400044817004X	100 V	(1) 1N5761A	(1) PT230	(4) MR754 (2) IN4760A	-	0.6 lbs (0.27 kgs)	
NYK:400044817005X	200 V	(1) HS-20	(1) PT230	(4) MR754 (2) IN5593B	-	0.6 lbs (0.27 kgs)	
NYK:400044817006X	300 V	(1) HS-20	(1) PT630	(4) MR754 (2) IN5593B	-	0.6 lbs (0.27 kgs)	
NYK:400044817007X	400 V	(1) HS-20	(1) PT630	(4) MR754 (2) IN5593B	-	0.6 lbs (0.27 kgs)	
NYK:400044818000X	20 V	(1) HS-20	(1) PT230	(4) MR754	X	1.8 lbs (0.82 kgs)	
NYK:400044818001X	30 V	(1) 1N5761A	(1) PT230	(4) MR754	X	1.8 lbs (0.82 kgs)	
NYK:400044818002X	40 V	(1) HS-20	(1) PT230	(2) IN4746A	X	1.8 lbs (0.82 kgs)	
NYK:400044818003X	50 V	(1) 1N5761A	(1) PT230	(2) IN4746A	X	1.8 lbs (0.82 kgs)	
NYK:400044818004X	100 V	(1) 1N5761A	(1) PT230	(4) MR754 (2) IN4760A	X	1.8 lbs (0.82 kgs)	
NYK:400044818005X	200 V	(1) HS-20	(1) PT230	(4) MR754 (2) IN5593B	X	1.8 lbs (0.82 kgs)	
NYK:400044818006X	300 V	(1) HS-20	(1) PT630	(4) MR754 (2) IN5593B	X	1.8 lbs (0.82 kgs)	
NYK:400044818007X	400 V	(1) HS-20	(1) PT630	(4) MR754 (2) IN5593B	X	1.8 lbs (0.82 kgs)	

Applicable for all SSP-11 Series Solid State Surge Protectors without a base



Applicable for all SSP-11 Series Solid State Surge Protectors with a 2 post base

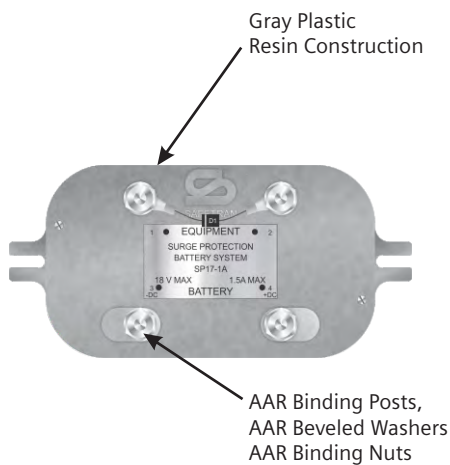




SP-17
Series

Solid State Battery Line Surge Protectors

Overview

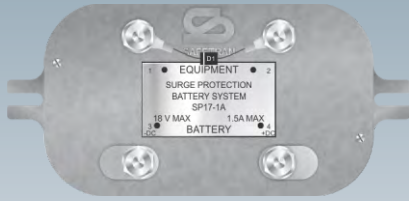


Model A44804 Solid State Battery Line Surge Protector
shown for reference purposes only!
Actual unit selected may vary in mounting and features.

SIEMENS SP-17 Solid State Battery Line Surge Protector Series is designed to provide solid state equipment protection for devices using DC power and to provide protection against AC power line surges. Enclosed in gray plastic resin housing with cover and comes equipped with AAR binding posts, beveled washers and binding nuts for quick and simple installation.

Designed with either a 18 VDC or 32 VDC TranZorb™ diode. Battery wires must be at least 12 gauge or larger or a fuse must be used in conjunction to prevent possible damage. Some models also are equipped with an equalizer for maximum equipment protection of 18V and 1.5A maximum.

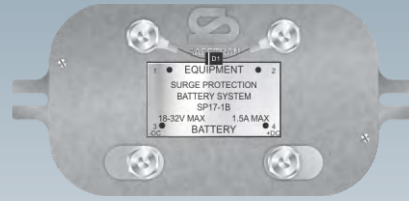
NYK:40004480400AX



SP17-1A Battery System Model

- Weight is approx. 1.6 lbs. (0.73 kgs.)
- 18 VDC maximum
- 1.5 Amp current maximum
- 1.1 Ω resistance per line
- 550 μ H per line
- (1) 18 volt TranZorb™ 5KE20 diode

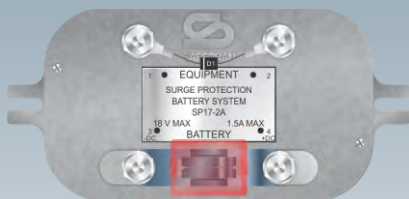
NYK:40004480400BX



SP17-1B Battery System Model

- Weight is approx. 1.6 lbs. (0.73 kgs.)
- 32 VDC maximum
- 1.5 Amp current maximum
- 1.1 Ω resistance per line
- 550 μ H per line
- (1) 32 volt TranZorb™ 1.5KE36A diode

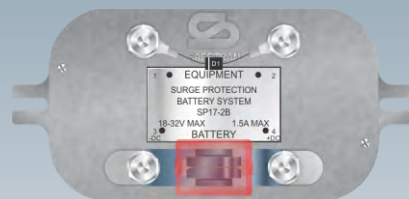
NYK:40004480405AX



SP17-2A Battery System Model

- Weight is approx. 2.6 lbs. (1.18 kgs.)
- 18 VDC maximum
- 1.5 Amp current maximum
- 1.1 Ω resistance per line
- 550 μ H per line
- (1) 18 volt TranZorb™ 5KE20 diode
- (1) NYK:400044700001X equalizer

NYK:40004480405BX



SP17-2B Battery System Model

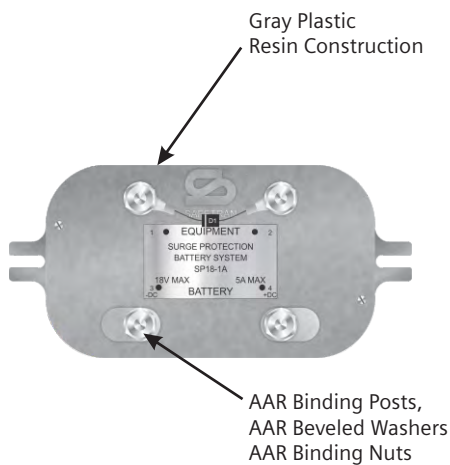
- Weight is approx. 2.6 lbs. (1.18 kgs.)
- 32 VDC maximum
- 1.5 Amp current maximum
- 1.1 Ω resistance per line
- 550 μ H per line
- (1) 32 volt TranZorb™ 1.5KE36A diode
- (1) NYK:400044700001X equalizer



SP-18 Series

Solid State Battery Line Surge Protectors

Overview

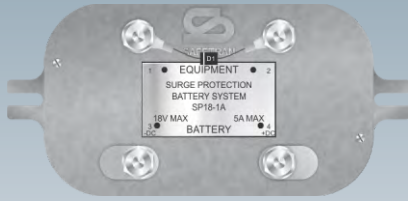


Model A44805 Solid State Battery Line Surge Protector
shown for reference purposes only!
Actual unit selected may vary in mounting and features.

SIEMENS SP-18 Solid State Battery Line Surge Protector Series is designed to provide solid state equipment protection for devices using DC power and to provide protection against AC power line surges. Enclosed in gray plastic resin housing with cover and comes equipped with AAR binding posts, beveled washers and binding nuts for quick and simple installation.

Designed with either a 18 VDC or 32 VDC TranZorb™ diode. Battery wires must be at least 12 gauge or larger or a fuse must be used in conjunction to prevent possible damage. Some models also are equipped with an equalizer for maximum equipment protection of 18V and 1.5A maximum.

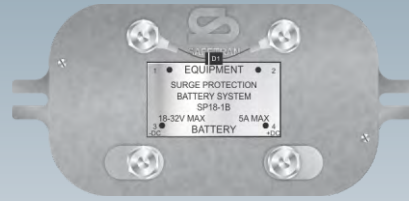
NYK:40004480500AX



SP18-1A Battery System Model

- Weight is approx. 1.6 lbs. (0.73 kgs.)
- 18 VDC maximum
- 5 Amp current maximum
- 0.35 Ω resistance per line
- 185 μ H per line
- (1) 18 volt TranZorb™ 5KE20 Diode

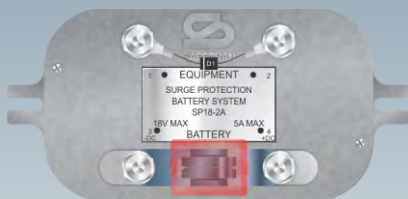
NYK:40004480500BX



SP18-1B Battery System Model

- Weight is approx. 1.6 lbs. (0.73 kgs.)
- 32 VDC maximum
- 5 Amp current maximum
- 0.35 Ω resistance per line
- 185 μ H per line
- (1) 32 volt TranZorb™ 1.5KE36A Diode

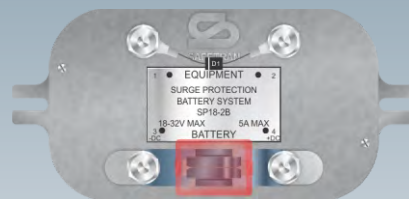
NYK:40004480504AX



SP18-2A Battery System Model

- Weight is approx. 2.6 lbs. (1.18 kgs.)
- 18 VDC maximum
- 5 Amp current maximum
- 0.35 Ω resistance per line
- 185 μ H per line
- (1) 18 volt TranZorb™ 5KE20 Diode
- (1) NYK:400044700001X equalizer

NYK:40004480504BX



SP18-2B Battery System Model

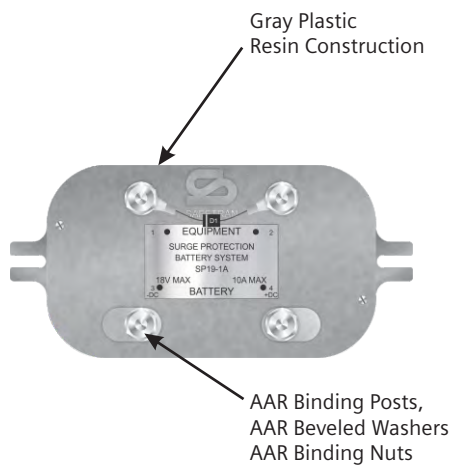
- Weight is approx. 2.6 lbs. (1.18 kgs.)
- 32 VDC maximum
- 5 Amp current maximum
- 0.35 Ω resistance per line
- 185 μ H per line
- (1) 32 volt TranZorb™ 1.5KE36A Diode
- (1) NYK:400044700001X equalizer



SP-19
Series

Solid State Battery Line Surge Protectors

Overview

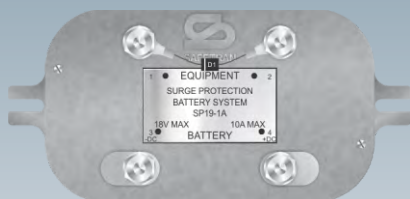


Model A44806 Solid State Battery Line Surge Protector
shown for reference purposes only!
Actual unit selected may vary in mounting and features.

SIEMENS SP-19 Solid State Battery Line Surge Protector Series is designed to provide solid state equipment protection for devices using DC power and to provide protection against AC power line surges. Enclosed in gray plastic resin housing with cover and comes equipped with AAR binding posts, beveled washers and binding nuts for quick and simple installation.

Designed with either a 18 VDC or 32 VDC TranZorb™ diode. Battery wires must be at least 12 gauge or larger or a fuse must be used in conjunction to prevent possible damage. Some models also are equipped with an equalizer for maximum equipment protection of 18V and 1.5A maximum.

NYK:40004480600AX



SP19-1A Battery System Model

- Weight is approx. 1.6 lbs. (0.73 kgs.)
- 18 VDC maximum
- 10 Amp current maximum
- 0.02 Ω resistance per line
- 18 μ H per line
- (1) 18 volt TranZorb™ 5KE20 Diode

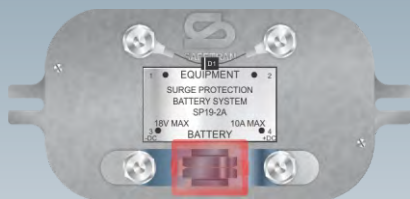
NYK:40004480600BX



SP19-1B Battery System Model

- Weight is approx. 1.6 lbs. (0.73 kgs.)
- 32 VDC maximum
- 10 Amp current maximum
- 0.02 Ω resistance per line
- 18 μ H per line
- (1) 32 volt TranZorb™ 1.5KE36A Diode

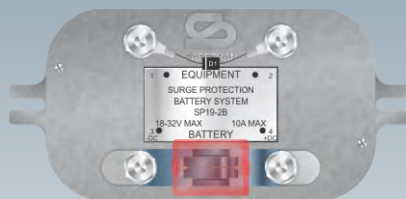
NYK:40004480603AX



SP19-2A Battery System Model

- Weight is approx. 2.6 lbs. (1.18 kgs.)
- 18 VDC maximum
- 10 Amp current maximum
- 0.02 Ω resistance per line
- 18 μ H per line
- (1) 18 volt TranZorb™ 5KE20 Diode
- (1) NYK:400044700001X equalizer

NYK:40004480603BX



SP19-2B Battery System Model

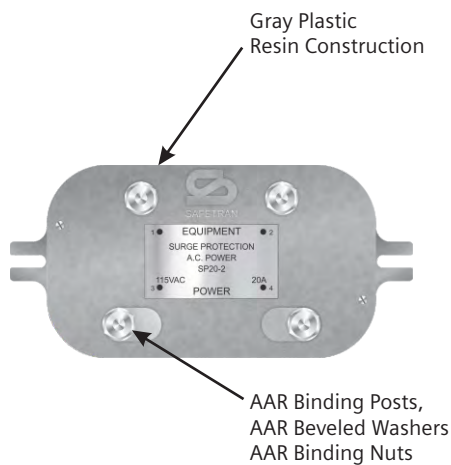
- Weight is approx. 2.6 lbs. (1.18 kgs.)
- 32 VDC maximum
- 10 Amp current maximum
- 0.02 Ω resistance per line
- 18 μ H per line
- (1) 32 volt TranZorb™ 1.5KE36A Diode
- (1) NYK:400044700001X equalizer



SP-20
Series

Solid State AC Power Surge Protectors

Overview



Model A44807 AC Power Surge Protector
shown for reference purposes only!
Actual unit selected may vary in mounting and features.

SIEMENS SP-20 Solid State AC Power Surge Protector Series is designed to provide solid state equipment protection for devices using DC power and to provide protection against AC power line surges. Enclosed in gray plastic resin housing with cover and comes equipped with AAR binding posts, beveled washers and binding nuts for quick and simple installation.

Designed with either a 18 VDC or 32 VDC TranZorb™ diode. Battery wires must be at least 12 gauge or larger or a fuse must be used in conjunction to prevent possible damage. Some models also are equipped with an equalizer for maximum equipment protection of 18V and 1.5A maximum.

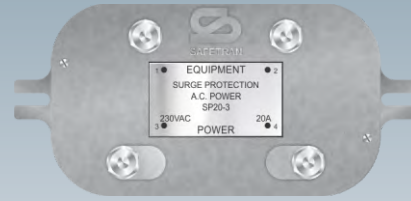
NYK:40004480700AX



SP20-2 AC Line Model

- Weight is approx. 1.6 lbs. (0.73 kgs.)
- 115 VAC maximum
- 20 Amp current maximum
- 0.01 Ω resistance per line
- 18 μ H per line

NYK:40004480700BX



SP20-3 AC Line Model

- Weight is approx. 1.6 lbs. (0.73 kgs.)
- 230 VAC maximum
- 20 Amp current maximum
- 0.01 Ω resistance per line
- 18 μ H per line

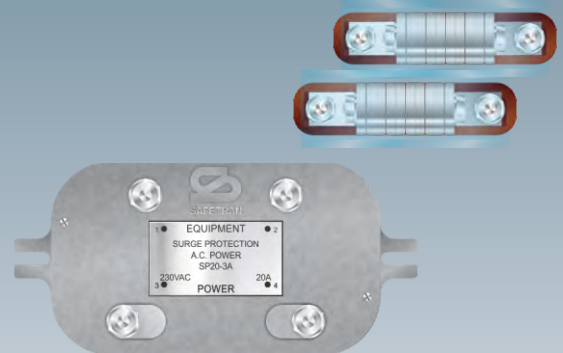
NYK:40004480706AX



SP20-2A AC Line Model

- Weight is approx. 2.9 lbs. (1.32 kgs.)
- 115 VAC maximum
- 20 Amp current maximum
- 0.01 Ω resistance per line
- 18 μ H per line
- (1) NYK:400044701001X AC power line protector

NYK:40004480707AX



SP20-3A AC Line Model

- Weight is approx. 3.8 lbs. (1.72 kgs.)
- 230 VAC maximum
- 20 Amp current maximum
- 0.01 Ω resistance per line
- 18 μ H per line
- (2) NYK:400044701002X AC power line protectors

NYK:400044807023X



SP20-4 AC Line Model

- Weight is approx. 2.4 lbs. (1.09 kgs.)
- 115 VAC maximum
- 20 Amp current maximum
- 0.02 Ω resistance per line
- 36 μ H per line
- (2) Insulated caps

NYK:400044807023AX



SP20-4A AC Line Model

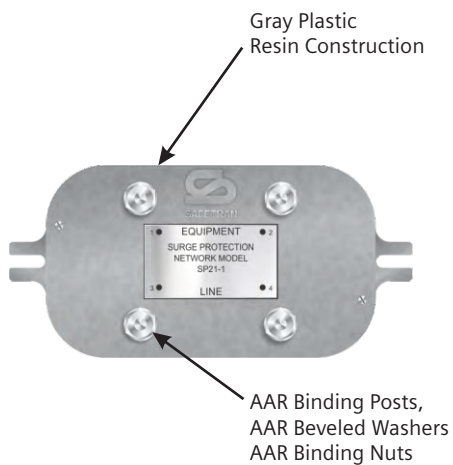
- Weight is approx. 3.6 lbs. (1.63 kgs.)
- 115 VAC maximum
- 20 Amp current maximum
- 0.02 Ω resistance per line
- 36 μ H per line
- (1) NYK:400044701002X AC power line protector
- (2) Insulated caps



SP-21
Series

Solid State Code Line Surge Protectors

Overview



*Model A44808 AC Power Surge Protector
shown for reference purposes only!
Actual unit selected may vary in mounting and features.*

SIEMENS SP-21 Solid State Code Line Surge Protector Series is designed to provide solid state equipment protection for communication devices. Enclosed in gray plastic resin housing with cover and comes equipped with AAR binding posts, beveled washers and binding nuts for quick and simple installation.

Connection wires must be at least 12 gauge or larger to prevent possible damage. Some models also are equipped with either a Clearview® Air Gap Arresters for Electrical Circuits or Clearview® Air Gap Arresters for Communication Circuits as well as a SSP-11 Solid State Surge Protectors.

NYK:400044808000X



SP21-1 Code Line Model

- Weight is approx. 1.6 lbs. (0.73 kgs.)
- 400 VDC maximum
- 20 Amp current maximum
- 0.01 Ω resistance per line
- 18 μ H per line

NYK:400044808005X



SP21-2 Code Line Model

- Weight is approx. 1.6 lbs. (0.73 kgs.)
- 400 VDC maximum
- 20 Amp current maximum
- 0.01 Ω resistance per line
- 18 μ H per line
- (1) NYK:400044817001X 30V solid state protector

NYK:400044808006X



SP21-3 Code Line Model

- Weight is approx. 3.8 lbs. (1.72 kgs.)
- 400 VDC maximum
- 20 Amp current maximum
- 0.01 Ω resistance per line
- 18 μ H per line
- (1) NYK:400044817001X 30V solid state protector
- (1) NYK:4000448528AX arrester

NYK:400044808010X



SP21-5 Code Line Model

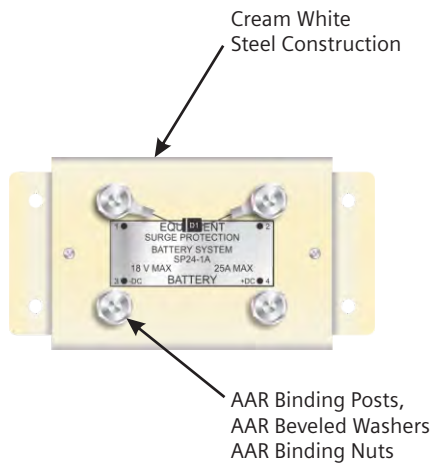
- Weight is approx. 3.8 lbs. (1.72 kgs.)
- 400 VDC maximum
- 20 Amp current maximum
- 0.01 Ω resistance per line
- 18 μ H per line
- (1) NYK:400044817002X 40V solid state protector
- (1) NYK:4000448528AX arrester



SP-24
Series

Solid State Battery Line Surge Protectors

Overview



Model A44811 Solid State Battery Line Surge Protector
shown for reference purposes only!
Actual unit selected may vary in mounting and features.

SIEMENS SP-24 Solid State Battery Line Surge Protector Series is designed to provide solid state equipment protection for devices using DC power and to provide protection against AC power line surges. Enclosed in cream white steel housing with cover and comes equipped with AAR binding posts, beveled washers and binding nuts for quick and simple installation.

Designed with either a 18 VDC or 32 VDC TranZorb™ diode. Battery wires must be at least 12 gauge or larger or a fuse must be used in conjunction to prevent possible damage. Some models also are equipped with an equalizer for maximum equipment protection of 18V and 25A maximum.

NYK:40004481104AX



SP24-1A Battery System Model

- Weight is approx. 2.4 lbs. (1.09 kgs.)
- 18 VDC maximum
- 25 Amp current maximum
- 0.006 Ω resistance per line
- 8 μ H per line
- (1) 18 volt TranZorb™ 5KE20 Diode

NYK:40004481104BX



SP24-1B Battery System Model

- Weight is approx. 2.4 lbs. (1.09 kgs.)
- 32 VDC maximum
- 25 Amp current maximum
- 0.006 Ω resistance per line
- 8 μ H per line
- (1) 32 volt TranZorb™ 1.5KE36A Diode

NYK:40004481105AX



SP24-2A Battery System Model

- Weight is approx. 3.8 lbs. (1.72 kgs.)
- 18 VDC maximum
- 25 Amp current maximum
- 0.006 Ω resistance per line
- 8 μ H per line
- (1) 18 volt TranZorb™ 5KE20 Diode
- (1) NYK:400044700001X equalizer

NYK:40004481105BX

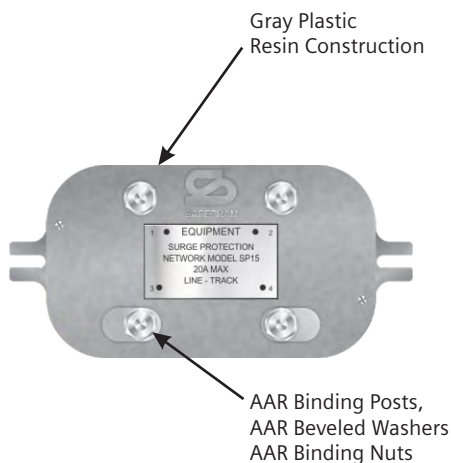


SP24-2B Battery System Model

- Weight is approx. 3.8 lbs. (1.72 kgs.)
- 32 VDC maximum
- 25 Amp current maximum
- 0.006 Ω resistance per line
- 8 μ H per line
- (1) 32 volt TranZorb™ 1.5KE36A Diode
- (1) NYK:400044700001X equalizer



Overview



Model A44814 Solid State Battery Line Surge Protector
shown for reference purposes only!
Actual unit selected may vary in mounting and features.

SIEMENS SP-15 and SP-26 Solid State Track Circuit Surge Protector Series is designed to provide solid state equipment protection for track circuit devices. Enclosed in gray plastic resin housing with cover and comes equipped with AAR binding posts, beveled washers and binding nuts for quick and simple installation.

Connection wires must be at least 12 gauge or larger to prevent possible damage. Some models also are equipped with a Clearview® Air Gap Equalizer or a SSP-11 Solid State Surge Protectors.

NYK:400044802000X



SP15-1 Track Circuit Model

- Weight is approx. 0.6 lbs. (0.27 kgs.)
- 5 VDC maximum
- 20 Amp current maximum
- 0.01 Ω resistance per line
- 18 μ H per line

NYK:400044802014X



SP15-2 Track Circuit Model

- Weight is approx. 0.6 lbs. (0.27 kgs.)
- 5 VDC maximum
- 20 Amp current maximum
- 0.01 Ω resistance per line
- 18 μ H per line
- (1) NYK:400044817001X 30V solid state protector

NYK:400044814000X



SP26-2 Track Circuit Model

- Weight is approx. 0.6 lbs. (0.27 kgs.)
- 5 VDC maximum
- 25 Amp current maximum
- 0.01 Ω resistance per line
- 8 μ H per line

NYK:400044814006X



SP26-6 Track Circuit Model

- Weight is approx. 0.6 lbs. (0.27 kgs.)
- 5 VDC maximum
- 25 Amp current maximum
- 0.01 Ω resistance per line
- 8 μ H per line
- (1) NYK:400044700001X equalizer

NYK:400044814007X



SP26-2-50 Track Circuit Model

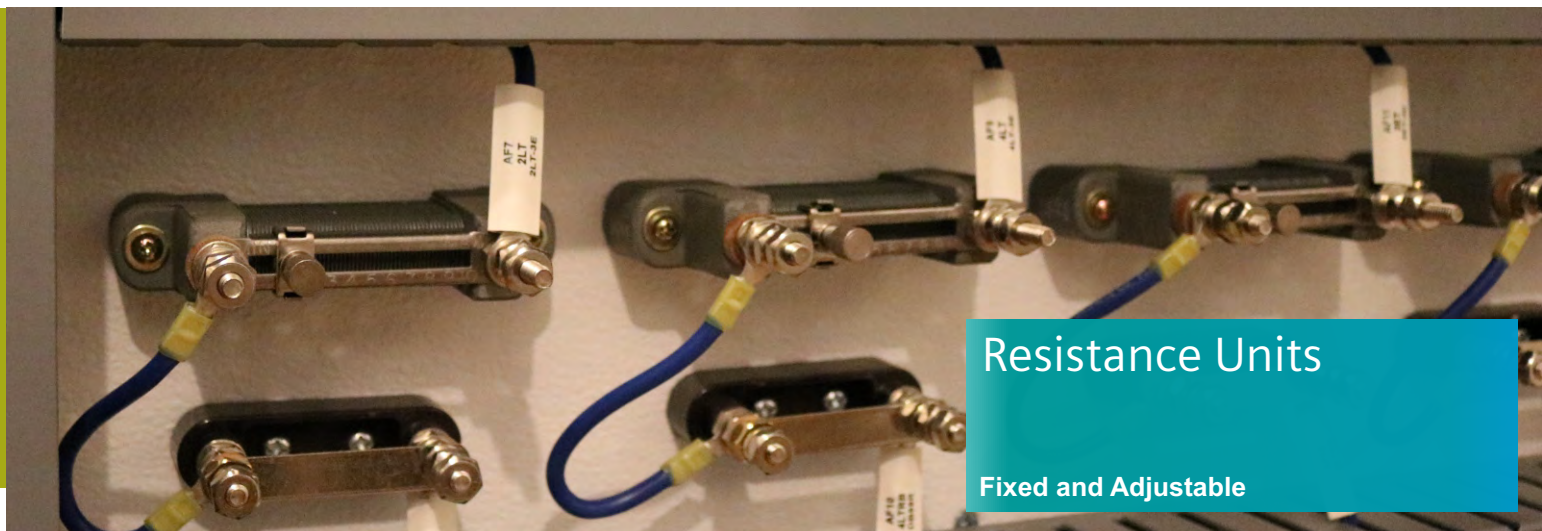
- Weight is approx. 1.6 lbs. (0.73 kgs.)
- 5 VDC maximum
- 25 Amp current maximum
- 0.01 Ω resistance per line
- 8 μ H per line

NYK:400044814008X



SP26-2 Track Circuit Model

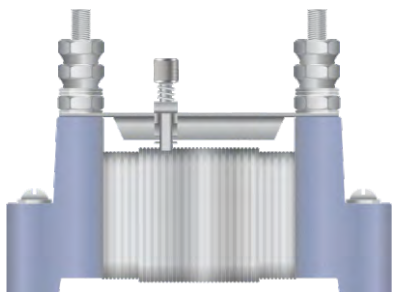
- Weight is approx. 1.6 lbs. (0.73 kgs.)
- 5 VDC maximum
- 25 Amp current maximum
- 0.01 Ω resistance per line
- 8 μ H per line



Resistance Units

Fixed and Adjustable

Overview



*Model A029602 Adjustable Resistance Unit shown for reference purposes only!
Actual unit selected may vary in mounting and features.*

SIEMENS Fixed Resistance Units employ the same materials and construction used in the adjustable types. A metal tag attached to one post gives specifications of the unit. All units are 100% tested for resistance. The tolerance is +10, -0% of the rated value. This is the same range as a + 5% resistor, except that each unit is guaranteed to have a nominal value not below the rated value.

A fiber guard for protection against touching of adjacent units, and a spacer for use where excessive heating occurs, are available. Safetran adjustable and Fixed Resistance Units are marked in AREMA® wattage, specified in Manual Part 14.2.15. Maximum temperatures rise of hottest part of resistor body is 1800° C (3560° F) above ambient temperature.

SIEMENS Adjustable Resistance Units provide a sliding contact with resistance graduations. The resistance wire is made of a corrosion resistant alloy, and has an electrically resistant oxide coating which prevents shorts from incidental contact of wires. The wire is wound around a patented porcelain base with grooves for locating the windings.

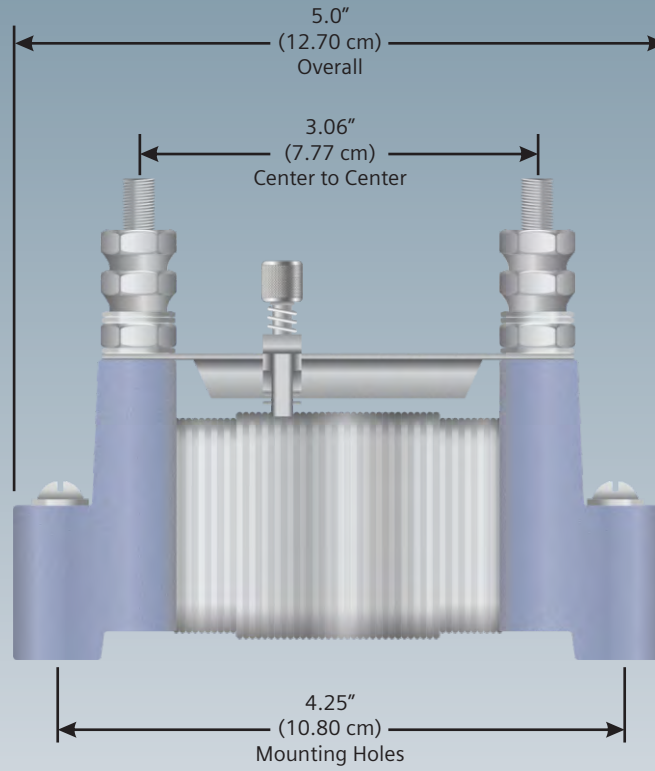
The wire is attached to the terminal posts by a washer and (2) nuts located inside the porcelain block. A stainless steel channel type bridge, used to insure against bowing and consequent loss of contact pressure, is marked in ten equal divisions of the total range of adjustment, to facilitate settings and recording of critical circuits. The bridge is marked with minimum and maximum resistance values as well.

