MTL4523L
SOLENOID/ ALARM DRIVER
loop-powered with line fault detection, IIC

With the MTL4523L interface, an on/off device in a hazardous area can be controlled by a voltage signal in the safe area. It is suitable for driving loads such as solenoids. Line fault detection (LFD), which operates when the output is energised, is signalled by a safe-area solid-state switch which energises if a field line is open or short-circuited.

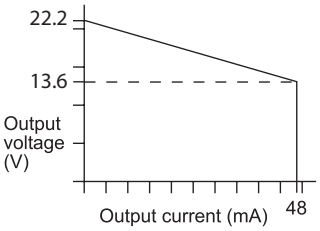
SPECIFICATION

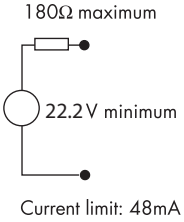
See also common specification

Number of channels
One

Location of load
Zone 0, IIC, T4–6 hazardous area if suitably certified
Div. 1, Group A, hazardous location

Minimum output voltage **Equivalent output circuit**





Input voltage
20 to 35V dc

Hazardous-area output

Minimum output voltage:	13.6V at 48mA
Maximum output voltage:	24V from 180Ω
Current limit:	48mA minimum

Output ripple
< 0.5% of maximum output, peak to peak

Response time
Output within 10% of final value within 100ms

Line fault detection (LFD)
Open or short circuit in field cabling energises solid state line fault signal
LFD transistor is switched off, provided that the field circuit impedance is > 55Ω and < 4kΩ.

Line fault signal characteristics

Maximum off-state voltage:	35V
Maximum off-state leakage current:	10µA
Maximum on-state voltage drop:	2V
Maximum on-state current:	50mA

Note: LFD signal is Zener-diode protected against inductive loads

LED indicators
Yellow: output status, on when output active

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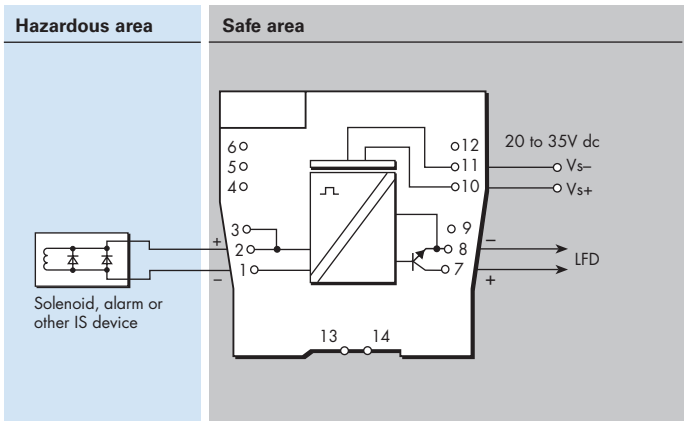

Red: LFD indication, on when line fault detected

Maximum current consumption
100mA at 24V dc

Power dissipation within unit
1.2W with typical solenoid valve, output on

Safety description
U_o=25V I_o=147mA P_o= 0.92W U_m = 253V rms or dc

SIL capable
These models have been assessed for use in IEC 61508 functional safety applications.
SIL3 capable for a single device (HFT=0) when the required function is to de-energise the output.
SIL1 capable for a single device (HFT=0) when the required function is to energise the output.
See data on MTL web site and refer to the safety manual.

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