

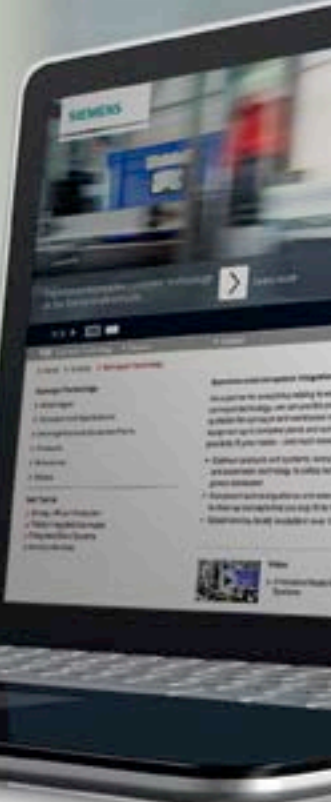
Get to know more:

siemens.com/conveyor-technology

Find out more about

- › concepts and applications relating to innovative conveyor technology
- › our seamless and integrated modular system
- › success stories from the sectors

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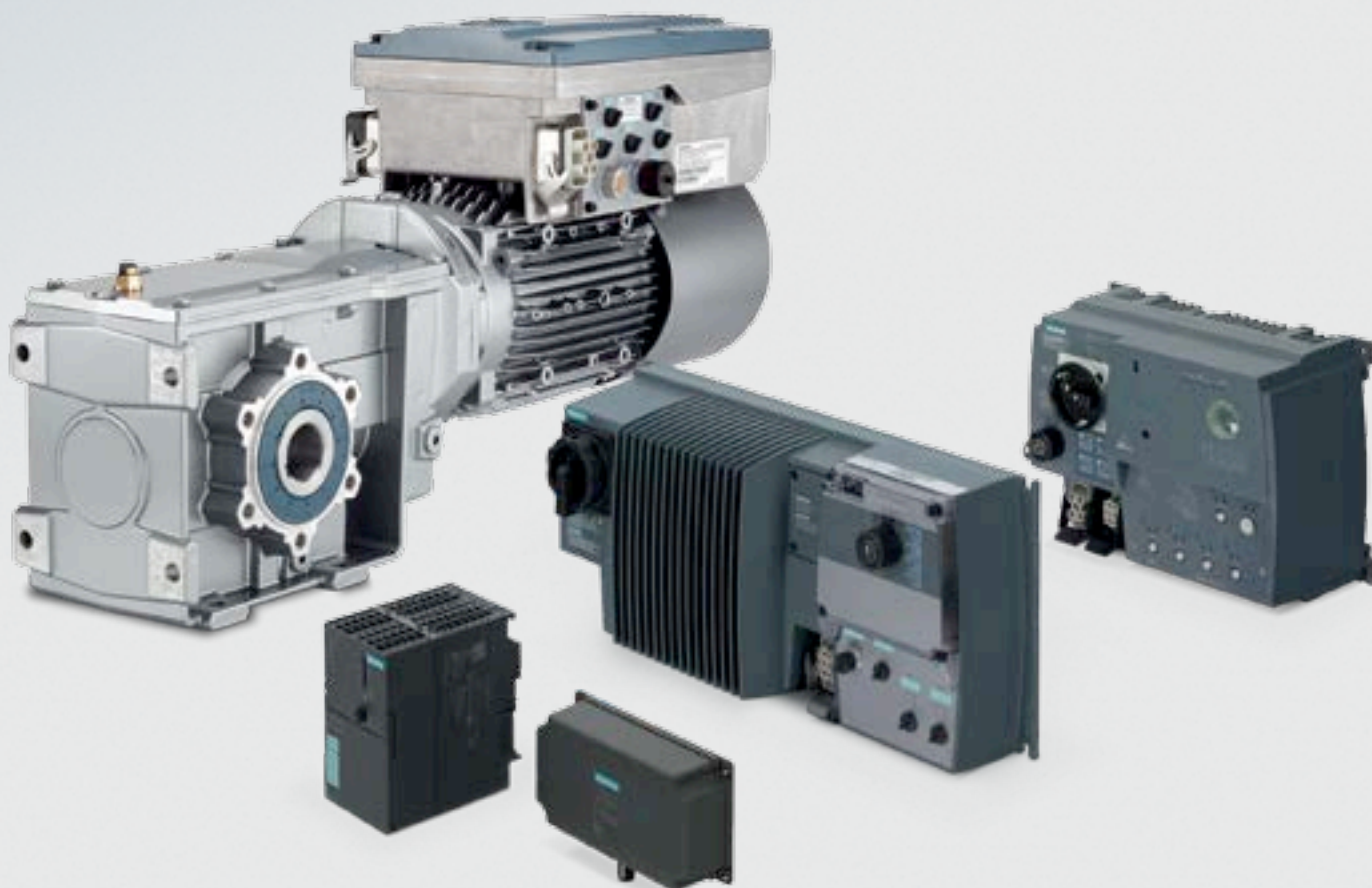


SIEMENS

Conveyor technology for every application

Individual system solutions from Siemens

[siemens.com/conveyor-technology](https://www.siemens.com/conveyor-technology)



**An innovative concept –
with a precisely fitting portfolio ...**

- The optimum products and systems: from the drive and automation technology through safety technology up to the power supply
- Competent support, also when designing concepts that are fit for the future
- Global service, provided locally – in over 130 countries

... where the focus is on you: customer- and sector-specific requirements

- We offer a wealth of products and systems for conveyor-related applications in the widest range of sectors
- Flexible and scalable solutions that are part of seamless and integrated systems and technologies
- Globally available drive and automation technology that complies with the highest standards when it comes to quality, reliability and safety
- A comprehensive range of systems with wide-ranging advantages, sustainably benefiting OEMs, plant builders as well as plant operating companies

First-class conveyor technology for all applications

Whether it involves conveying, sorting, storing or picking & placing pink flamingos or other more or less exotic products – in conveyor technology, seamless and integrated productivity is decisive for your business success. In each and every sector. Whether it involves standard or highly complex applications, Siemens offers

you a flexible and future-orientated solution, individually tailored to address your specific requirements. Cost-effective material flow, high-precision positioning, efficiently spanning large distances, smart technology packed into the smallest space. Experience conveyor technology from its most innovative side.

