



Reyrolle Trip Circuit Supervision Relay

Catalog Reyrolle 7PJ13 · Edition 3

Digital Grid Reyrolle Trip Circuit Supervision Relay (7PJ13) Catalog

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Devices and Application

Relay Selection Guide

Relay Selection Guide

| | | | |
|-----|-------|----------------------------------|--|
| 1.1 | ANSI | Functions | 7PJ13 |
| | 74TCS | Trip-circuit supervision | ● |
| | | Binary outputs (MLFB selectable) | 2 Change-over contacts for MLFB 7PJ1321-5AA21-0AA0 and MLFB 7PJ1321-4AA21-0AA0 2 Make contacts + 2 Break contacts for MLFB 7PJ1321-5CC02-0AA0 |
| | | Auxiliary supply | ● |
| | | Size | 106 mm x 58 mm (Width x Height) |
| | | LEDs | 2 for MLFB 7PJ1321-5AA21-0AA0 and MLFB 7PJ1321-4AA21-0AA0 4 for MLFB 7PJ1321-5CC02-0AA0 |

Description

The 7PJ13 Trip Circuit Supervision Relay is an electronic-circuit based relay. The relay is a member of Siemens Reyrolle protection devices product family. It is used to monitor and supervise the integrity of a circuit-breaker's trip coil and other wiring circuits.

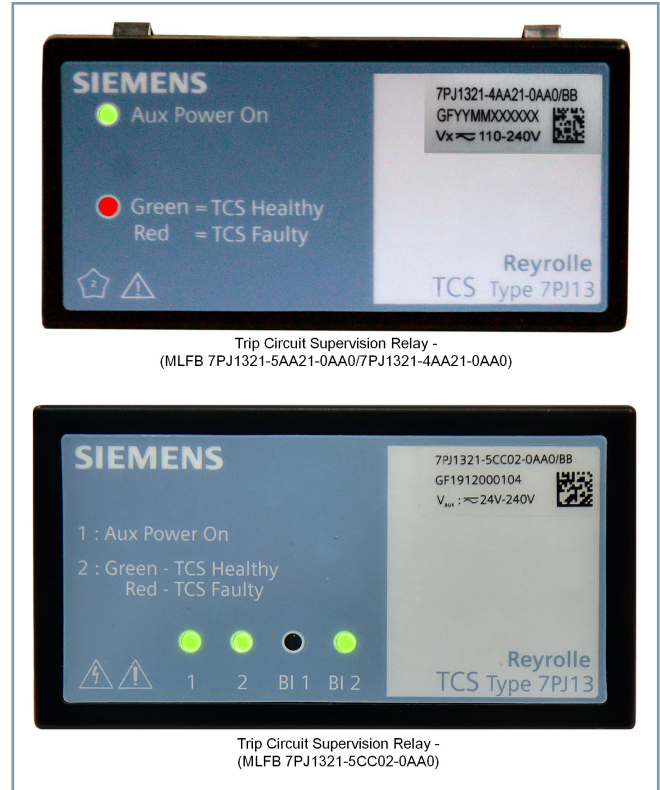
The 7PJ13 is connected with a circuit-breaker to monitor the trip circuit positions (make or break). The 7PJ13 generates a trip circuit failure alarm, either if the trip circuit supply is disconnected or if the trip circuit connection is changed to an open circuit. Trip circuit continuity is measured by supplying the supervision current of 0.7 mA to 1.5 mA and sensing the flow of current with two opto-couplers. The circuit-breaker contact indicates the status of the relay whether the circuit-breaker is in a make position or a break position.

The 7PJ13 is available in 2 variants depending on the auxiliary voltage range. The front panel of the 7PJ13 comprises of a dual colored LED to indicate the status of process.

| | |
|--|---|
| Outputs | 2 Changeover |
| Housing | Size 106 mm x 58 mm x 118 mm (Width x Height x Depth), panel mounting, non draw-out |
| Indication | <p>Auxiliary Power On LED</p> <ul style="list-style-type: none"> Green = Aux Power On <p>Trip circuit supervision LED</p> <ul style="list-style-type: none"> Green = TCS Healthy Red = TCS Faulty <p>For MLFB 7PJ1321-5CC02-0AA0 only</p> <p>Binary Input 1 LED and Binary Input 2 LED</p> <ul style="list-style-type: none"> Green = ON No indication = OFF |
| Universal Auxiliary Voltage Range | <p>MLFB 7PJ1321-5AA21-0AA0</p> <ul style="list-style-type: none"> AC 24 V to 240 V/DC 24 V to 240 V <p>MLFB 7PJ1321-4AA21-0AA0</p> <ul style="list-style-type: none"> AC 110 V to 240 V/ DC 110 V to 240 V <p>MLFB 7PJ1321-5CC02-0AA0</p> <ul style="list-style-type: none"> AC 24 V to 240 V/DC 24 V to 240 V |
| Burden | Maximum burden upto 4 W or 9 VA |
| Universal Supervision Voltage Range | <p>MLFB 7PJ1321-5AA21-0AA0</p> <ul style="list-style-type: none"> DC 18 V to 265 V <p>MLFB 7PJ1321-4AA21-0AA0</p> <ul style="list-style-type: none"> DC 18 V to 265 V <p>MLFB 7PJ1321-5CC02-0AA0</p> <ul style="list-style-type: none"> AC 40 V to 240 V/DC 40 V to 240 V |

Benefits

- A compact design 108 mm x 56 mm (Width x Height)
- Flush mounting moulded case.



