

Features

- SIL 3 / SC 3 for NE/ND loads
- Up to 5 A functional / 6 A inrush current
- Load disconnection on both supply lines available
- High process availability
- Compatible with DCS/PLC pulse testing
- Line & Load short/open circuit detection
- Load voltage monitoring
- Field fault mirroring to the PLC DO
- Input/Output isolation

1CH SIL3 Relay Out Module for 5A NE/ND Loads with LFD

RS Stock No.: 329100



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Product Description

This module is a relay suitable for switching safety related circuits, up to SIL 3 level, for high-risk industries. It provides isolation between input and output contacts. It makes available 2+2 NO relay contacts connected in parallel and then in series to avoid spurious trip and to increase process availability. High process availability SIL 3 Safety Function for both Normally Energized (NE) and Normally De-energized (ND) / F&G loads is available. Load can be isolated from supply on both polarities. A wide compatibility towards different DCS/PLC is guaranteed: driving pulse testing is permitted by a dedicated internal circuit, which prevents contact and LED flickering. Line and load short/open circuit detection and load monitoring are provided, both when the load is off and when the load is on. The fault in the field is directly mirrored to the PLC DO and it is also reported by opening the fault output.

General Specifications

Input	24 Vdc nom (21.6 to 27.6 Vdc), reverse polarity protected. Relay coils are internally protected with suppressor diodes
Input current consumption	45 mA @ 24 Vdc, typical
Output	Voltage free 2+2 SPST relay contact (2 paralleled contacts in series) at terminals 7-11 and 8-12, close when relay energized, open in de-energized condition
Contact material	Ag Alloy (Cd free), gold plated
Contact rating	5 A 250 Vac 1250 VA, 5 A 250 Vdc 140 W (resistive load)
Contact min. switching current	1 mA
Contact inrush current	6 A @ 24 Vdc, 250 Vac
DC/AC load breaking capacity	Refer to Instruction Manual
Mechanical / electrical life	5 * 10 ⁶ / 3 * 10 ⁴ operation, typical
Operate / release time	30 ms / 30 ms, typical
Line/Load off ok	25 Ω \leq resistance \leq 19 k Ω , typical
Line/Load off fault	Resistance \leq 15 Ω or \geq 21 k Ω
Line/Load on ok	15 mA rms \leq current \leq 5 A rms, typical

Line/Load on fault	Current ≤ 5 mA rms or ≥ 6 A rms, typical
Load supply voltage ok	≥ 20 Vdc/Vac, typical
Load supply voltage fault	≤ 5 Vdc/Vac, typical
Fault signalling	Voltage free NE SPST optocoupled open-collector transistor (output de-energized in fault condition)
Fault rating	100 mA @ 35 Vdc

Mechanical Specifications

Weight	about 125 g
Connection	by polarized plug-in disconnect screw terminal blocks to accommodate terminations up to 2.5 mm ² (13 AWG)
Dimensions	Width 12.5 mm, Depth 123 mm, Height 120 mm
Mounting	DIN-Rail 35 mm

Electrical Specifications

Supply	24 Vdc nom (18 to 30 Vdc), reverse polarity protected.
Supply Current Consumption	15 mA @ 24 Vdc, typical
Isolation	Output/Input 1.5 kV; Output/Supply 1.5 kV; Output/Fault Output 1.5 kV; Input/Supply 500V; Input/Fault Output 500V; Supply/Fault Output 500 V

Operation Environment Specifications

Operating temperature	temperature limits -40 to +70 °C
Storage temperature	temperature limits -45 to +80 °C

Approvals

Declarations	EU Declaration of Conformity
Functional Safety	SIL Manufacturer Declaration

Accessories

325642	Bus Connector
329103	Bus Mounting Kit

