

# MTL3042 DC ISOLATOR

## 4/20mA

loop-powered for I/P converters

This unit acts like a direct-current transformer. Always powered from the safe-area side, it ensures that the same current flows in the safe and hazardous-area circuits and allows it to be controlled from either. It is intended primarily for isolating and passing on a 4/20mA signal from a controller to drive a current-to-pressure (I/P) converter or a position actuator. If the loop is sensitive to the volt drop introduced by the unit, then the separately powered MTL3045 should be used. Note that the lower-cost MTL3043 can also be used for driving I/P converters in many closed-loop applications with integral control where its lower accuracy is acceptable.

### SPECIFICATION

See also 'Common specification'

#### Number of channels

One, fully floating

#### Location of I/P converter

Zone 0, IIC, T4-6 hazardous area if suitably certified

Div 1, Group A, hazardous location

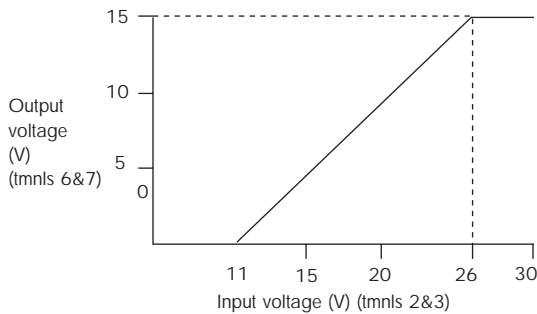
#### Input voltage

11 to 35V dc

#### Input and output signal range

4 to 20mA

#### Minimum output voltage at 20mA



#### Maximum output voltage

28V from 300Ω

#### Input and output circuit ripple

<100μA peak-to-peak

#### Transfer accuracy at 20°C

Better than 50μA

#### Temperature drift

<2μA/°C

#### Response time

Settles to within 10% of final value after typically 70ms

#### Power dissipation within unit

0.4W typical at 24V with 20mA signal

0.5W maximum at 35V with 20mA signal

#### Replaceable fuse

50mA, 5x20mm glass to DIN 41571 sht.2, semi-time-lag (M)

#### Safety description

28V, 300Ω, 93mA,  $U_m = 250V$  rms or dc

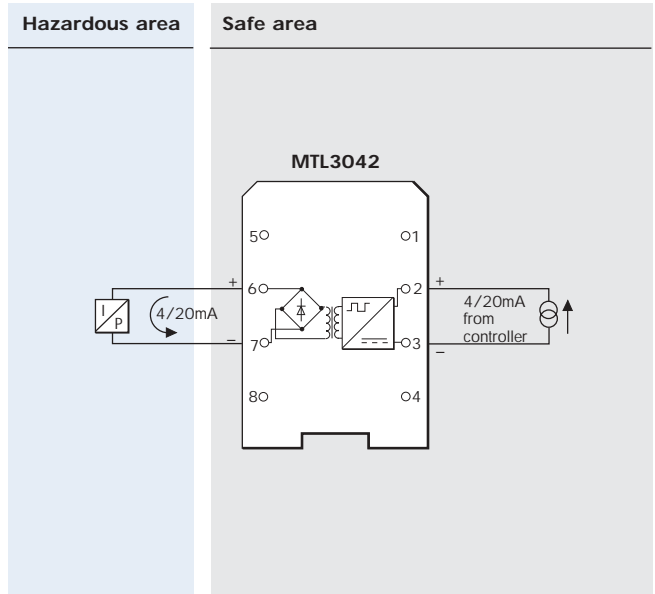
#### FM max entity parameters

$V_{OC} = 28V$ ,  $I_{SC} = 93mA$ ,  $C_a = 0.13\mu F$ ,  $L_a = 4.0mH$

#### Weight

160g

Note: See MTL3045 for separately powered unit.



EUROPE (EMEA)  
AMERICAS  
ASIA PACIFIC  
E-mail: enquiry@mtl-inst.com

Tel: +44 (0)1582 723633  
Tel: +1 603 926 0090  
Tel: +65 487 7887  
Web site: www.mtl-inst.com

Fax: +44 (0)1582 422283  
Fax: +1 603 926 1899  
Fax: +65 487 7997