

D5037

I.S. SIL2 Switch/Proximity Transistor-Out Repeater

The Switch/Proximity Detector Repeater D5037 is a module suitable for applications requiring SIL 2 level in safety related systems for high risk industries. The unit can be configured for switches or proximity detectors, located in Hazardous Area, and repeats the input state to an open-collector transistor in Safe Area. The selectable fault detection circuit is available for proximity sensors or switches equipped with end of line resistors. If needed, the output can also be inverted.

FEATURES

- SIL 2 / SC 3
- Input from Zone 0/Div. 1
- Installation in Zone 2/Div. 2
- High frequency transistor output
- Field open and short circuit detection
- In-field programmability by DIP Switch
- Three port isolation, Input/Output/Supply
- High Density, two channels per unit

ORDERING INFORMATION

Ordering codes

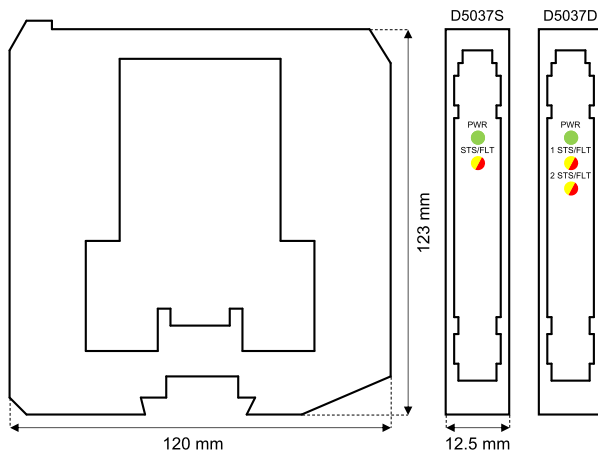
D5037S: 1 channel

D5037D: 2 channels

Accessories

Bus Connector JDFT049, Bus Mounting Kit OPT5096.

OVERALL DIMENSIONS



TECHNICAL DATA

Supply

24 Vdc nom (18 to 30 Vdc), reverse polarity protected.

Current consumption: 22 mA (D5037D), 12 mA (D5037S), @ 24 Vdc with short circuit input and transistor closed, typical.

Power dissipation: 0.53 W (D5037D), 0.30 W (D5037S), @ 24 Vdc with short circuit input and transistor closed, typical.

Input

Input switching current levels: ON ≥ 2.1 mA, OFF ≤ 1.2 mA.

Fault current levels: open fault ≤ 0.2 mA, short fault ≥ 6.8 mA.

Input equivalent source: 8 V 1 k Ω typical (8 V no load, 8 mA short).

Output

Voltage free SPST optocoupled open-collector transistor.

Open-collector/drain rating: 100 mA @ 35 Vdc (≤ 1.5 V voltage drop).

Leakage current: ≤ 50 μ A @ 35 Vdc.

Response time: ≤ 100 μ s.

Frequency response: 5 kHz maximum.

Isolation

I.S. In/Out 1.5 kV; I.S. In/Supply 1.5 kV; I.S. In/ I.S In 500 V; Out/Supply 500 V; Out /Out 500 V.

Environmental conditions

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

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

Safety description

Associated apparatus and non-sparking electrical equipment.

$U_o = 10.5$ V, $I_o = 22$ mA, $P_o = 56$ mW at terminals 7-8, 9-10.

$U_m = 250$ Vrms or Vdc, -40 $^{\circ}$ C $\leq T_a \leq 70$ $^{\circ}$ C.

Mounting

DIN-Rail 35 mm, with or without Power Bus or on custom Term. Board.

Weight: about 125 g (D5037D), 110 g (D5037S).

Connection: by polarized plug-in disconnect screw terminal blocks to accommodate terminations up to 2.5 mm² (13 AWG).

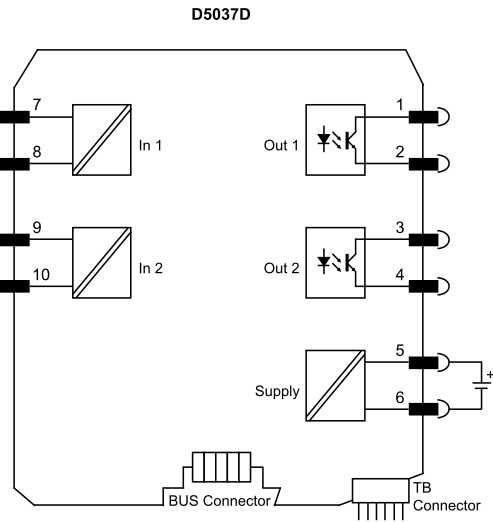
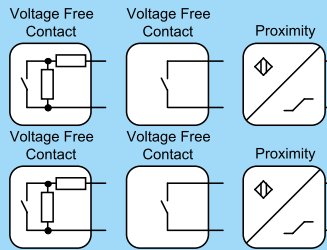
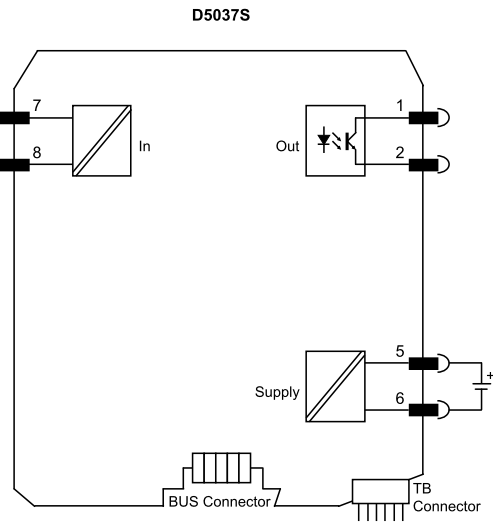
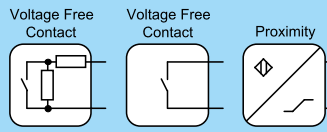
Dimensions: Width 12.5 mm, Depth 123 mm, Height 120 mm.

FUNCTION DIAGRAM

Additional installation diagrams may be found in Instruction Manual.

Hazardous Area

Safe Area/Zone 2/Div. 2



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.