

# MTL5040 LOOP ISOLATOR

two channel 4/20 mA



MTL5040 provides a fully floating dc supply for energising a conventional 2-wire 4/20mA transmitter located in a hazardous-area and repeats the current in another floating circuit to drive a safe-area load. It also passes on a 4/20mA or 0/20mA signal from a controller located in the safe-area to a load in the hazardous-area.

## SPECIFICATION

See also common specification

### Number of channels

Two

### Location of transmitter and load

Zone 0, IIC, T4-T6 hazardous area if suitably certified  
Div 1, Group A, hazardous location

### Channel 1- Transmitter (analogue input)

#### Safe-area output

Signal range: 4 to 20mA  
Over/under range: 0 to 24mA  
Safe-area load resistance: 0 to 550Ω  
Safe-area circuit output resistance: >2MΩ

#### Hazardous-area input

Signal range: 0 to 24mA (including over-range)  
Transmitter voltage: 16.5V at 20mA

### Channel 2- Driver (analogue output)

#### Safe-area input

Signal range: 4 to 20mA  
Over/under range: 0 to 24mA

#### Hazardous-area output

Maximum load resistance: 550Ω (11V at 20mA)

#### Hazardous-area circuit output resistance:

>2MΩ

#### Input voltage drop

<4V at 20mA

#### Input and output circuit ripple

<40μA peak-to-peak

#### Transfer accuracy at 20°C

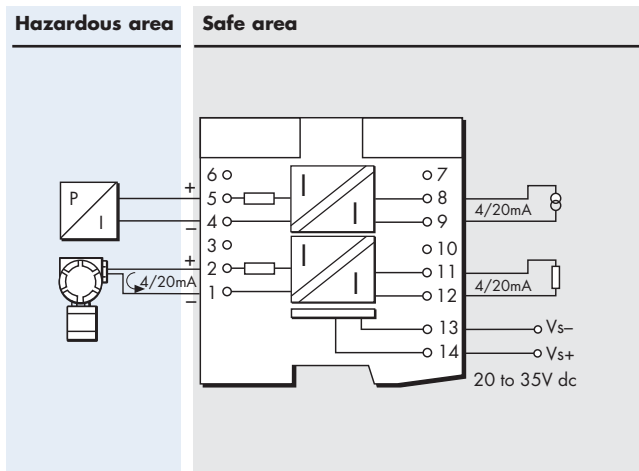
Better than 20μA (typically 5μA)

#### Temperature drift

<1μA/°C (4 to 20mA)

#### Response time

Settles to within 10% of final value within typically 250μs



Terminal	Function
1	Input -ve (transmitter), ch1
2	Input +ve (transmitter), ch 1
4	Output -ve (driver), ch2
5	Output +ve (driver), ch2
8	Input -ve (driver), ch2
9	Input +ve (driver), ch2
11	Output -ve (transmitter), ch1
12	Output +ve (transmitter), ch1
13	Supply -ve
14	Supply +ve

### LED indicator

Green: provided for power indication

### Supply voltage

20 to 35V dc

### Maximum current consumption (with 20mA signal)

95mA at 24V  
110mA at 20V  
70mA at 35V

### Maximum power dissipation within unit (with 20mA signal)

1.6W at 24V  
1.8W at 35V

### Isolation

250V ac between safe circuits, hazardous circuits and power supply circuits

### Safety description

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



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