

#### Description

The Transcat ProLine 5102RTC-1 Universal Temperature Calibrator is an ideal device to handle all of your temperature calibration needs in a truly rugged, low-cost package. It combines virtually all widely used thermocouples and RTDs in one device — you'll never have to worry about finding a temperature device you can't calibrate.

This is especially true when calibrating “smart” or pulsed RTD transmitters, where many other calibrators fail to work or operate at reduced accuracy specs. The 5102RTC-1 handles those applications with ease.



#### Features:

- Calibrate thermocouples and RTDs with one unit
- Works with Rosemount 3144 and all other smart transmitters
- Direct keyboard entry or scroll control of output
- User-defined setpoints
- High accuracy  $\pm 0.4^{\circ}\text{C}$  J T/C and  $\pm 0.3^{\circ}\text{C}$  4W PT385 RTD; all errors included
- Ten (10) T/C types and eight (8) RTD types including PT 385 (1,000 Ohm) and Cu (10 Ohm)
- NEMA 4 rated case, rugged design
- RTD simulation works with all pulsed (smart) transmitters
- YSI 400 series thermistor range for medical applications
- Standard mini-plug connections for T/C
- Standard banana jack connections for RTDs
- Store up to nine (9) setpoints for each output function
- RS232 interface
- Supplied in full rubber boot

# Transcat ProLine 5102RTC-1 Universal Temperature Calibrator

**Specifications** (23 °C ±5 °C unless otherwise noted)

**Ranges**

Ranges T/C J, K, T, E, R, S, N, B, L, U, including -10 to 75 mV  
 RTD Pt 385 (100, 200, 500, 1000 Ohms), Pt 392, JIS, Ni120, Cu10, YSI 400  
 Ohm 0.0 to 400.0; 400 to 3,200 mV -10 to +75

**RTD IEX-Range** 0.01 mA to 3 mA

**RTD Frequency Response** 10 ms; works with all pulsed transmitters

**Environmental** Operating Temperature -10 °C to +50 °C  
 Storage Temperature -20 °C to 60°C

**Power Requirements** 6 VDC  
 Batteries 4 AA alkaline batteries, 30 hours typ. op. time

**Mechanical**  
 Dimensions 8.7" H x 4.2" W x 2.3" D (220.9 x 106.6 x 58.4 mm)  
 Weight 30 ounces (849 gms)

**Mechanical**  
 Dimensions 5.7" x 3.15" x 1.43" (14.47 cm x 8.00 cm x 3.63 cm)  
 Weight 12 ounces (340 gms)

**Accessories Included** Test leads, 4 AA alkaline batteries, instruction manual

RTD Read and Source			
Range	Minimum	Maximum	Accuracy
Ni120 (672)	-80.0	260.0	0.2 °C
Pt 100 (385)	-200.0	800.0	0.33 °C
Pt 100 (3926)	-200.0	630.0	0.3 °C
Pt 100 (3916)	-200.0	630.0	0.3 °C
Pt 200 (385)	-200.0	630.0	0.8 °C
Pt 500 (385)	-200.00.0 500.0	500.0 630.0	0.3 °C 0.4 °C
Pt 1000 (385)	-200.0 100.0	100.0 680.0	0.2 °C 0.3 °C
Cu10	-100.0	250.0	2.2 °C
YSI400	15.0	50.0	0.05 °C

Thermocouple Read and Source (all errors incl.)			
Range	Minimum	Maximum	Accuracy
<b>J</b>	-200.0	0.0	0.6 °C
	0.0	1,200.0	0.4 °C
<b>K</b>	-200.0	0.0	0.8 °C
	0.0	1,370.0	0.5 °C
<b>T</b>	-200.0	0.0	0.6 °C
	0.0	400.0	0.5 °C
<b>E</b>	-200.0	0.0	0.5 °C
	0.0	950.0	0.4 °C
<b>R</b>	-20.0	0.0	2.4 °C
	0.0	500.0	1.7 °C
	500.0	1,750.0	1.3 °C
<b>S</b>	-20.0	0.0	2.4 °C
	0.0	500.0	1.7 °C
	500.0	1,750.0	1.4 °C
<b>B</b>	600.0	800.0	2.1 °C
	800.0	1,000.0	1.7 °C
	1,000.0	1,800.0	1.3 °C
<b>L</b>	-200.0	0.0	0.45 °C
	0.0	900.0	0.4 °C
<b>U</b>	-200.0	0.0	0.7 °C
	0.0	400.0	0.45 °C
<b>N</b>	-200.0	0.0	1.1 °C
	0.0	1,300.0	0.6 °C
<b>mV</b>	-10.0	75.00	0.014% ±2

**Temperature Probes & Kit**

A variety of temperature probe configurations are available for use with Thermocouple Calibrators. All are Type-K, and feature ±2.2 °C/±0.75% or ±3.9 °F/±0.75% accuracy.



**TP Kit includes:**  
**TP-K01 through TP-K06**

**80PK-1 — Bead Probe**  
 -50 °C to 200 °C; -58 °F to +392 °F

**80PK-22 — Immersion Probe**  
 -50 °C to 700 °C; -58 °F to +1,292 °F

**80PK-3A — Surface Probe**  
 -50 °C to 400 °C; -58 °F to +752 °F

**80PK-25 — Piercing Probe**  
 -50 °C to 600 °C; -58 °F to +1,122 °F

**80PK-3A — Surface Probe**  
 -50 °C to 400 °C; -58 °F to +752 °F

**80PK-24 — Air & Gas Probe**  
 -50 °C to 800 °C; -58 °F to +1,504 °F

**T/C Cable Kits**

All cables are terminated with a standard mini-connector on one end and bare leads on the other.

**80029 — Kit includes:**  
**Types J, K, T, and E T/C cables**

**80036 — Kit includes:**  
**Types R, S, N, and B cables**

