

Handheld Thermometer F100 Series

The F100 high performance handheld 2-channel thermometer for Pt100 and Thermistor probes. If you're looking for a step up in measurement accuracy with a battery powered, handheld thermometer, the F100 is for you.

Key features

- High accuracy handheld thermometer
- Temperature range -200°C to +850°C.
- System accuracies better than 0.035°C over the full operating range.
- Stability: <0.005°C per year.
- Display °C, °F, K (Kelvin) or ohms.
- Dual inputs measuring PRTs & thermistors single or differential measurement.
- Statistical analysis- average, max/min and standard deviation.
- Internal logging, software and USB communication.

The F100 is also available as a kit.

F100 kit option 1

1 x F100 thermometer complete with rechargeable battery, charger and accessories.
1 x T100-450-1D, uncalibrated 100 ohm PRT, range -70 to 450°C, 6mm dia x 350mm long, 2 metre PTFE lead.

F100 kit option 2

As option 1 except PRT comes complete with UKAS calibration certificate -70, 0, +100 and +450°C.



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The F100 can handle all your needs, with accuracies and resolutions normally associated with a bench top thermometer. Two inputs give you direct temperatures from Pt100 or Thermistor probes, or you can display the temperature difference between them. You can log measurements directly to memory or, if you prefer, use the USB port to control and data log with your PC.

F100 will display for you a statistical analysis of your measurements, with average value, min and max values and standard deviation. Because F100 will display in ohms as well as temperature, you can even use it to calibrate one probe against another.

Most instruments require you to enter calibrated probe data into memory to optimise measurement accuracy, which

can mean a lot of data entering if you change probes regularly. With ASL's SMART connector on your probes, you only need to store the data once - in the connector! The calibration data stays with the probe - permanently. You can even use it on another F100 without any further action. The SMART connector saves you time and reduces error. If you have existing calibrated or uncalibrated probes, no problem, F100 automatically registers if a probe is SMART or normal.

Specification	
Temperature range	-200°C to +850°C, depending on thermometer probe.
Accuracy	F100 only: $\pm 0.02^{\circ}\text{C}$ ($\pm 20\text{mK}$).
Resolution	0.001°C.
Stability	Long term: typically $<0.002\Omega$ per year ($<0.005^{\circ}\text{C}$ for Pt100).
Temp co-efficient	$<0.00005^{\circ}\text{C}$ per $^{\circ}\text{C}$ ambient change.
Data entry format	ITS90 and CvD for calibrated probes; or EN60751 for un-calibrated probes.
Probe current	1mA switched d.c. (Pt100); Auto-select 1mA, 10uA and 3uA for thermistors.
Probe types	Pt100 and Pt25 resistance thermometers plus NTC thermistors. Cable length typically 2M.
Max cable length	100 metres for Pt100; 30 metres for SMART Pt100.
Thermometer input	2 x 5 pin industrial DIN socket with screw lock to connecting plug, accepting both normal and SMART probes.
Display	Backlit LCD.
Communications	USB interface.
User functions	Display hold, Display zero, One-shot measurement, Measurement log, Statistical analysis - min/ max, average, standard deviation.
Operating conditions	Full specification range: $+15^{\circ}\text{C}$ to $+25^{\circ}\text{C}$.
	Full operating range: 0°C to $+40^{\circ}\text{C}$ $<80\%RH$ non-condensing.
Power	Nickel-Metal Hydride (Ni-MH) rechargeable battery.
	Charging socket built-in Low battery indicator.
Dimensions	232mm(L) x 97mm(D) x 53mm(W) nominal.
Weight	500g (1.1 lbs).