

Hart Scientific 1529 / 1529-R / 1529-T Specifications

Specifications	PRT / RTD	Thermistor	Thermocouple
Inputs	2 channels PRT/thermistor and 2 channels TC, or 4 channels PRT/thermistor, or 4 channels TC, specify when ordering; PRT/thermistor channels accept 2, 3, or 4 wires; TC inputs accept B, E, J, K, N, R, S, T, and Au-Pt TC types. (Support for C and U type thermocouples is available. Download the application note <i>Using Hart Readouts with Tungsten-Rhenium and other Thermocouples</i> from www.hartscientific.com .)		
Temperature Range	–189 °C to 960 °C	–50 °C to 150 °C	–270 °C to 1800 °C
Measurement Range	0 to 400 Ω	0 to 500 KΩ	–10 to 100 mV
Characterizations	ITS-90, IEC-751 (DIN "385"), Callendar-Van Dusen	Steinhart-Hart, YSI-400	NIST Monograph 175, 3-point deviation function applied to NIST 175, 6th-order polynomial
Temperature Accuracy (meter only)	±0.004 °C at –100 °C ±0.006 °C at 0 °C ±0.009 °C at 100 °C ±0.012 °C at 200 °C ±0.018 °C at 400 °C ±0.024 °C at 600 °C	±0.0025 °C at 0 °C ±0.0025 °C at 25 °C ±0.004 °C at 50 °C ±0.010 °C at 75 °C ±0.025 °C at 100 °C	Ext. RJC Int. RJC B at 1000°C ±0.6°C ±0.6°C E at 600°C ±0.07°C ±0.25°C J at 600°C ±0.1°C ±0.35°C K at 600°C ±0.15°C ±0.4°C N at 600°C ±0.15°C ±0.3°C R at 1000°C ±0.4°C ±0.5°C S at 1000°C ±0.5°C ±0.6°C T at 200°C ±0.1°C ±0.3°C
Temperature Resolution	0.001 °	0.0001 °	0.01 to 0.001 °
Resistance/Voltage Accuracy	0Ω to 20Ω: ±0.0005Ω 20Ω to 400Ω: ±25 ppm of rdg.	0Ω to 5 KΩ: ±0.5Ω 5 KΩ to 200 KΩ: ±100 ppm of rdg. 200 KΩ to 500 KΩ ±300 ppm of rdg.	–10 to 50 mV: ±0.005 mV 50 to 100 mV: ±100 ppm of rdg. (Internal RJC: ±0.25 °C)
Operating Range	16 °C to 30 °C		
Measurement Interval	0.1 second to 1 hour; inputs may be read sequentially or simultaneously at 1 second or greater interval		
Excitation Current	1 mA, reversing	2 and 10 µA, automatically selected	n/a
Display	33 x 127 mm (1.3 x 5 in) backlit LCD graphical display		
Display Units	°C, °F, K, Ω, KΩ, mV		
Data Logging	Up to 8,000 time- and date-stamped measurements can be logged		
Logging Intervals	0.1, 0.2, 0.5, 1, 2, 5, 10, 30, or 60 seconds; 2, 5, 10, 30, or 60 minutes		
Averaging	Moving average of most recent 2 to 10 readings, user selectable		
Probe Connection	Patented DWF Connectors accept mini spade lug, bare-wire, or mini banana plug terminations		Universal receptacle accepts miniature and standard TC connectors
Communications	RS-232 included, IEEE-488 (GPIB) optional		
AC Power	100–240 VAC, 50-60 Hz, 0.4 A		
DC Power	12–16 VDC, 0.5 A (battery charges during operation from 14.5 to 16V DC, 1.0A)		
Battery	NiMH, 8 hours of operation typical without backlight, 3 hours to charge, 500 cycles		
Size (HxWxD)	102 x 191 x 208 mm (4.0 x 7.5 x 8.2 in)		
Weight	2 kg (4.5 lb.)		

