MTL4576-RTD – MTL5576-RTD
TEMPERATURE CONVERTER
RTD/potentiometer input, 2-channel

The MTLx576–RTD converts signals from resistance temperature detectors (RTDs) mounted in a hazardous area, into 4/20mA currents for driving safe-area loads. Software selectable features include input type and characterisation, ranging, monitoring, testing and tagging. Configuration is carried out using a personal computer. The MTLx576–RTD is compatible with 2– and 3–wire RTD inputs. The MTLx576-RTD can also be configured to drive two safe-area loads from a single input.

SPECIFICATION

See also common specification

Number of channels
Two
Signal source
2-/3-wire RTDs to BS 60751
Pt 100, Pt 500, Pt 1000
Cu-50 & Cu-53
Ni 100/500/1000 DIN 43760
Location of signal source
Zone 0, IIC, T4–6 hazardous area
Division 1, Group A, hazardous location
Input signal range
0 to 400Ω (0 to 4000Ω Pt & Ni sensors)
Input signal span
10 to 400Ω (10 to 1000Ω Pt & Ni sensors)
RTD excitation current
200µA nominal
Common mode rejection
120dB for 240V at 50Hz or 60Hz
Series mode rejection
40dB for 50Hz or 60Hz
Calibration accuracy (at 20°C)
(includes hysteresis, non-linearity and repeatability)

Input:	± 80mΩ
Output:	± 16µA

Temperature drift (typical)

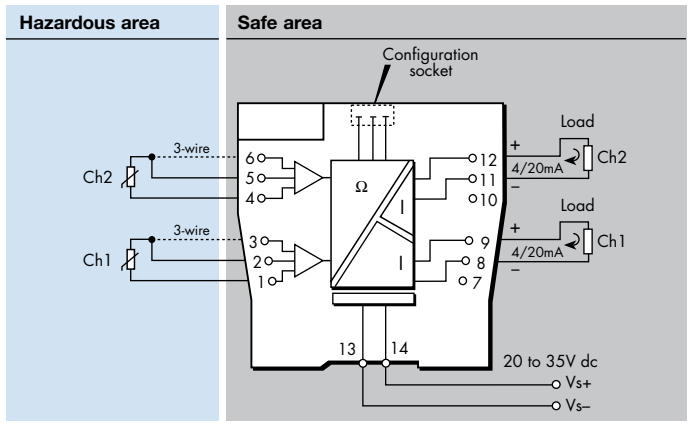
Input:	± 7mΩ/°C
Output:	± 0.6µA/°C

Example of calibration accuracy and temperature drift (RTD input)

Span:	250Ω
Accuracy:	± (0.08/250 + 16/16000) x 100% = 0.13% of span
Temperature drift:	± (0.007/250 x 16000 + 0.6) µA/°C = ±1.0µA/°C

Safety drive on sensor failure
Upscale, downscale, or off
Output range
4 to 20mA nominal into 300Ω max.
Response time
Configurable - 500 ms default
(Accuracy at 100/200ms - contact MTL)

MTL4576-RTD



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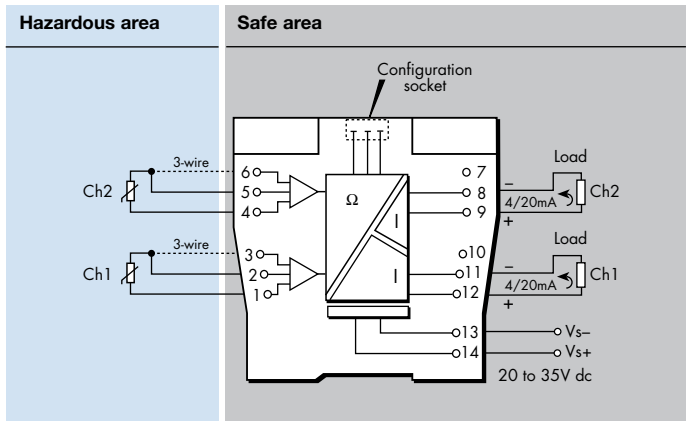

LED indicator
Green: power and status indication
Yellow: one provided for channel status
Red: alarm indication
Power requirement, Vs with 20mA signal
60mA at 24V
Power dissipation within unit with 20mA signal
1.4W at 24V
Isolation
Functional channel–channel isolation for safe and hazardous–area circuits
Safety description
Refer to certificate for parameters. U_m=253V rms or dc
Configurator
A personal computer running MTL PCS45 software with a PCL45USB serial interface.

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