[dw_7PJ13v1-v2_FrontViews, 1, --]

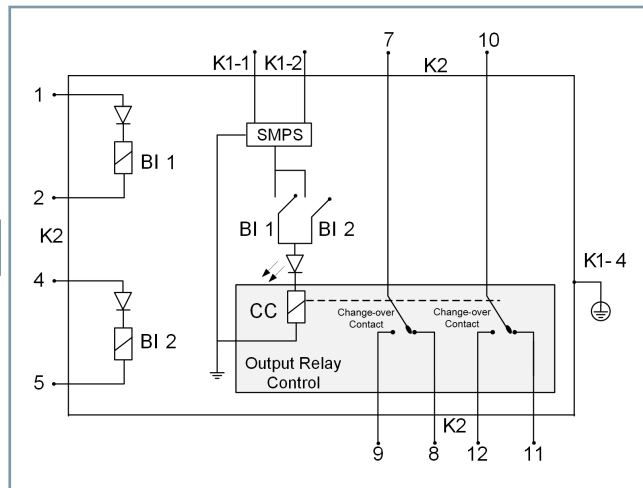
- Continuous supervision of trip circuit in pre-closed condition, post-closed condition, and latched trip condition.
- Detect and indicate auxiliary voltage loss and circuit failure in supervised circuits.
- Indicates operational status by a single LED with dual color.
- The relay with MLFB 7PJ1321-5CC02-0AA0 displays status of binary inputs with LED indication.
- Depending on relay selection, the contacts available are 2 contacts or 2 make contact + 2 break contact.
- The relay complies with IEC 60255 standards.

Applications

The 7PJ13 Trip Circuit Supervision Relay is used in the following field applications:

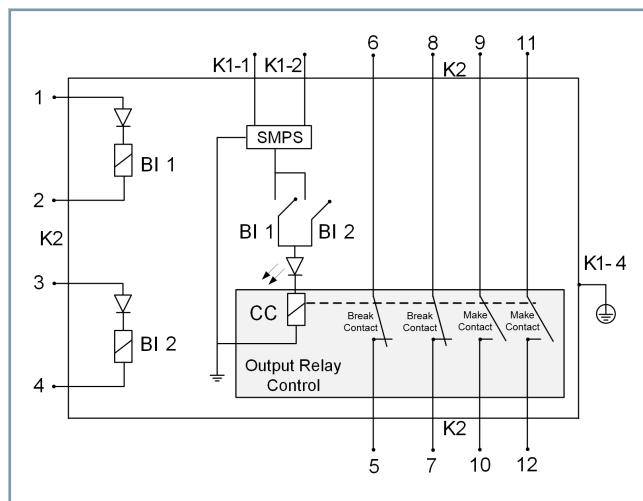
- The relay is used for supervising and monitoring activities. The trip circuit wiring is supervised from the positive supply to the negative supply when the circuit-breaker is in a make position or a break position.
- The relay is used for detecting and generating a circuit-breaker alarm, if the trip circuit supply has failed.
- The relay is used to generate an alarm if the trip signal is received but the circuit-breaker fails to operate.
- The binary outputs can be wired on to a numerical protection relay to indicate the faulted circuit to remote SCADA.

Supervision Operation



[lo_7PJ13_Blockdiagram, 2, en_US]

Figure 2.1/1 7PJ13 Trip Circuit Supervision Block Diagram [MLFB 7PJ1321-5AA21-0AA0/MLFB 7PJ1321-4AA21-0AA0]



[lo_7PJ13_5CC02_Blockdiagram, 1, en_US]

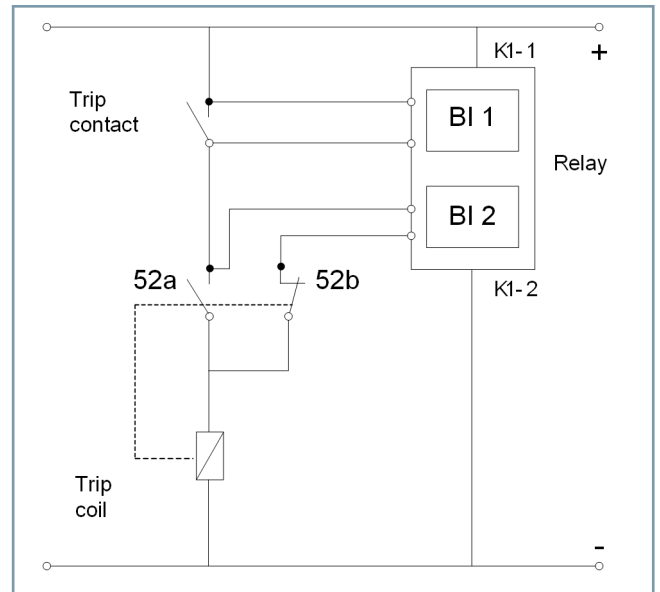
Figure 2.1/2 7PJ13 Trip Circuit Supervision Block Diagram [MLFB 7PJ1321-5CC02-0AA0]

A Trip Circuit Supervision Relay contact operates in the following 3 supervision conditions:

Supervision in pre-close condition

After the tripping circuit is completed, a small amount of sensing current flows through BI 1, BI 2, circuit-breaker auxiliary contacts (52b), and the tripping coil. The Trip Circuit Supervision Relay indicates a healthy condition by displaying the green LED.

If the tripping circuit becomes open circuit or has a loss of supply voltage, the Trip Circuit Supervision relay indicates this by displaying the red LED and the break contact (which is a make contact in healthy condition) provides remote indication.



