FLUKE®

Fluke 712B and 714B Temperature Calibrators

Accuracy and Simplicity

For the temperature calibration professional that wants a highly accurate, easy-to-use, single function temperature calibrator the 712B and 714B are ideal test tools.

Technical Data

Product Highlights

- The 712B can measure and simulate (13) different RTD types and resistance
- The 714B can measure and simulate (17) different thermocouple types and millivolts
- Measure 4 to 20 mA signals while simultaneously sourcing a temperature signal
- Hanging tool designed in and included with every unit
- Configurable 0 % and 100 % source settings for quick 25 % linearity checks
- Linear ramp and 25 % step auto ramp based on 0 % and 100 % settings
- Dual inputs and backlit display for easy interpretation of measurements
- Power down settings remembered at power up for easy restart of tests
- 1-year and 2-year specifications and traceable certificate of calibration

FLUKE®

Specifications

Specifications are based on a one year calibration cycle and apply from +18 °C to +28 °C unless stated otherwise. All specifications assume a 5-minute warmup period.

General specifications

Maximum voltage applied between any terminal and earth ground or between any two terminals:	30 V
Operating temperature	-10 °C to 50 °C
Storage temperature	- 30 °C to 60 °C
Operating altitude	2,000 meters
Storage altitude	12,000 meters
Relative humidity (% RH operating without condensation)	Non condensing 90 % (10 °C to 30 °C) 75 % (30 °C to 40 °C) 45 % (40 °C to 50 °C) (Without condensation)
Vibration requirements	MIL-T-28800E, Class 2
Drop text requirements	1 meter
IP Rating	IEC 60529: IP52
Electromagnetic environment	IEC 61326-1, Portable
Safety	IEC 61010-1, Max 30 V to earth, Pollution Degree 2
Power supply	4 AA NEDA 1.5A IEC LR6 batteries
Size (H x W x L)	52.5 mm x 84 mm x 188.5 mm
Weight	515 g

DC mA measurement

Resolution	**Range**	**Accuracy (% of reading + counts)**
0-24 mA	0.001 mA	0.010 % + 2 µA
Temperature coefficient: ± (0.002 % of reading + 0.002 % of range) /°C (<18 °C or >28 °C)		

Ohms measurement (Fluke 712B)

Ohms range	**Accuracy (% of reading +counts)**
0.00 Ω to 400.00 Ω	0.015 % + 0.05 Ω
400.0 Ω to 4000.0 Ω	0.015 % + 0.5 Ω
Note: Read accuracy is based on 4-wire input. For 3-wire ohm measurements, assuming all three leads are matched, add 0.05 Ω (0.00 Ω~400.00 Ω), 0.2 Ω (400.0 Ω~4000.0 Ω) to the specifications. **Temperature coefficient:** ± (0.002 % of reading + 0.002 % of range) /°C (<18 °C or >28 °C)	

Millivolt measurement and source (Fluke 714B)

Resolution	**Range**	**Accuracy (% of reading +counts)**
-10 mV to 75 mV	0.01 mV	0.015 % + 10 µA
Temperature coefficient: ± (0.002 % of reading + 0.002 % of range) /°C (<18 °C or >28 °C)		

Ohms source (Fluke 712B)

Ohms range	**Excitation current from measurement device**	**Accuracy (% of reading + counts)**
1.0 Ω to 400.0 Ω 1.00 Ω to 400.00 Ω 400.0 Ω to 1500.0 Ω 1500.0 Ω to 4000.0 Ω	0.1 mA to 0.5 mA 0.5 mA to 3 mA 0.05 mA to 0.8 mA 0.05 mA to 0.4 mA	0.015 % + 0.1 Ω 0.015 % + 0.05 Ω 0.015 % + 0.5 Ω 0.015 % + 0.5 Ω
Resolution		
0.00 Ω to 400.00 Ω	0.01 Ω	
400.0 Ω to 4000.0 Ω	0.1 Ω	
Temperature coefficient: ± (0.002 % of reading + 0.002 % of range) /°C (<18 °C or >28 °C) Supports pulsed transmitters and PLCs with pulse times as short as 5 ms		

RTD input and output (Fluke 712B)