Implement quickly, operate close to your customers – your advantages as machine and plant builder

- A field-tested and comprehensive portfolio with standard products as well as tailored systems and services
- Intelligent tools to support engineering, selecting and dimensioning components along with energy-efficient systems, parameter assignment, programming and commissioning
- Standardization and modularization of conveyor technology components, through standard interfaces or power bus systems, for distributed plant and system concepts, also in a high degree of protection. The result: lower installation and commissioning costs as well as increased flexibility and system availability
- Unique system and sector competence as well as a maximum degree of security for the future, thanks to leading-edge technologies and their ongoing development

Reliably use and leverage potential – your advantages as plant operating company

- Complete product portfolio for efficient conveyor-related applications: from geared motors through motor starters and inverters, identification systems and switchgear up to the automation
- Smooth commissioning for fast plant or system ramp-up
- Simple system expandability and fast device replacement for minimum standstill and retrofit times
- Outstanding degree of availability through the high quality of our products and comprehensive diagnostics for preventive maintenance
- High energy-saving potential thanks to our energy-efficient motors, motor starters, soft starters and inverters as well as our energy management system and multifunction measuring devices

Fully integrated drive technology from a single source

Siemens is introducing the next round of innovative drive technology: the perfect integration of all components at three integration levels. This is precisely what Integrated Drive Systems from Siemens stands for. Fully integrated at the drive level with all motor starters, inverters, motors, couplings and gearboxes from a single source, at the communication and information level with Totally Integrated Automation and with a perspective that encompasses the complete lifecycle.



Central control cabinet design without fieldbus

Topology based on basic motor feeders and inverters (IP20)

Are you looking for a drive and automation concept for basic conveyor systems? Then we can offer you a cost-effective solution that can be flexibly and precisely adapted to your particular application – and which fulfills the following requirements:

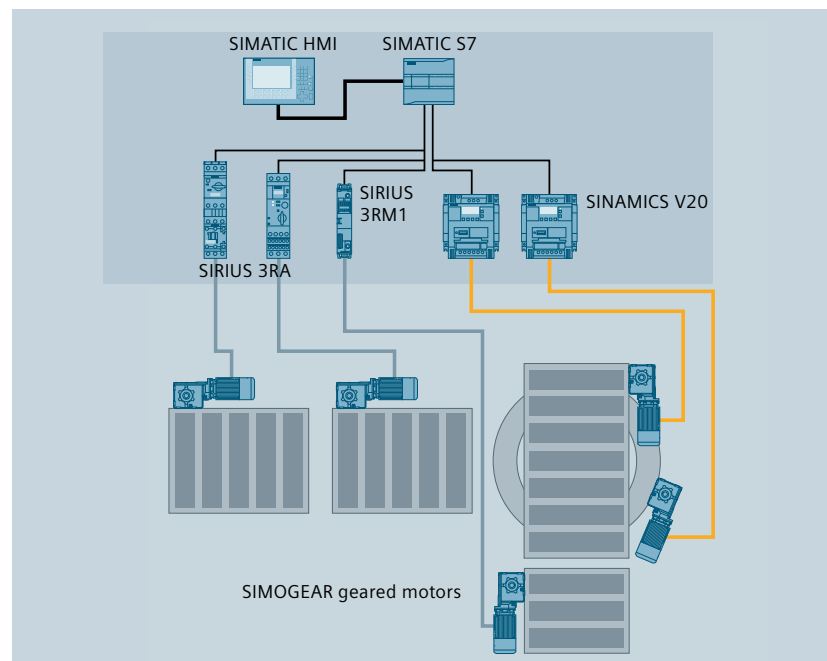
- Central electrical cabinet design
- Simple, conventional wiring
- Many drives can be installed in the smallest space (high drive density)
- Low hardware costs

Siemens can offer you the optimum solution:

- SIMATIC S7 controls and SIMATIC HMI for operation and monitoring and for detailed diagnostics of the plant or system
- SITOP 24 V DC power supply
- SIRIUS industrial controlgear:
 - Devices that are harmonized and coordinated with one another (circuit breakers, contactors...) can be easily combined to create load feeders
 - SIRIUS 3RM1 motor starters up to 3 kW, also as safety motor starter
- SINAMICS V20 inverters
 - Compact design
 - Integrated connection and application macros
 - 1AC 200 V – 240 V $\pm 10\%$, 0.12 – 3 kW
 - 3AC 380 V – 480 V $+10\% / -1\%$, 0.37 – 30 kW
- SIMOGEAR geared motors with all of the usual gearbox types in the market, with mounting dimensions in line with market requirements, optionally with pluggable connection systems according to ISO 23570, mounted encoder and brake



More on the Internet:
siemens.com/centralcontrolwithoutfieldbus



Central control cabinet design with fieldbus

Topology based on motor starters and inverters (IP20)

Complex conveyor technology applications demand flexible drive and automation concepts with a high degree of availability. We can offer you a seamless and integrated solution that addresses the following requirements:

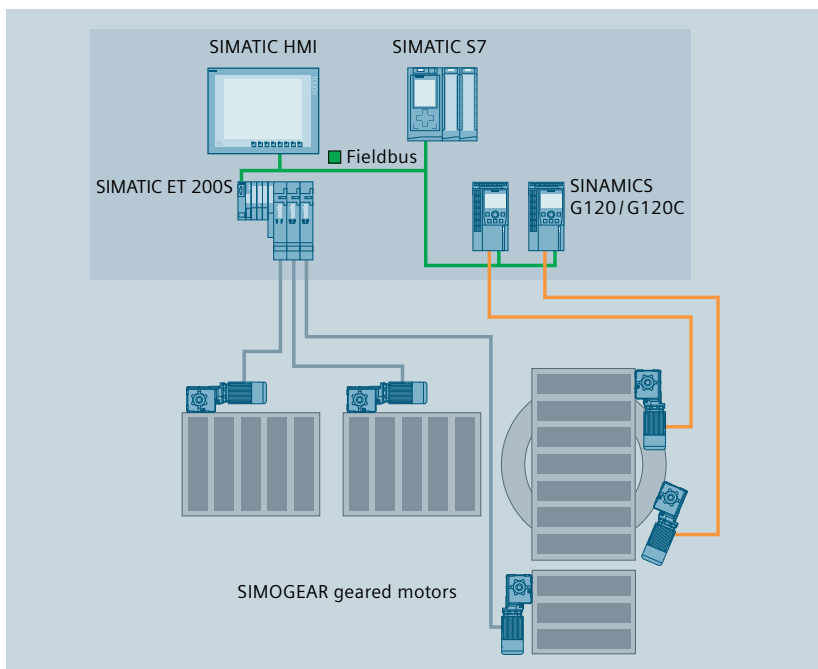
- Control cabinet design or distributed electrical boxes
- Many drives installed in a small space (high drive density)
- Low space requirement
- High degree of flexibility and detailed diagnostics
- Optional comprehensive safety technology