The stainless steel contact assembly has two stainless steel springs, one of which is mounted between the sliding member and the double contact, keeping pressure on the contact, so the circuit is always closed under spring pressure, while making adjustment. A Hex-head screw passes through both springs to exert direct pressure on the double contact, allowing it to lock the sliding assembly in place on the bridge.

SIEMENS Part Number	Resistance Range ± 10%	Current	Turns	Length	Type		Weight	Electromechanical Systems Electromechanical Stabilization Products
					Fixed	Adj		
NYK:029602-1X	0.068 Ω - 0.630 Ω	8.89 A	N/A	N/A	-	X	0.92 lbs (0.42 kgs)	
NYK:029602-2X	0.085 Ω - 0.800 Ω	3.97 A	N/A	N/A	-	X	0.92 lbs (0.42 kgs)	
NYK:029602-3X	0.106 Ω - 1.000 Ω	3.87 A	N/A	N/A	-	X	0.92 lbs (0.42 kgs)	
NYK:029602-4X	0.136 Ω - 1.300 Ω	3.40 A	N/A	N/A	-	X	0.92 lbs (0.42 kgs)	
NYK:029602-5X	0.172 Ω - 1.600 Ω	3.06 A	N/A	N/A	-	X	0.92 lbs (0.42 kgs)	
NYK:029602-6X	0.213 Ω - 2.000 Ω	2.74 A	N/A	N/A	-	X	0.92 lbs (0.42 kgs)	
NYK:029602-7X	0.270 Ω - 2.500 Ω	2.45 A	N/A	N/A	-	X	0.92 lbs (0.42 kgs)	
NYK:029602-8AX	0.340 Ω - 3.000 Ω	2.24 A	N/A	N/A	-	X	0.92 lbs (0.42 kgs)	
NYK:029602-51X	0.170 Ω - 0.700 Ω	-	N/A	N/A	-	X	0.92 lbs (0.42 kgs)	
NYK:029602-51X	0.035 Ω - 1.500 Ω	-	N/A	N/A	-	X	0.92 lbs (0.42 kgs)	
NYK:029603-1X	0.380 Ω - 4.000 Ω	1.94 A	N/A	N/A	-	X	0.92 lbs (0.42 kgs)	
NYK:029603-2X	0.482 Ω - 5.000 Ω	1.73 A	N/A	N/A	-	X	0.92 lbs (0.42 kgs)	
NYK:029603-3X	0.605 Ω - 6.300 Ω	1.54 A	N/A	N/A	-	X	0.92 lbs (0.42 kgs)	
NYK:029603-4X	0.770 Ω - 8.000 Ω	1.37 A	N/A	N/A	-	X	0.92 lbs (0.42 kgs)	
NYK:029603-5X	0.960 Ω - 10.000 Ω	1.22 A	N/A	N/A	-	X	0.92 lbs (0.42 kgs)	
NYK:029603-6X	1.220 Ω - 12.500 Ω	1.09 A	N/A	N/A	-	X	0.92 lbs (0.42 kgs)	
NYK:029603-7X	1.530 Ω - 16.000 Ω	0.97 A	N/A	N/A	-	X	0.92 lbs (0.42 kgs)	
NYK:029603-8X	1.700 Ω - 17.000 Ω	0.94 A	N/A	N/A	-	X	0.92 lbs (0.42 kgs)	
NYK:029603-9X	2.120 Ω - 22.000 Ω	0.83 A	N/A	N/A	-	X	0.92 lbs (0.42 kgs)	

Electromechanical Systems Electromechanical Stabilization Products	SIEMENS Part Number	Resistance Range ± 10%	Current	Turns	Length	Type		Weight
						Fixed	Adj	
	NYK:029603-10X	2.120 Ω - 22.000 Ω	0.73 A	N/A	N/A	-	X	0.92 lbs (0.42 kgs)
	NYK:029603-11X	3.370 Ω - 35.000 Ω	0.65 A	N/A	N/A	-	X	0.92 lbs (0.42 kgs)
	NYK:029603-12X	4.270 Ω - 44.000 Ω	0.58 A	N/A	N/A	-	X	0.92 lbs (0.42 kgs)
	NYK:029603-13X	5.400 Ω - 56.000 Ω	0.52 A	N/A	N/A	-	X	0.92 lbs (0.42 kgs)
	NYK:029603-14X	6.750 Ω - 70.000 Ω	0.46 A	N/A	N/A	-	X	0.92 lbs (0.42 kgs)
	NYK:029603-15X	8.500 Ω - 87.000 Ω	0.42 A	N/A	N/A	-	X	0.92 lbs (0.42 kgs)
	NYK:029603-16X	10.800 Ω - 111.000 Ω	0.37 A	N/A	N/A	-	X	0.92 lbs (0.42 kgs)
	NYK:029603-22X	1.480 Ω - 20.000 Ω	1.58 A	N/A	N/A	-	X	0.92 lbs (0.42 kgs)
	NYK:029603-23X	1.530 Ω - 16.000 Ω	0.87 A	N/A	N/A	-	X	0.92 lbs (0.42 kgs)
	NYK:029603-25X	16.5000 Ω - 221.000 Ω	0.26 A	N/A	N/A	-	X	0.92 lbs (0.42 kgs)
	NYK:029603-26X	22.200 Ω - 300.000 Ω	0.22 A	N/A	N/A	-	X	0.92 lbs (0.42 kgs)
	NYK:029604-1X	0.19 Ω	8.89 A	6	2.25 ft	X	-	0.79 lbs (0.36 kgs)
	NYK:029604-2X	0.50 Ω	5.48 A	18	6.75 ft	X	-	0.79 lbs (0.36 kgs)
	NYK:029604-3X	1.50 Ω	3.87 A	18	6.75 ft	X	-	0.79 lbs (0.36 kgs)
	NYK:029604-4X	1.20 Ω	3.54 A	23	8.62 ft	X	-	0.79 lbs (0.36 kgs)
	NYK:029604-5X	2.00 Ω	2.74 A	26	9.80 ft	X	-	0.79 lbs (0.36 kgs)
	NYK:029604-6X	2.50 Ω	2.45 A	29	10.80 ft	X	-	0.79 lbs (0.36 kgs)
	NYK:029604-7X	3.00 Ω	2.24 A	35	13.00 ft	X	-	0.79 lbs (0.36 kgs)
	NYK:029604-8X	6.00 Ω	1.58 A	44	16.30 ft	X	-	0.79 lbs (0.36 kgs)
	NYK:029604-9X	8.30 Ω	1.34 A	49	18.20 ft	X	-	0.79 lbs (0.36 kgs)
	NYK:029604-10X	3.50 Ω	2.07 A	41	15.20 ft	X	-	0.79 lbs (0.36 kgs)
	NYK:029604-11X	0.40 Ω	5.26 A	14	4.88 ft	X	-	0.79 lbs (0.36 kgs)

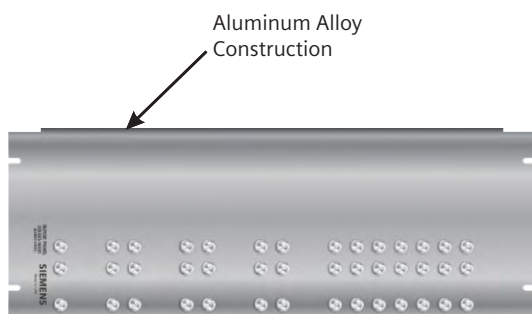
Applicable for all Fixed and Adjustable Resistance Units





Surge Protection Panels

Overview



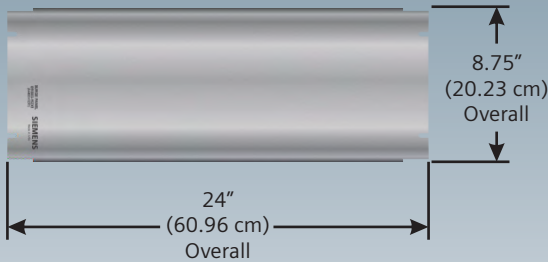
*Model A44883 Surge Protection Panel shown for reference purposes only!
Actual unit selected may vary in mounting and features.*

SIEMENS manufactures a number of surge suppression panels for both general and specific applications. The 44883 Series of vertical surge panels is available in a variety of configurations to meet specific client requirements. Each panel in this series is silkscreened to anticipate a variety of general purpose applications, but does not come equipped with any Clearview® Air Gap Arrester or Equalizers.

SIEMENS A80026 Series of track and battery surge panels is also available in a variety of configurations to meet specific client requirements. However each panel in this series does come equipped with Clearview® Air Gap Arrester or Equalizers.

SIEMENS A91170 and A91181 lighting panels provide external I/O primary surge protection for grade crossing gate controller circuitry. Both have built in secondary surge protection for all external I/O or body is 1800° C (3560° F) above ambient temperature.

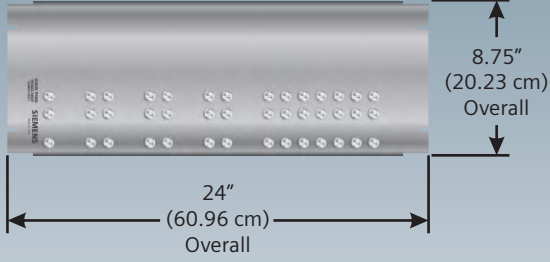
NYK:400044883152X1



General Purpose Panel (Blank)

- 5052-H32 Aluminum Alloy
- Weight is approx. 3.2 lbs. (1.45 kgs.) including hardware

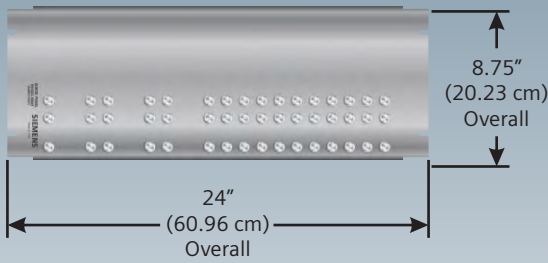
NYK:400044883149X1



General Purpose Panel (12 Positions)

- 5052-H32 Aluminum Alloy
- Weight is approx. 4.2 lbs. (1.91 kgs.) including hardware

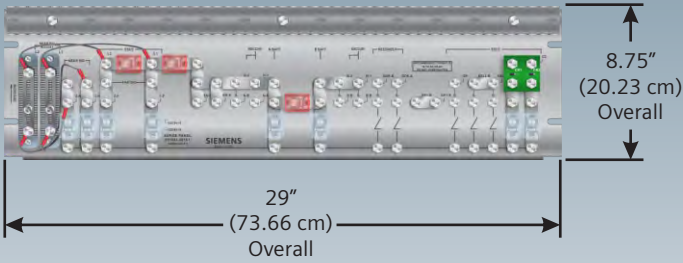
NYK:400044883199X1



General Purpose Panel (16 Positions)

- 5052-H32 Aluminum Alloy
- Weight is approx. 4.7 lbs. (2.13 kgs.) including hardware

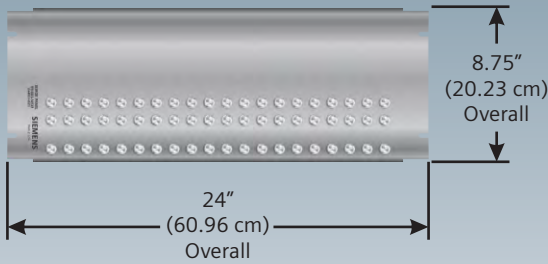
NYK:400044883201X1



General Purpose Panel (Signal Panel)

- 5052-H32 Aluminum Alloy
- Weight is approx. 9.2 lbs. (4.17 kgs.) including hardware
- Full length 1 1/2" slotted duct system

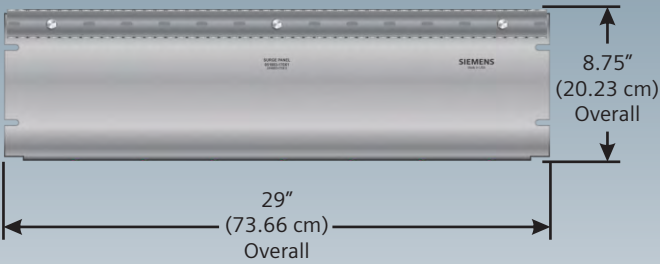
NYK:400044883145X1



General Purpose Panel (20 Positions)

- 5052-H32 Aluminum Alloy
- Weight is approx. 5.2 lbs. (13.21 kgs.) including hardware

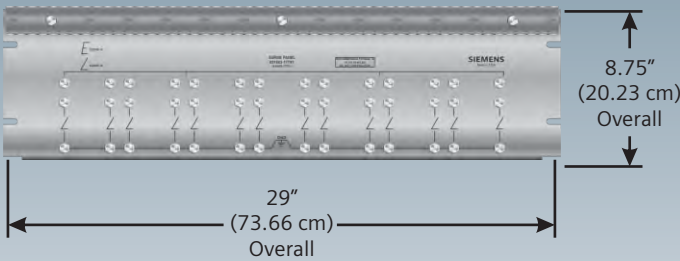
NYK:400044883170X1



General Purpose Panel (Blank w/ Slotted Duct)

- 5052-H32 Aluminum Alloy
- Weight is approx. 4.2 lbs. (1.91 kgs.) including hardware
- Full length 1 1/2" slotted duct system

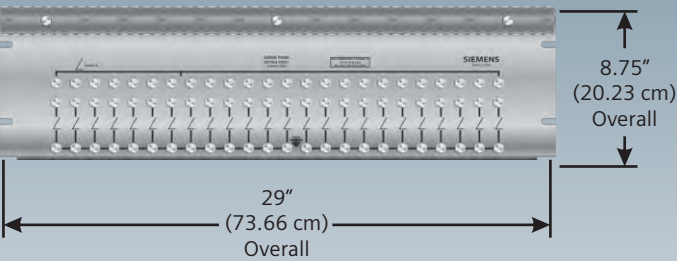
NYK:400044883177X1



General Purpose Panel (14 Positions w/ Slotted Duct)

- 5052-H32 Aluminum Alloy
- Weight is approx. 4.7 lbs. (2.13 kgs.) including hardware
- Full length 1 1/2" slotted duct system

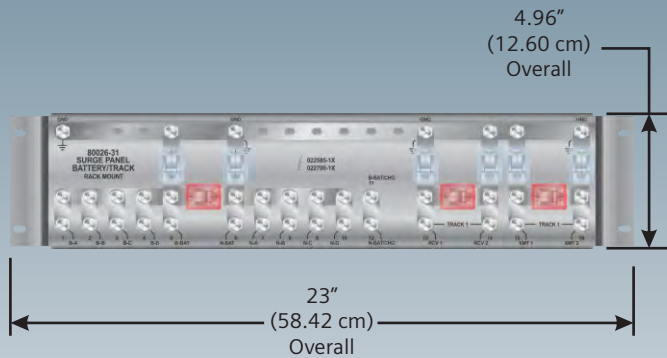
NYK:400044700176X1



General Purpose Panel (24 Positions w/ Slotted Duct)

- 5052-H32 Aluminum Alloy
- Weight is approx. 5.4 lbs. (2.45 kgs.) including hardware
- Full length 1 1/2" slotted duct system

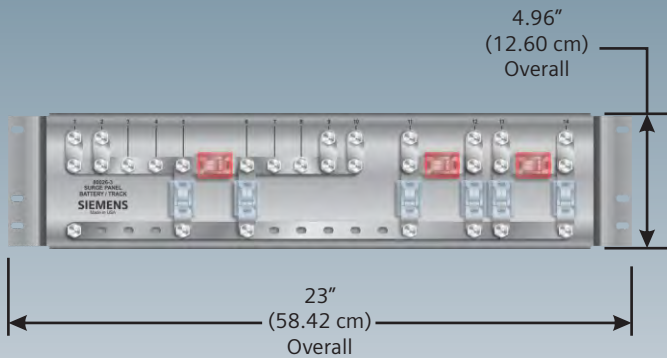
NYK:8000800260031



Battery and (1) Track Panel

- 5052-H32 Aluminum Alloy
- Weight is approx. 6.5 lbs. (2.95 kgs.) including hardware

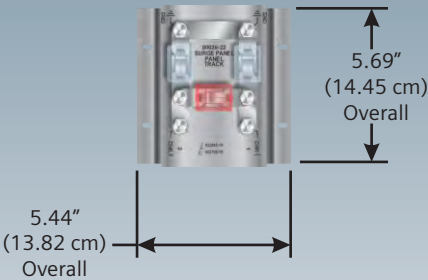
NYK:8000800260003



Battery and (1) Track Panel

- 5052-H32 Aluminum Alloy
- Weight is approx. 6.5 lbs. (2.95 kgs.) including hardware

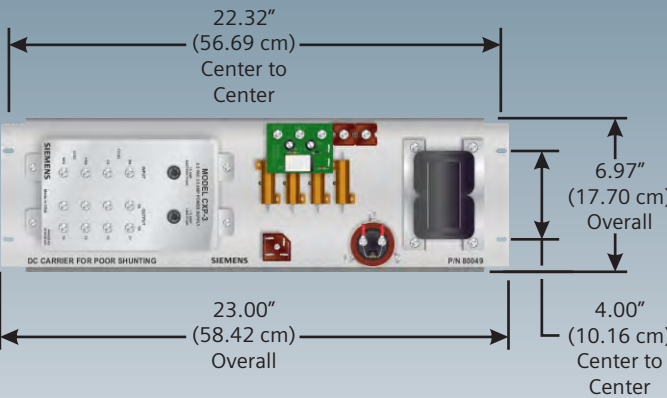
NYK:8000800260022



(1) Track Panel

- 5052-H32 Aluminum Alloy
- Weight is approx. 4.2 lbs. (1.91 kgs.) including hardware
- Isolated gate control

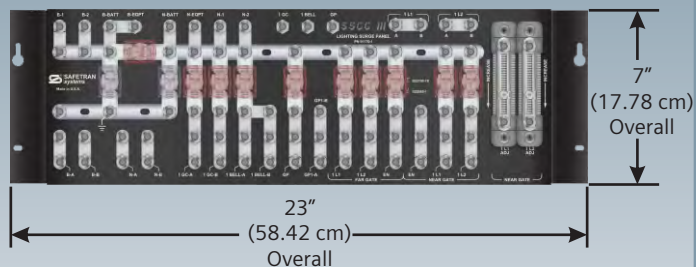
NYK:8000800490001



DC Enhancer Panel

- 5052-H32 Aluminum Alloy
- Weight is approx. 10.2 lbs. (25.91 kgs.) including hardware
- Improved track shunting in dark territory

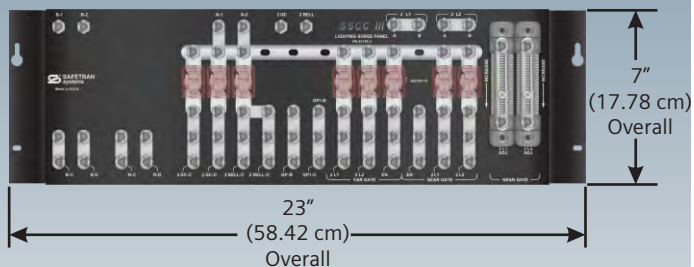
NYK:9000911700001



Common Gate Control Panel

- 5052-H32 Aluminum Alloy
- Weight is approx. 3.2 lbs. (1.45 kgs.) including hardware

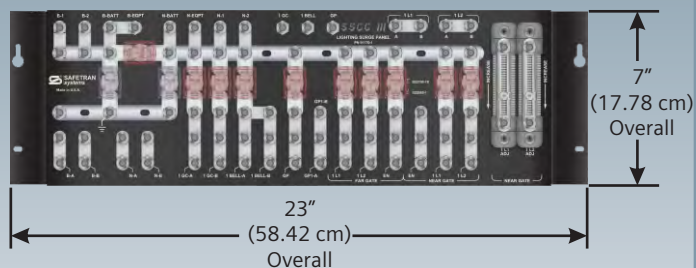
NYK:9000911700002



Common Gate Control Panel

- 5052-H32 Aluminum Alloy
- Weight is approx. 4.2 lbs. (1.91 kgs.) including hardware

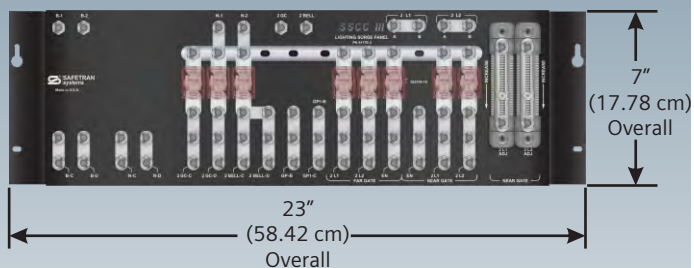
NYK:9000911810001



Isolated Gate Control Panel

- 5052-H32 Aluminum Alloy
- Weight is approx. 10 lbs. (4.54 kgs.) including hardware

NYK:9000911810002



Isolated Gate Control Panel

- 5052-H32 Aluminum Alloy
- Weight is approx. 10 lbs. (4.54 kgs.) including hardware

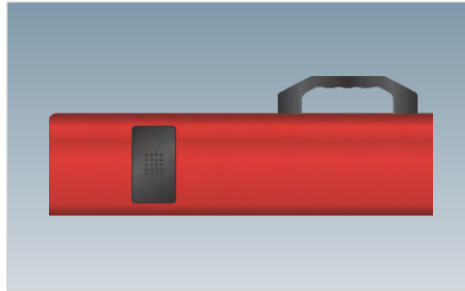
SIEMENS Part Number	Overall Length	Post Center to Center	Base Material	No of Posts	Hardware Included	Electromechanical Systems Electromechanical Stabilization Products
Type 217 Block Porcelain Terminal Blocks						
NYK:40004421712X1	3.34" (8.48 cm)	1.00" (2.54 cm)	Porcelain	2	-	
NYK:400044217012X	3.34" (8.48 cm)	1.00" (2.54 cm)	Porcelain	2	X	
NYK:40004421708X1	3.34" (8.48 cm)	2.38" (6.05 cm)	Porcelain	2	-	
NYK400044217008X	3.34" (8.48 cm)	2.38" (6.05 cm)	Porcelain	2	X	
NYK40004421703X1	6.00" (15.24 cm)	5.13" (13.03 cm)	Porcelain	2	-	
NYK400044217003X	6.00" (15.24 cm)	5.13" (13.03 cm)	Porcelain	2	X	
Type 390 1" Square Terminal Blocks						
NYK:023390-5-1X	1.00" (2.54 cm)	N/A	Bakelite	1	-	
NYK:023390-5-2X	2.00" (5.08 cm)	1.00" (2.54 cm)	Bakelite	2	-	
NYK:023390-5-3X	3.00" (7.62 cm)	1.00" (2.54 cm)	Bakelite	3	-	
NYK:023390-5-4X	4.00" (10.16 cm)	1.00" (2.54 cm)	Bakelite	4	-	
NYK:023390-5-5X	5.00" (12.70 cm)	1.00" (2.54 cm)	Bakelite	5	-	
NYK:023390-5-6X	6.00" (15.24cm)	1.00" (2.54 cm)	Bakelite	6	-	
NYK:023390-5-7X	7.00" (17.78 cm)	1.00" (2.54 cm)	Bakelite	7	-	
NYK:023390-5-8X	8.00" (20.32 cm)	1.00" (2.54 cm)	Bakelite	8	-	
NYK:023390-5-9X	9.00" (22.86 cm)	1.00" (2.54 cm)	Bakelite	9	-	
NYK:023390-5-10X	10.00" (25.40 cm)	1.00" (2.54 cm)	Bakelite	10	-	
NYK:023390-5-11X	11.00" (27.94 cm)	1.00" (2.54 cm)	Bakelite	11	-	
Type 274 Rounded (2) Post Wide Terminal Block						
NYK:023374-24X	1 Row, 2 Posts each row		Bakelite	2	-	
NYK:023374-23X	1 Row, 2 Posts each row		Bakelite	2	X	
NYK:023374-40X	2 Rows, 2 Posts each row		Bakelite	4	-	
NYK:023374-503X	2 Rows, 2 Posts each row		Bakelite	4	X	
NYK:023374-501X	2 Rows, 6 Posts each row		Bakelite	6	-	
NYK:023374-21X	2 Rows, 6 Posts each row		Bakelite	6	X	
13 Way Terminal Block						
NYK:051883-26X2	w/o Hardware					
NYK:051883-26X1	w/ Hardware					
14 Way Terminal Block						
NYK:051883-18X2	w/o Hardware					
NYK:051883-18X1	w/ Hardware					

Locomotive Systems Products



HOT Series
Head of Train Devices

G1 - G4



EOT Series
End of Train Devices

G5 - G8



EOT Phone Home Series
End of Train Communications

G9 - G10



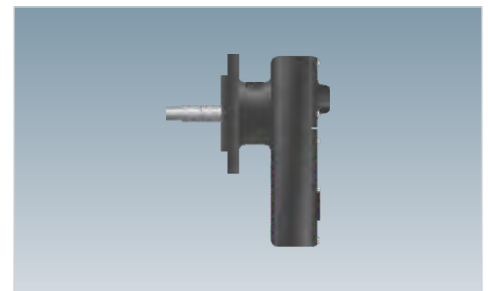
HOT / EOT Repeater Units

G11 - G12



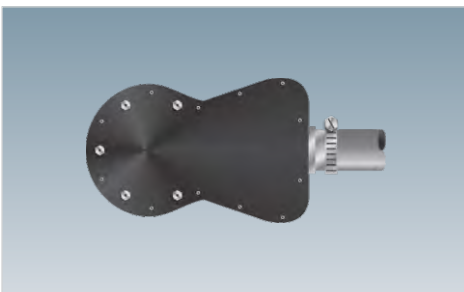
Locomotive Testing Units

G13 - G16



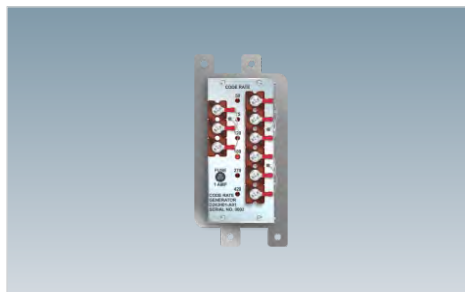
Axle Drives

G17 - G20



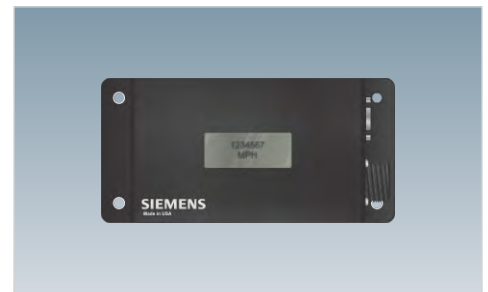
Axle Generators

G21 - G22



Code Rate Generators / Decoders

G23 - G24



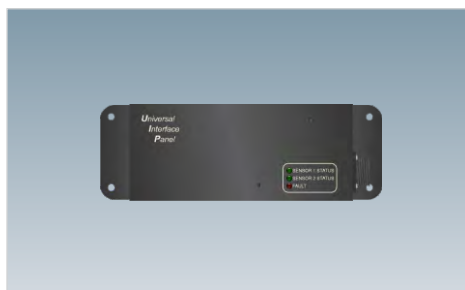
Odometers

G25 - G26



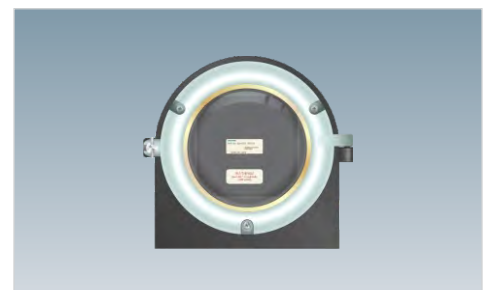
Speedometers

G27 - G30



Universal Interface Panels

G31 - G32



Ditch Lights

G33 - G36



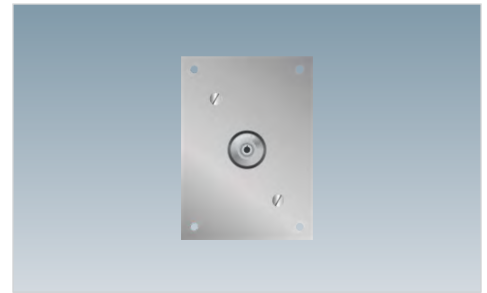
HGR Series
Heater Ground Relays

G37 - G39



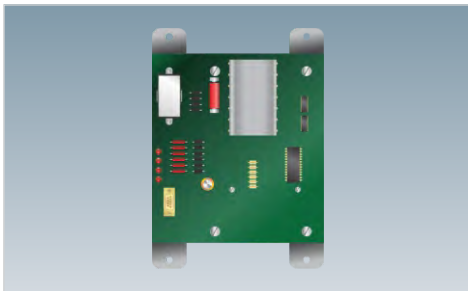
MPBI
Multiple Penalty Brake Interface

G40



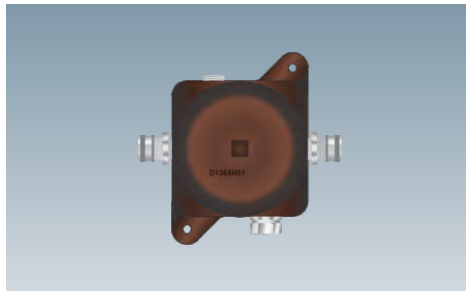
Maintenance Key Switch

G41



GPS Onboard Monitoring Unit

G42



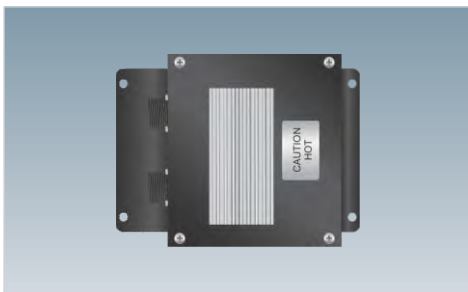
Track Receiver Junction Box

G43



ADU Series
Aspect Display Units

G44



Locomotive Power Supplies

G45 - G47



Q2518
Locomotive Alerter System Controller

G48



Decelerometers

G49 - G50



CHMM Series
Crash Hardened Memory Modules

G51 - G52



Locomotive Event Recorders

G53 - G55



Event Recorder
CMM / EDAP / COMBINED

G56



HOT Series

Head of Train Devices

Overview



*Head of Train Device console model shown for reference purposes only!
Actual unit selected may vary in mounting and features.*

Features

- Built-in status indicators for arming, communications, motion detection, highly visible marker (HVM), brakes and batteries.
- Built-in keypad and display for configuration, troubleshooting and diagnostics.
- Able to process End Of Train / Head Of Train communications tests, armament requests and emergency braking commands.
- Fully supports standard AAR protocols.
- Provides ability to be used as both an internal and / or external event recorder.

SIEMENS Head Of Train (HOT) units are available in either a cab mounted model or an integrated model.

The integrated HOT unit is intended for integration into pre-existing locomotive cab electronics such as the General Electric® IFC systems or EMD® / Rockwell® ICE or FIRE systems.