[lo_7PJ13_supervisionpre-close, 2, en_US]

Figure 2.1/3 Supervision in a Pre-Close Condition



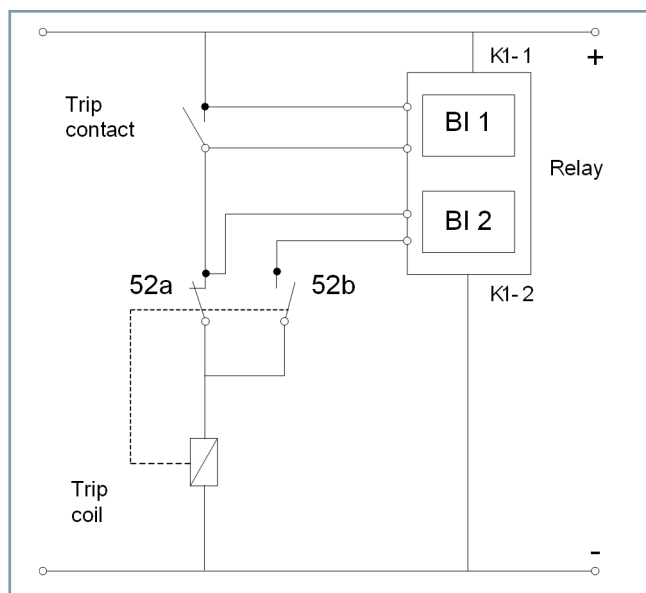
NOTE

For a low voltage system (DC 24 V to DC 48 V) trip circuit supervision operation shorting between pin number K2-1 and K2-4 is required.

Supervision in post-close condition

After the tripping circuit is completed, a small amount of sensing current flows through TS1, circuit-breaker auxiliary contacts (52a), and the tripping coil. The Trip Circuit Supervision Relay indicates a healthy condition by flashing the green LED.

If the tripping circuit becomes open circuit or has a loss of supply voltage, the Trip Circuit Supervision relay indicates this by flashing the red LED and the break contact (which is a make contact in healthy condition) provides remote indication.



[lo_7PJ13_supervision_postclose, 1, en_US]

Figure 2.1/4 Supervision in a Post-Close Condition

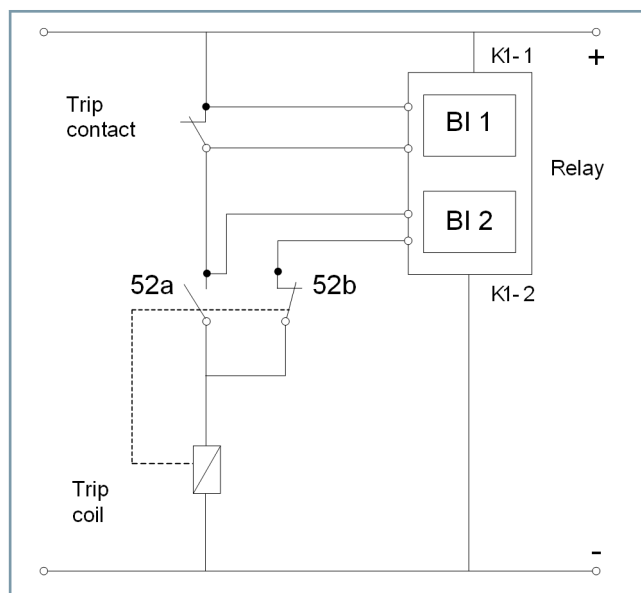
**NOTE**

For low voltage system (DC 24 V to DC 48 V) trip circuit supervision operation shorting between pin number K2-1 and K2-4 is required.

Supervision in latched trip condition

After the tripping circuit is completed, a small amount of sensing current flows through TS2, circuit-breaker auxiliary contacts (52b), and the tripping coil. The Trip Circuit Supervision Relay indicates a healthy condition by displaying the green LED.

If the tripping circuit becomes open circuit or has a loss of supply voltage, the Trip Circuit Supervision relay indicates this by flashing the red LED and the break contact (which is a make contact in healthy condition) provides remote indication.

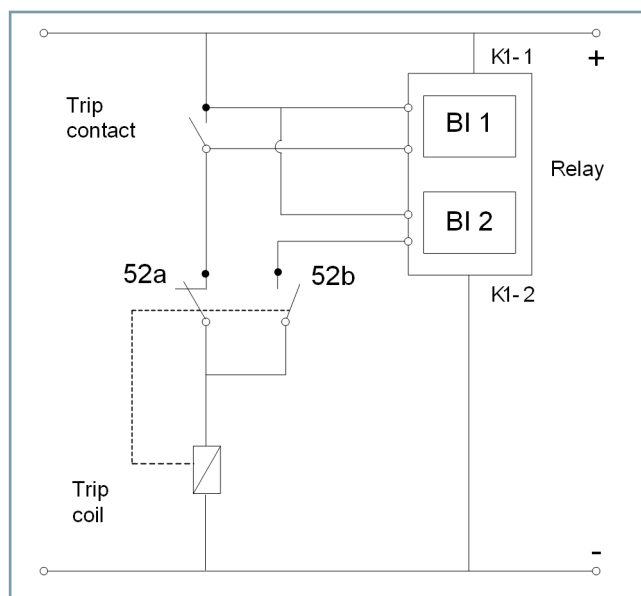


[lo_7PJ13_supervision_latchedtrip, 1, en_US]

Figure 2.1/5 Supervision in a Latched Trip Condition

**NOTE**

For low voltage system (DC 24 V to DC 48 V) trip circuit supervision operation shorting between pin number K2-1 and K2-4 is required.



[lo_7PJ13_supervisionlowvoltage, 1, en_US]

Figure 2.1/6 Supervision Trip Low Voltage System

Monitoring

In a healthy condition, the green LED flashes and the output relay operates. For a trip circuit fault or trip supply loss the red LED flashes and the output relays de-energize after a delay of 500 ms.

Hardware Construction

The device is housed in a non draw-out case designed for panel mounting.

The rear connection comprises of user friendly pluggable type terminals.