Siemens can offer you the optimum solution:

- SIMATIC S7 control and SIMATIC HMI for operator control, monitoring and detailed diagnostics of the plant or system
- SITOP 24 V DC power supply
- Motor starters (up to 7.5 kW) – with the following features – integrated in the SIMATIC ET 200S distributed I/O:
 - Modules can be replaced without tools (can be hot-plugged)
 - Only one bus address and 400 V infeed for several drives
 - High degree of flexibility thanks to the modular design
 - Optional: interface module with integrated CPU
 - STO safety function. Locally controlled via F-DI or via PROFIsafe
- SINAMICS G120C inverters
 - Compact design with a high power density
 - STO safety function. Locally controlled via F-DI and PROFIsafe
 - 380–480 V 3AC, 0.55 to 18.5 kW
- Optional: SINAMICS G120 inverter
 - Modular design comprising Control Unit and Power Module
 - Optional energy recovery, so that a braking resistor is not required
 - STO safety function. Optionally SS1, SLS, SDI and SSM (an encoder is not required). Locally controlled via F-DI or via PROFIsafe
 - 380–480 V 3AC, 0.37 to 250 kW
- SIMOGEAR series of geared motors in all of the generally available gearbox types with mounting dimensions in compliance with market requirements, optionally with pluggable connection system according to ISO 23570, mounted encoder and brake
- RFID systems and code reading systems for product identification and tracking



More on the Internet:
siemens.com/centralcontrolwithfieldbus



Distributed, close to the motor with AS-Interface

Topology based on motor starters and inverters (IP65)

Are you looking for a distributed drive and automation concept with a high degree of protection for your standard conveyor systems? We can offer you an efficient solution that fulfills the following demands:

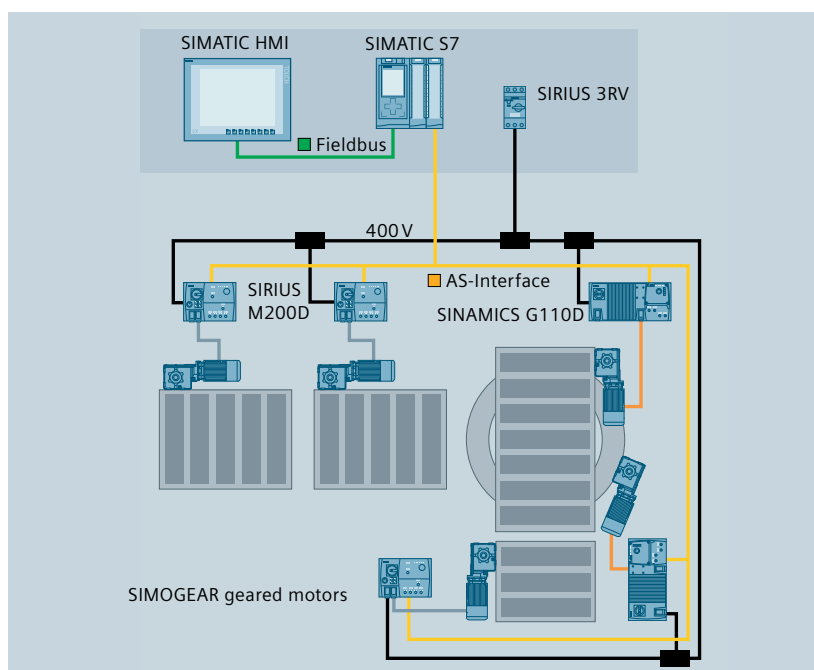
- Compact control cabinet
- Distributed drive technology with a high degree of protection
- Simple installation and fast commissioning
- Local operator control
- Standard functionality and diagnostics
- Maintenance-friendly (devices can be quickly and simply replaced in the case of a fault)

Siemens can offer you the optimum solution:

- SIMATIC S7 control and SIMATIC HMI for operator control and monitoring – as well as detailed diagnostics of the plant or system
- SITOP 24 V DC power supply
- Communication processor (CP) as AS-Interface master (Spec. 3)
- Optional safety technology based on AS-Interface
- Distributed SIRIUS M200D motor starter (up to 5.5 kW) and SINAMICS G110D inverter (up to 7.5 kW)
 - IP65 degree of protection
 - AS-Interface for communication, parameterization and diagnostics
 - Maintenance switch and manual control
 - Quick-Stop function
 - Pluggable connection system according to ISO 23570
 - Digital inputs and outputs can be used as distributed I/O of the control (e.g. SIMATIC S7)
 - STO safety function for SINAMICS G110D inverters
- SIMOGEAR series of geared motors in all of the generally available gearbox types with mounting dimensions in compliance with market requirements, optionally with pluggable connection system according to ISO 23570, mounted encoder and brake
- RFID systems and code reading systems for product identification and tracking



More on the Internet:
siemens.com/distributedwithasinterface



Distributed with motor starter and inverter integrated in the motor

Topology based on motor starters (IP20) and geared motors with integrated inverter (IP65/66)

We also offer distributed drive and automation concepts for demanding conveyor technology applications that have high requirements regarding the flexibility and availability. These concepts satisfy the following demands:

- Motor starters are accommodated in control cabinets or in local distribution boxes
- Motor integrated in the inverter with a high degree of protection
- Simple installation and fast commissioning
- High degree of functionality and detailed diagnostics
- Maintenance-friendly (fast and simple device replacement)
- Optional safety technology

Siemens can offer you the optimum solution:

