MTL4021S
SOLENOID/ALARM
DRIVER
with 24V logic override facility

CE

The MTL4021S 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. Provided that 24V dc is applied to the override input, the solenoid/alarm can be operated by the control input. However, if the 24V dc signal is removed, the solenoid/alarm is turned off. Earth fault detection can be provided by connecting an MTL4220 earth leakage detector to terminal 6.

SPECIFICATION
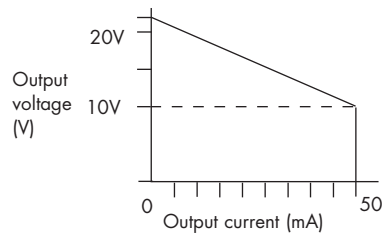### See also common specification, cable parameters and approvals
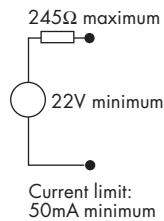
Number of channels
One
Location of load
Zone 0, IIC, T4–6 hazardous area if suitably certified
Div.1, Group A, hazardous location

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
A 24V logic signal applied across terminals 8 and 9 allows the solenoid/alarm to be operated by the control input. If it is disconnected, the solenoid/alarm is off.
0 = <2.0V applied across terminals 8 & 9
1 = >9.0V applied across terminals 8 & 9
(nominal switching point 4.5V)

Control and override inputs

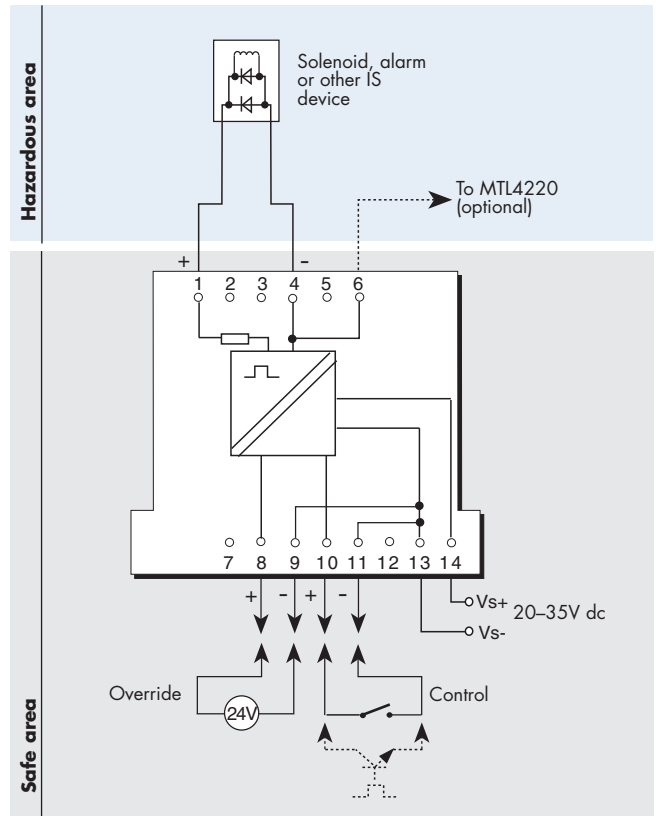| Control input	Override input	Output state
0	0	off
0	1	on
1	0	off
1	1	off

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

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

LED indicators
Amber: one provided for status, ON when output circuit is active
Green: one provided for power indication
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_a = 0.17μF, L_a = 3mH