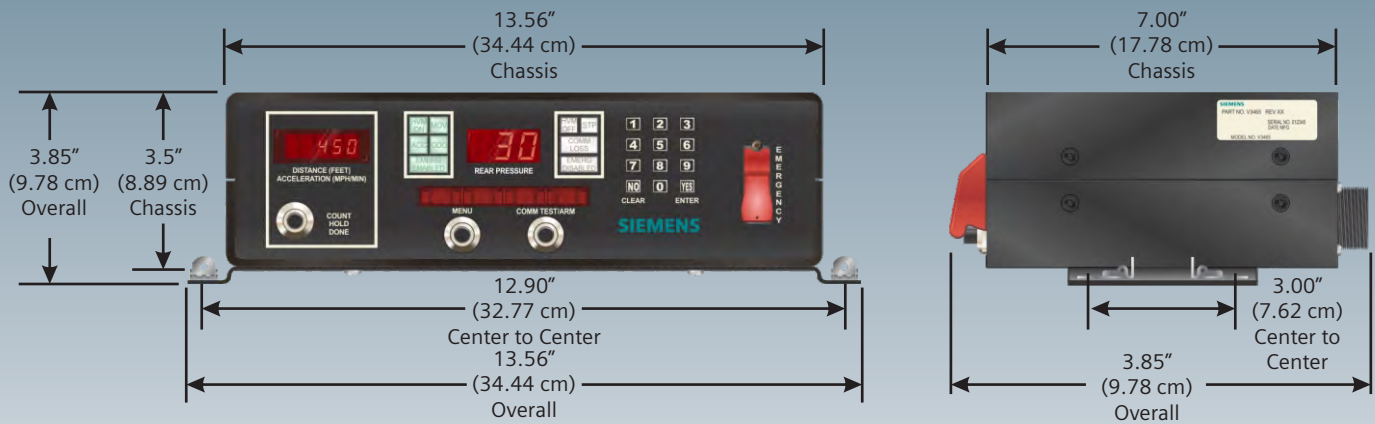
The cab mounted HOT Telemetry unit is intended for application to the top of the locomotive control stand or other suitable locations.

Siemens also offers a model that serves as a direct replacement for the Ansaldo STS® Digitair® console mounted unit.

Both series of HOT units, when used with a **SIEMENS** End Of Train (EOT) unit, will provide the locomotive engineer with important information regarding the operation of the train.

These conditions include brake pipe pressure (PSI) and various status conditions. All HOT units will also process EOT / HOT communications tests, armament requests, and emergency brake commands resulting from an emergency switch activation or external emergency input.

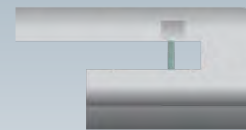
NYK:V3465/R



Full Size Console Unit

- Weight is approx. 11 lbs. (4.99 kgs.) including mounting foot
- Operates in -40° F to +160° F (-40°C to +70°C) @ up to 95% Non-Condensing Relative Humidity
- 13.56" (34.44 cm) Wide x 8.41" (21.36 cm) Deep x 3.85" (9.78 cm) Tall
- Includes Ritron® dual band radio
- (1) NYK:QP-52321 mounting plate
- NYK:QP-16371 PUMP® software update program
- Bootloader firmware
- Application firmware

NYK:VK-3465/R



Antenna

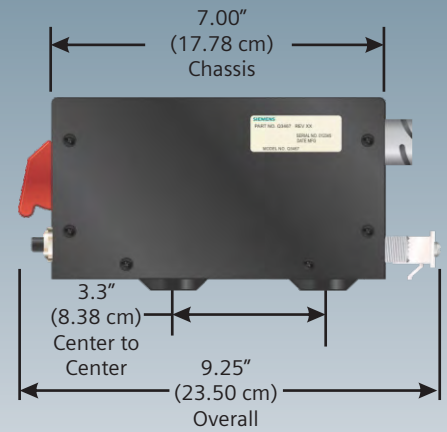
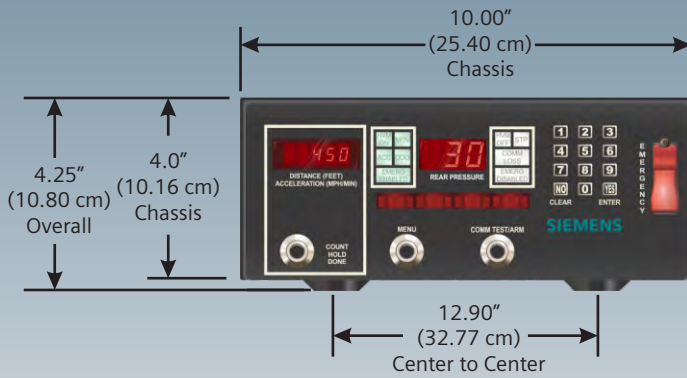


Instruction Manual

Full Size Console w/ Setup Kit

- (1) NYK:V3465/R Full Size Console Unit
- (1) NYK:Q9266/20 20' (6 m) antenna cable
- (1) Instruction manual
- (1) NYK:06955 450 MHz - 465 MHz antenna
- (1) NYK:Q9077/15C Input / Power cable

NYK:V3467/R



Compact Console Unit

- Weight is approx. 6 lbs. (2.72 kgs.) including mounting foot
- Operates in -40° F to +160° F (-40°C to +70°C) @ up to 95% Non-Condensing Relative Humidity
- 10.00" (25.40 cm) Wide x 9.25" (23.50 cm) Deep x 4.25" (10.80 cm) Tall
- Includes Ritron® dual band radio
- (1) NYK:QP-52321 mounting plate
- NYK:QP-16371 PUMP® software update program
- Bootloader firmware
- Application firmware

NYK:VK-3467/R



Antenna

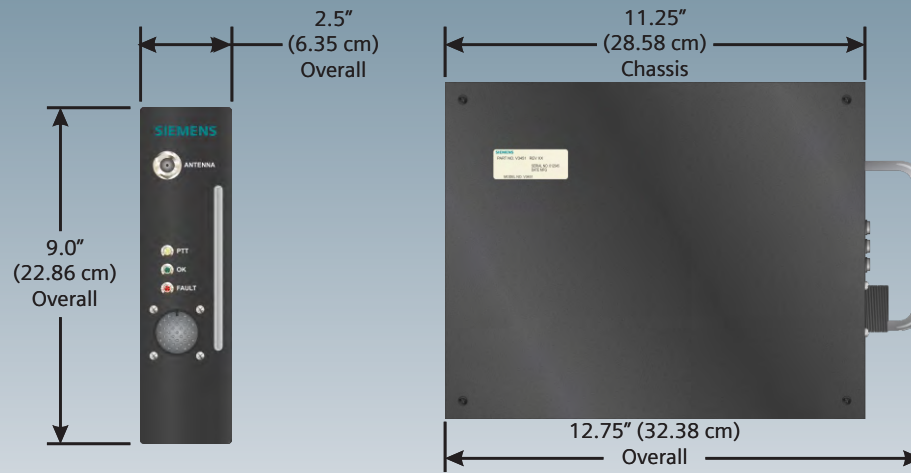


Instruction Manual

Compact Size Console Unit w/ Setup Kit

- (1) NYK:V3460 Full Size Console Unit
- (1) NYK:Q9266/20 20' (6 m) antenna cable
- (1) Instruction manual
- (1) NYK:06955 450 MHz - 465 MHz antenna
- (1) NYK:Q9077/15C Input / Power cable

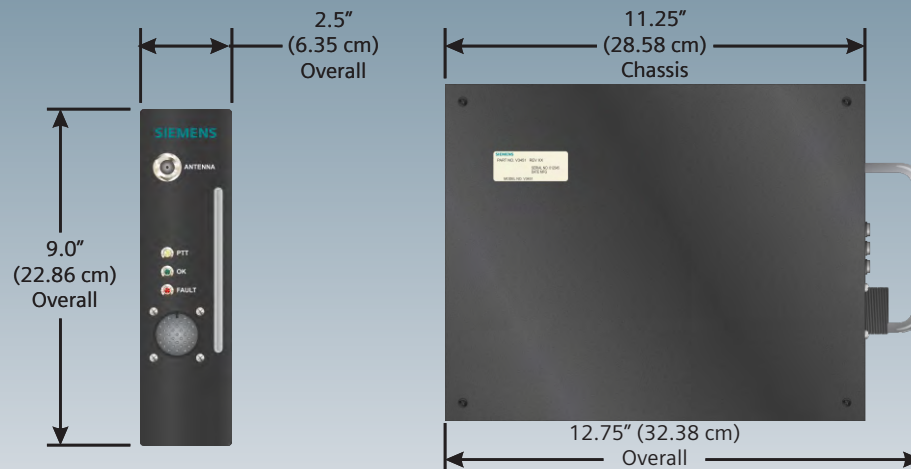
NYK:V3451/R2



Integrated Unit

- Weight is approx. 3 lbs. (1.36 kgs.) including mounting foot
- Operates in -40° F to +160° F (-40°C to +70°C) @ up to 95% Non-Condensing Relative Humidity
- 2.5" (6.35 cm) Wide x 11.25" (28.58 cm) Deep x 9.0" (22.86 cm) Tall
- Includes Ritron® dual band radio
- NO mounting plate
- NYK:QP-16371 PUMP® software update program
- Bootloader firmware
- Application firmware

NYK:V3452/R2



Integrated Unit

- Weight is approx. 3 lbs. (1.36 kgs.) including mounting foot
- Operates in -40° F to +160° F (-40°C to +70°C) @ up to 95% Non-Condensing Relative Humidity
- 2.5" (6.35 cm) Wide x 11.25" (28.58 cm) Deep x 9.0" (22.86 cm) Tall
- Includes Ritron® dual band radio
- NO mounting plate
- NYK:QP-16371 PUMP® software update program
- Bootloader firmware
- Application firmware



EOT Series

End of Train Devices

Overview



Features

- Single, Push-Button Operation
- Single-LED Visibility Marker
- Cellular Data Service with Over-the-Air Upgrades
- 8 Watt Narrow-Band Radio with Waiver on Annual Calibration
- Internal Event Recorder and GPS Receiver
- Enclosed Antenna and AEI Tag

*Head of Train Device console model shown for reference purposes only!
Actual unit selected may vary in mounting and features.*

SIEMENS End of Train Devices is available with or without EOT Phone Home service.

When used in conjunction with the **SIEMENS** Head of Train Device (HOT) it provides information to the locomotive engineer about the operational conditions / statuses of the train.

Some of the statuses include:

- Brake pipe pressure (psi)
- Arming Status (Emergency feature enabled or disabled)
- Communication Status (Good / Comm-Loss, rear-to-front or front-to-rear)
- Motion Detection (Moving or stopped)
- High Visibility Marker (HVM) Status (On, off or defective)
- Brake value (Normal, emergency or defective)
- Battery State Status (Good, low or dead)
- Battery Charge Status (% depleted, in charge units)

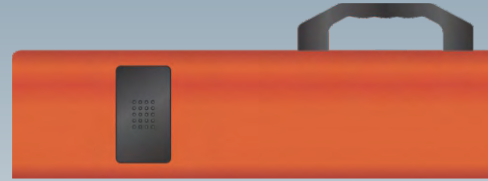
NYK:QK-3920-01



**EOT with EOT Phone Home Included
(Red Standard Model)**

- Weight is approx. 26.5 lbs. (12.02 kgs.)
- Operates in -40° F to +160° F (-40°C to +70°C) @ up to 95% Non-Condensing Relative Humidity
- 4.50" (11.43 cm) Wide x 8.40" (21.34 cm) Deep x 27.00" (68.58 cm) Tall
- Operating voltage 12.5 V to 13.0 V
- Power supply 12 V, 3.4 Ah
- Charge port 10 pin MS3102E-18-1S connector
- Includes EOT Phone Home service
- Includes cell modem

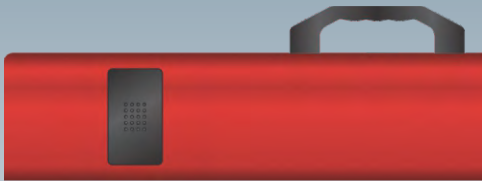
NYK:QK-3920-02



**EOT with EOT Phone Home Included
(Orange Standard Model)**

- Weight is approx. 26.5 lbs. (12.02 kgs.)
- Operates in -40° F to +160° F (-40°C to +70°C) @ up to 95% Non-Condensing Relative Humidity
- 4.50" (11.43 cm) Wide x 8.40" (21.34 cm) Deep x 27.00" (68.58 cm) Tall
- Operating voltage 12.5 V to 13.0 V
- Power supply 12 V, 3.4 Ah
- Charge port 10 pin MS3102E-18-1S connector
- Includes EOT Phone Home service
- Includes cell modem

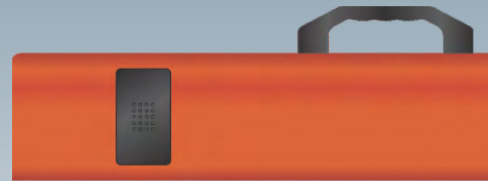
NYK:QK-3920-03



**EOT with EOT Phone Home Included
(Red Smart Charge Model)**

- Weight is approx. 26.5 lbs. (12.02 kgs.)
- Operates in -40° F to +160° F (-40°C to +70°C) @ up to 95% Non-Condensing Relative Humidity
- 4.50" (11.43 cm) Wide x 8.40" (21.34 cm) Deep x 27.00" (68.58 cm) Tall
- Operating voltage 12.5 V to 13.0 V
- Power supply 12 V, 3.4 Ah
- Charge port 10 pin MS3112E-10-6S connector
- Includes EOT Phone Home service
- Includes cell modem

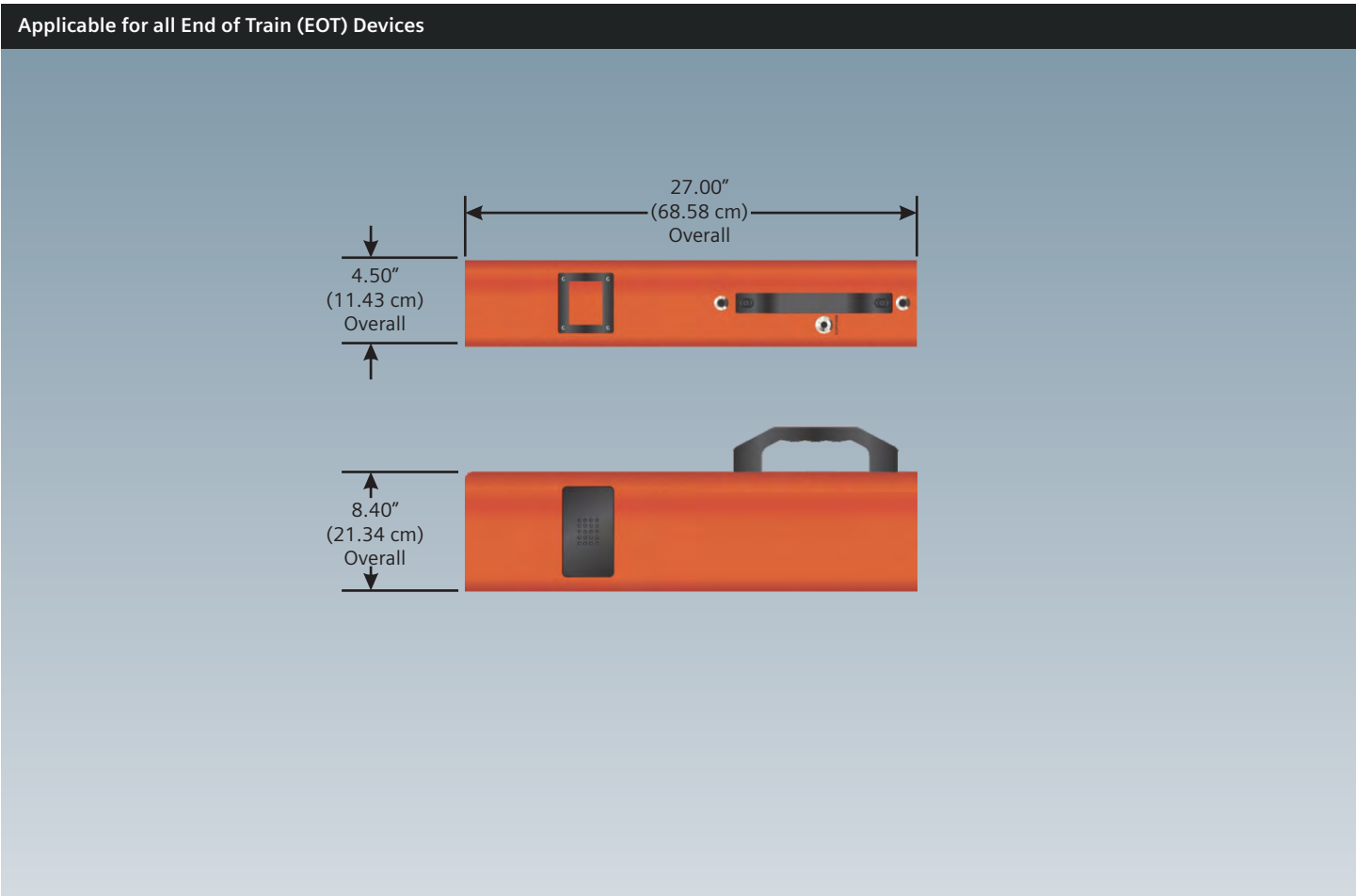
NYK:QK-3920-04



**EOT with EOT Phone Home Included
(Orange Smart Charge Model)**

- Weight is approx. 26.5 lbs. (12.02 kgs.)
- Operates in -40° F to +160° F (-40°C to +70°C) @ up to 95% Non-Condensing Relative Humidity
- 4.50" (11.43 cm) Wide x 8.40" (21.34 cm) Deep x 27.00" (68.58 cm) Tall
- Operating voltage 12.5 V to 13.0 V
- Power supply 12 V, 3.4 Ah
- Charge port 10 pin MS3112E-10-6S connector
- Includes EOT Phone Home service
- Includes cell modem

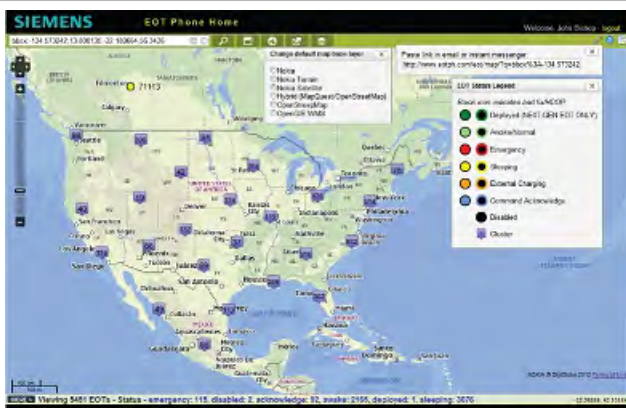
Locomotive Systems Products	SIEMENS Part Number	End of Train Device Maintenance Parts
	NYK:QP-35056	Dump Pilot Valve
	NYK:QP35057	APG Control Valve
	NYK:59208	APG Assembly
	NYK:52616	Clamp Nut Bar
	NYK:59062	Latch Handle
	NYK:61013	Electronic Interface Module
	NYK:62174	Power Module
	NYK:62176/PC	Clamp Assembly
	NYK:65105/ORG	Orange Enclosure
	NYK:65105/RED	Red Enclosure
	NYK:65106/ORG	Orange Enclosure Cover
	NYK:65106/RED	Red Enclosure Cover
	NYK:QP-52516	Mounting Bracket
	NYK:QP-70312	Chassis Harness





EOT Phone Home Service

Overview



SIEMENS End of Train (EOT) Phone Home solution is a subscription based Telemetry Management Software as a Service (SaaS) application that is designed to support multiple manufacturers and empowers railroad operations personnel to efficiently deploy, monitor, track, maintain and manage End of Train (EOT) devices ubiquitously with the ease of a browser based interface.

It has an intuitive user interface that quickly enables even the most casual user to rapidly become proficient in accessing information relative to their interest. Advanced users will also appreciate the ability to perform their tasks with ease utilizing innovative capabilities such as:

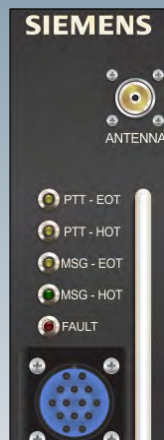
- Locating missing EOT devices and providing mapped directions
- Tracing travel paths and tracking trains
(as a backup to other systems)
- Configuration management of advanced settings
- Track and trace of device maintenance upgrades
- Disabling devices that are lost or misappropriated
- Billing for device utilization by other railroads
- Automated reporting for optimizing device utilization

Most knowledge users are familiar with web browsers and as such, the Phone Home solution is validated to support the latest versions of Microsoft® Internet Explorer®, Google® Chrome®, and Apple® Safari®, which reduces training costs and provides IT departments a robust environment for managing version control and security policies.

Features

- Color coded Key Performance Indicators (KPIs) for EOT status.
- Clustering to efficiently manage map real-estate.
- Paste link feature for proficient collaboration.
- Multiple map base layers for visualizing mapping features.
- Hyperlinked status bar for current quick scroll view of common EOT statuses.
- Search options dialog box for effortless queries.
- Saved searches feature for rapid retrieval of common queries.
- Run History Report function with multiple file formats.





HOT / EOT Series

Repeater Modules

Overview



*Model NYK:Q3442 HOT / EOT Series Repeater Module
shown for reference purposes only!
Actual software may vary in mounting and features.*

SIEMENS HOT / EOT Series Repeaters are designed to assist communications between **SIEMENS** Head of Train (HOT) and **SIEMENS** End of Train (EOT) transceivers where the transmission / reception of these devices may be impeded by other transceivers.

Supports AAR standard transmission protocol on frequency pairs 457.9375 MHz and 452.9375 MHz and are designed to operate without any user input needed. Once initialized, LED indicators on the front of the unit provide indications of operating status.

NYK:Q3440/R



Integrated Unit

- Weight is approx. 7 lbs. (3.18 kgs.) including mounting plate
- Operates in -40° F to +160° F (-40°C to +70°C) @ up to 95% Non-Condensing Relative Humidity
- 2.7" (6.86 cm) Wide x 13.34" (33.88 cm) Deep x 9.2" (23.69 cm) Tall
- Includes 457.9375 MHz and 452.9375 MHz VHF Ritron® radios
- (1) NYK:52316 mounting plate
- (1) NYK:70126/RR antenna cable
- (1) NYK:70145/8 antenna cable

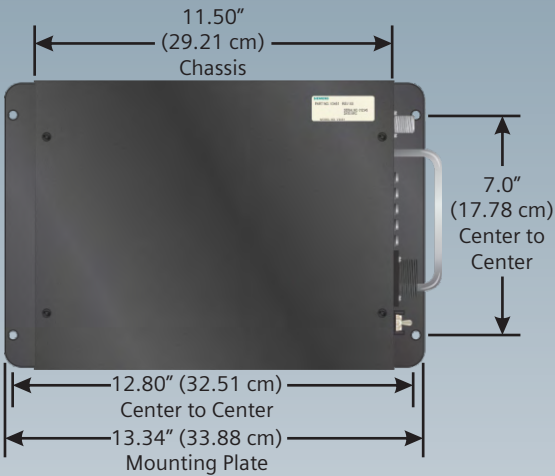
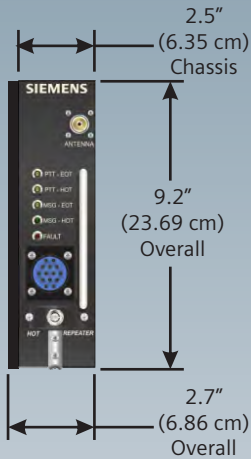
NYK:Q3442



Integrated Unit for General Electric® IFC, EMD/Rockwell® ICE™ or FIRE™ systems.

- Weight is approx. 7 lbs. (3.18 kgs.) including mounting plate
- Operates in -40° F to +160° F (-40°C to +70°C) @ up to 95% Non-Condensing Relative Humidity
- 2.7" (6.86 cm) Wide x 13.34" (33.88 cm) Deep x 9.2" (23.69 cm) Tall
- Includes 457.9375 MHz and 452.9375 MHz UHF Ritron® radios
- (1) NYK:52316 Mounting plate
- (2) NYK:06966 antenna cables

Applicable for all HOT / EOT Repeater modules





Testing Units

Overview



*Model NYK:Q1400 Testing Unit shown for reference purposes only!
Actual software may vary in mounting and features.*

SIEMENS Locomotive Testing Units provide an array of diagnostic, testing and recording capabilities. This allows maintainers to perform necessary mandated testing and servicing of equipment in actual environments. Units are encased in durable Pelican® brand case for years of rugged performance.

Other testing units may be available that are not listed. Please contact the Siemens Technical Assistance for Rail Automation Team for further details.

NYK:Q1230



Basic Recorder / Tester Unit

- Weight is approx. 10 lbs. (4.53 kgs.) including mounting plate
- Operates in -40° F to +160° F (-40°C to +70°C) @ up to 95% Non-Condensing Relative Humidity
- 16.0" (40.64 cm) Wide x 13.1" (32.27 cm) Deep x 6.90" (17.53 cm) Tall
- Simple 1 button testing
- Tests recording devices in actual operating environments
- Encased in durable Pelican® brand case

NYK:Q1400



Speed Test Unit

- Weight is approx. 3 lbs. (1.36 kgs.) including mounting foot
- Operates in -40° F to +160° F (-40°C to +70°C) @ up to 95% Non-Condensing Relative Humidity
- 16.0" (40.64 cm) Wide x 13.1" (32.27 cm) Deep x 6.90" (17.53 cm) Tall
- Simulates speeds from 0 mph (0 kph) to 100 mph (160 kph)
- Simulates frequencies from 15 Hz to 4000 Hz
- Axle drive outputs can be set to 20p, 60p, 120p, 247p or 249p
- Wheel size diameter can be set from Ø 37.0" (93.98 cm) to 50" (127.00 cm)
- Encased in durable Pelican® brand case

NYK:Q3431/NB



EOT / HOT Testing Unit

- Weight is approx. 11 lbs. (3.18 kgs.) including mounting plate
- Operates in -40° F to +160° F (-40°C to +70°C) @ up to 95% Non-Condensing Relative Humidity
- 16.0" (40.64 cm) Wide x 13.1" (32.27 cm) Deep x 6.90" (17.53 cm) Tall
- Tests HOT and EOT devices in actual operating environments
- Meets or exceeds annual Federal Railroad Administration calibration requirements without removing HOT devices from locomotives
- Provides a Pass / Fail indication for radio frequencies, deviations and signal strengths
- 120 VAC or 12 VDC operation
- Encased in durable Pelican® brand case

NYK:Q3433/NB



EOT / HOT Testing Unit

- Weight is approx. 11 lbs. (3.18 kgs.) including mounting plate
- Operates in -40° F to +160° F (-40°C to +70°C) @ up to 95% Non-Condensing Relative Humidity
- 16.0" (40.64 cm) Wide x 13.1" (32.27 cm) Deep x 6.90" (17.53 cm) Tall
- Tests HOT and EOT devices in actual operating environments
- Meets or exceeds annual Federal Railroad Administration calibration requirements without removing HOT devices from locomotives
- Provides a Pass / Fail indication for radio frequencies, deviations and signal strengths
- 120 VAC or 12 VDC operation
- Encased in durable Pelican® brand case

NYK:D3005H15-A01



- ATC Tester Unit**
- Weight is approx. 3 lbs. (1.36 kgs.) including mounting foot
 - Operates in -40° F to +160° F (-40°C to +70°C) @ up to 95% Non-Condensing Relative Humidity
 - 16.0" (40.64 cm) Wide x 13.1" (32.27 cm) Deep x 6.90" (17.53 cm) Tall

NYK:D3883H32-A01

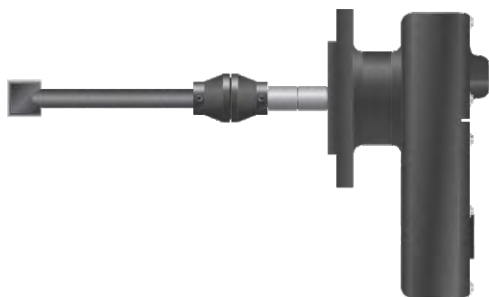


- ACSES transponder simulator control portable tester**
- Weight is approx. 10 lbs. (4.53 kgs.) including mounting plate
 - Operates in -40° F to +160° F (-40°C to +70°C) @ up to 95% Non-Condensing Relative Humidity
 - 16.0" (40.64 cm) Wide x 13.1" (32.27 cm) Deep x 6.90" (17.53 cm) Tall



Axle Drives

Overview



*Model Q1165 Axle Drive shown for reference purposes only!
Actual software may vary in mounting and features.*

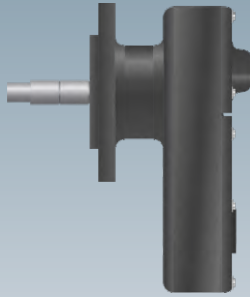
SIEMENS Axle Drives feature solid cast aluminum housing and dual internal bearings for longevity. They can be supplied with either 20 or 60 electrical pulses per wheel revolution.

The dual bearing configuration virtually eliminates any failures due to excessive stresses from the unsprung axle as the locomotive traverses either rough road crossings or bad joints. These situations can cause premature fatigue on single bearing model axle drives and therefore failures with a critical component of the event recording or speed indicating system.

A direct replacement for most 20 or 60 pole axle drives in use today, and can be supplied with any length paddle assembly needed by the using railroad including a "peg" drive for some axle applications.

Optional Universal Axle Drive Paddle is constructed with a high tech thermal molded plastic and is a one size fits all solution. Supplied in standard 10" (25.4 cm) length and pre-marked and pre-drilled for easy field modification to field sizes of either 7.5" (19.05 cm) or 3.5" (8.89 cm) long.

