



F100 PRECISION THERMOMETER

Next-Generation temperature measurement from ASL

- Accuracy: $\pm 0.02^{\circ}\text{C}$ over full range.
- Resolution: 0.001°C .
- Range: -200°C to $+850^{\circ}\text{C}$.
- Stability: $<0.005^{\circ}\text{C}$ per year.
- Dual probe inputs
- Common inputs for “SMART” and normal PT100 and Thermistor probes.
- USB communications port as standard.
- Display in $^{\circ}\text{C}$, $^{\circ}\text{F}$, K (Kelvin) or ohms.
- Statistical functions: Average, Min/Max and Standard Deviation.
- Differential measurements (A-B)

New 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. Our 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. The F100 will display for you a statistical analysis of your measurements, with average value, min and max values and standard deviation. Because the 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.



**“SMART”
PROBE
TECHNOLOGY**

The F100 offers laboratory performance with handheld convenience.

Range	-200°C to +850°C, depending on thermometer probe.	Thermometer input connectors	2 x 5 pin industrial DIN socket with screw lock to connecting plug, accepting both normal and SMART probes.
Accuracy	$\pm 0.02^{\circ}\text{C}$ ($\pm 20\text{mK}$).	Display	Backlit LCD.
Resolution	0.001°C.	Communications	USB interface.
Stability	Long term: typically <0.002 ohms per year ($<0.005^{\circ}\text{C}$ for Pt100).	Data storage capability	16,000 readings (combined total for both inputs)
Temperature co-efficient	$<0.00005^{\circ}\text{C}$ per $^{\circ}\text{C}$ ambient change.	User functions	Display hold, Display zero, one-shot measurement, measurement log. Statistical analysis: min/max, average, standard deviation.
Data entry format	ITS90 and CvD for calibrated probes; or EN60751 for un-calibrated probes.	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.
Probe current	1mA switched d.c. (Pt100); Auto-select 1mA, 25 μA & 5 μA for thermistors.	Power	Nickel-Metal Hydride (Ni-MH) rechargeable battery. Charging socket built-in. Low battery indicator.
Probe types	Pt100 and Pt25 resistance thermometers plus NTC thermistors.	Dimensions	9.13"(L) x 3.82"(D) x 2.09"(W) nominal.
Maximum cable length	250 feet for Pt100; 75 feet for SMART Pt100.	Weight	1.1 lbs.

HAND HELD DIGITAL THERMOMETER COMPARISONS

Model	F100
Manufacturer	ASL
Temp Range	-200 to 962°C
Display Units	Ohms °C/F, K
Input Types	
PRT (25 & 100_)	Yes
Thermistor	Yes
Thermocouple	No
Accuracy	
-200 to 0°C	±0.02°C
0 to 100°C	±0.02°C
100 to 200°C	±0.02°C
200 to 400°C	±0.02°C
400 to 600°C	±0.02°C
600 to 800°C	±0.02°C
Resolution	0.001°C
# of Inputs	2
Differential A-B	Yes
Tare	Yes
Min & Max	Yes
Average	Yes
Std. Deviation	Yes
Internal Data logging	Yes
Rechargeable Battery	Yes
SMART Probes	Yes
Price	\$1295

ASL'S SMART TECHNOLOGY EXPLAINED

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TYPICAL SYSTEM CALIBRATION WITH F100 THERMOMETER

	T100-250	T100-450	T100-670
Al 660.323°C			0.036°C
Zn 419.527°C		0.031°C	0.033°C
Sn 231.928°C	0.018°C	0.023°C	0.027°C
TPW 0.010°C	0.005°C	0.008°C	0.011°C
Hg -38.834°C	0.010°C	0.012°C	0.012°C
LN2 -196°C	0.024°C	0.028°C	0.033°C

Ordering Information

F100-A-2	2-channel Precision Thermometer	\$1295
T100-250-S	SMART Probe (-196°C to 250°C)	395
T100-450-S	SMART Probe (-196°C to 450°C)	395
T100-670-S	SMART Probe (-196°C to 670°C)	795
CAL-SYS-F100	NIST Traceable System Calibration	250

ISOTECH is a world leader in temperature metrology. With over 30 years of experience in the design, manufacture and practical use of precision temperature calibration standards, Isotech is an experienced supplier for national labs and field calibration technicians worldwide.

Customers include the world's largest primary standards laboratories, accredited laboratories, defense organizations, large manufacturers and research organizations.

On behalf of Isotech North America, Inc. and Isothermal Technology LTD, UK, thank you for requesting information on our products. We know you will find our products to be of superior design, conservatively specified and a great value.

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