

INPUT

Complete Specifications are listed in the Series 450 Manual available at www.pyromation.com/TechInfo/Docs/aspix or scan QR code



Resistance Thermometer Input (RTD)

TYPE	MEASUREMENT RANGE	MINIMUM RANGE
Pt100 ($\alpha = 0.00385$)	(-51 to 160) °C [-60 to 320] °F	(10) °C [18] °F
Connection Type	4 wire connection (standard)	
Sensor current	≤ 0.6 mA	

OUTPUT

Output (Analog)

Output signal	(4 to 20) mA or (20 to 4) mA
Transmission as	Temperature linear
Maximum load	$(V_{\text{power supply}} - 10 \text{ V}) / 0.023 \text{ A}$ (current output)
Induced current required	≤ 3.5 mA
Current limit	≤ 23 mA
Switch on delay	2 s
Electronic response time	1 s

Failure Mode

Undershooting measurement range	Decreases to 3.8 mA
Exceeding measurement range	Increases to 20.5 mA
Sensor breakage/short circuit	≤ 3.6 mA or ≥ 21.0 mA

ACCURACY

Accuracy

Electronics measurement error	0.1 °C or 0.08% ^[1]
Reference conditions	Calibration temperature (23 ± 5) °C [73 ± 9] °F
Sensor measurement error	Class A $\pm (0.15 + 0.002 t)$ °C Class B $\pm (0.3 + 0.005 t)$ °C Grade B $\pm (0.25 + 0.0042 t)$ °C Class AA $\pm (0.01 + 0.0017 t)$ °C 1/5 Class B $\pm (0.06 + 0.001 t)$ °C t = value of temperature without regard to sign, °C
Influence of power supply	$\pm 0.01\%/V$ deviation from 24 V ^[2]
Load influence	$\pm 0.02\%/100 \Omega$ ^[2]
Temperature drift	$T_d = \pm (15 \text{ ppm/}^\circ\text{C} \times (\text{full scale value} + 200) + 50 \text{ ppm/}^\circ\text{C of set measuring range}) \times \Delta^\circ$ Δ° = deviation of ambient temperature from the reference operation condition
Electronics long term stability	≤ 0.1 °C/year ^[3] or $\leq 0.05\%/year$ ^{[1][3]}

[1] % is related to the adjusted measurement range (the value to be applied is the greater)

[2] All data is related to a measurement and value of 20 mA

[3] Under reference conditions