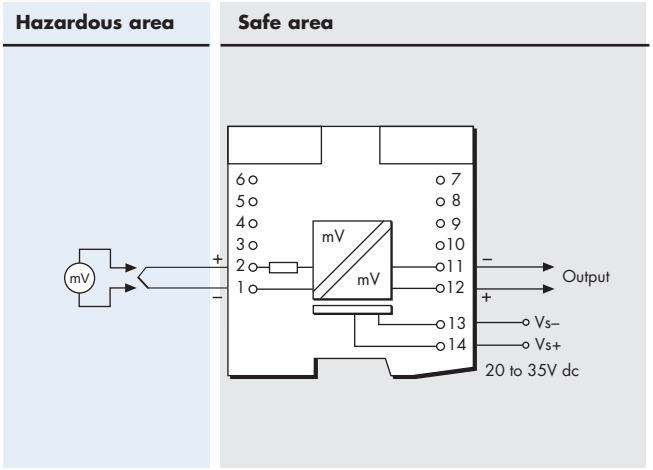
# MTL5081 MILLIVOLT/ THERMOCOUPLE ISOLATOR

CE

MTL5081 takes a low-level dc signal from a voltage source in a hazardous area, isolates it and passes it to a receiving instrument located in the safe area. The module is intended for use with thermocouples utilising external cold junction compensation. A switch located on top of the module enables or disables the safety drive in the event of thermocouple burnout or cable breakage; a second switch permits the selection of upscale or downscale drive as required.




## SPECIFICATION

***See also common specification***

**Number of channels**
One

**Signal source**
Any dc millivolt source

**Location of millivolt source**
Zone 0, IIC, T4–T6 hazardous area if suitably certified
Div 1, Group A, hazardous location

**Input and output signal range**
0 to ±50mV, overrange to ±55mV

**Output resistance**
60Ω nominal

**Transfer accuracy**
Linearity and repeatability <0.05% of reading or ±5µV, whichever is the greater

**Temperature drift**
±(2µV + 0.002% of input) per °C

**Response time**
Settles to within 10% of final value within typically 150µs

**Frequency response**
DC to 4kHz

**Safety drive on THC burnout**
Two switches on top of the module enable or disable the safety drive and select upscale or downscale drive

| Terminal | Function |
|---|---|
| 1 | THC/mV input –ve |
| 2 | THC/mV input +ve |
| 11 | Output –ve |
| 12 | Output +ve |
| 13 | Supply –ve |
| 14 | Supply +ve |

**LED indicator**
Green: provided for power indication

**Power requirement, Vs**
20mA max, 20 to 35V dc

**Maximum power dissipation within unit**
0.5W at 24V
0.7W at 35V

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

**Safety description**

**Terminals 1 and 2**
Non-energy-storing apparatus (≤1.2V, ≤0.1A, ≤20µJ and ≤25mW). Can be connected without further certification into any IS loop with an open circuit voltage <28V.


**EUROPE (EMEA)** Tel: +44 (0)1582 723633 Fax: +44 (0)1582 422283
**AMERICAS** Tel: +1 281 571 8065 Fax: +1 281 571 8069
**ASIA PACIFIC** Tel: +65 6 487 7887 Fax: +65 6 487 7997
**E-mail: enquiry@mtl-inst.com** **Web site: www.mtl-inst.com**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