MTL4517 SWITCH/ PROXIMITY DETECTOR INTERFACE

two-channel with line fault detection and phase reversal

The MTL4517 enables two safe-area loads to be controlled, through a relay, by proximity detectors or switches located in a hazardous area. Line faults are signalled through a separate relay and indicated on the top of the module. Switches are provided to select phase reversal and to enable the line fault detection.

SPECIFICATION

See also common specification

Number of channels
Two

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

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

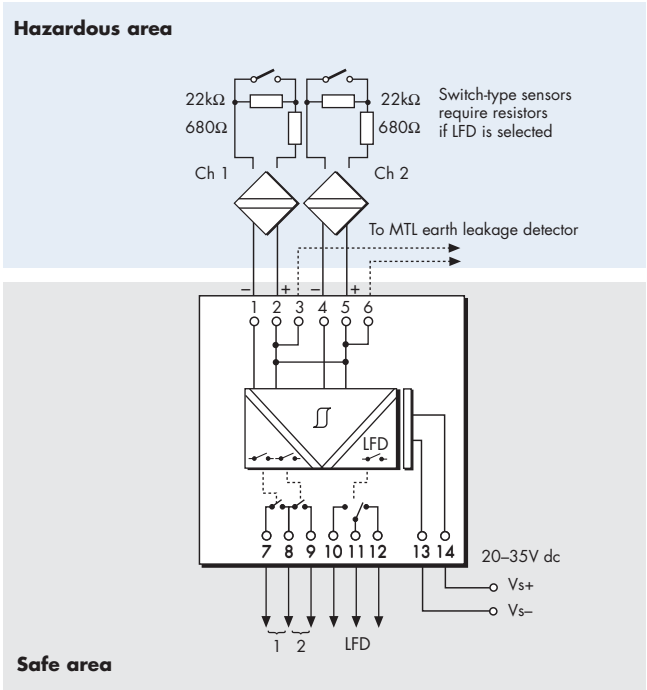
Voltage applied to sensor
7 to 9V dc from 1kΩ ±10%

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 by switches on the side of the module. LIne faults are indicated by the LED for each channel.
Line fault relay is 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

Safe-area output
Channel: Two single-pole relays with normally open 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



Terminal	Function
1	Input –ve
2	Input +ve
3,6	To earth leakage detector
7	Output 1
8	Common - Outputs 1 and 2
9	Output 2
10	LFD NO contact
11	LFD Common
12	LFD NC contact
13	Supply –ve
14	Supply +ve

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

Maximum current consumption
35mA at 24V

Power dissipation within unit
0.84W at 24V

Safety description (each channel)
V_o=10.5V I_o=14mA P_o=37mW U_m = 253V rms or dc

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