RTD Type (α)	Range (°C)	Measure (°C)			Source (°C)	
		1-year	2-year	Source current	1-year	2-year
10Ω Pt(385)	-200 to 100 °C	1.5 °C	3 °C	1 mA	1.5 °C	3 °C
	100 to 800 °C	1.8 °C	3.6 °C	1 mA	1.8 °C	3.6 °C
50Ω Pt(385)	-200 to 100 °C	0.4 °C	0.7 °C	1 mA	0.4 °C	0.7 °C
	100 to 800 °C	0.5 °C	0.8 °C	1 mA	0.5 °C	0.8 °C
100 Ω Pt(385)	-200 to 100 °C	0.2 °C	0.4 °C	1 mA	0.2 °C	0.4 °C
	100 to 800 °C	0.015 %+0.18 °C	0.03 %+0.36 °C		0.015 %+0.18 °C	0.03 %+0.36 °C
200 Ω Pt(385)	-200 to 100 °C	0.2 °C	0.4 °C	500 µA	0.2 °C	0.4 °C
	100 to 630 °C	0.015 %+0.18 °C	0.03 %+0.36 °C		0.015 %+0.18 °C	0.03 %+0.36 °C
500 Ω Pt(385)	-200 to 100 °C	0.3 °C	0.6 °C	250 µA	0.3 °C	0.6 °C
	100 to 630 °C	0.015 %+0.28 °C	0.03 %+0.56 °C		0.015 %+0.28 °C	0.03 %+0.56 °C
1000 Ω Pt(385)	-200 to 100 °C	0.2 °C	0.4 °C	250 µA	0.2 °C	0.4 °C
	100 to 630 °C	0.015 %+0.18 °C	0.03 %+0.36 °C		0.015 %+0.18 °C	0.03 %+0.36 °C
100 Ω Pt(3916)	-200 to 100 °C	0.2 °C	0.4 °C	1 mA	0.2 °C	0.4 °C
	100 to 630 °C	0.015 %+0.18 °C	0.03 %+0.36 °C		0.015 %+0.18 °C	0.03 %+0.36 °C
100 Ω Pt(3926)	-200 to 100 °C	0.2 °C	0.4 °C	1 mA	0.2 °C	0.4 °C
	100 to 630 °C	0.015 %+0.18 °C	0.03 %+0.36 °C		0.015 %+0.18 °C	0.03 %+0.36 °C
10 Ω Cu(427)	-100 to 260 °C	1.5 °C	3 °C	1 mA	1.5 °C	3 °C
120 Ω Ni(672)	-80 to 260 °C	0.15 °C	0.3 °C	1 mA	0.15 °C	0.3 °C
50 Ω Cu(427)	-180 to 200 °C	0.4 °C	0.7 °C	1 mA	0.4 °C	0.7 °C
100 Ω Cu(427)	-180 to 200 °C	0.2 °C	0.4 °C	1 mA	0.2 °C	0.4 °C
YSI400	15 to 50 °C	0.2 °C	0.4 °C	250 µA	0.2 °C	0.4 °C

1. Sensor inaccuracies not included.
2. Resolution: 0.1 °C.
3. Read accuracy is based on 4-wire input. For 3-wire RTD measurements, assuming all three RTD leads are matched, add 1.0 °C (Pt10 and Cu10), 0.6 °C (Pt50 and Cu50), 0.4 °C (Other RTD types) to the specifications.
4. Source Accuracy in source mode is based on 0.5 mA~3 mA (1.00 Ω~400.00 Ω), 0.05 mA~0.8 mA (400.0 Ω~1500.0 Ω), 0.05 mA~0.4 mA (1500.0 Ω ~4000.0 Ω), excitation current (0.25 mA for Pt1000 range).
5. Temperature Coefficient: ±0.05 °C /°C for measure, ± 0.05 °C /°C (<18 °C or >28 °C) for source.
6. Supports pulsed transmitters and PLCs with pulse times as short as 5 ms.

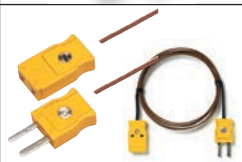
Thermocouple input and output (Fluke 714B)

