# FULL PRODUCT CATALOGUE

Specialists in the design & manufacture of
temperature measuring equipment since 1983

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# SPOTLIGHT
## on *Bluetooth*® thermometers

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**HACCP**
These products help you achieve a HACCP compliant system

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# CATERING & FOOD PROCESSING

## THERMOMETERS FOR FOOD

Monitoring food temperatures is a daily requirement for any food business to ensure customer safety. Finding the best thermometer for your application will help to make these checks faster, easier and more accurate.

## SAFE FOOD TEMPERATURES

All individuals responsible for food preparation should be aware of the Danger Zone. This is the optimal temperature range where harmful bacteria thrive, between 8 and 63 °C.

When storing, cooking and serving food, it's essential to prevent food from entering the Danger Zone for long periods, or it must be thrown away. Please visit our website for more information on food safety temperatures.

## HACCP TEMPERATURES

Any food business in the UK is legally required to have a food safety management system that is based on the principles of HACCP (Hazard Analysis & Critical Control Point). Within this, there are several key areas where food temperatures should be monitored to reduce the risk of harmful bacteria:

Deliveries - monitoring the temperature of chilled incoming goods

Food storage - ensuring cold foods do not enter the danger zone

Food preparation - cooking or reheating food to a safe temperature

Food service - hot holding food at safe temperatures and for the correct length of time

## THERMOMETERS FOR HACCP

We offer a wide range of food thermometers and probes suitable for different applications, budgets and requirements. The main features to consider when choosing a thermometer are:

Accuracy - the potential margin for error

Speed - how many seconds a reading will take

Range - the highest and lowest temperatures required

Resolution - the number of decimal places on the display

It's also important to select a design that is functional for your applications. For harsh food processing environments, it can be useful to have a robust and waterproof casing. For busy restaurants, a hold function can make taking recordings easier.

Products with this icon help you achieve a HACCP compliant system

# THERMAPEN® ONE THERMOMETER


- Reaches temperature in just ONE second
- 5-year guarantee
- Waterproof to IP67
- Auto-intelligent backlit display

The Thermapen ONE is the ultimate kitchen thermometer. Quick, accurate and easy-to-use, measuring temperature over the range of -49.9 to 299.9 °C .

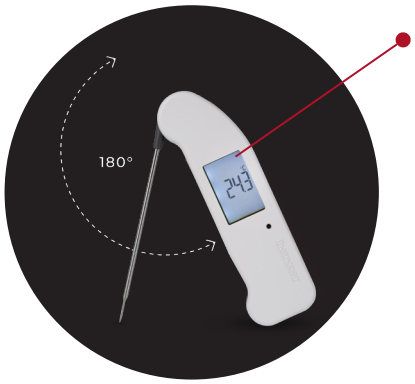
**Unrivalled speed and accuracy**
The Thermapen One is currently the fastest instant-read thermometer on the market, reading temperatures in just one second. Accurate to ±0.3 °C (-19.9 to 119.9 °C) ±0.4 °C (-49.9 to 199.9 °C) otherwise ±1.0 °C.

**Designed for kitchen professionals**
Designed using industry leading thermocouple technology, the Thermapen One features a patented self-rotating display that can be used with either hand in any position. Its intelligent backlit display is improved with a cool white LCD that senses varying light levels, automatically turning the backlight on and off. The unit also comes with a motion-sensing sleep mode that maximises battery life by automatically turning the device on and off when set down or picked up. Powered by a single AAA battery, the device has a life expectancy of 2000 hours in normal use, without the backlight. Both low battery (icon) and open circuit indication are displayed, when applicable. The casing is washable and includes Biomaster product protection that reduces bacterial growth.

The Thermapen One is waterproof to IP67 and incorporates a reduced tip, stainless steel, penetration probe that conveniently folds back through 180° into the side of the instrument when not in use.

Each Thermapen One is supplied with a FREE traceable certificate of calibration and 5-year guarantee.

- Improved 0.3 °C accuracy




Auto-Intelligent backlight - improved LCD in cool white

Bluetooth®

model available see page 55

Patented auto-rotating display


ONE Second response time due to improved thermocouple technology

| Order code | Description |
|---|---|
| 235-407 | Thermapen One - grey |
| 235-417 | Thermapen One - white |
| 235-427 | Thermapen One - yellow |
| 235-437 | Thermapen One - green |
| 235-447 | Thermapen One - red |
| 235-457 | Thermapen One - blue |
| 235-477 | Thermapen One - black |
| 235-487 | Thermapen One - orange |
| 235-497 | Thermapen One - pink |
| 235-507 | Thermapen One - purple |
| 830-455 | Silicone boot - glow in the dark |
| 830-110 | Protective wallet |
| 830-001 | Zip pouch |
| 832-002 | Stainless steel wall bracket |

AUTO OFF · IP67 · 360° · Biomaster · 5 YEAR GUARANTEE · MADE IN BRITAIN

| Specification | Thermapen One |
|---|---|
| Range | -49.9 to 299.9 °C |
| Resolution | 0.1 °C or 1 °C - user selectable |
| Accuracy | ±0.3 °C (-19.9 to 119.9 °C) |
| | ±0.4 °C (-49.9 to 199.9 °C) otherwise ±1.0 °C |
| Battery | 1 x 1.5 volt AAA |
| Battery life | 2000 hours (without backlight) |
| Sensor type | K thermocouple |
| Display | 14.3 mm (horizontal) & 11.85 mm (vertical) LCD |
| Dimensions | 19.3 x 48.2 x 156.2 mm |
| Weight | 115 grams |
| FREE traceable certificate of calibration included | |

# THERMAPEN® CLASSIC THERMOMETER

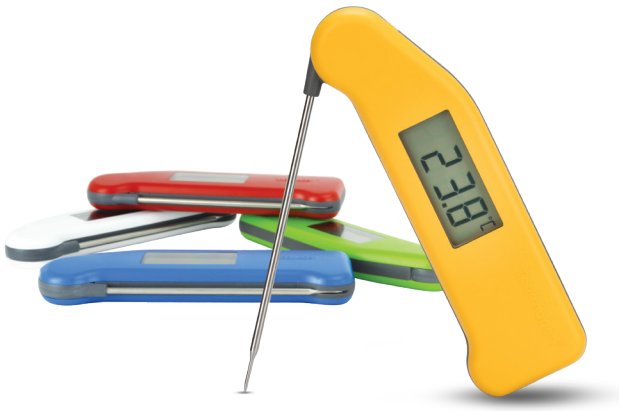
- Over 50 % faster than traditional probes
- Reaches temperature in just 3 seconds
- FREE traceable certificate of calibration
- Lightweight and easy-to-use


The Thermapen Classic thermometer incorporates a large digital display with a precise read-out of temperature over the range of -49.9 to 299.9 °C with a 0.1 °C resolution and an accuracy of ±0.4 °C. The resolution can be switched to 1 °C, if required, via a switch in the battery compartment. The thermometer will power off automatically after ten minutes, maximising battery life. This feature can be disabled if not required.

The casing is washable and includes Biomaster product protection that reduces bacterial growth and the ergonomic rubber seal minimises the risk of the ingress of water, dust or food. The Thermapen Classic also benefits from being splashproof. The true temperature of a product can be tested in just three seconds. The Thermapen Classic incorporates a reduced tip, stainless steel, food penetration probe (Ø3.3 x 115 mm) that conveniently folds back through 180° into the side of the instrument when not in use.

Both low battery (icon) and open circuit indication are displayed, when applicable. Each Thermapen is powered by two lithium coin cell batteries with a minimum life expectancy of 1500 hours.

- **Stainless steel wall bracket (832-002)**
  Stores the Thermapen safely when not in use. Keyhole slot for hanging (screws not supplied) Measures 27 x 58 x 115 mm




## OPTIONAL ACCESSORIES:

- Stainless steel wall bracket (832-002) screws not supplied
- Zip pouch with belt strap (830-001)
- Protective silicone boot (830-260)
- Glow-in-the-dark silicone boot with magnets (830-265)
- Protective PVC wallet with belt strap (830-110)

AUTO OFF · Biomaster PROTECTED · 2 YEAR GUARANTEE · MADE IN BRITAIN

| Order code | Description |
|---|---|
| 231-217 | Thermapen Classic - white |
| 231-227 | Thermapen Classic - yellow |
| 231-237 | Thermapen Classic - green |
| 231-247 | Thermapen Classic - red |
| 231-257 | Thermapen Classic - blue |
| 830-260 | Protective silicone boot |
| 830-265 | Silicone boot - glow in dark |
| 830-110 | Protective wallet |
| 830-001 | Zip pouch |
| 832-002 | Stainless steel wall bracket |

| Specification | Thermapen Classic |
|---|---|
| Range | -49.9 to 299.9 °C |
| Resolution | 0.1 °C or 1 °C - user selectable |
| Accuracy | ±0.4 °C (-49.9 to 199.9 °C) otherwise ±1 °C |
| Battery | 2 x 3 volt CR2032 lithium coin cell |
| Battery life | 1500 hours |
| Sensor type | K thermocouple |
| Display | 14.5 mm LCD |
| Dimensions | 19 x 47 x 153 mm |
| Weight | 97 grams |
| FREE traceable certificate of calibration included | |

# PRO-SURFACE THERMAPEN® THERMOMETER

- Pivoting probe & swivel head for perfect contact
- Ideal for grills & hot plates
- Temperature range -49.9 to 299.9 °C
- 2 year guarantee

The Pro-Surface Thermapen thermometer measures the temperature of grills, hotplates, and other surfaces over the range of -49.9 to 299.9 °C with a user-selectable resolution of 0.1 or 1 °C with an accuracy of ±1 °C / 1 % of reading.

Simply open the probe and take the reading - the pivoting probe and swivel tip ensure perfect surface contact and high accuracy measurement. The Pro-Surface includes a FREE traceable certificate of calibration.

The Thermapen body is splashproof. For high temperature use you can order a protective silicone rubber boot for added thermal and drop protection.

- **Protective silicone boot**
  Protect your instrument against accidental damage by fitting a protective silicone boot (830-260).

- **Protective wallet**
  Ideal for transporting and protecting your Thermapen thermometer. Each wallet has a secure press stud fastening and a belt-loop (830-110).

- **Supplied in a 830-001 zip pouch with belt loop**

| Order code | Description |
|---|---|
| 231-279 | Pro-Surface Thermapen |
| 830-260 | Protective silicone boot |
| 830-265 | Silicone boot - glow in the dark |
| 830-110 | Protective wallet |
| 832-002 | Stainless steel wall bracket |

| Specification | Pro-Surface Thermapen |
|---|---|
| Range | -49.9 to 299.9°C |
| Resolution | 0.1 °C or 1 °C - user selectable |
| Accuracy | ±0.4 °C (-49.9 to 149.9 °C) or ±1 % |
| Battery | 2 x 3 volt CR2032 lithium coin cell |
| Battery life | 1500 hours |
| Sensor type | K thermocouple |
| Display | 14.5 mm LCD |
| Dimensions | 19 x 47 x 153 mm |
| Weight | 97 grams |
| FREE traceable certificate of calibration included | |

# THERMALITE® DIGITAL THERMOMETER

- CalCheck 0.0 °C function
- ±0.5 °C accuracy
- Waterproof to IP66
- FREE traceable certificate of calibration

NEW MODEL


The ThermaLite digital thermometer is lightweight and easy to use, ideal for measuring the temperature of food and semi-solid materials.

The instrument displays temperature over the range of -40 to 300 °C with a 0.1 °C/°F resolution and an accuracy of ±0.5 °C (-10 to 100 °C). Each ThermaLite also incorporates a CalCheck function that allows the user to verify the accuracy of the thermometer at any time.

The thermometer weighs only 67 grams and features a clear, easy-to-read LCD display with an open circuit 'Err' and battery replacement indication. The ThermaLite's auto power-off facility turns the instrument off automatically after ten minutes, maximising battery life and is supplied complete with a FREE traceable certificate of calibration.

Each unit is supplied with a protective probe cover and is waterproof to IP66 . The case includes Biomaster product protection which reduces opportunities for bacterial growth.

The Ø3.3 x 85 mm stainless steel probe has a Ø2.0 x 14 mm reduced tip which provides faster and more accurate readings.


- **CalCheck 0.0 °C function**
  The ThermaLite features a CalCheck 0.0 °C function that allows the user to verify the accuracy of the thermometer at any time, giving confidence that measurements are accurate.


- Each unit is supplied with a protective probe cover

- Reduced tip for faster and more accurate readings

AUTO OFF | CAL CHECK | IP66 | Biomaster

| Specification | ThermaLite |
|---|---|
| Range | -40 to 300 °C |
| Resolution | 0.1 °C/°F |
| Accuracy | ±0.5 °C (-10 to 100 °C) |
| | ±2.5 °C (200 to 300 °C) |
| | ±1.5 °C otherwise |
| Battery | 3 volt CR2032 lithium coin cell |
| Battery life | 2000 hours |
| Sensor type | Thermistor |
| Display | 25 x 23.5 mm LCD |
| Dimensions | 22 x 36.3 x 223 mm |
| Probe dimensions | Ø3.3 x 85 mm (probe tip Ø2.0 x 14 mm) |
| Weight | 67 grams |
| FREE traceable certificate of calibration included | |

| Order code | Description |
|---|---|
| 810-305 | ThermaLite thermometer |

CATERING

# TEMPTEST® 1 & 2 THERMOMETERS

- Patented, automatic 360° rotational display
- Fast response probe, reaches temperature in just 3 seconds
- FREE traceable certificate of calibration
- Intelligent backlit display


These TempTest thermometers incorporate a large, easy-to-read digital display, with a precise read-out of temperature over the range of -49.9 to 299.9 °C with a 0.1 °C/°F resolution and an accuracy of ±0.4 °C (-49.9 to 199.9 °C). The thermometers will power off automatically after ten minutes maximising battery life, this feature can be disabled if not required.

The thermometers are housed in a waterproof IP67 case with an ergonomic rubber seal, both include Biomaster product protection to reduce bacterial growth. As well as being waterproof, the true temperature of a product can be measured in just three seconds.

Both low battery (icon) and open circuit indication are displayed, when applicable. Each TempTest is powered by two AAA batteries with a minimum life expectancy of 5000 hours in normal use without the backlight.

Each TempTest 1 thermometer is supplied with a permanently attached, pointed stainless steel food penetration probe (Ø3.3 x 80 mm) with fast response tip and FREE holster/wall bracket for safe and secure storage.

Bluetooth®

model available
see page 57

## OPTIONAL ACCESSORIES:

- Protective silicone boot. Various colours available - see below
- Anti-bacterial wipes - see page 40


Intelligent backlit LCD

| Order code | Description |
|---|---|
| 221-910 | TempTest 1 thermometer |
| 222-910 | TempTest 2 - penetration probe |
| 830-431 | Protective silicone boot - white |
| 830-432 | Protective silicone boot - yellow |
| 830-433 | Protective silicone boot - green |
| 830-434 | Protective silicone boot - red |
| 830-435 | Protective silicone boot - blue |
| 830-437 | Protective silicone boot - black |

2 YEAR GUARANTEE MADE IN BRITAIN

MAX/ MIN | AUTO OFF | IP67 | 360° | Biomaster PROTECTED

| Specification | TempTest 1 & 2 |
|---|---|
| Range | -49.9 to 299.9 °C |
| Resolution | 0.1 °C/°F |
| Accuracy | ±0.4 °C (-49.9 to 199.9 °C) otherwise ±1 °C |
| Battery | 2 x 1.5 volt AAA |
| Battery life | 5000 hours (normal use, without backlight) |
| Sensor type | K thermocouple |
| Display | 11 mm LCD |
| Dimensions | TempTest 1 - 17 x 47 x 200 mm (inc. probe) |
| | TempTest 2 - 17 x 47 x 120 mm |
| Weight | TempTest 1 - 105 grams |
| | TempTest 2 - 140 grams |
| FREE traceable certificate of calibration included | |

# THERMAMITE® THERMOMETER & PROBE

- Simple one-button operation
- FREE traceable certificate of calibration
- Includes Biomaster product protection
- 2-year guarantee


The Thermamite thermometer offers accuracy, flexibility and ease of use, coupled with the durability and reliability that is required by the food and catering industry in helping to meet today's food hygiene legislation.

The thermometer incorporates an easy-to-read, LCD display with a precise read-out of temperature over the range of -50 to 300 °C with a 1 °C resolution. Low battery and open circuit indication are also displayed. The unit will power-off automatically after ten minutes, maximising battery life.

The instrument is housed in an ergonomic, robust ABS case that includes Biomaster product protection which reduces bacterial growth. Each thermometer is supplied with a permanently attached, pointed stainless steel food penetration probe (Ø3.3 x 100 mm) and a 500 mm PVC lead.


- **Protective silicone boot**
  The Thermamite is water-resistant to IP65 when used in conjunction with this boot. Protects from accidental damage. Various colours are available - see page 14.

- **Stainless steel wall bracket & boot (832-050)**
  The wall bracket stores your Thermamite safely away when not in use. Keyhole slot for hanging (screws not supplied).

AUTO OFF

| Order code | Description |
|---|---|
| 261-010 | Thermamite - white |
| 261-020 | Thermamite - yellow |
| 261-030 | Thermamite - green |
| 261-040 | Thermamite - red |
| 261-050 | Thermamite - blue |
| 830-221 | Protective silicone boot - white |
| 832-050 | S/steel wall bracket & boot |

| Specification | Thermamite |
|---|---|
| Range | -50 to 300 °C |
| Resolution | 1 °C |
| Accuracy | ±1 °C / 1 % of reading |
| Battery & life | 3 x 1.5 volt AAA - 10000 hours |
| Sensor type | K thermocouple |
| Display | 12 mm LCD |
| Dimensions | 25 x 56 x 128 mm |
| Weight | 160 grams |
| FREE traceable certificate of calibration included | |

# FOOD CHECK THERMOMETER & PROBE

- Ideal for HACCP procedures
- FREE traceable certificate of calibration
- Temperature range -49.9 to 299.9 °C
- Meets the European Standard EN 13485


The Food Check is designed specifically for the food and catering professional who wishes to purchase an economically priced digital thermometer. The Food Check thermometer will measure temperature quickly and accurately when monitoring cooked and chilled foods as part of HACCP and health and safety procedures.

The thermometer is housed in a user-friendly ABS case that includes Biomaster product protection which reduces bacterial growth. The Food Check features a large, easy-to-read, LCD display with open circuit and low battery indication. The instrument incorporates a simple-to-use on/off push-button and is powered by three AAA batteries that give a minimum of five years of battery life. The Food Check will power off automatically after ten minutes, maximising battery life.

Each Food Check is supplied with a permanently attached food penetration probe with a 130 mm stainless steel stem and 500 mm PVC lead. This is the ideal choice for routine food inspections.

## OPTIONAL ACCESSORIES:

- Stainless steel wall bracket & white silicone boot (832-050)
- Anti-bacterial wipes - see page 40

- **Protective silicone boot**
  The Food Check is water-resistant to IP65 when used in conjunction with this boot. Protects from accidental damage. Various colours are available - see page 14.


AUTO OFF · Biomaster · 2 YEAR GUARANTEE · MADE IN BRITAIN

| Order code | Description |
|---|---|
| 221-018 | Food Check - white |
| 221-028 | Food Check - yellow |
| 221-038 | Food Check - green |
| 221-048 | Food Check - red |
| 221-058 | Food Check - blue |
| 830-221 | Protective silicone boot - white |
| 832-050 | S/steel wall bracket & boot |

| Specification | Food Check |
|---|---|
| Range | -49.9 to 299.9 °C |
| Resolution | 0.1 °C |
| Accuracy | ±0.4 °C (-49.9 to 149.9 °C) otherwise ±1 % |
| Battery & life | 3 x 1.5 volt AAA - 10000 hours |
| Sensor type | K thermocouple |
| Display | 12 mm LCD |
| Dimensions | 25 x 56 x 128 mm |
| Weight | 160 grams |
| FREE traceable certificate of calibration included | |

# CATERTEMP® THERMOMETER & PROBE

- High system accuracy ±0.4 °C & 0.1 °C resolution
- FREE traceable certificate of calibration
- Includes Biomaster product protection
- Display hold function

The CaterTemp professional digital thermometer is designed with the catering and food processing industry in mind and incorporates a combination of proven circuitry and durability. The CaterTemp thermometer is housed in a robust ABS case that includes Biomaster product protection to reduce bacterial growth.

The CaterTemp measures temperature over the range of -49.9 to 299.9 °C with a resolution of 0.1 °C. The instrument features a bright, easy-to-read LCD, displaying open circuit and low battery indication, when applicable.

The thermometer is powered by three AAA batteries that give a minimum of five years of battery life. The CaterTemp will power off automatically after ten minutes, maximising battery life.

Each thermometer is supplied with a permanently attached food penetration probe with a 130 mm pointed, stainless steel stem and one metre coiled PU lead.



## OPTIONAL ACCESSORIES:

- Stainless steel wall bracket & black silicone boot (832-053)
- Protective silicone boot - black (830-227)

| Order code | Description |
|---|---|
| 221-046 | CaterTemp |
| 830-227 | Protective silicone boot - black |
| 832-053 | S/steel wall bracket & boot |

HOLD AUTO OFF Biomaster 2 YEAR GUARANTEE MADE IN BRITAIN

| Specification | CaterTemp |
|---|---|
| Range | -49.9 to 299.9 °C |
| Resolution | 0.1 °C |
| Accuracy | ±0.4 °C (-49.9 to 149.9 °C) otherwise ±1 % |
| Battery & life | 3 x 1.5 volt AAA - 10000 hours |
| Sensor type | K thermocouple |
| Display | 12 mm LCD |
| Dimensions | 25 x 56 x 128 mm |
| Weight | 175 grams |
| FREE traceable certificate of calibration included | |

# CATERTEMP® METAL THERMOMETER

- Our most durable thermometer yet
- Supplied complete with heavy duty penetration probe
- FREE traceable certificate of calibration
- Waterproof to IP67


The CaterTemp Metal hand held thermometer is housed in a robust extruded aluminium waterproof case, offering IP67 protection, with a white coated finish. The instrument incorporates the latest microprocessor technology with improved durability, designed for reliability and ease of use in day-to-day catering and food processing applications.

The CaterTemp Metal thermometer measures temperature over the range of -49.9 °C to 299.9 °C and features a large, easy-to-read, LCD display. The unit also incorporates an auto-power-off facility that automatically turns the instrument off after ten minutes, maximising battery life.

Each CaterTemp Metal thermometer is supplied with a permanently attached, water-resistant, heavy-duty, food penetration probe with a Ø3.3 x 130 mm stainless steel stem and one metre PU coiled lead. The probe is both strong, versatile and suitable for a variety of applications including liquids, semi-solids and granular materials.




HOLD AUTO OFF IP67 2 YEAR GUARANTEE MADE IN BRITAIN

- **Stainless steel wall bracket (832-789)**
  Designed to store your CaterTemp Metal safely - wherever you need it. Provides easy wall hanging. Dimensions: 122 x 67 x 44 mm
  Screws are not supplied.

| Order code | Description |
|---|---|
| 221-800 | CaterTemp Metal |
| 832-789 | Stainless steel wall bracket |

| Specification | CaterTemp Metal |
|---|---|
| Range | -49.9 °C to 299.9 °C |
| Resolution | 0.1 °C |
| Accuracy | ±0.4 °C (-49.9 to 149.9 °C) or otherwise ±1 % |
| Battery & life | 3 x AAA - 10,000 hours @ 25°C |
| Sensor type | K thermocouple |
| Display | 12 mm LCD |
| Dimensions | 37 x 61.4 x 177 mm |
| Weight | 325 grams |
| FREE traceable certificate of calibration included | |

# THERMACHECK THERMOMETER & PROBE

- Assured accuracy for the life of the thermometer
- High system accuracy ±0.3 °C
- FREE traceable certificate of calibration
- Meets the European Standard EN 13485


The ThermaCheck digital thermistor thermometer has been specifically designed for use in the catering and food processing industries to cope with routine day-to-day usage.

The instrument measures temperature over the range of -39.9 to 149.9 °C with a resolution of 0.1 °C and a high system accuracy (probe and thermometer) of ±0.3 °C (-29.9 to 129.9 °C). This accuracy is guaranteed for life, due to the instrument's advanced electronics.

The ThermaCheck is housed in an ergonomic, robust ABS case that includes Biomaster product protection which reduces bacterial growth. The low power consumption electronics are powered by three AAA batteries, giving the instrument a minimum battery life of five years. The auto-power-off facility turns the instrument off automatically after ten minutes, maximising battery life.

The ThermaCheck thermometer is supplied complete with a permanently attached food penetration probe with a 130 mm stainless steel stem and one metre coiled PU lead.

## OPTIONAL ACCESSORIES:

- Protective silicone boot.
  Various colours are available - see below
- Stainless steel wall bracket (832-050)
  & white silicone boot (screws not supplied)

| Order code | Description |
|---|---|
| 226-042 | ThermaCheck |
| 830-221 | Protective silicone boot - white |
| 830-222 | Protective silicone boot - yellow |
| 830-223 | Protective silicone boot - green |
| 830-224 | Protective silicone boot - red |
| 830-225 | Protective silicone boot - blue |
| 830-227 | Protective silicone boot - black |
| 832-050 | S/steel wall bracket & boot |

| Specification | ThermaCheck |
|---|---|
| Range | -39.9 to 149.9 °C |
| Resolution | 0.1 °C |
| Accuracy | ±0.3 °C (-29.9 to 129.9 °C) |
| Battery & life | 3 x 1.5 volt AAA - 20000 hours |
| Sensor type | Thermistor |
| Display | 12 mm LCD |
| Dimensions | 25 x 56 x 128 mm |
| Weight | 220 grams |
| FREE traceable certificate of calibration included | |

# THERMA 1T THERMOMETER

- High accuracy ±0.2 °C
- FREE traceable certificate of calibration
- High accuracy type T thermocouple probe socket
- Includes Biomaster product protection

The Therma 1T utilises a type T thermocouple sensor which offers both fast response and a measurement range of -100 to 400 °C with a 0.1 °C resolution. Each unit is housed in a robust ABS case that includes Biomaster product protection that reduces bacterial growth.

The Therma 1T thermometer features a large, easy-to -read, LCD display with open circuit and low battery indication. Each unit is powered by three AAA batteries that give a minimum of 10000 hours of battery life. The instrument will power off automatically after ten minutes, maximising battery life. This feature can be disabled by the user, if not required.

Below is a small selection of our high accuracy (±0.2 °C) type T thermocouple probes, for alternative probes contact our sales team or visit our website.

HOLD AUTO OFF Biomaster 2 YEAR GUARANTEE MADE IN BRITAIN

| Order code | Description |
|---|---|
| 221-107 | Therma 1T |
| 830-221 | Protective silicone boot - white |
| 832-050 | S/steel wall bracket & boot |
| The Therma 1T is exclusive of probe | |

Bluetooth®

model available see page 59


Fast response probe (127-159)

| Specification | Therma 1T |
|---|---|
| Range | -100 to 400 °C |
| Resolution | 0.1 °C to 300 °C thereafter 1 °C |
| Accuracy | ±0.2 °C ±0.1 % of reading |
| Battery & life | 3 x 1.5 volt AAA - 10000 hours |
| Sensor type | T thermocouple |
| Display | 12 mm LCD |
| Dimensions | 25 x 56 x 128 mm |
| Weight | 130 grams |
| FREE traceable certificate of calibration included | |



# HIGH ACCURACY TYPE T THERMOCOUPLE PROBES

| | | Order code |
|---|---|---|
| PENETRATION PROBE  HIGH ACCURACY Ø3.3 x 130 mm | This stainless steel penetration probe is strong, versatile and ideal for measuring liquids and semi-solids.<br>● Response time less than 2 seconds<br>● Probe temperature range -75 to 250 °C | 127-160<br>327-160 (coiled lead) |
| FAST RESPONSE PROBE  HIGH ACCURACY Ø3.3 x 100 mm | This reduced tip (Ø1.8 x 25 mm), fast response, stainless steel penetration probe is ideal for liquids or semi-solids i.e. soft rubber and other similar materials.<br>● Response time less than 2 seconds<br>● Probe temperature range -75 to 250 °C | 127-159<br>327-159 (coiled lead) |
| AIR OR GAS PROBE  HIGH ACCURACY Ø4.5 x 130 mm | This stainless steel, fast response probe is ideal for measuring air temperature in chill cabinets, fridges, freezers, storage areas and similar.<br>● Response time less than 1 second<br>● Probe temperature range -75 to 250 °C | 127-300<br>327-300 (coiled lead) |

Please note: the above type T thermocouple probes offer a high accuracy of ±0.2 °C over the range of -20 to 70 °C

# THERMA 20 HIGH ACCURACY THERMOMETER

- Assured accuracy for the life of the thermometer
- Meets the European Standard EN 13485
- 2-year guarantee
- Optional test caps for accuracy checks

The Therma 20 thermistor thermometer has been specifically designed for use in the catering industry with HACCP and health and safety procedures in mind.

The instrument displays temperature to 0.1 °C over the range of -39.9 to 149.9 °C with a high system accuracy of ±0.4 °C (-24.9 to 109.9 °C). This accuracy is guaranteed for life, due to the instrument's advanced electronics. The Therma 20 features an easy-to-read, LCD display with low battery indication.

The thermometer can be used in low ambient working temperatures down to -20 °C, which meets the requirements of the European Standard EN 13485 for the temperature monitoring of food through the supply chain, from transport to storage to point of sale.

The instrument is housed in an ergonomic, robust ABS case that includes Biomaster product protection which reduces bacterial growth. The thermometer's auto-power-off facility turns the instrument off automatically after ten minutes.

The Therma 20 incorporates an easy-to-use Lumberg screw-locking connector, allowing both a wide range of interchangeable thermistor probes and self-calibration test caps to perform accuracy checks.


Thermistor penetration probe (174-166)

- For alternative probes see pages 86 and 87.


## THERMA 20 PROFESSIONAL CATERING THERMOMETER KIT

### Each kit contains:

- Therma 20 thermometer (226-040)
- Thermistor penetration probe (174-166)
- Air wire probe (170-372)
- Temperature log book (831-100)
- Box of 100 Probe Wipes (836-220)
- ABS carrying case (834-120)

Bluetooth®

model available
see page 60

AUTO OFF · Assured Accuracy · Biomaster · 2 YEAR GUARANTEE · MADE IN BRITAIN

| Order code | Description |
|---|---|
| 226-040 | Therma 20 |
| 860-120 | Professional catering kit |
| 174-166 | Thermistor penetration probe |
| 286-001 | Thermistor test cap -18 °C |
| 286-002 | Thermistor test cap 0 °C |
| 286-003 | Thermistor test cap 3 °C |
| 286-004 | Thermistor test cap 70 °C |
| 286-005 | Thermistor test cap 100 °C |
| 830-221 | Protective silicone boot - white |
| 832-050 | S/steel wall bracket & boot |

Exclusive of probe when purchased as a unit only

| Specification | Therma 20 |
|---|---|
| Range | -39.9 to 149.9 °C |
| Resolution | 0.1 °C |
| Instrument only accuracy | ±0.2 °C |
| System accuracy | ±0.4 °C (-24.9 to 109.9 °C) |
| Battery & life | 3 x 1.5 volt AAA - 20000 hours |
| Sensor type | Thermistor |
| Display | 12 mm LCD |
| Dimensions | 25 x 56 x 128 mm |
| Weight | 130 grams |

FREE traceable certificate of calibration included

# THERMA 22 & 22 PLUS THERMOMETERS

- Utilises thermistor or type T thermocouple probes
- Meets the European Standard EN 13485
- Includes Biomaster product protection
- FREE traceable certificate of calibration


The Therma 22 and 22 Plus thermometers accept both thermocouple and thermistor probes. The thermistor sensor gives greater accuracy whilst the type T thermocouple sensor gives a faster response with an extended measurement range.

Bluetooth®

model available
see page 61

Both units display temperature over a range of -199.9 to 400 °C (Type T thermocouple) and -39.9 to 149.9 °C (thermistor). The LCD display includes open circuit and low battery indication, and auto-power-off to maximise battery life.

Housed in an ABS case that includes Biomaster product protection, each unit also incorporates a Lumberg screw-locking type connector that supports a range of interchangeable probes. Type T thermocouple probes are available on page 84, and thermistor probes are available on pages 86-87.

- The Therma 22 Plus incorporates all the features of the Therma 22 thermometer, but with the addition of a backlight display, max/min memory function, hold function and is waterproof offering IP66/67 protection .

## THERMA 22 FOOD HYGIENE THERMOMETER KIT


Each kit contains:

- Therma 22 thermometer (227-022)
- Type T penetration probe (177-166)
- Air wire probe (177-372)
- Temperature log book (831-100)
- Box of 100 Probe Wipes (836-220)
- ABS carrying case (834-120)

HOLD | MAX/ MIN | IP66/ IP67 | AUTO OFF | Biomaster | 2 YEAR GUARANTEE | MADE IN BRITAIN

| Order code | Description |
|---|---|
| 227-022 | Therma 22* |
| 860-125 | Food hygiene kit |
| 232-041 | Therma 22 Plus* |
| 177-166 | Type T penetration probe |
| 174-266 | Thermistor penetration probe |

*Exclusive of probe when purchased as a unit only

| Specification | Therma 22 | Therma 22 Plus |
|---|---|---|
| Range - Type T thermocouple | -199.9 to 400 °C | |
| Range - Thermistor | -39.9 to 149.9 °C | |
| Resolution | 0.1 °C to 299.9 °C thereafter 1 °C | |
| Instrument only accuracy | ±0.2 °C | |
| System accuracy - Type T t/c | ±0.5 °C (-49.9 to 149.9 °C) | |
| System accuracy - Thermistor | ±0.4 °C (-24.9 to 109.9 °C) | |
| Battery | 3 x 1.5 volt AAA | |
| Battery life | 10000 hours | 7500 hours |
| Sensor type | Thermistor/Type T thermocouple | |
| Display | 12 mm LCD | 15 mm LCD |
| Dimensions | 25 x 56 x 128 mm | 32 x 71 x 141 mm |
| Weight | 130 grams | 220 grams |
| FREE traceable certificate of calibration included | | |

# THERMA 20 METAL THERMOMETER

- Extruded aluminium case for superior durability
- FREE traceable certificate of calibration
- Waterproof to IP67
- Large, easy-to-read LCD display

The Therma 20 Metal waterproof thermometer offers IP67 protection and is housed in a robust extruded aluminium case. The thermometer utilises state of the art electronic circuitry, designed for reliability and ease of use and can be submerged or washed under a running tap - ideal for food processing applications where cleaning is paramount.

The Therma 20 Metal thermometer measures temperature over the range of -39.9 °C to 149.9 °C with a 0.1 °C resolution. The instrument features a large, easy-to-read, LCD display. The unit also incorporates an auto-power-off facility that automatically turns the instrument off after ten minutes, maximising battery life.

The instrument is housed in an ergonomic case with a white coated finish.

The Therma 20 Metal incorporates an easy-to-use waterproof Lumberg screw-locking type connector, allowing a wide range of interchangeable thermistor probes to be used. We offer an extensive range of probes, see pages 86 and 87 for details.




- **Stainless steel wall bracket (832-789)**
  Stores your Therma 20 Metal safely and helps avoid accidental damage. Provides easy wall hanging. Dimensions 44 x 67 x 122 mm. Screws not supplied.

HOLD | AUTO OFF | IP67 | 2 YEAR GUARANTEE | MADE IN BRITAIN

| Order code | Description |
|---|---|
| 221-700 | Therma 20 Metal |
| 832-789 | Stainless steel wall bracket |
| 174-266 | Penetration probe |

The Therma 20 Metal is exclusive of probe

| Specification | Therma 20 Metal |
|---|---|
| Range - thermistor | -39.9 °C to 149.9 °C |
| Resolution | 0.1 °C |
| Instrument only accuracy | ±0.2 °C ±0.1 % of reading |
| System accuracy | ±0.4 °C (-24.9 to 109.9 °C) otherwise 1 °C |
| Battery & life | 3 x 1.5 volt AAA - 10,000 hours @ 25 °C |
| Sensor type | Thermistor |
| Display | 15 mm LCD |
| Dimensions | 37 x 61.4 x 177 mm |
| Weight | 242 grams |

FREE traceable certificate of calibration included

# THERMA K METAL THERMOMETER

- Interchangeable thermocouple probes
- FREE traceable certificate of calibration
- Wide temperature range -99.9 to 1372 °C
- Extruded aluminium case for superior durability


The Therma K Metal hand held thermometer is housed in a robust extruded aluminium waterproof case, offering IP67 protection, with a white powder coated finish. The instrument incorporates the latest microprocessor technology with improved durability, designed for reliability and ease of use in day-to-day catering and food processing applications.

The unit features a large, easy-to-read, LCD display and measures temperature over the range of -99.9 to 1372 °C, -99.9 to 999.9 °C with a 0.1 °C resolution, auto-ranging to 1 °C resolution over the range of 1000 to 1372 °C.

The thermometer incorporates an auto-power-off facility that automatically turns the instrument off after ten minutes, maximising battery life. The on/off button is conveniently located at the front of the instrument as is the display hold facility. The secure battery compartment with a waterproof cover is located at the base of the instrument.

Penetration probe (143-162)

## OPTIONAL ACCESSORIES:

- Stainless steel wall bracket - screws not supplied (832-789)
- Anti-bacterial wipes - see page 40

- **Choice of probes**
  Conveniently located at the top of the instrument is the thermocouple probe socket that allows a wide range of interchangeable, thermocouple type K probes to be connected to the instrument. We offer an extensive range of probes, see pages 77 to 83 for details.


| Order code | Description |
|---|---|
| 221-900 | Therma K Metal |
| 143-162 | Penetration probe |
| 832-789 | Stainless steel wall bracket |
| The Therma K Metal is exclusive of probe | |

HOLD AUTO OFF IP67 2 YEAR GUARANTEE MADE IN BRITAIN

| Specification | Therma K Metal |
|---|---|
| Range | -99.9 °C to 1372 °C |
| Resolution | 0.1 °C to 999.9 °C then 1 °C |
| Accuracy (instrument only) | ±0.4 °C ±0.1 % of reading |
| Battery & life | 3 x AAA - 10,000 hours @ 25 °C |
| Sensor type | K thermocouple |
| Display | 12 mm LCD |
| Dimensions | 37 x 61.4 x 177 mm |
| Weight | 235 grams |
| FREE traceable certificate of calibration included | |

# SAF-T-LOG® RECORDING THERMOMETER

- Displays date, time & user name with each reading
- Automatically archives data & creates reports
- Helps your business be HACCP compliant
- PASS/FAIL & corrective actions displayed


Measure, store, download and print HACCP reports. No more paper logs or complicated devices to train staff how to use. The Saf-T-Log is as easy-to-use as your current thermometer.

The Saf-T-Log uses PC software to create a list of up to 300 items that you routinely measure, 10 corrective actions, along with up to 25 users. Each item can include a high/low temperature limit that gives the user instant on-screen pass/fail feedback or yes/no on non-temperature items. A time delay feature can be added to each temperature item. Up to seven different checklists can be created at any one time, to be saved, emailed to other users and uploaded onto any Saf-T-Log.

Record up to 1000 readings by simply scrolling to the correct item and pressing record. Any 'fail' or 'no' answer can prompt the selection of a corrective action. Once readings are taken they can be downloaded to a PC automatically when reconnected. The data is archived and a report generated automatically with no additional user input. The Saf-T-Log report is locked so the data logged cannot be tampered with.

Housed in a durable, IP66/67 waterproof case with a choice of interchangeable type K thermocouple probes, the Saf-T-Log can be used for a wide variety of applications. The thermometer includes a high contrast backlit display with an accuracy of ±0.4 °C and a calibration trim function.

**Please note:** The Saf-T-Log is exclusive of probe

**Penetration probe (143-162)**

- Protective silicone boot. Various colours are available - see below for details

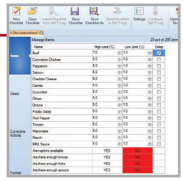
AUTO OFF | IP66/ IP67 | Biomaster PROTECTED | 2 YEAR GUARANTEE | MADE IN BRITAIN

## SAF-T-LOG SOFTWARE

The Saf-T-Log software is available as a free download from our website.

### CUSTOMISED CHECKLISTS

Simply create your own checklist of items, upload to the unit, attach the appropriate probe and store readings at the touch of a button.

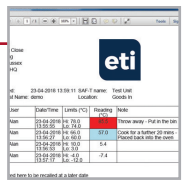


### CORRECTIVE ACTIONS

The user is prompted to select a corrective action if the reading is outside of the acceptable limit. Easy for staff to implement and use.


### REPORT GENERATOR

Reports are created automatically from the saved readings. Failed results are highlighted and notes or corrective actions included. Eliminates the need for paper logs.




| Specification | Saf-T-Log |
|---|---|
| Range | -100 to 1372 °C |
| Resolution | 0.1 °C |
| Accuracy | ±0.4 °C ±0.1 % of reading |
| Battery | 3 x 1.5 volt AAA |
| Battery life | 3000 hours (without backlight) |
| Sensor type | K thermocouple |
| Display | 12 mm LCD |
| Dimensions | 32 x 71 x 141 mm |
| Weight | 220 grams |

| Order code | Description |
|---|---|
| 292-701 | Saf-T-Log |
| 143-162 | Penetration probe |
| 830-231 | Protective silicone boot - white |
| 830-232 | Protective silicone boot - yellow |
| 830-233 | Protective silicone boot - green |
| 830-234 | Protective silicone boot - red |
| 830-235 | Protective silicone boot - blue |
| 830-257 | Protective silicone boot - black |
| 832-015 | Stainless steel wall bracket |
| FREE traceable certificate of calibration included | |

# THERMAQ® 2 THERMOMETER

- Simultaneously measures four probe temperatures
- Audible alarm with variable volume control
- Wide temperature range -99.9 to 1372 °C
- Waterproof housing offers IP67 protection


Shown with 830-258 silicone boot
(boot incorporates a built-in stand & magnet)

The ThermaQ 2 thermometer allows the user to simultaneously use four type K thermocouple probes whilst displaying current temperatures and the maximum and minimum recorded temperatures. This allows the user to monitor multiple food items and the oven air temperature at the same time. It includes programmable high and low alarms for all four channels with easy-to-use buttons and an alarm volume of up to 100 decibels.

Measuring temperature over the range of -99.9 to 299.9 °C with a 0.1 °C resolution or 300 to 1372 °C with a 1 °C resolution. The unit features a large, easy-to-read LCD display with °C/°F, which cycles from T1 & T2 to T3 & T4, max/min, open circuit, low battery indication, and a user selectable backlight.

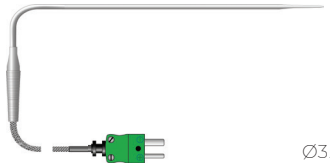
The instrument is housed in an ergonomic, ABS case that includes Biomaster product protection to reduce bacterial growth. An integrated rubber seal ensures complete water resistance and helps reduce the possibility of damage in harsh environments.

We offer an extensive range of interchangeable type K thermocouple probes for a variety of different applications, see below and pages 77 to 83.

MAX/MIN · IP67 · Biomaster · 2 YEAR GUARANTEE · MADE IN BRITAIN

| Specification | ThermaQ 2 |
|---|---|
| Range | -99.9 to 1372 °C |
| Resolution | 0.1 °C to 299.9 °C thereafter 1 °C |
| Accuracy | ±0.4 °C ±0.1 % of reading |
| Battery & life | 3 x 1.5 volt AAA - 3000 hours |
| Sensor type | K thermocouple |
| Display | Custom LCD |
| Dimensions | 32 x 71 x 142 mm |
| Weight | 230 grams |
| FREE traceable certificate of calibration included | |

| Order code | Description |
|---|---|
| 231-052 | ThermaQ 2 |
| 830-258 | Protective silicone boot - black |
| 832-015 | Stainless steel wall bracket |
| 830-278 | High temp coloured probe rings (8 pk) |
| The ThermaQ 2 is exclusive of probes | |

| | | Order code |
|---|---|---|
| Q SERIES AIR PROBE & CLIP<br>  <br><br>HIGH ACCURACY Ø3.5 x 50 mm | This oven/air probe is ideal for monitoring air temperatures. Using the grate clip provided, attach the probe to an oven rack/shelf. Supplied with a 1.2 metre stainless steel braided PTFE lead.<br>● Response time less than 4 seconds<br>● Probe temperature range -50 to 250 °C | 133-645<br>830-530<br>(spare clip) |
| Q SERIES SMOKEHOUSE COOKING PROBE<br>  <br>HIGH ACCURACY Ø3.5 x 172 mm | This right angled stainless steel penetration probe is ideal for continuous monitoring during cooking processes. Supplied with a 1.2 metre stainless steel braided PTFE lead.<br>● Response time less than 4 seconds<br>● Probe temperature range -50 to 250 °C | 133-605 |
| Q SERIES PENETRATION PROBES<br>  <br>HIGH ACCURACY Ø3.5 x 60, 115 or 305 mm | These stainless steel penetration probes are ideal for continuous monitoring in ovens. Supplied with a 1.2 metre stainless steel braided PTFE lead.<br>● Response time less than 4 seconds<br>● Probe temperature range -50 to 250 °C | 133-635<br>(60 mm)<br>133-615<br>(115 mm)<br>133-625<br>(305 mm) |

For high temperature Q Series probes rated to +350 °C, replace the last digit (5) of the order code with the number 0

CATERING

# SOUS VIDE PREMIUM THERMOMETER KIT

- For precise temperature measurement
- Includes miniature needle probe for sous vide cooking
- FREE traceable certificate of calibration
- 2 year guarantee

Sous vide cooking has become more popular in professional kitchens over the past few years. New cooking methods require new temperature testing techniques. Therefore, ETI has designed two Sous Vide kits; each containing a high accuracy Therma 1 thermometer, Sous Vide needle probe(s) and Sous Vide foam/tape, all supplied in a FREE carrying case/zip pouch.