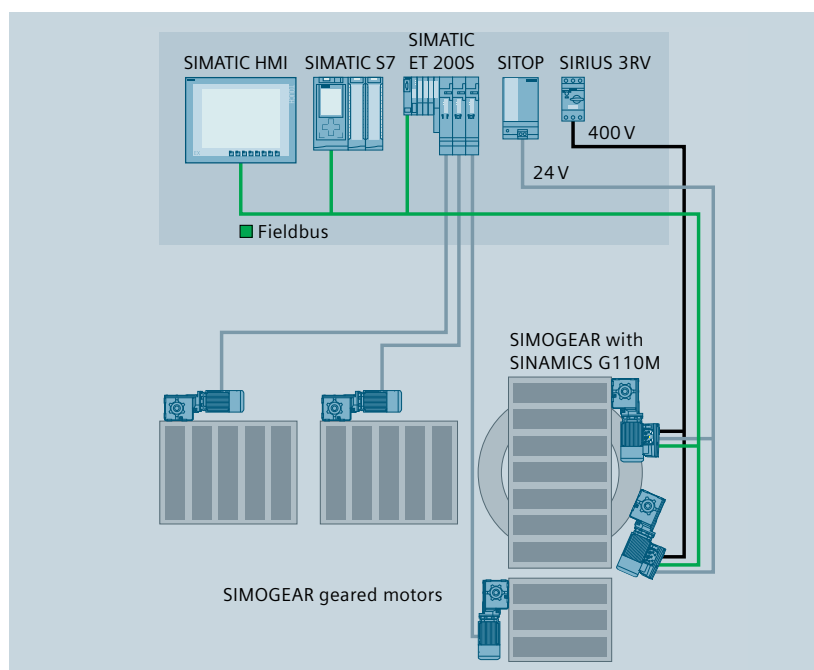
SIMATIC S7 control and SIMATIC HMI for operator control, monitoring and detailed diagnostics of the plant or system

- SITOP 24 V DC power supply
- SIRIUS 3RM1 motor starters up to 3 kW, also as safety motor starter
- Motor starters (up to 7.5 kW) integrated in the distributed SIMATIC ET 200S I/O, with the following features:
 - Modules can be replaced without tools (can be hot-plugged)
 - Only one bus address and 400 V infeed for several drives
 - Optional: interface module with integrated CPU
 - STO safety function – via F-DI or PROFIsafe
- SIMOGEAR geared motors with SINAMICS G110M inverter integrated in the motor:
 - Simple commissioning as the drive unit is preset in the factory. Additional settings can be made via the DIP switches, the intelligent IOP operator panel, the STARTER engineering tool or in the TIA Portal using Startdrive
 - Simple wiring (looped through) as well as optional pluggable connection system according to ISO 23570
 - Simple replacement using the modular design and optional memory card
 - Integrated communication via USS / Modbus RTU, PROFIBUS and PROFINET / Ethernet IP
 - STO safety function – via F-DI and PROFIsafe
 - Integrated conveyor-related functions, Quick-Stop and limit switch logic, for instance
 - Digital inputs and outputs of the SINAMICS G110M can be used as distributed I/O of the control system
 - Integrated basic PLC functionality
 - Optional 24 V supply, optional integrated braking resistor



More on the Internet:

[siemens.com/distributedmotowithstarterandinverter](https://www.siemens.com/distributedmotowithstarterandinverter)



- SIMOGEAR series of geared motors in all of the generally available gearbox types with mounting dimensions in compliance with market requirements, optionally with pluggable connection system, mounted encoder and brake
- RFID systems and code reading systems

Distributed with inverter integrated in the motor

Topology based on a geared motor with integrated inverter (IP65/66)

When it comes to conveyor technology applications in warehouse logistics, drive solutions integrated in the motor are the first choice. Here, we can offer you a combination of SIMOGEAR geared motor and SINAMICS G110M inverter – integrated in the motor – as compact drive system. This drive system can be easily commissioned and satisfies the following requirements:

- Compact control cabinet
- Motor-integrated inverter with a high degree of protection, integrated communication and safety technology
- Simple installation and fast commissioning
- High degree of functionality and detailed diagnostics
- Maintenance-friendly (fast and simple replacement)

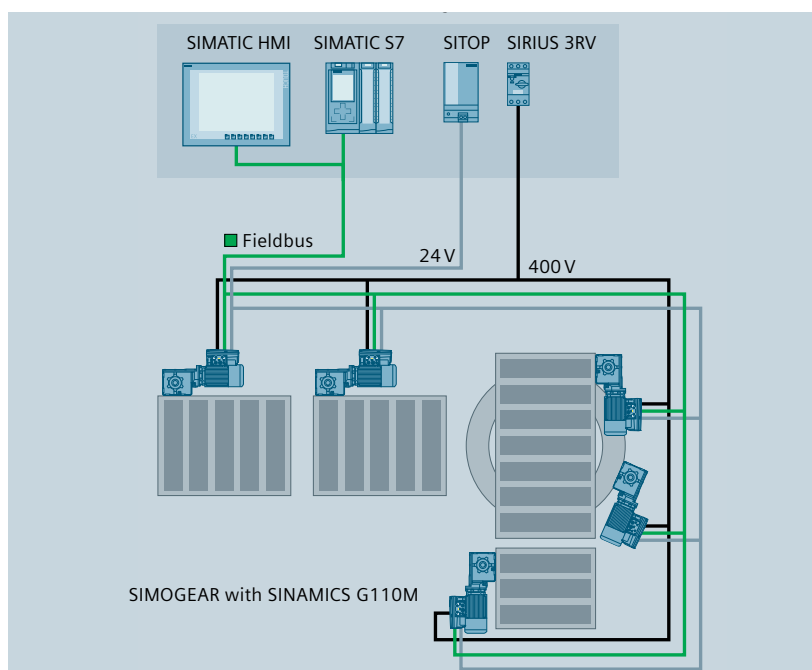
Siemens can offer you the optimum solution:

- SIMATIC S7 control and SIMATIC HMI for operator control, monitoring and detailed diagnostics of the plant or system
- SITOP 24 V DC power supply
- SIMOGEAR geared motors with SINAMICS G110M inverters integrated in the motor:
 - Simple commissioning as the drive unit is preset in the factory. Additional settings can be made via the DIP switches, the intelligent IOP operator panel, the user-friendly STARTER engineering tool or in TIA Portal using Startdrive
 - Simple wiring (looped through) as well as the optional pluggable connection system according to ISO 23570
 - Simple replacement using the modular design and optional memory card
 - Integrated communication via USS / Modbus RTU, PROFIBUS and PROFINET / Ethernet IP
 - STO safety function – via F-DI and via PROFIsafe
 - Integrated conveyor-related functions, Quick-Stop and limit switch logic, for instance
 - Digital inputs and outputs of the SINAMICS G110M can be used as distributed I/O of the control system (e.g. SIMATIC S7)
 - Integrated basic PLC functionality
 - Optional, integrated braking resistor
 - Integrated, optional 24 V supply
- SIMOGEAR series of geared motors with all of the usual gearbox types in the market, with mounting dimensions in conformance with market requirements, mounted encoder and brake
- RFID systems and code reading systems



