

# MTL4517 – MTL5517

## SWITCH/ PROXIMITY

### DETECTOR INTERFACE

2-channel, line fault detection, phase reversal

The MTLx517 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 hazardous area, 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 1k $\Omega$   $\pm$ 10%

### Input/output characteristics

Normal phase

Outputs closed if input > 2.1mA (< 2k $\Omega$  in input circuit)

Outputs open if input < 1.2mA (> 10k $\Omega$  in input circuit)

Hysteresis: 200 $\mu$ A (650 $\Omega$ ) 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  $I_{in} < 50\mu$ A

Open-circuit alarm off if  $I_{in} > 250\mu$ A

Short-circuit alarm on if  $R_{in} < 100\Omega$

Short-circuit alarm off if  $R_{in} > 360\Omega$

Note: Resistors must be fitted when using the LFD facility with a contact input  
500 $\Omega$  to 1k $\Omega$  in series with switch  
20k $\Omega$  to 25k $\Omega$  in parallel with switch

### Safe-area output

Channel: Two single-pole relays with normally open contacts

LFD: Single pole relay with changeover contact (MTL4517)

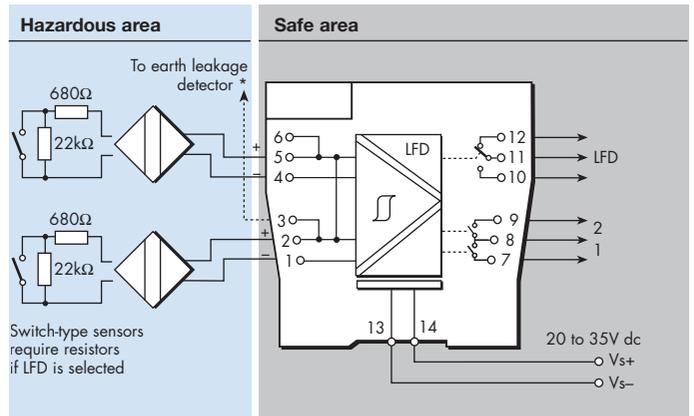
Single pole relay with normally open contact (MTL5517)

Note: reactive loads must be adequately suppressed

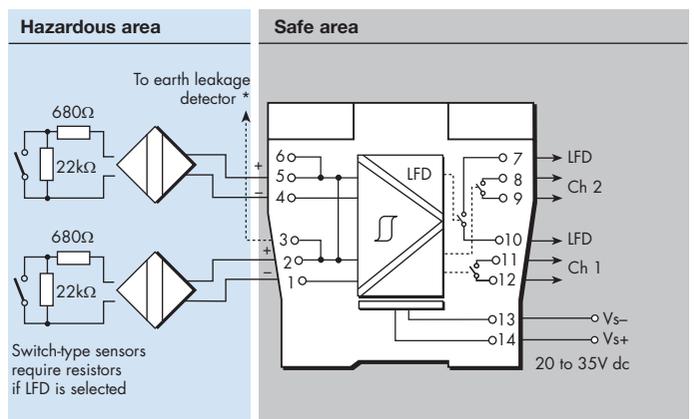
### Relay characteristics

	MTL4517	MTL5517
Response time:	10ms maximum	10ms maximum
Contact rating (Safe Area):	10W, 0.5A, 35V dc	250V ac, 2A, cos $\phi$ >0.7, 40V dc, 2A, resistive load
Contact rating (Zone 2):	10W, 0.5A, 35V dc	35V, 2A, 100VA.

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### Maximum current consumption

35mA at 24V

### Power dissipation within unit

0.84W at 24V

\* Signal plug HAZ1-3 is required for access to this function

### LED indicators

Green: power indication

Yellow: two: channel status, on when output energised

Red: two: LFD indication, on when line fault detected

### Safety description (each channel)

$U_o=10.5V$   $I_o=14mA$   $P_o=37mW$   $U_m=253V$  rms or dc



### SIL capable

These models have been assessed for use in IEC 61508 functional safety applications.

See data on MTL web site and refer to the safety manual.

**Crouse-Hinds**  
by **EATON**

### Measurement Technology Limited,

Great Marlings, Butterfield, Luton  
Beds, LU2 8DL, UK.  
Tel: + 44 (0)1582 723633 Fax: + 44 (0)1582 422283  
E-mail: mtlenquiry@eaton.com

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### EUROPE (EMEA):

+44 (0)1582 723633  
mtlenquiry@eaton.com

### THE AMERICAS:

+1 800 835 7075  
mtl-us-info@eaton.com

### ASIA-PACIFIC:

+65 6 645 9888  
sales.mtlsing@eaton.com

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