

# D5233

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

The Switch/Proximity Detector Repeater D5233 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. Input-to-output function can be inverted, and signals can be duplicated.

### FEATURES

- SIL 2 / SC 3 (pending)
- Input from Zone 0/Div. 1
- Installation in Zone 2/Div. 2
- High frequency transistor output
- Field open and short circuit detection
- Input inversion available
- Duplication available
- Three port isolation, Input/Output/Supply
- High Density, four channels per unit

### ORDERING INFORMATION

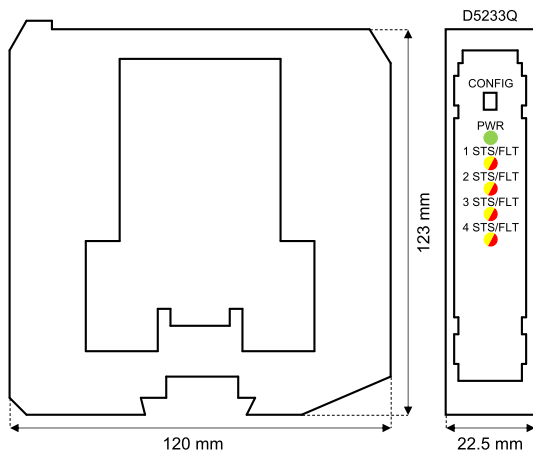
#### Ordering codes

D5233Q: 4 channels

#### Accessories

Bus Connector JDFT050, Bus Mounting Kit OPT5096.  
Programmable USB serial line Kit PPC5092 + SWC5090.

### OVERALL DIMENSIONS



### TECHNICAL DATA

#### Supply

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

**Current consumption:** 45 mA @ 24 Vdc with short circuit input and output closed, typical.

**Power dissipation:** 1.1 W @ 24 Vdc with short circuit input and output closed, typical, excluding output contact dissipation.

#### Input

Voltage source according to NAMUR standard.

**Input equivalent source:** 7.5 V/1 kΩ typical (7.5 V no load, 7.5 mA short).

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

**No fault:** input current ≥ 0.35 mA and input resistance ≥ 360 Ω.

**Open fault:** input current ≤ 0.05 mA.

**Short fault:** input resistance ≤ 100 Ω.

#### Output

Voltage free SPST optocoupled open-collector transistor.

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

**Leakage current:** ≤ 50 μA @ 35 V.

**Response time:** 1.5 ms, maximum.

**Frequency response:** 1 kHz, maximum.

#### Isolation

I.S. In/Out 2.5 kV; I.S. In/Supply 2.5 kV; Out/Supply 500 V; Out/Out 500 V.

#### Environmental conditions

**Operating temperature:** temperature limits -40 to +70 °C.

**Storage temperature:** temperature limits -45 to +80 °C.

#### Safety description

Associated apparatus and non-sparking electrical equipment.

U<sub>o</sub> = 11.2 V, I<sub>o</sub> = 12 mA, P<sub>o</sub> = 34 mW

at terminals 13-14, 15-16, 17-18, 19-20.

U<sub>m</sub> = 250 Vrms or Vdc, -40 °C ≤ T<sub>a</sub> ≤ 70 °C.

#### Mounting

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

**Weight:** about 175 g.

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

**Dimensions:** Width 22.5 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