TC Type	Range (°C)	Measure (°C)		Source (°C)	
		1 year	2 year	1 year	2 year
E	–250 to 200 °C	1.3	2.0	0.6	0.9
	–200 to –100 °C	0.5	0.8	0.3	0.4
	–100 to 600 °C	0.3	0.4	0.3	0.4
	600 to 1000 °C	0.4	0.6	0.2	0.3
N	–200 to –100 °C	1.0	1.5	0.6	0.9
	–100 to 900 °C	0.5	0.8	0.5	0.8
	900 to 1300 °C	0.6	0.9	0.3	0.4
J	–210 to –100 °C	0.6	0.9	0.3	0.4
	–100 to 800 °C	0.3	0.4	0.2	0.3
	800 to 1200 °C	0.5	0.8	0.3	0.3
K	–200 to –100 °C	0.7	1.0	0.4	0.6
	–100 to 400 °C	0.3	0.4	0.3	0.4
	400 to 1200 °C	0.5	0.8	0.3	0.4
	1200 to 1372 °C	0.7	1.0	0.3	0.4
T	–250 to –200 °C	1.7	2.5	0.9	1.4
	–200 to 0 °C	0.6	0.9	0.4	0.6
	0 to 400 °C	0.3	0.4	0.3	0.4
B	600 to 800 °C	1.3	2.0	1.0	1.5
	800 to 1000 °C	1.0	1.5	0.8	1.2
	1000 to 1820 °C	0.9	1.3	0.8	1.2
R	–20 to 0 °C	2.3	2.8	1.2	1.8
	0 to 100 °C	1.5	2.2	1.1	1.7
	100 to 1767 °C	1.0	1.5	0.9	1.4
S	–20 to 0 °C	2.3	2.8	1.2	1.8
	0 to 200 °C	1.5	2.1	1.1	1.7
	200 to 1400 °C	0.9	1.4	0.9	1.4
	1400 to 1767 °C	1.1	1.7	1.0	1.5
C	0 to 800 °C	0.6	0.9	0.6	0.9
	800 to 1200 °C	0.8	1.2	0.7	1.0
	1200 to 1800 °C	1.1	1.6	0.9	1.4
	1800 to 2316 °C	2.0	3.0	1.3	2.0
L	–200 to –100 °C	0.6	0.9	0.3	0.4
	–100 to 800 °C	0.3	0.4	0.2	0.3
	800 to 900 °C	0.5	0.8	0.2	0.3
U	–200 to 0 °C	0.6	0.9.	0.4	0.6
	0 to 600 °C	0.3	0.4	0.3	0.4
BP	0 to 1000 °C	1.0	1.5	0.4	0.6
	1000 to 2000 °C	1.6	2.4	0.6	0.9
	2000 to 2500 °C	2.0	3.0	0.8	1.2
XK	–200 to 300 °C	0.2	0.3	0.2	0.5
	300 to 800 °C	0.4	0.6	0.3	0.6
G	100 to 300 °C	1.6	2.4	1.2	1.8
	300 to 1500 °C	1.0	1.5	1.0	1.5
	1500 to 2320 °C	2.0	3.0	1.6	2.4
D	0 to 300 °C	1.6	2.4	1.2	1.8
	300 to 1500 °C	1.0	1.5	1.0	1.5
	1500 to 2315 °C	2.0	3.0	1.6	2.4
P	0 to 1000 °C	1.6	2.4	0.6	0.9
	1000 to 1395 °C	2.0	3.0	0.8	1.2
M	–50 to 100 °C	1.0	1.5	0.4	0.6
	100 to 1000 °C	1.6	2.4	0.6	0.9
	1000 to 1410 °C	2.0	3.0	0.8	1.2

Thermocouple Probes

	Bead	HVAC	Immersion	Surface	Air	Piercing	General purpose	Industrial surface
								
	80PK-1 80PJ-1	80PK-11	80PK-22	80PK-3A	80PK-24	80PK-25 80PT-25	80PK-26	80PK-27
Lowest temperature	-40 °C	-30 °C	-40 °C	0 °C	-40 °C	K Type: -40 °C T Type: -196 °C	-40 °C	-127 °C
Highest temperature	260 °C	105 °C	1090 °C	260 °C	816 °C	350 °C	816 °C	600 °C
Probe material	Type K wire with PTFE insulation	Hook-and-loop	Inconel 600	Type K sensor with PTFE body	Inconel	316 Stainless Steel	304 Stainless Steel	
Probe length	1 m lead wire	48.26 cm Hook-and-loop cuff	21.27 cm	9.525 cm	21.59 cm	10.16 cm	21.57 cm	20.32 cm
Cable length	1 m			1.3 m	1 m			
Connection	Molded thermocouple plug							
SureGrip handle	No	No	Yes	No	Yes	Yes	Yes	Yes
Key feature	Ideal for initial troubleshooting. Can be secured in place with a magnet.	Hook-and-loop probe allows hands free temperature measurement.	For use in liquids or in gels.	Exposed junction for direct contact with flat or slightly convex surfaces.	Perforated baffle for air and non-caustic gas measurements.	Probe material safe for use in foods. Sharp tip pierces solid surfaces.	Use for general purpose air or surface measurements.	Low conductivity stainless steel minimizes thermal shunting. Extra rugged.
Thermocouple types	K, J	K	K			K, T	K	
Typical use								
General purpose	•	•	•	•	•	•	•	•
HVAC	•	•	•	•	•	—	•	•
Food service	—	—	•	—	—	•	—	—
Industrial	•	•	—	—	—	—	—	•
Residential	•	—	—	•	•	•	—	—
Commercial	•	•	•	•	•	•	•	•

