MTL Service Manual

MTL3013

1. Description

MTL3013

3. Product Information

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MTL3013 | MTL Instruments | Switch/Proximity Detector

MTL3013 SWITCH/

PROXIMITY DETECTOR

RELAY

2-channel

The MTL3013 has the same basic function as the MTL3011 but incorporates two channels in one unit. It enables two safe-area loads to be controlled independently by proximity detectors or switches located in hazardous areas. The two input circuits are interconnected but fully floating, enabling two safe-area loads to be controlled by a single changeover switch if required. Each channel is provided with a phase reversal switch so that an alarm condition (output open) can be signalled for either state of the sensor. The status of each relay is indicated by an LED on top of the unit and an additional terminal block provides the four terminals needed for the connections from the two sets of relay contacts. If the application calls for line-fault detection, MTL3011 or MTL3014 units should be used instead.

SPECIFICATION

See also 'Common specification'

Number of channels

Two, interconnected, fully floating

Location of switch

Zone 0, IIC, T6 hazardous area

Div 1, Group A, hazardous location

Location of proximity detector

Zone 0, IIC, T4-6 if suitably certified

Div 1, Group A, hazardous location

Voltage applied to sensor

7.0 to 8.5V dc from 970Ω

Input/output characteristics (each channel)

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Output closed if >2.1mA* (<2kΩ) in sensor circuit

Output open if <1.2mA* (>10kΩ) in sensor circuit

Hysteresis: 200µA (650Ω) typical

*NAMUR and DIN19234 standards for proximity detectors

Phase reverse facility

Operations reversed by switches on top of unit

Power supply failure protection

Output circuits open if supply fails

Relay characteristics

Each single-pole on/off, open when relay de-energised

Response time: 10ms typical

Contact rating: 250V 5A 100VA (ac); 250V 5A 100W (dc)

Contact life expectancy: 1.5 x 105 operations at max. load,

>106 operations at 200V ac peak or dc, 10VA (resistive load)

Note: reactive loads must be adequately suppressed

LED indicators (each channel)

ON when output circuit is closed

Power requirement

55mA typical at 24V

75mA maximum at 20 to 35V

Power dissipation within unit

1.4W typical at 24V

1.6W maximum at 35V

Replaceable fuse

80mA, 5 x 20mm glass to DIN41571 sht 2, semi-time-lag (M)

Safety description (each channel)

10.5V, 800Ω, 14mA, Um = 250V rms or dc

FM max entity parameters

Voc = 10.5V, Isc = 14mA, Ca = 2.4µF, La = 165mH

Weight

170g

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