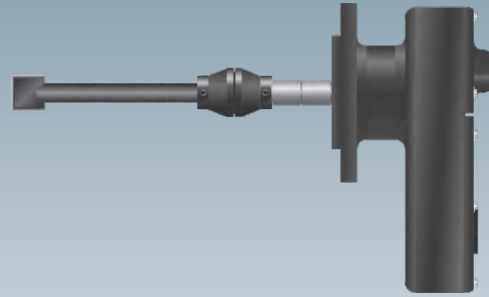
NYK:Q1123



20 Pulses Per Minute

- Weight is approx. 9 lbs. (4.08 kgs.)
- Operates in -40° F to +160° F (-40°C to +70°C) @ up to 95% Non-Condensing Relative Humidity
- 6.13" (15.57 cm) Wide x 8.13" (20.32 cm) Deep x 9.72" (24.69 cm) Tall
- Cast aluminum housing
- Dual bearing configuration
- NO paddle axle drive shaft assembly
- NO PEG drive shaft assembly
- NO cables

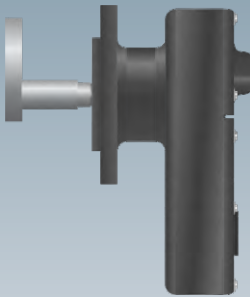
NYK:Q1124



20 Pulses Per Minute w/ Paddle Axle Drive Assembly

- Weight is approx. 9.8 lbs. (4.45 kgs.)
- Operates in -40° F to +160° F (-40°C to +70°C) @ up to 95% Non-Condensing Relative Humidity
- 6.13" (15.57 cm) Wide x 17.50" (44.45 cm) Deep x 9.72" (24.69 cm) Tall
- Cast aluminum housing
- (1) NYK:Q1123 Axle Drive (20 Pulses Per Minute) assembly
- (1) NYK:QP-52170 Paddle Axle Drive Assembly
- NO PEG drive shaft assembly
- NO cables

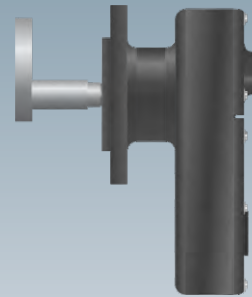
NYK:Q1126



20 Pulses Per Minute w/ PEG Axle Drive Assembly

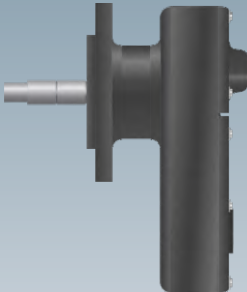
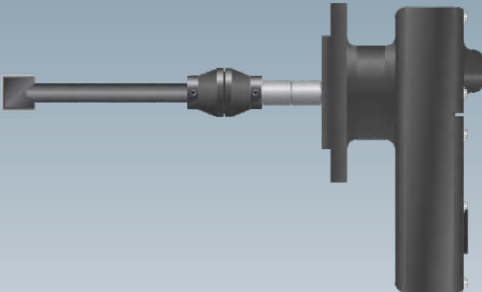
- Weight is approx. 9.4 lbs. (4.26 kgs.)
- Operates in -40° F to +160° F (-40°C to +70°C) @ up to 95% Non-Condensing Relative Humidity
- 6.13" (15.57 cm) Wide x 8.38" (21.29 cm) Deep x 9.72" (24.69 cm) Tall
- Cast aluminum housing
- (1) NYK:Q1123 Axle Drive (20 Pulses Per Minute) assembly
- NO paddle axle drive assembly
- (1) NYK:52272 Peg Drive Assembly
- NO Cables

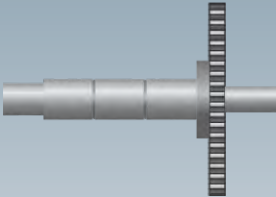

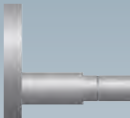
NYK:Q1127

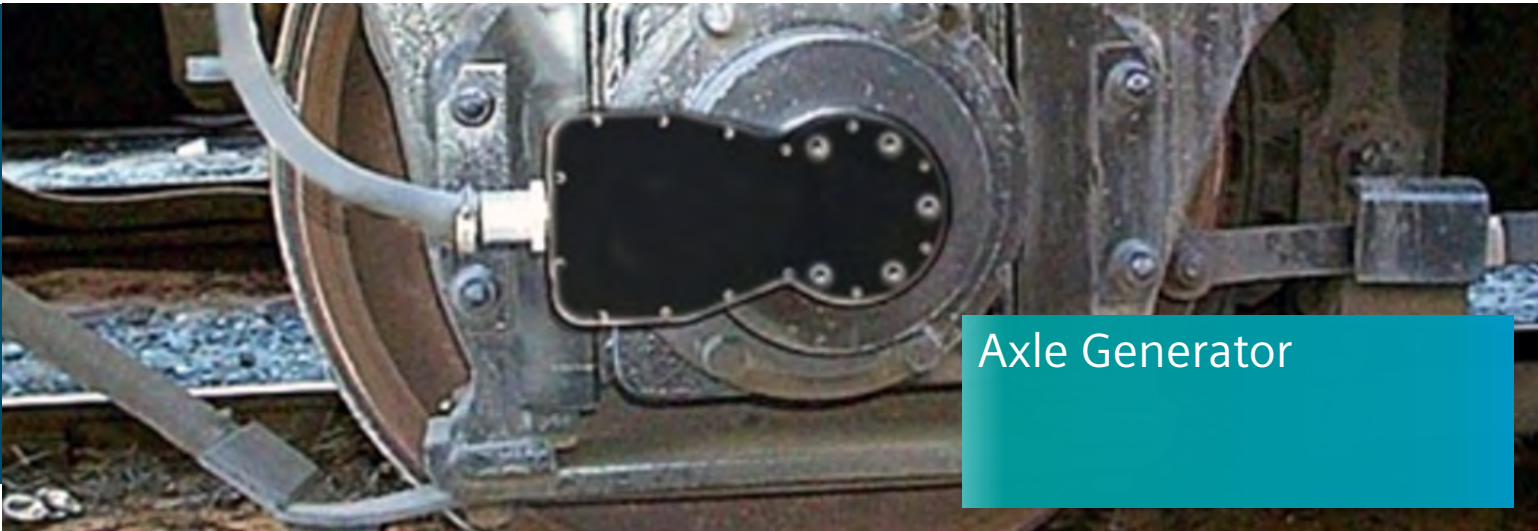


20 Pulses Per Minute w/ PEG Axle Drive Assembly and Cables

- Weight is approx. 11 lbs. (4.99 kgs.) including cables
- Operates in -40° F to +160° F (-40°C to +70°C) @ up to 95% Non-Condensing Relative Humidity
- 16.0" (40.64 cm) Wide x 13.1" (32.27 cm) Deep x 6.90" (17.53 cm) Tall
- Cast aluminum housing
- (1) NYK:Q1123 Axle Drive (20 Pulses Per Minute) assembly
- NO paddle axle drive shaft assembly
- (1) NYK:52272 Peg Drive Shaft Assembly
- (1) NYK:09255 16.5' (5 m) cable

NYK:Q1163	NYK:Q1164
	
<p>60 Pulses Per Minute</p> <ul style="list-style-type: none">• Weight is approx. 9 lbs. (4.08 kgs.)• Operates in -40° F to +160° F (-40°C to +70°C) @ up to 95% Non-Condensing Relative Humidity• 6.13" (15.57 cm) Wide x 8.13" (20.32 cm) Deep x 9.72" (24.69 cm) Tall• Cast aluminum housing• Dual bearing configuration• NO paddle axle drive shaft assembly• NO PEG drive shaft assembly• NO cables	<p>60 Pulses Per Minute w/ Paddle Axle Drive Shaft Assembly</p> <ul style="list-style-type: none">• Weight is approx. 9.8 lbs. (4.45 kgs.)• Operates in -40° F to +160° F (-40°C to +70°C) @ up to 95% Non-Condensing Relative Humidity• 6.13" (15.57 cm) Wide x 17.50" (44.45 cm) Deep x 9.72" (24.69 cm) Tall• Cast aluminum housing• (1) NYK:Q1163 Axle Drive (60 Pulses Per Minute) assembly• (1) NYK:QP-52170 Paddle Axle Drive Shaft Assembly• NO PEG drive shaft assembly• NO cables

NYK:52508/20P	NYK:52508/60P
	
<p>Axle Drive Shaft Assembly for 20 Pulses Per Minute</p> <ul style="list-style-type: none">• Weight is approx. 2 lbs. (0.91 kgs.)• Operates in -40° F to +160° F (-40°C to +70°C) @ up to 95% Non-Condensing Relative Humidity	<p>Axle Drive Shaft Assembly for 60 Pulses Per Minute</p> <ul style="list-style-type: none">• Weight is approx. 2 lbs. (0.91 kgs.)• Operates in -40° F to +160° F (-40°C to +70°C) @ up to 95% Non-Condensing Relative Humidity
NYK:52170	NYK:52272
	
<p>Paddle Axle Drive Shaft Assembly for 20 Pulses Per Minute</p> <ul style="list-style-type: none">• Weight is approx. 2 lbs. (0.91 kgs.)• Operates in -40° F to +160° F (-40°C to +70°C) @ up to 95% Non-Condensing Relative Humidity• Pre-marked and pre-drills to field modify for either a 7.5" (19.05 cm) or 3.5" (8.89 cm) long	<p>PEG Drive Shaft Assembly for 20 Pulses Per Minute</p> <ul style="list-style-type: none">• Weight is approx. 1 lbs. (0.45 kgs.)• Operates in -40° F to +160° F (-40°C to +70°C) @ up to 95% Non-Condensing Relative Humidity



Axle Generator

Overview

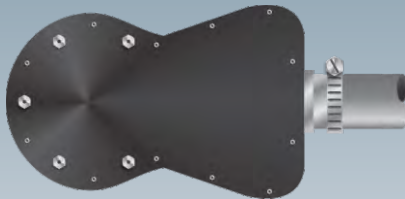


*Axle Generator shown for reference purposes only!
Actual unit selected may vary in mounting and features.*

SIEMENS Axle Generator uses internal speed sensors to count pulses related to specific gear rotations. Speed data is relayed to the onboard computer for determination of potential overspeed conditions. It contains (3) magnetic reluctance type speed sensors. The first two sensors are driven from a 60 tooth gear and the remaining sensor is driven from a 40 tooth gear.

Other configurations may be available that are not listed. Please contact the **SIEMENS** Technical Assistance for Rail Automation Team for further details.

NYK:D600001-A01



- Meets or exceeds applicable AREMA® specifications on recommended practices regarding 3000 VAC breakdown voltage.
- Easily mountable on standard relay racks, instrument house backboards or can even be shelf mounted when removing included mounting bracket
- Weight is approx. 15 lbs. (6.80 kgs.) including connectors
- Operates in -40° F to +160° F (-40°C to +70°C) @ up to 95% Non-Condensing Relative Humidity
- 6.3 VAC 3.5 Amp power supply
- (1) 15 Amp battery fuse
- (1) 1.5 Amp line fuse
- (4) Output battery connections
- 115 VAC Input connection
- 12 VDC Input connection

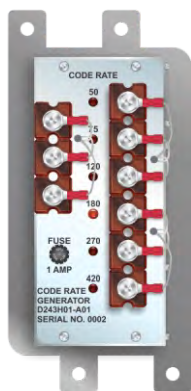
Optional Accessories

Part Number	Description
NYK:D1365H01-A12	Junction box
NYK:B600010-A01	Spline assembly



Code Rate Generators / Decoders

Overview



Features

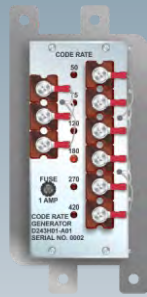
- Solid state design that replaces older relays
- Vital design ensures that transmitted code is never greater than the one selected
- Stainless steel enclosure, hardware and mounting plate
- Utilizes industry standard AAR terminals

*Code Rate Generator / Decoder shown for reference purposes only!
Actual unit selected may vary in mounting and features.*

SIEMENS Code Rate Generator is a microprocessor based unit used to drive code following relays. The unit generates various code rates depending on model.

An integrated LED flashes at the generated code rate. The attached mounting plate can be supplied with different dimensions to match various relay mounting patterns.

NYK:D243H01-A01

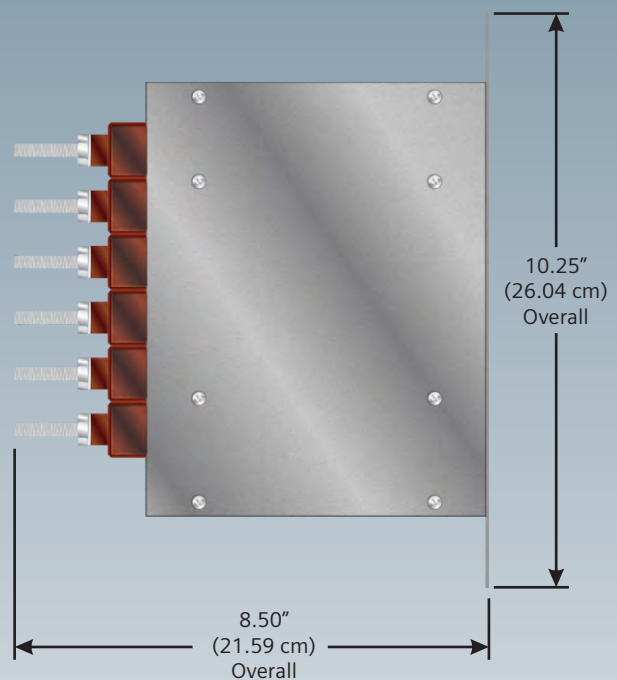
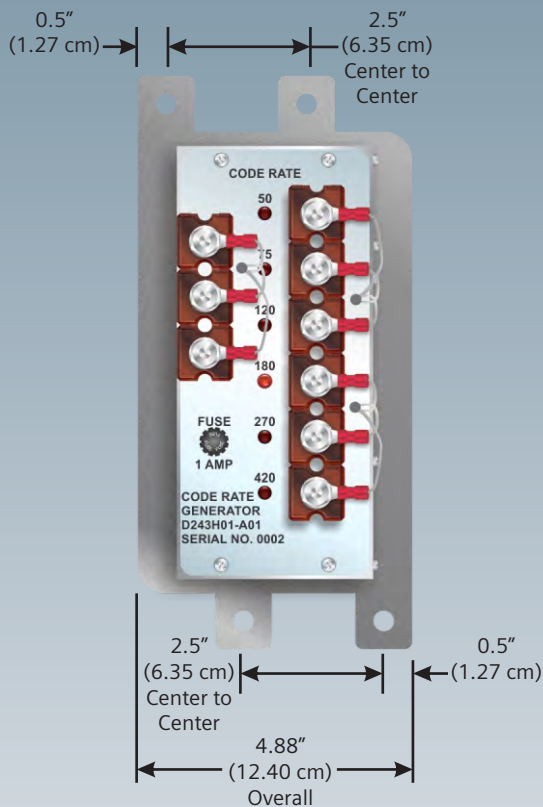
**Code Rate Generator**

- Weight is approx. 4 lbs. (1.81 kgs.)
- Operates in -40° F to +160° F (-40°C to +70°C) @ up to 95% Non-Condensing Relative Humidity
- 8 VDC - 15 VDC voltage range
- Current sinking outputs
- 250 mA nominal input current (*neglecting load current*)
- Open drain FET output load
- Outputs rated at 0.75A @ 12 V
- Generates code rates 50, 75, 120, 180, 270 and 420

NYK:D887H01-A01

**Code Rate Decoder**

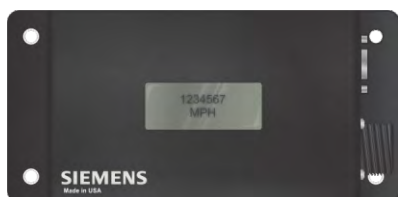
- Weight is approx. 4 lbs. (1.81 kgs.)
- Operates in -40° F to +160° F (-40°C to +70°C) @ up to 95% Non-Condensing Relative Humidity
- 8 VDC - 15 VDC voltage range
- 250 mA nominal input current (*neglecting load current*)
- 12 V nominal relay coil with > 500 Ω output load
- Outputs rated at 0.75A @ 12 V
- Generates code rates 75, 120, and 180

Applicable for all Code Rate Generators and Decoders



Odometers

Overview



*Model NYK:Q1860 Odometer shown for reference purposes only!
Actual unit selected may vary in mounting and features.*

SIEMENS Odometer is a self-contained module for permanently recording vehicle mileage. Vehicle mileage, in 1 mile increments to 9,999,999 miles on Q1860 model (1 kilometer increments to 9,999,999 kilometers on Q1860/M model) is continuously displayed on the integrated and back-lit Liquid Crystal Display (LCD).

Accumulated mileage is stored in 10 mile (10 kilometer) increments in non-volatile memory for permanent recording. Installation consists of physically mounting the electronics enclosure and completing the wiring to power and the axle alternator of the vehicle. The serial communication interface, a standard DB-9 computer connector, allows various operating parameters to be changed including the axle alternator poles per revolution, wheel diameter and initial mileage setting.

NYK:Q1860

NYK:Q1860/M

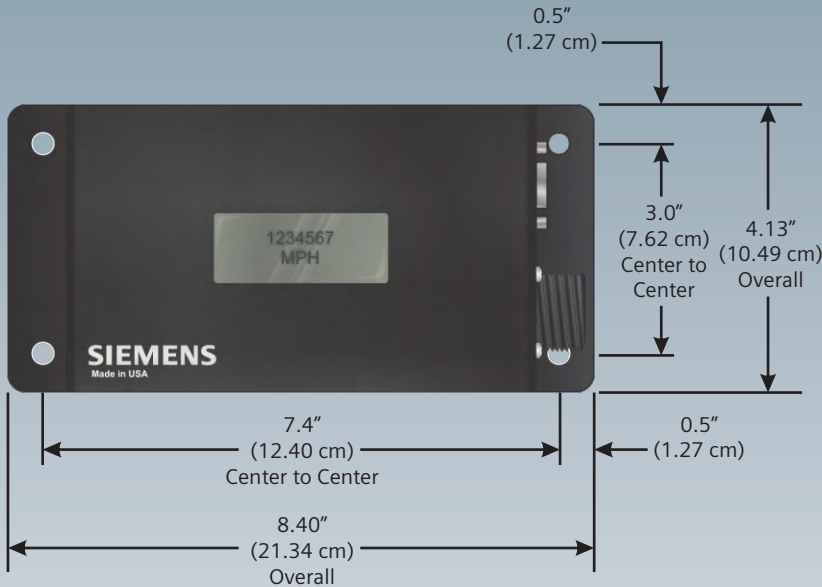


- Weight is approx. 4 lbs. (1.81 kgs.)
- Operates in -40° F to +160° F (-40°C to +70°C) @ up to 95% Non-Condensing Relative Humidity
- Measures in MPH



- Weight is approx. 4 lbs. (1.81 kgs.)
- Operates in -40° F to +160° F (-40°C to +70°C) @ up to 95% Non-Condensing Relative Humidity
- Measures in KPH

Applicable for all Odometers





Locomotive

QSI Series

Dual Range Locomotive Speed Indicators

Overview



*Model NYK:Q1830 Speed Indicator shown for reference purposes only!
Actual unit selected may vary in mounting and features.*

SIEMENS QSI Series Dual Range Locomotive Speed Indicators are a complete line of locomotive speed indicators in both English and Metric versions. The speed indicators all offer the accuracy and reliability only 100% digital components can provide.

Designed for simple retrofitting, units are available in single and dual display configurations with integrated odometer and accelerator functions.

Foot pattern and cable arrangement allows for a bolt for bolt, pin for pin replacement of existing analog electronic speed indicators.

It can operate from any number of end of axle electronic axle drives, and accepts industry standard (20) and (60) pulses per revolution inputs.

Encased in a rugged aluminum shell and utilizing minimum cab space the speed indicator is able to provide an output to the locomotive magnet valve when the vehicle matches or goes over the overspeed setting of the unit.

Features

- Built-in accelerometer capable of displaying the acceleration and deceleration of the locomotive in either SAE or Metric speed measurements.
- Built-in odometer able to display increments and decrements of travel based on the direction of the locomotive providing true net distance from any movement.
- Built-in dual display allows for viewing for either / or train engineer and / or conductor points of view.
- Built-in overspeed alert which will drive a standard Salem® SA-812A magnet valve (or equivalent).
- Rugged solid state segment display, thus no meter movements to wear out or break.
- Built-in penalty alerter light / horn interface to existing devices. *(on select models only)*
- Built-in (4) position dimmer control for ease of reading in any ambient lighting condition.
- Available Vigilance Alerter System activation output. *(on select models only)*

SIEMENS Part Number	Speed Preset	Speed Readout	Adjustable Wheel Size	Alarmer Activation Output	Overspeed Range	Recovery Delay
NYK:Q1810	None	English Only	36 mm- 42 mm	None	5 mph - 99 mph	30 sec
NYK:Q1810-74	74 mph	English Only	36 mm- 42 mm	None	5 mph - 99 mph	30 sec
NYK:Q1810/M-120	120 kph	English / Metric	36 mm- 42 mm	None	5 mph - 99 mph 8 kph - 159 kph	30 sec
NYK:Q1812	None	English Only	36 mm- 42 mm	Vigilance	5 mph - 99 mph	30 sec
NYK:Q1812-69	69 mph	English Only	36 mm- 42 mm	Vigilance	5 mph - 99 mph	30 sec
NYK:Q1818-74	74 mph	English Only	30 mm- 38 mm	Vigilance	5 mph - 99 mph	30 sec
NYK:Q1818-80	80 mph	English Only	30 mm- 38 mm	Vigilance	5 mph - 99 mph	30 sec
NYK:Q1820	None	English Only	36 mm- 42 mm	Vigilance	5 mph - 99 mph	30 sec
NYK:Q1820-45	45 mph	English Only	36 mm- 42 mm	Vigilance	5 mph - 99 mph	30 sec
NYK:Q1820-71	71 mph	English Only	36 mm- 42 mm	Vigilance	5 mph - 99 mph	30 sec
NYK:Q1820-74	74 mph	English Only	36 mm- 42 mm	Vigilance	5 mph - 99 mph	30 sec
NYK:Q1820-80	80 mph	English Only	36 mm- 42 mm	Vigilance	5 mph - 99 mph	30 sec
NYK:Q1821	None	Metric Only	36 mm- 42 mm	Vigilance	8 kph - 160 kph	30 sec
NYK:Q1830	None	English Only	36 mm- 42 mm	Vigilance	5 mph - 99 mph	1 sec
NYK:Q1830-10	10 mph	English Only	36 mm- 42 mm	Vigilance	5 mph - 99 mph	1 sec
NYK:Q1830-69	69 mph	English Only	36 mm- 42 mm	Vigilance	5 mph - 99 mph	1 sec
NYK:Q1830-74	74 mph	English Only	36 mm- 42 mm	Vigilance	5 mph - 99 mph	1 sec

Locomotive Systems Products	Speed Indicator Power Cable (20) Pole	
	SIEMENS Part Number	Description
	NYK:Q9011/10B	10' (3 m) long, 90° "B" Break
	NYK:Q9011/10C	10' (3 m) long, 90° "C" Break
	NYK:Q9011/15B	15' (4.5 m) long, 90° "B" Break
	NYK:Q9011/15C	15' (4.5 m) long, 90° "C" Break
	NYK:Q9011/20B	20' (6 m) long, 90° "B" Break
	NYK:Q9011/20C	20' (6 m) long, 90° "C" Break
	Speed Indicator Power Cable (60) Pole	
	SIEMENS Part Number	Description
	NYK:Q9012/10B	10' (3 m) long, 90° "B" Break
	NYK:Q9012/10C	10' (3 m) long, 90° "C" Break
	NYK:Q9012/15B	15' (4.5 m) long, 90° "B" Break
	NYK:Q9012/15C	15' (4.5 m) long, 90° "C" Break
	NYK:Q9012/20B	20' (6 m) long, 90° "B" Break
	NYK:Q9012/20C	20' (6 m) long, 90° "C" Break
Speed Indicator / Alerter Interface Cables		
	SIEMENS Part Number	Description
	NYK:Q9038/15C	15' (4.5 m) long, 90° "C" Break
	NYK:Q9038/25C	25' (7.5 m) long, 90° "C" Break
	NYK:Q9038/30C	30' (9 m) long, 90° "C" Break

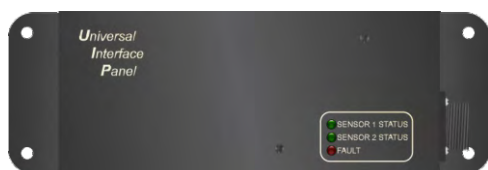
Applicable for all Speed Indicators





Universal Interface Panels

Overview



*Model NYK:Q1250 Universal Interface Panel
shown for reference purposes only!
Actual unit selected may vary in mounting and features.*

SIEMENS Universal Interface Panels are a self contained, microprocessor driven device which translates input signals from traction motor speed sensors to industry standard (and user selectable) wheel rotation frequencies.

Designed to replace existing locomotive mechanical axle drive assemblies with solid state sensors and by physically locating the sensors inside the locomotive; increased mechanical reliability is obtained.

Each of two (2) input, processing and output stages electrically independent; hence, the existing locomotive scheme for providing redundant speed input signals is maintained.

Provides outputs to other locomotive borne devices which control the authority for movement along the right-of-way, the output accuracy of the QUIP is within 1% of the input signal over the entire 10 HZ to 10KHz range on all output channels.

Failure modes for the Universal Interface Panel have been investigated through the use of Failure Mode Effects Analysis (FMEA) techniques for hardware, software and the interaction between these components. Any failure from any source will be detected and provide relay output of the fault condition to any externally connected device.

Features

- Adjustable overspeed function
- 74 VDC Power
- 30 second overspeed recovery delay
- (1) 20 pole output
- (1) 60 pole output
- (1) 1:500 pole output

SIEMENS Part Number	Preset	Self Test Switch Option	Locomotive Systems Products
NYK:Q1250	None	NO	
NYK:Q1251	128 PPWR	YES	
NYK:Q1253	249 PPWR	NO	
NYK:Q1254	128 PPWR	NO	
NYK:Q1260	249 PPWR	NO	



Ditch Lights

Overview



Features

- Available in either a 32Vdc or 74Vdc versions
- Steel enclosure for rugged durability
- Provides additional visibility during night time operations

*Model NYK:Q2014 Ditch Light shown for reference purposes only!
Actual unit selected may vary in mounting and features.*

SIEMENS Ditch Lights are a complete lighting system to retrofit existing on-board locomotive lights which provides additional visibility during night time operation as well as additional protection at grade crossings. Available in either a 32Vdc or 5Vdc versions and powered by an external lighting controller.

Whenever the headlight of the lead locomotive is placed in the high beam position, the ditch lights are constantly illuminated. Whenever speeds are greater than 8 mph (13 kph), whenever the locomotive horn is blown, or when the manual mushroom switch pendant is pressed, the Ditch Lights enter into an alternating wig / wag flashing pattern at 1 second intervals.

Additionally, the lights will continue to flash for approximately 30 seconds before they are extinguished.

Available ditch light brackets can be used for precise aiming of the ditch lights according to railroad specifications.

NYK:Q2014/30V



NYK:Q2014/75V



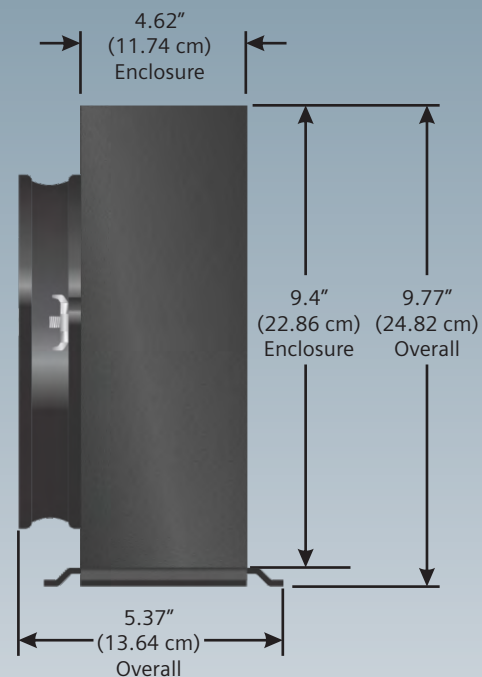
Type 1 - 30 V

- Weight is approx. 7 lbs. (3.18 kgs.)
- Operates in -40° F to +160° F (-40°C to +70°C) @ up to 95% Non-Condensing Relative Humidity
- Type 1 assembly
- Requires 30 V Bulb

Type 1 - 75 V

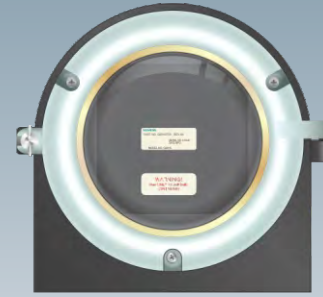
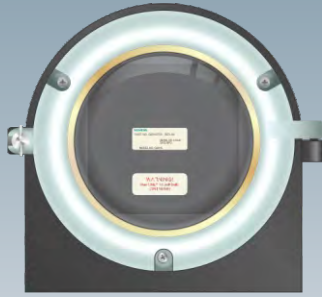
- Weight is approx. 7 lbs. (3.18 kgs.)
- Operates in -40° F to +160° F (-40°C to +70°C) @ up to 95% Non-Condensing Relative Humidity
- Type 1 assembly
- Requires 75 V Bulb

Applicable for all NYK:Q2014 Type 1 Ditch Lights



NYK:Q2015/30V

NYK:Q2015/75V



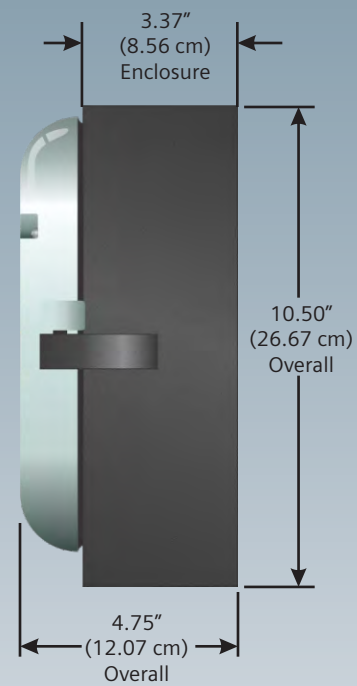
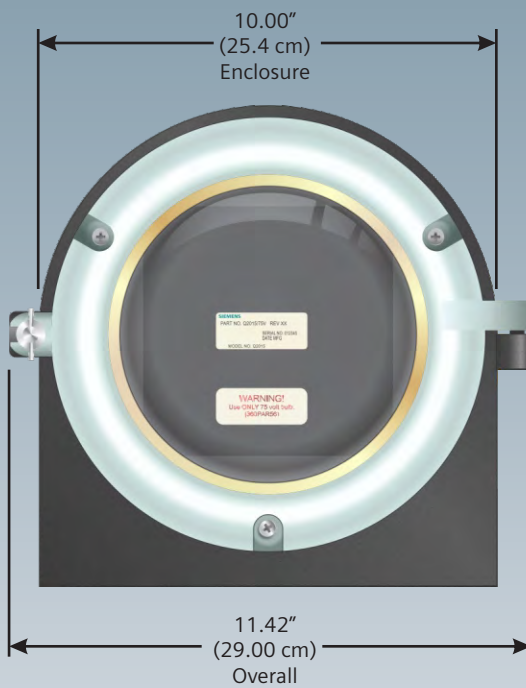
Type 2 - 30 V

- Weight is approx. 7 lbs. (3.18 kgs.)
- Operates in -40° F to +160° F (-40°C to +70°C) @ up to 95% Non-Condensing Relative Humidity
- Type 1 assembly
- Requires 30 V Bulb

Type 2 - 75 V

- Weight is approx. 7 lbs. (3.18 kgs.)
- Operates in -40° F to +160° F (-40°C to +70°C) @ up to 95% Non-Condensing Relative Humidity
- Type 1 assembly
- Requires 75 V Bulb

Applicable for all NYK:Q2015 Type 2 Ditch Lights



NYK:Q2030C



Ditch Light Controller

- Weight is approx. 8.2 lbs. (3.72 kgs.)
- Operates in -40° F to +160° F (-40°C to +70°C) @ up to 95% Non-Condensing Relative Humidity
- Controls up to (4) @ up to 75 V bulbs
- 10 second wig / wag timing
- 8 mph trigger for lights

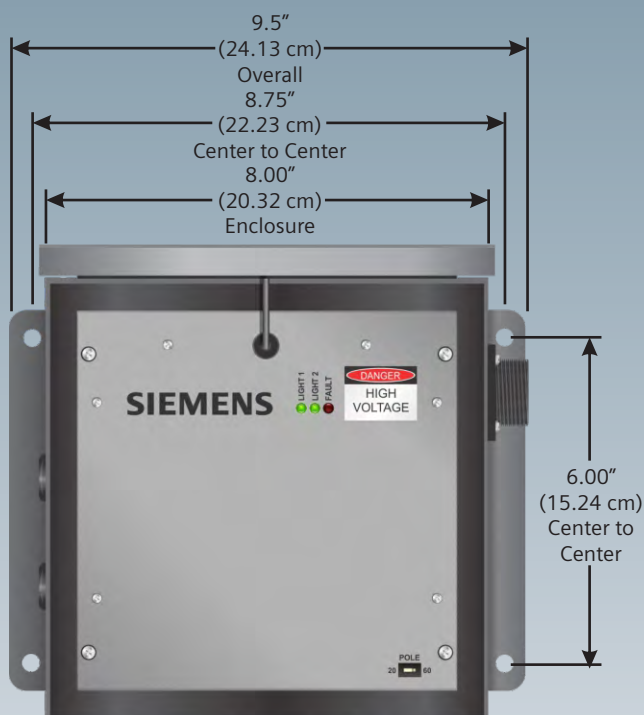
NYK:Q2032C



Ditch Light Controller

- Weight is approx. 8.6 lbs. (3.90 kgs.)
- Operates in -40° F to +160° F (-40°C to +70°C) @ up to 95% Non-Condensing Relative Humidity
- Controls up to (4) @ up to 75 V bulbs
- 10 second wig / wag timing
- 5 mph trigger for lights

Applicable for all Ditch Light Controllers





Heater Ground Relays

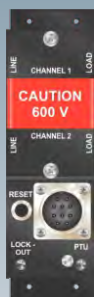
Overview



*Model NYK:D3676H01 Heater Ground Relay shown for reference purposes only!
Actual unit selected may vary in mounting and features.*

SIEMENS Heater Ground Relays provide dual channel fault current monitoring protection for heater systems. Able to be reset automatically with programmable trip threshold settings. Contains both internal and external trip indicators. Available in either a 600 VDC or 750 VDC version.

