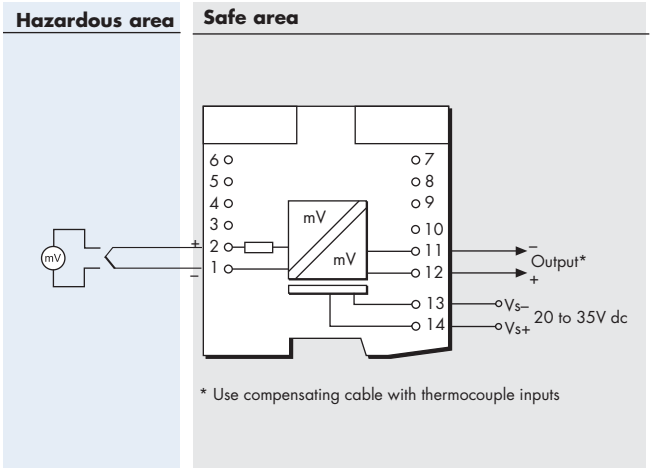
MTL5081 MILLIVOLT/ THERMOCOUPLE ISOLATOR

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.



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

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 typically150µs

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

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, ≤20µA and ≤25mW). Can be connected without further certification into any IS loop with an open circuit voltage <28V.

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