



Applied Resources, Inc.

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ACCURACY

UTILITY

VERSATILITY

PRICE

AK20a Thermocouple Calibrator

15 T/C types plus mV

J,K,T,E,R,S,B,N,G,C,D,P,L,U,M & mV

3 temperature standards

ITS-48, IPTS-68 & ITS-90

4 engineering units

Display/Enter readings in °F, °C, Kelvin, °Rankin

Unbeatable accuracy

0.008% of reading + 2 μ V

Selectable 1°, .1° or .01° resolution.

Automatic reference junction compensation.

Easy to use functions assist calibration

Ramp Functions: adjustable amplitude, rate of travel and soak time.

Step Function: automatic or manual stepping through up to 101 calibration points.

Data Logging: automatic or manual logging of over 1400 readings for later review. Upload to PC for trend analysis.

Menu driven operation

32 character display, 16 key tactile keypad. All functions have user-friendly operator prompts.

No user's manual need!

Long battery life

4 user-replaceable AA batteries provide months of use.

Both alkaline and rechargeable NiCd are suitable.

Re-programmable Flash Memory!

A first of its kind innovation, firmware updates and enhancements can be downloaded to the calibrator from the Internet.

Fusesless overload protection

Withstands 125 Volts AC without damage.

Our Model AK20a Thermocouple Calibrator has been designed to source and measure T/C's over the entire industrial temperature range, using any existing temperature standards. Use with transmitters, recorder, controllers, alarms, indicators, data loggers, and computer systems.



Source mode simulates a T/C sensor and displays the simulated temperature output on the right side of the display while the reference junction temperature is measured and displayed on the left. The STEP function manually or automatically steps the output at any user-specified interval to allow one-man to set zero/span, or run linearity checks. The RAMP function will slew the simulated temperature from one setpoint to another to assist a technician in checking controller performance, chart recording and alarms.

Measure mode measure the thermocouple output and displays the reading on the right side of the display while the reference junction temperature is measured and displayed on the left. Recall minimum, maximum and average readings, or automatically store readings in the data log at user-specified intervals to review and upload later for trend analysis.

Specifications

Mechanical

Size: 5.6 x 3.6 x 1.3 inches
 Weight: 12 oz.
 TC/mV Connectors: Miniature TC Connector

Environmental:

Operating Temperature: 0 to 50 °C
 Storage Temperature: -20 to 60 °C
 Humidity: 10 to 90% RH non-condensing

Power:

Batteries: 4 replaceable AA cells
 Battery life: 140 hours typical
 Overload Protection: 125 VAC without damage (fuseless)

Functions

STEP: automatic/manual stepping through up to 101 calibration points with optional soak time.

RAMP: simulated temperature output ramp with adjustable amplitude, travel time and soak time.

MIN/MAX: display minimum, maximum, mean, and average readings.

BATTERY SAVE: when enabled, turns calibrator off after 30 minutes of no keypad activity.

BATTERY CHECK: displays battery voltage.

JOURNAL: transmits measurements over the RS232 port at user-specified intervals.

DATA LOG: automatic or manual logging of over 1400 readings for later review. Upload them to your PC for trend analysis.

Warranty

Applied Resources products are warranted to be free from all latent defects in material and workmanship under normal use and service. Should any of our products be found to be defective within one (1) year from date of purchase, Applied Resources will replace, repair, or adjust the equipment at our option. The defective product shall be sent to the Applied Resources manufacturing facility with all transportation charges prepaid.

Accessories and Ordering Information

The AK20a Thermocouple calibrator comes with User's Guide, RS-232 cable, and 4 AA alkaline batteries.

MODEL AK20a Thermocouple Calibrator AK-20a
 CARRYING CASE AK-05

Ranges and Accuracy

Function	Range	Accuracy 20-30 °C	Accuracy 0-50 °C
mV	-10 – +100 mV	.008% rdg + 2uV	.025% rdg + 2uV
J	-210 – -191 °C -190 – 949 °C 950 – 1200 °C	.19 °C .15 °C .18 °C	.26 °C .30 °C .39 °C
L	-200 – -191 °C -190 – 905 °C	.19 °C .15 °C	.26 °C .30 °C
K	-270 – -201 °C -200 – 1199 °C 1200 – 1372 °C	3.1 °C .20 °C .24 °C	4.6 °C .44 °C .51 °C
T	-270 – -221 °C -220 – -61 °C -60 – 400 °C	2.1 °C .20 °C .07 °C	3.0 °C .28 °C .13 °C
U	-20 – -61 °C -60 – 605 °C	.20 °C .07 °C	.28 °C .13 °C
E	-270 – -241 °C -240 – -201 °C -200 – 1000 °C	1.5 °C .22 °C .12 °C	2.5 °C .34 °C .29 °C
R	-50 – 119 °C 120 – 1684 °C 1685 – 1768 °C	.59 °C .31 °C .35 °C	.60 °C .56 °C .64 °C
S	-50 – 59 °C 60 – 1714 °C 1715 – 1768 °C	.56 °C .35 °C .39 °C	.57 °C .62 °C .70 °C
B	0 – 204 °C 205 – 459 °C 460 – 899 °C 900 – 1820 °C	>1 °C 1.0 °C .50 °C .32 °C	>1 °C 1.0 °C .54 °C .53 °C
N	-270 – 236 °C -235 – -171 °C -170 – 1300 °C	>.50 °C .50 °C .21 °C	>.65 °C .65 °C .44 °C
G C D	0 – 999 °C 1000 – 1999 °C 2000 – 2320 °C	.45 °C .75 °C .95 °C	1.0 °C 1.5 °C 2.0 °C
NiMoly	0 – 1310 °C	.18 °C	.37 °C
Platinel	0 – 1114 °C 1115 – 1395 °C	.20 °C .26 °C	.42 °C .57 °C
RefJunct	0 – 50 °C	.05 °C	.10 °C

For more information, visit our website at:

www.CALIBRATOR.com

18 Sept 2000