D5093

SIL3 24/220Vdc/Vac Transistor-Out Detector

The 24/220Vdc/Vac Transistor-Out Detector D5093 module is a unit suitable for applications requiring SIL 3 level in safety related systems for high risk industries. Each channel is able to reflect the presence of a 24 to 220 Vac/Vdc input signal to the output by closing an optically coupled NO open-drain transistor (solid-state relay, MOSFET output). The presence of the 24 to 220 Vac/Vdc input signal is also indicated by a yellow LED on the front panel. The input switching voltage levels are selected, according to the applied input signal, by means of an internal dip-switch (overload protected).

FEATURES

- SIL 3 / SC 3
- Installation in Zone 2/Div. 2
- 2 fully independent channels
- Two port isolation, Input/Output
- High Density, two channels per unit

ORDERING INFORMATION

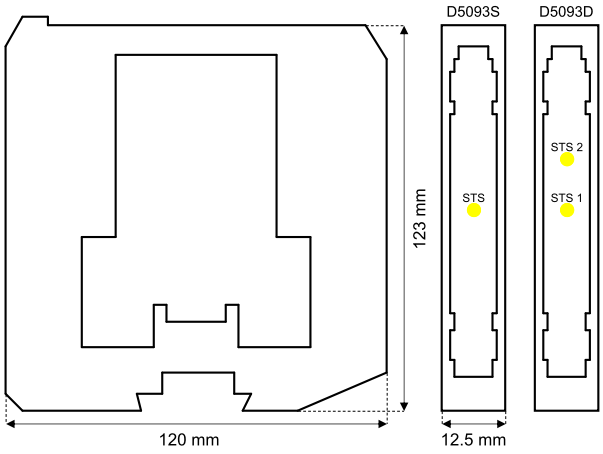
Ordering codes

D5093S: 1 channel
D5093D: 2 channels

Accessories

DIN-Rail stopper MCHP196.

OVERALL DIMENSIONS



TECHNICAL DATA

Input

Loop powered control signal.
Input switching voltage levels:
ON ≥ 21 Vac/Vdc, OFF ≤ 15 Vac/Vdc for 24 Vac/Vdc, typical
ON ≥ 40 Vac/Vdc, OFF ≤ 30 Vac/Vdc for 48 Vac/Vdc, typical
ON ≥ 50 Vac/Vdc, OFF ≤ 35 Vac/Vdc for 60 Vac/Vdc, typical
ON ≥ 100 Vac/Vdc, OFF ≤ 75 Vac/Vdc for 120 Vac/Vdc, typical
ON ≥ 200 Vac/Vdc, OFF ≤ 160 Vac/Vdc for 220 Vac/Vdc, typical
Threshold level selection by means of internal dip-switch (overload protected).
Voltage range: 24 to 220 Vac/Vdc nominal (15 to 250 Vac/Vdc).
Input current protection: 100 mA fuse internally protected.
Current consumption: 4.5 mA/channel @ 250 Vac/Vdc nominal input, typical.
Power dissipation: 1.13 VA or W/channel with 250 Vac or Vdc, typical.

Output

Voltage free SPST optocoupled open-drain transistor (solid-state relay, MOSFET output).
Open-collector/drain rating: 50 mA @ 35 Vdc (≤ 0.5 Vdc voltage drop).
Leakage current: ≤ 10 µA @ 35 Vdc.
Response time: ≤ 120 ms.

Isolation

In/Out 2.5 kV; In/In 1.5 kV; Out /Out 500 V.

Environmental conditions

Operating teperature: 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 115 g (D5093D), 105 g (D5093S).
Connection: by polarized plug-in disconnect screw terminal blocks to accomodate terminations up to 2.5 mm² (13 AWG).
Dimensions: Width 12.5 mm, Depth 123 mm, Height 120 mm.

FUNCTION DIAGRAM

Additional installation diagrams may be found in Instruction Manual.