



Main

Range of product	Modicon Premium Automation platform
Product or component type	Preventa safety module

Complementary

[Us] rated supply voltage	24 V DC
Supply voltage limits	19.2...30 V
Activation threshold	< 20 V
Short circuit protection	4 A gG external conforming to IEC 947-5-1 for F2 on safety relay outputs 1 A gG external conforming to IEC 947-5-1 for F1 on power supply
Isolation voltage	4000 V III 2
Discrete input number	12 emergency stop or limit switch discrete inputs conforming to IEC 1131 Type 1 1 reset PB monitoring input conforming to IEC 1131 Type 1 1 reset PB input conforming to IEC 1131 Type 1 1 feedback loop input conforming to IEC 1131 Type 1 1 double or single contact selection input conforming to IEC 1131 Type 1
Discrete input logic	Positive
Inrush current	<= 0.5 A
Iso between input and earth	500 Vrms 50/60 Hz for 60 s
Power dissipation in W	< 5 W
Safety outputs	4 NO safety relay AGCDO gold plated volt free output
[Ue] rated operational voltage	19...250 V AC relay output 17...127 V DC relay output
Rated power in VA	60 VA 24 V AC-15 inductive 550 VA 220 V AC-15 inductive 280 VA 110 V AC-15 inductive 120 VA 48 V AC-15 inductive
Rated power in W	60 W 24 V DC-13 inductive 100 ms
[Ithe] conventional enclosed thermal current	<= 2.5 A
Minimum output current	>= 30 mA
Response time on output	< 12 ms
Isolation between output and earth	1500 Vrms 50/60 Hz for 60 s 300 V conforming to DIN VDE 0110 part 2
Safety acquisition	Monitor external power supply of the module Read enable inputs Read feedback loop Read the safety outputs control Read status of the 24 inputs
Local signalling	28 LEDs diagnostic of safety system
Electrical connection	1 connector SUB-D 44 pins for connecting the safety system 1 connector removable screw terminal block 6 pins
Cable cross section	1.5 mm ² with cable end safety output circuit 0.2...2.5 mm ² without cable end safety output circuit
Current consumption	<= 200 mA 24 V DC < 150 mA 5 V DC

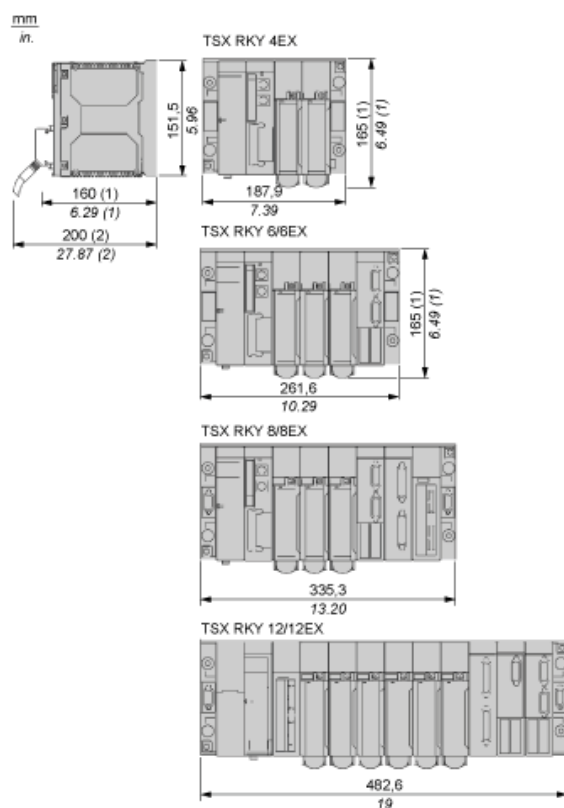
Module format	Standard
Product weight	0.49 kg

Environment

Ambient air temperature for operation	0...60 °C with fan module 0...40 °C without fan
Ambient air temperature for storage	-25...70 °C
IP degree of protection	IP20 conforming to IEC 60529
Standards	IEC 61508 SIL 3 machine safety parts of control systems ISO 13849-1 category 4 machine safety parts of control systems UL 508 specific requirements (PLC) ISO 13850 emergency stop equipment EN/ISO 12100 machine electrical equipment EN/IEC 61131-2 specific requirements (PLC) EN/IEC 60204-1 machine electrical equipment EN 954 machine safety parts of control systems CSA 22-2 specific requirements (PLC)
Product certifications	BG CSA UL
Protective treatment	Conformal coating Humiseal 1A33

