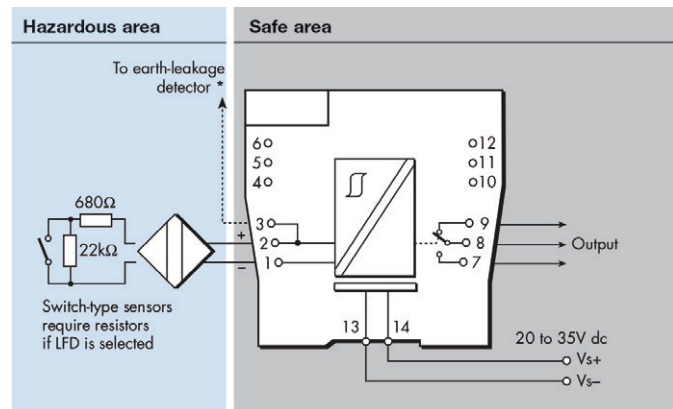


MTL4511 – MTL5511 SWITCH/ PROXIMITY DETECTOR INTERFACE

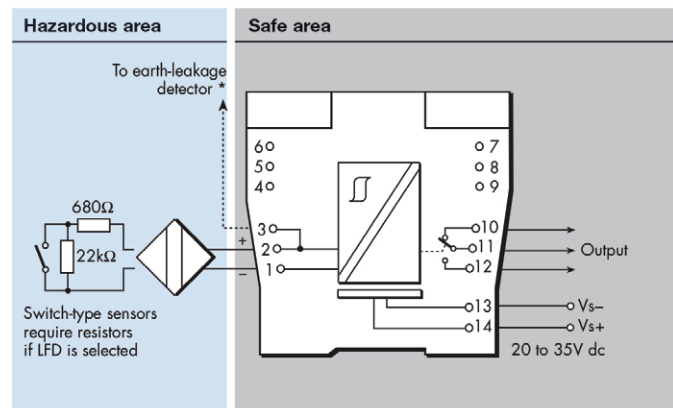
1-channel, with line fault detection

The MTLx511 enables a safe-area load to be controlled by a switch or proximity detector located in a hazardous-area. When selected, open or short circuit conditions in the field wiring are detected by the linefault- detect (LFD) facility and also indicated on the top of the module. Phase reversal for the channel is selected by a switch on the side of the module and output is provided by changeover relay contacts.

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* 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	Normal phase: Outputs closed if input > 2.1 mA (< 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. A line fault is indicated by an LED. The channel output relay is de-energised if an input line fault is 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 $R_{in} > 360\Omega$ <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>	
Safe-area output	Single pole relay with changeover contacts <i>Note: reactive loads must be adequately suppressed</i>	
Relay characteristics		MTL4511
	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
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.