



# Datalogging Thermocouple Calibrator

The only multi-thermocouple handheld calibrators assembled in the U.S.A. that offer superior accuracy for 14 thermocouples, 500-hour battery life, and a 3-year warranty.



**NEW CHALLENGES** require new tools. TEGAM has rethought temperature calibrators to offer you the performance you need today without complicating your work. The new 940 Series provides laboratory grade calibrations in a highly portable package that goes to the work-site with ease. Industries that measure temperature are being pushed to achieve better results for both quality and product safety. **TEGAM** has responded by designing an instrument that leads its class in terms of accuracy, battery life, convenience and ease of use.

When you venture out into the field or plant to perform service work, you need a **durable** tool that you can count on. TEGAM has over 30 years of experience building hand held instruments for challenging environments. That's why we designed the 940 series to meet MIL-PRF-28800F for shock, drop and vibration tests. The keypad is a sealed design that rejects fluids and dirt without compromising tactile feedback. No matter how good the tool is, it is useless with dead batteries. We gave the 940 Series exceptional **10X battery life** of its competitors with 3 AA batteries so that you aren't disappointed in the field.

More **stringent calibration requirements** drive the need for better tools. Tighter process controls and quality standards mean your old calibrator doesn't measure up anymore. TEGAM has designed the most accurate calibrator in a portable package. While it is difficult to recreate the temperature controlled environment that a lab provides, you can use an instrument that delivers **laboratory grade accuracy** with clear specifications that let you determine the exact level of field performance you do achieve. TEGAM's new 940 Series calibrators compensate for the ambient temperature. This allows you to perform calibrations with confidence in diverse conditions.

The app-based data-logging feature of the TEGAM 948A calibrator allows users to accurately record and store time-stamped measurements at the touch of a button, review them and transfer them, using Bluetooth® low energy technology, via a mobile device or PC, to local or cloud storage at their convenience. This seamless connectivity allows the user to collect, transmit and store accurate temperature data for analysis or compliance reporting without any additional or third-party software.

A highly capable instrument can often imply complexity. TEGAM engineers appreciate **simplicity** and designed the 940 Series to be easier to use than the competitors. Our goal was to make the technician productive when they first picked up the instrument. With one key, the user can perform a 10% / 90% calibration without reading the manual. Another key increments 0%/25%/50%/75%/100% for rapid 5 point checks. Setting any specific temperature is equally easy as are step and ramp modes.

Like all TEGAM products, the 900 Series calibrators are designed, assembled and tested in the United States. TEGAM backs this durable instrument with a standard **3-year warranty** to assure you that your investment is sound.

**When the Measurement Matters, Be Certain with TEGAM.**

## FEATURES

- Laboratory Accuracy  $\pm 5 \mu V$  based on recommended calibration cycle
- Resolution: 0.01°
- 10x Battery Life
- Simultaneous Source / Measure
- MIL-STD Durability
- Easy One Hand Operation
- Calibration Report Included
- Meets SAE AMS 2750E requirements as a secondary standard instrument
- Assembled in USA



### Specifications

<b>Source / Measure Accuracy*</b>	±0.005% (Rdg) ±5 µV	18 to 28 °C
<b>Recommended Calibration Cycle</b>	1 year	
<b>Resolution</b>	1 µV, 0.01°	<b>Range</b> -15mV – 85mV
<b>Cold Junction Error</b>	±0.15°C	
<b>Display</b>	5-Digit Auto-Resolution (0.1/0.01) with Backlight and Function Annunciators	

\*Accuracy based on recommended calibration cycle.