Standard and Extendable Racks for Modules Mounting

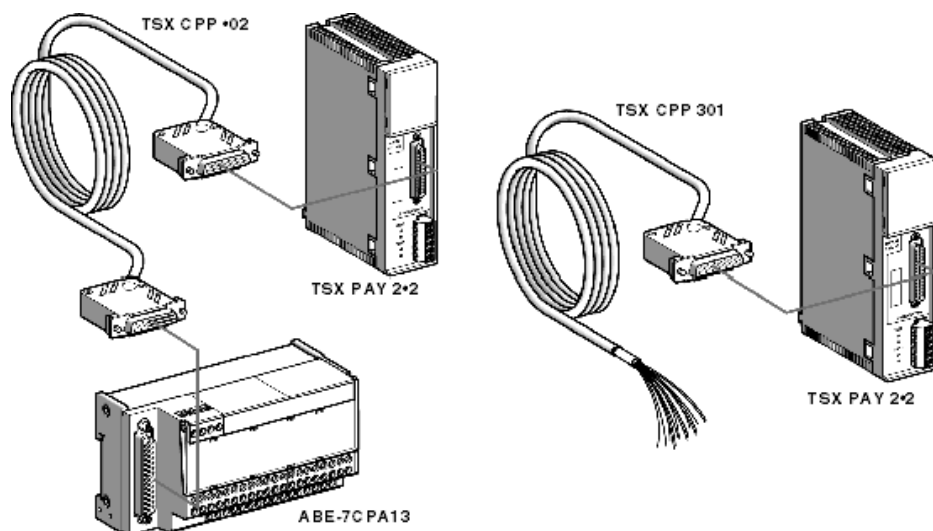
Dimensions of Modules and Racks



(1) With screw terminal block modules.

(2) Maximum depth for all types of modules and their associated connectors.

The Safety System



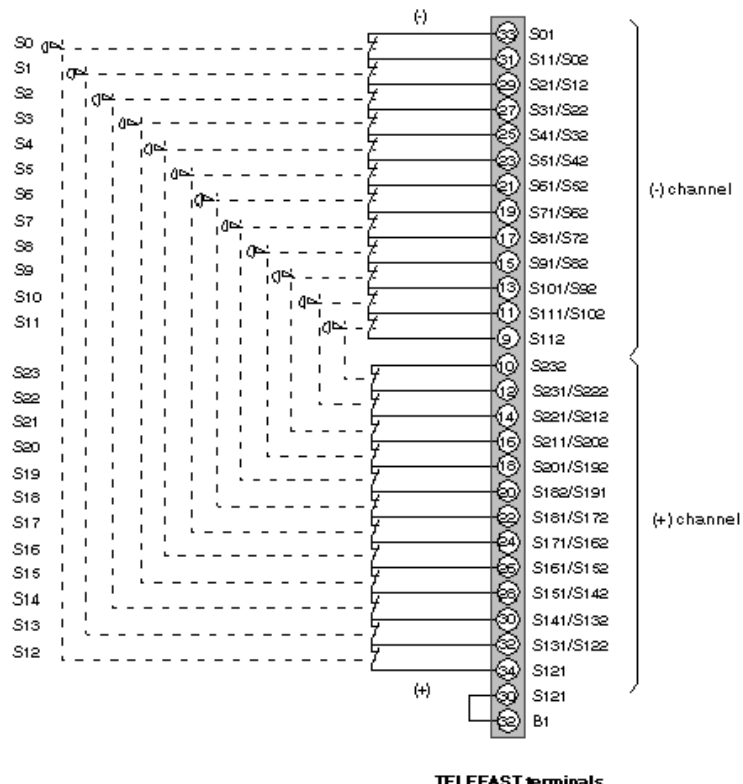
Connection of Emergency Stop Buttons and Safety Switches

Double Contacts (recommended)

Double contact wiring of inputs is suitable for applications requiring category 3 or 4 compliant levels of safety.

Short circuits between channels are detected.

ES PB or PS short circuits are detected and pinpointed.



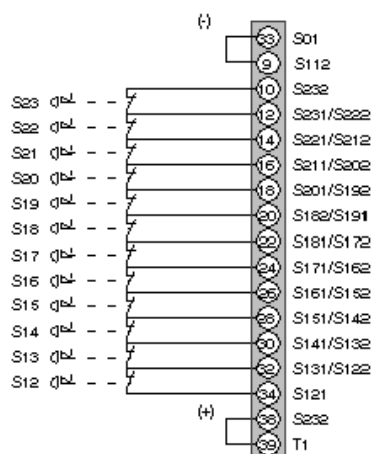
TELEFAST terminals

NOTE: If less than 12 double contacts are being used, the input terminals that are not in use must be bridged.

Single Contact

This wiring is not suitable for applications requiring category 3 or 4 compliant levels of safety.

Not all errors are detected, nor are ES PB or PS short circuits. Here, pressing this PB will not cause the safety circuits to open (loss of the safety function).



TELEFAST terminals

NOTE: If less than 12 contacts are being used, the input terminals that are not in use must be bridged.