More on the Internet:

[siemens.com/distributedmotorwithmotorintegratedinverter](https://www.siemens.com/distributedmotorwithmotorintegratedinverter)



Distributed, close to the motor

Topology based on geared motors, distributed inverters and motor starters

The use of SIMATIC ET 200pro or SIRIUS M200D and SINAMICS G120D provides a conveyor technology solution close to the motor, which is especially used in the automotive domain:

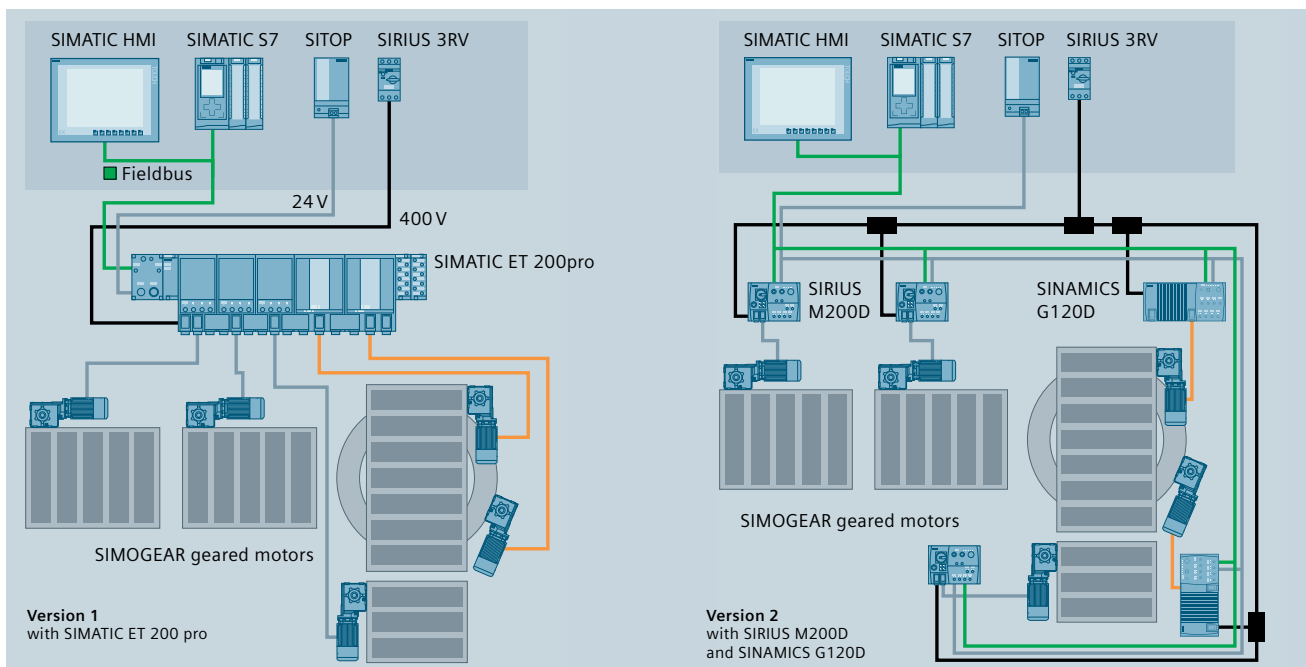
- Compact control cabinet
- Distributed drive technology mounted close to the motor with a high degree of protection
- Simple installation and fast commissioning
- High degree of functionality and detailed diagnostics
- Maintenance-friendly (fast, simple replacement)
- Optional safety technology

Siemens can offer you the optimum solution:

- SIMATIC S7 control and SIMATIC HMI for operator control, monitoring and detailed diagnostics of the plant or system
- SITOP 24 V DC power supply
- Distributed SIMATIC ET 200pro as combination of input/output modules, motor starters (up to 5.5 kW) and inverters (up to 1.5 kW) – or a combination of distributed SIRIUS M200D motor starters (up to 5.5 kW) and SINAMICS G120D inverters (up to 7.5 kW):
 - High degree of flexibility through degree of protection IP65 and the modular design
 - Pluggable connection system according to ISO 23570
 - PROFIBUS/PROFINET for communication, parameterization and diagnostics
 - Digital inputs and outputs of SIRIUS M200D and SINAMICS G120D can be used as distributed I/O for the control
- Functions of the ET 200pro and G120D inverter
 - Capable of energy recovery, therefore a braking resistor is not required
 - Integrated STO safety function – via F-DI and via PROFIsafe. For G120D optional: SS1, SLS, SDI and SSM (an encoder is not required)
 - Simple replacement as a result of the modular design and optional memory card
- Additional functions of the SIMATIC G120D
 - Integrated positioning capability via HTL or SSI encoder
 - Basic PLC functionality
- SIMOGEAR geared motors in all of the generally available gearbox types with mounting dimensions in compliance with market requirements, optionally with pluggable connection system according to ISO 23570, mounted encoder and brake
- RFID systems and code reading systems



More on the Internet:
siemens.com/distributed-closecoupled



Solutions for intralogistics

Intralogistics without conveyor technology is inconceivable. It is essential for the organization, control, execution and optimization of the inter-company flow of goods and materials in logistics, industry and the trades. Siemens has flexible and efficient solutions to address these conveyor-related demands.

