

# 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

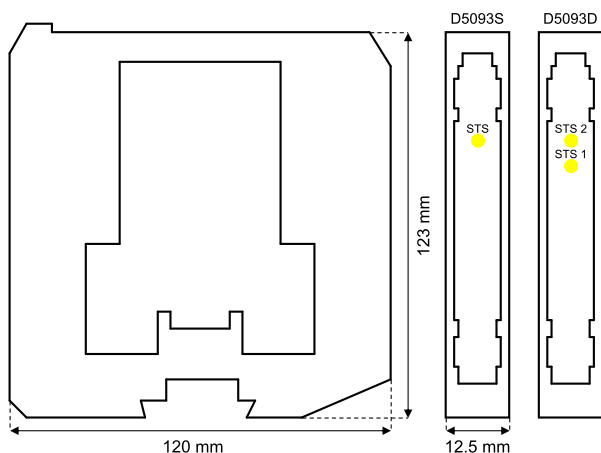
D5093D: 2 channels

Add optional suffix -TB for Term. Board dedicated products

#### Accessories

DIN-Rail stopper MCHP196.

### OVERALL DIMENSIONS



### TECHNICAL DATA

#### Input

Loop powered control signal.

#### Input switching voltage levels:

ON  $\geq 22$  Vac/Vdc, OFF  $\leq 17$  Vac/Vdc for 24 Vac/Vdc, typical

ON  $\geq 40$  Vac/Vdc, OFF  $\leq 30$  Vac/Vdc for 48 Vac/Vdc, typical

ON  $\geq 50$  Vac/Vdc, OFF  $\leq 40$  Vac/Vdc for 60 Vac/Vdc, typical

ON  $\geq 100$  Vac/Vdc, OFF  $\leq 80$  Vac/Vdc for 120 Vac/Vdc, typical

ON  $\geq 200$  Vac/Vdc, OFF  $\leq 165$  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 (18 to 250 Vac/Vdc).

**Input current protection:** 50 mA fuse internally protected.

**Current consumption:** 3 mA/channel @ 250 Vac/Vdc nominal input, typical.

**Power dissipation:** 0.75 W/channel with 250 Vac/Vdc, typical.

#### Output

Voltage free SPST optocoupled open-drain transistor (solid-state relay, MOSFET output).

**Open-collector/drain rating:** 50 mA @ 35 Vdc ( $\leq 1$  Vdc voltage drop).

**Leakage current:**  $\leq 10$   $\mu$ A @ 35 Vdc.

**Response time:**  $\leq 75$  ms.

#### Isolation

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

#### Environmental conditions

**Operating temperature:** temperature limits  $-40$  to  $+70$   $^{\circ}$ C.

**Storage temperature:** temperature limits  $-45$  to  $+80$   $^{\circ}$ C.

#### Mounting

DIN-Rail 35 mm, or on custom Term. Board.

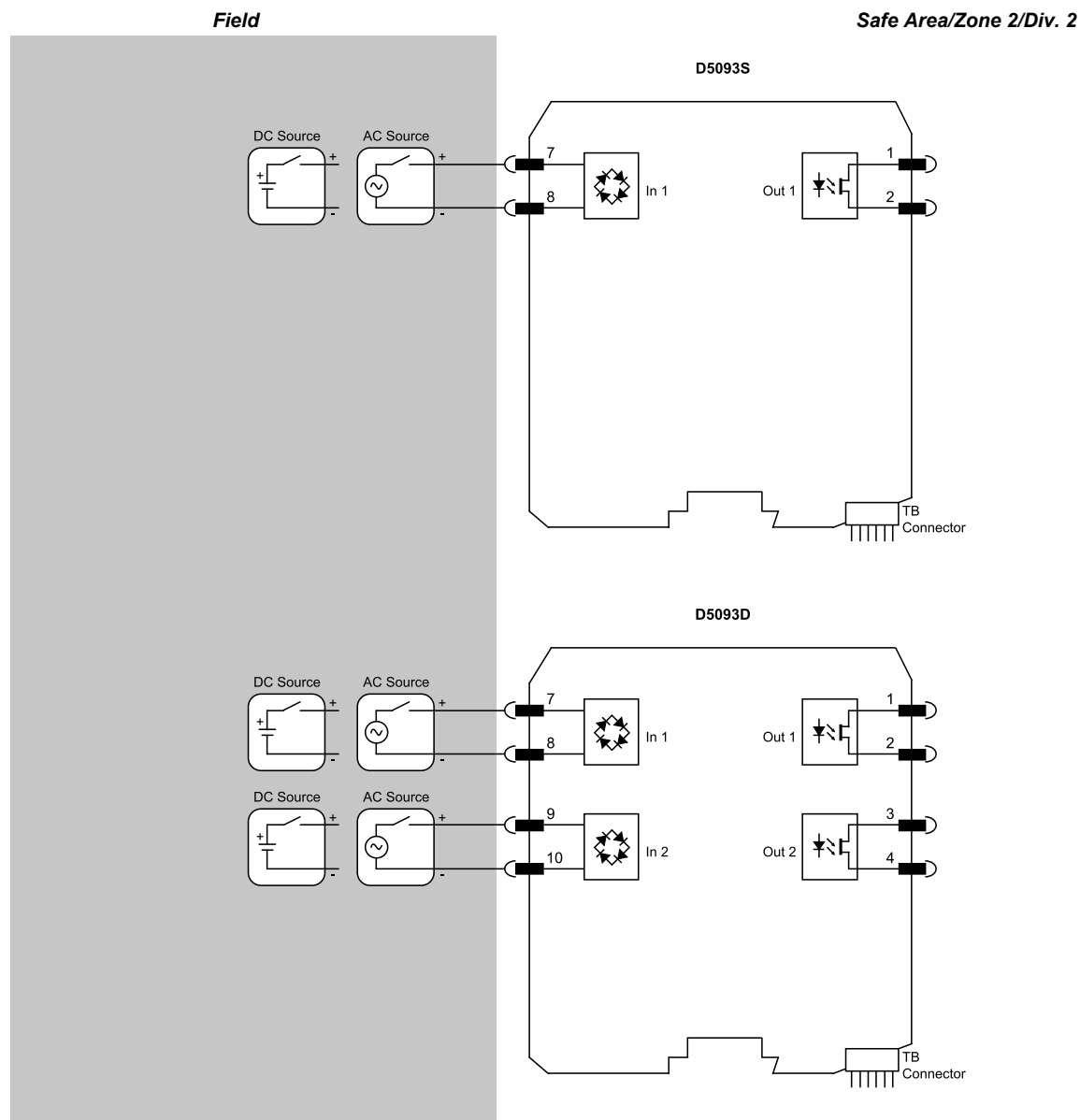
**Weight:** about 115 g (D5093D), 105 g (D5093S).

**Connection:** by polarized plug-in disconnect screw terminal blocks to accommodate terminations up to 2.5 mm<sup>2</sup> (13 AWG).

**Dimensions:** Width 12.5 mm, Depth 123 mm, Height 120 mm.

## FUNCTION DIAGRAM

Additional installation diagrams may be found in Instruction Manual.



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.

Data specified in this document are merely descriptive of the products and should be integrated with relevant technical specifications. Our products are in constant development and the information presented herein refers to the time of document issue. No statements concerning a certain condition or suitability for a certain application can be derived from our information. The information given does not release the user from the obligation of own judgment and verification. Terms & Conditions can be found at our website. For more information refer to instruction manual.