

# MTL5514-T SWITCH/ PROXIMITY DETECTOR INTERFACE

1-channel, line fault detection, phase reversal

The MTL5514-T enables a safe-area load to be controlled, through a relay, by a proximity detector or switch 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

One

### 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 via switches on the side of the unit. Line faults are indicated by an LED. 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: Single pole relay with changeover contacts

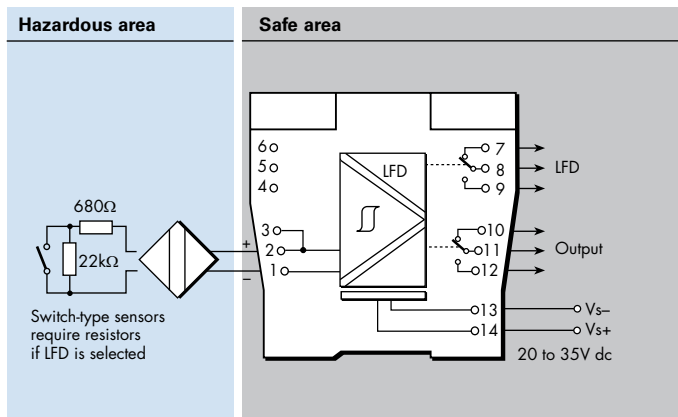
LFD: Single pole relay with changeover contacts

Note: reactive loads must be adequately suppressed

### Relay characteristics

	MTL5514-T
Response time:	10ms maximum
Contact rating (Safe Area):	250V ac, 2A, $\cos\phi > 0.7$ , 40V dc, 2A, resistive load

## MTL5514-T



### 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

### Operating temperature range

$-20^{\circ}C$  to  $+65^{\circ}C$  ( $-6$  to  $+149^{\circ}F$ )

### Safety description

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



Powering Business Worldwide

### Eaton Electric Limited,

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

© 2018 Eaton  
All Rights Reserved  
Publication No.  
EPS5514-T Rev1 230118

### 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

The given data is only intended as a product description and should not be regarded as a legal warranty of properties or guarantee.  
In the interest of further technical developments, we reserve the right to make design changes.