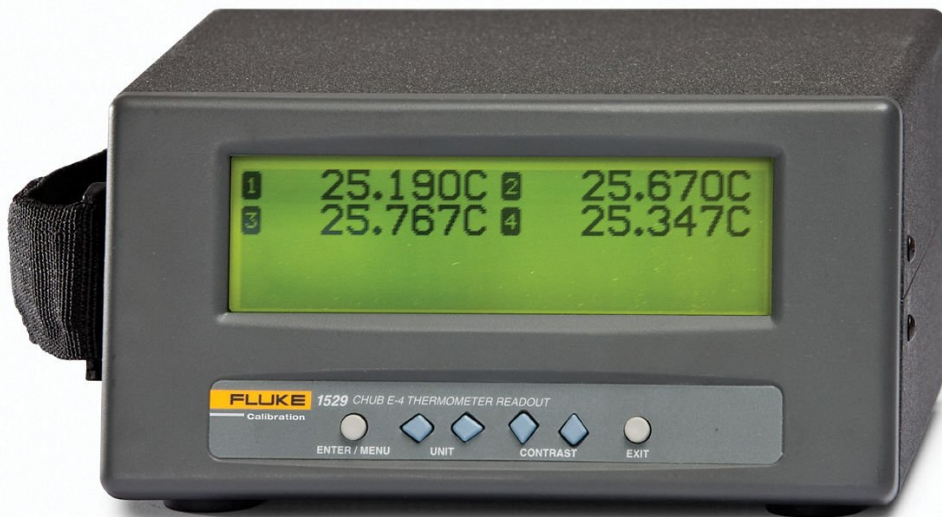# 1529 Chub-E4 Standards Thermometer

Tärkeimmät ominaisuudet

- Supports four channels for PRTs, thermistors, and thermocouples, accommodating a variety of sensor types.
- Display eight user-selected data fields from any channel.
- Log up to 8,000 readings with date and time stamps for data tracking.
- Eight hours of continuous operation

Tuotekatsaus: 1529 Chub-E4 Standards Thermometer

Inputs

The Chub-E4 has four inputs for reading four different sensors simultaneously, and we'll configure those inputs in any of three different ways according to your preference. Choose four channels of thermocouple inputs, four channels of PRT/thermistor inputs, or two channels of each. With this thermometer, reading thermocouples, PRTs, and thermistors accurately from the same device is no problem.

100-ohm, 25-ohm, or 10-ohm PRTs and RTDs are read using ITS-90, IEC-751 (DIN), or Callendar-Van Dusen conversion methods. Typical accuracies include ±0.004 °C at –100 °C and ±0.009 °C at 100 °C. Thermistor readings are converted using the Steinhart-Hart polynomial or standard YSI-400 curve and are as accurate as ±0.0025 °C at 25 °C with resolution of 0.0001 °.

Thermocouple inputs read all the common thermocouple types, including B, E, J, K, N, R, S, T, and Au-Pt, and allow you to choose between internal and external reference junction compensation. Typical accuracy for a type J thermocouple at 600 °C is ±0.35 °C using internal reference junction compensation and not including the thermocouple. (Support for C and U type thermocouples is available. Download the application note Using Fluke Calibration Readouts with Tungsten-Rhenium and other Thermocouples.)

PRTs and thermistors connect easily to the 1529 using Fluke Calibration's patented mini DWF connectors, which accept bare wire, spade lug, or mini banana plug terminations. Thermocouples connect using standard or miniature terminations. Measurements are taken each second and can be taken simultaneously or sequentially. A special high-speed mode allows measurements on one channel to be taken at the rate of 10 per second.

Display

If you think three sensor types and four inputs sounds versatile, wait until you see the display panel on the Chub-E4. Displaying measurements in °C, °F, K, ohms, or millivolts and choosing temperature resolution from 0.01 to 0.0001 are just the beginning.

You can also select any eight items from our long list of displayable data fields to view on-screen. Choose statistical functions such as averages, standard deviations, and spreads; choose probe information such as probe type and serial number; choose T1–T2 functions using inputs from any two channels; or choose utility functions such as the date, time, and battery power level. You can even save up to 10 screen configurations for easy recall.