Safety Output Wiring Diagrams

Feedback Loop Connection

The category 4 immediate stop system design requires supply shut-off device redundancy and activation monitoring.

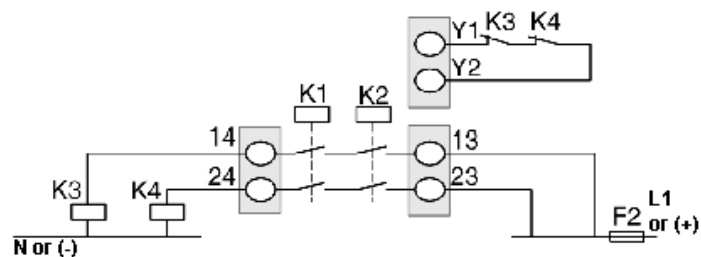
Wiring of open contacts (K3, K4) or (K3, K4, K5, K6) allows every activation request to be checked.

It is compulsory for the contacts of relays (K3, K4) or (K3, K4, K5, K6) to be mechanically linked.

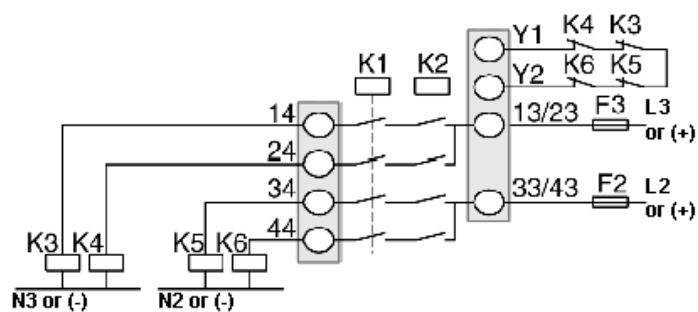
Category 3 wiring means:

- no wiring of auxiliary contacts in the feedback loop (a strap links terminals Y1 and Y2/S33),
- standard switches, with non-guided contacts, are sufficient.

2-switch set-up (category 4):

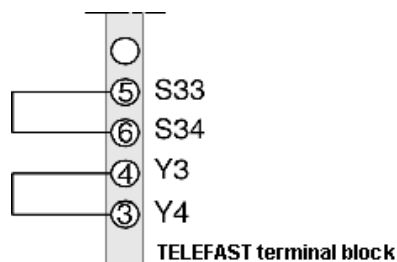


4-switch set-up (category 4):



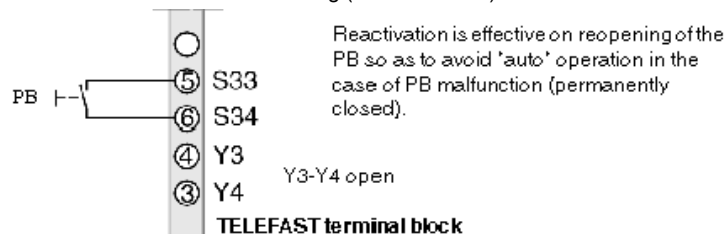
Connection of the Safety System Reactivation Function

Wiring Diagram for Automatic Reactivation

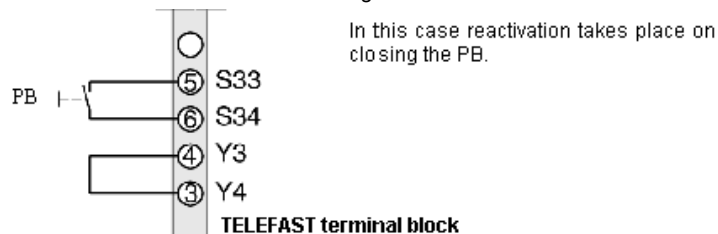


Wiring Diagrams for Manual Reactivation

With Reactivation button monitoring (recommended):

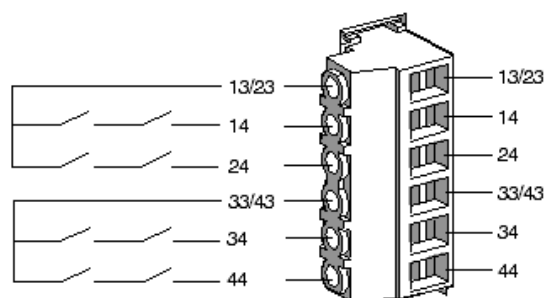


Without Reactivation button monitoring:



Safety Outputs

Wiring Diagram



13/23 Independent supply inputs

33/43:

14, Safety outputs

24,

34,

44:

NOTE:

Wires cross-section:

- with termination: 2 x 1 mm²/16 AWG or 1 x 1.5 mm²/14 AWG
- without termination: 1 x 2.5 mm²/12 AWG