NYK:D1582H01



600 VDC

- Weight is approx. 6.4 lbs. (2.90 kgs.)
- Operates in -40° F to +160° F (-40°C to +70°C) @ up to 95% Non-Condensing Relative Humidity

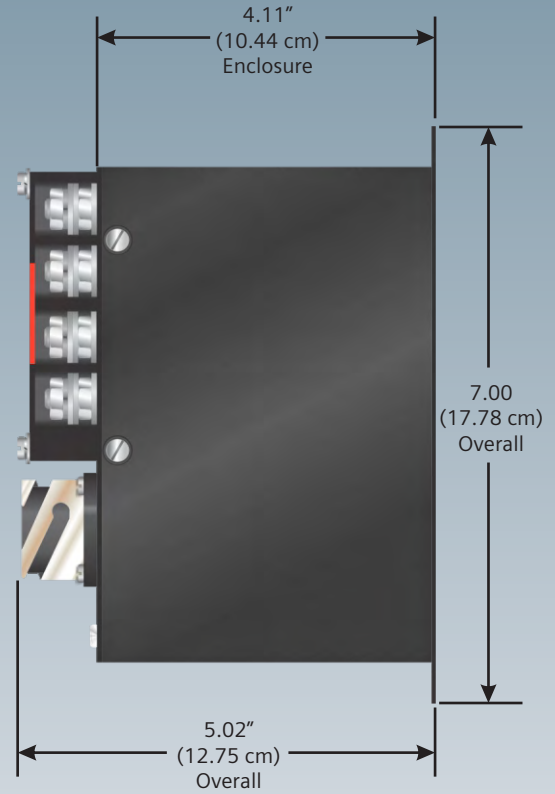
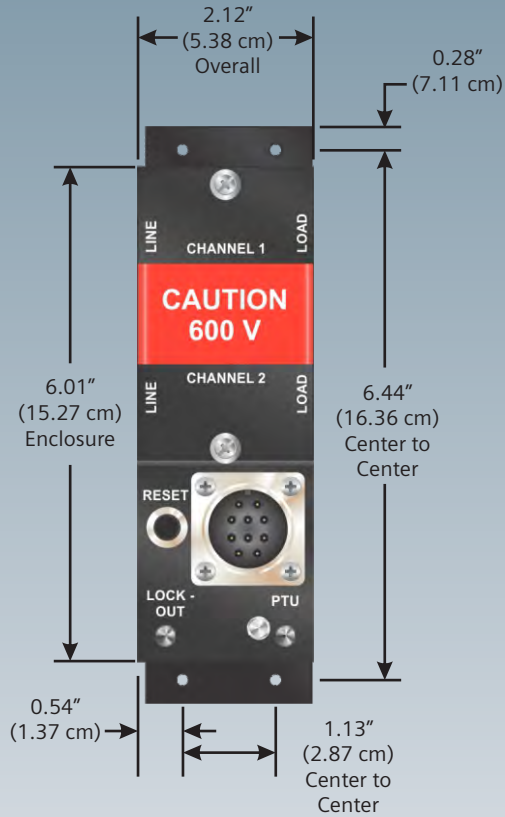
NYK:D3676H01



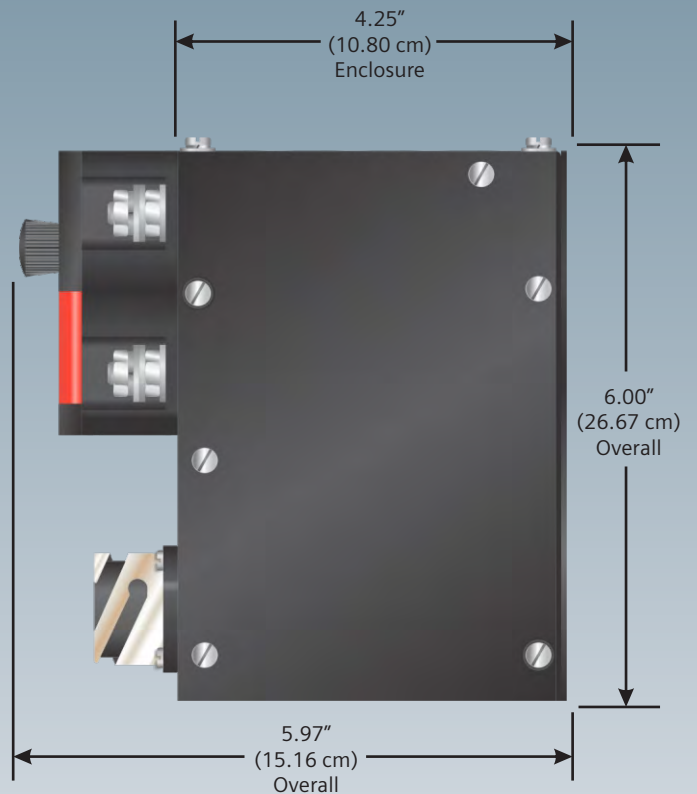
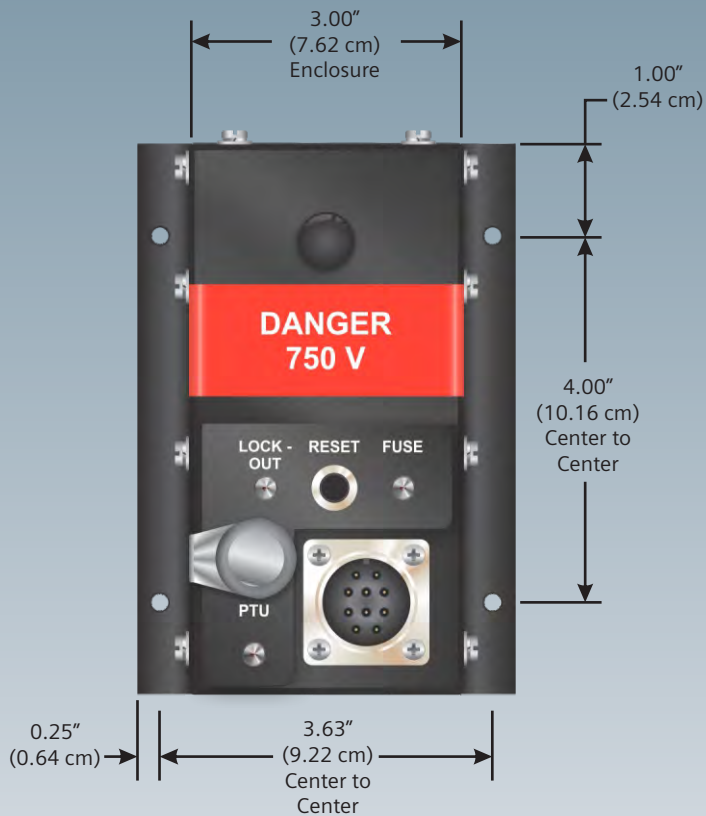
750 VDC

- Weight is approx. 7.6 lbs. (3.45 kgs.)
- Operates in -40° F to +160° F (-40°C to +70°C) @ up to 95% Non-Condensing Relative Humidity

Applicable for all NYK:D1582H01 Heater Ground Relays



Applicable for all NYK:D3676H01 Heater Ground Relays





Overview



Multiple Penalty Brake Interface Module shown for reference purposes only! Actual unit selected may vary in mounting and features.

SIEMENS Multiple Penalty Brake Interface (MPBI) is intended to provide a vital “AND” function to allow multiple train control system's penalty brake outputs access to a single penalty brake input to the brake system.

Train Control Systems

The MPBI device provides support for the various train control systems in use today:

- Siemens Cab Signaling System (ATC / ACSES)
- Alstom® ITCS® / X-ITCS® Cab Signaling System
- Ansaldo STS® MicroCad® Cab Signaling System
- Wabtec® I-ETMS™

The MPBI provides railroads with a safe and convenient way to connect their various Positive Train Control (PTC) systems on board their vehicles to the single penalty brake.

Features

- Solid-state LED Indicators
- Lamp Test Pushbutton
- Microprocessor Based
- Vital Design
- Up to 4 Inputs
- Multiple Cutout Options
- Source of Penalty Indicators

SIEMENS Part Number	Description
NYK:D7715H03-A01	Penalty Brake Cutout Switch
NYK:D7715H04-A01	Penalty Brake Indicator
NYK:D7715H03-A01	Penalty Brake Interface Module



Maintenance Key Switch

Overview



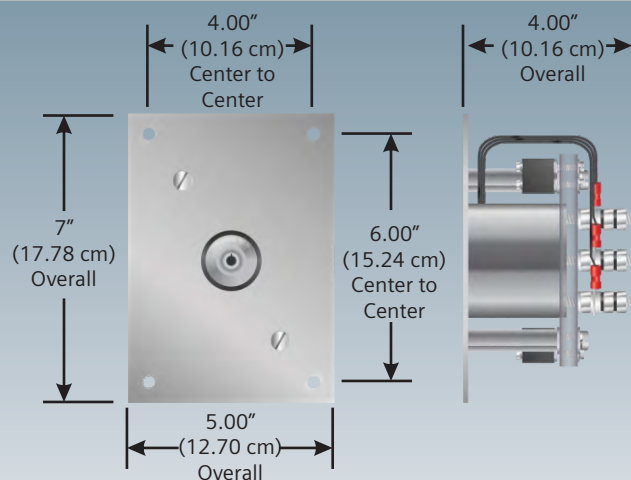
*Model NYK:C655H01-A02 Maintenance Key Switch shown for reference purposes only!
Actual unit selected may vary in mounting and features.*

SIEMENS Maintenance Key Switch provides exceptional maintenance security and safety in a single compact lightweight aluminum design. Locking cylinder is surrounded by a strong electro-less nickel plated steel body for added security.

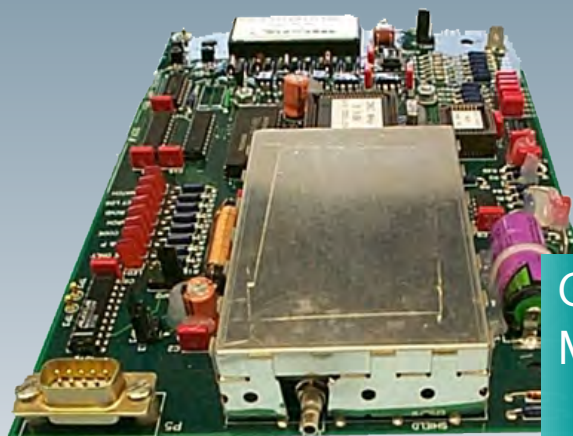
The locking cylinders are designed to be "self-cleaning", sweeping out dirt and grit when operated by controlled keys that are only available to the railroad.

Key retaining design traps the key in the padlock so that it cannot be removed when in the ON position.

NYK:C655H01-A02

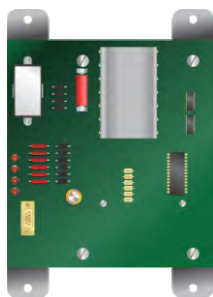


- Weight is approx. 3.0 lbs. (1.36 kgs.)
- Operates in -40° F to +160° F (-40°C to +70°C) @ up to 95% Non-Condensing Relative Humidity
- (2) NO and (2) NC contacts, 15A
- 15A
- 125 VAC
- Connection by AAR terminals



GPS Onboard Monitoring Unit

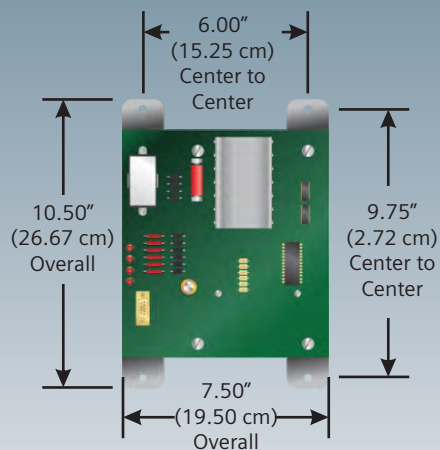
Overview



*Model NYK:D1563H18-A01 GPS Onboard Monitoring Unit shown for reference purposes only!
Actual unit selected may vary in mounting and features.*

SIEMENS GPS Onboard Monitoring Unit works by continually comparing satellite-derived coordinates to coordinates in the cab system's onboard database. Database mapping and interface services are also available.

NYK:D1563H18-A01

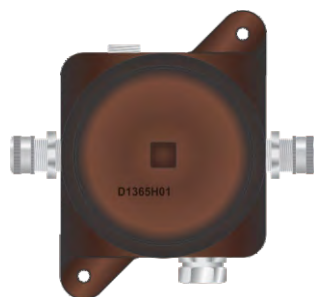


- Weight is approx. 3.0 lbs. (1.36 kgs.)
- Operates in -40° F to +160° F (-40°C to +70°C) @ up to 95% Non-Condensing Relative Humidity



Track Receiver Junction Box

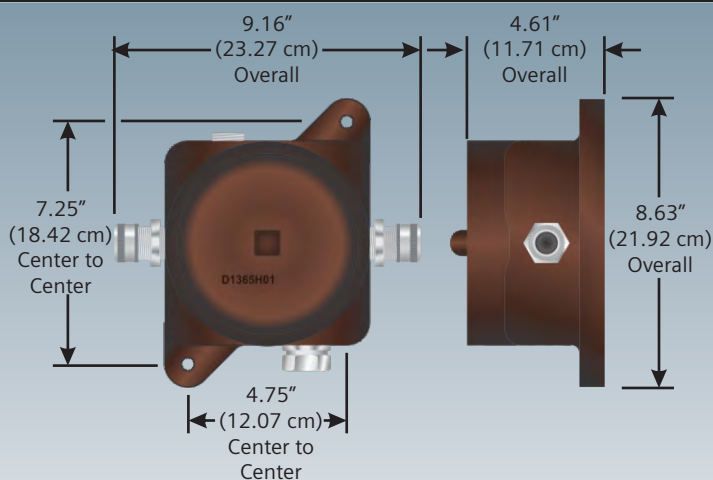
Overview



Model NYK:D1365H01-A01 Track Receiver Junction Box shown for reference purposes only!
Actual unit selected may vary in mounting and features.

SIEMENS Track Receiver Junction Boxes are used to wire a pair of track receivers in a series-aiding configuration, providing a single-cable run to the equipment enclosure.

NYK:D1365H01-A01



- Weight is approx. 22.0 lbs. (9.98 kgs.)
- Operates in -40° F to +160° F (-40°C to +70°C) @ up to 95% Non-Condensing Relative Humidity

Aspect Display Units

Overview



*Aspect Display Unit shown for reference purposes only!
Actual unit selected may vary in mounting and features.*

Federal Railroad Administration (FRA)
Positive Train Control (PTC) Type approved for
Northeast Corridor (NEC)

SIEMENS Aspect Display Unit (ADU) provides a primary visual interface between a train's vehicle operator and the cab signaling systems. The ADU's rugged design is suitable for use onboard any type of vehicle. The ADU's microprocessor combines indications from industry standard positive train control protection systems such as Automatic Train Control (ATC) and Advanced Civil Speed Enforcement System (ACSES) in order to present their required respective data concisely thru the ADU onboard display.

The ADU connects serially to either ATC system directly or third-party ATC systems thru a separate ATC Interface Unit (AIU).

Features

Solid state LED indicators provide reliable, long lasting color with high visibility in all lighting conditions, including on bright sunny days. Alphanumeric display creates an environment for easily reading aspects from multiple railroads as well as important message information. Display automatically dims when necessary to handle varying environmental lighting conditions.

Built in Sonalerts draw vehicle operator's attention to the ADU when needed to advise of changes in speed information displayed.

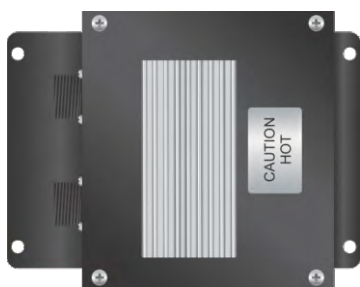


Assembly configurations shown are only a small sampling of commonly ordered assemblies. Other configurations may be available upon request. Please contact the Technical Assistance for Rail Automation team @ 1-800-793-7233 (Option 1) or RA.RailTechSupport.ic@siemens.com for additional details.



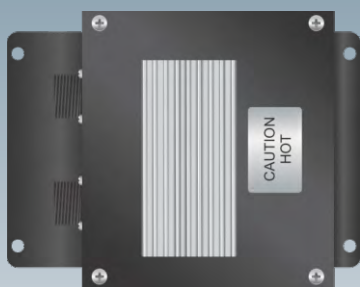
Locomotive Power Supplies

Overview



*Model NYK:D1517H01-A01 Locomotive Power Supply
shown for reference purposes only!
Actual unit selected may vary in mounting and features.*

NYK:D1517H01-A01



ACSES Radio Power Supply

- Weight is approx. 2.8 lbs. (1.27 kgs.)
- Operates in -40° F to +160° F (-40°C to +70°C) @ up to 95% Non-Condensing Relative Humidity
- 13.6 VDC output set point

NYK:D5600H01-A01



32 VDC

- Weight is approx. 4.3 lbs. (1.95 kgs.)
- Operates in -40° F to +160° F (-40°C to +70°C) @ up to 95% Non-Condensing Relative Humidity

NYK:D1567H08-A01



36 VDC

- Weight is approx. 4.3 lbs. (1.95 kgs.)
- Operates in -40° F to +160° F (-40°C to +70°C) @ up to 95% Non-Condensing Relative Humidity

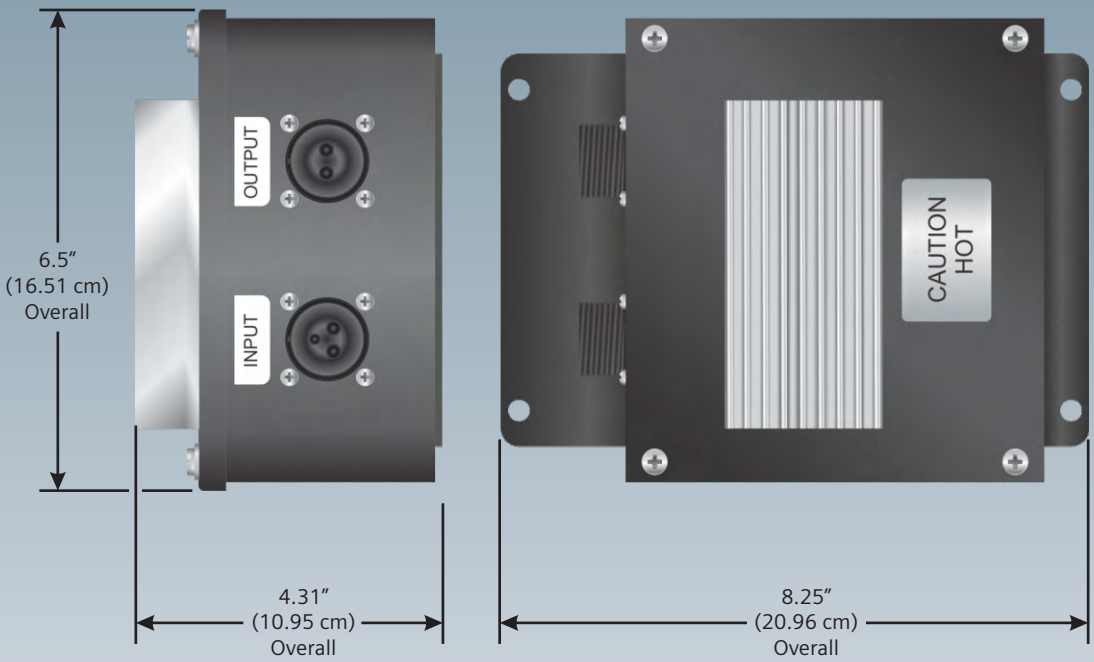
NYK:D5600H01-A02



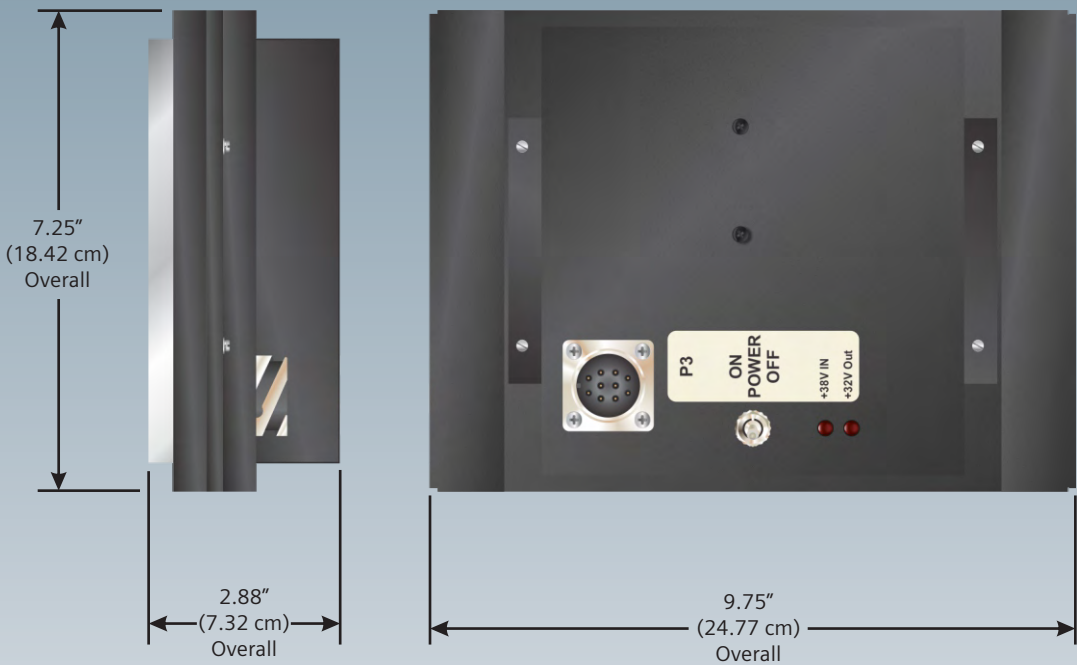
12 VDC (CTV)

- Weight is approx. 4.3 lbs. (1.95 kgs.)
- Operates in -40° F to +160° F (-40°C to +70°C) @ up to 95% Non-Condensing Relative Humidity

Applicable for all NYK:D1517H01 Locomotive Power Supplies



Applicable for all NYK:D5600H01 Locomotive Power Supplies





Q2518

Locomotive Alerter System Controller

Overview



SIEMENS Q518 Locomotive Alerter System Controller provides a Locomotive Engineer reset timer which assures the locomotive crew is attentive to the operation of the locomotive at all times.

Unit is used in conjunction with the **SIEMENS** Q2505 Alerter Light / Horn unit or **SIEMENS** QSI Series Speed Indicators to provide visual and audible signals to the locomotive crew.

In the event that the crew is unable to continue to operate the locomotive, and have not responded to the alerter system visual and audible alarms, the alerter system will initiate a penalty brake application of the train brakes.

Under normal operating conditions, the alerter system does not interfere with the customary activities of the engineer since the alerter system is reset by all of the train crew operated locomotive controls.

Features

- Provides full redundancy by incorporating (2) microprocessors to not only monitor all inputs to the unit but also control half of the unit's visual indicators and (1) of the (2) audible horns.
- Provides Speed Dependent Timing Cycle which allows the locomotive speed signal to vary unit's timing cycle. As the speed of the locomotive increases, the timing cycle decreases.
- Includes Body on Board (BOB) function which requires one (1) acknowledgment by locomotive crew of the visual and audible alarm indications before the system will increase the timing cycle above its most restrictive setting. This ensures that a minimum distance will be traveled if the locomotive brakes are released without a crew member on board that is capable of operating the locomotive.
- Includes Repetitive Reset Disable which monitors the manual reset switch input for the presence of repetitive inputs. Any mechanical or electrical means of providing repetitive resets to the manual reset switch input will not be processed as a valid timing or alarm cycle reset.
- Features a self test mode, allowing railroad maintenance personnel to quickly evaluate all functions and reset inputs.
- Features a modular design, which allows each component of the unit to be changed quickly, when required.



Decelerometer

Overview



*Model NYK:D1563H18-A01 Decelerometer shown for reference purposes only!
Actual unit selected may vary in mounting and features.*

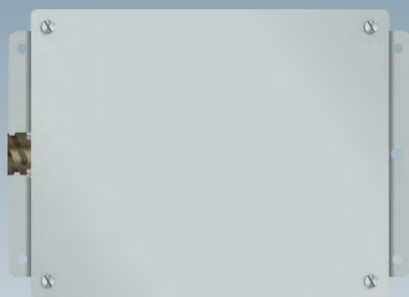
SIEMENS Decelerometer are a solid state design, vital, microprocessor-controlled device used to determine a vehicle's deceleration rate.

Designed using fail-safe principles to ensure that deceleration rate cannot be erroneously obtained. These include both Class I hardware/software and Class II hardware principles.

Depending on model Interfacing can be accomplished using any of the following (3) methods:

- Serial Peripheral Interface (SPI)
Industry standard serial interface requiring implementation of software communications protocol.
- Asynchronous Serial Interface (ASI)
Industry standard RS-485 protocol.
- 32 Volt DC Isolated Output
Isolated 32 VDC appears across the device's two brake rate output pins when the deceleration rate is achieved.

NYK:D177H01-A01



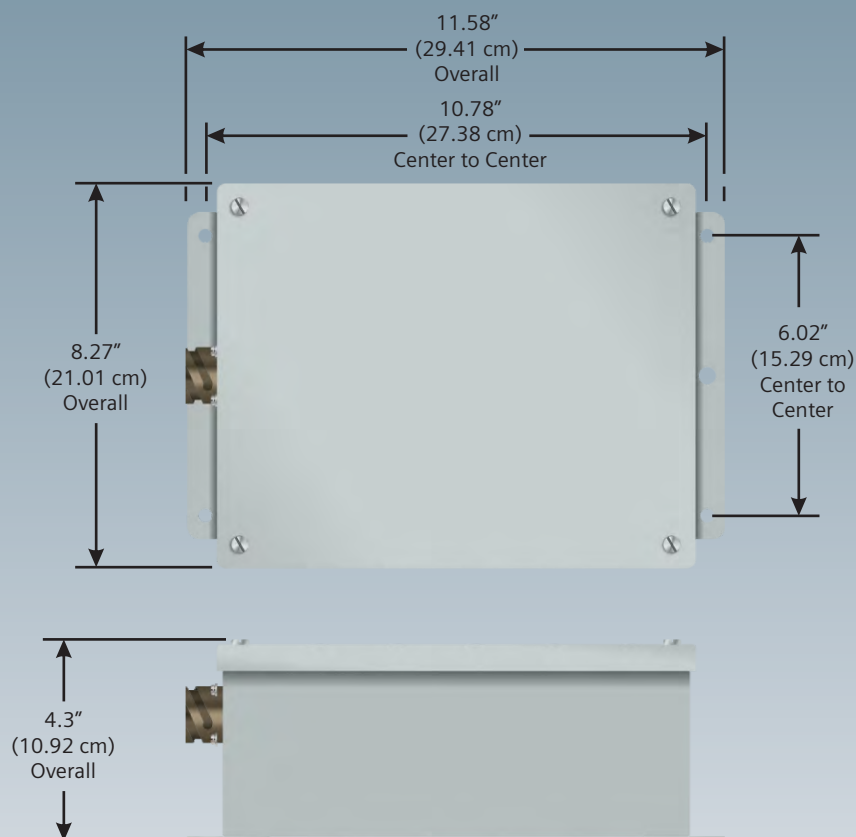
- Weight is approx. 4.3 lbs. (1.95 kgs.)
- Operates in -40° F to +160° F (-40°C to +70°C) @ up to 95% Non-Condensing Relative Humidity
- 1.80 MPH/s (2.90 KPH/s) (1.12 m/s²) maximum detectable deceleration rate
- Accurate to 0.05 MPH/s (0.08 KPH/s)

NYK:D177H01-A02



- Weight is approx. 4.3 lbs. (1.95 kgs.)
- Operates in -40° F to +160° F (-40°C to +70°C) @ up to 95% Non-Condensing Relative Humidity
- 3.6 MPH/s (5.79 KPH/s) (3.36 m/s²) maximum detectable deceleration rate
- Accurate to 0.10 MPH/s (0.16 KPH/s)

Applicable for all NYK:D177H01 Decelerometers





CHMM Series

Crash Hardened Memory Modules

Overview



Features

- Meets all FRA 49 CFR 229 Appendix D requirements for locomotive crashworthy event recorder memory
- Compact design maximizes mounting options on all locomotives
- (4) ethernet ports and (6) functional serial ports for external equipment interface
- Inputs in EMP Class C or D
- USB and Ethernet download capable
- Scalable storage up to 128 GB

*Model NYK:Q1603 CHMM Series Crash Hardened Memory Module shown for reference purposes only!
Actual unit selected may vary in mounting and features.*

SIEMENS Crash Hardened Memory Module (CHMM Series) is an external memory back-up device designed to interface with an existing on-board event recorder.

The purpose of the CHMM is to store data recorded by the event recorder and to protect that data under certain extraordinary conditions.

NYK:Q1602

NYK:Q1603-02



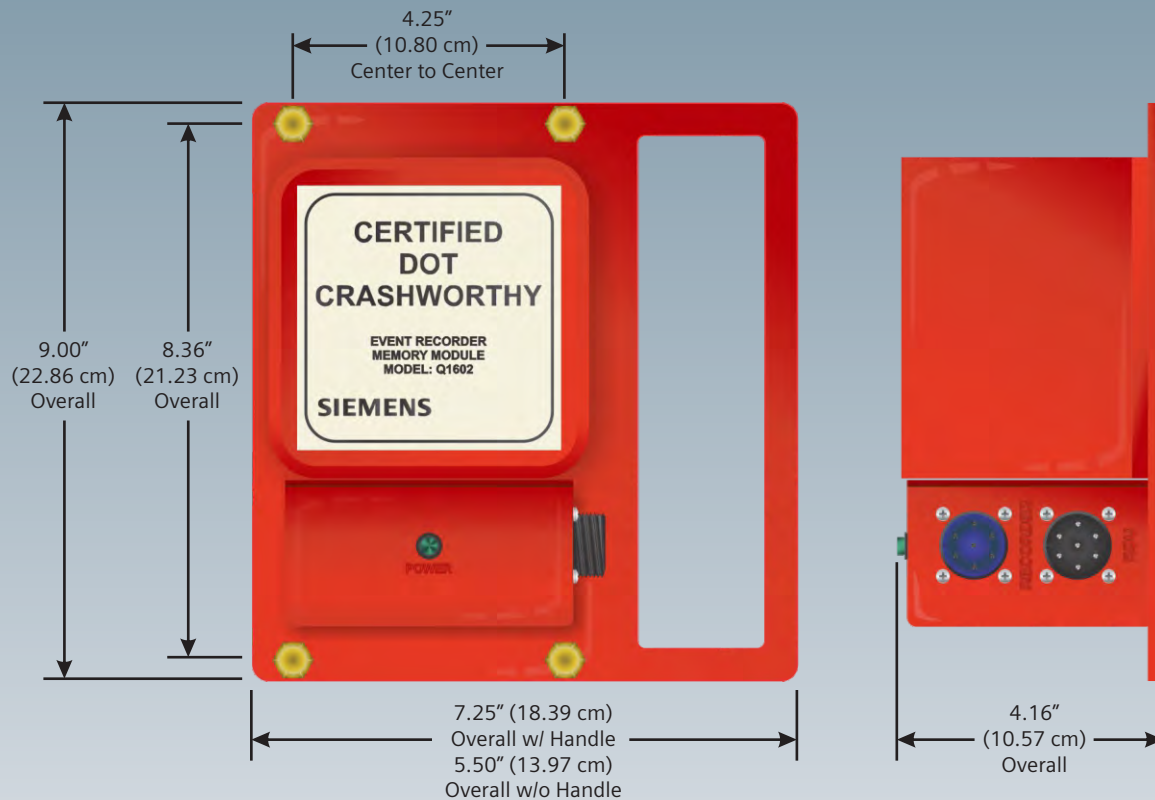
Crash Hardened Memory Module

- Weight is approx. 15.5 lbs. (6.97 kgs.)
- Operates in -40° F to +160° F (-40°C to +70°C) @ up to 95% Non-Condensing Relative Humidity
- Operating voltage 74 VDC
- Records minimum of (48) hours of event data
- (1) RS-232 / RS-422 / RS-485 port

Crash Hardened Memory Module w/ Handle

- Weight is approx. 16.8 lbs. (7.57 kgs.)
- Operates in -40° F to +160° F (-40°C to +70°C) @ up to 95% Non-Condensing Relative Humidity
- Operating voltage 74 VDC
- Records minimum of (48) hours of event data
- (1) RS-232 / RS-422 / RS-485 port
- Designed to work in conjunction with external event recorder

Applicable for all CHMM Series Crash Hardened Memory Modules





Overview



Model NYK:Q1046 Locomotive Event Recorder shown for reference purposes only! Actual unit selected may vary in mounting and features.

