

Digital Thermometers

Therma Series

The Therma 1 and 3 digital thermometers are rugged and easy to use instruments that operate through the range of -100 to 1370 °C with a 0.1 °C or 1 °C resolution. The thermometers are housed in a robust ABS case that contains 'Biomaster' additive that helps to reduce bacterial growth.

The Therma 1 and 3 feature a large, easy to read, LCD display with open circuit 'Err' and low battery indication. Each thermometer is powered by three 1.5 volt AAA batteries that gives a minimum of five years battery life. The units will power off automatically after ten minutes, maximising battery life. This feature can be disabled by the user, if required.

We offer an extensive range of interchangeable thermocouple type K probes for a variety of different applications.

Therma Elite

The Therma Elite incorporates all the features of a Therma 1 thermometer, but with the addition of a backlit display, max/min memory function and a mode button for the selection of 0.1/1 °C/°F. The thermometer also incorporates a calibration trim function (± 2 °C) which allows users to compensate for thermocouple probe errors.



Specification	Therma 1 / Elite	Therma 3
Range 0.1°C	-99 to + 299.9	n/a
Range 1°C	300 to 1372	-100 to 1372
Resolution	0.1°C & 1°C	1°C
Accuracy	± 0.4 °C, ± 0.1 %	± 1 °C, ± 0.1 %
Battery	3 x 1.5 volt AAA	
Battery life	1000 hours / min 5 years	
Sensor type	K-type thermocouple	
Display	12mm LCD	
Dimensions	25 x 56 x 128mm	
Weight	130 grams	

Traceable certificate of calibration included



The PTR (Printing Temperature Recorder), printing thermometer has been specifically designed to provide a cost effective way of automatically measuring and recording temperature and time at regular preset intervals. The PTR can save you time and money as it can log temperatures unsupervised overnight, weekends or during the normal working day.

The instrument is housed in a robust ABS case and incorporates an easy to use keypad. The print functions can be operated from the keypad on the PTR to provide a printed record of the temperature measurements and the real time they were taken.

The PTR printing thermometer features an easy to read, LCD display with low battery indication displaying temperature over the range of -200 to 299.9 °C with a 0.1 °C resolution or 300 to 1372 °C with a 1 °C resolution.

The user, via the compatible software provided with the PTR, can programme high and low alarms for each of the four input channels, each channel can also be personalised with its own label (maximum 12 characters) i.e. machine 1, machine 2 etc.

The software also allows the user to personalise the printed ticket with a company name, address and logo. At the end of each day or week, an audit trail, in the form of a comma separated (.csv) or Excel file, can be downloaded from the PTR. Each PTR is supplied with a USB lead, battery charger, two rolls of paper, protective boot and software, all supplied in a carrying case.

Range: -39.9 to 1,372° C

Resolution: 0.1°C to 299.9°, 1.0° thereafter

MICROPROCESSOR BASED THERMOMETERS

The MicroTherma microprocessor based thermometers measure temperature over the range of -210 to +1760°C with a 0.1°C or 1°C resolution, autoranging 0.1°C up to +199.9°C, 1°C thereafter. Each microprocessor thermometer incorporates an easy to read, multi-function 3½-digit LCD display with open circuit, low battery, hold, max/min and °C/°F indication.

The thermometers should never need re-calibrating as the built-in microprocessor enables the instruments to continuously and automatically carry out self diagnostic re-calibration. An additional feature allows the user to adjust the reading ($\pm 2.5^\circ\text{C}$) to offset any probe errors, correcting any inaccuracies of the thermocouple probe. Each thermometer thereafter will automatically store, display the offset and adjust the instrument for the known probe error, maximising system accuracy.

Seven models are available that utilise type K, J, T, N, R, S or E thermocouple probes. Each instrument incorporates both max and min readings with a reset function. The unit also features an auto power-off facility which maximises the battery life, turning the instrument off automatically after 30 minutes.

A clear polycarbonate wall bracket and a protective PVC boot are available for both the MicroTherma 2 and 3.

- seven models available K, J, T, N, R, S or E



Specification	Microtherma 1	MicroTherma 2
Range	-210 to +1760°C	-210 to +1760°C
Resolution	0.1°C or 0.1°F	0.1°C or 0.1°F
Accuracy	$\pm 0.2^\circ\text{C} \pm 1$ digit	$\pm 0.2^\circ\text{C} \pm 1$ digit
Battery & Battery Life	2 x MN2400 (AAA) - 1,000 Hours	2 x MN2400 (AAA) - 1,000 Hours
Sensor Type	K, J, T, N, R, S or E Thermocouple - selectable	K, J, T, N, R, S or E Thermocouple
Display	12.7mm LCD	12.7mm LCD
Dimensions	35 x 73 x 141mm	35 x 73 x 141mm
Weight	220 grams	220 grams

a traceable certificate of calibration is included with each instrument

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Temperature Probes

Temperature measuring is only part of the system, of equal importance is the design of the temperature probes used to physically measure the required food or products. ETI manufactures a wide range of fully interchangeable thermocouple type K probes designed to meet today's customer requirements. Probes with additional lead length can be manufactured on request, to a maximum of 100 metres.