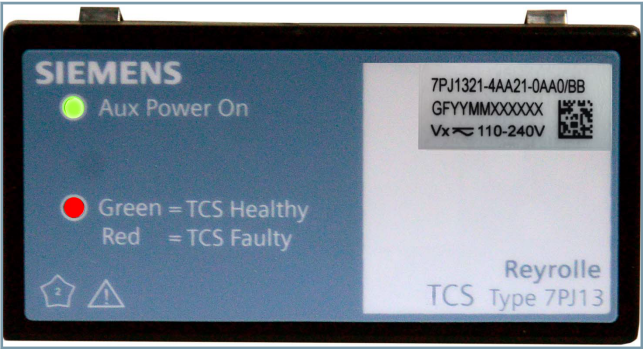


Figure 2.2/1 Front View [MLFBs 7PJ1321-5AA21-0AA0/7PJ1321-4AA21-0AA0]

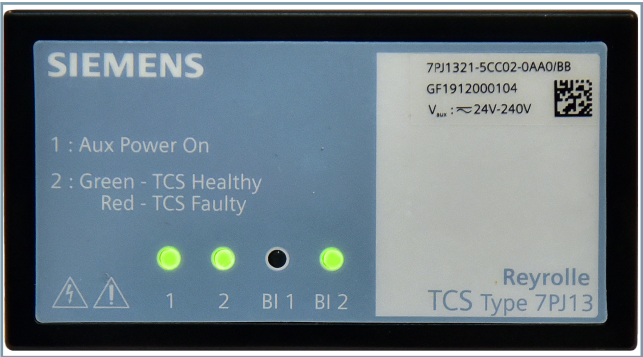


Figure 2.2/2 Front View [MLFB 7PJ1321-5CC02-0AA0]

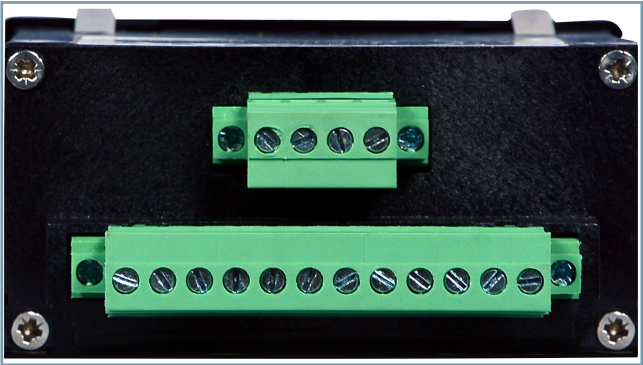


Figure 2.2/3 Rear View

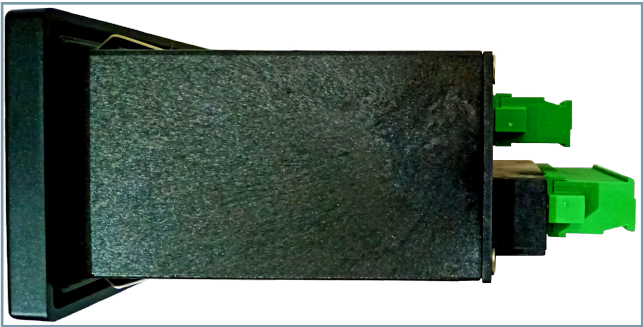


Figure 2.2/4 Side View

Relay Information

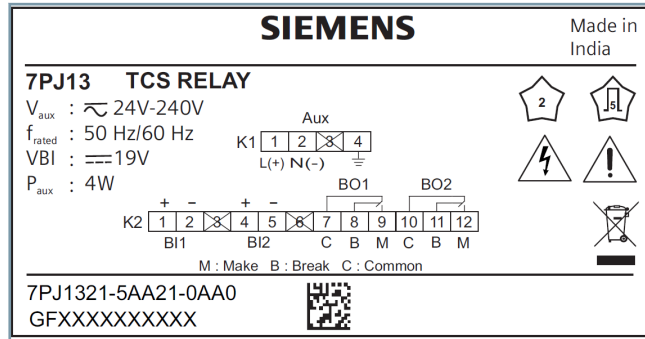
The device fascia displays the MLFB order code, serial number, and device identification reference.

The device terminal label displays the MLFB order code, serial number, relay description, terminal contact details, and safety symbols.

| | |
|--|--|
| | QR code (displays device serial number) |
| | AC 2 kV insulation test of the aux inputs, binary inputs, and binary outputs |
| | 5 kV impulse voltage test (type test) in compliance with Class III |
| | Electrical Hazard |
| | European CE marking |
| | Caution, risk of danger. Refer to device documentation before operation. |
| | Waste Electrical and Electronic Equipment Directive (WEEE) |

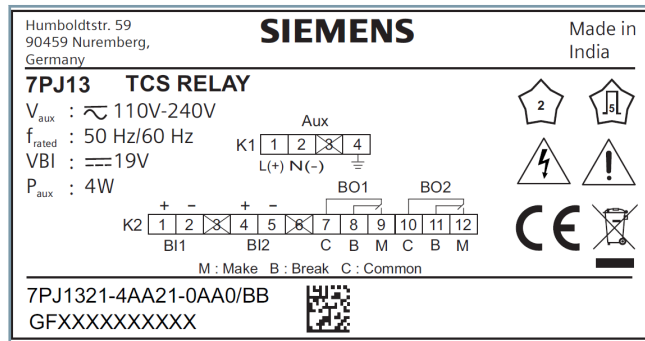
Connection Diagrams

The terminal diagram is located on top of the 7PJ13 Trip Circuit Supervision Relay housing and displays the terminal numbers and terminals.



