

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. Earth fault detection can be provided by connecting an MTL4220 earth leakage detector to terminal 3.

SPECIFICATION

See also common specification

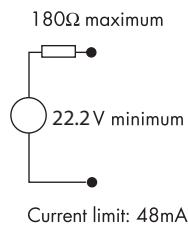
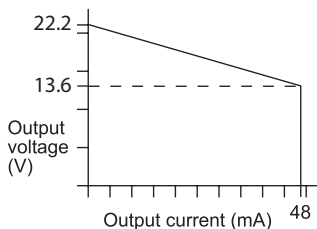
Number of channels

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)

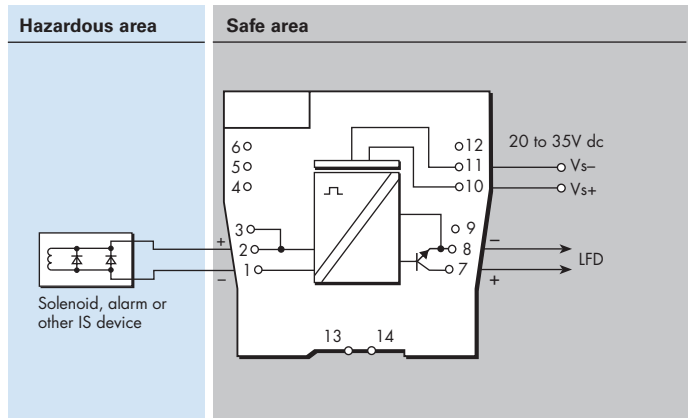
Open or short circuit in field cabling energises solid state line fault signal

LFD transistor is switched on, 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

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LED indicators

Yellow: output status, on when output active

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.



Powering Business Worldwide

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