D5090-102

SIL3 Relay Out Low-Power Module for 5 A NE Loads

The D5090-102 is a relay module 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 two NO contacts for Normally Energized (NE) loads, in order to disconnect the load on both supply lines, and a NC contact for service purpose. This model is specifically designed to reach high functional safety at minimum power consumption and low input voltage. Compatibility with specific DO cards with pulse testing needs to be verified.

FEATURES

- SIL 3 / SC 3 for NE loads with NE driver
- Installation in Zone 2/Div. 2
- Up to 5 A functional / 6 A inrush current
- Load disconnection on both supply lines available
- Low current consumption
- Service contact available
- Input/Output isolation

ORDERING INFORMATION

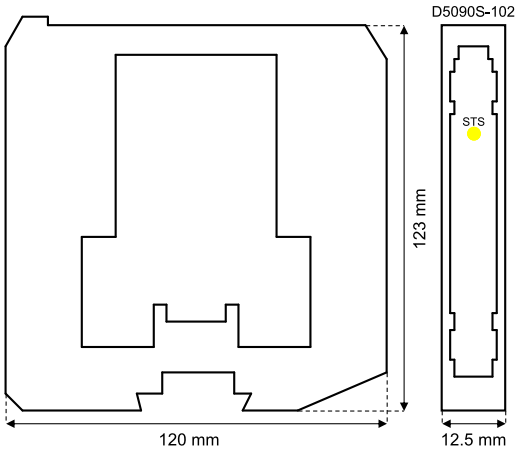
Ordering codes

D5090S-102: 1 channel

Accessories

DIN-Rail stopper MCHP196.

OVERALL DIMENSIONS



TECHNICAL DATA

Input

24 Vdc nom (20 to 28.8 Vdc), reverse polarity protected. Relay coils are internally protected with suppressor diodes.
Current consumption: 30 mA @ 24 Vdc, typical.
Power dissipation: 0.72 W @ 24 Vdc, typical.

Output

1 voltage free SPDT relay contact identified with outputs: Out 1 (NO contact) terminals 7-11 and Service Load Out (NC contact) terminals 9-10; 1 voltage free SPST relay contact identified with output Out 2 (NO contact) terminals 8-12. Terminals 7-11 (Out 1) and 8-12 (Out 2) are open when relay is de-energized, closed in energized relay condition. Service load output (not SIL) at terminals 9-10 is normally close when relay is de-energized, open in energized relay 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 and AC load breaking capacity: refer to Instruction Manual.
Mechanical / electrical life: 5 * 10^6 / 3 * 10^4 operation, typical.
Operate / release time: 55 / 30 ms, typical.

Isolation

In/Outs 2.5 kV; Out 1/Out 2 500 V.

Environmental conditions

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

Mounting

DIN-Rail 35 mm, or on custom Term. Board.
Weight: about 125 g.
Connection: by polarized plug-in disconnect screw terminal blocks to accommodate terminations up to 2.5 mm² (13 AWG).
Dimensions: Width 12.5 mm, Depth 123 mm, Height 120 mm.

FSM SIL 3

Functional Safety Management Certification:
GM International is certified to conform to IEC61508:2010 part 1 clauses 5-6 for safety related systems up to and included SIL3. In addition, GM International products have been granted I.S. certificates from the most credited Notified Bodies in the world.

FUNCTION DIAGRAM

Additional installation diagrams may be found in Instruction Manual.