Solutions for applications:

- Roll, belt and chain conveyors
- Corner transfer conveyor
- Rotary table
- Scissor-type lifting table
- Trolleys for transverse motion
- Hoisting gear
- and others

Your advantages:

- Compact design
- Simple installation and fast commissioning
- Sensor signals can be read in and actuators activated via the distributed motor starter/inverter
→ this eliminates the necessity to use distributed I/O
- Direct preprocessing of sensor signals (rapid traverse/crawl and quick stop, end stop logic) → reproducible stopping behavior
- Integrated energy recovery
→ a braking resistor is not required, therefore energy can be saved
- Integrated positioning functionality via HTL or SSI encoder
→ distributed I/O can be eliminated
- Integrated safety functions (STO, SLS ...) that do not require an encoder
→ simplified design



More on the Internet:
[siemens.com/conveyor-intralogistics](https://www.siemens.com/conveyor-intralogistics)



Solutions for the automotive industry

In the automotive sector, conveyor technology is required at many locations within the plant to transport components and vehicle bodies. Here, Siemens offers absolute state-of-the-art technology to address all conveyor-related requirements.

Solutions for applications:

- Roller track
- Rotary table
- Swiveling table
- Trolleys for transverse motion
- Scissor-type lifting table
- Shear platform
- Driverless transport systems
- And others



More on the Internet:
[siemens.com/conveyor-automotive](https://www.siemens.com/conveyor-automotive)



Your advantages:

- Compact design close to the motor with a high degree of protection that requires no cabinet
- Simple installation, fast commissioning, high service friendliness
- Sensor signals can be read in and actuators activated via the distributed motor starter/inverter
→ this eliminates the necessity to use distributed I/O
- Direct preprocessing of sensor signals (rapid traverse/ crawl and quick stop, end stop logic) → reproducible stopping behavior
- Integrated energy recovery
→ a braking resistor is not required, therefore energy is saved
- Integrated positioning functionality via HTL or SSI encoder
→ distributed I/O can be eliminated and the control system relieved
- Integrated safety functions (STO, SLS ...), that do not require an encoder
→ simplified design

Shear platform

- Drive for main feed: group drive (one inverter for several motors)
→ fewer components
- Drive used for drawing-in: energy recovery
→ high dynamic performance without braking resistor
- Drive used for braking: Flexible adaptation of the conveying velocity and energy recovery
→ Maintenance-free and flexible adaptation of the velocity without changing the mechanical system

Driverless transport system:

- Compact design
- Contactless power transmission

Solutions for storage and retrieval machines

Today, storage and retrieval machines represent essential elements in the area of logistics and the movement of goods and products. They facilitate enormous competitive advantages and represent cost-saving potential for operating companies by saving time and at the same time reducing costs. Their implementation is characterized by high demands regarding flexibility, velocity and precision.

- Throughput is increased and mechanical stress is reduced through oscillation damping
- A system, optimized using the TÜV-certified (German Technical Inspectorate) safety library, increases the degree of safety at all levels
- A warehouse without buffer optimizes the utilization of the warehouse space
- Energy recovery and energy balancing sustainably reduce energy costs
- Velocity synchronization and load distribution minimize slip and maximize acceleration rates
- Highly innovative components, software concepts



More on the Internet:
[siemens.com/conveyor-technology-asrm](https://www.siemens.com/conveyor-technology-asrm)



Solutions for electric monorail systems (EMS)

Based on modular products, your electric monorail system can easily handle both basic as well as complex transport tasks in a fully automated fashion.

The preconfigured software blocks and application examples significantly reduce your engineering costs. By using standard components in the EMS, you benefit from proven Siemens quality and global availability as well as repair and spare parts service that is available around the globe.

Automated systems for electric monorails

- Replaceable standard components
- Application blocks that have been exhaustively tested
- Globally available spare parts
- Lower maintenance costs
- Maintenance can be simply carried out by technicians
- Free programming and configuring using SIMATIC software



More on the Internet:
[siemens.com/conveyor-technology-ems](https://www.siemens.com/conveyor-technology-ems)



Energy-saving potential using components with unique supplementary benefits

From basic up to complex: You can fulfill all of the generally encountered conveyor technology applications with products from Siemens. Beyond this, we can offer you a wide range of benefits that facilitate significant cost-saving potential:

- Integrated functions
- Safety Integrated
- Energy efficiency
- Industrial identification systems
- Supplementary products for distributed drive technology according to ISO 23570

Your advantages are clear:

The products and systems as well as the matching bus systems interoperate perfectly. When compared to conventional systems, frequently components can be eliminated. Wiring costs are reduced, commissioning is faster – and at the same time, higher throughput and lower maintenance times can be achieved.



Integrated conveyor technology functions

Quick Stop

Based on the integrated Quick Stop function, independent of the PLC cycle time, the motor and therefore the goods being conveyed can be reproducibly stopped. To do this, the sensor is directly connected to the motor starter/inverter.

The PLC activates the Quick Stop function (not critical from a time perspective) – or deactivates it if goods are to be conveyed. The sensor status is transferred to the PLC.

Application example:

- Stop light barrier of a conveyor section

Limit switch logic

Using the integrated limit switch logic, independent of the PLC cycle time, motors can be reproducibly stopped at end stops. This is done by directly connecting sensors to the inverter.

When the sensors are activated, the inverter automatically stops. The conveyor can only move in the opposite direction. The sensor status is transferred to the PLC.

Application example:

- Excentric elevating table, corner transfer conveyor
- End position shutdown for rotary tables and trolleys for transverse motion

Basic PLC functionality

Logic and arithmetic interlocks can be generated in SINAMICS G inverters using the basic PLC functionality integrated as standard in the device (free function blocks). These are reproducibly processed, independent of the PLC cycle time

Application example:

- Rapid traverse/crawl switchover and Quick Stop triggered by a light barrier

The complete portfolio for the highest level of safety and efficiency

Energy efficiency

Siemens offers a comprehensive and systematic approach when it comes to energy management. No other competitor has a comparable portfolio to achieve higher energy efficiency – from the technology through support up to services and energy-saving products. Our intelligent hardware and software solutions allow you to make your energy-related resources transparent, calculate your energy-saving potential and optimize your energy usage.

Energy-efficient drives: We can provide you with a comprehensive range of inverters – also with energy recovery – to address each and every requirement, with straightforward commissioning, supported by common tools. Further, operator control is significantly simplified using intelligent and user-friendly operator panels. Our portfolio of inverters is the most comprehensive in the marketplace and is the first choice when it involves energy-efficient drives. Now, as a result of energy recovery, you can achieve even higher cost savings.