For a full specification on the Therma 1 thermometer, see page 65.

### What is sous vide cooking?

Sous vide is a method of cooking that involves using precise, controlled temperatures to produce food that is perfectly and evenly cooked all the way through. French for 'under vacuum', the process of sous vide involves vacuum-sealing food inside a bag and placing it inside a water bath where it will slowly reach, but not exceed, the desired temperature. The food is then ready to be eaten or can be finished by briefly searing, broiling, grilling or deep frying.


2 YEAR GUARANTEE MADE IN BRITAIN

- Therma 1 thermometer (221-041) with Sous Vide needle probe (133-109)

## SOUS VIDE PREMIUM KIT CONTAINS:

- Therma 1 thermometer (221-041)
- 60 mm Sous Vide needle probe (133-109)
- 120 mm Sous Vide needle probe (133-110)
- Water-resistant countdown timer (806-150)
- Box of 100 Probe Wipes (836-220)
- Sous Vide foam/tape - one metre (600-470)
- ABS carrying case (834-150)

| Order code | Description |
|---|---|
| 860-035 | Sous Vide Premium thermometer kit |
| 600-470 | Additional Sous Vide foam/tape |
| FREE traceable certificate of calibration included | |

| | | Order code |
|---|---|---|
| SOUS VIDE NEEDLE PROBE<br>  <br>HIGH ACCURACY Ø1.1 x 60 or 120 mm | Ideal for delicate foods, this miniature, stainless steel needle probe is supplied with a one metre PTFE lead.<br>• Response time less than 1 second<br>• Probe temperature range -60 to 90 °C | 133-109 (60 mm)<br>133-110 (120 mm) |

# SOUS VIDE STANDARD THERMOMETER KIT

- Fast response, reaches temperature in less than 1 second
- Delivers consistent results for sous vide cooking
- Precise temperature control
- 2 year guarantee


## SOUS VIDE STANDARD KIT CONTAINS:

- Therma 1 thermometer (221-041)
- 60 mm Sous Vide needle probe (133-109)
- Sous Vide foam/tape - one metre (600-470)
- Zip pouch (830-037)

| Order code | Description |
|---|---|
| 860-036 | Sous Vide Standard thermometer kit |
| 600-470 | Additional Sous Vide foam/tape |
| FREE traceable certificate of calibration included | |

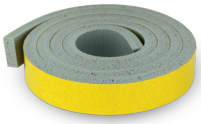
# SOUS VIDE THERMAPEN® THERMOMETER

- Miniature needle probe for sous vide cooking
- High accuracy ±0.4 °C

The Sous Vide Thermapen thermometer has been specifically designed for sous vide cooking and areas where precise temperature measurement is required.

This model incorporates a miniature, stainless steel needle probe that has a Ø1.1 x 60 mm reduced tip, that conveniently folds back through 180° into the side of the instrument when not in use.
Please Note: The probe tip is small in diameter and should be used with care.

Use in conjunction with sous vide tape to measure the core temperature without suffering water ingress into your vacuum sealed bag.

- Sous vide foam/tape - one metre (600-470)

| Order code | Description |
|---|---|
| 231-011 | Sous Vide Thermapen |
| 600-470 | Sous Vide foam/tape |
| 830-001 | Zip pouch |

| Specification | Sous Vide Thermapen |
|---|---|
| Range | -49.9 to 299.9°C |
| Resolution | 0.1 °C or 1 °C - user selectable |
| Accuracy | ±0.4°C (-49.9 to 199.9 °C) otherwise ±1 °C |
| Battery | 2 x 3 volt CR2032 lithium coin cell |
| Battery life | 1500 hours |
| Sensor type | K thermocouple |
| Display | 14.5 mm LCD |
| Dimensions | 19 x 47 x 153 mm |
| Weight | 97 grams |
| FREE traceable certificate of calibration included | |

# THERMASTICK® THERMOMETER

- Reduced tip for faster response
- Waterproof to IP66

The ThermaStick is a handy, pocket-sized, waterproof IP66 thermometer that incorporates a Ø2.5 x 115 mm stainless steel penetration probe with a reduced fast response Ø1.6 mm tip. An ideal economical solution for numerous temperature measurement applications.

The thermometer measures temperature over the range of -49.9 to 299.9 °C with a resolution of 0.1 °C/°F and features two easy-to-use push buttons, on/off and max/min.

The ThermaStick is powered by a single lithium coin cell battery that gives a minimum of 5000 hours use. The unit will power off automatically after ten minutes, maximising battery life.

Available in white, red or blue, each unit is supplied with a probe cover that incorporates a pocket clip for safe storage and transportation.

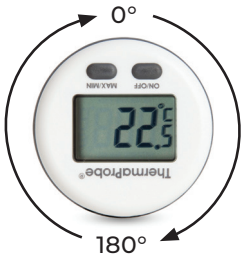
| Order code | Description |
|---|---|
| 810-401 | ThermaStick thermometer - white |
| 810-404 | ThermaStick thermometer - red |
| 810-405 | ThermaStick thermometer - blue |

AUTO OFF · MAX/MIN · IP66 · Biomaster

| Specification | ThermaStick |
|---|---|
| Range | -49.9 to 299.9 °C |
| Resolution | 0.1 °C/°F |
| Accuracy | ±0.5 °C (-10 to 100 °C) otherwise ±2.5 °C |
| Battery | 3 volt CR2032 lithium coin cell |
| Battery life | 5000 hours |
| Sensor type | Thermistor |
| Display | 12 mm LCD |
| Dimensions | Ø46 x 15 x 188 mm |
| Weight | 28 grams |

# THERMAPROBE® THERMOMETER

- Waterproof to IP66 with auto-rotating display
- Stainless steel penetration probe with reduced tip




The ThermaProbe is a lightweight waterproof thermometer which incorporates a bi-directional auto-rotating display.

Supplied with a Ø2.5 x 70 mm stainless steel penetration probe with a reduced fast response Ø1.6 mm tip, this makes the ThermaProbe an ideal economical solution for temperature measurement applications.

The thermometer features two easy-to-use push buttons, max/min and on/off. Each unit is supplied with two batteries and a protective probe cover.

- Probe cover for safe storage & transportation

| Order code | Description |
|---|---|
| 810-421 | ThermaProbe thermometer |

AUTO OFF · MAX/MIN · IP66 · Biomaster

| Specification | ThermaProbe |
|---|---|
| Range | -50 to 300 °C |
| Resolution | 0.1 °C/°F |
| Accuracy | ±0.5 °C (-10 to 100 °C) otherwise ±2.5 °C |
| Battery & life | 2 x 1.5 volt LR44 - 4000 hours |
| Sensor type | Thermistor |
| Display | Custom LCD |
| Dimensions | Ø51 x 178 mm |
| Weight | 41 grams |

# WATERPROOF POCKET-SIZED THERMOMETER

- Includes max/min recording function
- Waterproof to IP66/67

This waterproof thermometer measures temperature over the range of -49.9 to 199.9 °C with a 0.1 °C resolution and features a max/min temperature recording function and at the back of the instrument a discreet °C/°F and reset button.

The unit incorporates a Ø2.5 x 122 mm stainless steel food penetration probe. This waterproof thermometer incorporates the latest microprocessor technology, designed for reliability and ease of use in routine day-to-day catering, food preparation and industrial applications.

Each unit is supplied with a protective probe cover that incorporates a pocket clip and wall-mounting keyhole slot.

OPTIONAL ACCESSORY:

- Protective silicone boot protects from accidental damage (830-275)

| Order code | Description |
|---|---|
| 810-275 | Waterproof thermometer |
| 830-275 | Protective silicone boot |

MAX/ MIN | IP66/ IP67

| Specification | Waterproof pocket-sized |
|---|---|
| Range | -49.9 to 199.9 °C |
| Resolution | 0.1 °C/°F |
| Accuracy | ±0.5 °C (-9.9 to 99.9 °C) otherwise ±1.5 °C |
| Battery | 3 volt CR2032 lithium coin cell |
| Battery life | 5000 hours |
| Sensor type | Thermistor |
| Display | 8 mm LCD |
| Dimensions | 15 x 26 x 200 mm |
| Weight | 25 grams |

# WATERPROOF T-SHAPED THERMOMETERS

- Robust & heavy-duty, optional longer probe
- Max/min memory & display hold functions


These easy-to-use, digital T-shaped waterproof thermometers offer IP66/67 protection and incorporate a reduced tip probe that is ideal for heavy-duty applications.

Measuring temperature over the range of -49.9 to 149.9 °C with a 0.1 °C resolution, the thermometer will power off automatically after fifteen minutes, maximising battery life.

Each unit is housed in a robust polycarbonate case with a strong, stainless steel, penetration probe. The probe measures Ø5 x 125 mm or 300 mm with a reduced tip (Ø3.5 x 20 mm) to improve response time. The waterproof thermometers feature max/ min memory and display hold functions.

| Order code | Description |
|---|---|
| 810-285 | T-shaped - 125 mm probe |
| 810-287 | T-shaped - 300 mm probe |

HOLD | MAX/ MIN | AUTO OFF | IP66/ IP67

| Specification | Waterproof T-shaped |
|---|---|
| Range | -49.9 to 149.9 °C |
| Resolution | 0.1 °C |
| Accuracy | ±1 °C (-19.9 to 119.9 °C) |
| Battery & life | 1.5 volt LR44 - 5000 hours |
| Sensor type | Thermistor |
| Display | 12 mm LCD |
| Dimensions | 30 x 88 x 170/345 mm |
| Weight | 50/55 grams |

# POCKET-SIZED THERMOMETERS

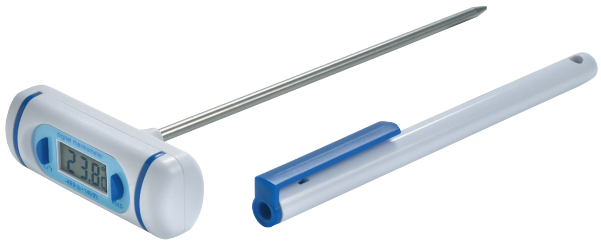
## Pen-shaped thermometer

This pen-shaped thermometer measures temperature over the range of -49.9 to 149.9 °C, features a Ø3.5 x 120 mm stainless steel penetration probe and incorporates a °C/°F switch and display hold feature. Supplied with a probe cover that includes a pocket clip.

| Specification | Pen-shaped |
|---|---|
| Range | -49.9 to 149.9 °C |
| Resolution | 0.1 °C/°F |
| Accuracy | ±1 °C |
| Battery & life | 1.5 volt LR44 - 5000 hours |
| Sensor type | Thermistor |
| Display | 6 mm LCD |
| Dimensions | 17 x 20 x 190 mm |
| Weight | 15 grams |

| Order code | Description |
|---|---|
| 810-260 | Pen-shaped thermometer |

## T-shaped thermometer



This handy-sized thermometer measures temperature over the range of -49.9 to 149.9 °C, features a Ø3.5 x 120 mm stainless steel penetration probe and incorporates a °C/°F switch and display hold feature. Supplied with a probe cover that includes a pocket clip.

| Specification | T-shaped |
|---|---|
| Range | -49.9 to 149.9 °C |
| Resolution | 0.1 °C/°F |
| Accuracy | ±1 °C |
| Battery & life | 1.5 volt LR44 - 5000 hours |
| Sensor type | Thermistor |
| Display | 6 mm LCD |
| Dimensions | 20 x 58 x 145 mm |
| Weight | 15 grams |

| Order code | Description |
|---|---|
| 810-265 | T-shaped thermometer |

# SUPER-FAST MINI THERMOMETER

- Fast response probe, auto-on function
- Max/min memory & display hold

The Super-Fast Mini is a pocket-sized, water-resistant IP65 thermometer that measures temperature over the range of -39.9 to 149.9 °C with a 0.1 °C/°F resolution. The instrument turns on automatically when the probe cover is removed, allowing for quick, easy temperature measurements.

The thermometer incorporates a fast response Ø2.5 x 73 mm stainless steel penetration probe with reduced tip and features max/min and hold functions.

Each unit is powered by a CR2032 lithium coin cell battery and supplied with a probe cover with integral pocket clip.



- Reduced tip for fast response

| Order code | Description |
|---|---|
| 810-279 | Super-Fast Mini thermometer |

HOLD | MAX/MIN | AUTO OFF | IP65

| Specification | Super-Fast Mini |
|---|---|
| Range | -39.9 to 149.9 °C |
| Resolution | 0.1 °C/°F |
| Accuracy | ±0.5 °C (-9.9 to 99.9 °C) otherwise ±1.5 °C |
| Battery & life | 3 volt CR2032 - 5000 hours |
| Sensor type | Thermistor |
| Display | 8 mm LCD |
| Dimensions | Ø25 x 150 mm |
| Weight | 20 grams |

# MILK FROTHING THERMOMETERS

- Easy-to-read dial with colour-coded zones
- Colour-coded pack available

The barista milk frothing thermometers incorporate a °C/°F dial with colour-coded zones that make them fast and simple-to-use.

Measuring over the range of -10 to 110 °C, these thermometers are available in two probe lengths and dial sizes. Each thermometer is supplied with a stainless steel jug mounting probe clip, plastic calibration spanner and protective probe cover.

Also available as a pack of three colour-coded milk dial thermometers (red, green and blue) for barista's to easily identify different types of milk used in stainless steel jugs, to avoid cross-contamination.

Skimmed Full Semi

| Order code | Description |
|---|---|
| 800-810 | Ø25 x 130 mm milk dial |
| 800-820 | Ø45 x 130 mm milk dial |
| 800-800 | Ø45 x 175 mm milk dial |
| 800-830 | Ø45 x 175 mm milk dial - pack of 3 |
| 830-220 | Ø4 mm probe holder clip |

- **Ø4 mm probe holder clip**
  This stainless steel probe holder clips onto the top of a jug, saucepan or similar to hold in place a temperature probe.

# CONFECTIONERY & JAM THERMOMETERS

## Cook's stainless steel thermometer

This stainless steel thermometer indicates temperature over the range of 40 to 200 °C and 100 to 400 °F in 2 °C/°F divisions. The thermometer's stainless steel casing incorporates a retaining clip and measures 50 x 240 mm plus a 65 mm plastic handle.

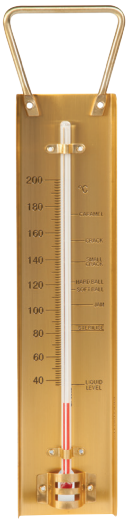
The thermometer's scale is clearly marked for hard crack, soft crack, hard ball, soft ball, thread, jam, caramel, sterilising and deep fry.

| Order code | Description |
|---|---|
| 800-806 | Cook's thermometer |

## Brass sugar & jam thermometer

The traditional brass thermometer indicates temperature over the range of 40 to 200 °C in 2 °C divisions. The thermometer's brass casing measures 47 x 200 mm plus a 40 mm handle.

The thermometer's scale is clearly marked for caramel, crack, hard ball, soft ball, jam and sterilise.



| Order code | Description |
|---|---|
| 800-808 | Brass sugar & jam thermometer |

# MULTI-FUNCTION THERMOMETER

- Displays both temperature & alarm set temperatures
- Includes CalCheck 0.0 °C function


The Multi-Function is a compact and easy-to-use thermometer ideal for restaurants, bars and cafes as an economical solution for temperature measurement applications.

The thermometer features a display hold facility, max/min memory and a CalCheck 0.0 °C function together with an adjustable audible high/low temperature alarm.

The Multi-Function thermometer housing and probe handle includes Biomaster product protection that reduces bacterial growth.

Each unit is supplied with a stainless steel, food penetration probe (Ø3.5 x 125 mm) with one metre PVC connecting lead, pocket clip and probe cover.

HOLD · MAX/MIN · CAL CHECK · Biomaster

| Order code | Description |
|---|---|
| 810-927 | Multi-Function thermometer |

| Specification | Multi-Function |
|---|---|
| Range | -19.9 to 149.9 °C |
| Resolution | 0.1 °C/°F |
| Accuracy | ±1 °C (0 to 120 °C) otherwise ±2 °C |
| Battery & life | 1.5 volt AAA - 5000 hours |
| Sensor type | Thermistor |
| Display | Custom LCD |
| Dimensions | 25 x 75 x 125 mm |
| Weight | 111 grams |

# ECOTEMP® THERMOMETER

- Detachable, stainless steel penetration probe
- Large, easy-to-read LCD display


The EcoTemp digital thermometer features a large, easy-to-read, LCD display with display hold and max/min memory functions. The instrument measures temperature over the range of -49.9 to 199.9 °C with a 0.1 °C/°F resolution. Both open circuit and low battery indication are displayed when applicable. This thermometer is ideal for monitoring cooking and food holding temperatures as part of HACCP and health and safety procedures.

The EcoTemp thermometer housing and probe handle includes Biomaster product protection that reduces bacterial growth. Each unit is supplied with a detachable, stainless steel food penetration probe (Ø3.5 x 125 mm) with a 700 mm silicone connecting lead.

HOLD · MAX/MIN · Biomaster

| Order code | Description |
|---|---|
| 810-950 | EcoTemp thermometer & probe |
| 810-951 | Replacement penetration probe |
| 810-952 | Air wire probe (3m) |
| 810-954 | Air wire probe (1.5m) |
| 810-955 | Oven penetration probe |
| 830-215 | Protective silicone boot - white |
| 830-100 | Protective wallet |

| Specification | EcoTemp |
|---|---|
| Range | -49.9 to 199.9 °C |
| Resolution | 0.1 °C/°F |
| Accuracy | ±1 °C (-49.9 to 149.9 °C) |
| Battery & life | 2 x 1.5 volt AAA - 10000 hours |
| Sensor type | Thermistor |
| Display | Custom 22 mm LCD |
| Dimensions | 20 x 58 x 165 mm |
| Weight | 115 grams |

# GOURMET THERMOMETER

- Water-resistant with folding probe
- Includes CalCheck 0.0 °C function
- Ideal for HACCP procedures
- Accuracy of ±0.5 °C


The water-resistant Gourmet folding probe thermometer is an easy-to-use instrument, ideal for monitoring cooking, cooling and food holding temperatures as part of HACCP and health and safety procedures. The unit measures temperature over the range of -39.9 to 149.9 °C with a 0.1 °C/°F resolution and incorporates two moulded push buttons, on/off and hold.

Each unit incorporates a stainless steel, food penetration probe (Ø3.5 x 110 mm) that conveniently folds back into the side of the instrument when not in use, rotating through 180°, allowing the user to transport the instrument safely. The Gourmet includes Biomaster product protection that reduces bacterial growth, ideal for routine day-to-day food and catering applications. Available in six colours, ideal for different food types or preparation areas.


- **CalCheck 0.0 °C function**
  The Gourmet features a CalCheck 0.0 °C function that allows the user to verify the accuracy of the thermometer at any time, giving confidence that measurements are accurate.

- Raw meat
- Cooked meat
- Salad & fruit products
- Vegetable products
- Raw fish & shellfish
- Bakery & dairy products

## OPTIONAL ACCESSORIES:

- Protective PVC wallet with belt strap (830-110)
- Stainless steel wall bracket (832-002) (screws not supplied)
- Anti-bacterial Probe Wipes - see page 40 for details

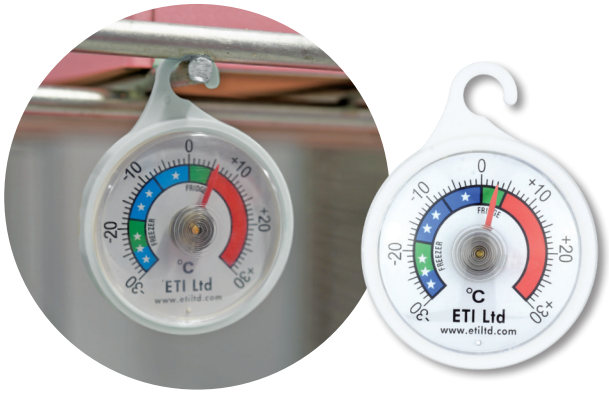
HOLD · AUTO OFF · CAL CHECK · IP65 · Biomaster PROTECTED

| Order code | Description |
|---|---|
| 810-730 | Gourmet thermometer - white |
| 810-732 | Gourmet thermometer - yellow |
| 810-733 | Gourmet thermometer - green |
| 810-734 | Gourmet thermometer - red |
| 810-735 | Gourmet thermometer - blue |
| 810-736 | Gourmet thermometer - brown |
| 830-110 | Protective wallet |
| 830-001 | Zip pouch |
| 832-002 | Stainless steel wall bracket |

| Specification | Gourmet |
|---|---|
| Range | -39.9 to 149.9 °C |
| Resolution | 0.1 °C/°F |
| Accuracy | ±0.5 °C (-39.9 to 124.9 °C) |
| Battery | 3 volt CR2032 lithium coin cell |
| Battery life | 5000 hours |
| Sensor type | Thermistor |
| Display | 16 mm LCD |
| Dimensions | 20 x 52 x 155 mm |
| Weight | 83 grams |

# FRIDGE OR FREEZER THERMOMETERS

## Ø52 mm dial thermometer

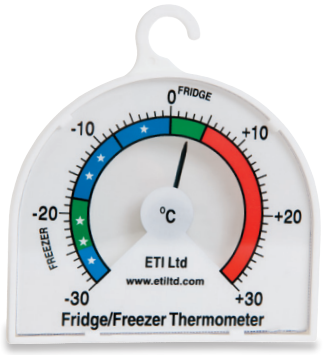



This easy-to-read fridge/freezer thermometer has a Ø52 mm dial that indicates temperature over the range of -30 to 30 °C in 1 °C divisions.

The unit incorporates colour-coded zones for ease of reading. The fridge/freezer thermometer is housed in an ABS case that incorporates a plastic hook to hang from a shelf.

| Order code | Description |
|---|---|
| 800-100 | Ø52 mm dial thermometer |
| 800-101 | Ø52 mm dial - box of 20 |

## Ø70 mm dial thermometer




This fridge/freezer thermometer has a Ø70 mm dial that indicates temperature over the range of -30 to 30 °C in 1 °C divisions. The unit incorporates colour-coded zones for ease of reading.

The fridge/freezer thermometer is housed in an ABS case measuring 60 x 70 mm and can be free-standing or hung from a shelf.

| Order code | Description |
|---|---|
| 800-000 | Ø70 mm dial thermometer |
| 800-001 | Ø70 mm dial - box of 10 |

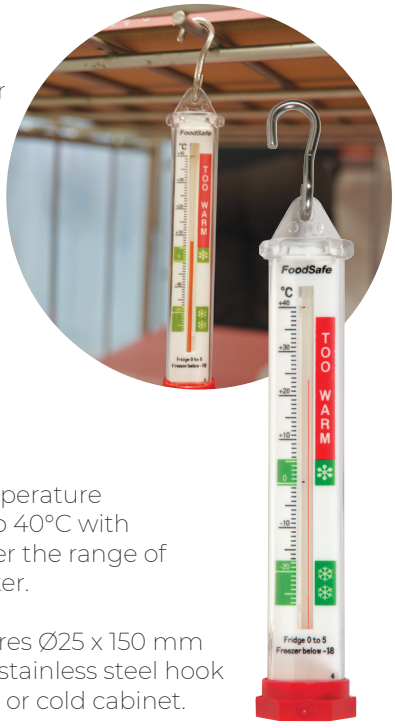
## Ø50 mm dial thermometer


This stainless steel, fridge/freezer thermometer has a Ø50 mm dial that indicates temperature over the range of -30 to 30 °C in 1 °C divisions.

The colour-coded area indicates when the thermometer is at the correct temperature for a fridge or freezer. The stainless steel housing measures 60 x 70 mm and can be free-standing or hung from a shelf.

| Order code | Description |
|---|---|
| 800-923 | Ø50 mm dial thermometer |

## FoodSafe fridge thermometer




The FoodSafe food simulant thermometer is more reliable than traditional thermometers for monitoring fridge temperature. It accurately measures the temperature of food inside, ensuring consistent and safe temperatures for commercial use. It's robust and hygienic.

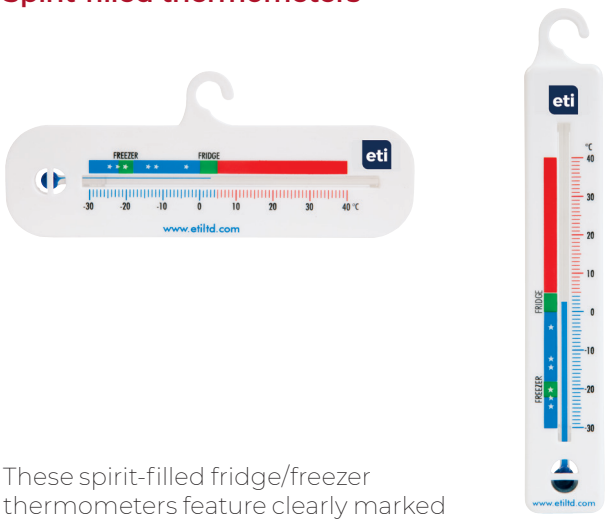
The unit indicates temperature over the range of -25 to 40°C with an accuracy of ±1°C over the range of -5 to 20°C, 2°C thereafter.

Each FoodSafe measures Ø25 x 150 mm and is supplied with a stainless steel hook for hanging in a fridge or cold cabinet.

| Order code | Description |
|---|---|
| 803-900 | FoodSafe thermometer |

# SPIRIT-FILLED FRIDGE OR FREEZER THERMOMETERS

## Spirit-filled thermometers




These spirit-filled fridge/freezer thermometers feature clearly marked colour-coded zones for ease of reading.

The horizontal thermometer indicates temperature over the range of -30 to 40 °C in 1 °C divisions. The ABS housing measures 53 x 130 mm. The vertical thermometer indicates temperature over the range of -30 to 40 °C in 1 °C divisions. The ABS case measures 24 x 150 mm.

| Order code | Description |
|---|---|
| 803-000 | Vertical spirit-filled |
| 803-050 | Horizontal spirit-filled |

## Clear spirit-filled thermometer


This spirit-filled fridge/freezer thermometer is encased in a clear ABS housing (20 x 30 x 122 mm). The thermometer's colour-coded zones indicate temperature over the range of -40 to 20 °C and -40 to 80 °F with a 1 °C resolution.

The unit is designed to be hung from a shelf in a fridge, freezer or cold cabinet, alternatively it could be wall-mounted (brackets supplied).

| Order code | Description |
|---|---|
| 803-925 | Clear spirit-filled thermometer |
| 803-930 | Clear spirit-filled - box of 10 |

# DIGITAL FRIDGE THERMOMETER

- Energy saving light sensor - 5 years of battery life
- Food safety zone indicator


This water-resistant (IP65) fridge thermometer incorporates a large and clear digital display that indicates temperature over the range of -9.9 to 49.9 °C with a 0.1 °C resolution.

The thermometer features a unique food safety zone icon '❄' in the display that indicates when the temperature is outside the range of 0 to 5 °C.

The fridge thermometer's energy saving feature turns the unit off when deprived of light, maximising battery life. The unit is powered by a single CR2032 battery with a life expectancy of 10000 hours normal use.

The unit is housed in an ABS case that measures 26 x 45 x 73 mm and can be free-standing or hung from a shelf.

| Order code | Description |
|---|---|
| 810-251 | Digital fridge thermometer |

| Specification | Digital fridge |
|---|---|
| Range | -9.9 to 49.9 °C |
| Resolution | 0.1 °C |
| Accuracy | ±1 °C |
| Battery | 3 volt CR2032 lithium coin cell |
| Battery life | 10000 hours |
| Display | Custom LCD |
| Dimensions | 26 x 45 x 73 mm |
| Weight | 40 grams |

# FRIDGE OR FREEZER THERMOMETER

- Dual sensors for room & appliance temperatures
- Programmable high/low audible alarm


This max/min and alarm fridge or freezer thermometer indicates temperature over the range of -24.9 to 69.9 °C with a resolution of 0.1 °C/°F and an accuracy of ±1 °C.

The thermometer features a clear LCD display, max/min memory function to record the highest and lowest temperatures and a high/low programmable audible alarm. The unit incorporates two temperature sensors, a remote water-resistant probe with one metre PVC lead for the appliance temperature and an internal sensor for the room temperature.

The remote probe can be mounted onto the internal wall of the fridge using the suction pad or mounting bracket supplied. The thermometer is housed in a durable ABS case and incorporates a foot stand for shelf mounting.

| Order code | Description |
|---|---|
| 810-225 | Digital fridge or freezer |

| Specification | Digital fridge or freezer |
|---|---|
| Range | -24.9 to 69.9 °C |
| Resolution | 0.1 °C/°F |
| Accuracy | ±1 °C |
| Battery | 3 volt CR2032 lithium coin cell |
| Battery life | 3000 hours |
| Display | Custom LCD |
| Dimensions | 16 x 50 x 82 mm |
| Weight | 50 grams |

# FRIDGE OR FREEZER THERMOMETER

- Programmable high/low audible alarm
- Records the max/min temperatures


This fridge or freezer thermometer features a clear LCD display, max/min, audible alarm and incorporates two temperature sensors; a remote water-resistant probe with one metre PVC lead for the appliance temperature and an internal sensor for the room temperature.

The remote probe can be mounted onto the internal wall of the fridge using the suction pad or mounting bracket supplied. The thermometer is housed in a durable ABS case and incorporates a foot stand for shelf mounting.

- Optional UKAS Certificate of Calibration
  An optional two-point UKAS Certificate of Calibration is available. Each certificate indicates deviations from standards at -18 and 0 °C.

| Order code | Description |
|---|---|
| 810-210 | Fridge or freezer thermometer |
| 891-210 | 810-210 with UKAS certificate |
| UKAS certificate applies to remote probe only | |

| Specification | Digital fridge or freezer |
|---|---|
| Range | -49.9 to 69.9 °C |
| Resolution | 0.1 °C/°F |
| Accuracy | ±1 °C |
| Battery & life | 1.5 volt AAA - 5000 hours |
| Display | Custom LCD |
| Dimensions | 15 x 52 x 73 mm |
| Weight | 55 grams |

# THERMAGUARD® HIGH ACCURACY THERMOMETERS

- Two models available - single or dual external sensors
- Optional UKAS Calibration Certificate available
- Programmable high & low audible alarms
- Records the max/min temperature


These high accuracy fridge or freezer thermometers feature a large LCD display, which simultaneously display the current and max/min recorded temperatures. The ThermaGuard measures temperature over the range of -39.9 to 49.9 °C (external sensor) with 0.1 °C/°F (switchable) with an accuracy of ±0.4 °C.

Both units feature programmable audible alarms allowing the user to preset high and low temperature limits. When the alarm is active the LCD will flash. The alarm can be silenced by pressing any button.

Each ThermaGuard is housed in a splashproof IP54 ABS case and is powered by two AA batteries with a battery life expectancy in excess of three years.

Both ThermaGuard models feature a CalCheck 0.0 °C (±0.1 °C) function that allows the user to verify the accuracy of the thermometer at any time, giving confidence that measurements are accurate.

- **Two models available - which one for your application?**
  The ThermaGuard 101 incorporates two temperature sensors; a remote water-resistant probe with a two metre PVC lead for monitoring the appliance temperature and an internal sensor to monitor room temperature. The ThermaGuard 102 incorporates two remote water-resistant probes, both with two metre PVC leads for monitoring dual appliances. Each remote probe can be mounted onto the internal wall of the fridge using the ABS plastic probe mounting bracket kit supplied.

UKAS CALIBRATION
0601

- **Optional UKAS Certificate of Calibration**
  An optional two-point UKAS Certificate of Calibration is available. Each certificate indicates deviations from standards at -18 and 0 °C.

Magnetic mount (830-800)

- **FREE wall bracket included**
  Each ThermaGuard is supplied with an ABS plastic wall bracket that incorporates a built-in foot stand, hook for hanging and screw thread for tripod mounting.

MAX/MIN | CAL CHECK | IP54 | 2 YEAR GUARANTEE | MADE IN BRITAIN

| Order code | Description |
|---|---|
| 226-511 | ThermaGuard 101 |
| 891-511 | 226-511 with UKAS Cert |
| 226-512 | ThermaGuard 102 |
| 891-512 | 226-512 with UKAS Cert |
| 830-880 | Protective silicone boot - black |
| 832-590 | ABS wall bracket |
| 830-800 | Magnetic mount |
| UKAS certificate applies to remote probe(s) only | |

| Specification | ThermaGuard |
|---|---|
| Range - internal | -19.9 to 49.9 °C (101 model only) |
| Range - external | -39.9 to 49.9 °C |
| Resolution | 0.1 °C/°F |
| Accuracy | ±0.4 °C |
| Battery | 2 x 1.5 volt AA |
| Battery life | 25000 hours (normal use, without alarm) |
| Sensor type | Thermistor |
| Display | Custom LCD |
| Dimensions | 29 x 73 x 96 mm |
| Weight | 165 grams |
| Optional UKAS certificate of calibration available | |

# MEAT ROASTING & OVEN THERMOMETERS

## Ø55 mm dial oven thermometer

- Indicates temperature over the range of 0 to 300 °C
- Robust stainless steel case


This stainless steel oven thermometer features a clear Ø55 mm dial with colour-coded zones. The green marker indicates the minimum temperature that commercial heated display units should be kept at.

The oven thermometer indicates temperature over the range of 0 to 300 °C in 10 °C divisions. The case measures 43 x 66 x 80 mm.

This oven thermometer can be free-standing or hung from a shelf and should be positioned in the middle of the oven for the most accurate temperature reading.

| Order code | Description |
|---|---|
| 800-809 | Ø55 mm dial oven thermometer |

| Specification | Dial oven thermometer |
|---|---|
| Range | 0 to 300 °C |
| Resolution | 10 °C |
| Accuracy | ±10 °C |
| Dimensions | 43 x 66 x 80 mm |
| Weight | 49 grams |

## Ø45 mm meat dial thermometer


The meat dial thermometer incorporates a Ø45 mm dial with a Ø4 x 105 mm stainless steel pointed probe. The unit indicates temperature over the range of 0 to 120 °C in 1 °C divisions.

For accurate temperature measurement, insert the unit into the thickest part of the meat or poultry. The dial is clearly marked for beef, lamb, pork and poultry.

| Order code | Description |
|---|---|
| 800-804 | Ø45 mm meat dial thermometer |

## Ø60 mm meat dial thermometer


This meat dial thermometer features a large Ø60 mm dial with a Ø5 x 102 mm stainless steel pointed probe. The unit indicates temperature over the range of 20 to 100 °C in 2 °C divisions.

For accurate temperature measurement, insert the probe into the thickest part of the meat or poultry. The dial incorporates colour-coded markers for beef, lamb, pork and poultry for fast, easy reading.

| Order code | Description |
|---|---|
| 800-884 | Ø60 mm meat dial thermometer |

# Ø50 MM FRYING THERMOMETER

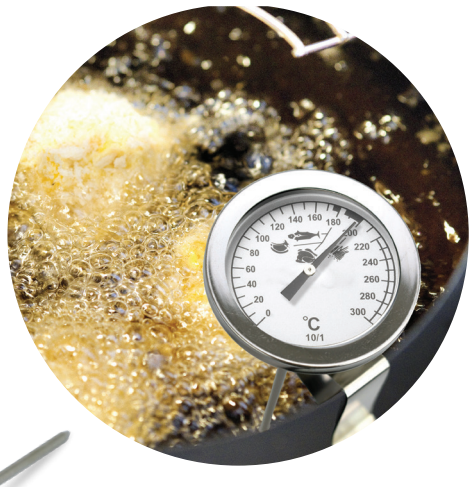
- Indicates temperature over the range of 0 to 300°C
- Marked for meat, poultry and fish and chips

This frying thermometer incorporates a Ø50 mm dial and a pointed, stainless steel Ø4 x 150 mm probe. The frying thermometer indicates temperature over the range of 0 to 300 °C in 10 °C divisions.

The temperature of cooking oil is almost always between 177 °C and 190 °C although chips are better cooked at 200 °C.

Simply insert the thermometer stem into the oil for an accurate temperature reading. The dial is clearly marked for meat, poultry, fish and chips.

Each unit is supplied with a stainless steel probe holder clip, ideal for clipping onto the side of pots and pans to hold in place a temperature probe.



| Order code | Description |
|---|---|
| 800-805 | Frying thermometer |
| 830-220 | Ø4 mm probe holder clip |

- Ø4 mm probe holder clip (830-220)

# FRYING OIL QUALITY TEST STRIPS

- Inexpensive, no sample preparation or special training required
- Use in cold oil under 40 °C

These Frying Oil Quality Test Strips will help you keep the quality of your fried food high, as well as helping save money by preventing the premature disposal of cooking oil. The test strips work equally well in animal, vegetable and A/V blend frying oil (shortening). They are sold in storage bottles of 100 Oil Quality Test Strips which includes an easy-to-read colour chart.

To test your fryer oil, hold the test strip by the long white end, and dip the test strip into the oil (max oil temperature 40 °C) so all of the coloured band is submerged. Hold the test strip in the oil for two seconds, then remove it and wait two minutes, next, compare the strip to the colour chart. It is recommended that the testing of the frying oil is carried out at the start of each shift/working day before the user starts to apply heat to the oil.

To ensure accuracy, the test strips should not be stored in humid conditions or in an area where they may be exposed to water or oil before use.


| Order code | Description |
|---|---|
| 800-890 | Frying Oil Quality Test Strips x 100 |

# DOT - DIGITAL OVEN THERMOMETER

- Programmable high alarm
- Large backlit LCD display



The DOT is an easy-to-use cooking thermometer that displays both the current temperature and alarm set temperature. Simply set the desired temperature using the buttons, insert the probe into your food, the DOT will beep, and the display will flash when the temperature is reached.

The DOT incorporates a large LCD display and loud 70dB audible alarm making it ideal for use in busy, commercial kitchens.

Housed in a durable, water-resistant case, the DOT is designed to either sit on a worktop using the fold out stand, or attach to an appliance using the magnetic pads at the rear of the instrument.

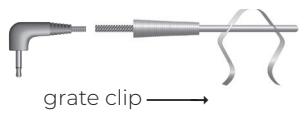
Each unit is supplied with a 114 mm penetration probe (810-078) with a 1.2 metre stainless steel braided lead. See below for full probe specification and alternative probes.

| Order code | Description |
|---|---|
| 810-031 | DOT - digital oven thermometer |
| 830-157 | Zip wallet (see opposite page) |

IP65

| Specification | Digital Oven Thermometer |
|---|---|
| Range | -50 to 300 °C |
| Resolution | 1 °C/°F |
| Accuracy | ±1 °C (-20 to 120 °C) |
| Battery & life | 2 x 1.5 volt AAA - 5000 hours |
| Alarm volume | 70dB |
| Sensor type | Thermistor |
| Display | Custom LCD |
| Dimensions | 24 x Ø80 mm |
| Weight | 97 grams |

# DOT & CHEFALARM® NTC THERMISTOR PROBES

| | | Order code |
|---|---|---|
| PENETRATION PROBE  Ø3 x 150 mm | This probe features a fast response, stainless steel reduced tip, which is moisture-resistant and ideal for continuous monitoring in ovens or similar. Supplied with a 1.2 metre stainless steel braided lead.<br>● Response time less than 4 seconds<br>● Probe temperature range -50 to 300 °C | 810-071 |
| PENETRATION PROBE  Ø3.5 x 114 or 305 mm | This stainless steel, reduced tip probe is moisture-resistant and ideal for continuous monitoring in ovens or similar. Supplied with a 1.2 metre stainless steel braided lead.<br>● Response time less than 4 seconds<br>● Probe temperature range -50 to 300 °C | 810-078 (114 mm)<br>810-075 (305 mm) |
| OVEN/AIR PROBE & CLIP   Ø3.5 x 50 mm | This oven/air probe is ideal for monitoring air temperatures. Using the grate clip provided, attach the probe to an oven rack/shelf. Supplied with a 1.2 metre stainless steel braided lead.<br>● Response time less than 4 seconds<br>● Probe temperature range -50 to 300 °C | 810-076<br>830-530 (spare clip) |
| MINIATURE NEEDLE PROBE  Ø1.6 x 90 mm | This stainless steel, miniature needle probe is moisture-resistant and ideal for sous vide cooking. Supplied with a 1.2 metre silicone lead.<br>● Response time less than 2 seconds<br>● Probe temperature range -50 to 300 °C | 810-072 |

Please note: the above probes are suitable for use with the DOT and ChefAlarm thermometers only

# CHEFALARM® THERMOMETER & TIMER

- Interchangeable NTC thermistor probes
- Programmable high/low alarm


The ChefAlarm is a professional cooking thermometer and timer which displays the countdown/up time, current temperature and simultaneously displays both the high/low alarms and max/min temperatures.

The timer is fully programmable, allowing the user to set the countdown/up time to/from 99 hours and 59 minutes. The unit incorporates a large, easy-to-read LCD display with user selectable backlight and a loud audible alarm with adjustable volume to 92dB.

The ChefAlarm also includes a calibration function allowing the user to fine-tune the accuracy of the thermometer (±2.2 °C). The unit is housed in a water-resistant casing and is designed to either sit on a worktop or attach to an appliance using the magnetic pads at the rear of the instrument.

Each unit is supplied in a zip wallet complete with a penetration probe (810-071) and probe holder clip. See opposite page for full probe specification.

| Order code | Description |
|---|---|
| 810-041 | ChefAlarm - white |
| 830-157 | Protective zip wallet |

- Protective zip wallet (830-157)

Perfect for protecting and transporting your ETI instrument. Dimensions 50 x 200 x 240 mm

MAX/ MIN

| Specification | ChefAlarm |
|---|---|
| Range | -50 to 300 °C |
| Resolution | 0.1 °C/°F |
| Accuracy | ±1 °C (-20 to 120 °C) |
| Battery & life | 2 x 1.5 volt AAA - 5000 hours |
| Alarm volume | <92dB |
| Sensor type | Thermistor |
| Display | Custom LCD |
| Dimensions | 19 x 70 x 152 mm |
| Weight | 165 grams |

# TIMEWASH® TIMER

- Encourages proper hand-washing procedures
- Easily activated by a wave of the hand

This countdown TimeWash timer is designed for use in restaurants, hospitals, schools and in any businesses where hand hygiene is critical. The unit is easy to install and can be mounted on a wall near the sink using Velcro (supplied) or double-sided tape.

The TimeWash timer is easily activated by a wave of the hand that starts the countdown timer. The large clear LCD acts as a visual progress monitor, and when the time is complete the user will hear a loud audible alarm indicating that their hand wash is complete. Incorporating eight pre-set countdown times, 20, 30 and 40 seconds, 1, 2, 3, 4 and 10 minutes, the set time button is discreetly positioned on the rear of the unit.

The TimeWash timer is a great tool to encourage employees to take the time to properly wash their hands by giving them a visual cue.

| Order code | Description |
|---|---|
| 806-201 | TimeWash timer |

| Specification | TimeWash Timer |
|---|---|
| Range (pre-set) | 20, 30 and 40 seconds, 1, 2, 3, 4 and 10 minutes |
| Resolution | Seconds & Minutes |
| Accuracy | 1% FS |
| Battery | 2 x 1.5 volt AAA |
| Battery life | 3 months |
| Display | Custom LCD |
| Dimensions | 20 x 91 x 101 mm |
| Weight | 130 grams |

# DIGITAL KITCHEN TIMERS

## Countdown/up timer - mins & secs


This countdown/up timer incorporates a louder than average 70 dB audible alarm. The timer is fully programmable, allowing the user to set the time up to 99 minutes and 59 seconds.

The unit is powered by one AAA battery and is designed to sit on a worktop or be attached to an appliance via the magnetic pad at the rear of the instrument.

| Order code | Description |
|---|---|
| 806-101 | Countdown/up timer |

## Countdown/up timer - hours, mins & secs


This countdown/up timer incorporates a louder than average 80 dB audible alarm. The timer is fully programmable, allowing the user to set the time up to 99 minutes and 59 seconds or 19 hours and 59 minutes.

The unit is powered by one AAA battery and is designed to sit on a worktop or be attached to an appliance via the magnetic pad at the rear of the instrument.

| Order code | Description |
|---|---|
| 806-105 | Countdown/up timer |

## Water-resistant countdown timer


This countdown timer is water-resistant to IP65 and features a large digital display and audible alarm with variable volume control, allowing the user to set up to a maximum volume of 95 dB.

The keypad allows the user to set times up to 99 hours, 99 minutes and 99 seconds. The timer incorporates magnetic pads and a keyhole slot for wall-mounting or attaching to an appliance. The unit measures 22 x 89 x 130 mm and is powered by two AAA batteries.

| Order code | Description |
|---|---|
| 806-150 | Water-resistant countdown timer |

## Extra Big & Loud timer


The Extra Big & Loud timer features a rugged housing and is water-resistant to IP65. It includes a variable volume control, allowing the user to set up to a maximum volume of 110 dB - ideal in busy professional kitchens.