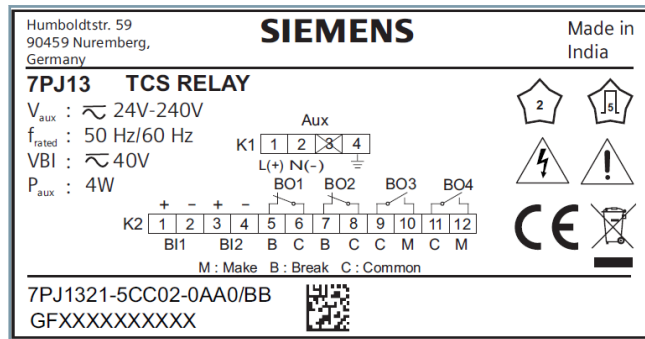
[sc_7PJ13_Terminal_5AA21, 1, en_US]

Figure 3.1/1 Terminal Details (for MLFB 7PJ1321-5AA21-0AA0) of 7PJ13 Trip Circuit Supervision Relay



[sc_7PJ13_Terminal4AA21, 1, en_US]

Figure 3.1/2 Terminal Details (for MLFB 7PJ1321-4AA21-0AA0) of 7PJ13 Trip Circuit Supervision Relay



[sc_7PJ13_Terminal_5CC02, 1, en_US]

Figure 3.1/3 Terminal Details (for MLFB 7PJ1321-5CC02-0AA0) of 7PJ13 Trip Circuit Supervision Relay

| Terminal Number | Terminal Name | Description |
|-----------------|---------------|----------------------------|
| K1-1 | L (+) | Auxiliary voltage positive |
| K1-2 | N (-) | Auxiliary voltage negative |

| Terminal Number | Terminal Name | Description |
|-----------------|---------------|---------------|
| K1-3 | – | Not connected |
| K1-4 | | Earth |

Table 3.1/1 Auxiliary Terminals Specification

| Terminal Number | Terminal Name | Description |
|-----------------|---------------|-------------------------------|
| K2-1 | BI 1 + | Binary input 1 positive |
| K2-2 | BI 1 - | Binary input 1 negative |
| K2-3 | – | Not connected |
| K2-4 | BI 2 + | Binary input 2 positive |
| K2-5 | BI 2 - | Binary input 2 negative |
| K2-6 | – | Not connected |
| K2-7 | BO 1-COM | Common |
| K2-8 | BO 1-B | Binary output 1 break contact |
| K2-9 | BO 1-M | Binary output 1 make contact |
| K2-10 | BO 2-COM | Common |
| K2-11 | BO 2-B | Binary output 2 break contact |
| K2-12 | BO 2-M | Binary output 2 make contact |

Table 3.1/2 Binary Terminals Specification
[MLFB 7PJ1321-5AA21-0AA0/MLFB 7PJ1321-4AA21-0AA0]

| Terminal Number | Terminal Name | Description |
|-----------------|---------------|-------------------------------|
| K2-1 | BI 1 + | Binary input 1 positive |
| K2-2 | BI 1 - | Binary input 1 negative |
| K2-3 | BI 2 + | Binary input 2 positive |
| K2-4 | BI 2 - | Binary input 2 negative |
| K2-5 | BO 1-B | Binary output 1 break contact |
| K2-6 | BO 1-COM | Common |
| K2-7 | BO 2-B | Binary output 2 break contact |
| K2-8 | BO 2-COM | Common |
| K2-9 | BO 3-COM | Common |
| K2-10 | BO 3-M | Binary output 3 make contact |
| K2-11 | BO 4-COM | Common |
| K2-12 | BO 4-M | Binary output 4 make contact |

Table 3.1/3 Binary Terminals Specification
[MLFB 7PJ1321-5CC02-0AA0]

Mounting Instructions

A Trip Circuit Supervision Relay comprises of spring type mounting clamps, which enables easy installation. To mount the Trip Circuit Supervision Relay, the following requirements should be satisfied:

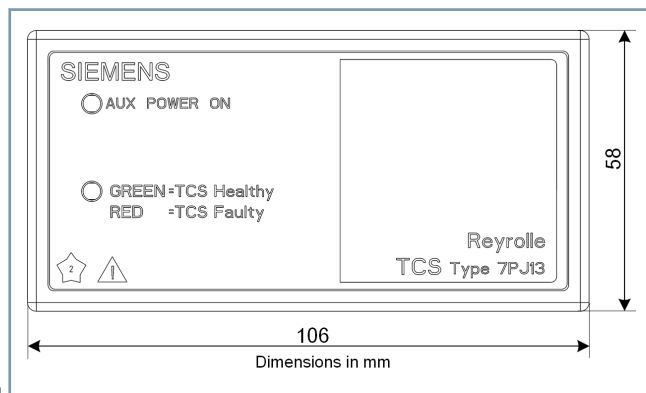
- Cut a hole in the panel with a measurement of 92 mm x 45 mm (Width x Height).
- Carry out all of the required internal wiring connections.
- Install the Trip Circuit Supervision Relay into the panel and lock with the clamps.

Technical Documentation

Dimension Drawings

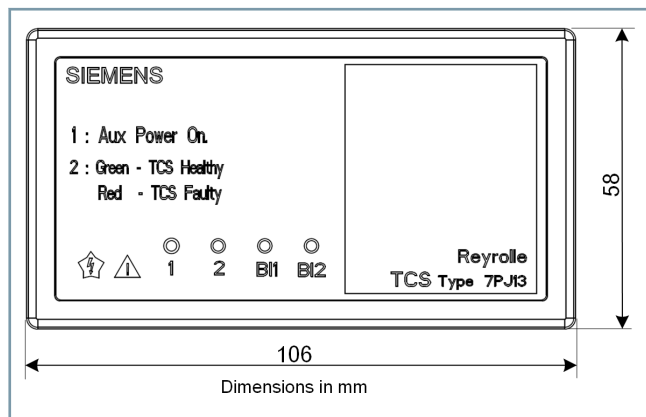
Dimension Drawings

This section displays the different dimensional views of a Trip Circuit Supervision Relay.