SIEMENS Locomotive Event Recorders provides the Locomotive Engineer with the ability to record the overall operation of a locomotive.

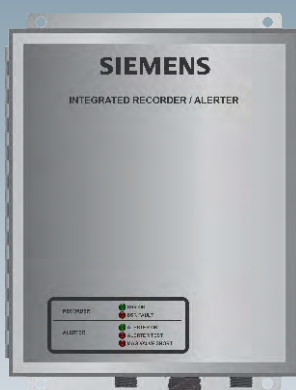
A minimum of 48 hours of recorded data is stored in non-volatile flash Random Access Memory (RAM). As the memory is filled to capacity, the oldest data is overwritten with newly acquired data. No batteries are required to retain recorded data in the event recorder.

A lithium battery located inside the event recorder enclosure powers the internal real time clock. The battery is only used when locomotive battery power is not available and has a life of approximately five (5) years.

All electrical connections to the event recorder are terminated at a series of Amphenol MS (military style) connectors. Pre-assembled wiring harnesses for connecting the locomotive electrical signals to the event recorder are provided with the system.

The event recorder integrates the electronic recorder and air line connections in a NEMA 4 style water-resistant enclosure. A separate air brake system monitor and the associated interconnecting wiring are eliminated.

NYK:Q1040E



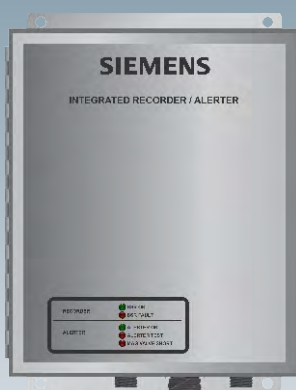
- Weight is approx. 18 lbs. (8.16 kgs.)
- Operates in -40° F to +160° F (-40°C to +70°C) @ up to 95% Non-Condensing Relative Humidity
- Type 40 Enclosure
- With Direct Brake

NYK:Q1044E



- Weight is approx. 18 lbs. (8.16 kgs.)
- Operates in -40° F to +160° F (-40°C to +70°C) @ up to 95% Non-Condensing Relative Humidity
- Type 44/ Enclosure
- With Direct Brake

NYK:Q1046E



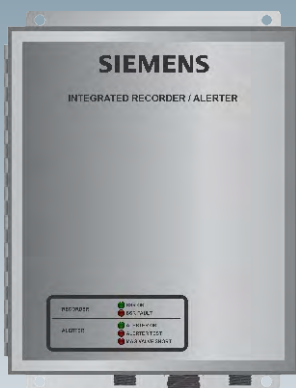
- Weight is approx. 18 lbs. (8.16 kgs.)
- Operates in -40° F to +160° F (-40°C to +70°C) @ up to 95% Non-Condensing Relative Humidity
- Type 46 Enclosure
- With Direct Brake

NYK:Q1048E



- Weight is approx. 18 lbs. (8.16 kgs.)
- Operates in -40° F to +160° F (-40°C to +70°C) @ up to 95% Non-Condensing Relative Humidity
- Type 48 Enclosure
- With Direct Brake

NYK:Q1050E



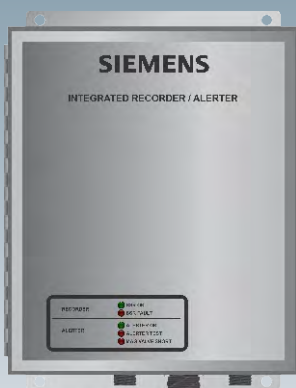
- Weight is approx. 18 lbs. (8.16 kgs.)
- Operates in -40° F to +160° F (-40°C to +70°C) @ up to 95% Non-Condensing Relative Humidity
- Type 50 Enclosure
- With Direct Brake

NYK:Q1067E



- Weight is approx. 18 lbs. (8.16 kgs.)
- Operates in -40° F to +160° F (-40°C to +70°C) @ up to 95% Non-Condensing Relative Humidity
- Type 67 Enclosure
- With Pump

NYK:Q1029



- Weight is approx. 18 lbs. (8.16 kgs.)
- Operates in -40° F to +160° F (-40°C to +70°C) @ up to 95% Non-Condensing Relative Humidity
- Type 29 Enclosure
- With camera interface

Available
2018



Locomotive

Event Recorder

CMM / EDAP / COMBINED

Locomotive Systems Products

Overview



SIEMENS Locomotive Event Recorder is an FRA fully compliant, configurable alerter / recorder leveraging decades of experience in event recorder development in North America and Europe.

It is designed to fit all freight locomotive and transit vehicle applications, with models targeting legacy and new locomotive architectures and housed within an IP65 sealed enclosure. It contains various communications ports (RS232/422/485 serial, 10/100 and 10/100/1000 ethernet and USB 3.0) as well as selectable ranges on analog inputs and selectable filtering and debouncing on digital outputs. Inputs and outputs are isolated on all except legacy replacement versions.

Available with integrated manifold (with (3) analog pressure sensors and (5) digital pressure switches) or connector to support external manifold.

Easy front panel customization allows new variant versions to be quickly created to match existing legacy cabling and connectors within existing locomotives.

Drop-in replacement units are backward-compatible with legacy Quantum event recorders for easy retrofitting. LDARS compatible models are configured in EDAP only, CMM only, and EDAP / CMM combined versions.

Features

- Data recorder with optional, integrated crashworthy memory. (32) GB standard expandable to (256) GB
- Interfaces for discrete and networked data collection from onboard systems.
- Option for storage of digitized video data with integrated CMM.
- EDAP ONLY VERSION provides standalone unit to interface with discrete onboard subsystems and send information to standalone CMM in accordance with the LDARS specification.
- CMM ONLY VERSION provides standalone unit to communicate with networked onboard subsystems to send information to integrated CMM in accordance with the LDARS specification
- EDAP / CMM COMBINED VERSION provides unit to interface with discrete and networked onboard subsystems to send information to integrated CMM in accordance with LDARS specifications
- Equipped with a full featured data playback and analysis tool (DAREC) with advanced user-defined functionality.
- Configurable integrated alerter function allows implementation of any user-defined Vigilance Alerter System algorithms.
- Available MVB bus interface (Optional)

Miscellaneous

SIEMENS now offers a variety of new product offerings to address a multitude of client centric needs. Please contact the **SIEMENS** Technical Assistance for Rail Automation Team to discuss details about your specific design application requirements.



Cab Signaling Systems



Scanner Antenna



Intermittent Train Stop Systems

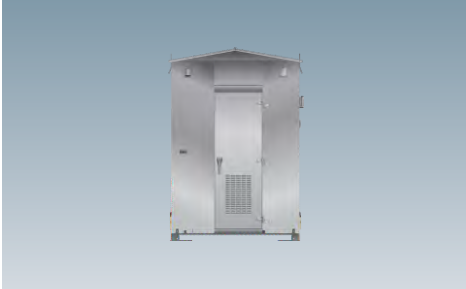


Variable Timers



Mini, Midi and Maxi
Track Receivers

Instrument Housing Products



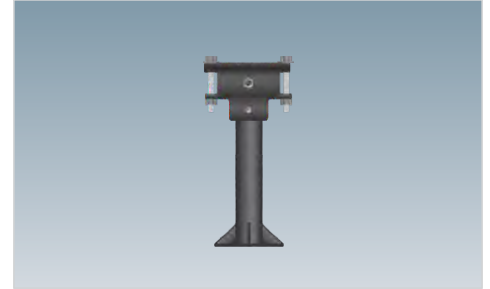
Instrument Houses

H1 - H2



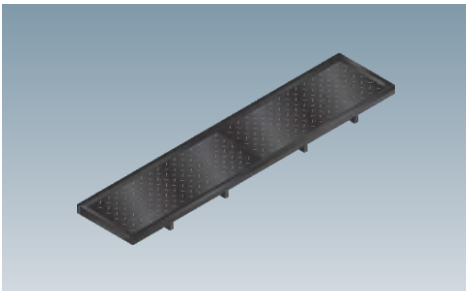
Instrument Cases

H3 - H4



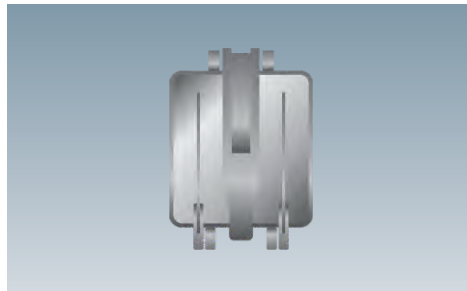
Pedestal Boxes

H5 - H10



Battery Trays and Racks

H11 - H14



Apparatus Boxes

H15 - H18



Relay Bars and Shelves

H19 - H22



Environmental Control Systems

H23 - H26





Instrument Houses

Overview



*Model A058400 Instrument House shown for reference purposes only!
Actual unit selected may vary in mounting and features.*

SIEMENS Instrument Houses are available in several sizes and configurations. Available in welded aluminum or steel shell construction with doors that can be completely removed or locked at 90° open position with included hooks and locking rods. Doors can be designed in a variety of arrangements.

Features

- Meets or exceeds applicable AREMA® specifications
- Available in multiple standard sizes from 4' (1.22m) x 4' (1.22m) to 8' (2.44m) x 8' (2.44m)
(other sizes may be available upon client request)
- Adjustable legs are for leveling of foundations
- Interior aerial outlet standard
- Interior ground terminal plate standard
- Interior light standard
- Exterior generator outlet standard
- Medium density fiberboard interior finished panels painted with fire retardant paint
- Ventilation louvers equipped with covers to reduce possible pests
- Steel shell variants are painted with primer and finish coated with aluminized paint
- Customizable interior configurations including wire chases, insulation, equipment racks / shelves and environmental control systems to host any client desired power and control components

SIEMENS Part Number	Dimensions			Material		Weight
	Width	Depth	Height	Aluminum	Steel	
4' x 4' Houses						
NYK:058400-44-XX	4 ft (1.22 m)	4 ft (1.22 m)	8 ft 7 5/8 in (2.63 m)	X	-	750.0 lbs (340.19 kgs)
NYK:051600-44-XX	4 ft (1.22 m)	4 ft (1.22 m)	8 ft 7 5/8 in (2.63 m)	-	X	920.0 lbs (417.31 kgs)
4' x 6' Houses						
NYK:058400-46-XX	4 ft (1.22 m)	6 ft (1.83 m)	8 ft 7 5/8 in (2.63 m)	X	-	950.0 lbs (430.91 kgs)
NYK:051600-46-XX	4 ft (1.22 m)	6 ft (1.83 m)	8 ft 7 5/8 in (2.63 m)	-	X	1,220.0 lbs (553.38 kgs)
6' x 6' Houses						
NYK:058400-66-XX	6 ft (1.83 m)	6 ft (1.83 m)	8 ft 9 3/4 in (2.69 m)	X	-	1,150.0 lbs (521.63 kgs)
NYK:051600-66-XX	6 ft (1.83 m)	6 ft (1.83 m)	8 ft 9 3/4 in (2.69 m)	-	X	2,020.0 lbs (916.26 kgs)
6' x 8' Houses						
NYK:058400-68-XX	6 ft (1.83 m)	8 ft (2.44 m)	8 ft 9 3/4 in (2.69 m)	X	-	1,350.0 lbs (612.35 kgs)
NYK:051600-68-XX	6 ft (1.83 m)	8 ft (2.44 m)	8 ft 9 3/4 in (2.69 m)	-	X	2,420.0 lbs (1,097.69 kgs)
8' x 8' Houses						
NYK:058400-88-XX	8 ft (2.44 m)	8 ft (2.44 m)	9 ft 10 in (2.99 m)	X	-	1,550.0 lbs (703.07 kgs)
NYK:051600-88-XX	8 ft (2.44 m)	8 ft (2.44 m)	9 ft 10 in (2.99 m)	-	X	2,820.0 lbs (1,279.13 kgs)



Instrument Cases

Overview



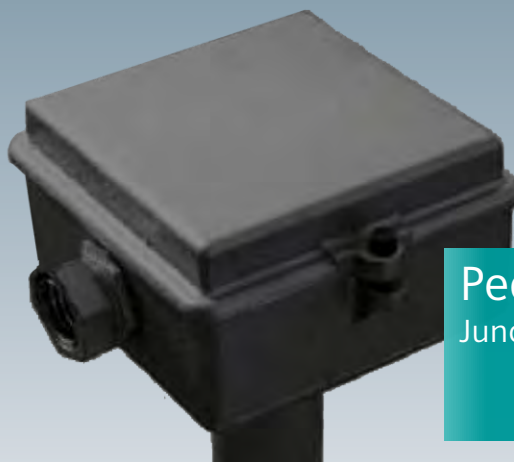
*Model A545210 Instrument Case shown for reference purposes only!
Actual unit selected may vary in mounting and features.*

SIEMENS Instrument Cases are available in several sizes and configurations. Available in welded aluminum or steel shell construction with doors that can be completely removed or locked at 90° open position with included hooks and locking rods. Doors can be designed in a variety of arrangements.

Features

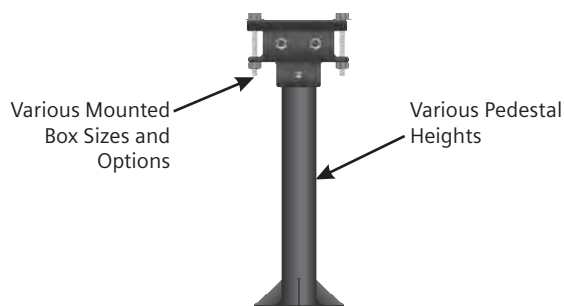
- Meets or exceeds applicable AREMA® specifications
- Available in multiple standard sizes from 41" (1.04 m) to 81" (5.08 m) wide
(other sizes may be available upon client request)
- Interior aerial outlet standard
- Interior ground terminal plate standard
- Interior light standard
- Exterior generator outlet standard
- Ventilation louvers equipped with covers to reduce possible pests
- Steel shell variants are painted with primer and finish coated with aluminized paint
- Customizable interior configurations including wire chases, insulation, equipment racks / shelves and environmental control systems to host any client desired power and control components

SIEMENS Part Number	Dimensions			Material		Weight
	Width	Depth	Height	Aluminum	Steel	
41" Wide Cases						
NYK:545210-410000	3 ft 5 in (1.04 m)	2 ft (0.61 m)	5 ft 1 3/4 in (1.57 m)	X	-	245.0 lbs (111.13 kgs)
NYK:567200-410000	3 ft 5 in (1.04 m)	2 ft (0.61 m)	5 ft 1 3/4 in (1.57 m)	-	X	380.0 lbs (172.37 kgs)
NYK:545110-410000	3 ft 5 in (1.04 m)	2 ft (0.61 m)	6 ft 2 3/4 in (1.90 m)	X	-	265.0 lbs (120.20 kgs)
NYK:567100-410000	3 ft 5 in (1.04 m)	2 ft (0.61 m)	6 ft 2 3/4 in (1.90 m)	-	X	410.0 lbs (185.97 kgs)
60" Wide Cases						
NYK:545210-600000	5 ft (1.52 m)	2 ft (0.61 m)	5 ft 1 3/4 in (1.57 m)	X	-	325.0 lbs (147.42 kgs)
NYK:567200-600000	5 ft (1.52 m)	2 ft (0.61 m)	5 ft 1 3/4 in (1.57 m)	-	X	460.0 lbs (208.65 kgs)
NYK:545110-600000	5 ft (1.52 m)	2 ft (0.61 m)	6 ft 2 3/4 in (1.90 m)	X	-	365.0 lbs (165.56 kgs)
NYK:567100-600000	5 ft (1.52 m)	2 ft (0.61 m)	6 ft 2 3/4 in (1.90 m)	-	X	490.0 lbs (222.26 kgs)
81" Wide Cases						
NYK:545210-810000	6 ft 9 in (2.06 m)	2 ft (0.61 m)	5 ft 1 3/4 in (1.57 m)	X	-	525.0 lbs (238.14 kgs)
NYK:567200-810000	6 ft 9 in (2.06 m)	2 ft (0.61 m)	5 ft 1 3/4 in (1.57 m)	-	X	560.0 lbs (254.01 kgs)
NYK:545110-810000	6 ft 9 in (2.06 m)	2 ft (0.61 m)	6 ft 2 3/4 in (1.90 m)	X	-	545.0 lbs (247.21 kgs)
NYK:567100-810000	6 ft 9 in (2.06 m)	2 ft (0.61 m)	6 ft 2 3/4 in (1.90 m)	-	X	620.0 lbs (281.23 kgs)



Pedestal Mounted Junction Boxes

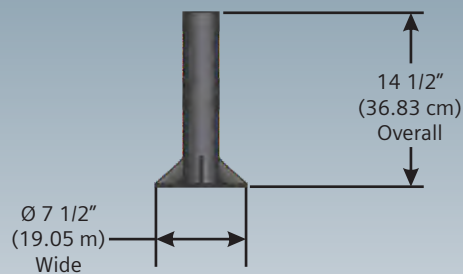
Overview



*Model A091463 Pedestal Mount Junction Box
shown for reference purposes only!
Actual unit selected may vary in mounting and features.*

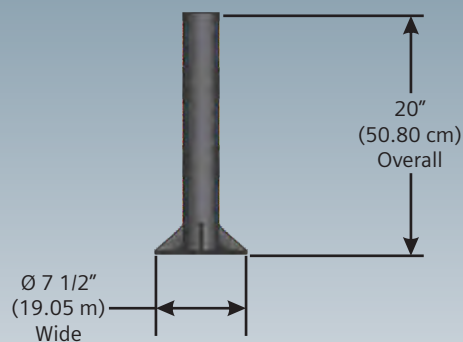
SIEMENS Pedestal Mounted box assemblies are available in several sizes and configurations. Cast iron box construction provides weathertight rugged protection against the elements while providing flexibility to place pedestal virtually anywhere.

NYK:093313-7



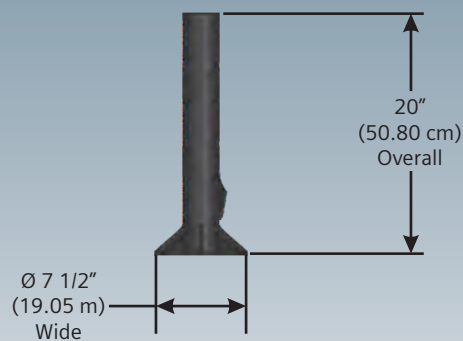
- Weight is approx. 26.0 lbs. (11.79 kgs.)
- Ø 2 7/8" (7.30 cm) pipe on Ø 7 1/2" (19.05 cm) base, 14 1/2" (36.83 cm) long

NYK:093463-11



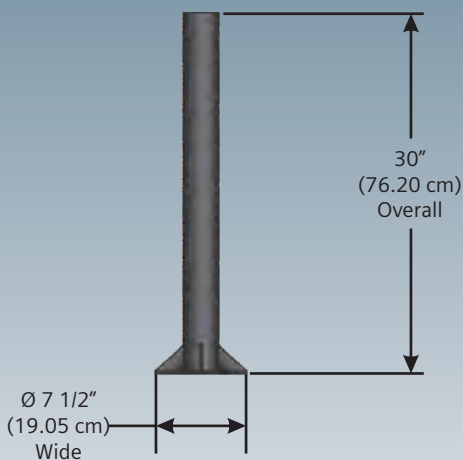
- Weight is approx. 36.0 lbs. (16.33 kgs.)
- Ø 2 7/8" (7.30 cm) pipe on Ø 7 1/2" (19.05 cm) base, 20" (50.80 cm) long

NYK:093463-89



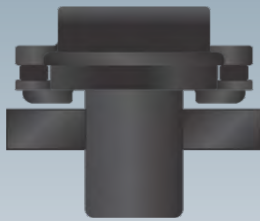
- Weight is approx. 38.0 lbs. (17.24 kgs.)
- Ø 2 7/8" (7.30 cm) pipe on Ø 7 1/2" (19.05 cm) base, 20" (50.80 cm) long
- Wire chase boot opening

NYK:093463-X3



- Weight is approx. 48.0 lbs. (16.33 kgs.)
- Ø 2 7/8" (7.30 cm) pipe on Ø 7 1/2" (19.05 cm) base, 30" (76.20 cm) long

NYK:091313-BX



- Weight is approx. 14.0 lbs. (6.35 kgs.)
- Ø 5 3/4" (14.61 cm) x 8" (20.32 cm) tall, Type 313 round terminal box design
- Integral base coupler to mount to Series One pedestals
- Neoprene gasket
- NO terminal blocks

NYK:091463-BX



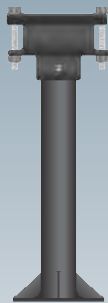
- Weight is approx. 14.0 lbs. (6.35 kgs.)
- 5 7/8" (14.92 cm) Wide x 4 1/2" (11.43 cm) Deep x 3" (7.62 cm) Tall Type 463 rectangular terminal box design (7" (17.78 cm) overall with mounting feet)
- Integral base coupler to mount to Series One pedestals
- Neoprene gasket
- NO terminal blocks

NYK:091626-BX



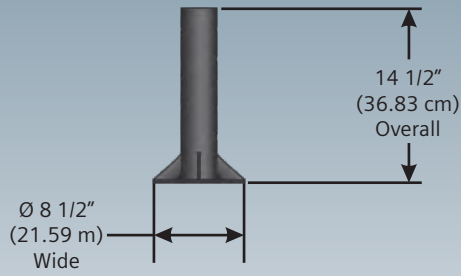
- Weight is approx. 16.0 lbs. (7.26 kgs.)
- 6 3/8" (16.19 cm) Wide x 5 5/8" (14.29 cm) Deep x 3 3/4" (9.53 cm) Tall Type 626 rectangular terminal box design (7" (17.78 cm) overall with mounting feet)
- (2) 007326 1/2" NPT cord grips
- Integral base coupler to mount to Series One pedestals
- Neoprene gasket
- NO terminal blocks

NYK:091463-224X



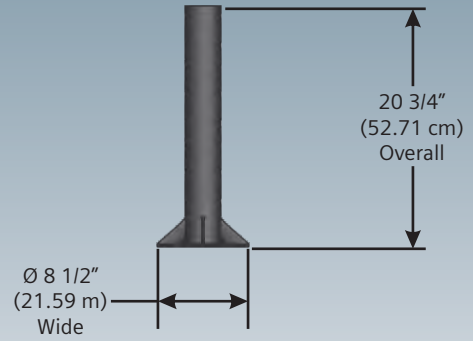
- Weight is approx. 50.0 lbs. (22.68 kgs.)
- (1) NYK:091463-BX terminal box assembly
- (1) NYK:093463-11 Series One pedestal
- (2) NYK:023274-23X terminal blocks

NYK:093374-4



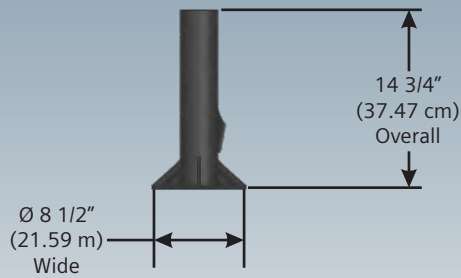
- Weight is approx. 26.0 lbs. (11.79 kgs.)
- Ø 3 1/2" (8.89 cm) pipe on Ø 8 1/2" (21.59 cm) base, 14 1/2" (36.83 cm) long

NYK:093374-26



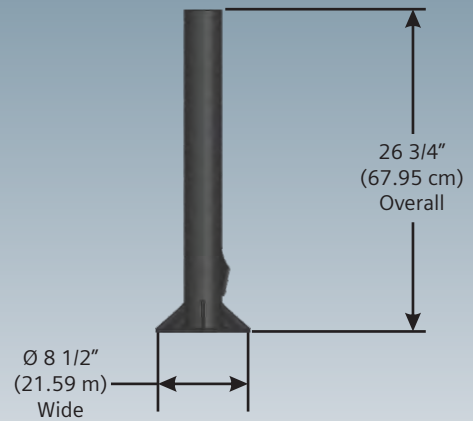
- Weight is approx. 26.0 lbs. (11.79 kgs.)
- Ø 3 1/2" (8.89 cm) pipe on Ø 8 1/2" (21.59 cm) base, 20 3/4" (52.71 cm) long

NYK:093374-28



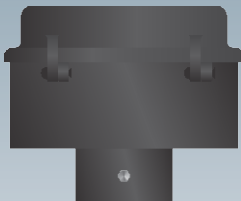



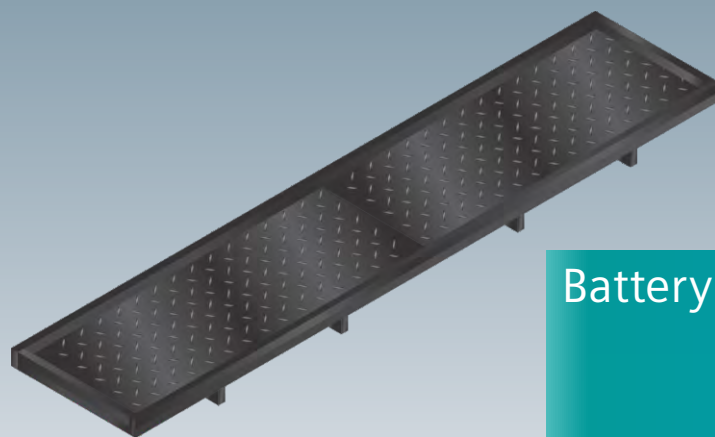
- Weight is approx. 26.0 lbs. (11.79 kgs.)
- Ø 3 1/2" (8.89 cm) pipe on Ø 8 1/2" (21.59 cm) base, 14 3/4" (37.47 cm) long
- Wire chase boot opening

NYK:093374-27



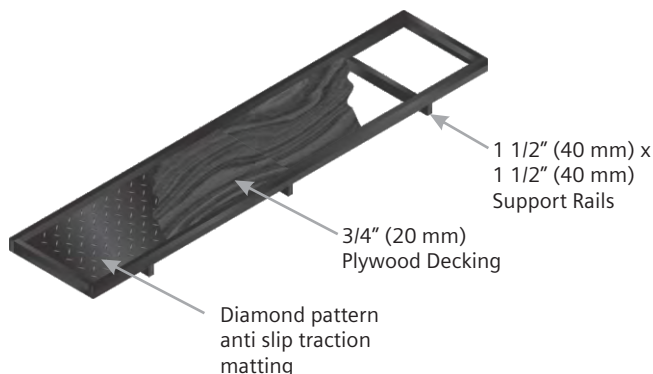
- Weight is approx. 26.0 lbs. (11.79 kgs.)
- Ø 3 1/2" (8.89 cm) pipe on Ø 8 1/2" (21.59 cm) base, 26 3/4" (67.95 cm) long
- Wire chase boot opening

<p>NYK:091428-CBX</p> 	<p>NYK:091428-223BX</p> 
<ul style="list-style-type: none">• Weight is approx. 26.0 lbs. (11.79 kgs.) including hardware• 10" (25.4 cm) Wide x 7" (17.78 cm) Deep x 4 1/2" (2.04 cm) Tall Type 428 rectangular terminal box design (12" 3/4 (32.39 cm) Wide x 7 3/4" (19.69 cm) Deep x 13" (33.02 cm) Tall overall with hardware and integral base coupler)• Integral base coupler to mount to Series Four pedestals• Neoprene gasket• NO terminal blocks	<ul style="list-style-type: none">• Weight is approx. 26.0 lbs. (11.79 kgs.) including hardware• 10" (25.4 cm) Wide x 7" (17.78 cm) Deep x 4 1/2" (2.04 cm) Tall Type 428 rectangular terminal box design (12" 3/4 (32.39 cm) Wide x 7 3/4" (19.69 cm) Deep x 13" (33.02 cm) Tall overall with hardware and integral base coupler)• (1) 1 1/2"-11 1/2 NPT threaded hole for fittings• Integral base coupler to mount to Series Four pedestals• Neoprene gasket• NO terminal blocks
<p>NYK:091428-1ABX</p> 	<p>NYK:091608-BX</p> 
<ul style="list-style-type: none">• Weight is approx. 34.0 lbs. (15.88 kgs.)• 10" (25.4 cm) Wide x 7" (17.78 cm) Deep x 4 1/2" (2.04 cm) Tall Type 428 rectangular terminal box design (11" (27.94 cm) Wide x 10 3/16" (25.88 cm) Deep x 9" (22.86 cm) Tall overall with turn clasp, hinges and integral base coupler)• Integral base coupler to mount to Series Four pedestals• Neoprene gasket• NO terminal blocks	<ul style="list-style-type: none">• Weight is approx. 28.0 lbs. (12.70 kgs.) including hardware• 10" (25.4 cm) Wide x 10" (25.4 cm) Deep x 4 1/2" (2.04 cm) Tall Type 428 rectangular terminal box design (12" 3/4 (32.39 cm) Wide x 10 3/4" (27.31 cm) Deep x 13" (33.02 cm) Tall overall with hardware and integral base coupler)• Integral base coupler to mount to Series Four pedestals• Neoprene gasket• NO terminal blocks



Battery Trays and Racks

Overview



*Model A058400 Instrument House shown for reference purposes only!
Actual unit selected may vary in mounting and features.*

SIEMENS Battery Trays are constructed for superior stability and rugged use. Made of plywood to prevent possible battery charge leakage. Then all joints are sealed with waterproof silicon beading in case of any type of spill or leakage inside the tray. Next they are coated with one of numerous specified finishes to prevent damage. Finally a diamond pattern tread anti slip traction matting is installed.

