

Complete Specifications are listed in the T31 Manual available at [www.pyromation.com/TechInfo/Docs/aspx](http://www.pyromation.com/TechInfo/Docs/aspx) or scan QR code



### Resistance Thermometer Input (RTD)

AS PER STANDARD	DESIGNATION	MEASURING RANGE LIMITS	MIN. SPAN
IEC 60751	Pt100 ( $\alpha = 0.00385\text{ }^{\circ}\text{C}^{-1}$ ) Pt1000 ( $\alpha = 0.00385\text{ }^{\circ}\text{C}^{-1}$ )	(-200 to 850) °C [-328 to 1562] °F (-200 to 250) °C [-328 to 482] °F	(10) °C [18] °F
JIS C1604:1984	Pt100	(-200 to 510) °C [-328 to 950] °F	(10) °C [18] °F
	Pt100 (Callendar van Dusen)	The measuring range limits are specified by entering the limit values that depend on the coefficients A to C and R0.	(10) °C [18] °F
<ul style="list-style-type: none"> <li>Type of connection: 2-wire, 3-wire or 4-wire connection, sensor current: <math>\leq 0.3\text{ mA}</math></li> <li>With 2-wire circuit, compensation of wire resistance possible (0 to 30 <math>\Omega</math>)</li> <li>With 3-wire and 4-wire connection, sensor wire resistance up to max. 50 <math>\Omega</math> per wire</li> </ul>			

### Output

Analog Output Signal	4 to 20 mA, 20 to 4 mA (can be inverted)
Failure Information (per NAMUR NE43)	<p>Failure information is created if the measuring information is missing or not valid. The error with the highest priority is displayed.</p> <p>Underranging: Linear drop from 4.0 to 3.8 mA</p> <p>Overranging: Linear increase from 20.0 to 20.5 mA</p> <p>Failure e.g. sensor failure; sensor short circuit: <math>\leq 3.6\text{ mA}</math> ("Low") or <math>\geq 21\text{ mA}</math> ("High"), can be selected</p>
Switch-on delay	<p><math>\leq 5\text{ s}</math>, until the first valid measured value signal is present at the current output.</p> <p>While switch-on delay = <math>I_a \leq 3.8\text{ mA}</math></p>

### Power Supply

Supply Voltage	Values for non-hazardous areas, protected against polarity reversal: $10\text{ V} \leq V_{cc} \leq 36\text{ V}$ (standard)
Current Consumption	3.5 to 22.5 mA

### Performance Characteristics

Response Time	≤ 0.5 s			
Reference operating conditions	Calibration temperature: 25 °C ±3 °C (77 °F ±5.4 °F) • Supply voltage: 24 V DC • 4-wire circuit for resistance adjustment			
Maximum measured error	In accordance with DIN EN 60770 and the reference conditions specified above. The measured error data correspond to ±2 σ (Gaussian distribution). The data include non-linearities and repeatability. MV = measured value			
Transmitter measured error	±0.015 °C or 0.07% of span (whichever is higher) The measured error data correspond to 2 σ (Gaussian distribution)			
Operating Influences	DESIGNATION	STANDARD	AMBIENT TEMPERATURE INFLUENCE (±) PER 1 °C (1.8 °F) CHANGE	SUPPLY VOLTAGE INFLUENCE (±) PER V CHANGE
	Pt100	IEC 60751:2008	(0.04) °C [0.07] °F	(0.02) °C [0.04] °F
	Pt1000		(0.02) °C [0.03] °F	(0.01) °C [0.02] °F
	Pt100	JIS C1604:1984	(0.03) °C [0.05] °F	(0.02) °C [0.03] °F
	Pt100	GOST 6651-94	(0.04) °C [0.07] °F	(0.02) °C [0.04] °F
Long Term Drift (±) (based on measured value, whichever is higher)	After 1 year		(0.05) °C or 0.03% of span	
	After 3 years		(0.06) °C or 0.04% of span	
	After 5 years		(0.07) °C or 0.05% of span	
Calculation of the maximum measured error of the analog value (current output): √(Measured error² + Influence of ambient temperature² + Influence of supply voltage² + Long Term Drift²)				