

## Product Features

- Micro-Processor based design
- Fully field re-programmable with module and PC based software
- Input RTD Pt100 with 3-wire compensation
- 2-wire loop powered 4-20mA output
- Factory calibrated or customer calibrated

## Description

The RT820D Series loop powered RTD temperature transmitters are Micro-processor based and are designed for highest accuracy, highest stability and highest resolution. Based on Intempco's patented MIST technology, they offer the highest performance for the most demanding temperature measurement applications.

The advanced programming, via the MIST PKIT, allows for one or two point calibration, re-scaling, filtering, and tagging. MIST820D units are DIN rail-mounted conforming to DIN standard 46277 package which is very compact.

## Specifications

@Vnom = 24 VDC, T.ambient = 25°C, Span nom. = 100°C

<b>Input :</b>	Pt100, 3-wire, $\alpha=0.00385$ , DIN EN 60751
<b>Output :</b>	4-20 mA loop powered, linear to temperature
<b>Range :</b>	Software re-scalable between -200°C to 600°C. (min. span of 50°C)
<b>Output Resolution :</b>	0.0005 mA (15 bits)
<b>Power Supply :</b>	12-32VDC, polarity protected
<b>Supply Effect :</b>	Less than 0.001 %/V
<b>Long Term Drift :</b>	≤ 0.1 % FS/Year
<b>Excitation Current RTD :</b>	0.2 mA
<b>Sensor Lead Resistance RTD :</b>	RTD resistance +2 times lead wire resistance must be less than 6000 ohms
<b>Accuracy :</b>	<ul style="list-style-type: none"> <li>• <math>\pm(0.10^\circ\text{C} + 0.10\% \text{ of span})</math> with one-point calibration<sup>1</sup>.</li> <li>• <math>\pm(0.05^\circ\text{C} + 0.05\% \text{ of calibrated span})</math> with two-point calibration<sup>2</sup>.</li> </ul>
<b>Span/Zero Adjustment :</b>	By software
<b>Maximum Loop Resistance :</b>	$R_{max} = [V_{supply} - 7.5\text{VDC}] * 40 \text{ ohms}$
<b>Open Circuit Detection :</b>	Upscale 24 mA or Downscale 2.5 mA
<b>Warmup :</b>	30 seconds
<b>RFI Effect :</b>	1 % of span or less
<b>Temperature Effect :</b>	$\pm 0.002^\circ\text{C}/^\circ\text{C}$
<b>Ambient Operating Temperature :</b>	-40°C.....80°C (-40°F....176°F)
<b>Storage Temperature :</b>	-40°C.....80°C (-40°F....176°F)
<b>DIN Rail :</b>	DIN 46277
<b>Housing Material :</b>	Polyamide
<b>Housing Dimensions :</b>	2.44" W x 2.50" H x 0.71" D

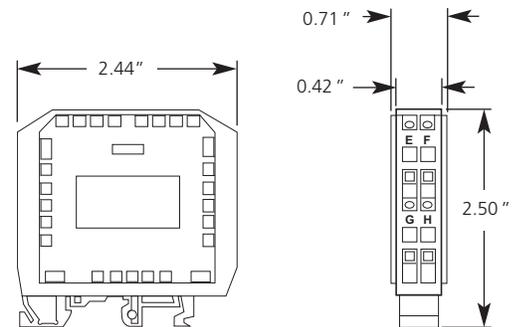
<sup>1</sup> Max. error on complete span. Error at calibration point  $\leq 0.1^\circ\text{C}$ .

<sup>2</sup> Max. error on complete calibrated span. Error at calibration points  $\leq 0.1^\circ\text{C}$ .

- Information furnished by Intempco is believed to be accurate and reliable. However, no responsibility is assumed by Intempco for its use.
- Specifications subject to change without notice.



## Dimensions



Temperature Standard Ranges		Input
°C	(°F)	Pt100 (P)
-50/+50	(-58/+122)	•
0/+50	(32/+122)	•
0/+100	(32/+212)	•
0/+150	(32/+302)	•
0/+200	(32/+392)	•
0/+300	(32/+572)	•
0/+400	(32/+752)	•
0/+600	(32/+1112)	•

For non-standard temperature ranges, specify range

## Custom Builder

Model	Input Code	Range
RT820D	P	( ___ / ___ )

Ex.: RT820D - P - ( 0/100°C )