When a countdown alarm sounds, the count up timer starts so you will see how much time elapses after your alarm. The memory keeps your last countdown setting. The timer incorporates two magnetic pads and a flip-out stand. The unit measures 28 x 90 x 130 mm and is powered by a 9 volt PP3 battery.

| Order code | Description |
|---|---|
| 806-160 | Extra Big & Loud timer |

# DISHTEMP® & DISHTEMP® BLUE THERMOMETERS

- Simulates maximum plate surface temperatures
- Waterproof to IP66
- HACCP compatible
- FREE traceable certificate of calibration


The DishTemp and DishTemp Blue thermometer simulates a plate as it's cleaned and sanitised in a commercial dishwasher, accurately recording the maximum surface temperature at the touch of a single button, eliminating the need for costly and inaccurate test strips and stem thermometers that do not stay in place or record the surface temperature of a plate.

The instrument indicates temperature over the range of 0 to 90 °C with a resolution of 0.1 °C/°F and an accuracy of ±0.5 °C. Incorporating a durable water-tight seal, the DishTemp and DishTemp Blue thermometer is waterproof to IP66 and is supplied complete with a FREE one point (71 °C ) traceable certificate of calibration.

The DishTemp Blue *Bluetooth*® model transmits temperature data to your iOS, Android or Bluetooth wireless device via a secure connection of up to 6 metres. Specifically designed to save time, paper and eliminate human error when recording temperature cycles.

A SDK is available upon request (DishTemp Blue only).


| Order code | Description |
|---|---|
| 810-280 | DishTemp thermometer |
| 810-289 | DishTemp Blue thermometer |
| 832-280 | Stainless steel wall bracket |

- **Stainless steel wall bracket (832-280)**
  This handy, stainless steel, wall-mounted thermometer holder lets you store your DishTemp or DishTemp Blue thermometer safely - wherever you need it.

IP66 SDK AVAILABLE

| Specification | DishTemp & DishTemp Blue |
|---|---|
| Range | 0 to 90 °C |
| Resolution | 0.1 °C/°F |
| Accuracy | ±0.5 °C |
| Battery | 3 volt CR2032 lithium coin cell |
| Battery life | 5000 hours (DishTemp) |
| | 40 hours (DishTemp Blue) |
| Display | Custom LCD |
| Bluetooth module | BLE (DishTemp Blue Only) |
| Dimensions | 14 x Ø127 mm |
| Weight | 120 grams |
| FREE traceable certificate of calibration included | |

**Please note:** BLE thermometers have a range of 50 metres depending on the user's smart device make and model. Environmental conditions may also affect the signal strength.

# ANTI-BACTERIAL WIPES

Anti-Bacterial wipes are ideal for reducing harmful bacteria in the food industry. Each wipe is pre-saturated with a broad spectrum anti-bacterial solution that is odourless and does not taint food. The wipes are effective against a wide range of bacteria including listeria and salmonella.

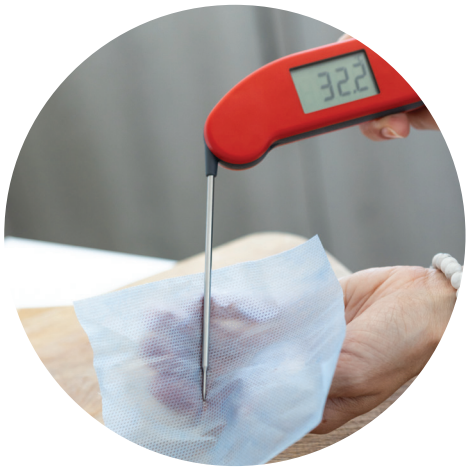
## Single-use Probe Wipes


| Order code | Description |
|---|---|
| 836-220 | Box of 100 single-use Probe Wipes |

These convenient, single-use, white, anti-bacterial Wipes are safe and easy-to-use and designed for one-time use.

836-220 Box of 100, each wipe measures 30 x 60 mm

## Tubs of 180 QAC free Probe Wipes




- Stainless steel wall bracket 832-305

This stainless steel wall bracket enables a single tub of 180 wipes to be conveniently positioned to dispense wipes at work-stations and counters, or wherever the user requires.

| Order code | Description |
|---|---|
| 836-050 | Carton x 6 tubs of Probe Wipes |
| 832-305 | S/steel wall bracket for single tub |

Each tub contains 180 blue QAC free, anti-bacterial Probe Wipes that measure 130 x 130 mm.

The tubs are supplied in cartons of six tubs of 180 Probe Wipes.

An optional wall bracket is available, enabling a single tub of wipes to be conveniently positioned. (screws not supplied).

# ACCESSORIES

## Wall brackets

These handy, stainless steel or ABS wall brackets allow users to store specific thermometers safely when not in use (screws not supplied).

832-590


832-015


832-050

| Order code | Description |
|---|---|
| 832-015 | WP Therma series s/s wall bracket |
| 832-050 | Therma series s/s wall bracket & boot |
| 832-590 | ThermaGuard/Wi-Fi ABS wall bracket |

## Waterproof protective pouches

These fully waterproof protective pouches are manufactured from flexible PVC that can be used to protect a variety of instruments in damp or wet environments. Each pouch measures 125 x 230 mm.

The 830-410 is supplied with a single integral lead, thermocouple (T/C) plug and socket. The 830-411 with a single integral lead, thermistor plug and socket and the 830-442 with dual integral leads, thermocouple (T/C) plugs and sockets. For more information contact our sales office or visit our website.

830-442

| Order code | Description |
|---|---|
| 830-410 | PVC pouch K T/C lead |
| 830-442 | PVC pouch & 2 K T/C leads |
| 830-411 | PVC pouch & thermistor lead |

## Protective silicone boots

Protect your instruments against accidental damage by fitting them with a protective boot. We offer a wide range of protective silicone boots tailored to fit most of our instruments. Selected boots are available in red, yellow, blue, green, black and white.


| Order code | Description |
|---|---|
| 830-221 | Therma series - white* |
| 830-231 | WP Therma series - white* |
| 830-258 | WP Therma series inc. magnet |
| 830-260 | Thermapen Classic |
| 830-455 | Thermapen One |
| 830-270 | ThermaData Logger |
| 830-431 | TempTest 1 & 2 - white* |
| 830-210 | BlueTherm One |
| 830-880 | ThermaGuard/ThermaData Wi-Fi |

*For other colours see page 9 for TempTest, page 14 for Therma Series or page 20 for Waterproof Therma Series

## Temperature log book

Each log book allows the user to enter three readings per day consisting of the temperature, time and initials of the person responsible for recording the data.


| Order code | Description |
|---|---|
| 831-100 | A5 temperature log book |
| 831-105 | A5 log book - pack of 10 |


# REMOTE TEMPERATURE MONITORING

Automating your processes using data loggers eliminates time-consuming temperature checks. In addition, it will enable you to keep a more accurate, organised and accessible data archive.

We have a range of loggers that suit different budgets and applications, from blind loggers ideal for transportation to Wi-Fi loggers that send notifications for ultimate security. And with free user-friendly software available, integrating a new paperless system into your business couldn't be easier.

## REMOTE MONITORING BENEFITS

There are many benefits to choosing data loggers, including:

- Save time and money on manual labour
- Add a time and date stamp to your readings
- Prevent recordings from being falsified or written incorrectly
- Keep a more organised and accessible data archive
- Enable swift corrective actions to avoid costly damages

## USB DATA LOGGERS

USB data loggers automatically take readings at programmed intervals. The readings are stored within the instrument and can then be transferred to your PC using a USB connector.

These are most commonly used for ambient readings, such as fridge/freezer temperatures and room temperature or humidity. But they can also be used to track the internal temperature of perishables over a period of time, such as during transportation.

## WI-FI DATA LOGGERS

Like USB data loggers, Wi-Fi loggers take readings at programmed intervals. But instead of needing to connect to a computer to download the readings, they are automatically transmitted using Wi-Fi.

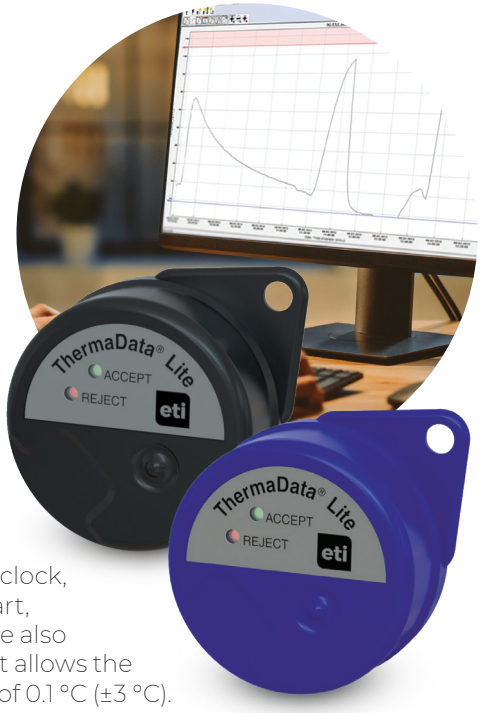
The benefit of this is that users can monitor the results in real time, even receiving notifications for out-of-range readings. This provides the highest level of security where temperatures are critical, enabling corrective actions to be taken instantly and preventing costly damages.

## FREE SOFTWARE

View, download and share your data using ETI's free user-friendly software. This includes ThermaData Studio software for desktop and TD Link app for mobile and tablet. Both applications are free to download with no ongoing subscription charges

# THERMADATA® LITE LOGGER

- LED shows if limits are exceeded
- Customised high/low alarm facility
- Ideal for storage & transportation
- FREE software to download



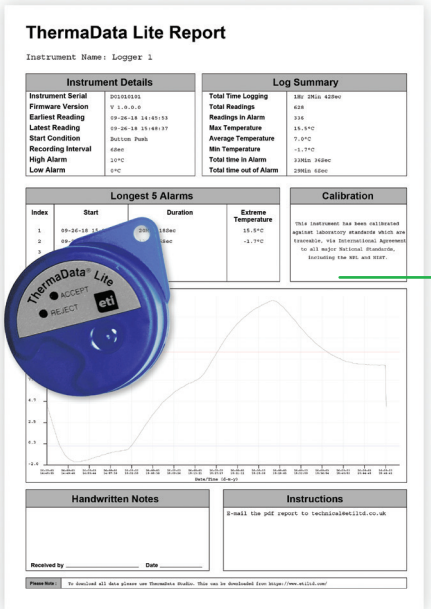

The ThermaData Lite logger is a cost effective, self-contained temperature data logger or blind recording thermometer that is designed to record the temperature of the surrounding environment. The ThermaData Lite logger is housed in a water-resistant polyethylene case and incorporates two LED status indicators.

The ThermaData Studio software allows the user to programme the logging sample/interval rate (6 seconds to 255 minutes), the real-time clock, °C/°F, delayed start (maximum 23 hours, 59 minutes), push-button start, temperature start or time start and a 31-character user ID. The software also incorporates a password protected calibration adjustment feature that allows the user to check the calibration of loggers and make minor adjustments of 0.1 °C (±3 °C).

The user can also set, within the software, high and low alarm values for a specific application. A push of the button will allow a simple visual inspection of the unit to show if either of these limits have been exceeded. A flashing red LED will warn the user that the alarm limits have been exceeded (reject) or a flashing green LED will advise the user that the alarm limits have not been exceeded (accept).

## THERMADATA STUDIO SOFTWARE & AUTOMATIC PDF FILE OUTPUT

The ThermaData Studio software is supplied as a FREE download. The ThermaData Lite logger is connected to a PC via a USB-C port lead and by selecting the relevant icon the data can be downloaded and displayed either as a graph, table or summary. The information can then be analysed by zooming in, saving as a Studio File or exporting to other software packages. The ThermaData Lite produces a report automatically on computer plug-in, this report will detail high and low alarms and also give you various key information for acceptance for deliveries or processes. No software required to download PDF report.


ThermaData Lite Report

Instrument Name: Logger 1

| Instrument Details | |
|---|---|
| Instrument Serial | D01010101 |
| Firmware Version | V 1.0.0.0 |
| Earliest Reading | 09-26-18 14:45:53 |
| Latest Reading | 09-26-18 15:48:37 |
| Start Condition | Button Push |
| Recording Interval | 60sec |
| High Alarm | 30°C |
| Low Alarm | 5°C |

| Log Summary | |
|---|---|
| Total Time Logging | 1Hr 2Min 420sec |
| Total Readings | 628 |
| Readings in Alarm | 336 |
| Max Temperature | 15.5°C |
| Average Temperature | 7.0°C |
| Min Temperature | -1.7°C |
| Total time in Alarm | 33Min 360sec |
| Total time out of Alarm | 29Min 60sec |

Longest 5 Alarms

| Index | Start | Duration | Extreme Temperature |
|---|---|---|---|
| 1 | 09-26-18 15:[illegible] | [illegible]sec | 15.5°C |
| 2 | 09-26-18 15:[illegible] | [illegible]sec | -1.7°C |
| 3 | | | |

Calibration

This instrument has been calibrated against laboratory standards which are traceable, via International Agreement to all major National Standards, including the NPL and NIST.

Handwritten Notes

Received by _____ Date _____

Instructions

E-mail the pdf report to technicaldept1@eti.co.uk

Please Note: To download all data please use ThermaData Studio. This can be downloaded from https://www.eti1ltd.com/

- **Colour-coded data loggers**
  Available in a variety of coloured cases; blue, yellow, white and black. These colour-coded cases help to prevent cross contamination by allowing the user to allocate a colour to a specific product or application. Other applications include different coloured loggers to make it easier to identify, for example; the building and construction industry where loggers can often blend in with the environment.

- **Example of PDF file**
  The automatic report generated shows key information such as instrument details, log summary and longest alarms. The PDF also displays an intuitive graph for easy visual indication.

MAX/MIN

2 YEAR GUARANTEE

MADE IN BRITAIN

| Order code | Description |
|---|---|
| 293-010 | ThermaData Lite - white |
| 293-020 | ThermaData Lite - yellow |
| 293-050 | ThermaData Lite - blue |
| 293-070 | ThermaData Lite - black |
| 812-510 | USB-C lead |

| Specification | ThermaData Lite |
|---|---|
| Range | -40 to 85 °C |
| Resolution | 0.1 °C |
| Accuracy | ±0.5 °C |
| Memory | 16000 |
| Sample rate | 6 seconds to 255 minutes |
| Battery | 3.6 volt ½ AA lithium |
| Battery life | Minimum 3 years |
| Dimensions | Ø55 x 25 mm |
| Weight | 40 grams |
| Optional UKAS Certificate of Calibration available | |

# THERMADATA® LOGGERS

- Waterproof housing offering IP66/67 protection
- Temperature range -40 to 85 °C or 125 °C
- Resolution 0.1 °C, high accuracy ±0.5 °C
- Meets EN 12830:1999, S & T, C & D, 1, 0.5


The ThermaData logger consists of a comprehensive range of portable data loggers utilising the latest in electronic technology and housed in waterproof, ergonomic cases designed to meet IP66/67 protection.

The ThermaData logger offers the choice of either blind data loggers or data loggers with an LCD display. Other options include internal and external temperature sensors/ probes. The remote temperature probes are supplied with a one metre PVC/PFA lead. Other models and options are available on our website.

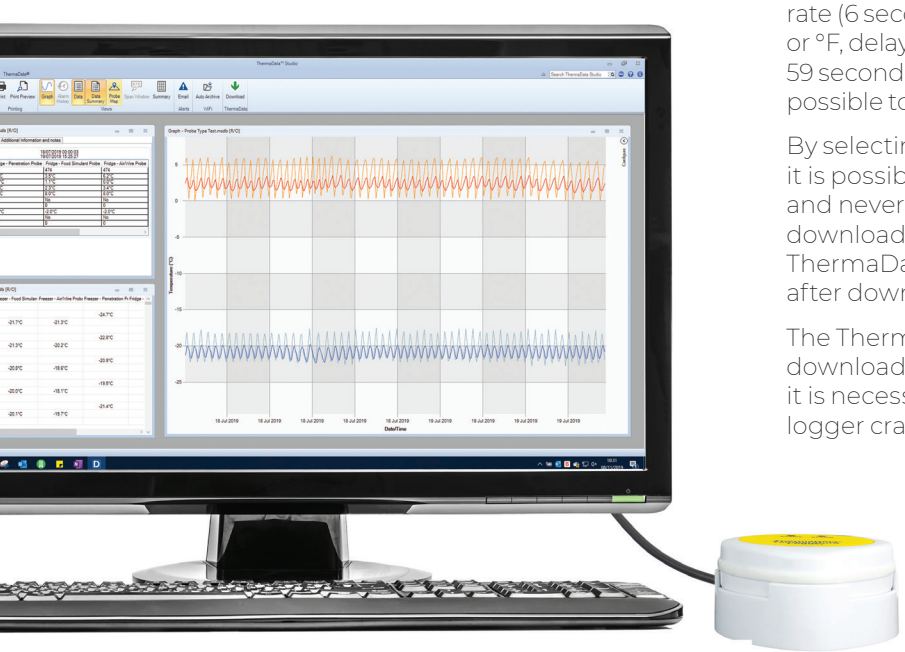
Each logger incorporates a red and green LED, the flashing green LED indicates that the logger is active/logging and the flashing red LED indicates that your customised preset alarms have been exceeded.



## THERMADATA STUDIO SOFTWARE

The ThermaData logger is connected to a PC via a USB cradle. By selecting the relevant icon the data can be downloaded and displayed either as a graph, table or summary. The information can be analysed by zooming in, saving as a Studio File or exporting as a text (.txt) or Excel (.xls) file to other software packages.

The software incorporates several useful functions, including the ability to display multiple traces on a graph, the trace colours are user selectable. All files can be viewed as thumbnail icons for easy identification.



The ThermaData Studio software will work equally with all ThermaData loggers. The software is both powerful and sophisticated, yet user-friendly enabling temperature data to be organised and analysed to provide management information. The software allows the user to programme the logging sample/interval rate (6 seconds to 255 minutes), the real-time clock, °C or °F, delayed start (maximum 23 hours, 59 minutes and 59 seconds) or select a magnetic start option. It is also possible to include a 32-character user ID for each logger.

By selecting continuous logging in the software options, it is possible to start the ThermaData logger only once and never have to reset its parameters again, even if downloaded regularly. Unlike most low cost loggers, the ThermaData logger will continue recording during and after downloading the data.

The ThermaData Studio software is supplied as a FREE download. **Please note:** when initially ordering loggers it is necessary to order at least one ThermaData logger cradle - see opposite page for details.

MAX/ MIN | IP66/ IP67 | 2 YEAR GUARANTEE | MADE IN BRITAIN

## TD - LCD WITH AN INTERNAL SENSOR

- NTC thermistor sensor
- -30 to 85 °C
- Records up to 4000 readings

| Order code | Description |
|---|---|
| 296-001 | Model TD |

## TDF - LCD WITH AN EXTERNAL FIXED SENSOR

- NTC thermistor sensor
- Ø3.3 x 100 mm probe, 1 metre PVC/PFA lead
- -40 to 125 °C (external)
- Records up to 4000 readings

| Order code | Description |
|---|---|
| 296-101 | Model TDF |

## TD2F - LCD WITH TWO EXTERNAL FIXED SENSORS

- NTC thermistor sensors
- Ø3.3 x 100 mm probe, 1 metre PVC/PFA lead
- -40 to 125 °C (external)
- Records up to 2 x 2000 readings

| Order code | Description |
|---|---|
| 296-111 | Model TD2F |

| Specification | All models |
|---|---|
| Range - internal | -30 to 85 °C - model dependant |
| Range - external | -40 to 125 °C - model dependant |
| Resolution | 0.1 °C |
| Accuracy | ±0.5 °C (@ ambient -10 to 85 °C) |
| Memory | 4000 or 2 x 2000 readings |
| Sample rate | 6 seconds to 255 minutes |
| Battery & life | 3.6 volt ½ AA lithium (approx. 1.5 years) |
| Display - blind | 2 LED's |
| Display - LCD | 10 mm LCD/2 LED's |
| Dimensions | Ø76 x 23 mm |
| Weight | 71 to 113 grams - model dependant |

An optional protective silicone boot (white) is available (830-270) see page 41 for details

# THERMADATA® LOGGERS FOR HUMIDITY

- LCD display toggles between humidity & temperature
- Records up to a maximum of 16000 readings

MAX/MIN

2 YEAR GUARANTEE

MADE IN BRITAIN

| Order code | Description |
|---|---|
| 295-061 | Blind model HTB - internal sensors |
| 296-061 | LCD model HTD - internal sensors |
| 295-062 | Blind model HTBF - external sensors |
| 296-062 | LCD model HTDF - external sensors |
| 293-804 | USB cradle & magnet |
| 890-111 | *UKAS 3-point certificate |

*Price when purchased with a new instrument

| Specification | Temperature | Humidity |
|---|---|---|
| Range | -20 to 85 °C | 0 to 100 %rh |
| Resolution | 0.1 °C | 0.1 %rh |
| Accuracy | ±0.5 °C (0 to 45 °C) | ±3 %rh @ 25 °C (10 to 90 %rh) |
| | ±1 °C (-20 to 70 °C) | |
| | ±1.5 °C (70 to 85 °C) | |
| Hysteresis | N/A | ±1 %rh |
| Sensor type | Silicon bandgap | Capacitance polymer |
| Memory | 2 x 8000 readings | |
| Sample rate | 6 seconds to 255 minutes | |
| Battery & life | 3.6 volt ½ AA lithium - minimum 2 years | |
| Display | 10 mm LCD - toggles every 6 seconds/2 LED's | |
| Dimensions | Ø76 x 23 mm | |
| Weight | 80 grams approx. - model dependant | |

Optional UKAS Certificate of Calibration available

## USB CRADLE & START MAGNET

Each USB cradle is supplied with a one metre PVC lead complete with a start magnet (293-804)

# THERMADATA® STAINLESS STEEL PRO LOGGERS

- Integral USB interface for setup & download
- Auto PDF summary
- High temperature range -20 to 125 °C
- 6 probe options available

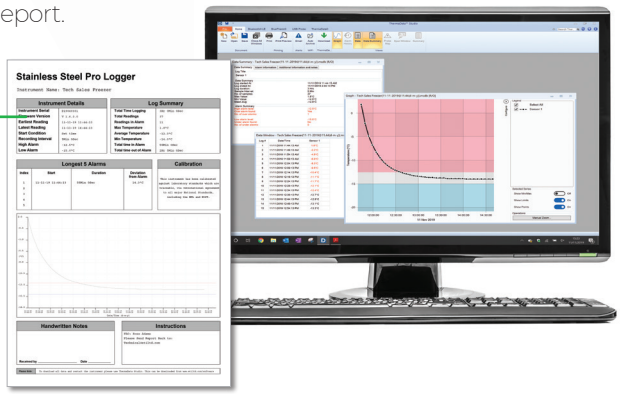
These ThermaData Stainless Steel Pro loggers are ideal for food, pharmaceutical and other applications where a high temperature data logger is required. The Stainless Steel Pro is housed in a waterproof, food grade 316 stainless steel case to protect the logger from corrosion, impact and moisture (IP66/67).

The ThermaData Studio software allows the user to programme the logging sample/interval rate (1 second to 255 minutes), the real-time clock, °C/°F, delayed start (maximum 23 hours, 59 minutes), software start, temperature start or time start and a 31-character user ID. The user can also set high and low alarm values for a specific application.

The Stainless Steel Pro is available in six options; without a probe, with a Ø3.3 x 50 mm penetration probe, a Ø4.5 x 100 mm, Ø4.5 x 150 mm, Ø4.5 x 200 mm penetration probe all with a Ø3.3 reduced tip. In addition to the five standard options there is also a Ø1.8 x 20 mm fast response probe variant which is ideal for applications that require a fast ambient reading i.e. Dishwashers. Each logger is supplied with a one metre USB-C lead.

## THERMADATA STUDIO SOFTWARE & AUTOMATIC PDF FILE OUTPUT

The ThermaData Studio software is supplied as a FREE download. The Stainless Steel Pro logger is connected to a PC via a USB-C port lead and by selecting the relevant icon the data can be downloaded and displayed either as a graph, table or summary. The information can then be analysed by zooming in, saving as a Studio File or exporting to other software packages. The Stainless Steel Pro logger produces a report automatically on computer plug-in, this report will detail high and low alarms and also give you various key information for acceptance for deliveries or processes. No software required to download PDF report.




Example of PDF file

- **USB connection point**
  Simply unscrew the end cap to access the USB-C connector. Using the supplied USB-C lead this allows the user to connect the logger to a PC and upload any data collected.

MAX/ MIN | IP66/ IP67 | 2 YEAR GUARANTEE | MADE IN BRITAIN

| Order code | Description |
|---|---|
| 294-900 | Stainless steel logger - without probe |
| 294-940 | Stainless steel logger - 20 mm FR probe |
| 294-930 | Stainless steel logger - 50 mm probe |
| 294-931 | Stainless steel logger - 100 mm probe |
| 294-932 | Stainless steel logger - 150 mm probe |
| 294-933 | Stainless steel logger - 200 mm probe |
| Supplied with a one metre USB-C lead | |

| Specification | ThermaData Stainless Steel Pro |
|---|---|
| Range | -20 to 125 °C |
| Resolution | 0.1 °C |
| Accuracy | ±0.5 °C |
| Memory | 16,000 temperature readings |
| Sample rate | 1 second to 255 minutes |
| Battery | 3.6 volt 2/3 AA lithium |
| Battery life | 3 years (based on 6 sec sample rate) |
| Dimensions | Ø22.5 x 129 mm (excluding probe) |
| Weight | 170 grams - model dependant |

# THERMADATA® THERMOCOUPLE LOGGERS

- Two channel type K or type T thermocouple input
- Water-resistant housing offering IP65 protection
- Wide temperature range -100 to 1372 °C
- Visual display of high & low alarm status


These dual input ThermaData Thermocouple loggers are housed in a water-resistant, ergonomic case that is designed to meet IP65 protection. Two models are available with an LCD display.

The Thermocouple loggers measure temperature over the range of -100 to 1372 °C (type K thermocouple) with a 0.1 °C resolution, auto-ranging to 1°C over the range of 300 to 1372 °C. At programmable intervals the loggers will record the temperature, up to a maximum of 16000 readings or 2 x 8000 readings.

Each logger incorporates a red and green LED, the flashing green LED indicates that the logger is active/logging and the flashing red LED indicates that your customised preset alarms have been exceeded. Each logger is supplied with a USB lead, FREE downloadable software and traceable certificate of calibration.

For details of the wide range of interchangeable type K or T thermocouple probes available, see pages 77 to 83.

## THERMADATA STUDIO SOFTWARE

The Thermocouple logger is connected to a PC via a USB lead (supplied). By selecting the relevant icon the data can be downloaded and displayed either as a graph, table or summary. The information can then be analysed by zooming in, saving as a Studio File or exporting to other software packages.



- **USB connection point**
  Simply remove the end cap to access the USB port. This allows the user to connect the logger to a PC via the USB lead and upload the temperature readings collected.

| Order code | Description |
|---|---|
| 292-501 | TD T/C logger type K - LCD |
| 292-571 | TD T/C logger type T - LCD |
| 830-210 | Protective silicone boot - white |
| ThermaData T/C loggers are exclusive of probes | |

| Specification | ThermaData T/C logger |
|---|---|
| Range - type K t/c | -100 to 1372 °C |
| Range - type T t/c | -100 to 400 °C |
| Operating range | -20 to 50 °C |
| Resolution | 0.1 °C to 300 °C thereafter 1 °C |
| Accuracy | ±0.4 °C ±0.1 % of reading |
| Memory | 16000 or 2 x 8000 readings |
| Sample rate | 6 seconds to 255 minutes |
| Battery | AA Tadiran - Li-SOCl |
| Battery life | Maximum 3 years @ 20 °C |
| Sensor type | K or T thermocouple |
| Display | 12 mm LCD |
| Dimensions | 34 x 66 x 109 mm |
| Weight | 177 grams |
| Optional UKAS Certificate of Calibration available | |

# THERMADATA® WI-FI LOGGERS FOR TEMPERATURE

- Email alerts user when alarm limits are exceeded
- Access recorded data worldwide via internet
- FREE software with NO ongoing or subscription charges
- Programmable high/low alarms

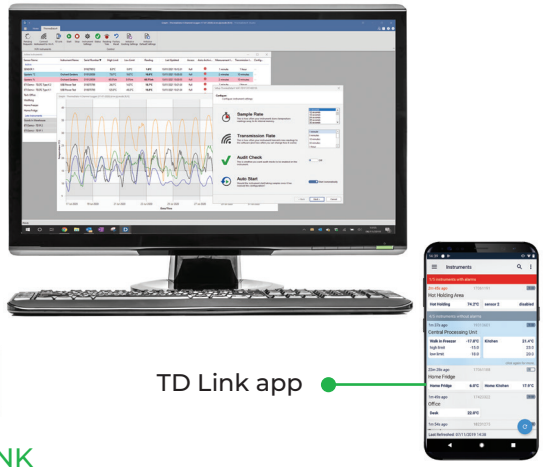

The ThermaData Wi-Fi loggers utilise the latest Wi-Fi wireless technology. The loggers are a battery powered, cost-effective, temperature monitoring system that remotely records the temperature of appliances and buildings. Each logger transmits the recorded data to a Wi-Fi router connected to the internet which can be accessed and viewed from a PC, laptop or tablet anywhere in the world.

The loggers have a range limited to the specification of the users Wi-Fi router. Each logger has an intuitive LCD displaying; temperature, Wi-Fi and internet connection status, max/min recorded temperatures, alarm status and battery life.

At programmable intervals, the loggers will record temperature from both sensors, recording up to a maximum of 18000 readings (9000 from each sensor). Each logger incorporates a red and green LED. The flashing green LED indicates that the logger is active/logging and the flashing red LED indicates that the customised preset alarms have been exceeded. Each logger communicates directly to the Wi-Fi router at set intervals to push data through the internet into ThermaData Studio. The information is available to be analysed and exported into a report format. Each unit is supplied with a USB lead and FREE wall bracket. ThermaData Studio software is available to download FREE from our website and is licence free, with no ongoing or subscription charges.

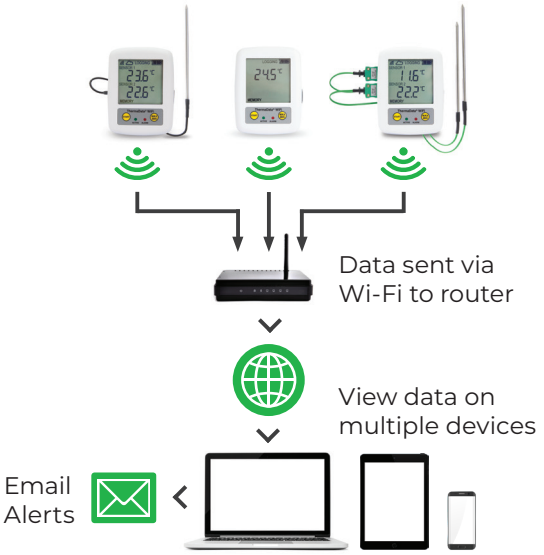
## HOW DOES THE THERMADATA WI-FI LOGGER WORK?

Using the unique ID of each logger, ThermaData Studio creates a secure connection between logger and software, which can be accessed and viewed anytime and anywhere with an internet connection. Each logger communicates directly to the Wi-Fi router at set intervals to push data through the internet into ThermaData Studio. The information is available to be analysed and exported into a report format.



TD Link app

### Simple setup & easy-to-use software makes the ThermaData Wi-Fi loggers perfect for HACCP analysis




## TD LINK

By signing in to the TD Link app, you can view the status of all the ThermaData wireless thermometer units associated with ThermaData Studio, wherever the internet is available.

You can view the current readings, settings and reference information of all your thermometers. Warning indicators will appear if there is a problem with any instrument, or if any sensor reading has reached the alarm levels set in ThermaData Studio.

For each thermometer, you can opt to receive push notifications when an alarm condition has been detected.

TD Link is a view-only app, that cannot be used to alter instrument settings. Available on iOS and Android.

**Please note:** Wi-Fi routers have a range of 100 metres depending on the make, model, capabilities and setup of the router. Environmental conditions may also affect the signal strength.

## THERMADATA® WI-FI ONE/TWO CHANNEL THERMISTOR LOGGERS

The ThermaData Wi-Fi thermistor loggers can be supplied with one internal sensor or a stainless steel general purpose probe (Ø3.3 x 100 mm) with a one metre PUR/PVC fixed lead. **Please Note:** Model TD1F is supplied with one external remote probe and an internal sensor. Model TD2F is supplied with two external remote probes.


| Specification | TD | TD1F | TD2F |
|---|---|---|---|
| Range - internal | 0 to 50 °C | 0 to 50 °C | N/A |
| Range - external | N/A | -40 to 125 °C | -40 to 125 °C |
| Resolution | 0.1 °C/°F | | |
| Accuracy | ±0.5 °C | | |
| Memory | 18000 readings | 2 x 9000 readings | |
| Sample rate | 6 seconds to 330 minutes | | |
| Battery & life | 2 x 1.5 volt AA - approximately 1 year | | |
| Display | 12 mm LCD/2 LED's | | |
| Dimensions | 29 x 72.5 x 96 mm | | |
| Weight | 165 grams model dependant | | |
| FREE traceable certificate of calibration included | | | |

MAX/ MIN

2 YEAR GUARANTEE MADE IN BRITAIN

| Order code | Description |
|---|---|
| 298-001 | Model TD |
| 298-011 | Model TD1F* |
| 298-111 | Model TD2F* |

*Inclusive of thermistor probe(s)
832-590 ABS wall bracket also included (see page 41)

## THERMADATA® WI-FI TWO CHANNEL THERMOCOUPLE LOGGERS

The ThermaData Wi-Fi thermocouple loggers are available in two sensor types, type K and type T thermocouple.
**Please Note:** Each logger is supplied exclusive of probes, see below for a small selection of probes available or for alternative designs see page 83.

| Specification | ThermaData Wi-Fi - Thermocouple |
|---|---|
| Range - type K | -100 to 1372 °C |
| Range - type T | -100 to 400 °C |
| Resolution | 0.1 °C/°F to 999.9 thereafter 1 °C/°F |
| Accuracy | ±0.4 °C ±0.1 % of reading |
| Memory | 2 x 9000 readings |
| Sample rate | 6 seconds to 330 minutes |
| Battery & life | 2 x 1.5 volt AA - approximately 1 year |
| Display | 12 mm LCD/2 LED's |
| Dimensions | 29 x 72.5 x 96 mm |
| Weight | 165 grams |
| FREE traceable certificate of calibration included | |

General purpose probes (133-158)


MAX/ MIN

2 YEAR GUARANTEE MADE IN BRITAIN

| Order code | Description |
|---|---|
| 298-121 | Model TD2TC - type K |
| 298-721 | Model TD2TC - type T |
| 830-800 | Magnetic mount |
| 830-880 | Protective boot - black |
| Exclusive of thermocouple probes | |

| | | Order code |
|---|---|---|
| **GENERAL PURPOSE PROBE**<br>  <br>HIGH ACCURACY HIGH ACCURACY Ø3.3 x 100 mm | This stainless steel probe is suitable for a wide range of applications. Supplied with a one metre PTFE insulated lead and connector.<br>• Response time less than 5 seconds<br>• Probe temperature range -75 to 250 °C | 133-158 (1000 mm)<br>133-220 (3000 mm)<br>133-222 (5000 mm) |
| **FOOD SIMULANT PROBE**<br>  <br>HIGH ACCURACY HIGH ACCURACY 9 x 100 x 100 mm | This polypropylene simulant probe is designed for use in refrigeration, food storage and chill cabinets. Supplied with a one metre PTFE insulated lead and connector.<br>• Probe temperature range -20 to 100 °C | 133-350 (1000 mm)<br>133-352 (3000 mm)<br>133-354 (5000 mm) |
| **HEAVY-DUTY PTFE WIRE PROBE**<br>  <br>HIGH ACCURACY HIGH ACCURACY Ø2.4 x 1000 or 2000 mm | This heavy-duty, PTFE insulated wire probe is ideal for measuring the air temperature in fridges, freezers, ovens etc.<br>• Response time less than 1 second<br>• Probe temperature range 75 to 250 °C | 133-372 (1000 mm)<br>133-373 (2000 mm) |

**Please note:** for type T thermocouple probes, replace the third digit (3) of the order code with the number 7

# THERMADATA® WI-FI LOGGER FOR HUMIDITY

- FREE software with NO ongoing or subscription charges
- Simultaneously displays humidity & temperature
- Access recorded data worldwide via internet
- Programmable high/low alarms


These ThermaData Wi-Fi humidity loggers measure and record both temperature and relative humidity (%rh) over the range of 0 to 50 °C and 0 to 100 %rh. At programmable intervals, the loggers will record simultaneously both temperature and humidity, recording up to a maximum of 18000 readings (9000 humidity and 9000 temperature).

The logger incorporates a large LCD that displays temperature and humidity from the internal sensors. Each ThermaData Wi-Fi humidity logger incorporates two LED's, a flashing green LED indicates that the logger is active/logging and a flashing red LED indicates that your customised preset alarms have been exceeded.

The humidity and temperature ThermaData Wi-Fi loggers are suitable for a diverse range of applications which include HVAC climate monitoring, QA monitoring of storage areas etc.

## THERMADATA STUDIO SOFTWARE

Both powerful and sophisticated, yet user-friendly, the ThermaData Studio software enables temperature and humidity data to be organised and analysed to provide management information.

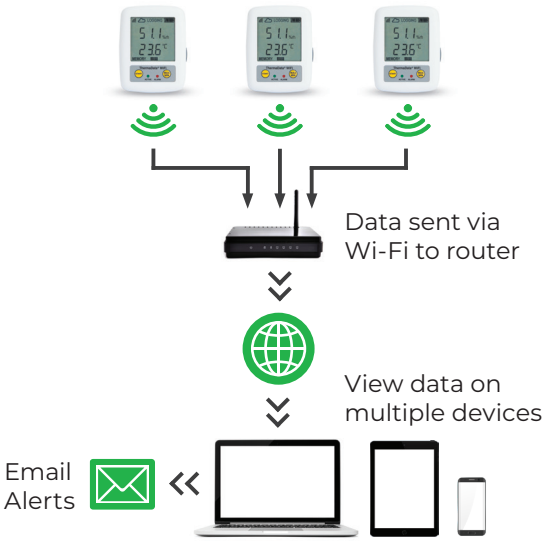
The ThermaData Studio software has the ability to display up to 32 traces on a graph, the trace colours are user selectable. All files can be viewed as thumbnail icons for easy identification.

The software allows the user to programme the logging sample/interval rate (6 seconds to 330 minutes), communication interval (sync) with PC, real-time clock, °C or °F and a manual start option. It is also possible to include a user ID for each logger.

MAX/ MIN | IP55 | 2 YEAR GUARANTEE | MADE IN BRITAIN

| Order code | Description |
|---|---|
| 298-621 | ThermaData Wi-Fi HTD |
| 830-880 | Protective silicone boot - black |
| 830-800 | Magnetic mount |
| 890-111 | UKAS 3-point certificate available |
| *when purchased with a new Logger | |

## HOW DOES THE THERMADATA WI-FI HTD LOGGER WORK?




- TD Link available on iOS and Android for mobile phone push notifications

| Specification | Temperature | Humidity |
|---|---|---|
| Range | 0 to 50 °C | 0 to 100 %rh |
| Resolution | 0.1 °C/°F | 0.1 %rh |
| Accuracy | ±0.5 °C (0 to 50 °C) | ±3 %rh @ 25 °C (10 to 90 %rh) |
| | | ±4 %rh @ 25 °C (0 to 100 %rh) |
| Hysteresis | N/A | ±1 %rh |
| Sensor type | Thermistor | Capacitance polymer |
| Memory | 2 x 9000 readings | |
| Sample rate | 6 seconds to 330 minutes | |
| Battery & life | 2 x 1.5 volt AA - approx. 10 months @ 20 °C | |
| Display | 12 mm LCD/2 LED's | |
| Dimensions | 29 x 72.5 x 96 mm | |
| Weight | 165 grams | |
| Optional UKAS Certificate of Calibration available | | |

# THERMADATA® 4 CHANNEL LOGGER

- Four channel type K thermocouple input
- Simultaneously measure four probe temperatures
- Programmable high/low audible alarm
- Wide temperature range -99.9 to 1372 °C


General purpose probe (133-158)

The ThermaData 4 Channel Logger is housed in an ergonomic, ABS case that includes Biomaster product protection to reduce bacterial growth. The unit is waterproof to IP67 thanks to an integrated rubber seal, making it more durable in harsh environments and less prone to damage.

The 4 Channel Logger measures temperature over the range of -99.9 to 1372 °C with a 0.1 °C resolution, auto-ranging to 1 °C over the range of 300 to 1372 °C. At programmable intervals the logger will record the temperature, up to a maximum of 64,000 readings (16,000 per channel).

A multi logging feature also allows this instrument to be started and stopped in order to map multiple processes, without downloading the data each time.

Featuring an easy-to-read LCD, the 4 Channel Logger displays temperature, high and low limits, max/min recorded temperatures and volume level. The LCD can either be toggled from T1 & T2 to T3 & T4, or locked, using the DISPLAY / LOCK button.

Programmable audible alarms allows the user to preset high and low temperature limits for any logging process. The alarm can be silenced by pressing MUTE on the front of the instrument.

Each instrument is supplied with a USB C lead, FREE downloadable software and traceable certificate of calibration.

We offer an extensive range of interchangeable type K thermocouple probes for a variety of different applications, see pages 77 to 83.


## THERMADATA STUDIO SOFTWARE

The ThermaData 4 Channel Logger is connected to a PC via a USB C lead (supplied). By selecting the relevant icon the data can be downloaded and displayed either as a graph, table or summary. The information can then be analysed by zooming in, saving as a Studio File or exporting to other software packages.

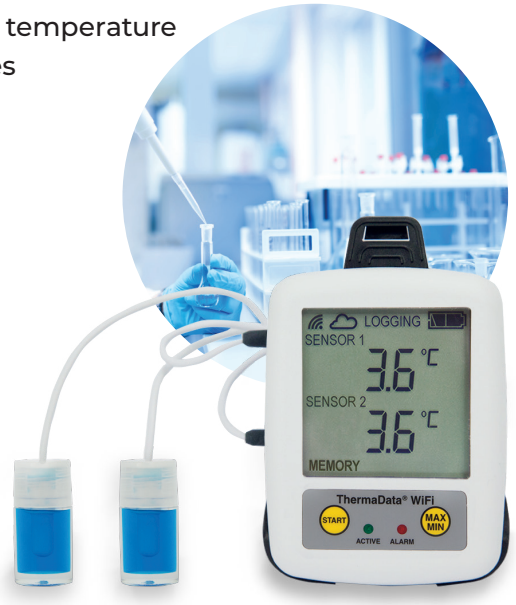
| Order code | Description |
|---|---|
| 291-401 | ThermaData 4 Channel Logger |
| 830-258 | Protective silicone boot - black |
| The ThermaData 4 Channel Logger is exclusive of probes | |

IP67

| Specification | ThermaData 4 Channel Logger |
|---|---|
| Range | -99.9 to 1372 °C |
| Operating range | -20 to 50°C |
| Resolution | 0.1 °C to 299.9 °C thereafter 1 °C |
| Accuracy | ±0.4 °C ±0.1 % of reading |
| Memory | 64,000 (4 x 16,000) |
| Sample rate | 1 second to 255 minutes |
| Battery | 3 x 1.5 volt AAA |
| Battery life | 1 year (1 minute sample rate) |
| Sensor type | Type K thermocouple |
| Display | Custom LCD |
| Dimensions | 32 x 71 x 142 mm |
| Weight | 230 grams |
| FREE traceable certificate of calibration included | |

# THERMADATA® PHARM WI-FI LOGGERS

- External sensor(s) designed to simulate fridge contents temperature
- FREE software with NO ongoing or subscription charges
- Access recorded data worldwide via internet
- Programmable high/low alarms



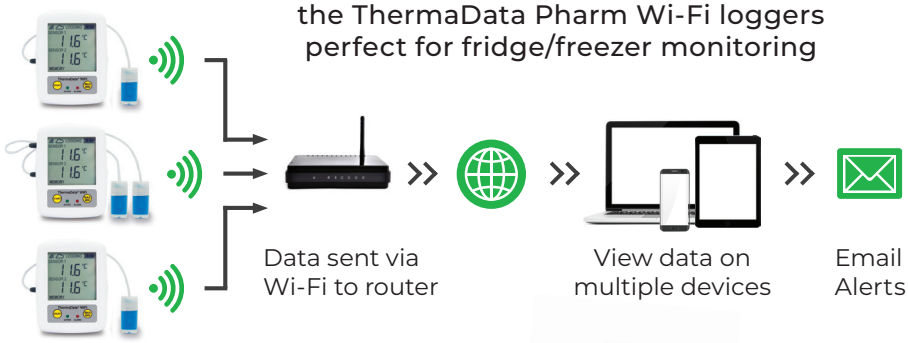

The ThermaData Pharm Wi-Fi loggers are a battery powered, cost-effective, temperature monitoring system that remotely records storage and transportation temperatures of perishable items such as food, vaccines and medication.