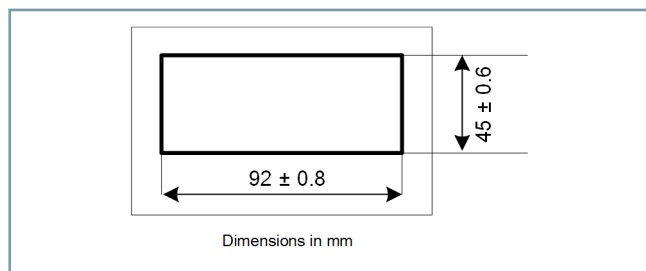
[dw_7PJ13_4AA21_FrontDim, 1, en_US]

Figure 3.2/1 Front View [MLFB 7PJ1321-5AA21-0AA0 and MLFB 7PJ1321-4AA21-0AA0]



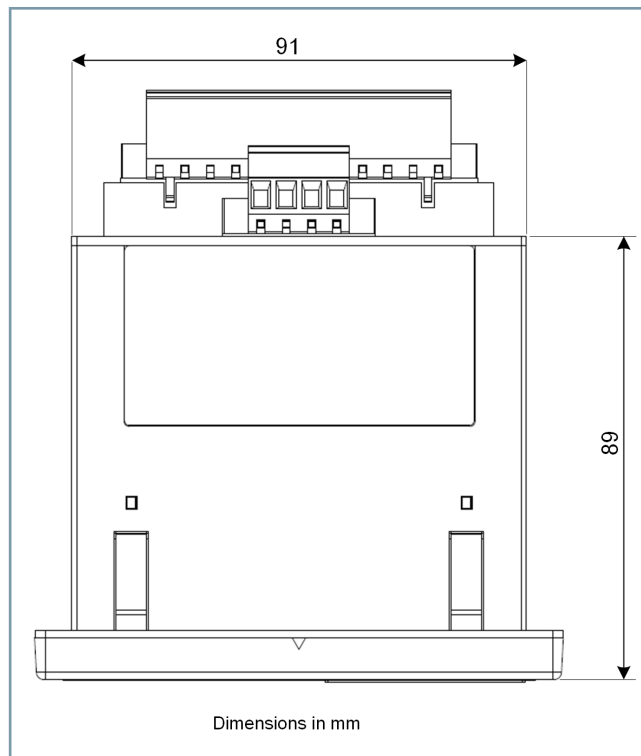
[lo_7PJ13_dimension_front, 2, en_US]

Figure 3.2/2 Front View [MLFB 7PJ1321-5CC02-0AA0]



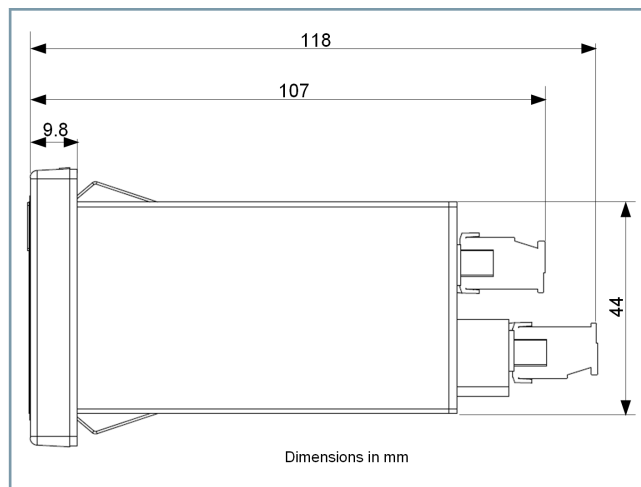
[lo_7PJ13_dimension_panelcutout, 2, en_US]

Figure 3.2/3 Panel Cut-out View



[lo_7PJ13_dimension_top, 2, en_US]

Figure 3.2/4 Top View



[lo_7PJ13_dimension_side, 2, en_US]

Figure 3.2/5 Side View

Technical Data

Indication of Conformity



This product complies with the directive of the Council of the European Communities on the harmonization of the laws of the Member States relating to electromagnetic compatibility (EMC Directive 2014/30/EU) and concerning electrical equipment for use within specified voltage limits (Low Voltage Directive 2014/35/EU) as well as restriction on usage of hazardous substances in electrical and electronic equipment (RoHS Directive 2011/65/EU).

This conformity has been proved by tests conducted by Siemens AG in accordance of the Council Directive in accordance with the product standard IEC/EN 60255-26 for the EMC directives, and with the standard IEC/EN 60255-27 for the low-voltage directive.

RoHS directive 2011/65/EU is met using the standard EN 50581. The device has been designed and produced for industrial use.



