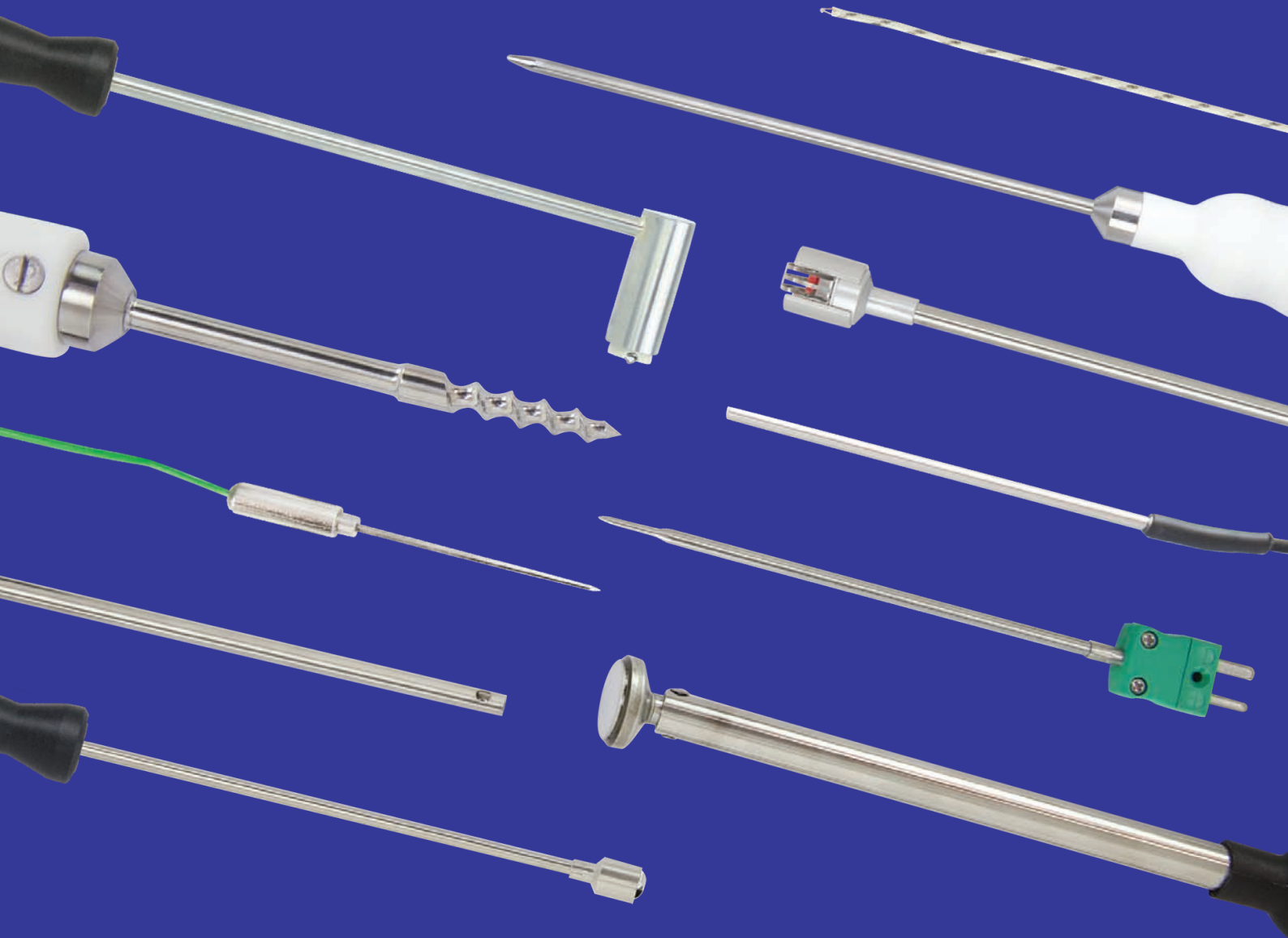




Thermometer Probes

for accurate temperature measurement



specialists in the design & manufacture of temperature measuring equipment for over 30 years