Below is a selected list of the most popular temperature probes. If you require a particular type of probe that is not indicated, please contact us.

penetration probe



These pointed, stainless steel, penetration probes are strong and versatile. Ideal for a variety of food applications including liquids and semi-solids. Dimensions $\text{Ø}3.3 \times 130$ or 300mm. Maximum tip temperature $+250^{\circ}\text{C}$.

fast response penetration probe



The pointed reduced tip, fast response, stainless steel, penetration probe. Ideal for liquids and semi-solids and other delicate foods and materials. Dimensions $\text{Ø}3.3 \times 100$ mm, Maximum tip temperature $+250^{\circ}\text{C}$.

needle penetration probe



This pointed fast response, stainless steel, needle penetration probe is suitable for liquids and semi-solids including fish and other delicate foods. Dimensions $\text{Ø}1.8 \times 130$ mm, Maximum tip temperature $+250^{\circ}\text{C}$.

high temperature probe



These flexible, high temperature, MI probes can be bent to any shape without affecting their performance. Ideal for measuring the temperature of fryers. Dimensions $\text{Ø}1.5$ or 3×130 mm, Maximum tip temperature $+1100^{\circ}\text{C}$.

air or gas probe



This stainless steel, fast response, hand held air or gas probe is ideal for measuring air temperature in fridges, freezers and chill cabinets. Dimensions $\text{Ø}4.5 \times 130$ mm, Maximum tip temperature $+250^{\circ}\text{C}$.

exposed junction wire probe



These fibreglass exposed junction wire probes are suitable for measuring the air temperature of ovens, hot cupboards etc. Dimensions $\text{Ø}1.5 \times 1000$ mm, Maximum wire temperature $+350^{\circ}\text{C}$.

heavy duty surface probe



These heavy duty, high temperature, surface probes are ideal for measuring the temperature of griddles etc. A right-angled version is available. Dimensions $\text{Ø}12 \times 130$ mm, Maximum tip temperature $+1000^{\circ}\text{C}$.

Non-contact Thermometers (Pyrometers)

The series 8 pyrometers are high-quality, battery driven portables for non-contact temperature measurement between 250 and 2500°C. The *pro* series is a revision of the 15 years proven *plus* series. The instruments feature fully digital signal processing, resulting in wider temperature ranges as well as higher accuracy. With the additional integrated graphic display the measuring results can be shown and analyzed directly on site.

The aluminium die-cast housing is specially designed for the daily use under rough industrial conditions. The easy focusable precision optics provides small spot sizes for measuring distances between 500 mm and ∞. The bright, optimized view finder with exact spot indication and built-in temperature display facilitates the accurate aiming on the object.

Moreover, the large measurement data storage offers the best possibility for subsequent interpretation of the measured values. The extremely short response time of 1 ms allows exact measurements of fast moving objects and a very quickly detection of temperature differences. The maximum temperature can be stored in the built-in peak picker (maximum value storage).

- Very robust aluminum die-cast housing for use in rough environments
- Focusable precision optics for adjusting smallest spot sizes
- Temperature display on the housing, in the view finder and on the multifunctional display sideways
- Large data storage for subsequent analysis of measuring data
- Integrated maximum value storage to determine the peak value achieved during a measuring series
- Extremely short response time for measurements on fast-moving objects
- USB interface for using the optional analyzing software *PortaWin*



Temperature ranges	IS 8 pro: 600 to 1800°C (MB18) 750 to 2500°C (MB25)	IGA 8 pro: 600 to 1800°C (MB16) IG 8-GS pro: 1000 to 2000°C (MB20)
Spectral ranges	IS 8 pro: 0.78 to 1.1µm / IGA 8 pro: 1.45 to 1.8µm / IG 8-GS pro: 0.55µm	
Accuracy:	0.4% of reading + 1°C (at ε = 1, T _{amb} = 23°C)	
Temperature coefficient:	0.01% / K (T _{amb} = 23°C) of reading	
Repeatability:	0.1% of reading or 0.8°C (the larger value is valid; at ε = 1, T _{amb} = 23°C)	
Resolution:	LED inside: 1°C/°F; LED outside: 0.1° up to 1000°C / °F, after this 1°, LCD: 0.1°C/°F	
Response time t ₉₀	1 ms	
Emissivity ε	Adjustable from 10 to 100% in 0.1% steps	
Parameters	Emissivity, direct emissivity setting, storage interval, temperature indication in °C or °F	
Data storage:	4000 values, storage of: measurement value, date, time, parameters, emissivity, temperature unit	
Serial interface:	USB 2.0 (supplies the instrument when connected, but without battery charging function)	
Power supply:	6 x 1.5V alkali-manganese IEC LR6 or 6 x 1.2 V rechargeable batteries	
Dimensions / weight:	210 x 75 x 175mm (L x W x D), 1.2kg with batteries	