

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

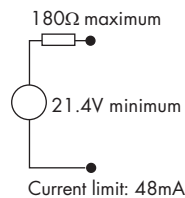
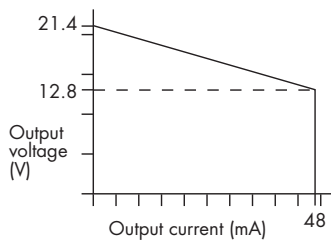
Number of channels

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: 12.8V at 48mA
Maximum output voltage: 24V from 180Ω
Current limit: 48mA

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

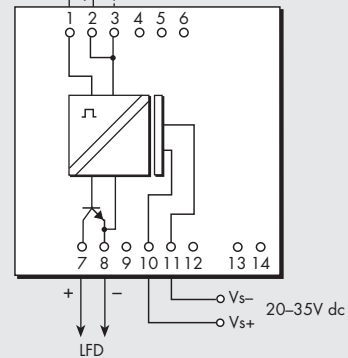
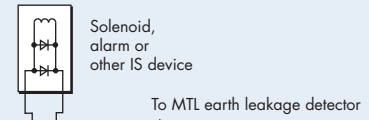
LFD transistor is switched on, provided that the field circuit impedance is > 55Ω and < 6k5Ω.

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

Hazardous area



Safe area

Terminal	Function
1	Output -ve
2	Output +ve
3	To earth leakage detector
7	Line fault signal +ve
8	Line fault signal -ve
10	Supply +ve
11	Supply -ve

LED indicators

Yellow: output status, on when output circuit is active
Red: LFD indication, on when line fault is detected

Maximum current consumption

100mA at 24V dc

Power dissipation within unit

1.2W with typical solenoid valve, output on

Safety description

$V_o = 25V$ $I_o = 147mA$ $P_o = 919mW$ $U_m = 253V$ rms or dc