945A MAXIMUM UNCERTAINTY OVER 100° INTERVALS														
Range °C	K	J	T	E	N	B	R	S	G	C	D	"P"	L	U
-200* to -100	0.8	0.7	0.7	0.6	0.9								0.6	0.8
-100 to 0	0.4	0.3	0.4	0.3	0.4		1.9	1.5					0.4	0.5
0 to 100	0.3	0.3	0.3	0.3	0.3		1.1	1.1	4.0	0.5	0.6	0.3	0.3	0.3
100 to 200	0.3	0.2	0.2	0.2	0.3		0.8	0.8	1.0	0.4	0.4	0.3	0.4	0.3
200 to 300	0.3	0.2	0.2	0.2	0.3		0.7	0.7	0.6	0.4	0.4	0.2	0.3	0.3
300 to 400	0.3	0.2	0.2	0.2	0.2		0.6	0.7	0.5	0.4	0.3	0.2	0.5	0.5
400 to 500	0.3	0.2	0.2	0.2	0.2		0.6	0.6	0.4	0.4	0.3	0.2	0.3	0.3
500 to 600	0.3	0.2		0.2	0.2		0.6	0.6	0.3	0.3	0.3	0.2	0.3	0.3
600 to 700	0.3	0.2		0.2	0.2	0.9	0.5	0.6	0.3	0.4	0.3	0.2	0.4	
700 to 800	0.3	0.2		0.2	0.2	0.9	0.5	0.6	0.3	0.4	0.3	0.2	0.4	
800 to 900	0.3	0.2		0.2	0.2	0.8	0.5	0.6	0.3	0.4	0.3	0.2	0.3	
900 to 1000	0.3	0.2		0.2	0.2	0.7	0.5	0.5	0.3	0.4	0.3	0.3		
1000 to 1100	0.3	0.2			0.3	0.7	0.5	0.5	0.3	0.4	0.3	0.3		
1100 to 1200	0.3	0.3			0.3	0.7	0.5	0.5	0.3	0.4	0.3	0.3		
1200 to 1300	0.3				0.3	0.7	0.5	0.6	0.3	0.4	0.3	0.3		
1300 to 1400	0.3					0.7	0.5	0.5	0.3	0.4	0.3	0.3		
1400 to 1500						0.7	0.5	0.5	0.3	0.4	0.3			
1500 to 1600						0.6	0.5	0.6	0.3	0.4	0.3			
1600 to 1700						0.7	0.5	0.6	0.3	0.4	0.3			
1700 to 1800						0.6	0.5	0.6	0.3	0.4	0.3			
1800 to 1900									0.3	0.4	0.3			
1900 to 2000									0.3	0.4	0.4			
2000 to 2100									0.3	0.5	0.4			
2100 to 2200									0.3	0.5	0.4			
2200 to 2300									0.3	0.5	0.4			

\*Or Lower Limit of Thermocouple Type

See Operation Manual, Appendix D, for Detailed Accuracies

<b>Connector Type</b>	Mini-TC	
<b>Temperature Units</b>	°C, °F, mV	
<b>Probe Zero Function</b>	Resolution 0.1 °C/°F	
<b>Reading Rate</b>	3/sec. for Readings and TREND indicators	
<b>Battery Type</b>	3 AA (IEC LR6, ANSI 15) Alkaline	
<b>Battery Life</b>	500 Hours	
<b>Statistics</b>	Min, Max, Avg, Rng, and Std Dev	
<b>Operating Environment:</b>		
<b>Temperature</b>	-20 to 55 °C	-4 to 131 °F
<b>Humidity</b>	5 to 95%, 10 to 30 °C	
<b>Altitude</b>	0 to 4600 m	0 to 15,092 ft.
<b>Vibration</b>	Random 10-500 Hz, 0.03 g <sup>2</sup> /Hz	
<b>Shock</b>	30g Half Sine	
<b>Drop</b>	4 drops from 1 m to concrete	
<b>Compliance, Electrical</b>	CE, MIL-PRF-28800F Class 2	
<b>Compliance, Substances</b>	RoHS 2 Directive 2011/65/EU Compliant, REACH	
<b>Dimensions</b>	193 X 84 X 28 mm	7.6 X 3.3 X 1.1 in.
<b>Weight</b>	362.9 g	12.8 oz
<b>Warranty</b>	3 year Parts & Workmanship	

Ordering Information	Model	Description
Calibrator	945A	Thermocouple Calibrator
SAE AMS 2750 Calibration	945-2750	SAE AMS 2750 Compliant Calibration
Included Accessories	3 AA Batteries, Quick Start Guide, Tilt Stand/Magnetic, Calibration Report	
Optional Accessories	911-911	Foam-Filled Hard Carry Case
	9K002MTC36	3' Type K Wire Probe
	940-912K 940-912J 940-912T 940-912E 940-912U 940-912R/S 940-912N	Calibration Adapter Cable <i>Available in Type K, J, T, E, U, R/S, or N :</i> Includes a 3' calibration cable terminated with a male MTC and ¼" spade lug; a standard thermocouple connector; and a standard to male mini adapter.
	700-915	Sure Grip Cover
	940-913	Calibration Kit includes four 3' cal cables of each Type K, J, T & E terminated with a male MTC connector and copper alligator clips; a 9K002MTC36 3' Type K wire thermocouple sensor; all packaged in a 911-911 foam-filled hard carry case.
	Available Probes	See TEGAM Temperature <a href="#">Probe Selection Guide</a> for available wire, immersion, piercing, gas, pipe clamp and surface type probes.