The push of a single front-panel button also brings up a simple menu system to easily guide you through all the internal setup and memory options of the 1529. Probe coefficients, sample intervals, communication settings, password settings, and a host of other functions are all easily accessible.

Communications

The memory and communications capabilities of the Chub-E4 make it perfect for benchtop thermometry, on-site measurements, lab calibration work, and remote data logging. Optional software packages from Fluke make this one of the most powerful thermometers on the market.

With battery power and memory to store up to 8,000 measurements (including date and time stamps) at user-selected intervals, the 1529 has plenty of data logging capability. Store 100 individual measurements or any number of automatic log sessions (up to 8,000 readings), each tagged with an identifying session label. Fourteen different logging intervals may be selected, from 0.1 second to 60 minutes.

With Fluke Calibration's 9935 LogWare II (page 85), data may be quickly downloaded to your PC for complete graphical and statistical analysis. Separate log sessions may even be automatically downloaded to separate files based on session labels. With this software, the 1529 can even be used for real-time data logging. Log four channels at once directly to your PC with virtually no limit to the number of data points you take. You can analyze data, set alarm events, and even set delayed start and stop times.

With MET/TEMP II software, the Chub-E4 may be integrated into a completely automated calibration system. Use one input for your reference thermometer and calibrate up to three other thermometers automatically (see page 81). An RS-232 port is standard on every unit. An IEEE-488 port is optional.

More great features

Did we forget some aspect of versatility on this thermometer? No!

The 1529 runs on AC power from 100 to 240 volts, DC power from 12 to 16 volts, or off its internal nickel-metal-hydride battery for eight hours between charging. The standard battery charges in less than three hours and lasts through 500 charge/recharge cycles.

If you want to rack-mount your Chub-E4, we've even got a rack-mount kit for you. This unit fits on your benchtop, in your instrument rack, and even in your hand.

Of course, all the reference thermometers you might need for your 1529 are available from Fluke, including secondary standard PRTs, standard thermistors, and noble-metal thermocouples. Carrying cases and even a serial printer for direct printer output are also available.

We've said it before and we'll keep saying it: Fluke Calibration simply makes the best thermometer readouts in the world. No one else gives you a comparable combination of accuracy, versatility, productivity-enhancing features, and price. No one. Get a Chub-E4 and just enjoy everything it'll do for you. You'll love it.

Tekniset tiedot: 1529 Chub-E4 Standards Thermometer

	PRT / RTD	Thermistor	Thermocouple
Inputs	2 channels PRT/thermistor and 2 channels TC, or 4 channels PRT/thermistor, or 4 channels TC, specify when ordering; PRT/thermistor channels accept 2, 3, or 4 wires; TC inputs accept B, E, J, K, N, R, S, T, and Au-Pt TC types. (Support for C and U type thermocouples is available. Download the application note Using Fluke Calibration Readouts with Tungsten-Rhenium and other Thermocouples)		
Temperature Range	–189 °C to 960 °C	–50 °C to 150 °C	–270 °C to 1800 °C
Measurement Range	0 to 400 Ω	0 to 500 KΩ	–10 to 100 mV
Characterizations	ITS-90, IEC-751 (DIN "385"), Callendar-Van Dusen	Steinhart-Hart, YSI-400	NIST Monograph 175, 3-point deviation function applied to NIST 175, 6th-order polynomial

https://fluke.com.au/fi-fi/product/calibration-tools/temperature-calibrators/1529-chub-e4

