TEGAM

THERMOCOUPLE CALIBRATOR

Model 945A

MADE IN U. S. A.

Industrial Thermocouple Calibrator

The only multi-thermocouple handheld calibrators made 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.

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 ±5 µV
- 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
- Made in USA

Prices and specifications subject to change without notice.
945A-909 Rev. A

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Specifications

Source / Measure Accuracy	±0.003% (Rdg) ±5 µV	18 to 28 °C	
Resolution	1 µV, 0.01°	**Range**	-15mV – 85mV
Cold Junction Error	±0.15°C		
Display	5-Digit Auto-Resolution (0.1/0.01) with Backlight and Function Annunciators		

Source / Measure Accuracy* over range of 18 to 28°C (64.4 to 82.4°F) | CJC error included

TC Type	°C Range	°C
J	-200 to -160	±0.7 to ± 0.5
	-160 to -110	±0.4
	-110 to 10	±0.3
	10 to 1200	**±0.2**
K	-230 to -160	±1.2 to ±0.6
	-160 to -90	±0.5 to ± 0.4
	-90 to 380	±0.3
	380 to 665	**±0.2**
	665 to 1372	±0.3
T	-260 to -190	±2.6 to ±0.7
	-190 to -120	±0.6 to ± 0.5
	-120 to -70	±0.4
	-70 to 80	±0.3
	80 to 400	**±0.2**
E	-240 to -150	±1.2 to ±0.4
	-150 to -100	±0.4
	-100 to 20	±0.3
	20 to 1000	**±0.2**
N	-230 to -150	±1.6 to ±0.7
	-150 to -50	±0.5
	-50 to 215	±0.3
	215 to 1300	**±0.2**
U T-DIN	-200 to -75	±0.8 to ±0.5
	-75 to 0	±0.4
	0 to 385	±0.3
	385 to 600	**±0.2**

TC Type	°C Range	°C
L J-DIN	-200 to -90	±0.6 to ±0.4
	-100 to -40	±0.4
	-40 to 655	**±0.3**
	655 to 665	±0.4
	665 to 900	±0.3
R	-15 to 100	±1.2 to ±0.8
	100 to 240	±0.7
	240 to 495	±0.6
	495 to 1768	**±0.5**
B	310 to 595	±1.8 to ±1.0
	595 to 830	±0.9
	830 to 965	±0.7
	965 to 1820	**±0.6**
S	-20 to 75	±1.2 to ±0.9
	75 to 150	±0.8
	150 to 285	±0.7
	285 to 1768	**±0.6**
P	**0 to 1395**	**±0.3**
C	0 to 60	±0.5
	60 to 2200	**±0.4**
	2200 to 2315	±0.5
G	100 to 240	±1.0 to ±0.6
	240 to 310	±0.5
	310 to 460	±0.4
	460 to 2315	**±0.3**
D	0 to 100	±0.6 to ±0.5
	100 to 230	±0.4
	230 to 2315	**±0.3**

*** See Graphs in Manual for Detailed Accuracies**

THERMOCOUPLE CALIBRATOR

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

Ordering Information	Model	Description	More Info
Calibrator	**945A**	Thermocouple Calibrator	
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 *Available in Type K, J, T, E, U, R/S, or N :* 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.	
	940–913	Calibration Kit includes four 3' cal cable 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 Probe Selection Guide for available wire, immersion, piercing, gas, pipe clamp and surface type probes.		

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