Each logger has an intuitive LCD displaying; temperature, Wi-Fi connection status, max/min recorded temperatures, alarm status and battery life. Simple to set up, the logger once up and running will transmit recorded data to a Wi-Fi router connected to the internet which can then be accessed and viewed from a PC, laptop or tablet anywhere in the world.

At programmable intervals, the loggers will record temperature from both sensors, recording up to a maximum of 18000 readings (9000 from each sensor). Each logger incorporates a red and green LED. The flashing green LED indicates that the logger is active/logging and the flashing red LED indicates that the customised preset alarms have been exceeded. Each logger communicates directly to the Wi-Fi router at set intervals to push data through the internet into ThermaData Studio. The information is available to be analysed and exported into a report format. Each unit is supplied with a USB lead and free wall bracket ThermaData Studio software is available to download FREE from our website and is licence free, no ongoing or subscription charges.

Each thermistor probe is encased in a sealed bottle and incorporates a two metre PUR/PVC fixed lead. To begin monitoring, simply unscrew and top up with Glycol solution (50 ml bottle supplied).
**Please Note:** Model TD1F Pharm is supplied with one external remote probe and an internal sensor. Model TD2F is supplied with two external remote probes. For more information contact our sales office.

**Simple setup & easy-to-use software makes the ThermaData Pharm Wi-Fi loggers perfect for fridge/freezer monitoring**




- TD Link available on iOS and Android for mobile phone push notifications

Magnetic mount (830-800)

MAX/ MIN

2 YEAR GUARANTEE MADE IN BRITAIN

| Order code | Description |
|---|---|
| 298-011-PHM | Model TD1F c/w Pharm probe |
| 298-111-PHM | Model TD2F c/w Pharm probes |
| 830-880 | Protective silicone boot - black |
| 832-590 | Replacement ABS wall bracket |
| 830-800 | Magnetic mount |
| 816-035 | Replacement Glycol solution - 50 ml |
| Inclusive of thermistor probe(s) & USB lead | |

| Specification | Model TD1F | Model TD2F |
|---|---|---|
| Range - internal | 0 to 50 °C | N/A |
| Range - external | -40 to 70 °C | -40 to 70 °C |
| Resolution | 0.1 °C/°F | |
| Accuracy | ±0.5 °C | |
| Memory | 2 x 9000 readings | |
| Sample rate | 6 seconds to 330 minutes | |
| Battery & life | 2 x 1.5 volt AA - approx. 1 year | |
| Display | 12 mm LCD/2 LED's | |
| Dimensions | 29 x 72.5 x 96 mm | |
| Weight | 165 grams | |
| FREE traceable certificate of calibration included | | |

**Please note:** Wi-Fi routers have a range of 100 metres depending on the make, model, capabilities and setup of the router. Environmental conditions may also affect the signal strength.

# THERMAGUARD® PHARM THERMOMETER

- External sensor(s) designed to simulate fridge contents temperature
- Two models available - single or dual external sensors
- Optional UKAS Calibration Certificate available
- Programmable high/low audible alarm


The ThermaGuard Pharm has been specifically designed for use in monitoring the storage and transportation temperatures of perishable items such as food, vaccines and medication. Each thermometer features a large LCD display, which simultaneously displays the current and max/min recorded temperatures.

Both units feature programmable audible alarms allowing the user to preset high and low temperature limits. When the alarm is active the LCD will flash. The alarm can be silenced by pressing any button.

Both ThermaGuard Pharm models feature a CalCheck 0.0 °C (±0.1 °C) function that allows the user to verify the accuracy of the thermometer at any time, giving confidence that measurements are accurate.

Each thermistor probe is encased in a sealed bottle. To begin monitoring, simply unscrew and top up with Glycol solution (50 ml bottle supplied).

UKAS CALIBRATION
0601

- **Two models available with optional UKAS Certificate of Calibration**
  The ThermaGuard Pharm 101 incorporates two temperature sensors; a remote water-resistant thermistor probe with a one metre PVC lead for monitoring the product temperature and an internal sensor to monitor room temperature. The ThermaGuard 102 incorporates two remote water-resistant thermistor probes, both with one metre PVC leads for monitoring dual applications. An optional two-point UKAS Certificate of Calibration is available. Each certificate indicates deviations from standards at -18 and 0 °C.


- **FREE wall bracket included**
  Each ThermaGuard is supplied with an ABS plastic wall bracket that incorporates a built-in foot stand, a hook for hanging and a screw thread for tripod mounting.

## OPTIONAL ACCESSORIES:

- Protective silicone boot (830-880)
- Replacement Glycol solution 50 ml (816-035)
- Magnetic mount (830-800)

MAX/MIN | CAL CHECK | IP54 | 2 YEAR GUARANTEE | MADE IN BRITAIN

| Order code | Description |
|---|---|
| 226-911 | ThermaGuard Pharm 101 |
| 891-911 | ThermaGuard Pharm 101 & UKAS Cert |
| 226-912 | ThermaGuard Pharm 102 |
| 891-912 | ThermaGuard Pharm 102 & UKAS Cert |
| 830-880 | Protective silicone boot - black |
| 832-590 | Replacement ABS wall bracket |
| 830-800 | Magnetic mount |
| 816-035 | Replacement Glycol solution - 50 ml |
| UKAS certificate applies to remote probe(s) only | |

| Specification | ThermaGuard Pharm |
|---|---|
| Range - internal | -19.9 to 49.9 °C (101 model only) |
| Range - external | -39.9 to 49.9 °C |
| Resolution | 0.1 °C/°F |
| Accuracy | ±0.4 °C |
| Battery | 2 x 1.5 volt AA |
| Battery life | 25000 hours (without alarm) |
| Sensor type | Thermistor |
| Display | Custom LCD |
| Dimensions | 29 x 73 x 96 mm |
| Weight | 165 grams |
| Optional UKAS certificate of calibration available | |


# *BLUETOOTH®* THERMOMETERS

Digitalising your temperature monitoring provides the most accurate and organised data archive you could have, all whilst saving huge amounts of time and money.

Instead of manually writing temperatures in paper log books, accurate readings will be measured at the touch of a button. Rather than combing through physical archives to check historical data, you can instantly pull up recordings from any date. And with free user-friendly software or the option to integrate into an existing system, employee training couldn't be easier.

Our range of *Bluetooth®* thermometers includes temperature probes and infrared thermometers, with plenty of options available for you to find the right fit for your application.

## BLUETOOTH BENEFITS

There are many benefits to switching to Bluetooth thermometers, including:

- Improved data accuracy and integrity
- Save time recording checks
- Organised and accessible data archive
- Time and date stamp on every reading

## HOW BLUETOOTH THERMOMETERS WORK

Bluetooth thermometers pair with an app on your phone or tablet to store your temperature recordings. As you take temperatures with your thermometer, it will either manually or automatically transfer the readings to your device via Bluetooth, where you can view and analyse your data.

Our latest range of Bluetooth LE thermometers are also the perfect tools for software developers to integrate into new or existing custom built software An SDK is available upon request.

## HOW DOES THE SOFTWARE DEVELOPMENT KIT (SDK) WORK?

The SDK gives the software developer working on iOS, Android or Windows the ability to fully integrate the functionality of the Bluetooth product. This means that the custom application, which may already be in use, allows the probes to enhance the system. This improves data capturing and helps businesses comply with procedures. For further information, please contact our sales department.

# THERMAPEN® ONE BLUE THERMOMETER

- New intuitive display
- Waterproof to IP67
- Securely transmits data to your smart device
- SDK & technical integration support available

new


The new Thermapen ONE Blue combines the latest *Bluetooth*® wireless technology with the same high accuracy and precision as the Thermapen One. Simply connect to your host device (iOS or Android), probe the item to be measured and press the button to securely transmit your temperature data of up to 50 metres via a secure connection.

The casing is washable and includes Biomaster product protection that reduces bacterial growth. The Thermapen One Blue is waterproof to IP67.

The unit includes a Dot Matrix Display which when paired with a remote device, will show items on the screen alongside the temperature value. Each item can include a text line, high/low temperature limit that gives the user instant, on-screen pass/fail feedback. **Please Note:** New display features only available when using the latest Software Development Kit.

The Thermapen One Blue incorporates a reduced tip, stainless steel penetration probe (Ø3.3 x 110 mm) that conveniently folds back through 180° into the side of the instrument when not in use.

A Software Development Kit (SDK) is available upon request to allow integrators to write custom apps to communicate with the Thermapen One Blue.


**Dot Matrix Display**

New intuitive display showing item names, high and low limits and a visual PASS or FAIL indication.


AUTO OFF · IP67 · SDK AVAILABLE · Biomaster · 2 YEAR GUARANTEE · MADE IN BRITAIN

| Order code | Description |
|---|---|
| 279-607 | Thermapen One Blue - grey |
| 830-701 | Silicone boot with magnet - Clear |
| 830-704 | Silicone boot with magnet - Red |
| 832-002 | Stainless steel wall bracket |

| Specification | Thermapen One Blue |
|---|---|
| Range | -49.9 to 299.9 °C |
| Resolution | 0.1 °C |
| Accuracy | ±0.3 °C (-19.9 to 119.9 °C) |
| | ±0.4 °C (-49.9 to 199.9 °C ) otherwise ±1 °C |
| Bluetooth module | BLE 5.0 |
| Battery | 1 x 1.5 volt AAA |
| Battery life | 500 hours (without backlight) |
| Sensor type | K thermocouple |
| Dimensions | 19 x 50 x 157 mm |
| Weight | 115 grams |
| FREE traceable certificate of calibration included | |

**Please note:** BLE 5.0 thermometers have a range of 50 metres depending on the user's smart device make and model. Environmental conditions may also affect the signal strength.

# THERMAPEN® IR BLUE THERMOMETER

- High accuracy - ideal for HACCP procedures
- Patented, automatic 360° rotational display
- Securely transmits data to your smart device
- SDK & technical integration support available

new


The new Thermapen IR Blue is two instruments in one compact unit. It combines the advanced technology of two ETI *Bluetooth*® products: the RayTemp Blue infrared thermometer and Thermapen Blue thermometer.

Housed in a robust ABS case containing Biomaster product protection that reduces bacterial growth. Simply connect to your host device (iOS or Android), probe or scan the item to be measured and press the button to securely transmit your temperature data via a secure connection of up to 50 metres.

A Software Development Kit (SDK) is available upon request to allow integrators to write custom apps to communicate with the Thermapen IR Blue.

- **Infrared thermometer**
  Simply aim the infrared thermometer at the target and press the scan button to display the surface temperature. **Please Note:** the infrared non-contact function will only measure when the probe is in the closed position.

  The Thermapen IR Blue thermometer incorporates a max/min temperature function accessed via the mode button (IR only). The distance to target ratio is 5:1, therefore the thermometer should be positioned as close to the target as possible. The default emissivity is 0.95 but can be adjusted via the host device.

- **Penetration probe**
  Opening the probe puts the instrument into probe mode, enabling you to take the core temperature of liquid and semi-solid foods using the fast response, stainless steel penetration probe (Ø3.3 x 110 mm). It will display the temperature in just 3 seconds. The probe conveniently folds back through 180° into the side of the instrument when not in use.



MAX/ MIN | AUTO OFF | 360° | SDK AVAILABLE | Biomaster | 2 YEAR GUARANTEE | MADE IN BRITAIN

### Patented auto-rotating display


| Order code | Description |
|---|---|
| 228-965 | Thermapen IR Blue |
| 830-480 | Protective silicone boot |
| 832-002 | Stainless steel wall bracket |
| 830-485 | Silicone boot - glow in dark |

| Specification | Thermapen IR Blue |
|---|---|
| Range - infrared | -49.9 to 349.9 °C |
| Range - probe | -49.9 to 299.9 °C |
| Resolution | 0.1 °C |
| Accuracy - infrared | ±1 °C (0 to 100 °C) otherwise ±2 °C or ±2 % of reading whichever is greater |
| Accuracy - probe | ±0.4 °C (-49.9 to 199.9 °C) |
| Bluetooth module | BLE 5.0 |
| Field of view | Target ratio 5:1 |
| Emissivity | 0.95 default - adjustable via remote device |
| Battery | 2 x 3 volt CR2032 lithium coin cell |
| Battery life | 1000 hours - continuous use |
| Display | 12 mm (horizontal) & 10 mm (vertical) LCD |
| Dimensions | 19 x 50 x 157 mm |
| Weight | 125 grams |
| FREE traceable certificate of calibration included (probe & IR) | |

Please note: BLE 5.0 thermometers have a range of 50 metres depending on the user's smart device make and model. Environmental conditions may also affect the signal strength.

# TEMPTEST® BLUE THERMOMETER

- Waterproof IP67, compact design
- Automatic 360° rotational display
- SDK & technical integration support available
- Securely transmits data to your smart device


The TempTest Blue combines *Bluetooth*® wireless technology with high accuracy, precision and fast response. Simply pair it with your device (iOS or Android), probe the item to be measured and press the button to transmit your temperature data. The TempTest Blue thermometer features a secure Bluetooth range of up to 50 metres.

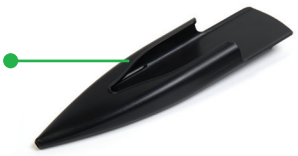
The thermometer is housed in a waterproof IP67 case with an ergonomic rubber seal and includes Biomaster product protection to reduce bacterial growth. The unit incorporates a stainless steel food penetration probe (Ø3.3 x 80 mm) with fast response tip. The true temperature of a product can be measured in just three seconds.

A Software Development Kit (SDK) is available upon request to allow integrators to write custom apps to communicate with the TempTest Blue.

- **Protective silicone boot**
  Protect your instrument against accidental damage by fitting a protective silicone boot.

Example of app


Holster belt clip and wall bracket



AUTO OFF · IP67 · 360° · SDK AVAILABLE · Biomaster PROTECTED · 2 YEAR GUARANTEE · MADE IN BRITAIN

| Order code | Description |
|---|---|
| 292-910 | TempTest Blue |
| 830-431 | Protective silicone boot - white* |
| 830-550 | TempTest holster belt clip & wall bracket |

*Various colours are available. See page 9 for details.

| Specification | TempTest Blue |
|---|---|
| Range | -49.9 to 299.9 °C |
| Resolution | 0.1 °C/°F |
| Accuracy | ±0.4 °C (-49.9 to 199.9 °C) |
| | otherwise ±1 °C |
| Bluetooth module | BLE |
| Battery | 2 x 1.5 volt AAA |
| Battery life | 1000 hours - continuous use |
| Sensor type | K thermocouple |
| Display | 11 mm LCD |
| Dimensions | 17 x 47 x 200 mm (inc. probe) |
| Weight | 105 grams |

FREE traceable certificate of calibration included

**Please note:** BLE thermometers have a range of 50 metres depending on the user's smart device make and model. Environmental conditions may also affect the signal strength.

# THERMA K BLUE THERMOMETER

- Securely transmits data to your device
- Compact & robust design
- Interchangeable thermocouple probes
- SDK & technical integration support available

COMING SOON

Introducing the new Therma K Blue thermometer, designed and manufactured in the UK for release in 2024. This thermometer includes many benefits found in the Therma 1 model, but with the added convenience of *Bluetooth*® wireless technology.

Connecting to your host device (iOS or Android) is simple. Just probe the item you want to measure, press the button, and securely transmit your temperature data via a Bluetooth connection that works up to 50 metres away.

Housed in a durable ABS case, designed with Biomaster product protection to reduce bacterial growth. The large, easy-to-read, LCD display shows open circuit, low battery, and Bluetooth connection indicators. Powered by three AAA batteries that give a minimum of 3000 hours of battery life. If not connected, the instrument will power off automatically after ten minutes to maximise battery life. This feature can be disabled if needed through the software.

A Software Development Kit (SDK) is available upon request to allow integrators to write custom apps to communicate with the Therma K Blue.


Penetration probe (123-160)
For alternative probes see pages 77 to 83


- Stainless steel wall bracket & white silicone boot (832-050) screws not supplied.

AUTO OFF · SDK AVAILABLE · Biomaster · 2 YEAR GUARANTEE · MADE IN BRITAIN

| Order code | Description |
|---|---|
| 292-041 | Therma K Blue |
| 123-160 | Penetration probe |
| 832-050 | Therma series s/s wall bracket & boot |
| 830-221 | Protective silicone boot - white* |

Therma K Blue is exclusive of probe(s)
*Various colours are available. See page 14 for details.

| Specification | Therma K Blue |
|---|---|
| Range | -199.9 to 1372 °C |
| Resolution | 0.1 °C to 999.9 °C thereafter 1°C |
| Accuracy | ±0.4 °C ±0.1% |
| Bluetooth module | BLE 5.0 |
| Battery & life | 3 x 1.5 volt AAA - 3000 hours |
| Display | 12 mm LCD |
| Dimensions | 25 x 56 x 128 mm |
| Weight | 140 grams |

FREE traceable certificate of calibration included

**Please note:** BLE 5.0 thermometers have a range of 50 metres depending on the user's smart device make and model. Environmental conditions may also affect the signal strength.

# THERMA T BLUE THERMOMETER

- High accuracy ±0.2°C
- Interchangeable thermocouple probes
- SDK & technical integration support available
- FREE traceable certificate of calibration

COMING SOON

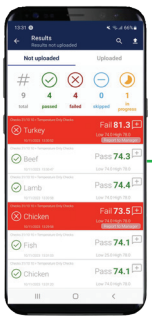
Introducing the new Therma T Blue thermometer, set to be released in 2024. Designed and manufactured in the UK, this thermometer boasts all the benefits of the Therma 1T model, with the added convenience of *Bluetooth*® wireless technology.

It is easy to connect the thermometer to your host device (iOS or Android) Simply probe the item you want to measure, press the button, and securely transmit your temperature data via a Bluetooth connection that works up to 50 metres away.

The Therma T Blue thermometer is built to last, with a durable ABS case and Biomaster product protection to reduce bacterial growth. The large, easy-to-read LCD display shows open circuit, low battery, and Bluetooth connection indicators. Powered by three AAA batteries, the unit offers 3000 hours of battery life. If not connected, the thermometer will automatically power off after ten minutes to maximise battery life. This feature can be disabled if needed through the software.

A Software Development Kit (SDK) is available upon request to allow integrators to write custom apps to communicate with the Therma T Blue.


Fast response probe (127-159)
For alternative probes
see pages 77 to 83

- Example of app

- **Protective silicone boot**
  Protect your instrument from accidental damage. Various colours are available - see page 14.

AUTO OFF · SDK AVAILABLE · Biomaster PROTECTED · 2 YEAR GUARANTEE · MADE IN BRITAIN

| Order code | Description |
|---|---|
| 292-107 | Therma T Blue |
| 127-159 | Fast response probe |
| 832-050 | Therma series s/s wall bracket & boot |
| 830-221 | Protective silicone boot - white* |

Therma T Blue is exclusive of probe(s)
*Various colours are available. See page 14 for details.

| Specification | Therma T Blue |
|---|---|
| Range | -199.9 to 400 °C |
| Resolution | 0.1 °C |
| Accuracy | ±0.2°C ±0.1% |
| Bluetooth module | BLE 5.0 |
| Battery & life | 3 x 1.5 volt AAA - 3000 hours |
| Display | 12 mm LCD |
| Dimensions | 25 x 56 x 128 mm |
| Weight | 140 grams |
| FREE traceable certificate of calibration included | |

**Please note:** BLE 5.0 thermometers have a range of 50 metres depending on the user's smart device make and model. Environmental conditions may also affect the signal strength.

BLUETOOTH®

# THERMA 20 BLUE THERMOMETER

- Securely transmits data to your device
- Meets the European Standard EN 13485
- Optional test caps for accuracy checks
- SDK & technical integration support available

**COMING SOON**


**Thermistor penetration probe (174-166)**
For alternative probes see page 86 and 87.

Designed and manufactured in the UK, the new Therma 20 Blue thermometer incorporates *Bluetooth*® wireless technology in addition to the standard benefits of the Therma 20. To use, simply connect the thermometer to your host device (iOS or Android), probe the item to be measured, and press the button to securely transmit your temperature data via a secure Bluetooth connection that can reach up to 50 metres.

Housed in a robust ABS case that contains Biomaster product protection, which helps reduce bacterial growth. The unit comes with an easy-to-use Lumberg screw-locking connector that allows the use of a wide range of interchangeable thermistor probes and self-calibration test caps to perform accuracy checks.

The Therma 20 Blue features a large, easy-to-read, LCD display that shows open circuit, low battery, and Bluetooth connection indication. Powered by three AAA batteries that provide 3000 hours of battery life. When not connected, the instrument will power off automatically after a few minutes, maximising battery life. This feature can be disabled via the software if it is not required.

A Software Development Kit (SDK) is available upon request to allow integrators to write custom apps to communicate with the Therma 20 Blue.

BLUETOOTH®

- Protective silicone boot
  Protect your instrument from accidental damage.
  Various colours are available - see page 14.

- Thermistor test caps
  For checking the accuracy of your thermometer


AUTO OFF · SDK AVAILABLE · Biomaster PROTECTED · 2 YEAR GUARANTEE · MADE IN BRITAIN

| Order code | Description |
|---|---|
| 292-040 | Therma 20 Blue |
| 174-166 | Thermistor penetration probe |
| 286-001 | Thermistor test cap -18 °C |
| 286-002 | Thermistor test cap 0 °C |
| 286-003 | Thermistor test cap 3 °C |
| 286-004 | Thermistor test cap 70 °C |
| 286-005 | Thermistor test cap 100 °C |
| 832-050 | S/steel wall bracket & boot |
| 830-221 | Protective silicone boot - white* |

Therma 20 Blue is exclusive of probe(s)
*Various colours are available, See page 14 for details

| Specification | Therma 20 Blue |
|---|---|
| Range | -39.9 to 149.9 °C |
| Resolution | 0.1 °C |
| Instrument only accuracy | ±0.2 °C |
| System accuracy - Thermistor | ±0.4 °C (-24.9 to 109.9 °C) |
| Bluetooth module | BLE 5.0 |
| Battery & life | 3 x 1.5 volt AAA - 3000 hours |
| Display | 12 mm LCD |
| Dimensions | 25 x 56 x 128 mm |
| Weight | 130 grams |

FREE traceable certificate of calibration included

**Please note:** BLE 5.0 thermometers have a range of 50 metres depending on the user's smart device make and model. Environmental conditions may also affect the signal strength.

# THERMA 22 BLUE THERMOMETER

- Utilises both type T thermocouple & thermistor probes
- SDK & technical integration support available
- Optional test caps for accuracy checks
- Fast response with high accuracy

COMING SOON


The new Therma 22 Blue thermometer is designed and manufactured in the UK, and it comes with *Bluetooth*® wireless technology along with the standard benefits of the Therma 22 thermometer. To use it, you simply need to connect the thermometer to your host device (iOS or Android), insert the probe into the item to be measured, and press the button to transmit your temperature data securely via Bluetooth. The connection can reach up to 50 metres.

It is housed in a strong ABS case that contains Biomaster product protection, which helps reduce bacterial growth. Additionally, the unit includes an easy-to-use Lumberg screw-locking connector that allows for the use of a wide range of interchangeable thermistor probes and self-calibration test caps for accuracy checks.

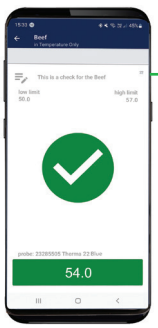
The Therma 22 Blue is specifically designed for those who need the versatility of both thermocouple and thermistor probes in one compact unit. The thermistor sensor provides greater accuracy for food processing, while the type T thermocouple sensor extends the measurement range and provides faster response.

The Thermometer features a large, easy-to-read, LCD display that shows open circuit, low battery, and Bluetooth connection indication. Powered by three AAA batteries that provide 3000 hours of battery life. When not connected, the instrument will power off automatically after a few minutes, maximising battery life. This feature can be disabled via the software if it is not required.

A Software Development Kit (SDK) is available upon request to allow integrators to write custom apps to communicate with the Therma 22 Blue.

**Type T penetration probe (177-166)**
For alternative type T thermocouple probes see page 84. For thermistor probes see pages 86 and 87.

- Protective silicone boot
  Various colours are available. see page 14.


- Example of app

AUTO OFF · SDK AVAILABLE · Biomaster PROTECTED · 2 YEAR GUARANTEE · MADE IN BRITAIN

| Specification | Therma 22 Blue |
|---|---|
| Range - Thermistor | -39.9 to 149.9 °C |
| Range - Type T t/c | -199.9 to 400 °C |
| Resolution - Thermistor | 0.1 °C |
| Resolution - Type T t/c | 0.1 °C to 300 °C thereafter 1 °C |
| Instrument only accuracy | ±0.2 °C |
| System accuracy - Thermistor | ±0.4 °C (-24.9 to 109.9 °C) |
| System accuracy - Type T t/c | ±0.5 °C (-49.9 to 149.9 °C) |
| Bluetooth module | BLE 5.0 |
| Battery & life | 3 x 1.5 volt AAA - 3000 hours |
| Display | 12 mm LCD |
| Dimensions | 25 x 56 x 128 mm |
| Weight | 130 grams |
| FREE traceable certificate of calibration included | |

| Order code | Description |
|---|---|
| 292-022 | Therma 22 Blue |
| 177-166 | Type T penetration probe |
| 832-050 | S/steel wall bracket & boot |
| 830-221 | Protective silicone boot - white* |

Therma 22 Blue is exclusive of probe(s)
*Various colours are available, See page 14 for details

Please note: BLE 5.0 thermometers have a range of 50 metres depending on the user's smart device make and model. Environmental conditions may also affect the signal strength.

# THERMAPEN® BLUE THERMOMETER

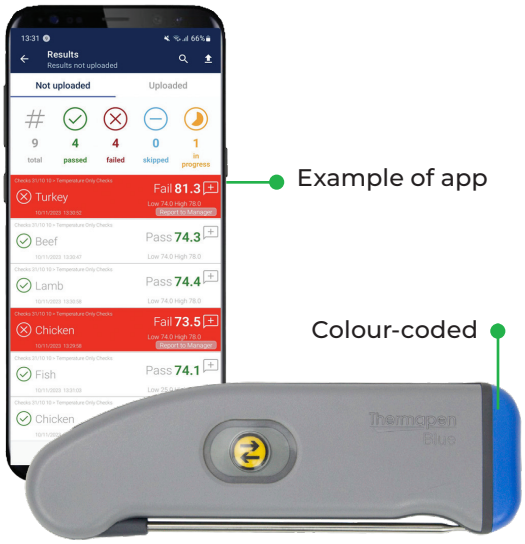
- Reaches temperature in just 3 seconds
- Securely transmits data to your smart device
- Helps your business to be HACCP compliant
- Colour-coded ID for different applications


The Thermapen Blue combines *Bluetooth® wireless technology* with the same high accuracy, precision and speed as the Thermapen. Simply connect to your host device (iOS or Android), probe the item to be measured and press the button to securely transmit your temperature data via a secure connection of up to 50 metres.

The casing is washable and includes Biomaster product protection that reduces bacterial growth and the ergonomic rubber seal minimises the risk of the ingress of water, dust or food. The Thermapen Blue is waterproof to IP66/67. The true temperature of a product can be tested in just three seconds.

The Thermapen Blue incorporates a reduced tip, stainless steel, penetration probe (Ø3.3 x 110 mm) that conveniently folds back through 180° into the side of the instrument when not in use.

A Software Development Kit (SDK) is available upon request to allow integrators to write custom apps to communicate with the Thermapen Blue.





AUTO OFF · IP66/ IP67 · SDK AVAILABLE · Biomaster · 2 YEAR GUARANTEE · MADE IN BRITAIN

| Order code | Description |
|---|---|
| 179-607 | Thermapen Blue - grey |
| 179-647 | Thermapen Blue - red |
| 179-657 | Thermapen Blue - blue |
| 830-620 | Silicone boot - glow in dark/magnets |
| 832-002 | Stainless steel wall bracket |

| Specification | Thermapen Blue |
|---|---|
| Range | -49.9 to 299.9 °C |
| Resolution | 0.1 °C via remote device |
| Accuracy | ±0.4 °C (-49.9 to 199.9 °C) |
| | otherwise ±1 °C |
| Bluetooth module | BLE |
| Battery | 1 x 1.5 volt AAA |
| Battery life | 1000 hours - continuous use |
| Sensor type | K thermocouple |
| Dimensions | 19 x 50 x 157 mm |
| Weight | 112 grams |
| FREE traceable certificate of calibration included | |

**Please note:** BLE thermometers have a range of 50 metres depending on the user's smart device make and model. Environmental conditions may also affect the signal strength.

# RAYTEMP® BLUE THERMOMETER

- Securely transmits data to your device
- Target distance/diameter ratio 5:1
- Time saving, paperless recordings
- FREE traceable certificate of calibration


Designed and manufactured in the UK, The RayTemp Blue infrared non-contact thermometer incorporates many of the features of the RayTemp 2, but with *Bluetooth*® wireless technology.

Simply connect to your host device (iOS or Android), press and hold the measure button and aim the thermometer at the target to display the surface temperature and securely transmit the data via a secure connection of up to 50 metres.

The unit incorporates a 5:1 optic ratio (target distance/diameter ratio) and therefore the thermometer should be positioned as close to the target as possible. The default emissivity is 0.95 but can be changed from 0.1 to 1, if required. The unit does not incorporate laser alignment, which will encourage users to get closer to the object being measured thus reducing inaccurate readings.

The RayTemp Blue features a two button keypad, incorporating measure and on/off function, and an auto-power-off facility that automatically turns the instrument off after 10 minutes, maximising battery life. Each unit is housed in a robust ABS case that contains Biomaster product protection which reduces bacterial growth.

A Software Development Kit (SDK) is available upon request to allow integrators to write custom apps to communicate with the RayTemp Blue.

## OPTIONAL ACCESSORIES:

- Protective silicone boot.
  Various colours are available - see page 14.
- Stainless steel wall bracket (832-050)
  & white silicone boot (screws not supplied)

| Order code | Description |
|---|---|
| 228-920 | RayTemp Blue |
| 832-050 | Therma series s/s wall bracket & boot |
| 830-221 | Protective silicone boot - white* |
| 814-132 | Comparator |

*Various colours are available. See page 14 for details.

| Specification | RayTemp Blue |
|---|---|
| Range | -49.9 to 349.9 °C |
| Resolution | 0.1 °C/°F |
| Accuracy | ±1 °C (0 to 100 °C) otherwise ±2 °C or |
| | ±2 % of reading whichever is greater |
| Field of view | Target ratio 5:1 |
| Bluetooth module | BLE |
| Emissivity | 0.95 default - adjustable 0.1 to 1 |
| Battery & life | 3 x 1.5 volt AAA - 3000 hours |
| Display | 12 mm LCD |
| Dimensions | 25 x 56 x 128 mm |
| Weight | 140 grams |

FREE traceable certificate of calibration included

**Please note:** BLE thermometers have a range of 50 metres depending on the user's smart device make and model. Environmental conditions may also affect the signal strength.


# INDUSTRIAL THERMOMETERS

Industrial thermometers are designed for a wide range of applications that may require more robust or specific styles of thermometer to ensure consistently accurate readings. Common applications include:

- HVAC
- Water temperature measuring
- Manufacturing
- Facilities management

## CHOOSING AN INDUSTRIAL THERMOMETER

When selecting a thermometer for your industrial application, some common features to consider are:

- Waterproofness: protection from water and dust
- Range: the highest and lowest temperatures required
- Accuracy: the potential margin for error
- Hold: locking readings on-screen for easy recording
- Max/min: the maximum and minimum temperatures over a period

## THERMOMETER KITS

Some types of common temperature checks usually require certain probes or accessories to go alongside their thermometer. For example, HVAC engineers often use two clamp probes for radiator balancing. In addition, legionella risk assessments can benefit from a timer to ensure the water runs for the correct length of time.

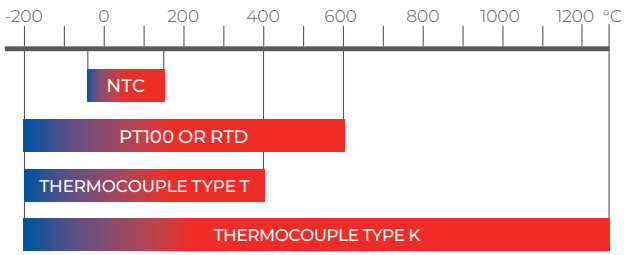
Our thermometer kits are specifically tailored to these requirements, including all of the essential equipment typically needed for these checks. They're also packed in a handy carrying case, which makes transporting the equipment to different locations easy.

## SENSOR TYPES

Our digital thermometers and probes use three sensor types: thermocouple, thermistor and RTD (PT100).

Thermocouple thermometers have a fast response and wide temperature range, suitable for most general applications. They have different types of connectors: types K and T are the most common.

Thermistor and PT100 thermometers are more accurate but slower to respond, so are best for when accuracy is a priority. Thermistor probes also tend to have a narrower temperature range.



# THERMA 1, 3 & ELITE THERMOMETERS

- Elite model includes backlight & max/min functions
- FREE traceable certificate of calibration
- Interchangeable thermocouple probes
- Compact & robust design

The Therma 1 and 3 digital thermometers are rugged and easy-to-use instruments that operate through the range of -100 to 1372 °C with a 0.1 °C or 1 °C resolution. The thermometers are housed in a robust ABS case that contains Biomaster product protection to reduce bacterial growth.

The Therma 1 and 3 feature large, easy-to-read, LCD displays with open circuit 'Err', hold and low battery indication. Each thermometer is powered by three AAA batteries that give a minimum of 10000 hours of battery life. The units will power off automatically after ten minutes, maximising battery life. This feature can be disabled by the user, if not required.

We offer an extensive range of interchangeable type K thermocouple probes for a variety of different applications, see pages 77 to 83 for full details.

- **Therma Elite thermometer**
  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 the user to compensate for thermocouple probe errors.

Bluetooth®

model available
see page 58


Penetration probe (123-160)


## OPTIONAL ACCESSORIES:

- Protective silicone boot - the Therma series is splashproof to IP64 when used in conjunction with this boot. Various colours are available - see page 14 for details
- Stainless steel wall bracket (screws not supplied) & protective black silicone boot (832-053)

HOLD | MAX/ MIN | AUTO OFF | Biomaster | 2 YEAR GUARANTEE | MADE IN BRITAIN

| Order code | Description |
|---|---|
| 221-041 | Therma 1 |
| 221-043 | Therma 3 |
| 221-061 | Therma Elite |
| 123-160 | Penetration probe |
| 830-227 | Protective silicone boot - black |
| 832-053 | S/steel wall bracket & boot |
| The Therma series is exclusive of probe | |

| Specification | Therma 1/Elite | Therma 3 |
|---|---|---|
| Range 0.1 °C | -99.9 to 299.9 °C | N/A |
| Range 1 °C | 300 to 1372 °C | -100 to 1372 °C |
| Resolution | 0.1 °C & 1 °C | 1 °C |
| Accuracy | ±0.4 °C ±0.1 % | ±1 °C |
| Battery & life | 3 x 1.5 volt AAA - 10000 hours | |
| Sensor type | K thermocouple | |
| Display | 12 mm LCD | |
| Dimensions | 25 x 56 x 128 mm | |
| Weight | 130 grams | |
| FREE traceable certificate of calibration included | | |

# THERMA WATERPROOF THERMOMETER

- Interchangeable thermocouple probes
- Waterproof IP66/67, robust design
- Integrated rubber seal for durability
- Large, easy-to-read backlit LCD

The Therma Waterproof thermometer is housed in a robust waterproof black ABS case which offers IP66/67 protection. The thermometer utilises state of the art electronic circuitry, designed for reliability and ease of use and can be submerged or washed under a running tap - ideal for industrial applications.

The thermometer measures temperature over the range of -99.9 to 299.9 °C with a 0.1 °C resolution, auto-ranging to 1 °C resolution over the range of 300 to 1372 °C.

The Therma Waterproof thermometer features a large easy-to-read, LCD display with max/min, hold, open circuit, low battery indication and a user selectable backlight. The unit also incorporates an auto-power-off facility that automatically turns the instrument off after ten minutes, maximising battery life.

Each unit is housed in a durable, ABS case that incorporates an integrated rubber seal to ensure complete water tightness and help reduce the possibility of damage in harsh environments.

We offer an extensive range of interchangeable type K thermocouple probes, for a variety of different applications, see pages 77 to 83 for full details.


Waterproof penetration probe (143-162)


## OPTIONAL ACCESSORIES:

- Protective silicone boot. Various colours are available - see page 20 for details
- Probe Wipes - helps reduce bacterial growth - see page 40

HOLD | MAX/ MIN | AUTO OFF | IP66/ IP67 | Biomaster | 2 YEAR GUARANTEE | MADE IN BRITAIN

| Order code | Description |
|---|---|
| 232-101 | Therma Waterproof |
| 143-162 | Penetration probe |
| 830-257 | Protective silicone boot - black |
| The Therma Waterproof is exclusive of probe | |

| Specification | Therma Waterproof |
|---|---|
| Range 0.1 °C | -99.9 to 299.9 °C |
| Range 1 °C | 300 to 1372 °C |
| Resolution | 0.1 °C to 299.9 °C thereafter 1 °C |
| Accuracy | ±0.4 °C ±0.1 % of reading |
| Battery | 3 x 1.5 volt AAA |
| Battery life | 10000 hours |
| Sensor type | K thermocouple |
| Display | 15 mm LCD |
| Dimensions | 32 x 71 x 141 mm |
| Weight | 220 grams |
| FREE traceable certificate of calibration included | |

# LEGIONNAIRES' THERMOMETER KITS

- For routine water temperature monitoring
- Excellent value-for-money

Incorrect water temperature is a key risk factor for legionella growth. The legionella bacteria multiply in water at temperatures between 20 to 45 °C. A typical method of control is to store hot water above 60 °C and distribute it at above 50 °C (care must be taken to prevent scalding). Cold water should be kept below 20 °C. These kits represent excellent value-for-money and are supplied in a robust ABS carrying case/zip pouch. For a full specification on the Therma 1, see page 65

## LEGIONNAIRES' STANDARD THERMOMETER KIT

### Each kit contains:

- Therma 1 thermometer (221-041)
- Waterproof surface immersion probe (323-046)
- Heavy-duty PTFE wire probe (133-372)
- Zip pouch (830-037)

MADE IN BRITAIN

| Order code | Description |
|---|---|
| 860-885 | Legionnaires' Standard kit |
| FREE traceable certificate of calibration included | |

## LEGIONNAIRES' PREMIUM THERMOMETER KIT

### Each kit contains:

- Therma 1 thermometer (221-041)
- Penetration probe (123-160)
- Precision ribbon surface probe (123-030)
- PTFE wire probe (133-362)
- Water-resistant countdown timer (806-150)
- Box of 100 Probe Wipes (836-220)
- ABS carrying case (834-150)

MADE IN BRITAIN

| Order code | Description |
|---|---|
| 860-860 | Legionnaires' Premium kit |
| FREE traceable certificate of calibration included | |

## LEGAL RESPONSIBILITIES FOR TESTING FOR LEGIONELLA

As an employer or the person in control of premises, it's your legal responsibility to conduct a risk assessment for exposure to legionella. The revised Approved Code of Practice (ACOP) Legionnaires' disease: Control of Legionella Bacteria in water systems (L8), issued by the Government's Health and Safety Executive (HSE), ex-tends the guidance on controlling legionella bacteria in water systems. The code applies to all hot and cold water systems in the workplace, regardless of their capacity. The lower limit of 300 litres, previously used to exclude domestic systems, no longer applies. While domestic systems may pose a risk, the code only applies to risks arising from work activities. However, it does include domestic landlords who have a responsibility to keep their tenants safe from health hazards. This means that all employers and landlords who manage premises with hot/cold water systems and/or wet cooling systems must identify any risk of contamination and take steps to prevent or control it.

# THERMA DIFFERENTIAL THERMOMETER

- Robust, waterproof case offering IP66/67 protection
- Ideal for radiator balancing or HVAC applications
- Designed for plumbers, reliable & easy-to-use
- Backlit LCD with max/min & hold functions


The Therma Differential is a digital thermometer that allows the user to operate two type K thermocouple probes simultaneously. The display can be switched to show probe T1 or T2 temperature or the difference between probes T1 and T2 (T1-T2). This allows, for example, the temperature drop across radiators or the temperature rise or fall of two items being measured.

The Therma Differential measures temperature over the range of -99.9 to 299.9 °C with a 0.1 °C resolution or 300 to 1372 °C with a 1 °C resolution. The thermometer features a custom, LCD display with °C/°F, T1, T2, diff, hold, open circuit, low battery indication and a user selectable backlight. The unit incorporates an auto-power-off facility that automatically turns the instrument off after ten minutes, maximising battery life.

Each unit is housed in a durable, ABS case that has an integrated rubber seal to ensure complete water tightness and help reduce the possibility of damage in harsh environments.

We offer an extensive range of interchangeable type K thermocouple probes, for a variety of different applications, see pages 77 to 83 for full details.

- Stainless steel wall bracket (832-015) screws not supplied

- Protective silicone boot - black incorporating a built in stand and magnet for mounting on pipes, radiators etc. (830-258)

HOLD | MAX/ MIN | AUTO OFF | IP66/ IP67 | Biomaster | 2 YEAR GUARANTEE | MADE IN BRITAIN

| Order code | Description |
|---|---|
| 231-022 | Therma Differential |
| 830-258 | Protective silicone boot - black |
| 133-040 | Pipe clamp probe |
| 832-015 | Stainless steel wall bracket |
| The Therma Differential is exclusive of probe | |

| Specification | Therma Differential |
|---|---|
| Range 0.1 °C | -99.9 to 299.9 °C |
| Range 1 °C | 300 to 1372 °C |
| Resolution | 0.1 °C to 299.9 °C thereafter 1 °C |
| Accuracy | ±0.4 °C ±0.1 % of reading |
| Battery | 3 x 1.5 volt AAA |
| Battery life | 7500 hours |
| Sensor type | K thermocouple |
| Display | 15 mm LCD |
| Dimensions | 32 x 71 x 141 mm |
| Weight | 220 grams |
| FREE traceable certificate of calibration included | |

# HVAC THERMOMETER KITS

- For everyday temperature monitoring
- Excellent value-for-money

These HVAC thermometer kits are ideal for a wide range of plumbing and heating applications. The kits can be used to monitor both cold and hot water temperatures as well as undertake other routine HVAC checks. A typical application includes balancing radiators using a pair of clip-on pipe probes on the flow and return pipes at either end of the radiator. Starting with the radiator nearest the boiler, adjust the lockshield valve until you get a temperature drop of 11 °C across the two pipes. Then move onto the other radiators in turn.

For a full specification on the Therma Differential thermometer, see page opposite.


## HVAC STANDARD THERMOMETER KIT

### Each kit contains:

- Therma Differential thermometer (231-022)
- 2 x pipe clamp probes (133-040)
- Zip pouch (830-090)

MADE IN BRITAIN

| Order code | Description |
|---|---|
| 860-095 | HVAC Standard thermometer kit |
| FREE traceable certificate of calibration included | |


## HVAC PREMIUM THERMOMETER KIT

### Each kit contains:

- Therma Differential thermometer (231-022)
- Precision ribbon surface probe (123-030)
- Penetration probe (123-160)
- 2 x pipe clamp probes (133-040)
- ABS carrying case (834-300)

MADE IN BRITAIN

| Order code | Description |
|---|---|
| 860-090 | HVAC Premium thermometer kit |
| FREE traceable certificate of calibration included | |

## LEGAL RESPONSIBILITIES FOR SAFE SURFACE & WATER TEMPERATURES

As an employer or someone in control of premises, you have a legal obligation to ensure that hot water and surface temperatures do not pose a risk of scalding or burning to anyone on the premises. According to NHS and HSE guidelines, the surface temperatures of space heating devices, such as thermal storage heaters, oil-filled radiators, and conventional radiators, must not exceed 43°C. This is crucial to prevent burns and injuries, particularly in vulnerable groups such as the elderly, children, and individuals with mental illness or learning disabilities who may not be able to react appropriately to prevent injury. When the surface temperature exceeds 43°C, the risk of burning increases significantly and could result in severe injuries or fatalities.

# MICROTHERMA 1 THERMOMETER

- ±0.2 °C high accuracy, 0.1 °C resolution over the full range
- Multi-input type K, J, T, R, N, S & E thermocouple probes
- In-built microprocessor for automatic recalibration
- FREE traceable certificate of calibration


High temperature probe (123-212)

The MicroTherma 1 microprocessor thermometer measures temperature over the range of -270 to 1768 °C with a 0.1 °C/°F resolution. Each MicroTherma 1 incorporates an easy-to-read, LCD display with open circuit, low battery, hold, max/min and °C/°F indication.

The thermometer should never need re-calibrating as the microprocessor enables the instrument to continuously and automatically carry out self-diagnostic recalibration. An additional feature allows the user to adjust the reading (±2.5 °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.

The MicroTherma 1 has the versatility of accepting any type K, J, T, R, N, S & E thermocouple probe, the probe type is simply selected through the mode button. The unit incorporates both max and min readings with a reset function and also features an auto-power-off facility that maximises the battery life, turning the instrument off automatically after 30 minutes, this function can be disabled by the user, if not required. Other selectable parameters include: display contrast and internal CJC temperature reading. For details of the wide range of type K or type T thermocouple probes available, see pages 77 to 83.