Temperature Accuracy (meter only)	± 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	± 0.0025 °C at 0 °C ± 0.0025 °C at 25 °C ± 0.004 °C at 50 °C ± 0.010 °C at 75 °C ± 0.025 °C at 100 °C	Ext. RJC Int. RJC B at 1000 °C ± 0.6 °C ± 0.6 °C E at 600 °C ± 0.07 °C ± 0.25 °C J at 600 °C ± 0.1 °C ± 0.35 °C K at 600 °C ± 0.15 °C ± 0.4 °C N at 600 °C ± 0.15 °C ± 0.3 °C R at 1000 °C ± 0.4 °C ± 0.5 °C S at 1000 °C ± 0.5 °C ± 0.6 °C T at 200 °C ± 0.1 °C ± 0.3 °C
Temperature Resolution	0.001 °	0.0001 °	0.01 to 0.001 °
Resistance/Voltage Accuracy	0 Ω to 20 Ω: ± 0.0005Ω 20 Ω to 400 Ω: ± 25 ppm of rdg.	0 Ω to 5 KΩ: ± 0.5 Ω 5 KΩ to 200 KΩ: ± 100 ppm of rdg. 200 KΩ to 500 KΩ ± 300 ppm of rdg.	–10 to 50 mV: ± 0.005 mV 50 to 100 mV: ± 100 ppm of rdg. Inteal RJC: ± 0.25 °C)
Operating Range	16 °C to 30 °C		
Measurement Interval	0.1 second to 1 hour; inputs may be read sequentially or simultaneously at 1 second or greater interval		
Excitation Current	1 mA, reversing	2 and 10 µA, automatically selected	n/a
Display	33 x 127 mm (1.3 x 5 in) backlit LCD graphical display		
Display Units	°C, °F, K, Ω, KΩ, mV		
Data Logging	Up to 8,000 time- and date-stamped measurements can be logged		
Logging Intervals	0.1, 0.2, 0.5, 1, 2, 5, 10, 30, or 60 seconds; 2, 5, 10, 30, or 60 minutes		
Averaging	Moving average of most recent 2 to 10 readings, user selectable		
Probe Connection	Patented DWF Connectors accept mini spade lug, bare-wire, or mini banana plug terminations		Universal receptacle accepts miniature and standard TC connectors
Communications	RS-232 included, IEEE-488 (GPIB) optional		
AC Power	100–240 V ac, 50-60 Hz, 0.4 A		
DC Power	12–16 VDC, 0.5 A (baery charges during operation from 14.5 to 16V DC, 1.0A)		
Baery	NiMH, 8 hours of operation typical without backlight, 3 hours to charge, 500 cycles		
Size (HxWxD)	102 x 191 x 208 mm (4.0 x 7.5 x 8.2 in)		
Weight	2 kg (4.5 lb)		
Calibration	Accredited resistance and voltage calibrations are provided.		

https://fluke.com.au/fi-fi/product/calibration-tools/temperature-calibrators/1529-chub-e4

Mallit

1529

Chub-E4 Thermometer, 2 TC and 2 PRT/Thermistor inputs

1529-R

Chub-E4 Thermometer, 4 PRT/Thermistor inputs

1529-T

Chub-E4 Thermometer, 4 TC inputs

2506-1529

IEEE Option

1929-2

System Verification, PRT with Readout, Accredited.

Choose two temperature points, extra points at additional cost. Available temperature points are –197 °C, -80 °C , –39 °C, 0.01°C, 30 °C, 157 °C, 232 °C, 300 °C, 420 °C, 500 °C, 660 °C.

1929-5

System Verification, Thermistor with Readout, Accredited.

Choose two temperature points; extra points at additional cost. Available temperature points are -30 °C, -20 °C, -10 °C, 0 °C, 10 °C, 20 °C, 30 °C, 40 °C, 50 °C, 60 °C, 70 °C, 80 °C, 90 °C, 100 °C.

1930

System Calibration, PRT with Readout, Accredited

Choose PRT temperature range for the calibration. Available temperature ranges are –200 °C to 500 °C, –200 °C to 420 °C, –80 °C to 420 °C, –40 °C to 420 °C, –40 °C to 232 °C, 0 °C to 420 °C.

1935

System Calibration, Thermistor with Readout, NVLAP-accredited

Choose thermistor temperature range for the calibration. Available temperature ranges are 100 °C span (6 points over span), 60 °C span (7 points over span), 100 °C span (11 points over span).

9935-S

Log*Ware* II, Multi Channel, Single User

9938

MET/TEMP II temperature calibration software (includes CD-ROM, RS- 232 multiplexer box, AC adapter, and serial cable)

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