Temperature Probes & Sensors

designed & manufactured in the UK



Since our launch in 1983 Electronic Temperature Instruments Ltd (ETI) has developed a reputation as a British manufacturer and supplier of quality and value-for-money temperature instrumentation, probes and sensors. ETI has two factories in Worthing, West Sussex, one of which is dedicated to making temperature probes and sensors.



product guarantee

All ETI manufactured temperature probes and sensors carry a six-month guarantee against defects in either components or workmanship. During this period, probes and sensors that prove to be defective will, at the discretion of ETI, be either repaired or replaced without charge.

The product guarantee does not cover damage caused by fair wear and tear, abnormal storage conditions, incorrect use, accidental misuse, abuse, neglect, misapplication or modification. Further guarantee information can be obtained from our website.

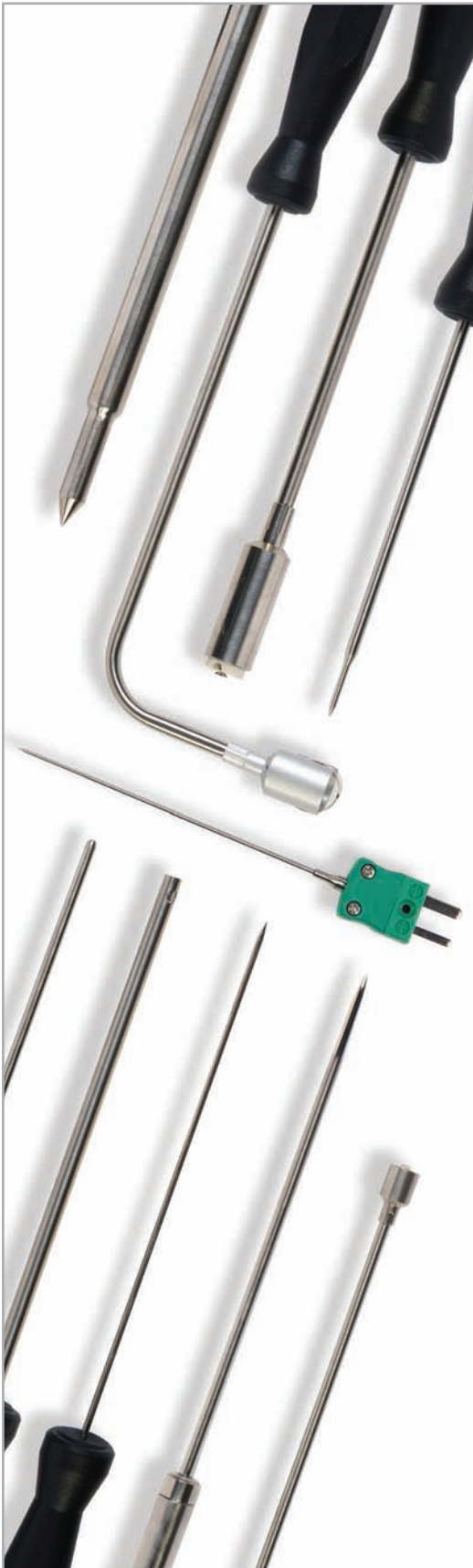
Full details of liability are available on our website within ETI's terms and conditions of sale, at www.etild.com/terms. In line with our policy of continuous development, we reserve the right to amend our product specification without prior notice.

quality

ETI's Quality Management System is assessed to ISO 9001:2008 by the British Standards Institution. As part of our policy of continuous product development we reserve the right to change specifications at any time.

copyright

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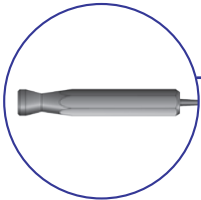
Temperature Probes

thermocouple, PT100/RTD & NTC thermistor

Thermometers are only part of the system; of equal importance is the design of the temperature probes used to physically measure the item. ETI manufacture an extensive range of probes/sensors to compliment our range of hand held thermometers, data-loggers and instrumentation.