Air probe (127-300)


- Acrylic wall bracket (screws not supplied). Ideal for storing your thermometer safely when not in use (832-115)

- Protective silicone boot - white. Protect your instrument against accidental damage by fitting a boot (830-205)

HOLD | MAX/MIN | AUTO OFF | 2 YEAR GUARANTEE | MADE IN BRITAIN

| Order code | Description |
|---|---|
| 221-091 | MicroTherma 1 |
| 123-212 | High temperature probe |
| 127-300 | Air probe |
| 830-205 | Protective silicone boot - white |
| 832-115 | Acrylic wall bracket |
| The MicroTherma 1 is exclusive of probe | |

| Specification | MicroTherma 1 |
|---|---|
| Range 0.1 °C | -270 to 1768 °C |
| Resolution | 0.1 °C/ °F |
| Accuracy | ±0.2 °C ±1 digit |
| Battery | 2 x 1.5 volt AAA |
| Battery life | 1000 hours |
| Sensor type | K, J, T, R, N, S & E thermocouple - selectable |
| Display | Custom LCD |
| Dimensions | 35 x 73 x 141 mm |
| Weight | 175 grams |
| FREE traceable certificate of calibration included | |

# PRECISION PT100 THERMOMETERS

- High accuracy ±0.2 °C or 0.05 °C
- Interchangeable PT100 probes
- 0.1 °C or 0.01 °C resolution
- Meets the European Standard EN 13485


PT100 1/10th DIN liquid probe (160-222)

High accuracy is one of the notable features of the Precision thermometers. There are two models available, the Precision and Precision Plus. The Precision measures temperature over the range of -199.9 to 850 °C with a 0.1 °C resolution and high accuracy of ±0.2 °C. The Precision Plus measures temperature over the range of -199.99 to 299.99 °C with a 0.01 °C resolution and high accuracy of ±0.05 °C. **Please note:** the accuracies quoted are for the instruments only.

Conveniently located on the front of the instrument are the on/off, max/min and display hold buttons. The Binder probe socket is positioned at the top of the instrument which enables a variety of probes to be used depending on the application.

The Precision thermometers feature a large, easy-to-read, LCD display with open circuit 'Err' and low battery indication. Each thermometer is powered by three AAA batteries that give a minimum of 2000 hours of battery life. The unit will power off automatically after ten minutes, maximising battery life. This feature can be disabled by the user, if required.

We offer a range of interchangeable PT100 Class A probes for use with the Precision thermometer, see page 85 for full details. The Precision Plus is supplied with a PT100 1/10th DIN liquid probe (160-222) and a UKAS Certificate of Calibration. For regularly checking the accuracy of each Precision thermometer, a range of calibration PT100 test caps complete with a UKAS Certificate of Calibration are available, see page 105 for details.


## OPTIONAL ACCESSORY:

- Protective silicone boot - the Precision/Precision Plus thermometers are splashproof to IP64 when used in conjunction with this boot. Various colours are available - see page 14.

HOLD | MAX/ MIN | AUTO OFF | Biomaster | 2 YEAR GUARANTEE | MADE IN BRITAIN

UKAS CALIBRATION
0601

| Order code | Description |
|---|---|
| 222-053 | Precision thermometer |
| 222-051 | Precision Plus thermometer |
| 160-222 | PT100 1/10th DIN liquid probe |
| 830-221 | Protective silicone boot - white |
| 832-050 | S/steel wall bracket & boot |
| The Precision is exclusive of probe<br>The Precision Plus is inclusive of probe | |

| Specification | Precision | Precision Plus |
|---|---|---|
| Range | -199.9 to 850 °C | -199.99 to 850 °C |
| Resolution | 0.1 °C | 0.01 °C (-199.99 to 299.99 °C) then 0.1 °C |
| Accuracy | ±0.2 °C | ±0.05 °C (-199.99 to 299.99 °C) then ±0.2 °C |
| Battery & life | 3 x 1.5 volt AAA - 2000 hours | |
| Sensor type | PT100 | |
| Display | 10 mm LCD | |
| Dimensions | 25 x 56 x 128 mm | |
| Weight | 130 grams | |
| The Precision includes a traceable certificate of calibration<br>The Precision Plus includes a UKAS Certificate of Calibration | | |

# THERMAPEN® CLASSIC THERMOMETERS

- Choice of air, surface or penetration probe
- Lightweight, compact & easy-to-use
- High accuracy ±0.4 °C
- One-handed operation


The Thermapen classic thermometer incorporates a large digital display with a precise read-out over the range of -49.9 to 299.9 °C with a 0.1 °C resolution. The resolution can be switched to 1 °C, if required, via a switch in the battery compartment.

The thermometer will power off automatically after ten minutes, maximising battery life. This feature can be disabled if not required. Both low battery (icon) and open circuit indication are also displayed, when applicable. Each Thermapen classic is powered by two lithium coin cell batteries with a minimum life expectancy of 1500 hours.

The probe conveniently folds back through 180° into the side of the instrument when not in use. The casing is washable and includes Biomaster product protection that reduces bacteria growth and the ergonomic rubber seal minimises the risk of the ingress of water, dust or food.

- **Choice of probe styles**
  The Thermapen classic thermometer is available with three styles of probe; surface, air or penetration. The fast response air probe is an invaluable tool in establishing the correct air temperature quickly in HVAC and laboratory applications. The surface probe is particularly useful in determining the temperature of hot plates or pipes etc. **Please note:** the accuracy and speed of response will be dependant on whether the surface is flat and heat transfer compound is used.

### WATERPROOF SURFACE PROBE



Ø8 x 95 mm

This waterproof ribbon surface probe is ideal for measuring the surface temperature of pipes, bearings, hotplates and other flat surfaces.

### PENETRATION PROBE

Ø3.3 x 108 mm

This strong and versatile probe incorporates a pointed, general purpose tip, ideal for insertion into liquids and semi-solids.

### AIR OR GAS PROBE

Ø3.3 x 95 mm

This fast response air or gas probe is ideal for measuring the air temperature in HVAC applications, laboratories and other temperature sensitive working areas.

### OPTIONAL ACCESSORIES:

- Protective PVC wallet with belt strap (830-110)
- Protective silicone boot (830-260)
- Glow-in-the-dark silicone boot with magnets (830-265)
- Stainless steel wall bracket (832-002) screws not supplied

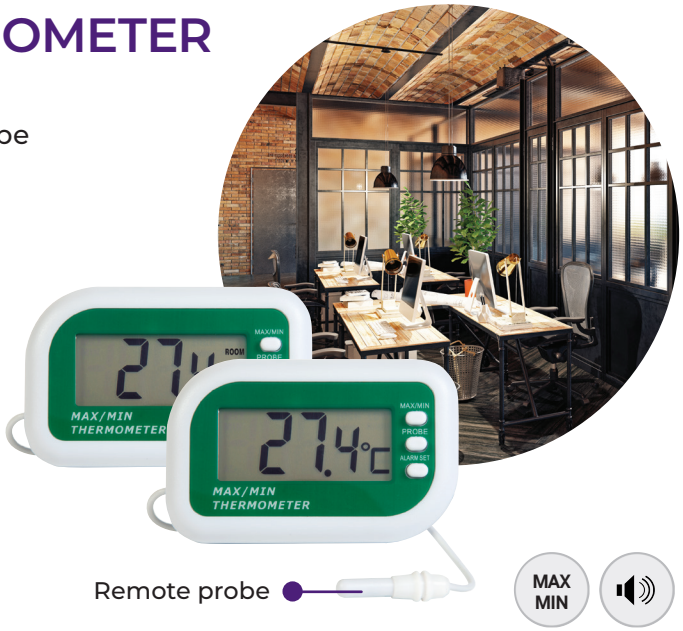
AUTO OFF · Biomaster · 2 YEAR GUARANTEE · MADE IN BRITAIN

| Order code | Description |
|---|---|
| 231-210 | Thermapen Classic - penetration probe |
| 231-212 | Thermapen Classic - surface probe |
| 231-214 | Thermapen Classic - air probe |
| 830-260 | Protective silicone boot |
| 830-265 | Silicone boot - glow in dark |
| 830-110 | Protective wallet |
| 832-002 | Stainless steel wall bracket |
| The Thermapen is supplied in a zip pouch (830-001) | |

| Specification | Classic Thermapen |
|---|---|
| Range | -49.9 to 299.9 °C |
| Resolution | 0.1 °C or 1 °C - user selectable |
| Accuracy | ±0.4 °C (-49.9 to 149.9 °C) or ±1 % |
| Battery | 2 x 3 volt CR2032 lithium coin cell |
| Battery life | 1500 hours |
| Sensor type | K thermocouple |
| Display | 14.5 mm LCD |
| Dimensions | 19 x 47 x 153 mm |
| Weight | 97 grams |
| FREE traceable certificate of calibration included | |

# DIGITAL MAX/MIN THERMOMETER

- Internal sensor & external temperature probe
- Programmable high/low audible alarm




Remote probe

MAX MIN

This max/min and alarm thermometer indicates temperature over the range of -24.9 to 69.9 °C with a resolution of 0.1 °C/°F and an accuracy of ±1 °C.

The thermometer features a large, easy-to-read LCD display, max/min memory function to record the highest and lowest temperatures and a high/low programmable audible alarm. The unit incorporates two temperature sensors, a remote water-resistant probe with one metre PVC lead for the appliance temperature and an internal sensor for the room temperature.

The remote probe can be mounted onto a wall using the suction pad or mounting bracket supplied. Housed in a durable ABS case the thermometer incorporates a foot stand for shelf mounting.

| Specification | Digital max/min |
|---|---|
| Range | -24.9 to 69.9 °C |
| Resolution | 0.1 °C/°F |
| Accuracy | ±1 °C |
| Battery | 3 volt CR2032 lithium coin cell |
| Battery life | 3000 hours |
| Display | Custom LCD |
| Dimensions | 16 x 50 x 82 mm |
| Weight | 50 grams |

| Order code | Description |
|---|---|
| 810-125 | Digital max/min thermometer |

## Digital max/min thermometer

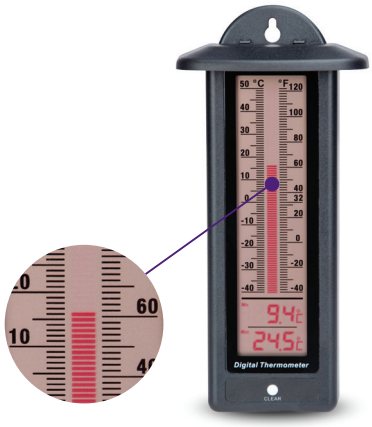

These digital max/min thermometers with internal temperature sensor simultaneously display the actual temperature whilst displaying the max and min temperatures.

Each thermometer measures temperature over the range of -20 to 69.9 °C with a 0.1 °C/°F resolution.

The unit is housed in an ABS case measuring 29 x 79 x 187 mm. The instrument incorporates a slot for hanging and is powered by one AA battery (supplied).

| Order code | Description |
|---|---|
| 810-120 | Digital max/min - white |
| 810-121 | Digital max/min - green |

## LCD bar graph max/min thermometer




This digital max/min thermometer simultaneously displays the actual temperature whilst displaying the max and min temperatures on a digital LCD bar graph.

Measuring temperature over the range of -19.9 to 49.9 °C with a resolution of 0.1 °C/°F and an accuracy of ±1 °C. To reset the recorded max and min temperatures, simply press the white button on the front of the thermometer.

The unit is housed in a black ABS case measuring 20 x 66 x 212 mm, which incorporates a slot for hanging and is powered by a single AAA battery (supplied).

| Order code | Description |
|---|---|
| 810-105 | Digital max/min - black |

# ROOM THERMOMETERS

- Simple & cost-effective means of measuring temperature
- Traditional, spirit-filled design - mercury free

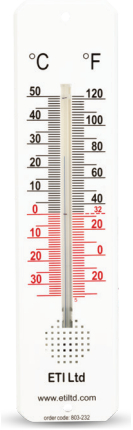
These traditional, spirit-filled room thermometers display temperature over the range of -30 to 50 °C with an accuracy of ±1 °C and a clearly marked scale in both °C and °F.

Models 803-229, 803-232 and 803-233 are housed in a white, ABS plastic case whereas model 803-292 is housed in a smooth grained, traditional style, beechwood case. Model 803-233 indicates the Factory Act minimum working temperature of 16 °C.

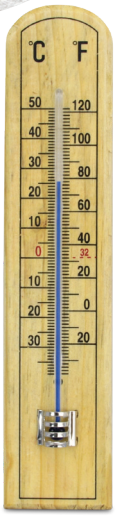
These room thermometers feature a wall-mounting slot for hanging and are ideal for recording temperatures in the office, factory, laboratory or home.


803-233 shown wall mounted


803-229




803-232

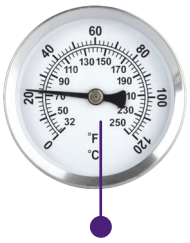



803-292

| Order code | Description |
|---|---|
| 803-229 | White 25 x 175 mm |
| 803-232 | White 45 x 195 mm |
| 803-233 | White 45 x 195 mm - Factory Act |
| 803-292 | Wooden 45 x 205 mm |

# BI-METAL DIAL THERMOMETERS

## Ø60 mm bi-metal dial pipe thermometer



Ø50 mm dial face

This easy-to-use surface pipe thermometer indicates temperature over the range of 0 to 120 °C or 32 to 250 °F. The Ø50 mm dial face has a clear, graduated scale indicating temperature in 2 °C and 4 °F divisions. Ideal for use in hot water pipework.

Supplied with a wrap-around stainless steel spring kit for pipe mounting (two springs - one for up to 15 mm pipes, the other for up to 53 mm pipes).

| Order code | Description |
|---|---|
| 800-951 | Pipe thermometer |

## Ø60 mm magnetic bi-metal dial thermometer

Rear magnet

This Ø60 mm stainless steel, surface dial thermometer incorporates a magnetic sensing pad for mounting on ferrous metals and indicates temperature ranges from 0 to 120 °C or 32 to 250 °F.

The Ø50 mm dial face has a clear, graduated scale indicating temperature in 2 °C and 4 °F divisions, ideal for monitoring the temperature of radiators and pipes.

| Order code | Description |
|---|---|
| 800-950 | Magnetic thermometer |

# BI-METAL DIAL THERMOMETERS

### Ø25 mm bi-metal dials

These pocket-sized Ø25 mm dial thermometers feature a magnified lens and a pointed Ø4 x 130 mm stainless steel stem. Each dial is manufactured in three scales and is supplied with a FREE calibration spanner and probe cover complete with pocket clip.

The thermometer incorporates a calibration adjustment nut, at the rear of the dial to allow easy recalibration.

| Order code | Description | Range |
|---|---|---|
| 800-811 | Ø25 mm dial | -40 to 70 °C |
| 800-812 | Ø25 mm dial | -10 to 110 °C |
| 800-813 | Ø25 mm dial | 0 to 250 °C |
| 830-220 | Ø4 mm probe holder clip | |

### Ø45 mm bi-metal dials



Adjustment nut

These pocket-sized Ø45 mm dial thermometers feature a pointed Ø4 x 130 mm stainless steel stem. Each dial is manufactured in three scales and is supplied with a FREE calibration spanner and probe cover complete with pocket clip.

The thermometer incorporates a calibration adjustment nut, at the rear of the dial to allow easy recalibration.

| Order code | Description | Range |
|---|---|---|
| 800-801 | Ø45 mm dial | -40 to 70 °C |
| 800-802 | Ø45 mm dial | -10 to 110 °C |
| 800-803 | Ø45 mm dial | 0 to 250 °C |
| 830-220 | Ø4 mm probe holder clip | |

# HEAVY-DUTY BI-METAL DIAL THERMOMETERS

- Self adjustment nut for easy recalibration
- Ø50 mm dial with 300 mm length probe

These simple-to-use, heavy-duty, Ø50 mm bi-metal dial probe thermometers are reliable and accurate. The dial thermometers feature a Ø6.35 x 300 mm pointed stainless steel stem. Ideal for asphalt, blacktop, soil and other heavy-duty applications.

Each thermometer incorporates a clear acrylic face and a calibration adjustment nut at the rear of the dial. Three temperature scales are available - see below.

Adjustment nut

| Order code | Description | Range |
|---|---|---|
| 800-060 | Ø50 mm dial | -20 to 60 °C |
| 800-120 | Ø50 mm dial | 0 to 120 °C |
| 800-250 | Ø50 mm dial | 0 to 250 °C |

# THERMOCOUPLE, PT100 & THERMISTOR PROBES

Choosing the best probe for your application will make your checks easier and your readings more accurate. Our extensive range of probes is specifically tailored to a variety of needs so you can find the best option for you.

## PROBE FEATURES

Some things to consider when selecting a probe are:

## RESPONSE TIME

Response time is the time taken for the sensor to reach 2/3$^{rds}$ of the final reading and is the standard means of measuring probe response time. However, it is variable depending on the substance being measured. Therefore, estimating an accurate response time without knowing the application can be difficult. The times quoted in our product descriptions should be used as a general guide.

## RANGE AND ACCURACY

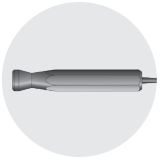
Some probes have a wide range, while others have a narrow range. Probes with a narrow range tend to be more accurate within that range. To get the best results, identify the highest and lowest temperatures you'll need to measure using your probe and how accurate you need the measurements to be.

## CABLE TEMPERATURE RANGE

**PVC** 0 to +105 ° C
**FEP** -100 to +150° C
**PTFE** -50 to +250 °C
**Fibreglass** -60 to 350 °C
**High Temp Fibreglass** -60 to 600 °C

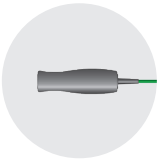
## HANDLE TYPES

Our probes feature four types of handles: hexagonal, small rounded, ribbed heavy-duty or T-shaped. Each handle features Biomaster product protection to reduce bacterial growth.



### HEXAGONAL

Manufactured from nylon and available in black.
Maximum temperature is 105 °C.



### SMALL ROUNDED

Manufactured from nylon and available in black.
Maximum temperature is 105 °C.

### T-SHAPED

Manufactured from polypropylene and available in black or white.
Maximum temperature is 105 °C.

### RIBBED HEAVY-DUTY

Manufactured from polypropylene and available in black or white.
Maximum temperature is 85 °C.
Available with colour-coded caps.

## PROBE ACCURACY SPECIFICATIONS

**K Thermocouple Probes/Sensors**
All type K thermocouple probes/sensors are manufactured from Class 1 type K thermocouple wire as detailed in the British Standard BS EN 60584-1:2013, and meet the following accuracy specification:

- ±1.5 °C between -40 & 375 °C
- ±0.4 % between 375 & 1000 °C

**T Thermocouple Probes/Sensors**
All type T thermocouple probes/sensors are manufactured from Class 1 type T thermocouple wire as detailed in the British Standard BS EN 60584-1:2013, and meet the following accuracy specification:

- ±0.5 °C between -40 & 125 °C
- ±0.4 % between 125 & 400 °C

**NTC Thermistor Probes/Sensors**
The tolerance specification for all ETI manufactured thermistor probes is as follows:

- ±0.4 °C between -20 & 100 °C
- ±0.2 °C between 0 & 70 °C
- ±0.3 °C between -10 & 0 °C

**High Accuracy K Thermocouple Probes/Sensors (indicated in the catalogue with the A HIGH ACCURACY icon)**
ETI high accuracy type K probes are manufactured from Class 1 type K thermocouple wire which is chosen for improved accuracy and performance and meet the following accuracy specification:

- ±0.5 °C between 0 & 100 °C

**High Accuracy T Thermocouple Probes/Sensors (indicated in the catalogue with the A HIGH ACCURACY icon)**
ETI high accuracy type T probes are manufactured from Class 1 type T thermocouple wire which is chosen for improved accuracy and performance and meet the following accuracy specification:

- ±0.2 °C between -20 & 70 °C

**PT100/RTD Probes/Sensors**
All PT100/RTD probes/sensors are manufactured from Class A or 1/10DIN PT100/RTD 100 Ω (ohms) detectors as detailed in the IEC 60751 (2008) standard, and meet the following accuracy specification:

- CLASS A ±0.15 °C ±0.2 % between -200 & 600 °C
- 1/10DIN ±0.03 °C ±0.1% between -100 to 200 °C Otherwise ±0.2%

**Please note:** Standard lead length is one metre unless separately specified

# HANDHELD TYPE K OR T THERMOCOUPLE PROBES

| | | Order code |
|---|---|---|
| PENETRATION PROBE<br>  <br>HIGH ACCURACY HIGH ACCURACY Ø3.3 x 130 mm | This stainless steel penetration probe is strong, versatile and ideal for measuring liquids and semi-solids.<br>• Response time less than 2 seconds<br>• Probe temperature range -75 to 250 °C | 123-160<br>323-160 (coiled lead) |
| PENETRATION PROBE<br>  <br>HIGH ACCURACY HIGH ACCURACY Ø3.3 x 300 mm | This extended, stainless steel penetration probe is strong, versatile and ideal for measuring liquids and semi-solids.<br>• Response time less than 2 seconds<br>• Probe temperature range -75 to 250 °C | 123-168<br>323-168 (coiled lead) |
| FAST RESPONSE PROBE<br>  <br>HIGH ACCURACY HIGH ACCURACY Ø3.3 x 100 mm | This reduced tip (Ø1.8 x 25 mm), fast response, stainless steel penetration probe is ideal for liquids or semi-solids i.e. soft rubber and other similar materials.<br>• Response time less than 2 seconds<br>• Probe temperature range -75 to 250 °C | 123-159<br>323-159 (coiled lead) |
| NEEDLE PENETRATION PROBE<br>  <br>HIGH ACCURACY HIGH ACCURACY Ø1.8 x 130 mm | This fast response, stainless steel needle penetration probe is ideal for liquids or semi-solids i.e. soft rubber or plastic.<br>• Response time less than 1 second<br>• Probe temperature range -75 to 250 °C | 123-100<br>323-100 (coiled lead) |
| OVEN PROBE<br>  <br>HIGH ACCURACY HIGH ACCURACY Ø3.3 x 130 mm | This oven probe has a stainless steel handle and a two metre PTFE high temperature lead. An oven probe without a handle is available.<br>• Response time less than 2 seconds<br>• Probe and lead temperature range -75 to 250 °C | 133-170<br>133-173 (no handle) |
| RIGID BETWEEN PACK PROBE<br>  <br>HIGH ACCURACY HIGH ACCURACY Ø4.5 x 130 mm | This rigid, stainless steel between pack probe is strong and versatile, designed specifically to measure between packets or boxes of produce.<br>• Response time less than 2 seconds<br>• Probe temperature range -75 to 250 °C | 123-060<br>323-060 (coiled lead) |
| HIGH TEMPERATURE PROBE<br>  <br>Ø1.5 x 130 mm | This flexible, mineral insulated (MI) probe can be bent to any shape without affecting its performance. Ideal for measuring high temperatures i.e. fryers or furnaces.<br>• Response time less than 2 seconds<br>• Probe temperature range -40 to 1100 °C | 123-204<br>323-204 (coiled lead) |
| HIGH TEMPERATURE PROBE<br>  <br>Ø3 x 130 mm | This flexible, mineral insulated (MI) probe can be bent to any shape without affecting its performance. Ideal for measuring high temperatures i.e. fryers or furnaces.<br>• Response time less than 3 seconds<br>• Probe temperature range -40 to 1100 °C | 123-212<br>323-212 (coiled lead) |
| HIGH TEMPERATURE PROBE<br>  <br>Ø3 x 300 mm | This extended, flexible, mineral insulated (MI) probe can be bent to any shape without affecting its performance. Ideal for measuring high temperatures i.e. fryers or furnaces.<br>• Response time less than 4 seconds<br>• Probe temperature range -40 to 1100 °C | 123-213<br>323-213 (coiled lead) |

**Please note:** for handheld type T thermocouple probes, replace the third digit (3) of the order code with the number 7

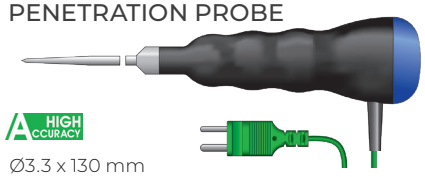
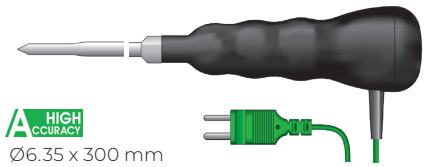
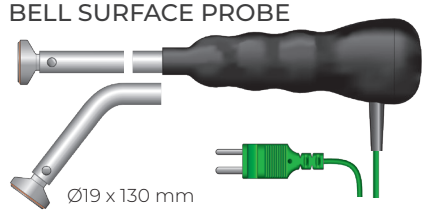
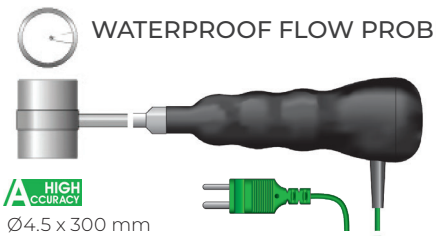
# HANDHELD TYPE K OR T THERMOCOUPLE PROBES



| | | Order code |
|---|---|---|
| **BINDER PROBE**<br>  <br>HIGH ACCURACY HIGH ACCURACY Ø3 x 130 mm | This rounded tip, stainless steel probe is designed for inserting into Binder self-sealing glands to measure the temperature of vessels or radiators.<br>• Response time less than 3 seconds<br>• Probe temperature range -75 to 250 °C | 123-240<br>323-240<br>(coiled lead) |
| **AIR OR GAS PROBE**<br>  <br>HIGH ACCURACY HIGH ACCURACY Ø4.5 x 130 mm | This stainless steel, fast response air or gas probe is ideal for measuring air temperature in chill cabinets, fridges, freezers, offices, storage areas and similar.<br>• Response time less than 1 second<br>• Probe temperature range -75 to 250 °C | 123-300<br>323-300<br>(coiled lead) |
| **T-SHAPED AIR OR GAS PROBE**<br>  <br>HIGH ACCURACY HIGH ACCURACY Ø4.5 x 90 mm | This stainless steel T-shaped, shielded fast response air or gas probe is ideal for measuring the temperature in HVAC duct work, offices, storage areas and similar.<br>• Response time less than 1 second<br>• Probe temperature range -75 to 250 °C | 123-310<br>323-310<br>(coiled lead) |
| **RIBBON SURFACE PROBE**<br>  <br>Ø15 x 130 mm | This precision, ribbon surface probe utilises flat ribbon technology that ensures a fast, accurate response with minimal heat loss. A right-angled version is also available.<br>• Response time less than 1 second<br>• Probe temperature range -75 to 250 °C | 123-030<br>123-032<br>(right-angled) |
| **RIBBON SURFACE PROBE**<br>  <br>Ø8 x 130 mm | This precision, ribbon surface probe utilises flat ribbon technology that ensures a fast, accurate response with minimal heat loss. A right-angled version is also available.<br>• Response time less than 1 second<br>• Probe temperature range -75 to 250 °C | 123-044<br>123-052<br>(right-angled) |
| **WATERPROOF SURFACE PROBE**<br>  <br>Ø8 x 130 mm | This waterproof, ribbon surface probe incorporates a moulded mini plug and utilises flat ribbon technology to ensure a fast, accurate response with minimal heat loss.<br>• Response time less than 1 second<br>• Probe temperature range -75 to 250 °C | 123-046<br>323-046<br>(coiled lead) |
| **SURFACE PROBE**<br>  <br>Ø6 x 130 mm | This surface probe incorporates a spring-loaded copper disc sensing tip. The probe is ideal for a variety of surface temperature measurements.<br>• Response time less than 1 second<br>• Probe temperature range -100 to 600 °C | 123-000*<br>323-000*<br>(coiled lead) |
| **HEAVY-DUTY SURFACE PROBE**<br>  <br>Ø12 x 130 mm | This high temperature surface probe is ideal for measuring the temperature of griddles, hotplates etc. A right-angled version is also available<br>• Response time less than 1 second<br>• Probe temperature range -100 to 1000 °C | 123-020*<br>123-028*<br>(right-angled) |
| **PENETRATION PROBE**<br>  <br>HIGH ACCURACY HIGH ACCURACY Ø3.3 x 100 mm | This small handled, stainless steel penetration probe is strong, versatile and ideal for measuring liquids and semi-solids. A fast response version with a reduced tip is also available.<br>• Response time less than 2 seconds<br>• Probe temperature range -75 to 250 °C | 123-162<br>123-158<br>(reduced tip) |

Please note: for handheld type T thermocouple probes, replace the third digit (3) of the order code with the number 7.
*Order codes 123-000, 123-020, 123-028 & 323-000 are not available in type T thermocouple

# WATERPROOF TYPE K THERMOCOUPLE PROBES

| | | Order code |
|---|---|---|
| **PENETRATION PROBE**<br>  <br>HIGH ACCURACY<br>Ø3.3 x 130 mm | This stainless steel, waterproof penetration probe is strong, versatile and incorporates a heavy-duty handle with a colour-coded end cap. Suitable for liquids and semi-solids.<br>• Response time less than 3 seconds<br>• Probe temperature range -75 to 250 °C | 143-161<br>143-162<br>143-164<br>143-165<br>143-166<br>143-167 |
| **REDUCED TIP PROBE**<br>  <br>HIGH ACCURACY<br>Ø6.35 x 300 mm | This extended, waterproof, stainless steel probe incorporates a reduced tip (Ø4.5 x 25 mm) and heavy-duty ribbed handle, ideal for heavy-duty applications including food processing, asphalt and other similar materials.<br>• Response time less than 7 seconds<br>• Probe temperature range -75 to 250 °C | 143-120<br>343-120<br>(coiled lead) |
| **BELL SURFACE PROBE**<br>  <br>Ø19 x 130 mm | These fast response, waterproof heavy-duty surface probes utilise a bell-shaped housing with a thin, flat, stainless steel measuring disc that ensures a fast, accurate response. Ideal for measuring a variety of surface temperatures.<br>• Response time less than 3 seconds<br>• Probe temperature range -75 to 200 °C | 143-080<br>(straight)<br>143-084<br>(45° angle)<br>143-086<br>(90° angle) |
| **WATERPROOF FLOW PROBE**<br>  <br>HIGH ACCURACY<br>Ø4.5 x 300 mm | These fast response, waterproof T-Shaped flow probes, are suitable for measuring air or water flow temperatures in a variety of applications. The shielded exposed junction thermocouple ensures a fast and accurate response to changes in temperature.<br>• Response time less than 1 second<br>• Probe temperature range -75 to 250 °C | 143-310<br>343-310<br>(coiled lead) |

Please note: the above type K thermocouple probes are supplied with a moulded thermocouple connector and are waterproof to IP67 when connected to an instrument

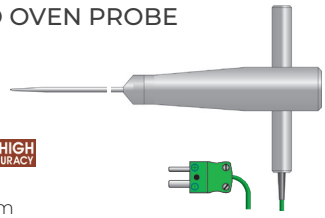
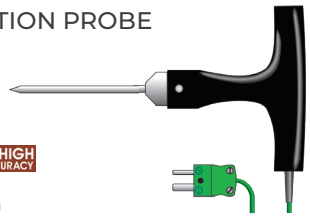
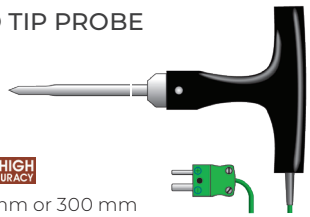
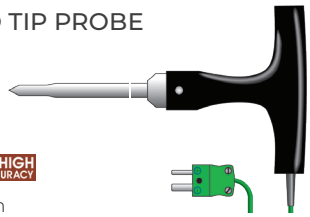
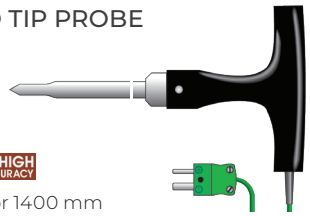
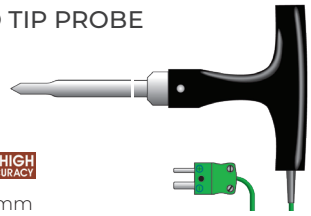
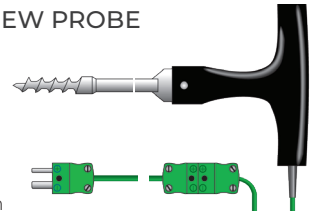
# PLUG-MOUNTED TYPE K THERMOCOUPLE PROBES

| | | Order code |
|---|---|---|
| **INTERCHANGEABLE PROBE HANDLE**<br>  <br>Ø25 x 151 mm | This probe handle incorporates a miniature thermocouple socket, to be used in conjunction with our range of plug-mounted probes. Supplied with a one metre coiled PU lead and miniature plug. | 323-950 |
| **PENETRATION PROBE**<br>  <br>HIGH ACCURACY HIGH ACCURACY<br>Ø3.3 x 80 or 120 mm | This stainless steel, penetration probe is strong, versatile and ideal for liquids or semi-solids. A fast response version with reduced tip (Ø1.8 x 25 mm) is also available.<br>• Response time less than 2 seconds<br>• Probe temperature range -75 to 250 °C | 133-161<br>(120 mm)<br>133-153<br>(120 mm reduced tip)<br>133-154<br>(80 mm reduced tip) |
| **SURFACE PROBE**<br>  <br>Ø8 x 120 mm | This stainless steel surface probe uses flat ribbon technology ensuring a fast, accurate response with minimal heat loss. A right-angled version is also available.<br>• Response time less than 1 second<br>• Probe temperature range -75 to 250 °C | 133-045<br>133-046<br>(right-angled) |

Please note: for handheld type T thermocouple probes, replace the third digit (3) of the order code with the number 7

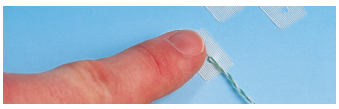
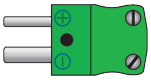
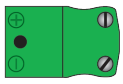
# HEAVY-DUTY TYPE K OR T THERMOCOUPLE PROBES



| | | Order code |
|---|---|---|
| T SHAPED OVEN PROBE<br>  <br>Ø3.3 x 130 mm | This strong oven penetration probe incorporates a stainless steel T-shaped handle, and a two metre PTFE high temperature lead. Ideal for continuous monitoring applications or where a nylon or polypropylene handle cannot be used.<br>• Response time less than 2 seconds<br>• Probe temperature range -75 to 250 °C | 133-174 |
| PENETRATION PROBE<br>  <br>Ø4 x 100 mm | This robust, stainless steel penetration probe incorporates a T-shaped polypropylene handle and is ideal for a variety of heavy-duty applications including food processing and other similar industries.<br>• Response time less than 3 seconds<br>• Probe temperature range -75 to 250 °C | 133-124 |
| REDUCED TIP PROBE<br>  <br>Ø6.35 x 100 mm or 300 mm | This robust, stainless steel, reinforced probe incorporates a T-shaped polypropylene handle and a reduced sensing tip (Ø4.5 x 25 mm) for faster response. Ideal for a variety of heavy-duty applications including food processing etc.<br>• Response time less than 9 seconds<br>• Probe temperature range -75 to 250 °C | 133-126<br>(100 mm)<br><br>133-120<br>(300 mm) |
| REDUCED TIP PROBE<br>  <br>Ø8 x 500 mm | This extended robust, stainless steel, reinforced probe incorporates a T-shaped polypropylene handle and a reduced sensing tip (Ø6.35 x 25 mm) for faster response. Ideal for a variety of heavy-duty applications including food processing etc.<br>• Response time less than 20 seconds<br>• Probe temperature range -75 to 250 °C | 133-130 |
| REDUCED TIP PROBE<br>  <br>Ø9.5 x 1000 or 1400 mm | This Ø9.5 mm stainless steel, reinforced probe incorporates a T-shaped polypropylene handle and a reduced sensing tip (Ø6.35 x 25 mm) for faster response. Ideal for applications where a longer probe is required, i.e. grain silos.<br>• Response time less than 20 seconds<br>• Probe temperature range -75 to 250 °C | 133-136<br>(1000 mm)<br><br>133-135<br>(1400 mm) |
| REDUCED TIP PROBE<br>  <br>Ø9.5 x 2000 mm | This extended stainless steel, reinforced probe incorporates a T-shaped polypropylene handle and a reduced sensing tip (Ø6.35 x 25 mm) for faster response. Ideal for applications where a very long probe is required, i.e. grain silos.<br>• Response time less than 20 seconds<br>• Probe temperature range -75 to 250 °C | 133-133 |
| CORKSCREW PROBE<br>  <br>Ø8 x 100 mm | This stainless steel probe incorporates a heavy-duty T-shaped polypropylene handle and a corkscrew design sensing tip. Ideal for industrial and food processing applications. Supplied with a one metre PU detachable lead.<br>• Response time less than 9 seconds<br>• Probe temperature range -75 to 250 °C | 133-175 |

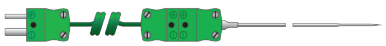
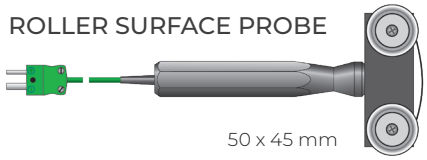
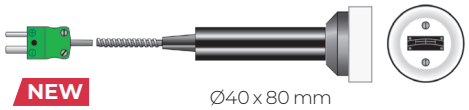
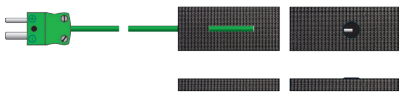
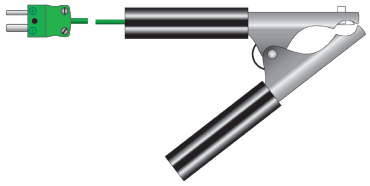
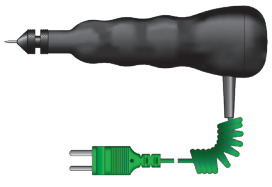
**Please note:** for handheld type T thermocouple probes, replace the third digit (3) of the order code with the number 7

# FAST RESPONSE K OR T THERMOCOUPLE WIRE PROBES

| | | Order code |
|---|---|---|
| **PTFE WIRE PROBE**<br>  <br>Ø1.5 x 1000 or 2000 mm | This PTFE insulated, exposed junction wire probe is suitable for measuring the air temperature in fridges, freezers, ovens etc. Extended probe lengths over two metres are available upon request.<br>• Response time less than 1 second<br>• Probe temperature range -75 to 250 °C | 133-362 (1000 mm)<br>133-363 (2000 mm) |
| **HEAVY-DUTY PTFE WIRE PROBE**<br>  <br>Ø2.4 x 1000 or 2000 mm | This heavy-duty, PTFE insulated wire probe is ideal for measuring the air temperature in fridges, freezers, ovens etc. Extended probe lengths over two metres are available upon request.<br>• Response time less than 1 second<br>• Probe temperature range -75 to 250 °C | 133-372 (1000 mm)<br>133-373 (2000 mm) |
| **FIBREGLASS WIRE PROBE**<br>  <br>Ø1.5 x 1000 or 2000 mm | This fibreglass, exposed junction wire probe is ideal for measuring the air temperature of ovens, hot cupboards and similar appliances. Extended probe lengths over two metres are available upon request.<br>• Response time less than 1 second<br>• Probe temperature range -60 to 350 °C | 133-382 (1000 mm)<br>133-383 (2000 mm) |
| **HIGH TEMPERATURE WIRE PROBE**<br>  <br>Ø3 x 1000 or 2000 mm | This high temperature, fibreglass wire probe is insulated with a stainless steel braid and is ideal for ovens, hot cupboards and similar appliances. Supplied with a one or two metre stainless steel braided lead.<br>• Response time less than 1 second<br>• Probe temperature range -60 to 600 °C | 133-387 (1000 mm)<br>133-389 (2000 mm) |
| **ATTACHMENT PADS**<br>  <br>12 x 18 mm | These easy-to-use attachment pads are recommended for attaching small diameter wire thermocouples to surfaces. Supplied in packs of 25.<br>• For use over the range of -50 to 200 °C | 600-485 |
| **PROBE EXTENSION LEAD - STRAIGHT**<br>  <br>1000 or 2000 mm | This probe extension lead enables the user to connect to any ETI thermocouple type K probe, extending reach up to an additional 1000 or 2000 mm. Supplied with a PVC straight lead with MPK to MSK. | 627-732 (1000 mm)<br>627-733 (2000 mm) |
| **PROBE EXTENSION LEAD - COILED**<br>  <br>1000 or 2000 mm | This probe extension lead enables the user to connect to any ETI thermocouple type K probe, extending reach up to an additional 1000 or 2000 mm. Supplied with a PU coiled lead with MPK to MSK. | 627-740 (1000 mm)<br>627-741 (2000 mm) |
| **MINIATURE PLUG OR SOCKET**<br>  MPK<br>16 x 19 mm<br>  MSK<br>16 x 25 mm | Miniature thermocouple plugs and sockets are a must for accurate readings when joining probe cables. The flat pins (plug) and socket are manufactured from compatible thermocouple material and can accommodate wires up to Ø0.5 mm | 625-217 (plug)<br>421-501 (socket) |

**Please note:** for type T thermocouple wire probes, replace the third digit (3) of the order code with the number 7

# SPECIALIST TYPE K OR T THERMOCOUPLE PROBES

| | | Order code |
|---|---|---|
| **MINIATURE PROBE**<br>  <br>HIGH ACCURACY<br>HIGH ACCURACY Ø1.4 mm reducing to Ø1 mm tip x 50 mm | This miniature, stainless steel needle probe is supplied with a one or two metre PTFE lead. Ideal for measuring small semi-solid items and sous vide cooking.<br>• Response time less than 1 second<br>• Probe temperature range -75 to 250 °C | 133-180 (1m lead)<br>133-182 (2m lead) |
| **FAST RESPONSE MEAT PROBE**<br>  <br>HIGH ACCURACY HIGH ACCURACY Ø1 mm tip x 90 mm | This fast response, meat penetration probe is specially designed for measuring burger patties etc. Supplied with a one metre coiled lead.<br>• Response time less than 2 seconds<br>• Probe temperature range -75 to 250 °C | 133-150 |
| **BURGER PROBE**<br>  <br>HIGH ACCURACY<br>HIGH ACCURACY Ø4.5 x 45 x 160 mm (6 or 12 mm tip) | This burger probe has been specifically designed for use in fast food kitchens. The 12 mm stainless steel disc ensures the correct insertion depth (6 or 12 mm) every time.<br>• Response time less than 4 seconds<br>• Probe temperature range -75 to 250 °C | 123-745 (6 mm tip)<br>123-746 (12 mm tip) |
| **MAGNET SURFACE PROBE**<br>  <br>Ø24 x 28 mm | This magnet probe is supplied with a 500 mm PTFE lead. Ideal for monitoring the surface temperature of ferrous metals, e.g. radiators or hotplates.<br>• Response time less than 30 seconds<br>• Probe temperature range -20 to 80 °C | 133-017 |
| **ROLLER SURFACE PROBE**<br>  <br>50 x 45 mm | These roller surface probes have either stainless steel or PTFE wheels and are designed for measuring moving surfaces. Max. speed 100 m/min.<br>• Response time less than 2 seconds<br>• Probe temperature range -75 to 250 °C | 123-038 (s/steel)<br>123-036 (PTFE) |
| **GRIDDLE SURFACE PROBE**<br>  <br>NEW Ø40 x 80 mm | This griddle probe has been designed with unique flat ribbon technology and is supplied with a one metre armoured lead. Measuring Ø40 x 80 mm.<br>• Response time less than 2 seconds<br>• Probe temperature range -50 to 250 °C | 133-018 (armoured) |
| **VELCRO PIPE PROBE**<br>  <br>20 x 500 mm | This 500 mm wrap-around velcro pipe probe is suitable for both medium and large pipe temperature measurement in the HVAC industry. Supplied with a two metre lead.<br>• Response time less than 30 seconds<br>• Probe temperature range -10 to 100 °C | 133-080 |
| **PIPE CLAMP PROBE**<br>  | This robust, pipe clamp probe is suitable for measuring the surface temperature of pipes in refrigeration, heating and ventilating systems etc. Simple clamp-on design for simplicity of use, suitable for pipes from Ø6 to Ø30 mm.<br>• Response time less than 4 seconds<br>• Probe temperature range -10 to 100 °C | 133-040 |
| **ADJUSTABLE TYRE PROBE**<br>  <br>HIGH ACCURACY<br>Ø1 x 10 mm | This fast response probe has an adjustable depth stop (1 to 10 mm) which the user can manually set. Specifically designed for measuring tyre temperatures, supplied with a one metre coiled lead and moulded thermocouple connector. Type K Only.<br>• Response time less than 2 seconds<br>• Probe temperature range -75 to 250 °C | 343-100 |

**Please note:** for type T thermocouple wire probes, replace the third digit (3) of the order code with the number 7

# THERMADATA® WI-FI LOGGER THERMOCOUPLE PROBES

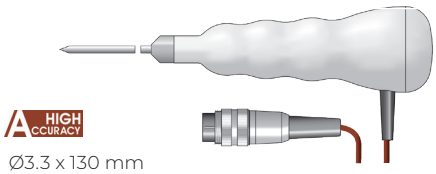
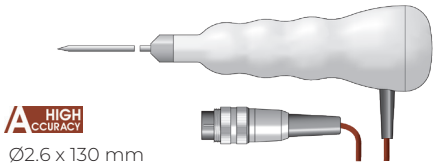
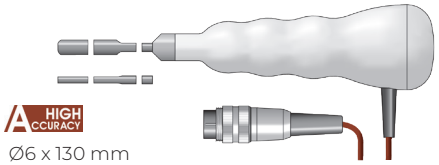
| | | Order code |
|---|---|---|
| **GENERAL PURPOSE PROBE**<br>  <br>HIGH ACCURACY HIGH ACCURACY Ø3.3 x 100 mm | This stainless steel probe is suitable for a wide range of applications. Supplied with a one, three or five metre PTFE insulated lead and connector.<br>• Response time less than 5 seconds<br>• Probe temperature range -75 to 250 °C | 133-158 (1000 mm)<br>133-220 (3000 mm)<br>133-222 (5000 mm) |
| **FOOD SIMULANT PROBE**<br>  <br>HIGH ACCURACY HIGH ACCURACY 9 x 100 x 100 mm | This polypropylene simulant probe is designed for use in refrigeration, food storage and chill cabinets. Supplied with a one, three or five metre PTFE insulated lead and connector.<br>• Probe temperature range -20 to 100 °C | 133-350 (1000 mm)<br>133-352 (3000 mm)<br>133-354 (5000 mm) |
| **Ø4.8MM STANDARD PROBE**<br>  <br>HIGH ACCURACY HIGH ACCURACY Ø4.8 x 100 mm | This Ø4.8 mm general purpose, stainless steel probe is ideal for a variety of applications. Supplied with a two metre PVC lead.<br>• Response time less than 17 seconds<br>• Probe temperature range -50 to 100 °C | 133-453 |
| **Ø6MM STANDARD PROBE**<br>  <br>HIGH ACCURACY HIGH ACCURACY Ø6 x 100 mm | This Ø6 mm general purpose, stainless steel probe is ideal for a variety of applications. Supplied with a two metre PVC lead.<br>• Response time less than 20 seconds<br>• Probe temperature range -50 to 100 °C | 133-448 |
| **Ø6.35MM STANDARD AIR PROBE**<br>  <br>HIGH ACCURACY HIGH ACCURACY Ø6.35 x 150 mm | This Ø6.35 mm stainless steel air or gas probe is ideal for measuring air temperatures in chill cabinets, fridges, freezer, storage areas or similar. Supplied with a two metre PVC lead.<br>• Response time less than 2 seconds<br>• Probe temperature range -50 to 100 °C | 133-499 |
| **MINERAL INSULATED PROBES**<br>  <br>Ø1.5 x 180, 500 or 1000 mm | These Ø1.5 mm high temperature MI probes can be bent to any shape without affecting performance. Supplied with a plain pot seal and a two metre PTFE lead.<br>• Response time less than 2 seconds<br>• Probe temperature range -200 to 1100 °C | 133-420 (180 mm)<br>133-421 (500 mm)<br>133-422 (1000 mm) |
| **MINERAL INSULATED PROBES**<br>  <br>Ø3 x 180, 500 or 1000 mm | These Ø3 mm high temperature MI probes can be bent to any shape without affecting performance. Supplied with a plain pot seal and a two metre PTFE lead.<br>• Response time less than 4 seconds<br>• Probe temperature range -200 to 1100 °C | 133-425 (180 mm)<br>133-428 (500 mm)<br>133-429 (1000 mm) |

**Please note:** Longer leads are available for the probes above, please contact our technical sales office for more information

# CUSTOMISED & SPECIAL TEMPERATURE PROBES

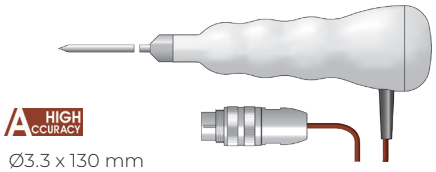
ETI manufactures a wide range of fully interchangeable, fast response and special probes to meet most customer requirements but, if the probe you need is not in our catalogue or on our website, ask a member of our sales team and we will do our best to manufacture the probe to your specification. It is vital to choose the correct probe for a specific purpose. If you have any requirements outside the specifications of our current range, please contact our sales department.