NOTE

Product CE certified for MLFBs:
7PJ1321-4AA21-0AA0 and 7PJ1321-5CC02-0AA0

General Technical Data

Power Supply

| Parameter | Value |
|--|--|
| Auxiliary voltage range V_{rated} | DC 24 V to 240 V/AC 24 V to 240 V ¹ DC 110 V to 240 V/AC 110 V to 240 V ¹ |
| Auxiliary voltage operating range | 80 % to 110 % |
| Input power consumption | < 4 W/ 9 VA |

Binary Inputs

| Parameter | Value | |
|--------------------------------|-------------------|-----------------------------------|
| BI threshold/operating voltage | BI voltage rating | BI operating range |
| | DC 19 V | DC 18 V to 265 V |
| | AC 40 V/DC 40 V | AC 40 V to 265 V/DC 40 V to 265 V |
| Input power consumption | < 1 W/VA | |
| Current for operation | 0.9 mA to 3 mA | |
| Isolation | AC 2 kV | |

Binary Outputs

| Parameter | Value |
|--------------|-----------------------|
| Operate time | > 500 ms and < 800 ms |
| Reset time | < 100 ms |

| Parameter | Value | |
|---|---|--|
| Mechanical life (loaded) | 10 000 operations (at rated current of resistive load) | |
| Number of contacts | 2 change-over contacts, Selectable 2 make contacts + 2 break contacts (As per MLFB selection) | |
| Contact details | Rated voltage | AC 250 V DC 250 V |
| | Contact current rating: | |
| | Continuous | AC 5 A/DC 5 A |
| | Short time | AC 30 A/DC 30 A for 0.2 s |
| | Make and carry for 0.5 s | AC 10 A |
| | Make and carry for 3 s | AC 8 A |
| | Break | Breaking capacity for DC with circuit time-constant L/R < 40 ms, at 48 V/110 V/220 V 0.7 A/0.25 A/0.15 A |
| Limiting making capacity: (L/R ≤ 40 ms) | 1000 W | |

3.3

Installation Category

| Parameter | Value |
|--|-----------|
| Installation category (overvoltage category) | Class III |

Pollution

| Parameter | Value |
|------------------|-------|
| Pollution degree | 2 |

External Interfaces

| Parameter | Value |
|---|---|
| Power supply (1 make contact) | Header: 4 Pin Cabling-type: standard wire, unshielded, max. 2.5 mm ² |
| Binary inputs (2 make contacts) and contact outputs (2 make contacts) | Header: 12 Pin Cabling-type: standard wire, unshielded, max. 2.5 mm ² |

¹ Based on ordering option

Technical Documentation

Technical Data

Mechanical Tests

| Test | Standard |
|----------------------|--|
| Degree of protection | IEC 60529, IP54 front IP20 rear |
| Vibration | IEC 60255-21-1, Response and endurance, Class I |
| Shock and bump | IEC 60255-21-2, Shock response and withstand, Class I Bump, class I |
| Seismic | IEC 60255-21-3, Class I |
| Contact performance | IEC 60255-1, (Ref: Std IEC 61810-1) |

3.3

Electrical Tests

| Test | Standard |
|------------------------------|---|
| Insulation resistance | IEC 60255-27 ² Insulation resistance > 100 MΩ at DC 500 V Test duration: > 5 s (Between any terminal and earth, independent circuits) |
| Impulse voltage withstand | IEC 60255-27 ² 5 kV, 1.2/50 μs, 0.5 J 5 +ve, -ve pulses (Between all terminals and case earth and any 2 independent circuits) |
| AC dielectric voltage | IEC 60255-27 ² AC 2 kV RMS for 1 min (Between any terminal and earth, independent circuits) AC 1 kV RMS for 1 min (across make contacts) |
| Slow damped oscillatory wave | IEC 60255-26 Common-mode: Test voltage: 2.5 kV peak voltage Differential mode: Test voltage: 1.0 kV peak voltage Test duration: 2 s Source impedance: 200 Ω Voltage oscillation frequency: 1 MHz Repetition frequency: 400 Hz |

| Test | Standard |
|--|--|
| Electrostatic discharge | IEC 60255-26 8 kV air discharge 6 kV contact discharge |
| Electrical fast transient or burst | IEC 60255-26 Test level: zone A Test severity amplitude: ± 4 kV Repetition frequency: 5 kHz |
| Surge immunity | IEC 60255-26 Test level: zone B Line to line: 0.5 kV, 1 kV Line to earth: 0.5 kV, 1 kV, 2 kV Front time/time to half-value: 1.2/50 μs Source impedance: 2 Ω |
| Radiated immunity | IEC 60255-26 80 MHz to 1.0 GHz and 1.4 GHz to 2.7 GHz Field strength: 10 V/m (RMS) Amplitude modulated: 80 % AM (1 kHz) |
| Conducted radio frequency interference | IEC 60255-26 150 kHz to 80 MHz, 10 V _{RMS} , dwell time: 0.5 s |
| Power frequency magnetic field | IEC 60255-26 30 A/m applied 1 min, 300 A/m applied for 3 s |
| Radiated emissions | IEC 60255-26 and CISPR 11 |
| Conducted emissions | IEC 60255-26 and CISPR 32 |
| Functional performance | IEC 60255-1 |
| Gradual shutdown/start-up test | IEC 60255-26 Shut down/start up ramp 60 s Power off 5 min |
| Power frequency immunity test ³ | IEC 60255-26 Test level: zone B |
| Pulse magnetic field test | IEC 61000-4-9 1000 A/m, 5 +ve and 5 -ve |
| Damped oscillatory magnetic field value | IEC 61000-4-10 0.1 and 1.0 MHz, 100 A/m |

Product Safety Test

| Test | Reference |
|-----------------------------------|---|
| Clearances and creepage distances | IEC/EN 60255-27: Edition 2 ≥ 4 mm |
| IP rating | IEC/EN 60255-27: Edition 2 IP54 (front side) IP20 (rear side) |

² All aspects of IEC 60255-5 have been covered under IEC 60255-27.