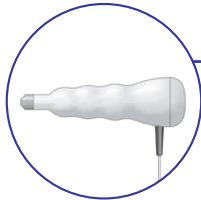
handle types

Where appropriate, each probe is supplied with a hexagonal, small round, ribbed heavy duty or T-shaped handle. To reduce bacterial growth, probe handles contain 'Biomaster' anti-bacterial additive.



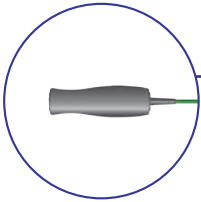
Hexagonal

manufactured from nylon and available in black. 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)



Small Round

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.

probe accuracy specifications

Type 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

High Accuracy Type K Thermocouple Probes/Sensors (indicated in the catalogue with the 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

Type 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

High Accuracy Type T Thermocouple Probes/Sensors (indicated in the catalogue with the 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

NTC Thermistor Probes/Sensors

The tolerance specification for all ETI manufactured thermistor probes is as follows:

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

PT100/RTD Probes/Sensors

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

- ± 0.15 °C ± 0.2 % between -200 & 600 °C



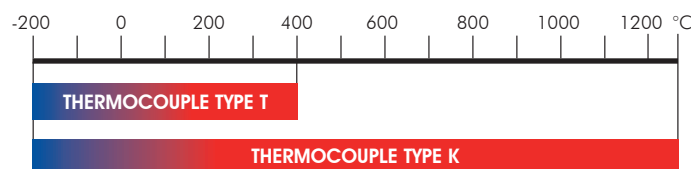


Thermocouple Probes

for thermometers, data-loggers & instrumentation



Thermometers are only part of the system; of equal importance is the design of the temperature probes used to physically measure the item. ETI manufactures an extensive range of type K or T thermocouple probes to compliment our range of thermometers, data-loggers and instrumentation.



response times

The response time is the time taken for the sensor to reach 66.6% of the final reading and is the industry standard means of measuring probe response times. Five times the quoted response time is the figure normally required to obtain 100% of the reading. Response times are dependent upon the substance being measured and in the case of liquid or gas, upon the degree of agitation. It is therefore difficult to quote an accurate response time without knowledge of the application.

The results given in this catalogue were obtained in a stirred oil bath and may differ from those obtained under other conditions but can be used as a general guide.

PVC & PU coiled leads

PVC straight lead is a general purpose lead and available in lengths up to 100 metres. As standard and where appropriate, each probe is supplied with a one metre straight PVC lead and a connector. As an alternative, a one metre coiled PU lead is available, simply replace the first digit (1) of the order code with the number 3. Maximum temperature for both PVC and PU coiled leads is 80 °C.

Stainless Steel Braided leads






















Some industrial and high temperature probes are available with a stainless steel, fibreglass insulated over-braided lead. As standard and where appropriate, each probe is supplied with a two metre stainless steel lead and a connector. Maximum temperature of 350 °C.

applications

Applications quoted are typical for the specific probe, although there are many alternative uses for which the probe could be equally suitable. For advice on a specific probe for a particular application, please contact the ETI technical sales team. Where requirements cannot be met from the existing standard range of probes, then bespoke designs can be manufactured.

Hand Held Temperature Probes















type K or T thermocouple

| | T/C | order code |
|--|-----|--|
| penetration probe    Ø3.3 x 130 mm | K | 123-160 |
| | T | 127-160 |
| penetration probe    Ø3.3 x 300 mm | K | 123-168 |
| | T | 127-168 |
| fast response probe    Ø3.3 x 100 mm | K | 123-159 |
| | T | 127-159 |
| needle penetration probe    Ø1.8 x 130 mm | K | 123-100 |
| | T | 127-100 |
| oven probe    Ø3.3 x 130 mm | K | 133-170 133-173 <i>(no handle)</i> |
| | T | 137-170 137-173 <i>(no handle)</i> |
| rigid between pack probe    Ø4.5 x 130 mm | K | 123-060 |
| | T | 127-060 |
| high temperature probe  Ø1.5 x 130 mm | K | 123-204 |
| high temperature probe  Ø3 x 130 mm | K | 123-212 |
| high temperature probe  Ø3 x 300 mm | K | 123-213 |

for a coiled lead, replace the first digit (1) of the order code with the number 3