# LUMBERG CONNECTOR TYPE T THERMOCOUPLE PROBES

| | | Order code |
|---|---|---|
| PENETRATION PROBE<br>  <br>HIGH ACCURACY<br>Ø3.3 x 130 mm | This stainless steel penetration probe is strong, versatile and incorporates a heavy-duty, ribbed, polypropylene handle with a white end cap. Ideal for measuring liquids, semi-solids and granular materials.<br>● Response time less than 5 seconds<br>● Probe temperature range -75 to 250 °C | 177-166 |
| FAST RESPONSE PROBE<br>  <br>HIGH ACCURACY<br>Ø2.6 x 130 mm | This stainless steel, fast response, needle penetration probe incorporates a heavy-duty ribbed, polypropylene handle. Suitable for liquids and soft semi-solid materials including fish, fruit and other soft or delicate materials.<br>● Response time less than 4 seconds<br>● Probe temperature range -75 to 250 °C | 177-100 |
| RIGID BETWEEN PACK PROBE<br>  <br>HIGH ACCURACY<br>Ø6 x 130 mm | This rigid, stainless steel, between pack probe is strong, versatile and incorporates a heavy-duty ribbed, polypropylene handle. The probe has been specifically designed to measure between packs or boxes of produce.<br>● Response time less than 3 seconds<br>● Probe temperature range -75 to 250 °C | 177-060 |
| AIR OR GAS WIRE PROBE<br>  <br>HIGH ACCURACY<br>Ø2.4 x 1000 mm PTFE lead | This fast response, air or gas wire probe is ideal for measuring air temperatures in fridges, freezers, chill cabinets and similar. Supplied complete with a one metre PTFE lead.<br>● Response time less than 2 seconds<br>● Probe temperature range -75 to 250 °C | 177-372 |

**Please note:** the above type T thermocouple probes are suitable for use with the Therma 22 & Therma 22 Plus

# WATERPROOF TYPE T THERMOCOUPLE PROBES

| | | Order code |
|---|---|---|
| PENETRATION PROBE<br>  <br>HIGH ACCURACY<br>Ø3.3 x 130 mm | This waterproof, stainless steel, penetration probe with Lumberg connector is strong, versatile and incorporates a heavy-duty, ribbed, polypropylene handle with a white end cap. Ideal for measuring liquids, semi-solids and granular materials.<br>● Response time less than 5 seconds<br>● Probe temperature range -75 to 250 °C | 177-266 |
| PENETRATION PROBE<br>  <br>HIGH ACCURACY<br>Ø3.3 x 100 mm | This waterproof, stainless steel, plug-mounted probe with Lumberg connector is strong, versatile and ideal for measuring liquids, semi-solids and granular materials.<br>● Response time less than 4 seconds<br>● Probe temperature range -75 to 250 °C | 177-200 |

**Please note:** the above type T thermocouple probes (177-266 & 177-200) are suitable for use with the Therma 22 Plus and are waterproof to IP67 when connected to an instrument

# PT100 CLASS A TEMPERATURE PROBES

| | | Order code |
|---|---|---|
| PENETRATION PROBE<br>  <br>Ø3.3 x 130 mm | This stainless steel penetration probe is strong, versatile and ideal for measuring liquids and semi-solids accurately in a variety of applications.<br>● Response time less than 6 seconds<br>● Probe temperature range -100 to 200 °C | 160-160 |
| AIR OR GAS PROBE<br>  <br>Ø3.3 x 130 mm | This stainless steel air or gas probe is ideal for measuring air or gas temperatures accurately in rooms and ducts in HVAC and industrial applications.<br>● Response time less than 4 seconds<br>● Probe temperature range -100 to 200 °C | 160-300 |
| LIQUID PROBE<br>  <br>Ø3.3 x 130 mm | This liquid probe features a rigid, stainless steel stem with a flat tip. The probe is suitable for accurate temperature measurement in a wide variety of laboratory applications.<br>● Response time less than 6 seconds<br>● Probe temperature range -100 to 200 °C | 160-220 |
| AIR OR GAS WIRE PROBE<br>  <br>Ø3.7 x 30 mm with 1000 mm FEP lead | This FEP insulated air or gas wire probe is ideal for measuring air or gas temperatures accurately in a variety of HVAC and industrial applications.<br>● Response time less than 4 seconds<br>● Probe temperature range -100 to 200 °C | 160-372 |

Please note: the above PT100 Class A probes are suitable for use with the Precision 0.1 °C thermometer

# PT100 1/10TH DIN TEMPERATURE PROBES

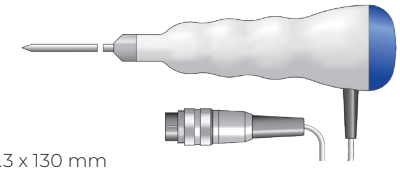
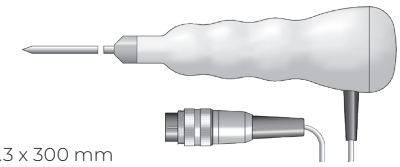
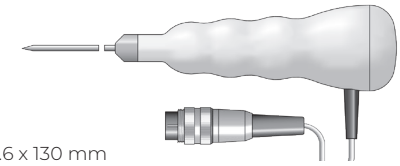
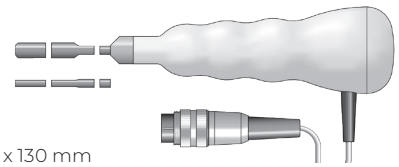
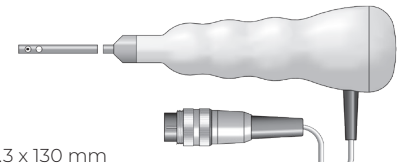
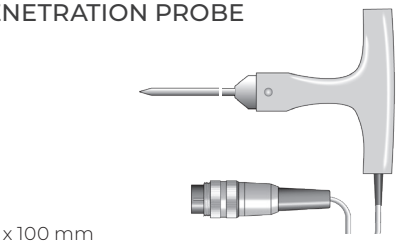
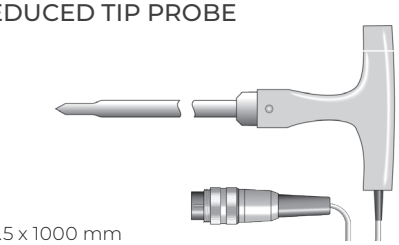
| | | Order code |
|---|---|---|
| LIQUID PROBE<br>  <br>Ø3.3 x 130 mm | This handheld liquid probe features a rigid, stainless steel stem with a flat tip. Suitable for high accuracy temperature measurement in a wide variety of laboratory applications.<br>● Response time less than 8 seconds<br>● Probe temperature range -200 to 200 °C | 160-222 |
| LIQUID PROBE<br>  <br>Ø4.8 x 250 mm with 2000 mm PTFE lead | This liquid probe features a rigid, stainless steel stem with a flat tip. Suitable for high accuracy temperature measurement in a wide variety of laboratory applications.<br>● Response time less than 14 seconds<br>● Probe temperature range -200 to 200 °C | 160-446 |

Please note: accuracy of the above PT100 1/10th DIN probes is ±0.03 °C ±0.1 % of reading between -100 °C to 200 °C otherwise ±0.2 % of reading. The above probes are suitable for use with the Precision Plus 0.01 °C thermometer

All PT100's listed on this page are fitted with a Binder Plug.

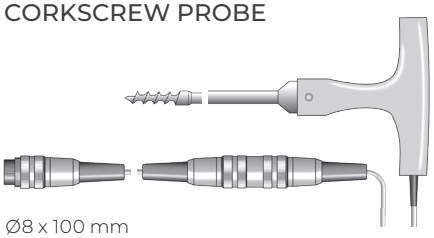
# NTC THERMISTOR PROBES WITH LUMBERG CONNECTOR



| | | Order code |
|---|---|---|
| **PENETRATION PROBE**<br>  <br>Ø3.3 x 130 mm | This stainless steel penetration probe is strong, versatile and incorporates a heavy-duty, ribbed, polypropylene handle with a colour-coded end cap. Ideal for measuring liquids, semi-solids and granular materials.<br>● Response time less than 5 seconds<br>● Probe temperature range -40 to 150 °C | ● 174-161<br>● 174-162<br>● 174-164<br>● 174-165<br>○ 174-166<br>● 174-167 |
| **PENETRATION PROBE**<br>  <br>Ø3.3 x 300 mm | This extended, stainless steel penetration probe is strong, versatile and incorporates a heavy-duty, ribbed, polypropylene handle with a white end cap. Ideal for measuring liquids, semi-solids and granular materials.<br>● Response time less than 5 seconds<br>● Probe temperature range -40 to 150 °C | 174-168 |
| **FAST RESPONSE PROBE**<br>  <br>Ø2.6 x 130 mm | This stainless steel, fast response, needle penetration probe incorporates a heavy-duty ribbed, polypropylene handle. The probe is suitable for liquids and soft semi-solids including fish, fruit and other delicate materials.<br>● Response time less than 4 seconds<br>● Probe temperature range -40 to 150 °C | 174-100 |
| **RIGID BETWEEN PACK PROBE**<br>  <br>Ø6 x 130 mm | This rigid, stainless steel between pack probe is strong, versatile and incorporates a heavy-duty ribbed, polypropylene handle. The probe has been specifically designed to measure between packs or boxes of produce.<br>● Response time less than 3 seconds<br>● Probe temperature range -40 to 150 °C | 174-060 |
| **AIR OR GAS PROBE**<br>  <br>Ø3.3 x 130 mm | This stainless steel, fast response air or gas probe incorporates a heavy-duty ribbed, polypropylene handle. The probe is ideal for measuring air temperature in refrigeration units, storage areas and other similar applications.<br>● Response time less than 2 seconds<br>● Probe temperature range -40 to 150 °C | 174-300 |
| **PENETRATION PROBE**<br>  <br>Ø4 x 100 mm | This robust, stainless steel penetration probe incorporates a heavy-duty, T-shaped polypropylene handle. The strong, durable probe is suitable for a wide variety of heavy-duty, general purpose industrial or food processing applications.<br>● Response time less than 4 seconds<br>● Probe temperature range -40 to 150 °C | 170-169 |
| **REDUCED TIP PROBE**<br>  <br>Ø9.5 x 1000 mm | This extended, robust Ø9.5 mm stainless steel reinforced probe incorporates a heavy-duty, T-shaped polypropylene handle and a reduced sensing tip (Ø6.35 x 25 mm) for faster response. Ideal for a wide variety of heavy-duty, general purpose industrial or food processing applications.<br>● Response time less than 15 seconds<br>● Probe temperature range -40 to 150 °C | 170-136 |

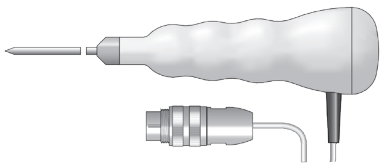
**Please note:** the above NTC thermistor probes are suitable for use with the Therma 20, 22, 22 Plus & 8100 Plus

# NTC THERMISTOR PROBES WITH LUMBERG CONNECTOR

| | | Order code |
|---|---|---|
| CORKSCREW PROBE<br>  <br>Ø8 x 100 mm | This frozen food probe incorporates a heavy-duty T-shaped, polypropylene handle and a corkscrew design sensing tip. Ideal for measuring deep frozen foods or other frozen materials. Supplied with a one metre PVC detachable lead.<br>● Response time less than 9 seconds<br>● Probe temperature range -40 to 150 °C | 170-175 |
| FOOD SIMULANT PROBE<br>  <br>9 x 100 x 100 mm | This polypropylene probe is designed for use in food storage, chill cabinets and refrigeration where simulation of food temperature is required. The probe incorporates a one metre PUR /PVC lead and compatible Lumberg connector.<br>● Probe temperature range -20 to 100 °C | 170-350 |
| AIR OR GAS WIRE PROBE<br>  <br>Ø3.7 x 30 mm with 1000 mm FEP lead | This fast response, air or gas wire probe is ideal for measuring air temperature in chill cabinets, fridges, freezers, offices, storage areas and similar. Supplied with a one metre FEP lead.<br>● Response time less than 2 seconds<br>● Probe temperature range -40 to 150 °C | 170-372 |
| FOIL BETWEEN PACK PROBE<br>  <br>40 x 50 mm with 1000 mm FEP lead | This easy-to-use, flexible, fast response, foil between pack probe has been designed to measure between packs or boxes of produce in a variety of applications.<br>● Response time less than 3 seconds<br>● Probe temperature range -20 to 75 °C | 170-090 |

**Please note:** the above NTC thermistor probes are suitable for use with the Therma 20, 22, 22 Plus & 8100 Plus

# WATERPROOF NTC THERMISTOR PROBES

| | | Order code |
|---|---|---|
| PENETRATION PROBE<br>  <br>Ø3.3 x 130 mm | This waterproof, stainless steel penetration probe with Lumberg connector is versatile, strong and incorporates a heavy-duty, ribbed, polypropylene handle with a white end cap. Ideal for measuring liquids, semi-solids and granular materials.<br>● Response time less than 5 seconds<br>● Probe temperature range -40 to 150 °C | 174-266 |
| PENETRATION PROBE<br>  <br>Ø3.3 x 100 mm | This waterproof, stainless steel plug-mounted penetration probe with Lumberg connector is versatile and strong. Ideal for measuring liquids, semi-solids and granular materials in a wide variety of applications.<br>● Response time less than 4 seconds<br>● Probe temperature range -40 to 150 °C | 172-000 |

**Please note:** the above NTC thermistor probes (174-266 & 172-000) are suitable for use with the Therma 22 Plus & 8100 Plus and are waterproof to IP67 when connected to an instrument


# INFRARED THERMOMETERS

Infrared thermometers measure the temperature of surfaces. They're quick and easy to use. However, if used incorrectly or for the wrong application, readings could be inaccurate and put people at risk.

## INFRARED APPLICATIONS

Infrared thermometers are ideal for applications where a distance needs to be maintained between the person taking the readings and the item being measured. For example:

- Hot surfaces like fires or hotplates
- Hard to reach areas such as pipes

Because infrared thermometers only take the surface reading of the first physical object they come into contact with, they would not provide an accurate reading for the following applications:

- Core food temperatures
- Air temperatures
- Items covered by materials like cling film

## EMISSIVITY VALUES

Different surfaces have varying emissivities. If your thermometer has adjustable emissivity, make sure to set it accordingly for your application. See the table opposite for a small selection of emissivity values.

| | | | |
|---|---|---|---|
| Aluminium (anodised) | 0.77 | Plastic (black) | 0.95 |
| Brass (oxidised) | 0.61 | Porcelain (glazed) | 0.92 |
| Brick (red) | 0.90 | Rubber | 0.95 |
| Cement | 0.54 | Skin (human) | 0.98 |
| Copper (oxidised) | 0.65 | Soil (dry) | 0.92 |
| Glass | 0.92 | Stainless steel | 0.59 |
| Paper (white) | 0.68 | Water | 0.95 |
| Perspex | 0.86 | Water (ice) | 0.96 |
| Pipe (glazed) | 0.83 | Water (frost) | 0.98 |
| Plastic (white) | 0.84 | Wood (planed) | 0.90 |

## IR THERMOMETER CARE

It's important to use, clean and store your infrared thermometer properly to ensure accurate readings. We recommend following these tips:

- Keep the thermometer lens clean and free of debris
- Give your thermometer plenty of time to acclimatise to hot or cold environments
- Stand straight on and as close as possible to the surface being measured
- Check the accuracy of your readings regularly using a reliable calibration method

# THERMAPEN® IR THERMOMETER

- Patented, automatic 360° rotational display
- Adjustable emissivity for different surfaces
- Motion-sensing sleep mode - probe only
- High accuracy - ideal for HACCP procedures

The Thermapen IR is two instruments in one compact unit, combining the advanced technology of two ETI designed and manufactured products: the RayTemp 2 Plus infrared thermometer and Thermapen thermometer.

Housed in a robust ABS case that includes Biomaster product protection that reduces bacterial growth, the Thermapen IR incorporates a motion-sensing sleep mode (penetration probe only) which automatically turns the instrument on/off when set down or picked up, maximising battery life.

- **Infrared thermometer**
  Simply aim the infrared thermometer at the target and press the scan button to display the surface temperature. **Please Note:** the infrared non-contact function will only measure when the probe is in the closed position.

  The Thermapen IR thermometer incorporates a max/min temperature function accessed via the mode button (IR only). The distance to target ratio is 5:1, therefore the thermometer should be positioned as close to the target as possible. The default emissivity is 0.95 but can be adjusted between 0.1 and 1, if required via the mode button.

- **Penetration probe**
  Opening the probe puts the instrument into probe mode, enabling you to take liquid or the core temperature of semi-solid food products using the fast response, stainless steel penetration probe (Ø3.3 x 110 mm). Displaying the temperature in just 3 seconds. The probe conveniently folds back through 180° into the side of the instrument when not in use.


Thermapen IR with air probe (228-114)

Patented auto-rotating display


Bluetooth®
model available
see page 56

MAX/MIN · AUTO OFF · 360° · Biomaster · 2 YEAR GUARANTEE · MADE IN BRITAIN

| Order code | Description |
|---|---|
| 228-065 | Thermapen IR |
| 228-114 | Thermapen IR with air probe |
| 830-480 | Protective silicone boot |
| 830-001 | Zip pouch |
| 832-002 | Stainless steel wall bracket |
| 830-485 | Silicone boot - glow in dark |

| Specification | Thermapen IR |
|---|---|
| Range - infrared | -49.9 to 349.9 °C |
| Range - probe | -49.9 to 299.9 °C |
| Resolution | 0.1 or 1 °C/°F - user selectable |
| Accuracy - infrared | ±1 °C (0 to 100 °C) otherwise ±2 °C or ±2 % of reading whichever is greater |
| Accuracy - probe | ±0.4 °C (-49.9 to 199.9 °C) otherwise ±1 °C |
| Field of view | Target ratio 5:1 |
| Emissivity | 0.95 default - adjustable 0.1 to 1 |
| Battery | 2 x 3 volt CR2032 lithium coin cell |
| Battery life | 1000 hours - continuous use |
| Display | 12 mm (horizontal) & 10 mm (vertical) LCD |
| Dimensions | 19 x 50 x 157 mm |
| Weight | 125 grams |
| FREE traceable certificate of calibration included (probe & IR) | |

# IR-POCKET THERMOMETER

- LED spot alignment - safer than a laser
- Display hold function
- Lock function for continuous measurement
- Max/min memory function


The IR-Pocket thermometer is a non-contact infrared thermometer that has an easy-to-read, LCD display with low battery indication. Simply aim at the target and press the measure button to display the surface temperature instantly. The IR-Pocket indicates temperature over the range of -9.9 to 199.9 °C with an assured accuracy of ±2 % of reading or ±2°C, whichever is greater.

This thermometer features a two-button keypad, pressing the mode button allows the user to access a variety of functions, i.e. max/min, °C/°F, lock and emissivity. The lock function allows for continuous temperature measurement and the emissivity is adjustable so the user can measure a variety of surface types. An auto-power-off facility automatically turns the instrument off after 15 seconds, maximising battery life.

The default emissivity is 0.95 but is adjustable to enable temperature measurement of a variety of surface types.

For some useful infrared thermometer tips, or to download our infrared thermometer guide, please visit our website.



### LED spot alignment

The unit incorporates LED spot alignment, which allows the user to precisely target the diameter of the area to be measured. The LED pointer is safer for the eyes than laser pointers. As you move closer or further from the target the LED spot changes diameter indicating the area being measured.


LED pointer

HOLD LOCK MAX/MIN AUTO OFF

| Order code | Description |
|---|---|
| 814-060 | IR-Pocket |

| Specification | IR-Pocket |
|---|---|
| Range | -9.9 to 199.9 °C |
| Resolution | 0.1 °C/°F |
| Accuracy | ±2 °C or ±2 % whichever is greater |
| Field of view | Target ratio 1:1 |
| Emissivity | 0.95 default - adjustable 0.1 to 1 |
| Battery & life | 2 x 1.5 volt AAA - 20 hours continuous use |
| Display | Custom LCD |
| Dimensions | 25 x 52 x 100 mm |
| Weight | 88 grams |

# RAYTEMP® 2 PLUS IR THERMOMETER

- 360° rotating display with backlight
- Adjustable emissivity for different surfaces
- Target distance/diameter ratio 5:1
- FREE traceable certificate of calibration

NEW WHITE CASE


Designed and manufactured in the UK, the RayTemp 2 Plus infrared non-contact thermometer incorporates all the features of the RayTemp 2, but with the addition of a 360° self-rotating display, backlight and adjustable emissivity. Simply aim the thermometer at the target and press the measure button to display the surface temperature.

The unit incorporates a 5:1 optic ratio (target distance/diameter ratio) and therefore the thermometer should be positioned as close to the target as possible. The default emissivity is 0.95 but can be changed from 0.1 to 1, if required. The unit does not incorporate laser alignment, however this will appeal to those who are health and safety conscious and do not require this feature.

The RayTemp 2 Plus features a three-button keypad, incorporating measure, mode and max/min functions. Pressing the mode button allows the user to select °C/°F, adjust emissivity values and display the ambient temperature. The max/min function displays the highest and lowest recorded temperatures over the measurement period.

Featuring a large, easy-to-read LCD display with low battery indication and an auto-power-off facility that turns the instrument off after 30 seconds, maximising battery life, each unit is housed in a robust ABS case that contains Biomaster product protection that reduces bacterial growth and is powered by three AAA batteries that give a minimum of 5000 hours of battery life.

Bluetooth®

model available
see page 63

- **Automatic 360° rotational display**
  The RayTemp 2 Plus features an automatic 360° display, which rotates in 90° increments enabling the user to read the temperature in any position i.e. left hand, right hand, vertical or horizontal. This feature can be 'locked' by the user, if required. **UK Patent No. GB 2504936**


360° MAX/MIN AUTO OFF Biomaster 2 YEAR GUARANTEE MADE IN BRITAIN

| Order code | Description |
|---|---|
| 228-120 | RayTemp 2 Plus |
| 832-050 | Therma series s/s wall bracket & boot |
| 830-221 | Protective silicone boot - white* |
| 814-132 | Comparator (page 94) |

*Various colours are available. See page 14.

| Specification | RayTemp 2 Plus |
|---|---|
| Range | -49.9 to 349.9 °C |
| Resolution | 0.1 °C & 1 °C |
| Accuracy | ±1 °C (0 to 100 °C) otherwise ±2 °C<br>or ±2 % of reading whichever is greater |
| Field of view | Target ratio 5:1 |
| Emissivity | 0.95 default - adjustable 0.1 to 1 |
| Battery | 3 x 1.5 volt AAA |
| Battery life | 5000 hours (continuous use, w/out backlight) |
| Display | 12 mm (horizontal) & 10 mm (vertical) LCD |
| Dimensions | 25 x 56 x 128 mm |
| Weight | 130 grams |

FREE traceable certificate of calibration included

# RAYTEMP® 2 IR THERMOMETER

- High accuracy ±1 °C over a limited range
- FREE traceable certificate of calibration
- Displays ambient temperature
- Records the max/min temperatures

NEW WHITE CASE


Designed and manufactured in the UK, the RayTemp 2 infrared, non-contact thermometer features a large, easy-to-read LCD display and a three-button keypad, incorporating measure, mode and max/min functions. Simply aim at the target and press the measure button to display the surface temperature, over the range of -49.9 to 349.9 °C with a 0.1 °C or 1 °C resolution and assured accuracy of ±1 °C over the range 0 to 100 °C.

Incorporating a 5:1 optic ratio (target distance ratio) and a fixed emissivity of 0.95 making it suitable for a wide range of food and industrial applications, each RayTemp 2 is housed in a robust ABS case that contains Biomaster product protection that reduces bacterial growth.

The unit does not incorporate laser alignment, which will appeal to those who are health and safety conscious and do not require this feature.

In addition, it promotes the user to get closer to the object being measured. Ideal in an environment where accuracy is important.

Bluetooth®
model available
see page 63

## OPTIONAL ACCESSORIES:

- Protective silicone boot.
  Various colours are available - see page 14
- Stainless steel wall bracket (832-050)
  & white silicone boot (screws not supplied)

MAX/ MIN | AUTO OFF | Biomaster | 2 YEAR GUARANTEE | MADE IN BRITAIN

| Order code | Description |
|---|---|
| 228-020 | RayTemp 2 |
| 832-050 | Therma series s/s wall bracket & boot |
| 830-221 | Protective silicone boot - white* |

*Various colours are available. See page 14.

| Specification | RayTemp 2 |
|---|---|
| Range | -49.9 to 349.9 °C |
| Resolution | 0.1 °C & 1 °C |
| Accuracy | ±1 °C (0 to 100 °C) otherwise ±2 °C or ±2 % of reading whichever is greater |
| Field of view | Target ratio 5:1 |
| Emissivity | 0.95 fixed |
| Battery & life | 3 x 1.5 volt AAA - 5000 hours continuous use |
| Display | 12 mm LCD |
| Dimensions | 25 x 56 x 128 mm |
| Weight | 130 grams |

FREE traceable certificate of calibration included

# MINI RAYTEMP® INFRARED THERMOMETER

- Target distance/diameter ratio 12:1
- Laser dot alignment
- Backlit LCD display
- Compact, lightweight & easy-to-use


The Mini RayTemp infrared thermometer is a compact, lightweight and low cost infrared thermometer. Simply aim and pull the trigger to display the surface temperature of the item being measured.

Measuring temperature over the range of -50 to 330 °C with an assured accuracy of ±2 °C over the range of 0 to 330 °C, outside of this range (-50 to 0 °C) accuracy is ±4 °C or ±4 % whichever is greater. The Mini RayTemp has a clear, easy-to-read, LCD display with low battery indication, backlight and an auto-power-off facility that turns the instrument off after ten seconds, maximising battery life.

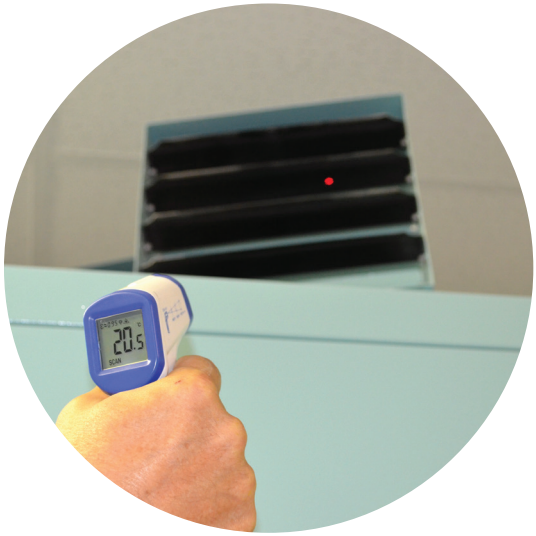
Ideal for numerous temperature measurement applications where contact with the item to be measured is an issue. The Mini RayTemp features laser assisted alignment as standard, to assist in pin-pointing the area of measurement.

The unit incorporates a 12:1 optic ratio (target distance/diameter ratio) and a fixed emissivity of 0.95 making it suitable for a wide range of food and industrial applications.

- **Low cost calibration checker**
  The Comparator (814-132) provides an inexpensive way of checking the temperature of infrared thermometers when used in conjunction with a Reference thermometer, see pages 99 and 100 for details.

## OPTIONAL ACCESSORY:

- Protective nylon pouch with belt strap (830-040)




| Order code | Description |
|---|---|
| 814-080 | Mini RayTemp |
| 830-040 | Protective nylon pouch |
| 814-132 | Comparator |


| Specification | Mini RayTemp |
|---|---|
| Range | -50 to 330 °C |
| Resolution | 0.1 °C/°F |
| Accuracy | ±2 °C (0 to 330 °C) otherwise ±4 °C or ±4 % whichever is greater |
| Field of view | Target ratio 12:1 |
| Emissivity | 0.95 fixed |
| Battery & life | 9 volt PP3 - 80 hours continuous use |
| Display | Custom LCD |
| Dimensions | 36 x 88 x 131 mm |
| Weight | 143 grams |

# RAYTEMP® 3 INFRARED FOOD THERMOMETER

- High accuracy over the critical food range
- Circular laser for precise targeting
- Temperature range -60 to 500 °C
- Compact, lightweight & easy to use


The RayTemp 3 infrared food thermometer is ideal for use in the food industry. It is compact, lightweight and easy to use. Simply aim and pull the trigger to display the temperature of the item being measured. In addition the LCD will display the maximum temperature.

This instrument measures temperature over the range of -60 to 500 °C with an assured accuracy of ±1 °C over the critical food range of 0 to 65 °C, outside of this range ±2 °C or ±2 % of reading, whichever is greater in an ambient temperature of between 15 °C and 25 °C, with a repeatability of ±1 °C of reading.

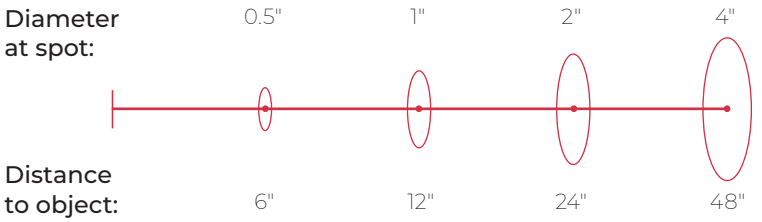
The unit incorporates a clear, easy to read, LCD display with low battery, laser and backlight indication and an auto power off facility that turns the instrument off after 15 seconds, maximising battery life. The RayTemp 3 is ideal for measuring food surface temperatures, eliminating the need to touch or contaminate the food you are measuring, avoiding the risk of cross-contamination. The unit can be used by anyone as there is no need to focus or adjust the instrument.

Each RayTemp 3 features a single push button, allowing the user to select °C or °F. The thermometer also incorporates a circular laser, which allows you to precisely target the diameter of the area to be measured. As you move closer or further from the target the laser circle changes diameter. The unit incorporates a 12:1 optic ratio (target distance/diameter ratio) and a fixed emissivity of 0.97 making it more suitable for chilled and frozen foods, although this thermometer can be used for a wide range of other applications.

## OPTIONAL ACCESSORIES:

- Protective nylon pouch with belt strap (830-040)
- ABS carrying case - ideal for transporting and securely storing the RayTemp 3 thermometer (834-740)


Comparator (814-132)





| Order code | Description |
|---|---|
| 814-040 | RayTemp 3 |
| 830-040 | Protective nylon pouch |
| 834-740 | ABS carrying case |
| 814-132 | Comparator |

| Specification | RayTemp 3 |
|---|---|
| Range | -60 to 500 °C |
| Resolution | 0.1 °C/ °F (-9.9 to 199.9 °C) or 1 °C |
| Accuracy | ±1 °C (0 to 65 °C) otherwise ±2 °C or ±2 % whichever is greater |
| Field of view | Target ratio 12:1 |
| Emissivity | 0.97 fixed |
| Battery & life | 2 x 1.5 volt AAA - 140 hours continuous use |
| Display | Custom LCD |
| Dimensions | 40 x 66 x 155 mm |
| Weight | 180 grams |

# RAYTEMP® 8 INFRARED THERMOMETER

- Integral type K thermocouple socket
- Range IR -60 to 500 °C, probe -64 to 1370 °C
- Includes differential & average temperatures
- Target distance/diameter ratio 12:1


The RayTemp 8 portable infrared thermometer is compact, lightweight and easy-to-use. Simply aim and pull the trigger to display the temperature of the item being measured. The thermometer displays temperature over the range of -60 to 500 °C.

Featuring a clear, easy-to-read, LCD display with low battery indication, the RayTemp 8 incorporates an auto-power-off facility that turns the instrument off after 60 seconds, maximising battery life. The unit features a circular laser with centre dot indicator, which allows you to precisely target the diameter of the area to be measured. As you move closer or further from the target the laser circle changes diameter.

The three-button keypad, allows the user to select °C/°F and max/min. Additionally, the difference between the max and min temperature and the average temperature can be displayed.

- **Two instruments in one**
  The RayTemp 8 incorporates a miniature thermocouple type K probe socket that enables a wide range of type K thermocouple probes to be used for a variety of temperature measurement applications, including air, liquid and surface temperatures. For details of compatible type K thermocouple probes, see pages 77 to 83.


## RAYTEMP 8 INFRARED KIT

### Each kit contains:

- RayTemp 8 infrared thermometer (814-045)
- Penetration probe (123-160)
- FREE Box of 100 Probe Wipes (836-220)
- FREE ABS carrying case (834-740)

MAX/ MIN | AUTO OFF

| Specification | RayTemp 8 |
|---|---|
| Range - infrared | -60 to 500 °C |
| Range - probe | -64 to 1370 °C |
| Resolution | 0.1 °C/°F (-9.9 to 199.9 °C) or 1 °C |
| Accuracy - infrared | ±2 °C or ±2 % of reading whichever is greater |
| Accuracy - probe | ±1 °C or ±1 % of reading whichever is greater |
| Field of view | Target ratio 12:1 |
| Emissivity | 0.95 default - adjustable 0.1 to 1 |
| Battery & life | 2 x 1.5 volt AAA - 180 hours continuous use |
| Display | Custom LCD |
| Dimensions | 40 x 66 x 155 mm |
| Weight | 185 grams |

| Order code | Description |
|---|---|
| 814-045 | RayTemp 8 |
| 860-845 | RayTemp 8 kit |
| 830-040 | Protective nylon pouch |
| The RayTemp 8 is exclusive of probe | |

# RAYTEMP® 28 INFRARED THERMOMETER

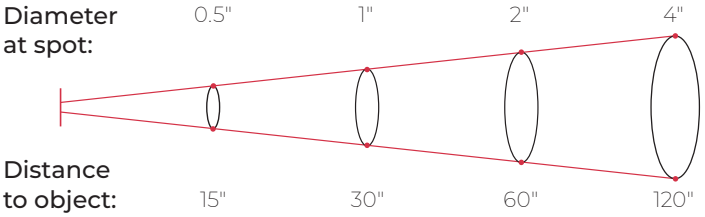
- Integral type K thermocouple socket
- Ideal for high temperature applications
- Dual laser for precise targeting
- Stores the last 12 readings


The RayTemp 28 is a professional infrared, non-contact thermometer with dual laser dot alignment, incorporating a 30:1 optic ratio (target distance/diameter ratio), enabling users to measure small targets from a distance or any item that is difficult to reach.

Featuring a three-button keypad, the RayTemp 28 allows the user to select the mode required, i.e. max, min, differential or average temperatures, view the max/min and configurable high/low alarms. Adjustable emissivity enabling the user to measure a variety of surface types.

The unit has a clear, easy-to-read, custom LCD display that features a backlight for when ambient light levels are low and an auto-power-off facility that turns the instrument off after 35 seconds, maximising battery life. The thermometer is housed in a robust IP54 splashproof case to help reduce the possibility of damage in harsh environments and is supplied in a protective ABS carrying case.

- **Two instruments in one**
  The RayTemp 28 incorporates a miniature thermocouple type K probe socket that enables a wide range of type K thermocouple probes to be used for a variety of temperature measurement applications, including air, liquid and surface temperatures. For details of compatible type K thermocouple probes, see pages 77 to 83.




MAX/MIN | AUTO OFF | IP54

| Specification | RayTemp 28 |
|---|---|
| Range - infrared | -50 to 1350 °C |
| Range - probe | -50 to 1370 °C |
| Resolution | 0.1 °C to 1000 °C thereafter 1 °C |
| Accuracy - infrared | ±2 °C (0 to 1350 °C) otherwise ±4 °C or ±4 % of reading whichever is greater |
| Accuracy - probe | ±1 °C or ±1 % of reading whichever is greater |
| Field of view | Target ratio 30:1 |
| Emissivity | 0.95 default - adjustable 0.1 to 1 |
| Battery & life | 9 volt PP3 - 40 hours continuous use |
| Display | Custom LCD |
| Dimensions | 83 x 95 x 192 mm |
| Weight | 275 grams |

| Order code | Description |
|---|---|
| 814-028 | RayTemp 28 |
| The RayTemp 28 is exclusive of probe | |

# RAYTEMP® 38 INFRARED THERMOMETER

- Wide temperature range -59.9 to 999.9 °C
- Target distance/diameter ratio 50:1
- Robust housing for durability
- Auto power-off & backlight functions

The RayTemp 38 is a professional infrared, non-contact thermometer with dual laser dot alignment that incorporates a 50:1 optic ratio (target distance/diameter ratio), this enables users to measure small targets from a distance. The user stands a safe and comfortable distance from the target, points the thermometer at the surface to be measured, pulls the trigger and instantly reads the temperature. Ideal for measuring the surface temperature of any item that is difficult to reach. This enables the user to measure most surfaces accurately and quickly.

Measuring the surface temperature over the range of -59.9 to 999.9 °C with a 0.1 °C/°F resolution, the RayTemp 38 incorporates an auto-power-off facility that turns the instrument off after 60 seconds, this function can be disabled, if required. Each unit incorporates a backlit custom LCD display that indicates both the temperature and the emissivity. The thermometer features a four-button keypad, allowing the user to select the mode required, i.e. max, min, differential and average temperatures, view the max/min high and low alarms and adjust the emissivity from 0.1 to 1.0 in 0.01 increments (default set at 0.95).

- **Two instruments in one**
  The RayTemp 38 is two instruments in one as it incorporates a thermocouple socket that will accept a type K thermocouple probe, see pages 77 to 83 for available probes. Each RayTemp 38 is supplied in a protective ABS carrying case. An optional strong magnetic holder is also available. The holder screws into the bottom of the thermometer's housing, allowing the unit to be mounted onto a metal surface for continuous monitoring.


Magnetic holder (814-150)


| Order code | Description |
|---|---|
| 814-038 | RayTemp 38 |
| 814-150 | Magnetic holder |
| The RayTemp 38 is exclusive of probe | |

| Specification | RayTemp 38 |
|---|---|
| Range - infrared | -59.9 to 999.9 °C |
| Resolution | 0.1 °C/°F |
| Accuracy - infrared | ±2 °C or ±2 % of reading whichever is greater |
| Accuracy - probe | ±1 °C or ±1 % of reading whichever is greater |
| Field of view | Target ratio 50:1 |
| Emissivity | 0.95 default - adjustable 0.1 to 1 |
| Battery & life | 2 x 1.5 volt AAA - 180 hours continuous use |
| Display | Custom LCD |
| Dimensions | 47 x 170 x 240 mm |
| Weight | 395 grams |


# CALIBRATION EQUIPMENT

Accurate temperature measurements are crucial for ensuring optimal performance, reliable data, and, most importantly, the well-being and safety of individuals.

However, over time, thermometers can experience deviations in accuracy due to factors such as how often they're used and the type of the environment they're used in.

Checking the accuracy of your thermometers can be done yourself using specialised equipment, or it can be sent to a laboratory for professional calibration and certification. Recalibration will need to take place in a laboratory.

## CALIBRATION FREQUENCY

In many industries, the general recommendation is to calibrate your thermometers at least once a month. But certain situations may require more frequent calibration, such as high usage or particular regulatory requirements.

However often you calibrate your thermometers, it's essential to record the date and results of every test

## TYPES OF CALIBRATION EQUIPMENT

There are many ways to calibrate thermometers. The different methods available depend on your thermometer type, budget, the quantity and frequency of your thermometer calibration, and how accurate you would like the process to be.

For probes, an ice bath is a great budget method, but for higher accuracy and usage, a dry block calibrator is more reliable.

To calibrate a thermometer with switchable probes, test caps and microcals are quick, economical and reliable.

For infrared and reference thermometers, calibrator cups are a good budget option when used with care. For a more accurate solution that is suitable for checking multiple devices regularly, choose a black body calibrator.

In addition, most users will need a high-accuracy reference thermometer to carry out the processes above.

## CERTIFIED RECALIBRATION

If your tests show that your thermometer readings have drifted, you'll need to send them to a laboratory for recalibration. Our in-house UKAS laboratory recalibration offers certification for temperature probes, humidity meters and infrared thermometers at your desired checkpoints.

# REFERENCE THERMOMETERS

UKAS CALIBRATION
0601

- 5-point UKAS Certificate of Calibration included
- ±0.03 °C high system accuracy
- Supplied complete with high accuracy probe
- Ideal for calibration comparison checks


The Reference thermometers are high accuracy PT100 instruments that are supplied with a five-point UKAS Certificate of Calibration. Each certificate indicates deviations from standards at various check points: -18, 0, 40, 70 and 100 °C. Special points may be certified by arrangement with our UKAS calibration laboratory.

The Reference thermometers are ideal for comparison checking of the accuracy of other thermometers and probes, when used in conjunction with a stable temperature heat or chill source, see page 101. The instruments measure temperature over the range of -199.99 to 199.99 °C with a resolution of 0.01 °C and an accuracy of ±0.03 °C.

The units feature a simple on/off push button with open circuit 'Err' and low battery indication, when applicable. The Reference Plus thermometer incorporates the additional features of a max/min and hold function.

The Reference thermometers are supplied with a permanently attached, high accuracy probe incorporating a 1/10th DIN PT100 sensor. The probe measures Ø3.3 x 130 mm and is supplied with a one metre PVC lead.


