MTL4604
SWITCH/ PROXIMITY DETECTOR INTERFACE
1-channel with LFD and phase reversal

The MTL4604 enables a load to be controlled, through a relay, by a proximity detector or switch. Line faults are signalled through a separate relay and indicated on the top of the module. MTBF information for the LFD relay is available from MTL to allow the failure rate for the LFD relay to be calculated when used in the critical path with the output relay for safety critical applications. Switches are provided to select phase reversal and to enable the line fault detection.

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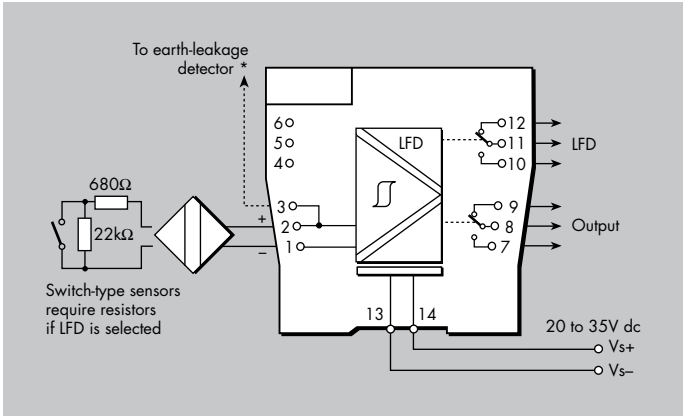

SPECIFICATION

See also common specification

Number of channels
One

Inputs
Inputs conforming to BS EN60947–5–6:2001 standards for proximity detectors (NAMUR)

Voltage applied to sensor
7 to 9V dc from 1kΩ ±10%

Input/output characteristics
Normal phase
Outputs closed if input > 2.1mA (< 2kΩ in input circuit)
Outputs open if input < 1.2mA (> 10kΩ in input circuit)
Hysteresis: 200µA (650Ω) nominal

Line fault detection (LFD) (when selected)
User-selectable via switches on the side of the unit. Line faults are indicated by an LED. Line fault relay is de-energised and channel output relay de-energised if input line-fault detected
Open-circuit alarm on if I_{in} < 50µA
Open-circuit alarm off if I_{in} > 250µA
Short-circuit alarm on if R_{in} < 100Ω
Short-circuit alarm off if R_{in} > 360Ω
Note: Resistors must be fitted when using the LFD facility with a contact input
500Ω to 1kΩ in series with switch
20kΩ to 25kΩ in parallel with switch

Output
Channel: Single pole relay with changeover contacts
LFD: Single pole relay with changeover contacts
Note: reactive loads must be adequately suppressed

Relay characteristics
Response time: 10ms maximum
Contact rating: 10W, 0.5A, 35V dc

LED indicators
Green: power indication
Yellow: channel status, on when output energised
Red: LFD indication, on when line fault detected

Maximum current consumption
25mA at 24V dc

Power dissipation within unit
0.6W at 24V

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