

PROGRAMMABLE RTD TEMPERATURE TRANSMITTERS - SERIES 440

Resistance Thermometer Input (RTD)

TYPE	MEASUREMENT RANGE	MINIMUM RANGE
Pt100 (= 0.00385 ° C)	-200 to 650 ° C (-328 to 1202 ° F)	10 ° C (18 ° F)
Connection Type	2 or 3 wire cable resistance compensation possible in the 2 wire system (0 to 20) Ω	
Sensor cable resistance	maximum 11 Ω per cable	
Sensor current	\leq 0.6 mA	

Output (Analog)

Output Signal	(4 to 20) mA or (20 to 4) mA	
Transmission as	Temperature linear	
Maximum Load	(V ^{power supply} -10 V) /0.023 A (current output)	
Digital filters 1st degree	(0 to 8) s	
Induced current required	\leq 3.5 mA	
Current limit	\leq 23 mA	
Switch on delay	4 s (during power 1 _z = 3.8 mA)	
Electronic response time	1 s	

Failure Mode

Undershooting measurement range	Decrease to 3.8mA	
Exceeding measurement range	Increase to 20.5 mA	
Sensor breakage/short circuit	\leq 3.6 mA or \geq 1.0 mA	

Electronic Connection

Power Supply	U _b = (10 to 30) V dc, polarity protected	
Allowable ripple	U _{ss} \leq 5 V at U _b \pm 3 V, f _{max} = 1 KHz	

Resistance Thermometer Accuracy (RTD)

TYPE	MEASUREMENT ACCURACY	
Pt100	0.2 ° C or 0.08% ⁽¹⁾	
Reference conditions	Calibration temperature: 23 \pm 5 ° C (73 \pm 9 ° F)	

General Accuracy

Influence of power supply	\pm 0.01% V deviation from 24 V ⁽²⁾	
Load influence	\pm 0.02%/100 Ω ⁽²⁾	
Temperature drift	T = (15 ppm/° C x (range end value + 200) + 50 ppm/° C x measurement range) x $\Delta\theta$ $\Delta\theta$ = deviation of the ambient temperature according to the reference condition	
Long term stability	\leq 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 end value of 20 mA

(3) Under reference conditions