

# 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:  $\pm 80\text{m}\Omega$

Output:  $\pm 16\mu\text{A}$

### Temperature drift (typical)

Input:  $\pm 7\text{m}\Omega/^{\circ}\text{C}$

Output:  $\pm 0.6\mu\text{A}/^{\circ}\text{C}$

### Example of calibration accuracy and temperature drift (RTD input)

Span: 250Ω

Accuracy:  $\pm (0.08/250 + 16/16000) \times 100\%$   
= 0.13% of span

Temperature drift:  $\pm (0.007/250 \times 16000 + 0.6) \mu\text{A}/^{\circ}\text{C}$   
=  $\pm 1.0\mu\text{A}/^{\circ}\text{C}$

### Safety drive on sensor failure

Upscale, downscale, or off

### Output range

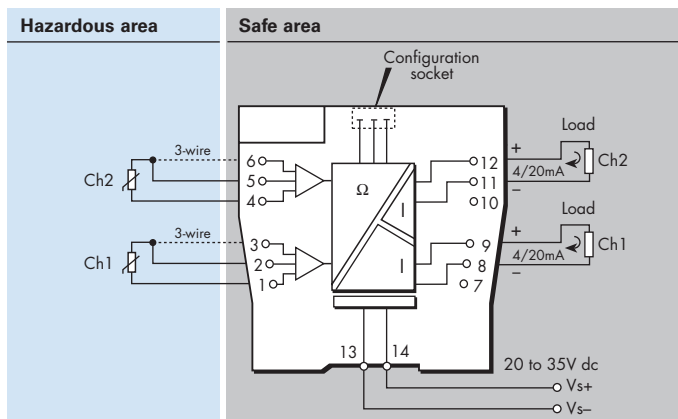
4 to 20mA nominal into 300Ω max.

### Response time

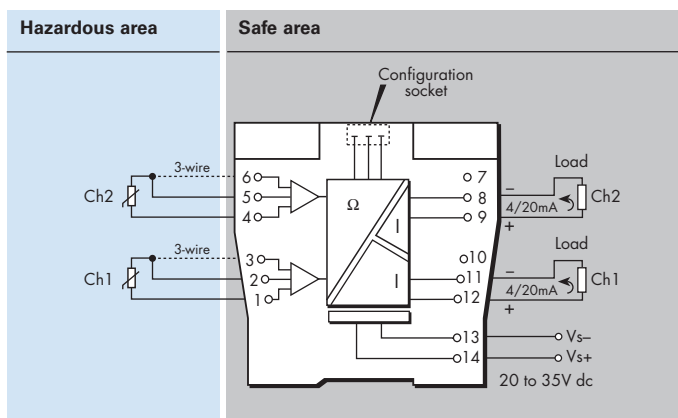
Configurable - 500 ms default

(Accuracy at 100/200ms - contact MTL)

## MTL4576-RTD



## MTL5576-RTD



### 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.  $U_m=253\text{V}$  rms or dc

### Configurator

A personal computer running MTL PCS45 software with a PCL45USB serial interface.



Powering Business Worldwide

### Eaton Electric Limited,

Great Marlings, Butterfield, Luton  
Beds, LU2 8DL, UK.

Tel: + 44 (0)1582 723633 Fax: + 44 (0)1582 422283

E-mail: [mtlenquiry@eaton.com](mailto:mtlenquiry@eaton.com)

[www.mtl-inst.com](http://www.mtl-inst.com)

© 2016 Eaton

All Rights Reserved  
Publication No.

EPSx576R Rev5 010916

### EUROPE (EMEA):

+44 (0)1582 723633 [mtlenquiry@eaton.com](mailto:mtlenquiry@eaton.com)

### THE AMERICAS:

+1 800 835 7075 [mtl-us-info@eaton.com](mailto:mtl-us-info@eaton.com)

### ASIA-PACIFIC:

+65 6 645 9888 [sales.mtlsing@eaton.com](mailto:sales.mtlsing@eaton.com)

The given data is only intended as a product description and should not be regarded as a legal warranty of properties or guarantee.

In the interest of further technical developments, we reserve the right to make design changes.