

MTL4021 SOLENOID/ ALARM DRIVER



The MTL4021 enables an on/off device in a hazardous area to be controlled by a volt-free contact or logic signal in the safe area. It can drive loads such as solenoids, alarms, LEDs and other low power devices that are certified as intrinsically safe or are classified as non-energy storing simple apparatus. By connecting a second safe-area switch or logic signal, the output can be disabled to enable, for example, a safety system to override a control signal. Earth fault detection can be provided by connecting an MTL4220 earth leakage detector to terminal 6.

SPECIFICATION

See also common specification, cable parameters and approvals

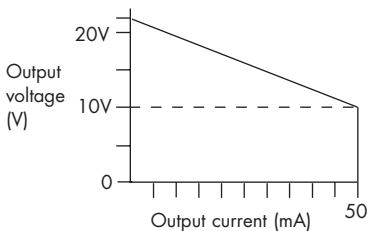
Number of channels

One

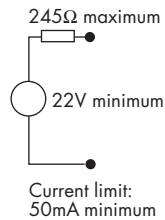
Location of load

Zone 0, IIC, T4-6 hazardous area if suitably certified
Div.1, Group A, hazardous location

Minimum output voltage



Equivalent output circuit



Maximum output voltage

25.5V from 232Ω

Output ripple

<0.5% of maximum output, peak-to-peak

Control input

Suitable for switch contacts, an open collector transistor or logic drive

0 = input switch closed, transistor on or <1.4V applied across terminals 10 & 11

1 = input switch open, transistor off or >4.5V applied across terminals 10 & 11

Override input

An open collector transistor or a switch connected across terminals 8 and 9 can be used to turn the output off whatever the state of the control input

0 = transistor on or switch closed

1 = transistor off or switch open

Control and override inputs

Control input	Override input	Output state
0	0	off
0	1	on
1	0	off
1	1	off

Response time

Output within 10% of final value within 100ms

No-fail earth fault protection

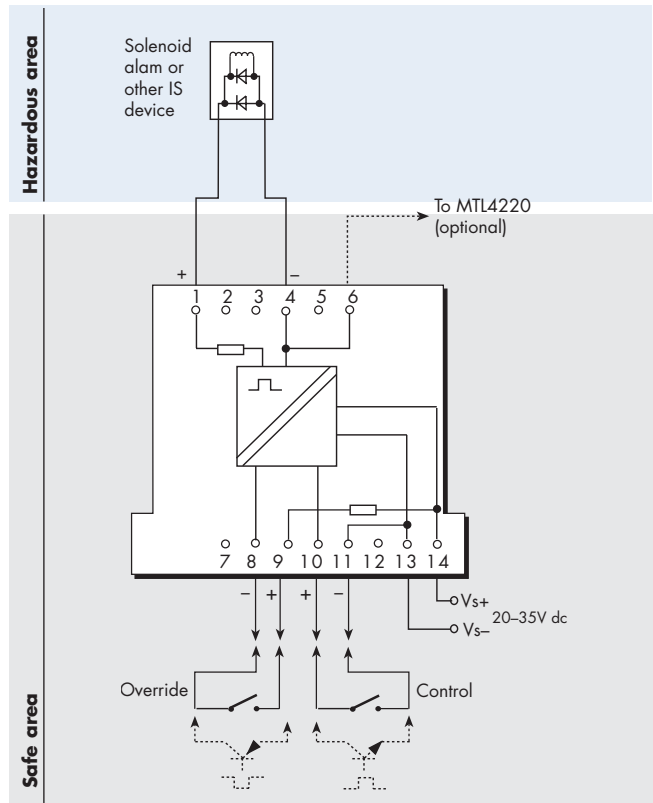
Enabled by connecting terminal 6 to an MTL4220 earth leakage detector

Fault on either line proclaimed: unit continues working

LED indicators

Amber: one provided for status, ON when output circuit is active

Green: one provided for power indication



Terminal	Function
1	Output +ve
4	Output -ve
6	Optional link to MTL4220
8	Override -ve
9	Override +ve
10	Control +ve
11	Control -ve
13	Supply -ve
14	Supply +ve

Power requirement, Vs

100mA at 24V dc

120mA at 20V dc

75mA at 35V dc

Power dissipation within unit

1.3W with typical solenoid valve, output on

1.9W worst case

Isolation

250V ac between safe- and hazardous-area circuits

Safety description

25.5V, 232Ω, 110mA

FM entity parameters

$V_{oc} = 25.5V$ dc, $I_{sc} = 110mA$, $C_d = 0.17\mu F$, $L_d = 3mH$



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