³ DC binary input ports interfacing with cables whose total length is more than 10 m, need to have a multi core twisted screened cable for providing immunity against high level of power frequency interferences.

| Test | Reference |
|---|---|
| Impulse voltage | IEC/EN 60255-27: Edition 2 5 kV, 5 +ve, 5 -ve pulses |
| AC dielectric voltage | IEC/EN 60255-27: Edition 2 AC 2 kV, 50 Hz, 1 min |
| Insulation resistance | IEC/EN 60255-27: Edition 2 DC 500 V, > 5 s, > 100 MΩ |
| Protective bonding resistance | IEC/EN 60255-27: Edition 2 < AC 12 V/DC 12 V, 1 min, < 0.1 Ω |
| Protective bonding continuity | IEC/EN 60255-27: Edition 2 |
| Flammability | IEC/EN 60255-27: Edition 2 |
| Single fault condition | IEC/EN 60255-27: Edition 2 |
| Mechanical resistance to shock and impact | IEC 61010-1: Edition 3 Clause number 8 |
| Protection against electric shock | IEC 61010-1: Edition 3 Clause number 6 |
| Protection against the spread of fire | IEC 61010-1: Edition 3 Clause number 9 |
| Equipment temperature limits and resistance to heat | IEC 61010-1: Edition 3 Clause number 10 |

Climatic Environmental Tests

Temperature

IEC 60068-2-1/IEC 60068-2-2/IEC 60255-1/IEC 60068-2-14

| | |
|---------------------------------------|------------------|
| Ambient operating temperature | -10 °C to +55 °C |
| Storage temperature (non-operational) | -25 °C to +70 °C |
| Change of temperature test | -10 °C to +55 °C |

Humidity

IEC 60068-2-30/IEC 60068-2-78/IEC 60255-1

| | |
|------------------------------|--|
| Damp heat test, cyclic | +25 to 55 °C, RH > 93 % RH (6 cycles) At lower temperature, 93 %, ± 3 % RH At upper temperature, 93 %, ± 3 % RH |
| Damp heat test, steady state | 10 days at 93 ± 3 % RH, +40 °C |

Technical Documentation

Ordering Information

Ordering Information – 7PJ13

| Product Description | Order Number | Order Description |
|--|--------------------|---|
| Trip Circuit Supervision Relay (Global Region) | 7PJ1321-4AA21-0AA0 | <ul style="list-style-type: none">• Number of Binary Inputs: Element 2• Contact Reset Type: Self reset• Auxiliary Voltage Range: AC 110 V to 240 V/ DC 110 V to 240 V• Contact Arrangement: 0 make contact, 0 break contact and 2 change-over contact• Binary Input Range: DC 18 V to 265 V, Threshold DC 19 V |
| Trip Circuit Supervision Relay (Global Region) | 7PJ1321-5CC02-0AA0 | <ul style="list-style-type: none">• Number of Binary Inputs: Element 2• Contact Reset Type: Self reset• Auxiliary Voltage Range: AC 24 V to 240 V/DC 24 V to 240 V• Contact Arrangement: 2 Make contact, 2 Break contact and 0 change-over contact• Binary Input Range: AC 40 V to 240 V/DC 40 V to 240 V, Threshold AC/DC 40 V |
| Trip Circuit Supervision Relay (India Region) | 7PJ1321-5AA21-0AA0 | <ul style="list-style-type: none">• Number of Binary Inputs: Element 2• Contact Reset Type: Self reset• Auxiliary Voltage Range: AC 24 V to 240 V/DC 24 V to 240 V• Contact Arrangement: 0 make contact, 0 break contact and 2 change-over contact• Binary Input Range: DC 18 V to 265 V, Threshold DC 19 V |

Notes on Safety

This document is not a complete index of all safety measures required for operation of the equipment (module or device). However, it comprises important information that must be followed for personal safety, as well as to avoid material damage. Information is highlighted and illustrated as follows according to the degree of danger:

**DANGER**

DANGER means that death or severe injury **will** result if the measures specified are not taken.

✧ Comply with all instructions, in order to avoid death or severe injuries.

**WARNING**

WARNING means that death or severe injury **may** result if the measures specified are not taken.

✧ Comply with all instructions, in order to avoid death or severe injuries.

**CAUTION**

CAUTION means that medium-severe or slight injuries **can** occur if the specified measures are not taken.

✧ Comply with all instructions, in order to avoid moderate or minor injuries.

**CAUTION**

ESD (Electrostatic sensitive devices) means that a device or component **can** be damaged by common static charges built up on people, tools, and other non-conductors or semiconductors.

✧ Comply with all instructions, in order to avoid moderate or minor injuries.

NOTICE

NOTICE means that property damage **can** result if the measures specified are not taken.

✧ Comply with all instructions, in order to avoid property damage.

**NOTE**

Important information about the product, product handling or a certain section of the documentation which must be given attention.

Qualified Electrical Engineering Personnel

Only qualified electrical engineering personnel may commission and operate the equipment (module, device) described in this document. Qualified electrical engineering personnel in the sense of this document are people who can demonstrate technical qualifications as electrical technicians. These persons may commission, isolate, ground and label devices, systems and circuits according to the standards of safety engineering.

Only qualified and authorized personnel should work with this product after becoming thoroughly familiar with all warnings, safety notices, operating instructions and maintenance procedures.

Appendix

Safety Notes

Indication of conformity

This product complies with the directive of the Council of the European Communities on harmonization of the laws of the Member States relating to electromagnetic compatibility (EMC Directive 2014/30/EU) and concerning electrical equipment for use within specified voltage limits (Low Voltage Directive 2014/35/EU) as well as restriction on usage of hazardous substances in electrical and electronic equipment (RoHS Directive 2011/65/EU).

This conformity has been proved by tests conducted by Siemens AG in accordance of the Council Directive in accordance with the product standard IEC/EN 60255-26 for the EMC directives, and with the standard IEC/EN 60255-27 for the low-voltage directive.

RoHS directive 2011/65/EU is met using the standard EN 50581. The device has been designed and produced for industrial use.

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The requested performance features are binding only when they are expressly agreed upon in the concluded contract.