- **Low cost calibration checker**
  The Comparator (814-132) provides an inexpensive way of checking the temperature of infrared thermometers when used in conjunction with a Reference thermometer.

| Order code | Description |
|---|---|
| 222-055 | Reference |
| 222-063 | Reference Plus |
| 830-221 | Protective silicone boot - white |
| 814-132 | Comparator |

HOLD | MAX/MIN | AUTO OFF | UKAS | Biomaster | 2 YEAR GUARANTEE | MADE IN BRITAIN

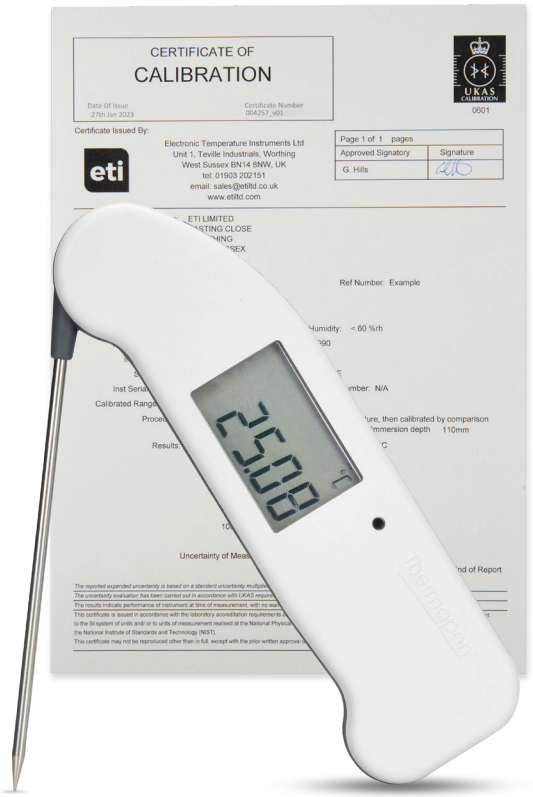
| Specification | Reference & Reference Plus |
|---|---|
| Range | -199.99 to 199.99 °C |
| Resolution | 0.01 °C |
| Accuracy | ±0.03 °C (-49.99 to 149.99 °C)<br>±0.1 °C (-150 to 200 °C) |
| Battery & life | 3 x 1.5 volt AAA - 2000 hours |
| Sensor type | PT100 1/10th DIN |
| Display | 10 mm LCD |
| Dimensions | 25 x 56 x 128 mm |
| Weight | 210 grams |
| UKAS Certificate of Calibration included | |

# REFERENCE THERMAPEN® THERMOMETER

UKAS CALIBRATION 0601

- High accuracy with 0.01 °C or 0.1 °C resolution
- 5-point UKAS Certificate of Calibration included
- Compact, lightweight and easy-to-use
- Backlight display

NEW MODEL




The Reference Thermapen thermometer is a high accuracy PT100 instrument that is supplied with a five-point UKAS Certificate of Calibration. Each certificate indicates deviations from standards at various check points: -18, 0, 40, 70 and 100 °C.

The Reference Thermapen thermometer is ideal for comparison checking of the accuracy of other thermometers and probes, when used in conjunction with a stable temperature heat or chill source, see opposite. The instrument measures temperature over the range of -69.99 to 199.99 °C, now featuring a user selectable resolution of 0.01 or 0.1 °C and an accuracy of ±0.05 °C.

The thermometer will power-off automatically after ten minutes, maximising battery life. This feature can be disabled if not required. Both low battery (icon) and open circuit indication are displayed, when applicable. Each Reference Thermapen is powered by a single AAA battery with a life expectancy of 500 hours (without backlight).

The Reference Thermapen incorporates a stainless steel, penetration probe (Ø3.3 x 108 mm) that conveniently folds back through 180° into the side of the instrument when not in use.



- **Stainless steel wall bracket (832-002)**
  Stores the Reference Thermapen safely when not in use. Keyhole slot for hanging (screws not supplied) Measures 27 x 58 x 115 mm

**Supplied in a 830-001 zip pouch with belt loop**

- **Silicone boot with magnets (830-455)**

AUTO OFF · UKAS · IP67 · Biomaster · 2 YEAR GUARANTEE · MADE IN BRITAIN

| Order code | Description |
|---|---|
| 222-215 | Reference Thermapen |
| 830-455 | Silicone boot with magnets |
| 830-110 | Protective wallet (see page 7) |
| 832-002 | S/steel wall bracket |
| The Thermapen is supplied in a zip pouch (830-001) | |

| Specification | Reference Thermapen |
|---|---|
| Range | -69.99 to 199.99 °C |
| Resolution | 0.01 °C or 0.1 °C - user selectable |
| Accuracy | ±0.05 °C (-30 to 149.99 °C) otherwise ±0.2 °C |
| Battery | 1 x 1.5 volt AAA |
| Battery life | 500 hours (without backlight) |
| Sensor type | PT100 |
| Display | 9.8 mm LCD |
| Dimensions | 19.3 x 48.2 x 156.2 mm |
| Weight | 115 grams |
| UKAS Certificate of Calibration included | |

# 3000 SERIES LIGHTWEIGHT DRY-WELL CALIBRATORS

- Ideal for checking thermometer accuracy
- Portable temperature heat source

The 3000 series dry-well calibrators are small and lightweight heat sources, ideal for checking the accuracy of digital thermometers and temperature probes. The units have a temperature range of 33 to 250 °C with a resolution of 0.1 °C.

The dry-wells offer a high level of stability (±0.5 °C) and a stabilisation time of ten minutes. Plug it in, switch it on, set the verification temperature with the front panel buttons and insert your probe into the correct size well. Compare the temperature reading of your thermometer against the display and the difference is the error.

The 3001 dry-well will accept probe sizes Ø3.3, 4, 4.76 and 6.35 mm. The 3002 dry-well will accept probe sizes Ø3.3, 4.76, 6.35 and 9.6 mm. The 3003 dry-well will accept probe sizes Ø4.76 and 12.7 mm.


| Order code | Description |
|---|---|
| 271-301 | 3001 dry-well |
| 271-302 | 3002 dry-well |
| 271-303 | 3003 dry-well |

| Specification | 3000 series dry-wells |
|---|---|
| Range | 33 to 250 °C |
| Resolution | 0.1 °C |
| Accuracy | ±0.5 °C (33 to 199.9 °C) |
| | ±1 °C (200 to 250 °C) |
| Heating time | Ambient to 250 °C - min. 10 minutes |
| Well depth | 100 mm |
| Power | 230 volt AC (115 volt available) |
| Dimensions | 57 x 125 x 158 mm |
| Weight | 950 grams |
| FREE traceable certificate of calibration included | |

# 3101 DRY-WELL HEAT/COOL SOURCE CALIBRATOR

- Ideal for checking the accuracy of thermometers
- Accepts a wide variety of probe diameters

The 3101 dry-well features an easy-to-read LED display with a temperature range of -10 to 110 °C and a resolution of 0.1 °C. Heating time, ambient to 100 °C or cooling time, ambient to 0 °C is ten minutes.

The 3101 is excellent for checking the calibration of a wide range of instrumentation including digital thermometers and temperature probes, either above or below ambient temperature. The unit incorporates two removable wells/inserts, both Ø13 mm in diameter and will accept probe sizes Ø3.3, 4.1, 4.8, 6.4 and 9.6 mm.

Each 3101 is supplied with two inserts of the customer's choice.


| Order code | Description |
|---|---|
| 271-401 | 3101 dry-well |
| 271-321 | Ø3.3 mm ID brass insert |
| 271-322 | Ø4.1 mm ID brass insert |
| 271-323 | Ø4.8 mm ID brass insert |
| 271-324 | Ø6.4 mm ID brass insert |
| 271-325 | Ø9.6 mm ID brass insert |

| Specification | 3101 dry-well |
|---|---|
| Range | -10 to 110 °C |
| Resolution | 0.1 °C |
| Accuracy | ±0.5 °C (-10 to 99.9 °C) |
| | ±1 °C (100 to 110 °C) |
| Heating time | Ambient to 100 °C - min. 10 minutes |
| Cooling time | Ambient to 0 °C - 10 minutes |
| Well depth | 100 mm |
| Power | 12 to 24 volt DC* |
| Dimensions | 110 x 153 x 186 mm |
| Weight | 1800 grams |
| *Supplied with 230/115 volt AC power adaptor<br>FREE traceable certificate of calibration included | |

# IR-500 BLACK BODY CALIBRATOR

- Ideal for checking the accuracy of infrared thermometers
- Wide temperature range 50 to 500 °C


The IR-500 Black Body Calibrator is a stable heat source for checking the calibration of infrared digital thermometers that require regular temperature calibration checks or validation. The unit features an easy to read LED display, and controls the black body surface temperature over the range of 50 to 500 °C. It reaches an upper temperature of 500 °C in about 40 minutes.

Simply set the verification temperature on the digital display of the IR-500 Calibrator, allow time to stabilise and then point your infrared thermometer at the Ø58 mm black body. Compare the temperature readings on the IR-500 Calibrator display and the infrared thermometer under test, and the difference is the error. The isothermal Ø58 mm black body target is manufactured to an emissivity of approximately 0.95, which is ideal for most industrial infrared thermometers.

For increased accuracy checks, use a Reference thermometer (see page 99 for more details), insert the fixed Ø3.3 mm precision PT100 probe into the pre drilled calibration well. UK power lead included.

| Order code | Description |
|---|---|
| 822-400 | IR-500 Black Body Calibrator |

| Specification | IR-500 Black Body Calibrator |
|---|---|
| Range | 50 to 500 °C |
| Resolution | 0.1 °C/ °F |
| Accuracy | ±1 °C below 100 °C<br>±2 °C from 100 to 200 °C<br>±3 °C from 200 to 500 °C |
| Heating time | 40 minutes to max |
| Cooling time | 30 minutes max to 100 °C |
| Emissivity | 0.95 |
| Target size | Ø58 mm |
| Power | 110 volt AC, 3A or 230 volt AC (±10%), 1.5A |
| Dimensions | 114 x 180 x 233 mm |
| Weight | 2682 grams |
| FREE traceable certificate of calibration included | |

*It is possible to achieve a higher level of accuracy, better than ±0.5 °C if the IR-500 Calibrator is used in conjunction with a certified Reference Thermometer (see page 99 for details).

# CALIBRATION WATER BATH

- Ideal for checking the accuracy of probe thermometers
- Temperature range 25 to 95 °C

The Calibration Water Bath offers a compact, accurate and reliable system which can be used for the temperature calibration of thermometers and temperature probes using the comparison method. The bath operates over the range 25 °C to 95 °C with a temperature accuracy of ±1 °C (25 to 70 °C) * and stability of ±0.1 °C with a bath uniformity of ±0.1 °C when measured from centre to any corner.

The water bath features a user friendly LED display, with minimal setup required. The stainless steel bath capacity is 5 litres, and incorporates a variable flow/speed pump of 0 to 20 litres per minute. For increased accuracy checks, it is recommended that a Reference thermometer is used as a calibration reference. (See page 99 for more details).

For continuous use in the temperature range 25 to 60 °C we recommend the bath be filled with distilled water, between 60 to 80 °C 15% glycerine water solution and between 80 to 95 °C a suitable silicone oil.

Each bath is supplied complete with lid, drain tap and carry handles. UK power lead included.

| Order code | Description |
|---|---|
| 822-950 | Calibration Water Bath |

| Specification | Calibration Water Bath |
|---|---|
| Range | 25 to 95 °C |
| Resolution | 0.1 °C/ °F |
| Accuracy | ±1 °C (+25 to 70 °C)* |
| Bath capacity | 5 litres |
| Pump flow/speed | 0 to 20 litres per minute |
| Bath stability | ±0.1 °C over a 45 minute period |
| Bath uniformity | ±0.1 °C when measured from centre to any corner |
| Power | 230 volt AC (±10%) 1.5A |
| Internal dimensions | 130 x 130 x 260 mm |
| External dimensions | 318 x 380 x 445 mm |
| Weight | 12000 grams |

*It is possible to achieve a higher level of accuracy, better than ±0.2 °C if the calibration bath is used in conjunction with a certified Reference Thermometer (see page 99 for details).

# MICROCAL SIMULATORS


- Test thermocouple type K, J, T, R, N, S & E thermometers
- For frequent checking of thermometer accuracies
- 12 adjustable or 23 fixed temperature points
- 4 models available – Simulator or Simulator/thermometer

The MicroCal thermocouple simulators help ensure that the frequent checking of thermometer accuracies are a routine operation. These instruments are designed to simulate a chosen temperature to test thermocouple thermometers without the need for specialised equipment or conversion tables. The MicroCal 1 Plus also measures and simulates temperature.

The MicroCal 1, MicroCal 1 Plus & the MicroCal 2 have 12 preset temperatures for type K thermocouple -20, -10, 0, 10, 30, 50, 100, 195, 250, 500, 800 and 1000 °C, any of these temperatures can be modified and saved by the user. The factory default temperatures can be recalled at any time.

The MicroCal 3 has 23 fixed temperature points for type K thermocouple -100, -50, -20, -10, 0, 10, 20, 30, 40, 50, 60, 80, 100, 150, 195, 250, 300, 400, 500, 600, 800, 1000 and 1200 °C.

All models feature a custom 10 mm LCD display with alpha-numeric display line to prompt the user when changing parameters. Selectable parameters include; °C/°F, auto-power-off - enable/disable, CJC - internal/external and display contrast adjustment.

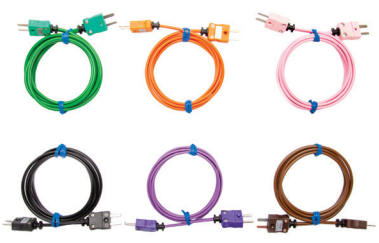
Each MicroCal is supplied with a one metre PVC thermocouple lead with miniature thermocouple connectors and a five-point UKAS Certificate of Calibration. Each certificate indicates deviations from standards at the various points.

An optional lead set is available for the MicroCal 1 and MicroCal 1Plus comprising of six leads, one for each thermocouple type K, J, T, R/S, N and E.

| | | |
|---|---|---|
| Thermocouple type K | Range -200 to 1372 | °C |
| Thermocouple type J | Range -200 to 1200 | °C |
| Thermocouple type T | Range -270 to 400 | °C |
| Thermocouple type R | Range 0 to 1768 | °C |
| Thermocouple type N | Range -200 to 1300 | °C |
| Thermocouple type S | Range 0 to 1768 | °C |
| Thermocouple type E | Range -140 to 1000 | °C |


Incorporates a foot stand

Lead Set (6 leads) 816-100



| Order code | Description |
|---|---|
| 271-100 | MicroCal 1 |
| 271-101 | MicroCal 1 Plus |
| 271-200 | MicroCal 2 - type K |
| 271-210 | MicroCal 3 - type K |
| 816-100 | Lead set (6 leads) |
| 830-205 | Protective silicone boot |
| 832-115 | Acrylic wall bracket |

UKAS CALIBRATION 0601

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| Specification | MicroCal 1 & 1 Plus | MicroCal 2 | MicroCal 3 |
|---|---|---|---|
| Range | (see table above) | | |
| Temp points | 12 adjustable presets | 12 available | 23 fixed presets |
| Accuracy | ±0.3 °C (dependant upon tc type) | ±0.3 °C | ±0.5 °C |
| Battery | 2 x 1.5 volt AAA | | |
| Battery life | 300 hours | | |
| Sensor type | Thermocouple type K, J, T, R, N, S & E (selectable) | Dedicated type K thermocouple | |
| Display | Custom LCD | | |
| Dimensions | 35 x 73 x 141 mm | | |
| Weight | 175 grams | | |
| 5-point UKAS Certificate of Calibration included | | | |

For more information on the above simulators please visit our website or contact our sales office.

# MICROCHECK 3-POINT CHECKER/SIMULATOR

- For regular checking of thermometer accuracies
- 3-point UKAS Certificate of Calibration
- Simple & easy-to-use
- 4 models available


The MicroCheck temperature checkers have been developed to verify the continuing accuracy of type K thermocouple thermometers with a 0.1 or 1 °C resolution.

All checkers feature a custom 10 mm LCD display with alpha-numeric display line to prompt the user when changing parameters. Selectable parameters include: °C/°F, auto-power-off - enable/disable, CJC - internal/external and display contrast adjustment.

The MicroChecks simulate three fixed temperatures, enabling users to check the accuracy of each instrument at three known points without the need for specialist equipment.

Each MicroCheck is supplied with a one metre PVC type K thermocouple lead with miniature connectors and a three-point UKAS Certificate of Calibration. Each certificate indicates deviations from standards at the various points.



Acrylic wall bracket (832-115)

Protective silicone boot (830-205)

| Specification | Range |
|---|---|
| MicroCheck 1 | 0 °C, 100 °C & 500 °C |
| MicroCheck 2 | -20 °C, 20 °C & 200 °C |
| MicroCheck 3 | -20 °C, 0 °C & 220 °C |
| MicroCheck 4 | -20 °C, 0 °C & 100 °C |

A 3-point UKAS Certificate of Calibration is included with each MicroCheck checker

UKAS CALIBRATION
0601

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| Order code | Description |
|---|---|
| 271-011 | MicroCheck 1 |
| 271-012 | MicroCheck 2 |
| 271-014 | MicroCheck 3 |
| 271-015 | MicroCheck 4 |
| 830-205 | Protective silicone boot |
| 832-115 | Acrylic wall bracket |

| Specification | MicroCheck |
|---|---|
| Range | (see table above) |
| Temp points | 3 fixed temperatures |
| Accuracy | ±0.5 °C |
| Battery | 2 x 1.5 volt AAA |
| Battery life | 300 hours |
| Sensor type | type K thermocouple |
| Display | Custom LCD |
| Dimensions | 35 x 73 x 141 mm |
| Weight | 175 grams |
| UKAS Certificate of Calibration included | |

# CALIBRATION THERMISTOR TEST CAPS

- Provides assurance that thermometer readings are accurate
- Supplied with a UKAS Certificate of Calibration

0601

These thermistor test caps are suitable for checking the accuracy of the Therma 20, Therma 22 or any equivalent thermistor thermometer.

Simply plug in the desired test cap and the display on the thermometer should show the same temperature as the certified value.

Each test cap is supplied with a UKAS Certificate of Calibration with a guaranteed uncertainty of ±0.1 °C.



| Order code | Description |
|---|---|
| 286-001 | Thermistor test cap -18 °C |
| 286-002 | Thermistor test cap 0 °C |
| 286-003 | Thermistor test cap 3 °C |
| 286-004 | Thermistor test cap 70 °C |
| 286-005 | Thermistor test cap 100 °C |
| UKAS Certificate of Calibration included | |

# CALIBRATION PT100 TEST CAPS

- Validates the accuracy of PT100 thermometers
- Supplied with a UKAS Certificate of Calibration

0601

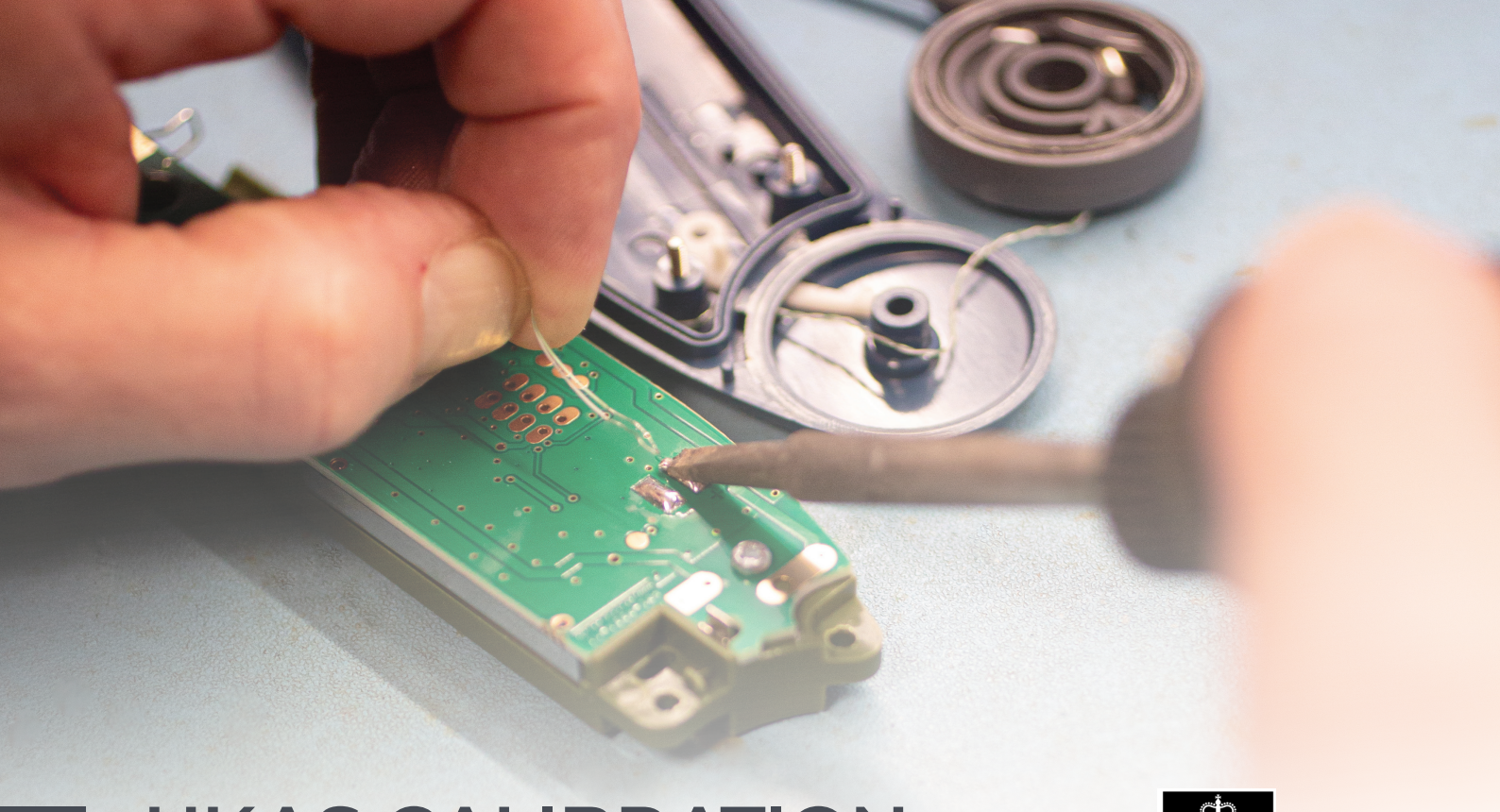
These PT100 test caps are suitable for checking the accuracy of the Precision PT100 thermometer or any platinum resistance thermometer fitted with a Binder connector.

Simply plug in the test cap and the display on the thermometer should show the same temperature as the certified value.

Each test cap is supplied with a UKAS Certificate of Calibration with a guaranteed uncertainty of ±0.1 °C.



| Order code | Description |
|---|---|
| 282-001 | PT100 test cap -18 °C |
| 282-002 | PT100 test cap 0 °C |
| 282-003 | PT100 test cap 3 °C |
| 282-004 | PT100 test cap 70 °C |
| 282-005 | PT100 test cap 100 °C |
| UKAS Certificate of Calibration included | |



# UKAS CALIBRATION, SERVICE & REPAIR

UKAS CALIBRATION
0601

Regular thermometer calibration promotes safety, quality control and helps prevent potential issues that may arise from inaccurate temperature measurements.

UKAS is the National Accreditation Body for the United Kingdom. When UKAS accredits a laboratory, its tests are completed to the highest standard in the country.

At ETI, we have a calibration laboratory for temperature and humidity measurements, which is accredited to UKAS ISO/IEC 17025 standards. Customers can send the following instruments to us for UKAS calibration:

- Thermometers and probes
- Temperature data loggers
- Humidity meters and loggers
- Test caps

## CALIBRATION VS CERTIFICATION

A calibration test compares your thermometer measurements with a traceable device or reference thermometer. The test is carried out using a known temperature source, such as ice water at 0 °C. A calibration certificate shows the results of the test and certifies the accuracy of the instrument.

## HOW OFTEN TO CALIBRATE THERMOMETERS

How often you check your thermometer accuracy depends on several factors, including industry standards, regulatory requirements, and frequency of use.

In many industries, including food service, the general recommendation is to check them at least once a month. You can do this yourself using calibration equipment, such as ice baths.

It's recommended to send your thermometer to a laboratory for certification every 12 months. Keeping a calibration record is essential for demonstrating compliance with regulatory requirements.

## CALIBRATION POINTS

Calibration points are the temperatures at which the thermometer has been calibrated to. The number of checkpoints you opt for depends on your requirements, and we can complete as many as you need.

A common number of checkpoints to choose from is 3 or 5. It's customary to choose a 5-point certificate for thermometers where high accuracy is critical. The more checkpoints there are, the more confident you can be that your thermometer is accurate across a range of temperatures.

# UKAS TEMPERATURE CALIBRATION

- Thermometer temperature range -100 to 250 °C
- Rapid turnaround - normally within 5 days
- Certified uncertainties (CMCs) from ±0.02 °C
- 1 to 5-point UKAS Certificates

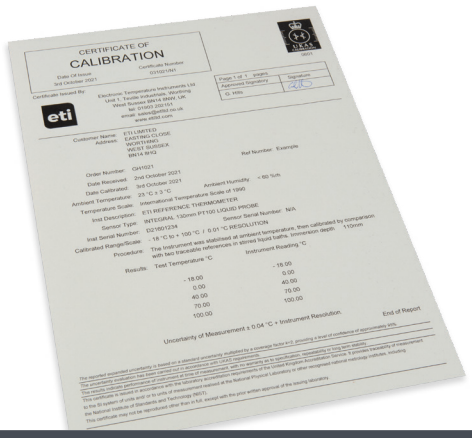
UKAS CALIBRATION
0601

Our in-house UKAS accredited calibration laboratory for temperature has a wide measurement range of -100 to 250 °C with a calibration and measurement capability of 0.02 °C. The laboratory can also measure resistance up to 10 MΩ (i.e. resistance decade boxes and PT100/RTD temperature simulators) and DC voltage 0 to 100 mV (i.e. thermocouple simulators and calibrators). Original UKAS Certificates provide proof that instruments and probes have been calibrated against nationally approved standards.

- **Thermometers & Probes**
  Each UKAS Certificate indicates the deviations from standards at various check points, the standard being -18, 0, 40, 70 and 100 °C with a guaranteed uncertainty, dependant on the probe type. See calibration and measurement capability table below.

- **Test Caps & Simulators**
  Each UKAS Certificate indicates the deviations from standards at specific check points (-18, 0, 3, 70 and 100 °C) to an uncertainty of ±0.1 °C (resistance) or ±0.15 °C (thermocouple).

- **Data loggers**
  Each UKAS Certificate indicates the deviations from standards at three check points (-18, 0 and 40 °C) to an uncertainty of ±0.05 °C.


CERTIFICATE OF CALIBRATION

| Order code | UKAS Certificate - Temperature |
|---|---|
| 890-200-5 | Instrument only standard 5-point |
| 890-210-5 | Instrument & probe system 5-point |
| 890-215 | Checker 3-point |
| 890-230 | Test cap 1-point |
| 890-235 | Simulator 5-point |
| 890-240-3 | Data logger 3-point |

## CALIBRATION & MEASUREMENT CAPABILITY (CMC)

| | |
|---|---|
| **Thermistor thermometer & probe** | |
| -50 to 150 °C | CMC 0.04 °C |
| -100 to -50 °C | CMC 0.05 °C |
| **PT100 (resistance sensors) thermometer & probe** | |
| -80 to 250 °C | CMC 0.04 °C |
| -100 to -80 °C | CMC 0.13 °C |
| **Thermocouple thermometer & probe** | |
| -80 to 250 °C | CMC 0.15 °C |
| -100 to -80 °C | CMC 0.17 °C |
| **Temperature data loggers** | |
| -50 to 100 °C | CMC 0.05 °C |
| **Thermistor & PT100 test caps** | |
| -18 to 100 °C | CMC 0.1 °C |
| **Thermocouple simulators** | |
| -200 to -50 °C | CMC 0.25 °C |
| -50 to 1372 °C | CMC 0.15 °C |

# UKAS HUMIDITY CALIBRATION

- Certified uncertainties (CMCs) from 0.7 %rh, 0.19 °Cdp & 0.14 °C Air
- Flexible certification - select the points you need
- Qualified & experienced laboratory personnel
- Rapid turnaround

UKAS CALIBRATION
0601

Our in-house humidity laboratory is equipped with two of the world's premier humidity chambers together with a high accuracy mirror hygrometer. The Thunder Scientific 2500 humidity chamber uses two-pressure technology to generate controlled humidity conditions, which has long been the recognised standard for instrument calibration, test and verification, along with the new state-of-the-art HYGROGEN2 - HG2-XL chamber which generates stable temperature and humidity conditions in rapid time. These methods of generation are a fundamental technology, enabling confidence in traceability to National Standards. This, combined with MBW referenced mirror hygrometers, ensures the standard of calibration is to a very high level. If you then combine this with UKAS Accreditation, and a rapid turnaround of your instrument, you can be sure that the service offered by our humidity laboratory will meet your requirement.

Accurate monitoring of humidity can increase the efficiency of productivity in many aspects of production. An increasing number of employers are also realising the importance of healthy working environments, which includes the control of humidity to help prevent airborne bacteria, eliminate static shocks and reduce eye-strain.

As with most digital equipment, but even more so with hygrometers, there is a tendency for drift over a period of use. Therefore a regular calibration by comparison against Standards, traceable to National Standards, provides confidence in the continued accuracy of your instrument.

- **Air temperature capability**
  Our humidity laboratory is also UKAS accredited for air temperature measurement certification. Please see below for calibration and measurement capability (CMC).

| Order code | UKAS Certificate - Humidity |
|---|---|
| 890-110 | 3-point 25, 50 & 75 %rh |
| 890-112 | 1-point customer specified |
| 890-114 | 5-point customer specified |

| Order code | UKAS Certificate - Air Temperature |
|---|---|
| 890-120 | 2-point 10 & 40 °C |
| 890-132 | 1-point customer specified |
| 890-134 | Additional specified point |

## CALIBRATION & MEASUREMENT CAPABILITY (CMC)

| Humidity | |
|---|---|
| 10 to 90 %rh @ 0 to 60 °C | CMC 1.2 %rh |
| 10 to 90 %rh @ 20 to 24 °C | CMC 0.7 to 1.1 %rh |

| Air temperature | |
|---|---|
| 0 to 60 °C | CMC 0.24 °C |

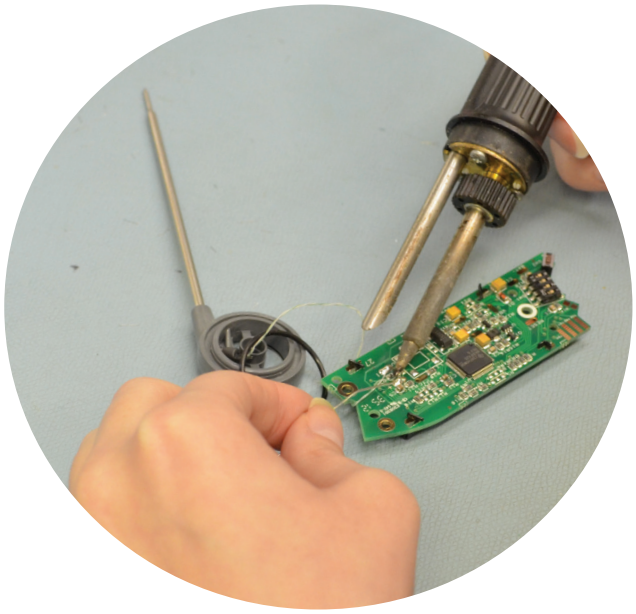
Alternative temperature points can be offered to customer requirements, please contact our Service department for further details.

# SERVICE & REPAIR OF THERMOMETERS & PROBES

- Additional one year's guarantee on repaired instruments
- Thermometer, probe & recalibration service available
- Rapid turnaround - normally within 5 days
- Qualified & experienced technicians

One of the true advantages of being a manufacturer is that we know how our instruments work and how to repair them. We are fully committed to supporting our customers, no matter which instrument they have chosen. Our service department is equipped with the best of resources and all repairs are undertaken in-house to give an unrivalled after-sales-service.

The vast majority of instruments that are damaged through use in busy commercial environments can be repaired. Naturally, if the instrument is outside the warranty period, there is a charge. But we wish to make customers aware that it can be cost-effective to repair an instrument, rather than throw it away and buy a new one.



Whilst an annual calibration check is all you may need for continued confidence in your instrument, there are times when you may wish for the added assurance of a full service, which includes a recalibration and the added benefit of a further one year's guarantee.

Instruments for service or repair should be sent to your local distributor or direct to ETI, carriage paid and labelled with the sender's name, address, telephone number and a brief description of the problem to assist with rapid diagnosis.

Contact our after-sales team for advice on any non-ETI units you wish to have repaired or calibrated. The prices quoted in our price list below are a guide, for a more comprehensive price structure, please contact our after-sales team.

| Order code | Description - Repair |
|---|---|
| 890-254 | Waterproof thermometers |
| 890-257 | Therma Series probe thermometer |
| 890-295 | ThermaData loggers |
| 890-303 | Thermapen Classic thermometers |
| 890-310 | Therma series thermometers |
| 890-318 | CaterTemp Metal thermometer |
| 890-319 | Therma Metal thermometer |
| 890-403 | Thermapen/IR thermometers |
| 890-500 | TempTest thermometers |
| 890-570 | BlueTherm thermometers |
| 890-670 | RayTemp infrared thermometers |
| 890-690 | ThermaData Wi-Fi loggers |
| 890-700 | Reference Thermometer |
| 890-800 | 8000/8100 pH Meters |
| 890-850 | 8100 Plus pH Meter |

| Order code | Description - Recalibration |
|---|---|
| 894-254 | Waterproof thermometers |
| 894-257 | Therma series probe thermometer |
| 894-303 | Thermapen thermometers* |
| 894-310 | Therma series thermometers |
| 894-318 | CaterTemp Metal thermometer |
| 894-319 | Therma Metal thermometer |
| 894-331 | MicroTherma thermometers |
| 894-500 | TempTest thermometers |
| *excludes Thermapen IR | |

| Order code | Description - Probe repair |
|---|---|
| 890-400 | Thermocouple probe |
| 890-410 | Thermistor probe |
| 890-420 | PT100 probe |


# HUMIDITY METERS

Monitoring climate conditions is important for many industries, for both the comfort of their staff and clientele, storing goods and carrying out processes. Keeping track of humidity makes it easy to see when adjustments need to be made to prevent discomfort and damage.

## THE IMPORTANCE OF HUMIDITY

High or low humidity inside buildings can damage human health and the storage of goods such as wooden construction materials, food products, pharmaceuticals, fuels, paper, and electronic components.

High humidity (above 70 %rh) causes dampness and condensation, leading to mould and dust mites. Humidity levels below 25 %rh can cause respiratory discomfort.

Using a hygrometer for regular monitoring helps to maintain a healthy humidity level. This can be done by opening windows, adjusting heating settings or using humidifiers and dehumidifiers.

## MEASURING HUMIDITY

Humidity is the level of water vapour or moisture in the air. Humidity is usually measured using relative humidity, also known as %rh. It is measured on a scale of 0 to 100 %rh.

100% refers to the maximum amount of water that can be present in the air at the current temperature. So if a hygrometer measures 50 %rh, the air currently contains 50% of the maximum amount of water it could contain.

## DEW POINT

Some hygrometers also measure dew point. This is the temperature at which water vapour will turn into a liquid form, whether this is condensation, fog, rain or snow. It is calculated using the %rh. The dew point is a good indicator of how muggy the atmosphere will feel.

## HUMIDITY CALIBRATION

The best way to check hygrometer accuracy is by sending it to an accredited humidity laboratory for testing. At ETI we have a UKAS-accredited laboratory for temperature and humidity where you can send your instrument for testing and recalibration. Please see pages 107 and 108 for more information.

# 6000 SERIES THERMA-HYGROMETERS


- High accuracy ±2 %rh & ±1 °C
- Remote or integral %rh & temperature probe
- Displays max/min humidity or temperature
- Dew point indication

The 6000 series therma-hygrometers are easy-to-use, relative humidity and air temperature measuring instruments. The units measure %rh over the range of 0 to 100 %rh with a resolution of 0.1 %rh and temperature over the range of -20 to 70 °C (-20 to 50 °C with a fixed probe) with a resolution of 0.1 °C.

The therma-hygrometers incorporate a custom LCD, displaying %rh, °C/°F, dew point indication, max/min and hold. There is an automatic display of both open circuit and low battery. The 6000/6100 display the temperature and humidity at the push of a button separately, whereas the 6002/6102 display humidity and temperature simultaneously and additionally incorporates a backlit display.

All units are powered by three AAA batteries with a minimum life expectancy of 10000 hours. An auto-power-off facility turns the therma-hygrometer off automatically after ten minutes, maximising battery life.

- **6100/6102 therma-hygrometers with remote probe**
  The 6000 series hygrometer has an integral humidity and temperature sensor. The 6100 has a wired humidity and temperature sensor. If you select the 02 version, you will see both temperature and humidity simultaneously on the LCD display.


- **Optional UKAS Certificate of Calibration**
  An optional three-point UKAS Humidity Calibration Certificate is available at a preferential price when purchased with these units.

UKAS CALIBRATION
0601

- **Protective silicone boot (830-227)**
  Various colours are available
  - see page 14 for details

DEW POINT | HOLD | MAX/MIN | AUTO OFF | 2 YEAR GUARANTEE | MADE IN BRITAIN

| Order code | Description |
|---|---|
| 224-600 | 6000 therma-hygrometer |
| 224-610 | 6100 therma-hygrometer |
| 224-602 | 6002 therma-hygrometer |
| 224-612 | 6102 therma-hygrometer |
| 224-617 | 6100/6102 spare probe** |
| 830-227 | Protective silicone boot - black |
| 890-111 | *UKAS 3-point Certificate |

6100/6102 are supplied inclusive of probe
*Price when purchased with a new instrument

| Specification | Temperature | Humidity |
|---|---|---|
| Range - 6000/6002 | -20 to 50 °C | 0 to 100 %rh |
| Range - 6100/6102 | -20 to 70 °C | 0 to 100 %rh |
| Resolution | 0.1 °C/°F | 0.1 %rh |
| Accuracy | ±1 °C ±1 digit* | ±2 %rh (10 to 90 %rh) |
| Hysteresis | N/A | ±1 %rh |
| Sensor type | Silicon bandgap | Capacitance polymer |
| Battery & life | 3 x 1.5 volt AAA - 10000 hours | |
| Display | 12 mm LCD | |
| Dimensions | 25 x 56 x 128 mm | |
| Weight | 130/160 grams | |

*Accuracy ±0.4 °C over the range 10 to 40 °C otherwise ±1 °C

** Please note this probe will only work with 6100 Instrument with serial numbers later than D20120375, and 6102 Instruments with serial numbers later than D20100842.

# 6500 THERMA-HYGROMETER

- Dew point calculation, max/min & hold functions
- Remote %rh & temperature probe


The 6500 therma-hygrometer measures both relative humidity and air temperature. The clear, easy-to-read LCD displays %rh over the range of 0 to 100 %rh with a resolution of 0.1 %rh and temperature over the range of -20 to 70 °C with a resolution of 0.1 °C/ °F.

The unit incorporates a custom LCD with %rh, °C/°F, dew point indication, max/min and hold. An auto-power-off facility turns the therma-hygrometer off automatically after ten minutes, maximising battery life.

The 6500 therma-hygrometer incorporates four, easy-to-use, push buttons allowing the user to select on/off, hold, max/min and mode functions. Each unit is supplied with a remote sensor and integral PVC lead.

| Order code | Description |
|---|---|
| 224-655 | 6500 therma-hygrometer |
| 830-227 | Protective silicone boot - black |
| 890-111 | *UKAS 3-point Certificate |

*Price when purchased with a new instrument

| Specification | Temperature | Humidity |
|---|---|---|
| Range | -20 to 70 °C | 0 to 100 %rh |
| Resolution | 0.1 °C/°F | 0.1 %rh |
| Accuracy | ±1 °C ±1 digit* | ±3 %rh (20 to 80 %rh) |
| Hysteresis | N/A | ±1 %rh |
| Sensor type | Silicon bandgap | Capacitance polymer |
| Battery & life | 3 x 1.5 volt AAA - 10000 hours | |
| Display | 12 mm LCD | |
| Dimensions | 25 x 56 x 128 mm | |
| Weight | 185 grams | |

*Accuracy ±1 °C over the range 5 to 45 °C otherwise ±1.7 °C

# POCKET HYGROMETER

- Max/min memory function
- Displays both humidity & temperature


The pocket hygrometer incorporates a large, clear LCD that simultaneously displays both humidity and temperature over the range of 20 to 95 %rh and 0 to 49.9 °C.

This pen-shaped hygrometer is ideal for monitoring the humidity and temperature in a wide range of applications. This versatile unit incorporates a max/min button which allows the user to display the maximum and minimum humidity and temperature simultaneously.

Unlike many hygrometers that are large and heavy to carry around, this compact hygrometer is truly pocket-sized and convenient to use.

The unit is housed in a slim, pen-shaped, ABS case measuring 20 x 23 x 130 mm and incorporates a pocket clip.

| Order code | Description |
|---|---|
| 810-190 | Pen-shaped pocket hygrometer |

| Specification | Temperature | Humidity |
|---|---|---|
| Range | 0 to 49.9 °C | 20 to 95 %rh |
| Resolution | 1 °C | 1 %rh |
| Accuracy | ±1 °C | ±3 %rh (30 to 80 %rh) |
| Sensor type | Silicon bandgap | Capacitance |
| Battery & life | 3 volt CR2032 lithium coil cell - 15000 hours | |
| Display | Custom LCD | |
| Dimensions | 20 x 23 x 130 mm | |
| Weight | 31 grams | |

# THERMA-HYGROMETER - COMFORT

- Save on energy bills
- Helps maintain a healthy living & work environment


These therma-hygrometers display both the humidity and temperature in addition to indicating and recording the maximum and minimum readings. Each unit features an analogue arrow indicator and a colour-coded bar to display either humidity comfort levels e.g. dry, comfort and wet (810-130) or temperature comfort levels e.g. cold, comfort and hot (810-135).

These therma-hygrometers are ideal for monitoring both temperature and humidity in rooms, offices, factories and similar to ensure optimum environmental conditions are maintained.

Each unit is housed in an ABS case, measuring 20 x 100 x 110 mm, that incorporates a useful foldaway stand and a keyhole slot for hanging on a wall.

MAX/ MIN

| Order code | Description |
|---|---|
| 810-130 | Therma-hygrometer |
| 810-135 | Comfort thermometer |

| Specification | Temperature | Humidity |
|---|---|---|
| Range | 0 to 50 °C | 10 to 99 %rh |
| Resolution | 0.1 °C/°F | 1 %rh |
| Accuracy | ±1 °C | ±5 %rh (30 to 70 %rh) |
| Battery & life | 2 x 1.5 volt AAA - 10000 hours | |
| Display | Dual custom LCD | |
| Dimensions | 20 x 100 x 110 mm | |
| Weight | 142 grams | |

# THERMA-HYGROMETER - ALARM

- Integral %rh & remote temperature probe
- Large LCD with max/min & alarm functions


This therma-hygrometer simultaneously displays both the humidity and temperature in addition to indicating and recording the maximum and minimum readings.

The instrument measures both humidity and temperature over the range of 0 to 49.9 °C and 20 to 99 %rh via the internal sensors. Using the external temperature sensor the temperature range is extended to -49.9 to 69.9 °C.

The unit features a temperature alert alarm that will sound when the external remote temperature probe indicates the temperature is 0 °C or below. This feature is ideal for frost/freeze alert in horticulture and similar.

The unit is housed in an ABS case, measuring 20 x 65 x 97 mm, that incorporates a useful foldaway stand and a keyhole slot for hanging on a wall.

MAX/ MIN

| Order code | Description |
|---|---|
| 810-155 | Therma-hygrometer - alarm |
| 810-158 | Replacement probe for 810-155 |

| Specification | Temperature | Humidity |
|---|---|---|
| Range - internal | 0 to 49.9 °C | 20 to 99 %rh |
| Range - external | -49.9 to 69.9 °C | N/A |
| Resolution | 0.1 °C/°F | 1 %rh |
| Accuracy | ±1 °C | ±5 %rh (30 to 80 %rh) |
| Sensor type | Thermistor | Capacitance |
| Battery & life | 1.5 volt AAA - 10000 hours | |
| Display | Dual custom LCD | |
| Dimensions | 20 x 65 x 97 mm | |
| Weight | 70 grams | |

# THERMA-HYGROMETER

- Max/min temperature & humidity function
- Integral %rh & temperature sensor


This therma-hygrometer simultaneously displays both the humidity and temperature in addition to indicating and recording the maximum and minimum temperature and humidity readings.

The hygrometer measures both humidity and temperature over the range of 0 to 50 °C and 10 to 99 %rh utilising the internal sensors. A comfort icon is displayed to show if the surrounding atmosphere is dry, just right or too wet.

This therma-hygrometer is ideal for monitoring both temperature and humidity in rooms, offices, factories and similar to ensure optimum environmental conditions are maintained.

