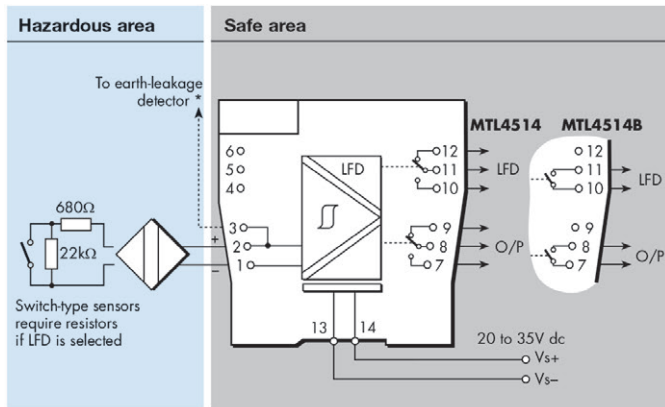


MTL4514/B – MTL5514 SWITCH/ PROXIMITY DETECTOR INTERFACE

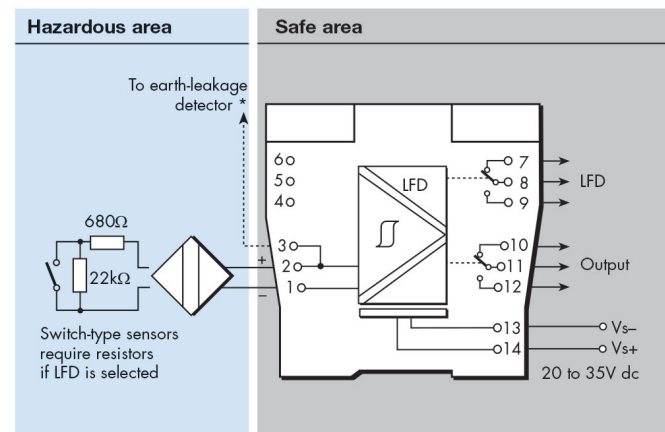
1-channel, line fault detection, phase reversal

The MTLx514 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.

MTL4514/B



MTL5514



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

SPECIFICATION

See also common specification

Number of channels	One	
Location of switches	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 1kΩ ±10%	
Input/output characteristics	<p>Normal phase: Outputs closed if input > 2.1 mA (< 2kΩ in input circuit) Outputs open if input < 1.2mA (> 10kΩ in input circuit)</p> <p>Hysteresis: 200µA (650Ω) nominal</p>	
Line fault detection (LFD) (when selected)	<p>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</p> <p>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 $R_{in} > 360\Omega$</p> <p><i>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</i></p>	
Safe-area output	<p>MTL4514 & MTL5514 Channel: Single pole relay with changeover contacts LFD: Single pole relay with changeover contacts</p> <p>MTL4514B Channel: Single pole relay LFD: Single pole relay</p> <p><i>Note: reactive loads must be adequately suppressed</i></p>	
Relay characteristics	MTL4514/B	MTL5514
Response time:	10ms maximum	10ms maximum
Contact rating:	10W, 0.5A, 35V dc	250V ac, 2A, $\cos\phi > 0.7$, 40V dc, 2A, resistive load

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	
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.	