Safety Integrated – system-based functional safety

Safety technology – safe machines with a high degree of availability simply and quickly created

Take the direct route to achieve the highest machine safety – with Safety Integrated. Based on this leading-edge concept, which integrates the safety technology into the standard automation landscape, machine builders and plant operating companies both benefit: Safe, reliable and cost-effective operation – and therefore higher availability with significantly lower engineering costs.

Safe drive technology

In plants and machines, automated motion represents a high potential hazard. As a consequence, also in safety solutions, drives play a central role, independent of the complexity of an automation task.

Safe drive technology from Siemens can be simply integrated into any plant or system with safety-related requirements. The integrated safety functions facilitate powerful safety concepts, even without requiring an encoder, therefore ensuring a higher degree of productivity.



The optimum solution for every identification task

Whether just-in-sequence production or reliable and seamless tracking of products and batches: Increasingly, machine-readable and automated, contactless identification systems are used in intelligent material flow and production control environments. Data matrix codes (DMC) and radio frequency identification (RFID) are attractive as a result of the high data security and they have proven themselves in a wide range of applications – even in rugged industrial environments. When compared to manual marking and data acquisition technologies, they allow time and costs to be significantly reduced.

Main criteria for selecting the optimum data storage and identification technology:

- If the data carrier is reused (closed-loop system) or it is discarded at the end of the processing chain (open-loop system)
- Can be marked/written to once or repeatedly within the processing sequence
- Sensing distance/range and light relationships/contrast
- Property of the products to be marked as well as the space available to attach marking
- Potential sources of interference such as ambient temperatures and pollution/dirt

Supplementary products for distributed drive technology

In addition to drive and automation components, we can also provide you with connection systems according to ISO 23570, such as power infeed cables, power T distributors and motor cables – as well as components such as cables for the 24 V supply, fieldbus and sensors for distributed drive technology. As a consequence, you profit from certified applications and products of system technology, as well as customized connection system solutions that precisely fit your particular application and are quickly available. We implement these supplementary products within the scope of our partner program. In our unique network, you can find solution providers around the globe who are uniformly qualified for our automation and power distribution portfolio as well as product life-cycle management (PLM).

Our product and system know-how combined with the comprehensive application sector know-how and skill sets of our partners guarantee perfect solutions to address each and every requirement.

Solution
Partner

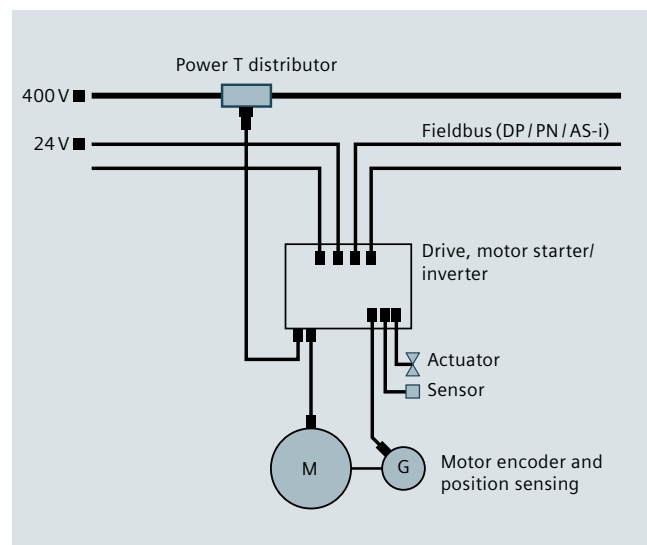
Automation
Drives

SIEMENS

You can find additional connection products under
“Distributed Field Installation System” at
www.siemens.com/automation/partner-finder

You can find more information at:

www.siemens.com/distributeddrives-supplementary-products



Standard products and systems



Totally Integrated Automation (TIA)

Efficient engineering is a key factor when it comes to being successful in the manufacturing/producing industries. Totally Integrated Automation, the industrial automation from Siemens, makes engineering efficient. The open system architecture covers the complete production process, and stands for efficient interaction between all of the automation components. This is ensured through consistent data management, globally applicable standards and unified hardware and software interfaces. These common attributes minimize engineering costs. This not only reduces costs, but also shortens the time to market – and boosts flexibility.

www.siemens.com/tia

Totally Integrated Automation Portal – a milestone

The Totally Integrated Automation Portal (TIA Portal) is the innovative engineering framework for all automation tasks. It integrates the complete automation software in a single engineering environment. This allows efficient engineering, slashing costs by up to 30%. Thanks to intuitive operator control, efficient engineering and well-proven functionality, the TIA Portal maximizes the profitability of engineering projects and increases the competitiveness.

www.siemens.com/tiaportal



SIMOGEAR geared motors

- Helical, parallel shaft, bevel helical, helical worm and worm geared motors
- New: SIMOGEAR with integrated SINAMICS G110M inverter
- Standard range of the new SIMOGEAR geared motors covers a power range from 0.09 kW to 200 kW, and rated gearbox torques up to approx. 20,000 Nm
- Can simply replace other brands as a result of the generally applicable connection dimensions used in the market
- Perfectly integrated in the drive train
- Mechanical efficiency for a 2-stage bevel helical gearbox $\geq 96\%$
- Small frame sizes in aluminum ensure simple mounting and transport as a result of the low weight
- For high-dynamic applications: servo geared motors
- Optional, with pluggable connection system acc. to ISO 23570, mounted encoder and brake

www.siemens.com/geared-motors



Inverters

SINAMICS – the comprehensive family of inverters

- The optimum drive for every application
- Central (IP20) or distributed (IP65)
- For space-saving distributed solutions: G120D or G110M (with geared motor)
- High degree of ruggedness
- Communication via AS-Interface, PROFINET/Ethernet IP or PROFIBUS
- Capable of energy recovery
- With innovative and integrated safety functions via F-IO and PROFIsafe
- Easy configuration and commissioning using the well-proven tools SIZER and STARTER and in the TIA Portal using Startdrive
- High degree of flexibility when engineering and expanding
- For ideal use in the most varied applications: from simple roller conveyors up to high-dynamic, multi-axis storage and retrieval machines
- Solution for positioning and motion control functions
- For extensive motion control functions: SIMOTION in different versions
- PROFlenergy facilitates transparent energy data and effective energy saving

www.siemens.com/sinamics

SIMATIC ET 200pro

- SIMATIC ET 200pro FC inverters

www.siemens.com/simatic-et200pro

More drive for all applications



Motor starters

SIRIUS and SIMATIC ET 200 motor starters

The appropriate choice when switching, protecting and starting motors

- The complete range of starting types: direct, reversing and soft starters
- Intelligent monitoring functions for preventive maintenance
- Safety functions that can be integrated

