

# MTL3021 AND 3022

## SOLENOID/ALARM DRIVERS

**MTL3021 – IIC, loop powered**

**MTL3022 – IIB, loop powered**

The MTL3021 enables a device in a hazardous area to be controlled by a switch or voltage change in the safe area. It can drive any certified intrinsically safe, low-power load, for example a solenoid or alarm, as well as non-energy-storing 'simple apparatus' such as an LED. The unit's input/output isolation allows field cables to be earthed and the control switch to be connected into either side of the 24V dc supply circuit. The MTL3022 is similar but provides more power for driving heavy-duty loads eg high-powered solenoid valves in areas where the explosion risk is limited to IIB atmospheres.

### SPECIFICATION

See also 'Common specification'

#### Number of channels

One, fully floating

#### Location of load

Zone 0, IIC, T4–6 hazardous area if suitably certified (3021)

Zone 0, IIB, T4–6 hazardous area if suitably certified (3022)

Div 1, Group A, hazardous location (3021)

Div 1, Group C, hazardous location (3022)

#### Input voltage

20 to 35V dc

#### Input current

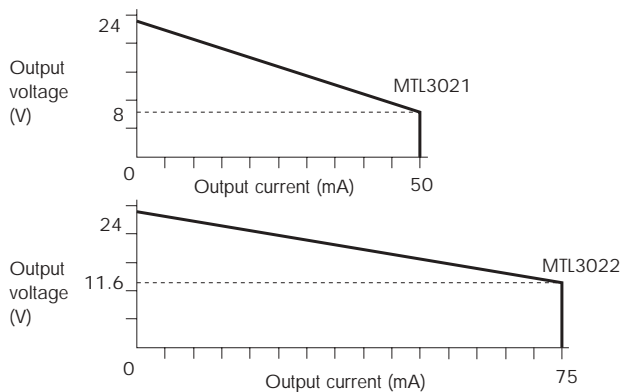
$20\text{mA} + (35\text{V} \div \text{input voltage}) \times \text{output current in mA}$

#### Maximum input current

130mA (MTL3021)

170mA (MTL3022)

#### Minimum output voltage



#### Maximum output voltage

28V from 300Ω, current limited at 65mA (MTL3021)

28V from 151Ω, current limited at 86mA (MTL3022)

#### Output ripple

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

#### Response time

Settles to within 10% of final value after typically 10ms

#### Power requirement (MTL3021)

95mA typical at 24V

130mA maximum at 20 to 35V

#### Power requirement (MTL3022)

130mA typical at 24V

170mA maximum at 20 to 35V

#### Power dissipation within unit (MTL3021)

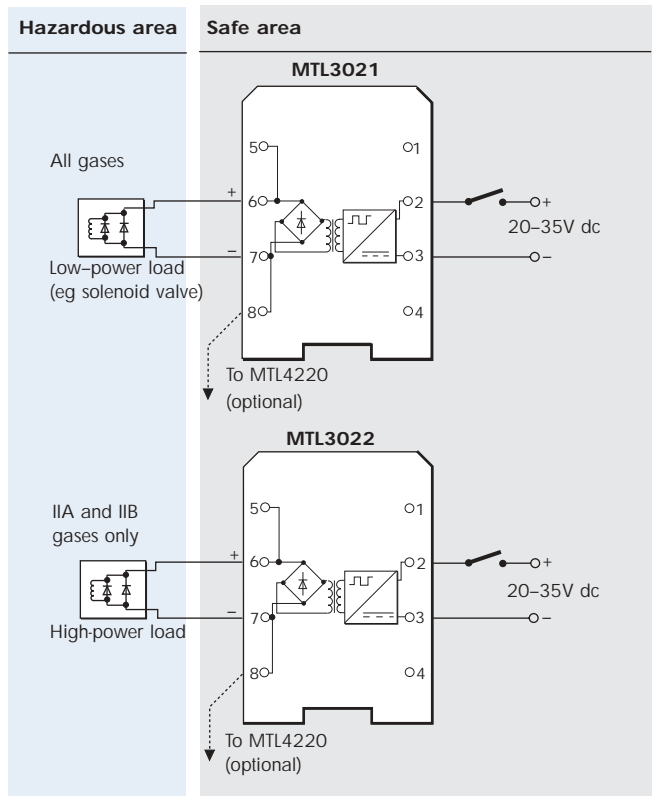
1.9W typical at 24V with 50mA output

2.1W maximum at 35V with 50mA output

#### Power dissipation within unit (MTL3022)

2.3W typical at 24V with 75mA output

2.5W maximum at 35V with 75mA output



#### Replaceable fuse

200mA, 5x20mm glass to DIN 41571 sht.2, semi-time-lag (M)

#### Safety description

28V, 300Ω, 93mA,  $U_m = 250\text{V rms or dc}$  (MTL3021)

28V, 151Ω, 185mA,  $U_m = 250\text{V rms or dc}$  (MTL3022)

#### FM max entity parameters

$V_{oc} = 28\text{V}$ ,  $I_{sc} = 93\text{mA}$ ,  $C_a = 0.13\mu\text{F}$ ,  $L_a = 4.0\text{mH}$  (MTL3021)

$V_{oc} = 28\text{V}$ ,  $I_{sc} = 185\text{mA}$ ,  $C_a = 0.4\mu\text{F}$ ,  $L_a = 4.0\text{mH}$  (MTL3022)

#### Weight

140g

### OTHER APPLICATIONS

The units can be used to drive warning devices such as beacons, audible alarms and LEDs. When used to power these devices care must be taken to ensure that the extra power available from the MTL3022 in IIB gas groups can be tolerated.



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