Thermocouple kits and accessories

Thermocouple Plug Kits		**700TC1** A kit of ten mini-plug connectors. One each of the following: Type J (black) Type K (yellow) Type T (blue) Type E (purple) Type R/S (green) Type B or Cu (white) Type L (J-DIN) (blue) Type U (T-DIN) (brown) Type C (red) Type N (orange)	**700TC2** A kit of seven mini-plug connectors. Type J (black), two Type K (yellow), two Type E (purple), one Type T (blue), one Type R/S (green), one
80PK-8, 80PK-10, Pipe Clamp Temperature Probes		• Type K thermocouples clamp securely onto pipes for fast temperature and superheat measurements • Durable ribbon sensors • 1 m lead • Measure from –29 °C to 149 °C • 80PK-8 for 6.4 mm to 34.9 mm • 80PK-10 for 32 mm to 64 mm	
80CK-M and 80CJ-M Type K and J Male Mini-Connectors		• Isothermal screw terminal for K or J wire • Suitable for up to 20 gauge thermocouple wire • Color coded to industry standards (K-yellow, J-black) • Two per package	
80PJ-EXT, 80PK-EXT, 80PT-EXT Thermocouple Wire Extension Kits		For extending and repairing type J, K or T thermocouple wires. • Kit includes 3 m of thermocouple wire and 1 pair of male/female mini-connectors • Maximum continuous exposure temperature: 260 °C • 80PK-EXT is compatible with type K thermometers; 80PJ-EXT is designed for type J thermometers, and 80PT-EXT is designed for type T thermometers	
5627A-6-J, 5627A-9-J and 5627A-12-J Industrial RTD probes		5627A-6-J, 5627A-9-J and 5627A-12-J Industrial RTD probes for Fluke-712B • 15.24 cm and 22.86 cm (6 and 9 inch) models measure to 300 °C, 30.48 cm model (12 inch) measures up to 420 °C • Accuracy to ± 0.025 °C. • NVLAP-accredited calibration included • Uses IEC standard PT-100-385 RTD curve • Each probe is individually calibrated and includes a NVLAP-accredited report of calibration • Terminated with (4) Banana plugs for 4-wire temperature measurement with the 712B • Add 2601 (22.86 cm, 9 in) or 2609 (63.5 cm , 25 in) protective case to protect the probe	

Ordering information

FLUKE-712B Temperature Calibrator

FLUKE-714B Temperature Calibrator

Included equipment

Magnetic hanging tool, batteries, manual, traceable calibration certificate, and test leads

Fluke. *The Most Trusted Tools in the World.*

Fluke Corporation
PO Box 9090, Everett, WA 98206 U.S.A.

Fluke Europe B.V.
PO Box 1186, 5602 BD
Eindhoven, The Netherlands

For more information call:
In the U.S.A. (800) 443-5853 or
Fax (425) 446-5116
In Europe/M-East/Africa +31 (0) 40 2675 200 or
Fax +31 (0) 40 2675 222
In Canada (800)-36-FLUKE or
Fax (905) 890-6866
From other countries +1 (425) 446-5500 or
Fax +1 (425) 446-5116
Web access: http://www.fluke.com

X-ON Electronics

Largest Supplier of Electrical and Electronic Components

Click to view similar products for Calibration Equipment ***category:***

Click to view products by Fluke ***manufacturer:***

Other Similar products are found below :

700P27 AX-C830 AKT4R1111001 AKT4R1121001 AKT4R1122001 AR604/P FLUKE-700G08 461750 AX-C850 RT-820 FLUKE 709 FLUKE-805 AKT4R111100 AKT4R112100 AKT7211100J AKT7212100J AKT8R111100 REF2510R K39-LCRR 412355A 461831 461895 461920 480400 480403 PRC10 PRC20 PRC30 700P02 700P27EX 700P29 FLUKE-705 FLUKE 707 FLUKE-715 FLUKE-789 FLUKE BP7235 U086 U087 03K30R-MSOTS3 18CK010-150 P5514-70M P5515-140M 12890 TACH-10 461950 461825 461830 461891 350456 CAL73