For use in control cabinets

- Simple contactor/circuit breaker combinations
- Modular motor starter that can be quickly installed for distributed SIMATIC ET 200S I/O
- Extremely compact 3RM1 motor starters – also available as safety motor starter

For use in the field

- SIRIUS M200D motor starters for AS Interface, PROFIBUS and PROFINET as ideal solution for conveyor technology
- Space-saving motor starters that are quickly mounted for the distributed SIMATIC ET 200pro I/O system
- PROFenergy facilitates transparent energy data and effective energy saving

www.siemens.com/sirius-motorstarter



Controls, I/O, software

SIMATIC controllers

We offer SIMATIC controllers in various formats and different CPU performance classes. They are packed with a wide range of integrated functions, can be finely scaled and are available in different versions: fail-safe components, redundant systems for processes with high availability – and technology modules for functions such as counting, measuring, cam control, closed-loop control and motion control.

SIMATIC controllers are based on various hardware and software architectures:

- SIMATIC modular controllers
- SIMATIC PC-based controllers

www.siemens.com/simatic-controller

The modular SIMATIC ET 200 family of I/O

- For distributed solutions – compact or modular
- Pure digital I/O interfaces or complete, distributed systems
- Installed in an electrical cabinet or directly in tough industrial environments

www.siemens.com/simatic-et200

SIMATIC Software: universal engineering and programming environment for all of the SIMATIC controllers

- Including the operator control and monitoring systems
- With the STEP 7 basic package and a wide range of engineering tools, SIMOTICS software supports the complete engineering workflow

www.siemens.com/simatic-software



Safety technology

Safety Integrated safety products

- Unique, complete and seamless safety program – from the sensor through the control down to the drives
- Tailored solutions for compact up to highly flexible machines
- Extensive service and support
- Support when applying safety directives

www.siemens.com/safety



Operator control and visualization

SIMATIC HMI

The human machine interface (HMI) links the automation environment with the individual demands and requirements of an operator. SIMATIC HMI offers an extensive portfolio of innovative as well as cost-effective products and systems for a wide range of operator control and visualization tasks:

- Simple operator panels with keys
- Compact panels for operator control using touch display and/or keys in various performance classes
- Mobile operating devices – also for wireless applications via IWLAN – including safety functionality
- Standard visualization software
- Flexible and scalable SCADA system for process visualization
- Optimally adapted products to address special demands, e.g. especially rugged operator control devices with full IP65 degree of protection
- Support arm/standard mounting feet
- Customized versions for individual requirements on request

www.siemens.com/simatic-hmi



Industrial identification

In dynamic markets, identification systems help companies to establish themselves. Automatic data acquisition using RFID or 1D/2D codes allow the ever-increasing requirements relating to production and material flow control, asset management, tracking and tracing and supply chain management to be fulfilled.

- RFID systems and code reading systems for product identification tracking

www.siemens.com/ident

Mechanical sensors

Mechanical sensors are also a part of a complete conveyor portfolio. This is where our SIRIUS sensing devices come into play. Reliable and with the necessary precision, they sense any motion and transfer this in the form of an electrical signal.

www.siemens.com/sirius-detecting



Industrial communication

SIMATIC NET

All machines in a plant or system should smoothly interact with one another. This is achieved through open, transparent communication, which not only takes place at the production level, but is integrated into all company levels and business systems. Only then can isolated automation and IT solutions be avoided. With the industrial communication products belonging to SIMATIC NET family, you have precisely the technology at your fingertips that is required to:

- Establish a distributed automation system
- Achieve data transparency from the field level all the way up to the company supervisory level
- Utilize the technologies of mobile communications
- Integrate IT technologies
- Communicate across all business levels: with AS-Interface, PROFIBUS or Industrial Ethernet/PROFINET

www.siemens.com/simatic-net



Industrial PCs

SIMATIC IPC

Industrial PCs from Siemens are developed and manufactured in Germany according to the highest quality standards. The powerful devices can quickly process large data quantities. Further, they are simple to integrate and have a high degree of availability. SIMATIC IPCs are available in different formats and with different functions:

- Rack PC – flexible and powerful in the 19" format
- Box PC – compact and rugged for general applications
- Panel PC – rugged and powerful with brilliant displays
- Industrial monitors and thin clients – for distributed operator control/visualization
- Devices to address special requirements, e.g. HMI units with IP65 degree of protection, in stainless steel, explosion-protected devices and customized versions

www.siemens.com/simatic-ipc



SITOP power supply

Various SITOP product lines provide reliable, regulated 24 V power supplies for almost all line voltages, power ratings and requirements.

Supplementary modules for the mounting rail allow the power supply to be expanded up to providing complete protection for the line and 24 V side. Power supplies with a high degree of protection are available for use outside the control cabinet.

24 V supply in the control cabinet

- Single- and three-phase rail mounting devices – 24 V to 40 A in a wide range of different versions
- Selectivity modules protect against overload
- Buffer modules of the SITOP UPS family buffer power failures

24 V power supply in the field

- Single-phase SITOP PSU100P 24 V power supplies with degree of protection IP67
- Three-phase SITOP PSU300P 24 V power supplies with degree of protection IP65, version for SIMATIC ET 200pro
- Buffer modules SITOP UPS500P buffer power failures

www.siemens.com/sitop



Power distribution and energy management

SIVACON switchgear, SENTRON switching, protection and measuring devices and power management

Efficient power distribution within the framework of Totally Integrated Power:

- With type-tested SIVACON switchgear and busbar distributors for safe, reliable power transmission and distribution
- With versatile and communication-capable SENTRON circuit breakers for reliable protection and switching of plants and loads
- With SENTRON switch disconnectors that can be simply and quickly installed for reliably disconnecting/switching loads, either with fuses or without fuses
- With the SENTRON PAC3200 and SENTRON PAC4200 multi-function measuring devices to precisely acquire electric measured values and power
- With the innovative power management add-ons SIMATIC PCS 7 powerrate and SIMATIC WinCC powerrate for transparency and to monitor power distribution and power costs

www.siemens.com/lowvoltage-power