Features

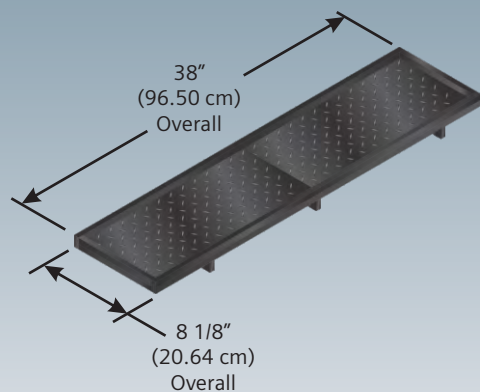
- Available in multiple lengths
- 3/4" Plywood decking and sides
- 1 1/2" (40 mm) x 1 1/2" (40 mm) (*nominal*) support rails
- Red oxide primer standard
- Silicon sealed waterproofed joints
- Various interior finishes available

Standard options

- Gray, white and black color
- Fire retardant latex, black acid resistance or water based enamel coating

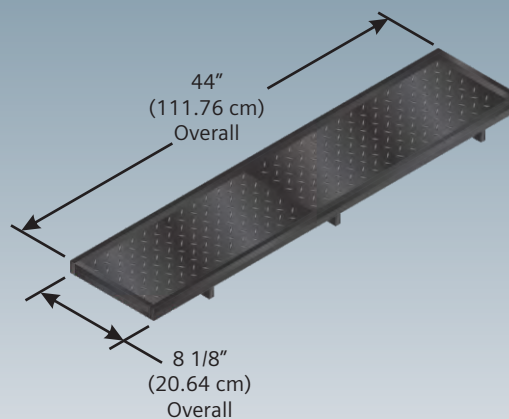
- Diamond pattern tread anti slip traction matting

NYK:170999-2



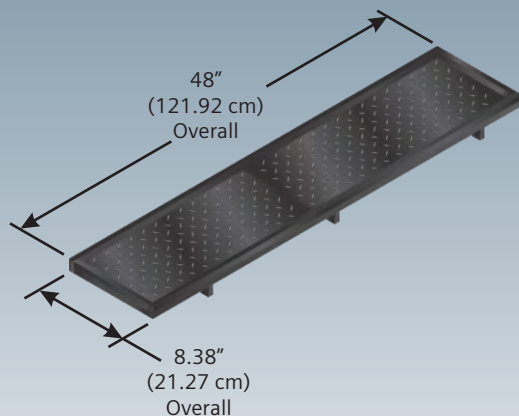
- Weight is approx. 8 lbs. (3.63 kgs.)
- 38" (96.50 cm) Wide x 8 1/8" (20.64 cm) Deep x 2 1/2" (6.35 cm) Tall
- 3/4" Plywood flooring
- Red oxide primer and black acid resistant finish
- (3) Support rails

NYK:170999-1



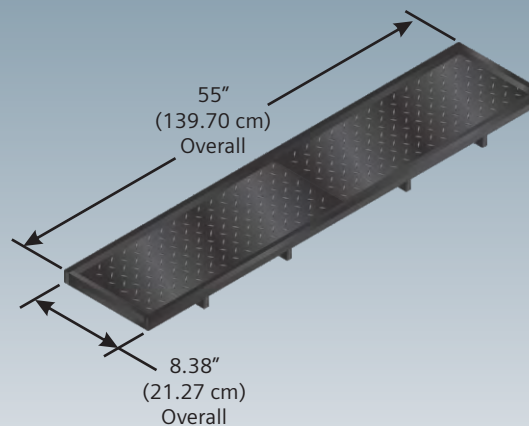
- Weight is approx. 10 lbs. (4.54 kgs.)
- 44" (111.76 cm) Wide x 8 1/8" (20.64 cm) Deep x 2 1/2" (6.35 cm) Tall
- 3/4" Plywood flooring
- Red oxide primer and black acid resistant finish
- (3) Support rails

NYK:170999-3



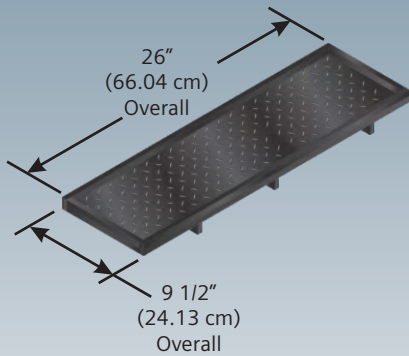
- Weight is approx. 12 lbs. (5.44 kgs.) including hardware
- 48" (121.92 cm) Wide x 8 3/8" (21.27 cm) Deep x 2 1/2" (6.35 cm) Tall
- 3/4" Plywood flooring
- Red oxide primer and black acid resistant finish
(Other finishes available upon request)
- Diamond pattern tread anti slip traction matting
- (3) Support rails

NYK:170999-4



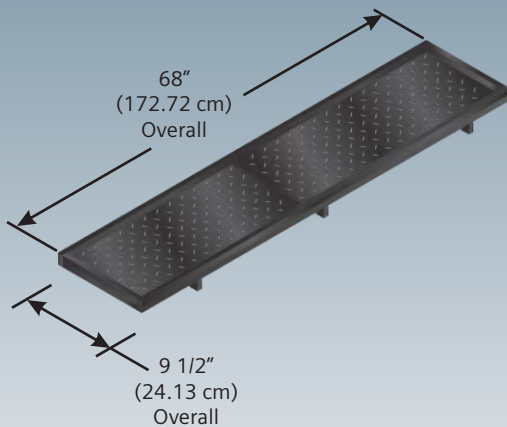
- Weight is approx. 16 lbs. (7.26 kgs.) including hardware
- 55" (139.70 cm) Wide x 8 3/8" (21.27 cm) Deep x 2 1/2" (6.35 cm) Tall
- 3/4" Plywood flooring
- Red oxide primer and black acid resistant finish
(Other finishes available upon request)
- Diamond pattern tread anti slip traction matting
- (3) Support rails

NYK:170999-7



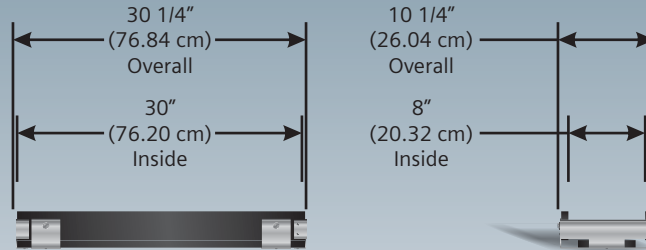
- Weight is approx. 6 lbs. (2.72 kgs.) including hardware
- 26" (66.04 cm) Wide x 9 1/2" (24.13 cm) Deep x 2 1/2" (6.35 cm) Tall
- 3/4" Plywood flooring
- Red oxide primer and black acid resistant finish (Other finishes available upon request)
- Diamond pattern tread anti slip traction matting
- (3) Support rails

NYK:170999-6



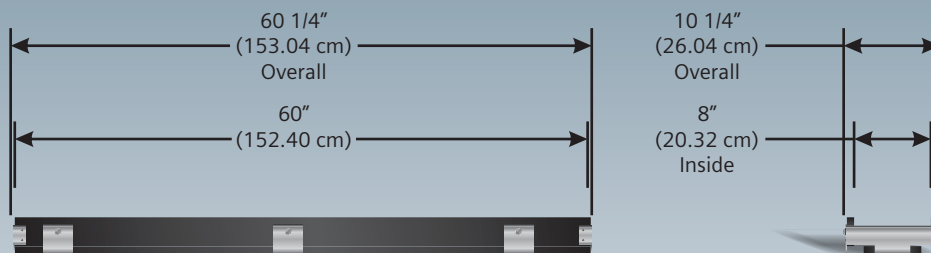
- Weight is approx. 24 lbs. (10.89 kgs.) including hardware
- 68" (172.72 cm) Wide x 9 1/2" (24.13 cm) Deep x 2 1/2" (6.35 cm) Tall
- 3/4" Plywood flooring
- Red oxide primer and black acid resistant finish (Other finishes available upon request)
- Diamond pattern tread anti slip traction matting
- (4) Support rails

NYK:051639-78X



- Weight is approx. 6 lbs. (2.72 kgs.) including hardware
- 30 1/4" (76.84 cm) Wide x 10 1/4" (26.04 cm) Deep x 3 15/16" (10.02 cm) Tall
- 3/4" Plywood flooring
- Red oxide primer and black acid resistant finish
- Aluminum support bracing
- (1) Tier

NYK:051640-52X1



- Weight is approx. 10 lbs. (4.54 kgs.) including hardware
- 60 1/4" (153.04 cm) Wide x 10 1/4" (26.04 cm) Deep x 3 15/16" (10.02 cm) Tall
- 3/4" Plywood flooring
- Red oxide primer and black acid resistant finish
- Aluminum support bracing
- (1) Tier



Overview



*Model A151504 Apparatus Box shown for reference purposes only!
Actual unit selected may vary in mounting and features.*

SIEMENS Apparatus Boxes assemblies are available in several sizes and configurations. Cast iron or aluminum box construction provides weathertight rugged protection against the elements while providing flexibility to place virtually anywhere.

The careful machining of these castings assures proper alignment of covers to housings. Gaskets are located between the cover and box to provide a weathertight seal.

Available for use with these boxes are a variety of connectors, adapter plates, outlets, and ventilators.

Equipment to be used in these boxes, such as terminals, arresters, resistors, etc., may be found in their appropriate sections of this catalog. Terminal boards of 3/4 inch wood, mounted in bottom of box, can be supplied for mounting of equipment.

NYK:151504-201A



**Apparatus Box 5" (12.70 cm) X 6" (15.24 cm)
(Empty)**

- Weight is approx. 10.6 lbs. (4.81 kgs.)
- (1) NYK:151504-201A apparatus box
- (1) NYK:132136-T11672 3 position switch

NYK:151504-201X



**Apparatus Box 5" (12.70 cm) X 6" (15.24 cm)
(Empty w/ Pushbutton)**

- Weight is approx. 11.9 lbs. (5.40 kgs.)
- (1) NYK:151504-201A apparatus box
- (1) NYK:025100-X100 start pushbutton

NYK:151504-204X



**Apparatus Box 5" (12.70 cm) X 6" (15.24 cm)
(Empty w/ Pushbutton and 2 Position Lever Switch)**

- Weight is approx. 12.6 lbs. (5.72 kgs.)
- (1) NYK:151504-201A apparatus box
- (1) NYK:025100-X101, 2 position lever switch
- (1) NYK:026160-37 black pushbutton
- (1) NYK:026160-38 red pushbutton

NYK:151504-X258



**Apparatus Box 5" (12.70 cm) X 6" (15.24 cm)
(Empty w/ Pushbutton and 2 Position Signal Switch)**

- Weight is approx. 12.4 lbs. (5.62 kgs.)
- (1) NYK:151504-201A apparatus box
- (1) NYK:132136-T11672 3 position switch

NYK:151504-X261



**Apparatus Box 5" (12.70 cm) X 6" (15.24 cm)
(Empty w/ 3 Position Key Switch)**

- Weight is approx. 12.4 lbs. (5.62 kgs.)
- (1) NYK:151504-201A apparatus box
- (1) NYK:151525-X29, 3 way key switch

NYK:151504-X260



**5.00" (12.70 cm) X 6" (15.24 cm)
Apparatus Box with 2 Way Key Switch**

- Weight is approx. 12.4 lbs. (5.62 kgs.)
- (1) NYK:151504-201A apparatus box
- (1) NYK:151525-X30, 2 way key switch



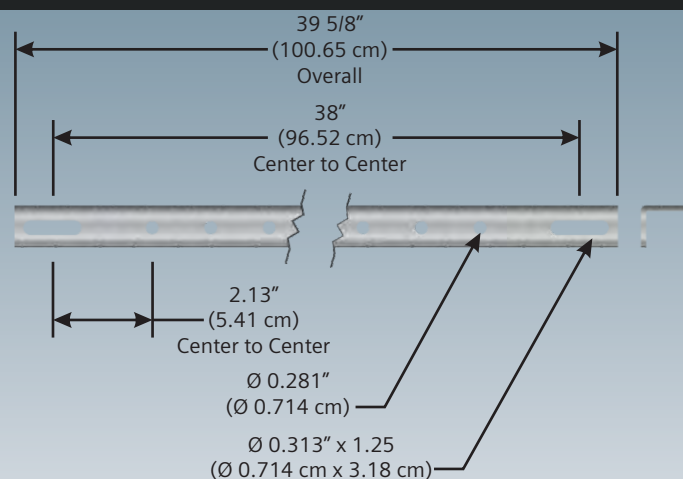
Overview



*Model A560024 Relay Bars shown for reference purposes only!
Actual unit selected may vary in mounting and features.*

SIEMENS Relay Bars and Shelves are constructed out of steel strips and allow for mounting of relays or components virtually anywhere in any instrument house or case.

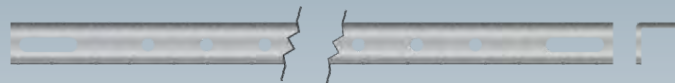
NYK:560024-1



Relay bar for 41" (1.04 m) Wide Cases

- Weight is approx. 4 lbs. (1.81 kgs.)
- 7/8" x 1" formed steel angle
- Gray enamel finish

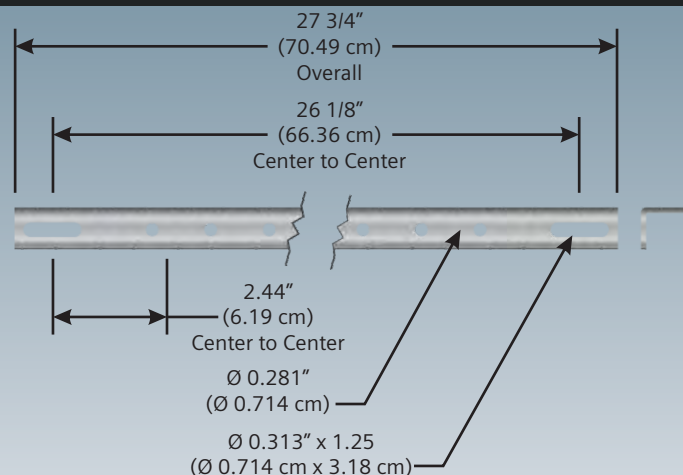
NYK:560024-1X



Relay bar for 41" (1.04 m) Wide Cases w/ Hardware

- Weight is approx. 6 lbs. (2.72 kgs.)
- (1) NYK:0560024-1
- Includes hardware (not shown)

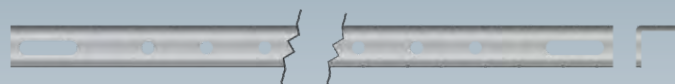
NYK:560024-2



Relay bar for 60" (1.52 m) Wide Cases

- Weight is approx. 3 lbs. (1.36 kgs.)
- 7/8" x 1" formed steel angle
- Gray enamel finish

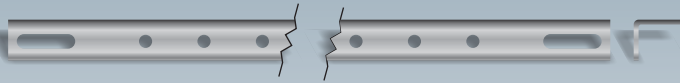
NYK:560024-2X



Relay bar for 60" (1.52 m) Wide Cases w/ Hardware

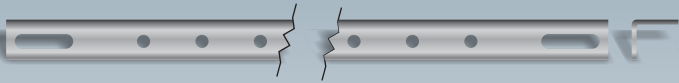
- Weight is approx. 5 lbs. (2.27 kgs.)
- (1) NYK:0560024-2
- Includes hardware (not shown)

NYK:560024-3X



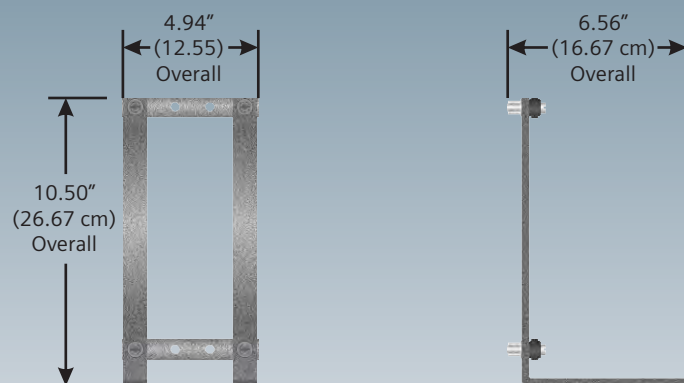
- Relay bar for 41" (1.04 m) Wide Cases w/ Hardware**
- Weight is approx. 6 lbs. (2.72 kgs.)
 - (1) NYK:0560024-1
 - Includes hardware

NYK:560024-4X



- Relay bar for 60" (1.52 m) Wide Cases w/ Hardware**
- Weight is approx. 5 lbs. (2.27 kgs.)
 - (1) NYK:0560024-2
 - Includes hardware

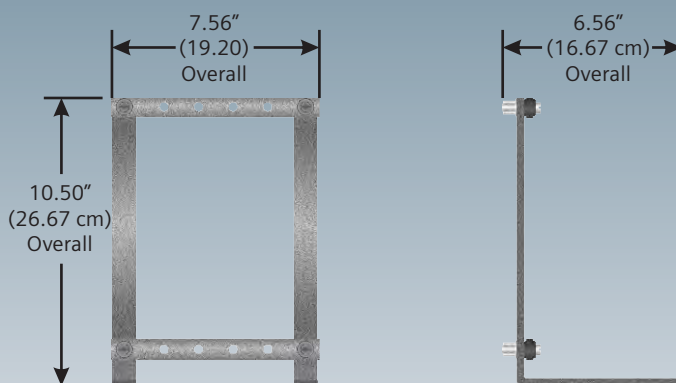
NYK:420000-54X



Relay Shelf, (1) ST-1 Relay

- Weight is approx. 2.2 lbs. (1.00 kgs.)
- Includes hardware

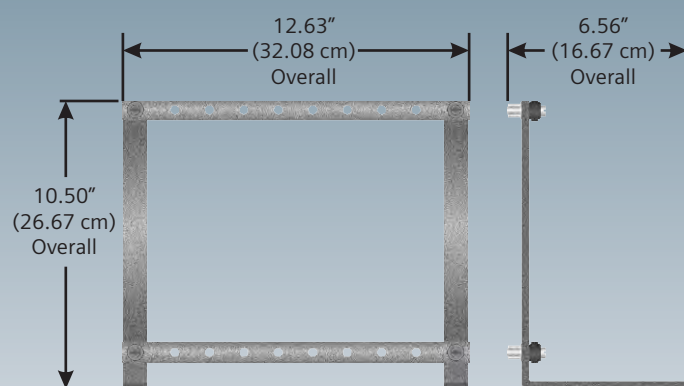
NYK:420000-55X



Relay Shelf, (2) ST-1 Relay

- Weight is approx. 3.0 lbs. (1.36 kgs.)
- Includes hardware

NYK:420000-56X



Relay Shelf, (4) ST-1 Relay

- Weight is approx. 5.2 lbs. (2.36 kgs.)
- Includes hardware



Environmental Control Systems

Overview



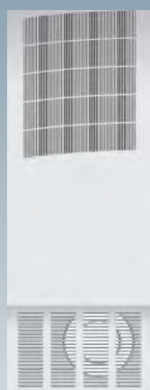
Various Environmental Control System components shown for reference purposes only! Actual unit selected may vary in mounting and features.

SIEMENS has a full line of heating, air conditioning and ventilation systems for virtually any instrument house design.

Air Conditioning Systems for instrument houses are of high quality, featuring high BTU output with minimum operating costs. A change-over thermostat is used, to insure proper transfer from air conditioning to heating and vice versa. A weather hood of steel or aluminum, depending on the type of house, is provided to protect the air conditioner and insure longer life of the unit.

Heating systems feature protected and efficient cast aluminum heating grids and directional louvered cover for circulation of warm air and even distribution.

NYK:051894-281



Air Conditioner 230V, 6,000 BTU/HR

- Weight is approx. 125.00 lbs. (56.70 kgs.)

NYK:051894-282



Air Conditioner 230V, 19,000 BTU/HR

- Weight is approx. 197.00 lbs. (89.36 kgs.)

NYK:051620-38X



Heater 240V, 1,500W, w/ fan and frame

- Weight is approx. 8 lbs. (3.63 kgs.)
- 10.00" (25.4 cm) X 12.50" (31.75 cm) X 4.16" (10.57 cm)

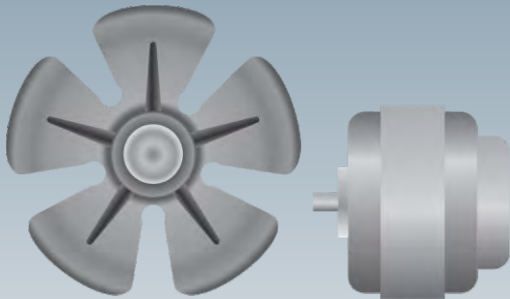
NYK:051620-X



Heater 240V, 4,000W, w/ fan and frame

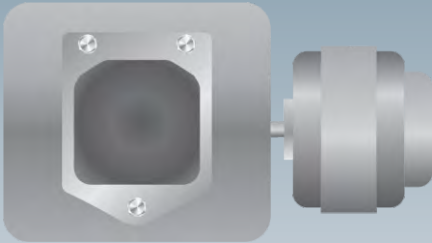
- Weight is approx. 8 lbs. (3.63 kgs.)
- 10.00" (25.4 cm) X 12.50" (31.75 cm) X 4.16" (10.57 cm)

NYK:051894-35AX



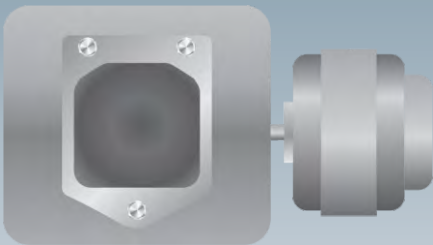
- Ventilation Fan**
- Weight is approx. 4.4 lbs. (2.00 kgs.)
 - 7" motor and fan assembly

NYK:035035-7X






- Ventilation Fan 110 VAC, w/ Aerial Inlet**
- Weight is approx. 7.5 lbs. (19.05 kgs.)
 - (1) 035035-500 aerial outlet

NYK:035035-503X



- Ventilation Fan 220 VAC, w/ Aerial Inlet**
- Weight is approx. 7.5 lbs. (19.05 kgs.)
 - (1) 035035-500 aerial outlet

NYK:050971-26X	NYK:035908-1X												
													
<p>Cable Riser 36" (91.44 cm)</p> <ul style="list-style-type: none">Weight is approx. 6.7 lbs. (17.02 kgs.)	<p>Cable Riser 18" (45.72 cm) w/ Foot Mount</p> <ul style="list-style-type: none">Weight is approx. 11.4 lbs. (28.96 kgs.)												
NYK:050971-X	Optional Accessories												
	<table><tr><th>SIEMENS Part Number</th><th>Description</th></tr><tr><td>NYK:035035-X</td><td>Aerial cable inlet</td></tr><tr><td>NYK:051151-1</td><td>Cable support</td></tr><tr><td>NYK:051128-AX</td><td>Door handle</td></tr><tr><td>NYK:035049-X</td><td>Ground terminal</td></tr><tr><td>NYK:051154-500X</td><td>Lamp socket</td></tr></table>	SIEMENS Part Number	Description	NYK:035035-X	Aerial cable inlet	NYK:051151-1	Cable support	NYK:051128-AX	Door handle	NYK:035049-X	Ground terminal	NYK:051154-500X	Lamp socket
SIEMENS Part Number	Description												
NYK:035035-X	Aerial cable inlet												
NYK:051151-1	Cable support												
NYK:051128-AX	Door handle												
NYK:035049-X	Ground terminal												
NYK:051154-500X	Lamp socket												
<p>Cable Riser 24" (60.96 cm) w/ Foot Mount</p> <ul style="list-style-type: none">Weight is approx. 4.3 lbs. (10.92 kgs.)													

Tools and Accessories



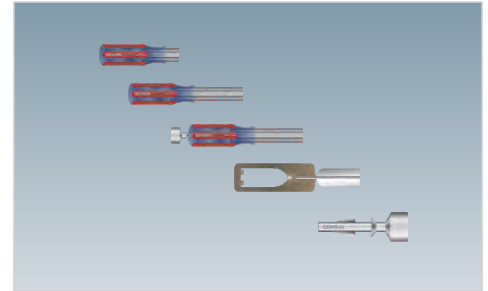
Padlocks

J1 - J6



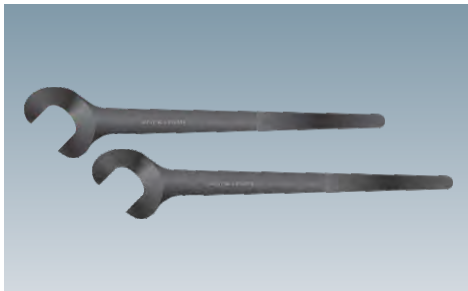
Greases and Oils

J7 - J8



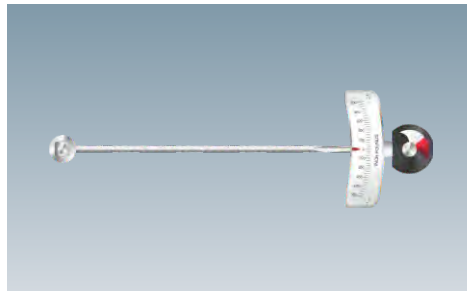
AAR Terminal Wrenches
Hand Tools

J9 - J14



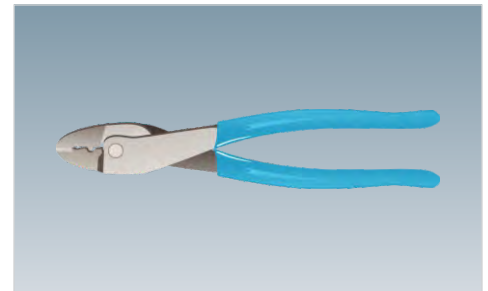
Switch Adjustment Wrenches
Hand Tools

J15 - J16



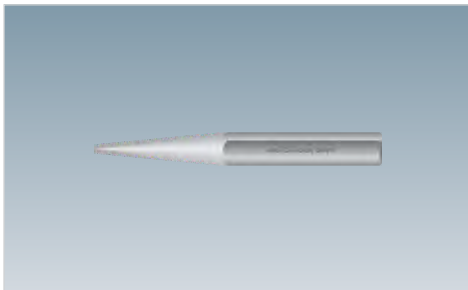
Torque Wrench
Hand Tools

J17



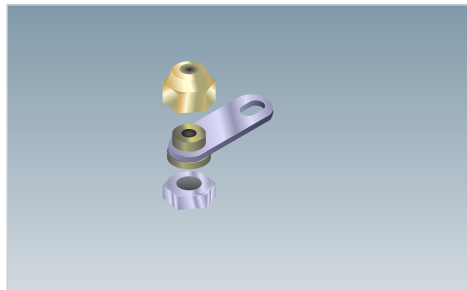
Crimping Pliers

J18



Bond Punches
Hand Tools

J19 - J20



Miscellaneous Tools and Hardware

J21 - J29





Padlocks

Overview



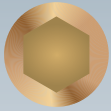
*Model A030399 Padlock shown for reference purposes only!
Actual unit selected may vary in mounting and features.*

SIEMENS Padlocks are rugged and reliable. Simple body and hook construction are made of either cast zamak or cast bronze.

The locking screw is made of brass and is designed to prevent backing all the way out of the lock body. Models are available with or without attached chains

Other configurations may be available that are not listed. Please contact the Siemens Technical Assistance for Rail Automation Team for further details.

NYK:030399-19X

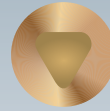


Key Pattern
Standard Hexagon
Profile



- Weight is approx. 0.5 lbs. (0.23 kgs.)
- Cast zamak construction
- Brass locking screw
- Includes chain

NYK:030399-15X

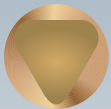


Key Pattern
Small Triangle
Profile



- Weight is approx. 0.5 lbs. (0.23 kgs.)
- Cast zamak construction
- Brass locking screw
- Includes chain

NYK:030399-X

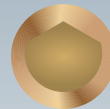


Key Pattern
Standard Triangle
Profile



- Weight is approx. 0.5 lbs. (0.23 kgs.)
- Cast zamak construction
- Brass locking screw
- Includes chain

NYK:030399-87X

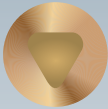


Key Pattern
Modified Small D
Profile



- Weight is approx. 0.5 lbs. (0.23 kgs.)
- Cast zamak construction
- Brass locking screw
- Includes chain

NYK:030399-13X

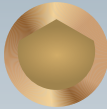


Key Pattern
Standard Triangle
Profile



- Weight is approx. 0.5 lbs. (0.23 kgs.)
- Cast zamak construction
- Brass locking screw
- NO chain

NYK:030399-75X



Key Pattern
Modified Small D
Profile



- Weight is approx. 0.5 lbs. (0.23 kgs.)
- Cast zamak construction
- Brass locking screw
- NO chain

NYK:030399-16X



Key Pattern
Slotted Hexagon
Profile



- Weight is approx. 0.5 lbs. (0.23 kgs.)
- Cast zamak construction
- Brass locking screw
- NO chain

NYK:030399-24X

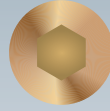


Key Pattern
Slotted Hexagon
Profile



- Weight is approx. 0.5 lbs. (0.23 kgs.)
- Cast zamak construction
- Brass locking screw
- NO chain

NYK:030399-84X

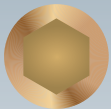


Key Pattern
Small Hexagon
Profile



- Weight is approx. 0.5 lbs. (0.23 kgs.)
- Cast zamak construction
- Brass locking screw
- NO chain

NYK:030399-31X

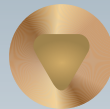


Key Pattern
Standard Hexagon
Profile



- Weight is approx. 0.5 lbs. (0.23 kgs.)
- Cast zamak construction
- Brass locking screw
- NO chain

NYK:030399-14X



Key Pattern
Small Triangle
Profile



- Weight is approx. 0.5 lbs. (0.23 kgs.)
- Cast zamak construction
- Brass locking screw
- NO chain

NYK:030399-51X		NYK:030399-1X	
 		 	
Key Pattern Standard Hexagon Profile		Key Pattern Standard Triangle Profile	
<ul style="list-style-type: none">• Weight is approx. 0.5 lbs. (0.23 kgs.)• Cast bronze construction• Brass locking screw• Includes chain		<ul style="list-style-type: none">• Weight is approx. 0.5 lbs. (0.23 kgs.)• Cast bronze construction• Brass locking screw• Includes chain	



Semaphore Oil

Oils and Greases

Overview



*Shown for reference purposes only!
Actual unit selected may vary in mounting and features.*

SIEMENS offers tried and true Exxon® Mobile® UNIVOLT™ N 61 B for all of your semaphore oil needs. A fully inhibited oil, meeting or exceeding ASTM D 3487 Type II (2000) specifications.

Providing good oxidization stability and low temperature pouring performance helps in easy low temperature start up.

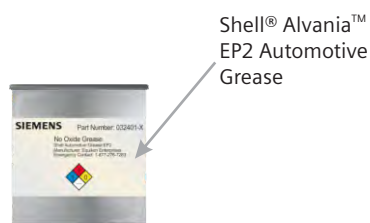
NYK:032400-X



- (1) qt (0.95 L)
- Meets or exceeds applicable ASTM D 3487 Type II (2000) specification
- Viscosity, cSt, 40C, per ASTM D 445: 9.2
- Viscosity, cSt, 100C, per ASTM D 445: 2.3
- Aniline Point, C, per ASTM D 611: 75.8°
- Color, per ASTM D 1500: L0.5
- Corrosive Sulfur, per ASTM D 1275: non corrosive
- Pour Point, per ASTM D 97: (-58° F) -50° C
- Flash Point, per ASTM D 92: (303° F) 151° C
- Specific Gravity, per D 1298: 0.91
- Interfacial Tension, 25C, dynes/cm, per ASTM D 971: 48
- Neutralization Number, mg KOH/g, per ASTM D 974: 0.013
- Water, ppm, per ASTM D 1533: 35
- Dielectric Strength, kV, per ASTM D 877: 30



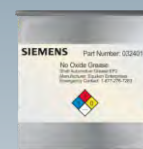
Overview



*Shown for reference purposes only!
Actual unit selected may vary in mounting and features.*

SIEMENS offers tried and true Shell® Alvania™ Ep2 Automotive Grease. High quality multipurpose, extreme-pressure greases based on a blend of high viscosity index mineral oils and a lithium hydroxysterate soap thickener and contain extreme-pressure and other proven additives to enhance their performance in a wide range of applications. Designed for multipurpose grease lubrication of rolling element and plain bearings as well as hinges and sliding surfaces such as those found in throughout most industrial and transport sectors.

