

TECHNICAL DATA

Fluke Calibration 1502A/1504 Thermometer Readout



Key features

- 1502A: accuracy up to ± 0.006 °C.
- 1504: accuracy up to ± 0.002 °C plus ability to measure thermistor temperature sensors.
- 1502A: covers -200°C to 962°C
- 1504: covers 0 to 100°C
- Can take readings up to twice per second, making the calibration process faster.

Product overview: Fluke Calibration 1502A/1504 Thermometer Readout

Precision thermometer readouts for laboratory and field use

1502A Tweener PRT Readout

The **Fluke Calibration 1502A Tweener** offers precision temperature measurement with:

- **Accuracy up to ± 0.006 °C**
- **Resolution of 0.001 °C across the entire range**
- **Compatibility with 100-ohm, 25-ohm, and 10-ohm RTD probes**

- **Smallest unit in its class**, ideal for field or bench use

Advanced Features

- Programmable to match a probe's constants for maximum linearity and accuracy
- Displays temperature in °C, °F, K, or resistance in ohms
- Reads standard industrial IEC-751 / "385 ALPHA" RTDs with no programming required
- Accepts **ITS-90 subranges 4 and 6–11**, with formulas built into firmware
- Calibration is done digitally via front-panel—**no need to open the device**
- Comes with **RS-232 interface**; **optional IEEE-488 interface** available

1504 Tweener Thermistor Readout

Need higher precision in a narrower temperature range? The **Model 1504 Tweener** offers:

- **Accuracy up to ± 0.002 °C**
- **Resolution of 0.0001 °C**
- Designed specifically for **thermistors**—more robust, shock-resistant sensors with faster response times
- Ideal for **applications requiring high sensitivity and reliability** in limited temperature spans

Software Compatibility

Enhance your workflow with Fluke software tools:

- **9934 LogWare**: Real-time data acquisition, graphing, and analysis
- **MET/TEMP II**: Use Tweeners as reference thermometers for automated calibrations

Specifications: Fluke Calibration 1502A/1504 Thermometer Readout

Specifications	1502A	1504
Temperature Range [†]	–200 °C to 962 °C (–328 °F to 1764 °F)	Any thermistor range
Resistance Range	0 Ω to 400 Ω , auto-ranging	0 Ω to 1 M Ω , auto-ranging
Probe	Nominal RTPW: 10 Ω to 100 Ω RTD, PRT, or SPRT	Thermistors
Characterizations	ITS-90 subranges 4, 6, 7, 8, 9, 10, and 11 IPTS-68: R0, a, d, a4, and c4 Callendar-Van Dusen: R0, a, d, and b	Steinhart-Hart thermistor polynomial Callendar-Van Dusen: R0, a, d, and b
Resistance Accuracy (ppm of reading)	0 Ω to 20 Ω : 0.0005 Ω 20 Ω to 400 Ω : 25 ppm	0 Ω to 5 K Ω : 0.5 Ω 5 K Ω to 200 K Ω : 100 ppm 200 K Ω to 1 M Ω : 300 ppm
Temperature Accuracy [†]	± 0.004 °C at –100 °C ± 0.006 °C at 0 °C ± 0.009 °C at 100 °C ± 0.012 °C at 200 °C ± 0.018 °C at 400 °C ± 0.024 °C at 600 °C	± 0.002 °C at 0 °C ± 0.002 °C at 25 °C ± 0.004 °C at 50 °C ± 0.010 °C at 75 °C ± 0.020 °C at 100 °C (Using 10 K Ω thermistor sensor, a=0.04. Does not include probe uncertainty or characterization errors.)

Operating Temperature Range	16 °C to 30 °C	13 °C to 33 °C
Resistance Resolution	0 Ω to 20 Ω: 0.0001 Ω 20 Ω to 400 Ω: 0.001 Ω	0 Ω to 10 KΩ: 0.01 Ω 10 KΩ to 100 KΩ: 0.1 Ω 100 KΩ to 1 MΩ: 1 Ω
Temperature Resolution	0.001 °C	0.0001 °C
Excitation Current	0.5 and 1 mA, user selectable, 2 Hz	2 and 10 μA, automatically selected
Measurement Period	1 second	
Digital Filter	Exponential, 0 to 60 seconds time constant (user selectable)	
Probe Connection	4-wire with shield, 5-pin DIN connector	
Communications	RS-232 serial standard IEEE-488 (GPIB) optional	
Display	8-digit, 7-segment, yellow-green LED; 0.5-inch-high characters	
Power	115 VAC (±10 %), 50/60 Hz, 1 A, nominal 230 VAC (±10 %), 50/60 Hz, 1 A, nominal, specify	
Size (HxWxD)	61 x 143 x 181mm (2.4 x 5.6 x 7.1 in)	
Weight	1.0 kg (2.2 lb.)	
Calibration	ISO 17025-accredited calibration provided	
†Temperature ranges and accuracy may be limited by the sensor you use.		

Ordering information



Fluke 1502A

Fluke Calibration 1502A-156 Thermometer Readout
 -200°C to 962°C (-328°F to 1764°F)

Part#: 1648927

UPC#: 095969120197

1502A-2506

Tweener PRT Readout, with IEEE-488

Part#: 0

Fluke 1504

Fluke Calibration 1504 Thermometer Readouts
 Any thermistor range

Part#: 1648966

UPC#: 095969120234

1504-2506

Tweener Thermistor Readout, with IEEE-488

Part#: 0

9934-M

LogWare, Single Channel, Multi User

Part#: 1658732

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