The unit is housed in an ABS case, measuring 20 x 100 x 110 mm, that incorporates a useful foldaway stand and a keyhole slot for hanging on a wall.

MAX/ MIN

| Specification | Temperature | Humidity |
|---|---|---|
| Range | 0 to 50 °C | 10 to 99 %rh |
| Resolution | 0.1 °C/°F | 1 %rh |
| Accuracy | ±1 °C | ±5 %rh (30 to 70 %rh) |
| Battery & life | 1.5 volt AAA - 10000 hours | |
| Display | Dual custom LCD | |
| Dimensions | 20 x 100 x 110 mm | |
| Weight | 135 grams | |

| Order code | Description |
|---|---|
| 810-145 | Therma-hygrometer |

# THERMA-HYGROMETER - PANEL MOUNTING

- Displays both humidity & temperature
- Easy panel-mounting installation


This panel-mounted therma-hygrometer simultaneously displays both humidity over the range of 20 to 99 %rh and temperature over the range of 0 to 49.9 °C with a resolution of 1 %rh and 0.1 °C. This instrument is ideal for OEMs for installing into equipment, i.e. vivariums, incubators and similar.

The therma-hygrometer is easily installed into a panel via a mounting hole with a minimum Ø33 mm cut-out. The unit incorporates a screw clamp with a maximum panel thickness of 7 mm.

The therma-hygrometer features a max/min memory function for both temperature and humidity. The unit is powered by a CR2032 coin cell battery with a life expectancy of 5000 hours continuous use.

MAX/ MIN

| Specification | Temperature | Humidity |
|---|---|---|
| Range | 0 to 49.9 °C | 20 to 99 %rh |
| Resolution | 0.1 °C | 1 %rh |
| Accuracy | ±1 °C | ±5 %rh (30 to 80 %rh) |
| Sensor type | Thermistor | Capacitance |
| Battery & life | 3 volt CR2032 lithium coin cell - 5000 hours | |
| Display | Dual custom LCD | |
| Dimensions | Ø50 x 41 mm | |
| Weight | 42 grams | |

| Order code | Description |
|---|---|
| 810-180 | Therma-hygrometer - panel |

# THERMA-HYGROMETER - WITH PROBE

- Remote %rh & remote temperature probe
- Frost/freeze audible alarm feature


This therma-hygrometer simultaneously displays both the humidity and temperature in addition to indicating and recording the maximum and minimum readings.

Utilising the internal sensor the instrument measures temperature over the range of 0 to 49.9 °C. The external remote probe with integrated three metre lead measures both temperature and humidity over the range of -49.9 to 69.9 °C and 20 to 98 %rh.

The unit features a temperature alert alarm that will sound when the external remote probe indicates the temperature is 0 °C or below. This feature is ideal for frost/freeze alert in horticulture and similar.

The therma-hygrometer is housed in an ABS case measuring 18 x 41 x 76 mm, that incorporates a foldaway stand. Each unit is supplied with a probe wall bracket.

| Order code | Description |
|---|---|
| 810-195 | Therma-hygrometer - with probe |

MAX/ MIN

| Specification | Temperature | Humidity |
|---|---|---|
| Range - internal | 0 to 49.9 °C | N/A |
| Range - external | -49.9 to 69.9 °C | 20 to 98 %rh |
| Resolution | 0.1 °C/°F | 1 %rh |
| Accuracy | ±1 °C | ±5 %rh (30 to 80 %rh) |
| Sensor type | Thermistor | Capacitance |
| Battery & life | 1.5 volt AAA - 10000 hours | |
| Display | Dual custom LCD | |
| Dimensions | 18 x 41 x 76 mm | |
| Weight | 90 grams | |

# THERMA-HYGROMETER - WITH PROBE

- Save on energy bills
- Integral sensor & remote probe


The therma-hygrometer simultaneously displays both the humidity and temperature in addition to indicating and recording the maximum and minimum readings.

Using the external remote probe with integrated three metre lead the unit measures both temperature and humidity over the range of -20 to 70 °C and 10 to 99 %rh. Alternatively using the internal sensor the unit measures temperature over the range of 0 to 50 °C.

This therma-hygrometer is ideal for monitoring both temperature and humidity in rooms, offices, factories and similar to ensure optimum environmental conditions are maintained.

The unit is housed in an ABS case, measuring 20 x 100 x 110 mm, that incorporates a useful foldaway stand and a keyhole slot for hanging on a wall.

| Order code | Description |
|---|---|
| 810-140 | Therma-hygrometer - with probe |

MAX/ MIN

| Specification | Temperature | Humidity |
|---|---|---|
| Range - internal | 0 to 50 °C | N/A |
| Range - external | -20 to 70 °C | 10 to 99 %rh |
| Resolution | 0.1 °C/°F | 1 %rh |
| Accuracy | ±1 °C | ±5 %rh (30 to 70 %rh) |
| Battery & life | 1.5 volt AAA - 10000 hours | |
| Display | Dual custom LCD | |
| Dimensions | 20 x 100 x 110 mm | |
| Weight | 170 grams | |


# MOISTURE METERS FOR MEASURING DAMP

Moisture meters, otherwise known as damp testers, are important tools for professionals responsible for construction, building maintenance and surveying.

Common applications include assessing whether materials are fit for use and whether a building has been damaged by the presence of moisture. In addition, they can help with monitoring processes such as restoration.

The presence of moisture can be difficult to detect without a damp tester, as there can be no visible signs, and some damp materials can even feel dry to the touch. However, an invisible damp problem can lead to serious and costly issues later on, such as mould growth and rot.

Common reasons for moisture in building materials include:

- Leaks in the building envelope
- Releases from plumbing or HVAC systems
- Humid air condensing on surfaces
- Extensive periods of humid weather
- A lack of ventilation

## PIN-TYPE MOISTURE METERS

Moisture meters tend to come in two main types: pin-type and pinless. Pin-type meters create holes in materials, so they might not be the best choice for applications like fine furniture. However, they are generally a more accurate method of testing than pinless meters.

Our range of cost-effective pin-type moisture meters is designed for the accurate monitoring of a wide range of materials.

When the pins are inserted into a damp material, they produce an electrical current which determines the quantity of moisture present. This is displayed on the meter as a percentage.

The colour-coded damp indicator also shows whether the material has a good, cautionary or high level of moisture.

Our moisture meters read in five scales:

| | |
|---|---|
| Wood 1 | 6.0 to 40.0 % |
| Wood 2 | 8.0 to 40.0 % |
| Plaster | 0.1 to 15.0 % |
| Concrete | 0.5 to 12.0 % |
| Linear or Reference | 0 to 1000 |

When measuring materials for damp, be sure to consider other factors that could impact the reading - such as the material's density and ability to absorb moisture, and the conditions of the surrounding environment.

# 7250 MOISTURE METER

- 20-LED bar graph displays moisture levels for quick diagnosis
- Specifically designed for the building professional
- 5 scales - concrete, plaster, reference & 2 timber
- Compact & robust design

The 7250 is a compact, general purpose moisture meter designed specifically for building professionals and tradesmen to check the moisture content in a variety of construction materials. The moisture meter features a 20-LED bar graph within the keypad which displays current moisture levels; green for OK, amber for WARNING or red for DAMP. The digital meter incorporates five scales of measurement.

| | |
|---|---|
| Scale 1 - Wood 1 (W1) | 6.0 to 40.0 % |
| Scale 2 - Wood 2 (W2) | 8.0 to 40.0 % |
| Scale 3 - Plaster (P1) | 0.1 to 15.0 % |
| Scale 4 - Concrete (C1) | 0.5 to 12.0 % |
| Scale 5 - Linear or Reference (Lin) | 0 to 1000 |


The unit is housed in a robust ABS case and is powered by three AAA batteries that give a minimum of 350 hours of battery life. The instrument will power off automatically after ten minutes, maximising battery life. This feature can be disabled by the user, if required.

Each meter incorporates two Ø1.2 x 7 mm pointed, replaceable pins and is supplied in a zip wallet complete with 50 spare pins (602-530). The 7250 moisture meter is an essential tool for flooring surveyors and building and construction engineers.

## LED MOISTURE INDICATION BAR GRAPH:

Damp Warning Ok

- **Protective silicone boot**
  Fitting a boot will make your instrument splashproof to IP64 and help prevent against accidental damage. Various colours are available - see page 14.

| Order code | Description |
|---|---|
| 224-075 | 7250 moisture meter |
| 830-222 | Protective silicone boot - yellow |
| 832-222 | s/steel wall bracket & boot |
| 890-270 | 3-point traceable calibration cert |
| 602-530 | Spare pins - pack of 50 |

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| Specification | | 7250 moisture meter |
|---|---|---|
| Range | Scale 1 | 6.0 to 40.0 % |
| | Scale 2 | 8.0 to 40.0 % |
| | Scale 3 | 0.1 to 15.0 % |
| | Scale 4 | 0.5 to 12.0 % |
| | Scale 5 | 0 to 1000 |
| Resolution | | 0.1 % or 1 (Linear Scale) |
| Accuracy | | ±1 % moisture content |
| Battery & life | | 3 x 1.5 volt AAA - 350 hours |
| Display | | 12 mm LCD |
| Dimensions | | 25 x 56 x 128 mm |
| Weight | | 130 grams |

# 7000 MOISTURE METER

- 20-LED bar graph indicates OK, WARNING or DAMP levels
- Specifically designed for the building professional
- 5 scales - concrete, plaster, reference & 2 timber
- Interchangeable 2-pin probes


The 7000 is a compact, general purpose moisture meter designed specifically for building professionals and tradesmen to check the moisture content in a variety of construction materials for moisture content diagnosis.

The instrument features a 20-LED bar graph within the keypad which displays current moisture levels; green for OK, amber for WARNING or red for DAMP. The instrument incorporates a large, easy-to-read, LCD display with low battery indication. The 7000 digital meter incorporates five scales of measurement.

| | |
|---|---|
| Scale 1 - Wood 1 (W1) | 6.0 to 40.0 % |
| Scale 2 - Wood 2 (W2) | 8.0 to 40.0 % |
| Scale 3 - Plaster (P1) | 0.1 to 15.0 % |
| Scale 4 - Concrete (C1) | 0.5 to 12.0 % |
| Scale 5 - Linear or Reference (Lin) | 0 to 1000 |

Each unit is housed in a robust ABS case and is powered by three AAA batteries that give a minimum of 350 hours of battery life. The instrument will power-off automatically after ten minutes, maximising battery life. This feature can be disabled by the user, if required.

Each moisture meter comes complete with a general purpose two-pin probe, having a one metre PVC lead and BNC connector, all supplied in a handy-sized protective zip wallet and 50 spare pins (602-530). For alternative moisture probes available, see opposite page.

## LED MOISTURE INDICATION BAR GRAPH:

Damp Warning Ok

- **Protective silicone boot**
  Fitting a boot will make your instrument splashproof to IP64 and help prevent against accidental damage. Various colours are available - see page 14.

HOLD AUTO OFF 2 YEAR GUARANTEE MADE IN BRITAIN

| Order code | Description |
|---|---|
| 224-070 | 7000 moisture meter |
| 830-222 | Protective silicone boot - yellow |
| 890-270 | 3-point traceable calibration cert |
| 602-530 | Spare pins - pack of 50 |

The 7000 moisture meter is inclusive of probe

| Specification | | 7000 moisture meter |
|---|---|---|
| Range | Scale 1 | 6.0 to 40.0 % |
| | Scale 2 | 8.0 to 40.0 % |
| | Scale 3 | 0.1 to 15.0 % |
| | Scale 4 | 0.5 to 12.0 % |
| | Scale 5 | 0 to 1000 |
| Resolution | | 0.1 % or 1 (Linear Scale) |
| Accuracy | | ±1 % moisture content |
| Battery & life | | 3 x 1.5 volt AAA - 350 hours |
| Display | | 12 mm LCD |
| Dimensions | | 25 x 56 x 128 mm |
| Weight | | 130 grams |

# MOISTURE METER KIT

- Heavy-duty, designed for the construction industry
- Excellent value-for-money

This moisture meter kit is a complete solution for measuring the moisture and dampness in a variety of building materials. This kit is supplied in a robust ABS carrying case and includes a two-pin probe, two packs of pins and a protective silicone boot.

### Each kit contains:

- 7000 moisture meter (224-070)
- General purpose two-pin probe (180-160)
- Heavy-duty hammer probe (180-170)
- General purpose pins - pack of 50 (602-530)
- Hammer probe pins - pack of 10 (602-537)
- Protective silicone boot - yellow (830-222)
- ABS carrying case (834-715)

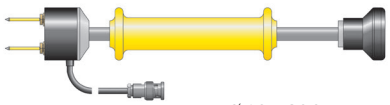
Heavy-duty hammer probe (180-170)

General purpose two-pin probe (180-160)

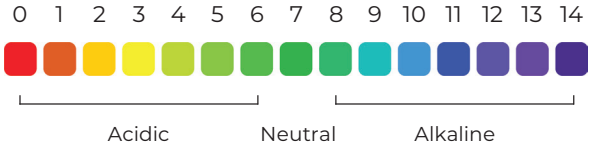
HOLD AUTO OFF MADE IN BRITAIN

| Order code | Description |
|---|---|
| 224-079 | Moisture meter kit |

# 7000 MOISTURE METER PROBES

| | | Order code |
|---|---|---|
| GENERAL PURPOSE PROBE  26 x 33 x 60 mm overall | This standard, general purpose, two-pin (12.7 mm spacing) moisture meter probe is ideal for measuring moisture in a variety of building materials. Supplied with a one metre PVC lead and BNC connector. | 180-160 |
|  Ø1.2 x 7 mm (fitted) | Spare general purpose probe pins - pack of 50 | 602-530 |
| HEAVY-DUTY HAMMER PROBE  Ø40 x 290 mm overall | This probe is designed for measuring moisture in wood and similar materials. The pin's insulated shanks ensure measurements are taken at the pin tip, allowing varying of depth measurements. Supplied with a one metre PVC lead and BNC connector. | 180-170 |
|  Ø2.4 x 30 mm (fitted) | Spare hammer probe pins - pack of 10 | 602-537 |
| DEEP WALL PROBE  Ø3 x 150 mm overall | This insulated deep wall probe measures moisture deep within walls, regardless of surface dampness. The insulated shanks should be inserted into pre-drilled holes. Each pair of probe assemblies is supplied with a one metre PVC lead and BNC connector. | 180-180 |
|  Ø3 x 130 mm | Spare insulated shanks - pack of 2 | 602-539 |


# pH INSTRUMENTATION




pH meters measure the acidity or alkalinity of a solution. Frequently used in agriculture, food processing, laboratories and aquariums, pH meters test the quality of water, soil, food and other substances.

ETI offers a range of pH meters for different budgets and applications, from easy-to-use pocket testers to pH and temperature meters with interchangeable electrodes.

## MAINTAINING YOUR PH METER

pH meters and electrodes require good maintenance and care in order to get accurate readings.

## PROPER STORAGE

When not in use, your pH meter should be stored in a clean and dry environment. Fill the electrode cap with storage solution to keep it hydrated and store it upright.

## AVOID CONTAMINATION

Always rinse the electrode with distilled or deionised water before and after each measurement. Use separate containers for different samples to prevent cross-contamination, and avoid touching the electrode membrane with your fingers.

## GENTLE HANDLING

Handle your pH meter and electrode with care — the electrode's glass membrane is fragile and can be easily damaged. Never force the electrode into a sample; instead, gently immerse it to prevent damage.

## REPLACE ELECTRODES AS NEEDED

Over time, the electrode's performance can degrade. If you notice slower response times, erratic readings, or difficulty calibrating, it may be time to replace it.

## BUFFER SOLUTIONS

pH buffers are solutions that have a specific pH value. All pH meters have a calibration function that will automatically recalibrate the instrument when used with a pH buffer.

A neutral solution with a pH of 7 is typically used, but some pH meters or applications will require a two-point calibration method using an additional buffer solution, usually pH 4 or 10.

This makes the instrument more accurate at the values it has been calibrated to. Therefore, if your application is typically more acidic or more alkaline, you should choose a pH buffer to reflect this.

# pH PAL PLUS pH METER

- Pocket-sized meter, ideal for everyday use
- Automatic recalibration feature
- Easy-to-read 8 mm LCD display
- Display hold function

The pH Pal Plus pH meter is a user-friendly, simple-to-use pocket-sized pH meter that incorporates an automatic recalibration feature. At the touch of a button, the instrument will automatically recalibrate itself when used in conjunction with a 7.00 pH buffer solution.

The unit is housed in a water-resistant case and features an easy-to-read 8 mm LCD display indicating pH over the range of 0 to 14 pH with a resolution of 0.1 pH and an accuracy of ±0.2 pH.

The pH Pal Plus meter will power-off automatically after ten minutes, maximising battery life. This pH Pal is ideal for measuring the pH in food processing, hydroponics and water testing applications. The pH meter is an invaluable tool when mixing concentrates with water.

The unit is powered by four LR44 button cell batteries (supplied) and includes a protective cap. For pH buffer solutions and capsules, see page 125.


## OPTIONAL ACCESSORY:

- This ready-made 7.00 pH buffer solution ensures the pH meter is reading correctly

HOLD | AUTO OFF | IP65

| Order code | Description |
|---|---|
| 813-513 | pH Pal Plus pH meter |
| 816-051 | 7.00 pH buffer solution - 100 ml |

| Specification | pH Pal Plus pH meter |
|---|---|
| Range | 0 to 14 pH |
| Resolution | 0.1 pH |
| Accuracy | ±0.2 pH |
| Battery & life | 4 x 1.5 volt LR44 button cell - 150 hours |
| Display | 8 mm LCD |
| Dimensions | 15 x 32 x 170 mm |
| Weight | 70 grams |

# 8000 pH METER

- Easy-to-use 2-point recalibration function
- ±0.05 pH accuracy
- 2 year guarantee
- Supplied complete with a pH electrode

The 8000 pH meter features an easy-to-read, LCD display and is supplied with a budget pH electrode.

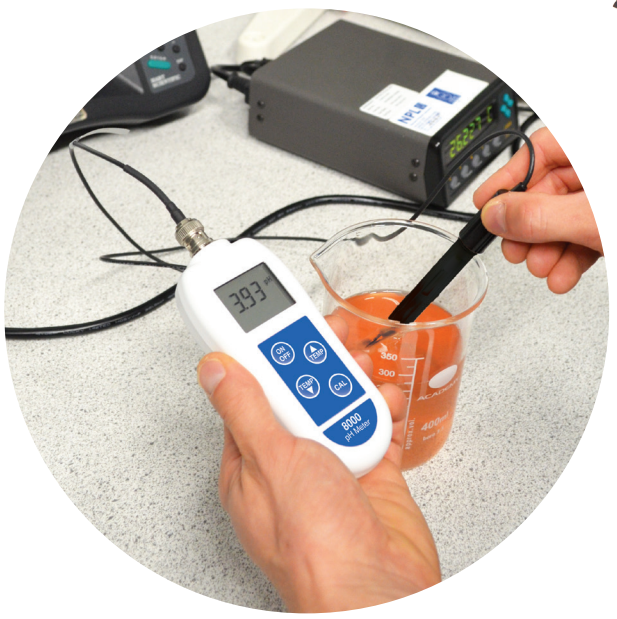
The 8000 pH meter indicates pH over the range of 0 to 14 pH with a resolution of 0.01 pH and an accuracy of ±0.05 pH. The pH readings are manually temperature compensated over the range of 0 to 60 °C (default 25 °C).

The unit will power off automatically after ten minutes, maximising battery life.

At the touch of a button, the instrument will automatically recalibrate itself when used in conjunction with pH buffer solutions. See page 125 for pH electrodes, buffer solutions and capsules.

In order to calibrate this instrument before use, pH7 buffer solution or capsules must be purchased alongside this instrument, plus either a pH4 or pH10 buffer solution or capsules depending on your application.


Budget pH electrode (823-504)
Supplied with 8000 pH meter



- These ready-made solutions are suitable for checking and cleaning pH instrumentation and pH electrodes.

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| Order code | Description |
|---|---|
| 860-800 | 8000 pH meter |
| 816-050 | 4.01 pH buffer solution - 100 ml |
| 816-051 | 7.00 pH buffer solution - 100 ml |
| 816-052 | 10.01 pH buffer solution - 100 ml |
| Certificate of analysis is available upon request | |

| Specification | 8000 pH meter |
|---|---|
| Range | 0 to 14 pH |
| Resolution | 0.01 pH |
| Accuracy | ±0.05 pH |
| Battery & life | 3 x 1.5 volt AAA - 5000 hours |
| Sensor type | Combination electrode |
| Display | Custom LCD |
| Dimensions | 25 x 56 x 128 mm |
| Weight | 130 grams |
| The 8000 pH meter is inclusive of pH electrode | |

# 8100 pH & TEMPERATURE METER KIT

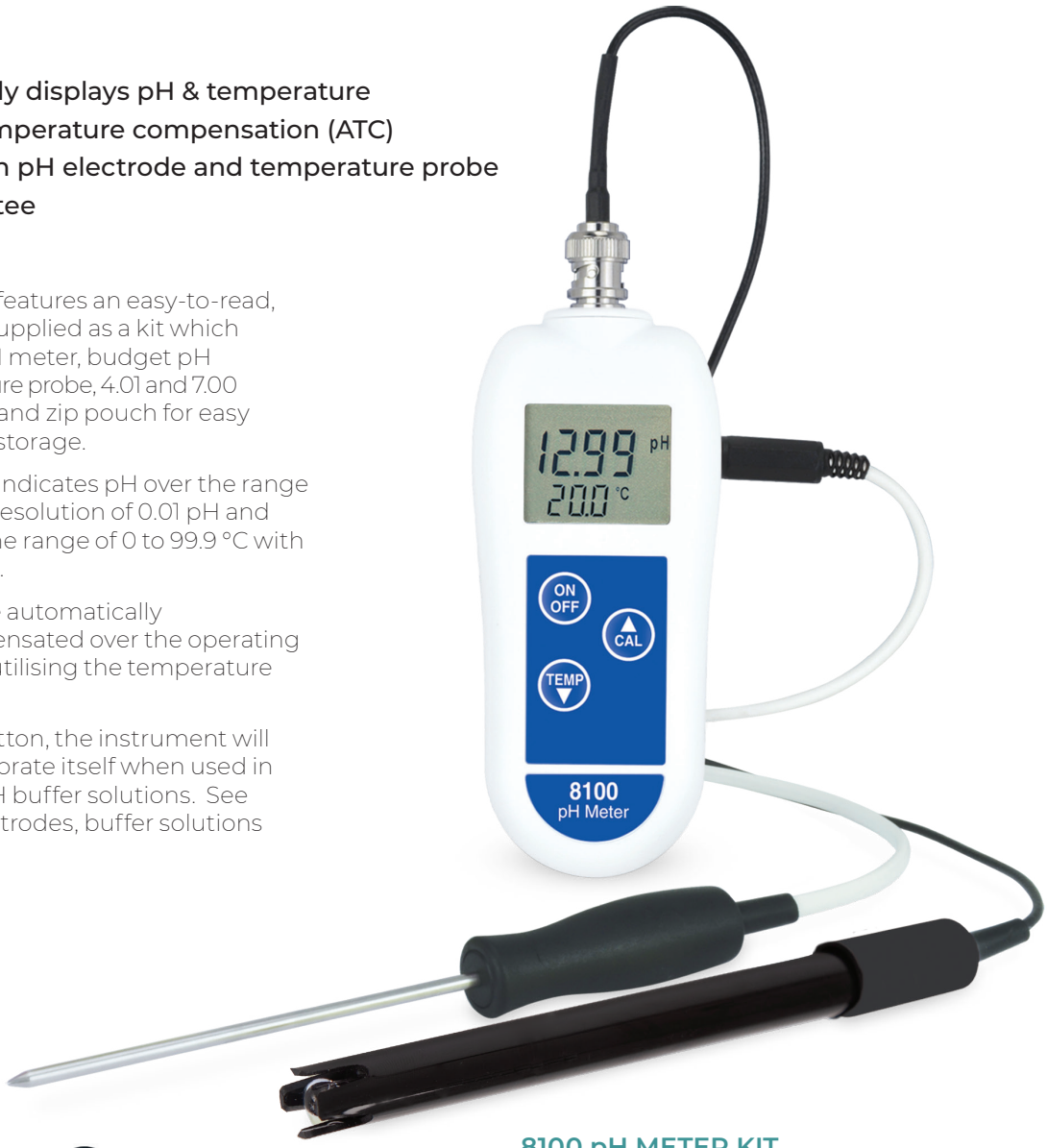
- Simultaneously displays pH & temperature
- Automatic temperature compensation (ATC)
- Complete with pH electrode and temperature probe
- 2 year guarantee

The 8100 pH meter features an easy-to-read, LCD display and is supplied as a kit which includes an 8100 pH meter, budget pH electrode, temperature probe, 4.01 and 7.00 pH buffer solutions and zip pouch for easy transportation and storage.

The 8100 pH meter indicates pH over the range of 0 to 14 pH with a resolution of 0.01 pH and temperature over the range of 0 to 99.9 °C with a resolution of 0.1 °C.

The pH readings are automatically temperature compensated over the operating range of 0 to 60 °C utilising the temperature probe supplied.

At the touch of a button, the instrument will automatically recalibrate itself when used in conjunction with pH buffer solutions. See page 125 for pH electrodes, buffer solutions and capsules.




## 8100 pH METER KIT

### Each kit contains:

- 8100 pH meter
- Temperature probe (170-101)
- Budget pH electrode (823-504)
- 4.01 pH buffer solution (816-050)
- 7.00 pH buffer solution (816-051)
- Zip pouch (830-080)

Temperature probe (170-101)

Budget pH electrode (823-504)

| Order code | Description |
|---|---|
| 860-810 | 8100 pH kit |
| 170-101 | Spare temperature probe |
| Kit inclusive of temperature probe and electrode | |

| Specification | pH meter | Temperature |
|---|---|---|
| Range | 0 to 14 pH | 0 to 99.9 °C |
| Resolution | 0.01 pH | 0.1 °C |
| Accuracy | ±0.05 pH | ±0.5 °C |
| Battery & life | 3 x 1.5 volt AAA - 5000 hours | |
| Sensor type | Combination electrode / Thermistor | |
| Display | Custom LCD | |
| Dimensions | 25 x 56 x 128 mm | |
| Weight | 130 grams | |
| Certificate of analysis is available upon request | | |

# 8100 PLUS pH METER

- Manual/automatic temperature compensation
- Easy-to-use 2-point recalibration function
- High accuracy ±0.02 pH
- Waterproof IP66/67, robust design

The 8100 Plus pH meter is a three-in-one instrument that features a large easy-to-read, LCD display that indicates pH over the range of -2 to 16 pH with a resolution of 0.01 pH, mV over the range of -1000 to 1000 mV and temperature over the range of -39.9 to 149.9 °C with a resolution of 0.1 °C. The LCD display features both low battery indication and a user selectable backlight.

The pH readings are either manually or automatically temperature compensated over the range of 0 to 80 °C. To automatically compensate, it is necessary to utilise a thermistor temperature probe. Each unit incorporates an auto-power-off facility that automatically turns the instrument off after ten minutes,maximising battery life.

The 8100 Plus has an integrated rubber seal to ensure complete water resistance and helps to reduce the possibility of damage in harsh environments. At the touch of a button, the instrument will automatically recalibrate (two-point autocal) itself when used in conjunction with pH buffer solutions. For pH electrodes, buffer solutions and capsules, see overleaf.

Each unit incorporates an easy-to-use BNC connector for the pH electrode and a Lumberg screw-locking type connector for the temperature probe, allowing interchangeable thermistor probes to be used. We offer a wide range of temperature probes, see pages 86 and 87 for full details.

The 8100 Plus is available as a meter only or as a complete kit.


| Order code | Description |
|---|---|
| 225-085 | 8100 Plus pH meter* |
| 860-820 | 8100 Plus kit |
| 170-100 | Temperature probe |
| 830-231 | Protective silicone boot - white |
| 832-015 | Stainless steel wall bracket |
| *The 8100 Plus is exclusive of pH electrode & probe | |


General purpose electrode (823-501)

Temperature probe (170-100)

## 8100 PLUS pH METER KIT

Each kit contains:

- 8100 Plus pH meter (225-085)
- Temperature probe (170-100)
- General purpose pH electrode (823-501)
- 4.01 pH buffer solution (816-050)
- 7.00 pH buffer solution (816-051)
- Zip pouch (830-080)

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| Specification | pH | mV | Temperature |
|---|---|---|---|
| Range | -2 to 16 pH | ± 1000 mV | -39.9 to 149.9 °C |
| Resolution | 0.01 pH | 1 mV | 0.1 °C |
| Accuracy | ±0.02 pH | ±1 mV | ±0.4 °C (-9.9 to 69.9 °C) |
| Battery & life | 3 x 1.5 volt AAA - 2500 hours | | |
| Sensor type | Combination electrode / Thermistor | | |
| Display | 12 mm LCD | | |
| Dimensions | 32 x 71 x 141 mm | | |
| Weight | 230 grams | | |
| Certificate of analysis is available upon request | | | |

# pH ELECTRODES WITH BNC CONNECTOR

pH meters are only part of the system, of equal importance is the design of the pH electrodes that are used to physically measure the product. This range of standard hand held pH electrodes are fully interchangeable via a BNC connector and are designed for use with the 8000/8100 and 8100 Plus pH meters or similar.

| | | Order code |
|---|---|---|
| BUDGET pH ELECTRODE  Ø12 x 120 mm | This plastic bodied electrode is ideal for measuring the pH in liquids and semi-solids, in a variety of industries including hydroponics, education and scientific. | 823-504 |
| GENERAL PURPOSE ELECTRODE  Ø12 x 120 mm | This plastic bodied electrode is ideal for measuring the pH in liquids and semi-solids in a wide variety of industries including food processing, agriculture and pharmaceutical. | 823-501 |
| SPEAR-SHAPED ELECTRODES  Ø6 or Ø12 x 120 mm | These glass penetration pH electrodes measure pH in semi-solid and soft materials. Ideal for use in a wide variety of industries including food processing and agriculture. | 823-502 (Ø12 mm) 823-503 (Ø6 mm) |
| KNIFE PROBE ELECTRODE  Ø20 x 145 mm | This stainless steel, sheathed glass electrode is ideal for insertion into meat, cheese or similar. The knife probe can also be used in a variety of applications in food processing and agriculture. | 823-514 |

**Please note:** maximum operating temperature range of pH electrodes is 80 °C. Each electrode is supplied with a one metre lead.

# CALIBRATION SOLUTIONS & CAPSULES

## pH buffer, cleaning & storage solutions

These ready-made solutions are suitable for checking and cleaning pH instrumentation and pH electrodes.

Buffer solutions are available for 4.01, 7.00 and 10.01 pH.

| Order code | Description |
|---|---|
| 816-050 | 4.01 pH buffer solution - 100 ml |
| 816-051 | 7.00 pH buffer solution - 100 ml |
| 816-052 | 10.01 pH buffer solution - 100 ml |
| 816-027 | 7.00 pH buffer solution - 1 Ltr |
| 816-040 | Cleaning solution - 500 ml |
| 816-041 | Storage solution - 500 ml |

## pH buffer capsules

These DIY pH buffer capsules are available in four standard values, 4.00, 7.00, 9.00 and 10.00 pH.

Each capsule makes 100 ml of solution when mixed with de-ionised water. Supplied in packs of ten capsules.

| Order code | Description |
|---|---|
| 816-004 | 4.00 pH buffer capsules (10) |
| 816-007 | 7.00 pH buffer capsules (10) |
| 816-009 | 9.00 pH buffer capsules (10) |
| 816-010 | 10.00 pH buffer capsules (10) |

# 8500 CONDUCTIVITY METER

- Measures ppm, mS/cm & temperature
- Automatic temperature compensation
- Easy-to-use 1-point recalibration function
- Compact & robust design

The 8500 Conductivity Meter is a three-in-one instrument that features an easy-to-read LCD display that indicates parts per million over a range of 0 to 3500 ppm with a resolution of 1 ppm, millisiemens/cm over a range of 0.00 to 5.00 mS/cm with a resolution of 0.01 mS/cm, and temperature over the range of 0 to 50 °C with a resolution of 0.1 °C.

Both the ppm and mS/cm readings are automatically temperature compensated over the operating range of 0 to 50 °C, utilising the temperature sensor in the probe.

Each unit is housed in a robust ABS case and powered by three AAA batteries that give a minimum of 5000 hours of battery life.

The unit will power-off automatically after ten minutes, maximising battery life.

At the touch of a button, the instrument will recalibrate itself when used in conjunction with 816-071 calibration solution.





- **816-071 Calibration Solution**
  To maintain accurate readings, use this calibration solution in conjunction with your Conductivity Meter.

HOLD · IP65 · AUTO OFF · Biomaster PROTECTED · 2 YEAR GUARANTEE · MADE IN BRITAIN

| Order code | Description |
|---|---|
| 225-528 | 8500 Conductivity meter |
| 816-071 | Calibration solution - 100ml |
| 830-231 | Protective silicone boot - white |
| 830-080 | Zip pouch |
| Certificate of analysis is available upon request | |

| Specification | mS/cm | ppm | Temperature |
|---|---|---|---|
| Range | 0.00 to 5.00 mS/cm | 0 to 3500 ppm | 0.0 to 50.0 °C |
| Resolution | 0.01 mS/cm | 1 ppm | 0.1 °C |
| Accuracy | ± 2% F.S mS/cm | ± 2% F.S ppm | ± 0.5 °C |
| Battery | 3 x 1.5 volt AAA | | |
| Battery life | 5000 hours (normal use) | | |
| EC Calibration | Manual, 1 point | | |
| Display | Custom LCD | | |
| Dimensions | 25 x 56 x 128 mm | | |
| Weight | 130 grams | | |


# PRESSURE & AIR FLOW METERS



ETI's range of pressure meters is designed for measuring non-corrosive gauge or differential air or gas pressure in a wide range of industries.

## APPLICATIONS

- Flue draught measurement
- Gas pressure in heating appliances
- Air conditioning ducts
- Monitoring of filter differential pressure
- Velocity measurement with a pitot tube

## ABSOLUTE, GAUGE OR DIFFERENTIAL

To get a correct and accurate pressure measurement, first identify whether you need to measure the absolute, gauge or differential pressure.

## ABSOLUTE PRESSURE

In a perfect vacuum, zero is the complete absence of pressure. This is referred to as absolute zero pressure. Absolute pressure is the pressure being measured from absolute zero pressure. It is most commonly used for meteorological applications like weather stations.

## GAUGE PRESSURE

Atmospheric pressure is the pressure caused by the earth's atmosphere - it's commonly affected by altitude, wind velocity, and temperature. Most pressure gauges read zero at atmospheric pressure. Gauge pressure is the pressure being measured from atmospheric pressure. It is often used to measure car tyres, water levels, chamber pressure and hydraulic applications.

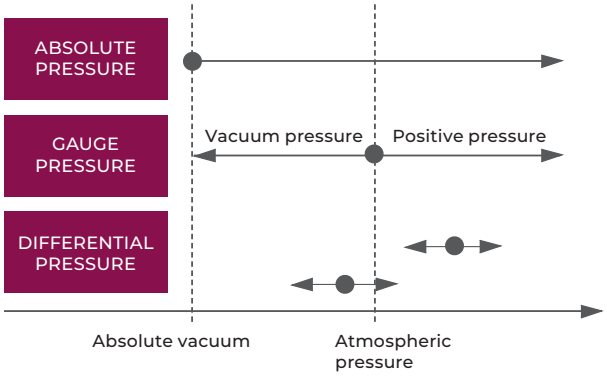
## DIFFERENTIAL PRESSURE

Differential pressure is the difference between two different pressure measurements. It is commonly used for HVAC applications and filter monitoring.

## MANOMETERS AND PRESSURE METERS

Pressure is usually measured using manometers and pressure meters. Manometers are used to measure gas pressure or low atmospheric pressure, while pressure meters measure high-pressure, non-corrosive air or gas.

Our range of u-gauge manometers and pressure meters display the differential pressure and feature 11 selectable units of measurement, including psi and mbar.



# 9202 MANOMETER

- Robust water-resistant case offering IP65 protection
- Zeroing functionality
- 11 selectable units of measurement
- Automatic temperature compensation


The 9202 digital manometer allows the user to measure positive and negative differential pressure over the range of -137.9 to 137.9 mbar with a resolution of 0.1 mbar and features over pressure protection to at least twice the measuring capacity.

These easy-to-use manometers are ideal for plumbers and gas engineers to measure domestic gas pressures and low pressure, non-corrosive air or gases in HVAC applications. The units can be used to measure air pressure in ductwork or pressure drops across filters to determine performance.

The 9202 manometer features a custom LCD display with P1, P2, diff, hold, open circuit, low battery indication and a user selectable backlight. The unit incorporates an auto-power-off facility that automatically turns the instrument off after approximately 25 minutes, maximising battery life. The instrument automatically compensates for changes in temperature.

Each unit is housed in a durable, ABS case that has an integrated rubber seal to ensure complete water tightness and help reduce the possibility of damage in harsh environments. Supplied complete with batteries, operation manual and two 500 mm long x 6 mm ID connection hoses.

## OPTIONAL ACCESSORIES:

- Protective silicone boot - black c/w foot stand and magnet for mounting on pipes, metallic surfaces etc. (830-258)
- Stainless steel wall bracket (832-015) screws not supplied - see page 41 for details


HOLD | MAX/MIN | AUTO OFF | IP65

| Order code | Description |
|---|---|
| 825-902 | 9202 manometer |
| 825-998 | 500 mm connection hoses (2) |
| 830-258 | Protective silicone boot - black |
| 832-015 | S/steel wall bracket |
| 890-280 | 3-point traceable calibration certificate* |
| *unit of measure mbar | |

| Specification | 9202 manometer | |
|---|---|---|
| | Range | Resolution |
| psi | ±2 | 0.01 |
| inH2O | ±55.36 | 0.01 |
| mbar | ±137.9 | 0.1 |
| kPa | ±13.79 | 0.01 |
| inHg | ±4.07 | 0.001 |
| mmHg | ±103.4 | 0.1 |
| ozin2 | ±32.00 | 0.01 |
| ftH2O | ±4.613 | 0.001 |
| cmH2O | ±140.6 | 0.1 |
| kgcm2 | ±0.1406 | 0.001 |
| bar | ±0.1379 | 0.001 |
| Accuracy | ±0.5 %FS or better (25 °C) | |
| Repeatability | ±0.2 % (Max. 0.5 %FS) | |
| Battery | 3 x 1.5 volt AAA | |
| Battery life | 100 hours | |
| Display | Custom LCD | |
| Dimensions | 32 x 71 x 141 mm | |
| Weight | 185 grams | |

# 9200 SERIES PRESSURE METERS

- Robust, water-resistant case offering IP65 protection
- 11 selectable units of measurement
- 4 models available ±5 to ±75 psi
- Automatic temperature compensation


This range of four industrial differential pressure meters offer high accuracy, performance and repeatability. The pressure meters allow the user to indicate the positive and negative differential pressure over the range of ±5, ±15, ±30 or ±75 psi.

All instruments feature over pressure protection to at least twice the measuring capacity. These easy-to-use pressure meters are ideal for measuring non-corrosive gauge or differential air/gas pressure in a wide variety of industries.

Each pressure meter features a custom LCD display with P1, P2, diff, hold, open circuit, low battery indication and a user selectable backlight. The unit incorporates an auto-power-off facility that automatically turns the instrument off after approximately 25 minutes, maximising battery life. The instrument automatically compensates for changes in temperature

Each unit is housed in a durable, ABS case that has an integrated rubber seal to ensure complete water tightness and help reduce the possibility of damage in harsh environments. Supplied complete with batteries, operation manual and two 300 mm long x 4 mm ID connection hoses.*

HOLD | MAX/ MIN | AUTO OFF | IP65

| Specification | 9205 meter | | 9215 meter | | 9230 meter | | 9275 meter | |
|---|---|---|---|---|---|---|---|---|
| | Range | Resolution | Range | Resolution | Range | Resolution | Range | Resolution |
| psi | ±5 | 0.01 | ±15 | 0.01 | ±30 | 0.01 | ±75 | 0.1 |
| inH2O | ±138.4 | 0.01 | ±415.2 | 0.1 | ±830.4 | 0.1 | ±2076 | 1 |
| mbar | ±344.7 | 0.1 | ±1034.2 | 1 | ±2068.4 | 1 | ±5171 | 1 |
| kPa | ±34.47 | 0.01 | ±103.4 | 0.1 | ±206.8 | 0.1 | ±517.1 | 0.1 |
| inHg | ±10.18 | 0.001 | ±30.54 | 0.01 | ±61.08 | 0.01 | ±152.7 | 0.1 |
| mmHg | ±258.5 | 0.1 | ±775.7 | 0.1 | ±1551.4 | 1 | ±3879 | 1 |
| ozin2 | ±80.0 | 0.01 | ±240.0 | 0.1 | ±480.0 | 0.1 | ±1200 | 1 |
| ftH2O | ±11.53 | 0.001 | ±34.60 | 0.01 | ±69.20 | 0.01 | ±173.0 | 0.1 |
| cmH2O | ±351.5 | 0.1 | ±1055 | 1 | ±2109 | 1 | ±5273 | 1 |
| kgcm2 | ±0.351 | 0.001 | ±1.055 | 0.001 | ±2.109 | 0.001 | ±5.273 | 0.001 |
| bar | ±0.344 | 0.001 | ±1.034 | 0.001 | ±2.068 | 0.001 | ±5.171 | 0.001 |
| Accuracy | ±0.5 %FS or better (25 °C) | | | | ±1 %FS or better at 25 °C | | | |
| Repeatability | ±0.2 % (Max. 0.5 %FS) | | | | | | | |
| Battery & life | 3 x 1.5 volt AAA - 100 hours | | | | | | | |
| Display | Custom LCD | | | | | | | |
| Dimensions | 32 x 71 x 141 mm | | | | | | | |
| Weight | 185 grams | | | | | | | |

| Order code | Description |
|---|---|
| 825-905 | 9205 ±5 psi |
| 825-915 | 9215 ±15 psi |
| 825-930 | 9230 ±30 psi |
| 825-975 | 9275 ±75 psi |
| 825-990 | Connection hoses 300 mm (2) |
| 830-258 | Protective silicone boot - black |
| 832-015 | S/steel wall bracket |
| 890-280 | 3-point traceable calibration certificate** |

**unit of measure mbar

* Excluding 825-905 which is supplied with two 500 mm long x 6 mm ID connection hoses (see page 128).

- **Connection hoses included**
  All units are supplied with high pressure, barbed connectors

# 9035 ANEMOMETER

- Displays the air velocity and temperature simultaneously
- Five scales m/s, km/h, ft/min, knots and mph
- Max/Min and average reading functions
- Simple and easy to operate

The 9035 hand held combined anemometer and thermometer is a general purpose vane air speed meter that simultaneously displays air flow/velocity measurement and temperature over the range 0.4 to 30 metres per second or 0.9 mph to 67 mph and -10 to 50 °C.

The instrument displays the air flow/velocity in five different modes/scales, metres per second (m/s), kilometres per hour (km/h), feet per minute (ft/min), knots and miles per hour (mph). The temperature can be displayed over the range -10 to 50 °C in either °C or °F with a resolution of 0.1 °C/°F.

The unit incorporates an auto-power-off facility, backlit display, average reading (last 10) and max/min functions. The 9035 Anemometer is housed in a robust ABS case and features an easy-to-read custom LCD.


MAX/ MIN | AUTO OFF

Offering an effective way of measuring air velocity, volume and temperature in many industries. Anemometers are most commonly used for testing the efficiency of ventilation, heating and air-conditioning systems, but are regularly used in controlled laboratory testing applications such as wind tunnels. Further uses include measuring outdoor wind conditions as part of health and safety checks as well as in many manufacturing processes.

| Order code | Description |
|---|---|
| 825-835 | 9035 Anemometer |
| 890-290 | 3-point traceable calibration certificate* |
| *unit of measure m/s | |

| Specification | 9035 Anemometer |
|---|---|
| Range flow/ velocity | 0.4 to 30 metres per second |
| Range temperature | -10 to 50 °C |
| Resolution | 0.1 °C/°F |
| Scales | m/s, km/h, ft/min, knots & mph |
| Accuracy flow/velocity | ±3 % of Full scale ±0.5 |
| Accuracy temperature | ±1.5 °C |
| Battery | 3 x 1.5 volt AAA |
| Battery life | 100 hours with backlight<br>1000 hours without backlight |
| Display | Custom LCD |
| Dimensions | Unit only: 32 x 71 x 141 mm<br>Vane unit: 35 x 76 x 155 mm |
| Weight | 270 grams unit & vane |

# PRODUCT INDEX



Accuracy Guaranteed for Life

Automatic Power Off

CalCheck 0.0 °C Function

Calculates Dew Point

Display Hold Function

Splashproof to IP54

Water Resistant to IP65

Waterproof to IP66

Waterproof to IP67


Ideal for HACCP Procedures

Waterproof to IP66/67

Displays Max/Min Readings

Software Development Kit Available

Includes UKAS Certificate

Rotating LCD


Audible Alarm


Infrared Laser


Backlit LCD


Wi-Fi enabled

Biomaster product protection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