NYK:032401-X



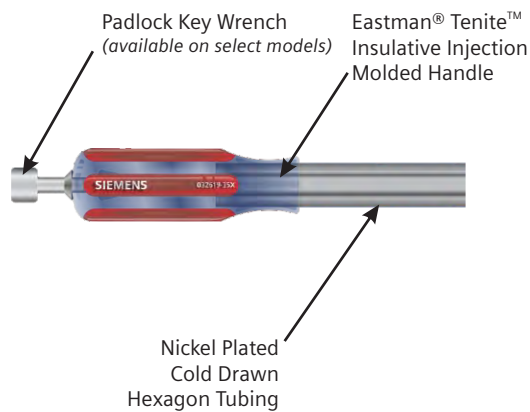
- (1) pt (0.47 L)
- Meets or exceeds applicable ASTM D 3487 Type II (2000) specification
- Viscosity, cSt, 40C, per ASTM D 445: 9.2
- Viscosity, cSt, 100C, per ASTM D 445: 2.3
- Aniline Point, C, per ASTM D 611: 75.8°
- Color, per ASTM D 1500: L0.5
- Corrosive Sulfur, per ASTM D 1275: non corrosive
- Pour Point, per ASTM D 97: (-58° F) -50° C
- Flash Point, per ASTM D 92: (303° F) 151° C
- Specific Gravity, per D 1298: 0.91
- Interfacial Tension, 25C, dynes/cm, per ASTM D 971: 48
- Neutralization Number, mg KOH/g, per ASTM D 974: 0.013
- Water, ppm, per ASTM D 1533: 35
- Dielectric Strength, kV, per ASTM D 877: 30



AAR Terminal Wrenches

Hand Tools

Overview



*Model A032619 AAR Terminal Wrench shown for reference purposes only!
Actual unit selected may vary in mounting and features.*

SIEMENS AAR terminal wrenches are designed for use with AREMA® 14.1.11-6 specified AAR binding nuts. Available in a variety of lengths and configurations, including optional padlock key wrench.

Select models additionally are sealed within an electrically insulative coating which extends completely over the entire wrench, including the socket itself. Ruggedly constructed using nickel plated cold drawn hexagon tubing embedded in an Eastman® Tenite™ insulating injection molded handle providing a sure grip as well as added safety for the user.

NYK:032619-1X



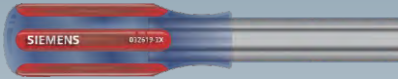
- Ø 1.2" (3.0 cm) X 4.5" (11.43 cm) long
- Nickel plated cold drawn hexagon tubing
- Eastman® Tenite™ insulative injection molded handle
- Weight is approx. 0.5 lbs. (0.23 kgs.)

NYK:032619-5X



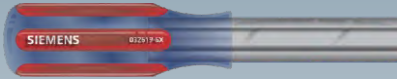
- Ø 1.2" (3.0 cm) X 4.5" (11.43 cm) long
- Nickel plated cold drawn hexagon tubing
- Eastman® Tenite™ insulative injection molded handle
- Weight is approx. 0.5 lbs. (0.23 kgs.)
- Additional electrical insulative coating on tubing

NYK:032619-3X



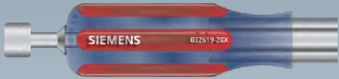
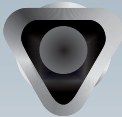

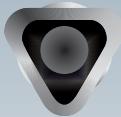


- Ø 1.2" (3.0 cm) X 6.5" (16.51 cm) long
- Nickel plated cold drawn hexagon tubing
- Eastman® Tenite™ insulative injection molded handle
- Weight is approx. 0.8 lbs. (0.36 kgs.)

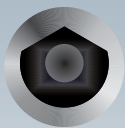
NYK:032619-6X



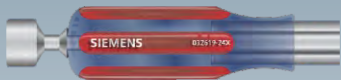
- Ø 1.2" (3.0 cm) X 6.5" (16.51 cm) long
- Nickel plated cold drawn hexagon tubing
- Eastman® Tenite™ insulative injection molded handle
- Weight is approx. 0.8 lbs. (0.36 kgs.)
- Additional electrical insulative coating on tubing

Tools and Accessories	
NYK:032619-8X	NYK:032619-9X
	
<ul style="list-style-type: none">• Ø 1.2" (3.0 cm) X 11" (27.94 cm) long• Nickel plated cold drawn hexagon tubing• Eastman® Tenite™ insulative injection molded handle• Weight is approx. 1.2 lbs. (0.54 kgs.)	<ul style="list-style-type: none">• Ø 1.2" (3.0 cm) X 11" (27.94 cm) long• Nickel plated cold drawn hexagon tubing• Eastman® Tenite™ insulative injection molded handle• Weight is approx. 1.2 lbs. (0.54 kgs.)• Additional electrical insulative coating on tubing
NYK:032619-28X	NYK:032619-35X
  End View Standard Triangle Profile	  End View Standard Triangle Profile
<ul style="list-style-type: none">• Ø 1.2" (3.0 cm) X 5.5" (13.97 cm) long• Nickel plated cold drawn hexagon tubing• Eastman® Tenite™ insulative injection molded handle• Weight is approx. 0.8 lbs. (0.36 kgs.)• Padlock Key Wrench (Standard Triangle)	<ul style="list-style-type: none">• Ø 1.2" (3.0 cm) X 7.5" (19.05 cm) long• Nickel plated cold drawn hexagon tubing• Eastman® Tenite™ insulative injection molded handle• Weight is approx. 1.1 lbs. (0.50 kgs.)• Padlock Key Wrench (Standard Triangle)

NYK:032619-24X

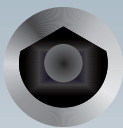


End View
Modified D
Profile



- Ø 1.2" (3.0 cm) X 5.5" (13.97 cm) long
- Nickel plated cold drawn hexagon tubing
- Eastman® Tenite™ insulative injection molded handle
- Weight is approx. 0.8 lbs. (0.36 kgs.)
- Padlock Key Wrench (Modified D)

NYK:032619-34X



End View
Modified D
Profile

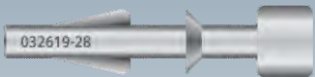


- Ø 1.2" (3.0 cm) X 7.5" (19.05 cm) long
- Nickel plated cold drawn hexagon tubing
- Eastman® Tenite™ insulative injection molded handle
- Weight is approx. 1.1 lbs. (0.50 kgs.)
- Padlock Key Wrench (Modified D)

NYK:032619-28

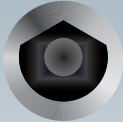


End View
Standard Triangle
Profile

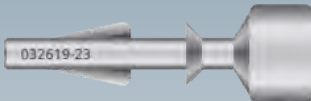


- Ø 1.2" (3.0 cm) X 5.5" (13.97 cm) long
- Nickel plated S.A.E 4140 chrome steel alloy construction
- Weight is approx. 0.8 lbs. (0.36 kgs.)
- Padlock Key Wrench (Standard Triangle)

NYK:032619-23



End View
Modified D
Profile



- Ø 1.2" (3.0 cm) X 7.5" (19.05 cm) long
- Nickel plated S.A.E 4140 chrome steel alloy construction
- Weight is approx. 1.1 lbs. (0.50 kgs.)
- Padlock Key Wrench (Modified D)

NYK:032619-22X



End View
Test Nut
Profile

- Ø .44" (1.12 cm) X 11.0" (27.94 cm) Long
- Nickel plated cold drawn round tubing
- Eastman® Tenite™ insulative injection molded handle
- Weight is approx. 1.2 lbs. (0.54 kgs.)
- Additional insulative sleeve sealing

NYK:032619-30X



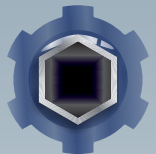
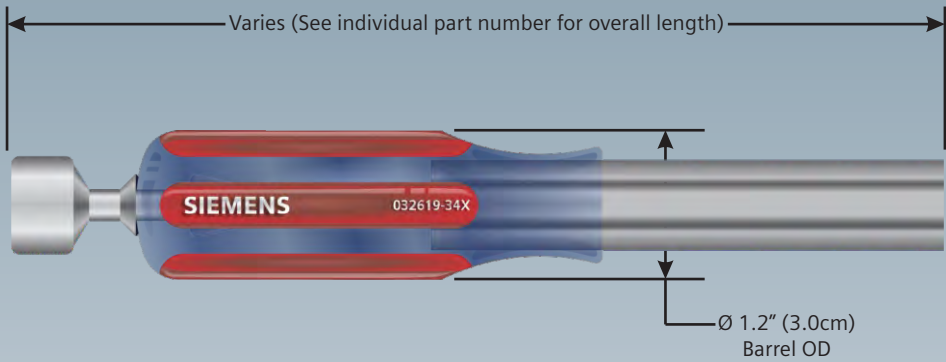
- 4 1/2" (11.43 cm) Long
- Convenient folding design
- Rugged nylon handle
- Nickel plated cold drawn hexagon tubing
- Weight is approx. 0.6 lbs. (0.27 kgs.)

Applicable for all AAR Terminal Wrenches



End View Padlock Key
Wrench Profile

Available in
Standard Triangle
or
Modified D
Key Profiles



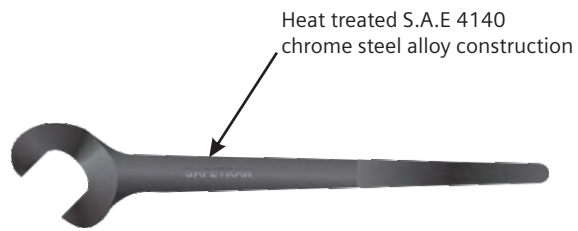
End View
Hexagon Wrench
Profile



Switch Adjustment Wrenches

Hand Tools

Overview

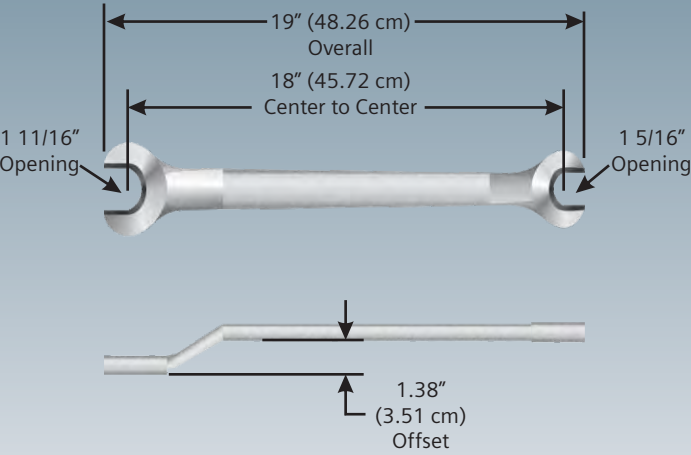


Heat treated S.A.E 4140
chrome steel alloy construction

*Model A032249 Switch Adjustment Wrench shown for reference purposes only!
Actual unit selected may vary in mounting and features.*

SIEMENS Switch Adjustment Wrenches are designed using forged steel, and are specifically for railroad use. Their wide jaw widths, and the angle on which they are attached, allow them to overcome the tendency to slip off of the nut.

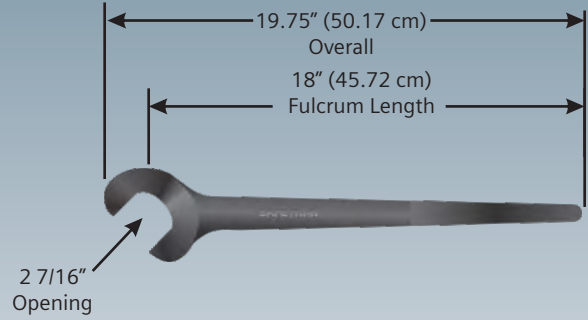
NYK:032249-1



Double End Box Wrench

- Heat treated S.A.E 4140 chrome steel alloy construction
- Weight is approx. 10.0 lbs. (4.54 kgs.)

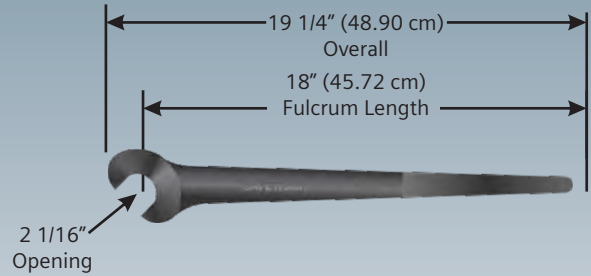
NYK:032249-2



Switch Adjustment Wrench

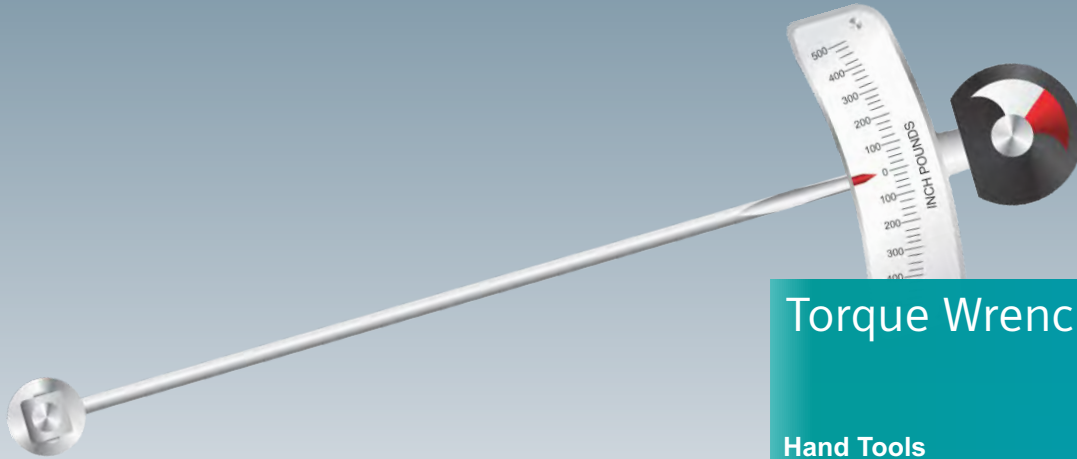
- Heat treated S.A.E 4140 chrome steel alloy construction
- Weight is approx. 10.0 lbs. (4.54 kgs.)

NYK:032249-4



Switch Adjustment Wrench

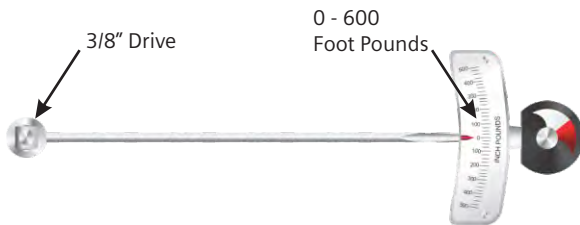
- Heat treated S.A.E 4140 chrome steel alloy construction
- Weight is approx. 12.0 lbs. (5.44 kgs.)
- Tapered handle for better gripping handling



Torque Wrench Kit

Hand Tools

Overview



*Model A070981-X shown for reference purposes only!
Actual unit selected may vary in mounting and features.*

SIEMENS Torque Wrench Kit permits horizontal and vertical torque adjustments and measurements to be taken from the 1/2 inch hexagon end of the motor shaft on the S-60 Wayguard® Grade Crossing Gate Mechanisms. It provides a simpler method than the conventional manner with a spring scale for both measurements and adjustments.

The Torque Adapter (NYK:070554-2X), must be ordered separately, and is only used with older model gates before 1977 provides for torque adjustments. The adapter consists of a hex shaft made onto a collar which fits over the end of the motor pinion, and is held in place by a set screw.

The Torque Wrench Kit allows the gate arm to be cranked up, or in the case where the arm has been sheared off, to crank the weights to the horizontal position.

NYK:070981-X



- Torque Wrench (ft - lb and in - lb readings)
- Ratcheting box end wrench (1/2 and 9/16 inches)
- Socket (1/2-inch, 3/8-inch drive)
- Allen Wrench (3/16-inch)
- Ratchet Wrench (3/8-inch drive)
- Tool Box
- Instruction Sheet

Crimping Pliers

Hand Tools

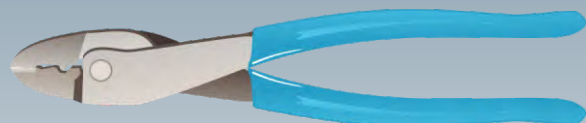
Overview



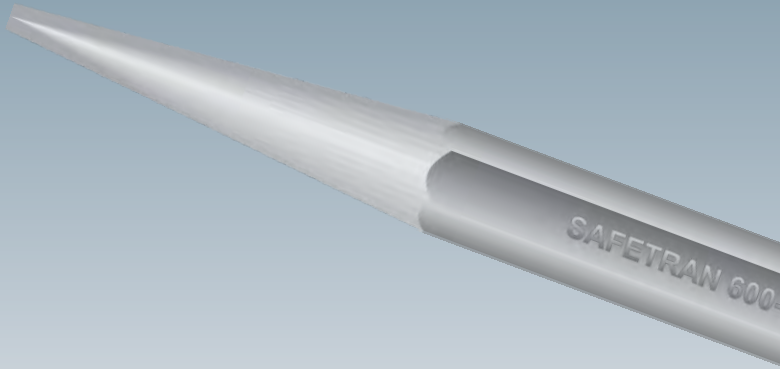
*Model A42000-85 shown for reference purposes only!
Actual unit selected may vary in mounting and features.*

SIEMENS crimping tool crimps and cuts insulated and non insulated solderless connections and terminals. For use with wires ranging from 10 - 22 AWG.

NYK:420000-85



- High carbon steel jaw
- Weight is approx. 1.1 lbs. (0.50 kgs.)
- 9 3/4" (24.77 cm) overall length



Bond Punches

Hand Tools

Overview

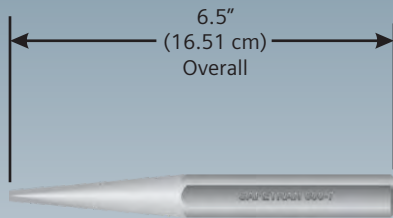


*Model A080600-7 Bond Punch shown for reference purposes only!
Actual unit selected may vary in mounting and features.*

SIEMENS punches are made of hardened chisel steel, hardened and gauged at the punch end for severe service.

Other punches may be available that are not listed. Please contact the Siemens Technical Assistance for Rail Automation Team for further details.

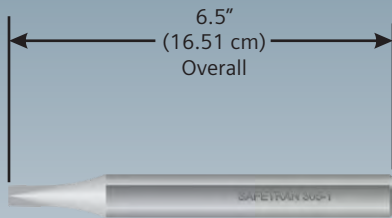
NYK:080600-7



Starting Punch

- Heat treated S.A.E 4140 hardened steel construction
- Weight is approx. 1 lbs. (0.45 kgs.)
- Punch end 0.170" to 0.175" (4.3 mm to 4.4 mm)
- Hex end 5/8" (15.8 mm)

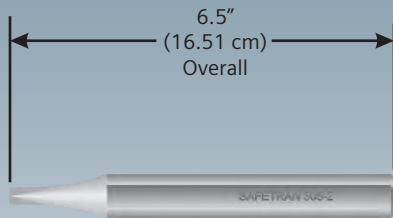
NYK:080305-1



Bond Punch

- Heat treated S.A.E 4140 hardened steel construction
- Weight is approx. 1 lbs. (0.45 kgs.)
- Punch end 0.326" to 0.331" (8.3 mm to 8.4 mm)
- Hex end 5/8" (15.8 mm)

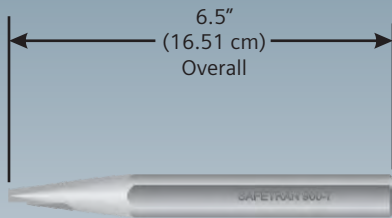
NYK:080305-2



Bond Punch

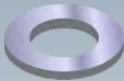
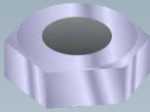
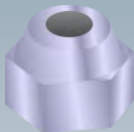

- Heat treated S.A.E 4140 hardened steel construction
- Weight is approx. 1 lbs. (0.45 kgs.)
- Punch end 0.255" to 0.260" (6.4 mm to 6.5 mm)
- Hex end 5/8" (15.8 mm)





NYK:080090-7



Bond Installation Punch

- Heat treated S.A.E 4140 hardened steel construction
- Weight is approx. 1 lbs. (0.45 kgs.)
- Punch end 0.225" (5.7 mm) tapered for bond installation
- Hex end 5/8" (15.8 mm)

NYK:023834	NYK:023832
	
<p>AAR beveled washer</p> <ul style="list-style-type: none">• Weight is approx. 0.1 lbs. (0.05 kgs.)• Meets or exceeds AREMA® 14.1.11-8 specification	<p>AAR clamp nut</p> <ul style="list-style-type: none">• Weight is approx. 0.2 lbs. (0.10 kgs.)• Meets or exceeds AREMA® 14.1.11-7 specification
NYK:023831	NYK:023833-X
	
<p>AAR binding shoulder nut</p> <ul style="list-style-type: none">• Weight is approx. 0.2 lbs. (0.10 kgs.)• Meets or exceeds AREMA® 14.1.11-6 specification	<p>2" Ground Stud Post Assembly</p> <ul style="list-style-type: none">• Weight is approx. 1.1 lbs. (0.49 kgs.)• (1) NYK:023833 2" ground stud post• (1) NYK:023832 AAR clamp nut• (2) NYK:023831 AAR binding shoulder nuts• (5) NYK:023834 AAR beveled washers

<div>NYK:023833</div> <div></div> <div><div>2" Ground Stud Post</div><ul style="list-style-type: none">• Weight is approx. 0.2 lbs. (0.10 kgs.)• Meets or exceeds AREMA® 14.1.11-9 specification</div>	<div>NYK:023833-4X</div> <div></div> <div><div>1 5/8" Ground Stud Post Assembly</div><ul style="list-style-type: none">• Weight is approx. 1.1 lbs. (0.49 kgs.)• (1) NYK:023834 1 5/8" ground stud post• (1) NYK:023832 AAR clamp nut• (2) NYK:023831 AAR binding shoulder nuts• (5) NYK:023834 AAR beveled washers</div>
<div>NYK:023833-4</div> <div></div> <div><div>1 5/8" ground stud post</div><ul style="list-style-type: none">• Weight is approx. 0.2 lbs. (0.10 kgs.)</div>	<div>NYK:023408-1X</div> <div></div> <div><div>Insulated #14-24 nut</div><ul style="list-style-type: none">• Weight is approx. 0.3 lbs. (0.14 kgs.)</div>

NYK:023408-5X



Shield and cap, Bakelite

- Weight is approx. 0.2 lbs. (0.10 kgs.)
- 3/4" wire slot

NYK:023408-6X



Shield and cap, Bakelite

- Weight is approx. 0.2 lbs. (0.10 kgs.)
- 1/2" Wire slot

NYK:023408-7X



Shield and cap, Bakelite


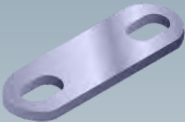
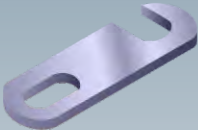
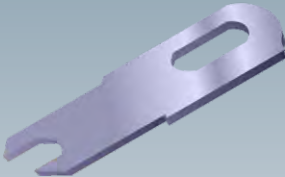
- Weight is approx. 0.2 lbs. (0.10 kgs.)
- (2) 3/4" wire slots

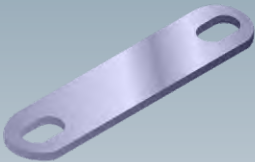
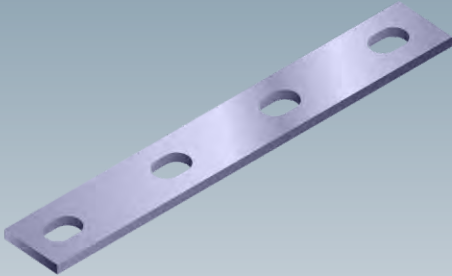
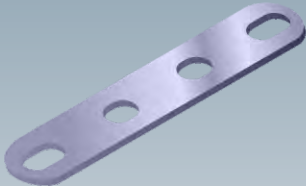
NYK:023408-8X

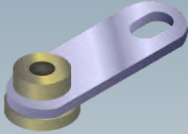

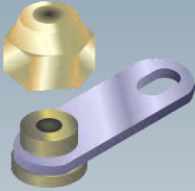
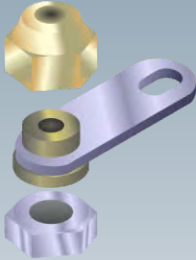



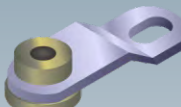
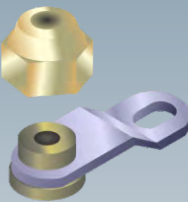
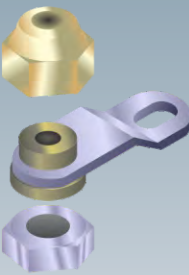
Shield and cap, Bakelite

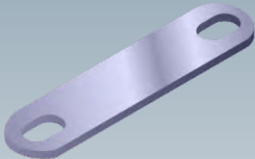
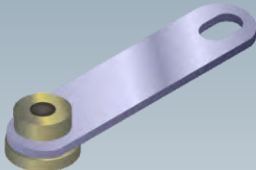
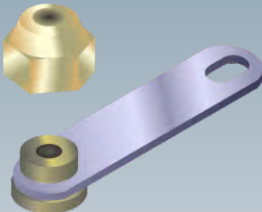
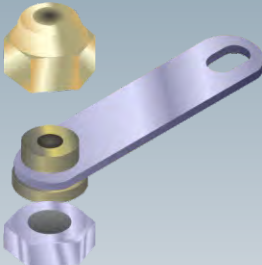
- Weight is approx. 0.2 lbs. (0.10 kgs.)
- (2) 1/2" wire slots

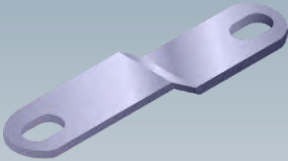
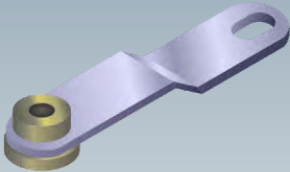
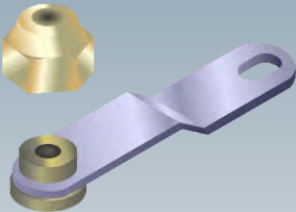
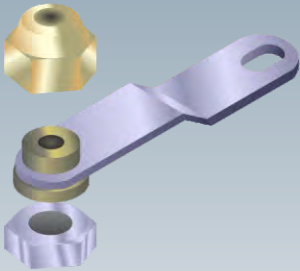
NYK:023837	NYK:023839-2
	
<div>Terminal Connector Clip<ul style="list-style-type: none">• Weight is approx. 0.1 lbs. (0.05 kgs.)• 1" center to center• Meets or exceeds AREMA® 14.1.15-1 specification</div>	<div>Connector Buss<ul style="list-style-type: none">• Weight is approx. 0.1 lbs. (0.05 kgs.)• 1" center to center• Meets or exceeds AREMA® 14.1.15-3 specification</div>
NYK:023839-3	NYK:023836
	
<div>Connector Buss<ul style="list-style-type: none">• Weight is approx. 0.1 lbs. (0.05 kgs.)• 1" center to center</div>	<div>Connector Buss<ul style="list-style-type: none">• Weight is approx. 0.2 lbs. (0.10 kgs.)• 2 3/8" center to center• Meets or exceeds AREMA® 14.1.15-2 specification</div>

NYK:023839-1		NYK:023839-5	
			
<p>Connector Buss</p> <ul style="list-style-type: none">• Weight is approx. 0.2 lbs. (0.10 kgs.)• 2 3/8" center to center• Meets or exceeds AREMA® 14.1.15-1 specification		<p>Connector Buss</p> <ul style="list-style-type: none">• Weight is approx. 0.6 lbs. (0.30 kgs.) per linear foot (cut to length)• 1" center to center• Meets or exceeds AREMA® 14.1.15-6 specification	
NYK:023839-21			
			
<p>Connector Buss</p> <ul style="list-style-type: none">• Weight is approx. 0.5 lbs. (0.25 kgs.)• 1 7/16" to 1 5/8" center to center			

NYK:024620-3X	NYK:024620-13
	
<p>Straight Insulated Link</p> <ul style="list-style-type: none">• Weight is approx. 0.3 lbs. (0.15 kgs.)• (1) NYK:024620-11 test link• (1) NYK:024620-12 insulated bushing	<p>Gold Colored Test Nut</p> <ul style="list-style-type: none">• Weight is approx. 0.1 lbs. (0.05 kgs.)
NYK:024620-2X	NYK:024620-1X
	
<p>Straight Insulated Link Assembly</p> <ul style="list-style-type: none">• Weight is approx. 0.4 lbs. (0.18 kgs.)• (1) NYK:024620-3X straight insulated link• (1) NYK:024620-13 gold colored test nut	<p>Straight Insulated Link Assembly</p> <ul style="list-style-type: none">• Weight is approx. 0.6 lbs. (0.27 kgs.)• (1) NYK:024620-3X straight insulated link• (1) NYK:024620-13 gold colored test nut• (1) NYK:023832 AAR clamp nut

Tools and Accessories	
<div>NYK:024620-15</div> <div></div> <div><div>Offset Test Link</div><ul style="list-style-type: none">Weight is approx. 0.2 lbs. (0.10 kgs.)</div>	<div>NYK:024620-19X</div> <div></div> <div><div>Offset Insulated Link</div><ul style="list-style-type: none">Weight is approx. 0.2 lbs. (0.10 kgs.)(1) NYK:024620-15 offset test link(1) NYK:024620-12 insulated bushing</div>
<div>NYK:024620-11X</div> <div></div> <div><div>Offset Insulated Link Assembly</div><ul style="list-style-type: none">Weight is approx. 0.4 lbs. (0.18 kgs.)(1) NYK:024620-3X straight insulated link(1) NYK:024620-13 gold colored test nut</div>	<div>NYK:024620-7X</div> <div></div> <div><div>Offset Insulated Link Assembly</div><ul style="list-style-type: none">Weight is approx. 0.6 lbs. (0.27 kgs.)(1) NYK:024620-3X straight insulated link(1) NYK:024620-13 gold colored test nut(1) NYK:023832 AAR clamp nut</div>

NYK:024620-14	NYK:024620-6X
	
<p>Straight Test Link</p> <ul style="list-style-type: none">• Weight is approx. 0.3 lbs. (0.14 kgs.)	<p>Straight Insulated Link</p> <ul style="list-style-type: none">• Weight is approx. 0.3 lbs. (0.14 kgs.)• (1) NYK:024620-14 straight test link• (1) NYK:024620-12 insulated bushing
NYK:024620-5X	NYK:024620-4X
	
<p>Straight Insulated Link Assembly</p> <ul style="list-style-type: none">• Weight is approx. 0.7 lbs. (0.32 kgs.)• (1) NYK:024620-8X straight insulated link• (1) NYK:024620-13 gold colored test nut	<p>Straight Insulated Link Assembly</p> <ul style="list-style-type: none">• Weight is approx. 0.9 lbs. (0.41 kgs.)• (1) NYK:024620-8X straight insulated link• (1) NYK:024620-13 gold colored test nut• (1) NYK:023832 AAR clamp nut

Tools and Accessories	
<div>NYK:024620-16</div> <div></div> <div><div>Offset Test Link</div><ul style="list-style-type: none">Weight is approx. 0.3 lbs. (0.14 kgs.)</div>	<div>NYK:024620-20X</div> <div></div> <div><div>Offset Insulated Link</div><ul style="list-style-type: none">Weight is approx. 0.3 lbs. (0.14 kgs.)(1) NYK:024620-16 offset test link(1) NYK:024620-12 insulated bushing</div>
<div>NYK:024620-12X</div> <div></div> <div><div>Offset Insulated Link Assembly</div><ul style="list-style-type: none">Weight is approx. 0.7 lbs. (0.32 kgs.)(1) NYK:024620-8X straight insulated link(1) NYK:024620-13 gold colored test nut</div>	<div>NYK:024620-8X</div> <div></div> <div><div>Offset Insulated Link Assembly</div><ul style="list-style-type: none">Weight is approx. 0.9 lbs. (0.41 kgs.)(1) NYK:024620-8X straight insulated link(1) NYK:024620-13 gold colored test nut(1) NYK:023832 AAR clamp nut</div>