Hand Held Temperature Probes

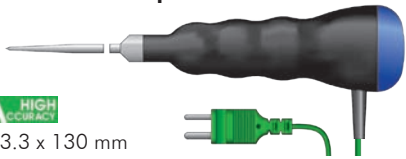

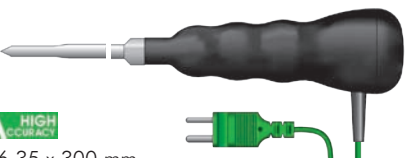

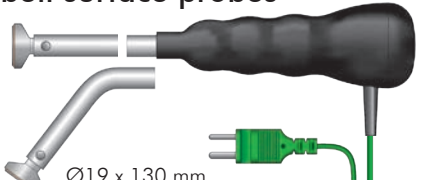
type K or T thermocouple

| | T/C | order code |
|---|-----|---|
| Binder probe    Ø3 x 130 mm | K | 123-240 |
| | T | 127-240 |
| air or gas probe    Ø4.5 x 130 mm | K | 123-300 |
| | T | 127-300 |
| ribbon surface probe  Ø15 x 130 mm | K | 123-030 123-032 <i>(right-angled)</i> |
| | T | 127-044 127-052 <i>(right-angled)</i> |
| ribbon surface probe  Ø8 x 130 mm | K | 123-044 123-052 <i>(right-angled)</i> |
| | T | 127-044 127-052 <i>(right-angled)</i> |
| waterproof surface probe  Ø8 x 130 mm | K | 123-046 |
| | T | 127-046 |
| surface probe  Ø6 x 130 mm | K | 123-000 |
| | T | 127-000 |
| heavy duty surface probe  Ø12 x 130 mm | K | 123-020 123-028 <i>(right-angled)</i> |
| | T | 127-020 127-028 <i>(right-angled)</i> |
| penetration probe    Ø3.3 x 100 mm | K | 123-162 123-158 <i>(reduced tip)</i> |
| | T | 127-162 127-158 <i>(reduced tip)</i> |

for a coiled lead, replace the first digit (1) of the order code with the number 3

Waterproof Temperature Probes









heavy duty type K thermocouple

| | T/C | order code |
|---|--|--|
| <p>penetration probe</p>  <p>  Ø3.3 x 130 mm </p> | 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. <ul style="list-style-type: none"> • response time less than 3 seconds • probe temperature range -75 to 250 °C | K <ul style="list-style-type: none"> 143-161 143-162 143-164 143-165 143-166 143-167 |
| <p>reduced tip probe</p>  <p>  Ø6.35 x 300 mm </p> | 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. <ul style="list-style-type: none"> • response time less than 10 seconds • probe temperature range -75 to 250 °C | K <ul style="list-style-type: none"> 143-120 |
| <p>bell surface probes</p>  <p> Ø19 x 130 mm </p> | These fast response, waterproof 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. <ul style="list-style-type: none"> • response time less than 5 seconds • probe temperature range -75 to 200 °C | K <ul style="list-style-type: none"> 143-080 (straight) 143-084 (45° angle) 143-086 (90° angle) |

for a coiled lead, replace the first digit (1) of the order code with the number 3

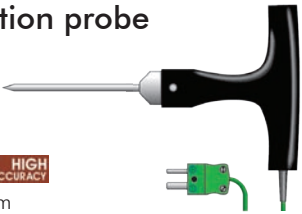


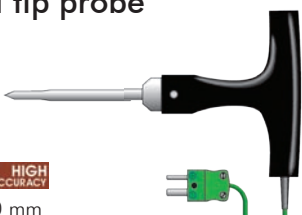


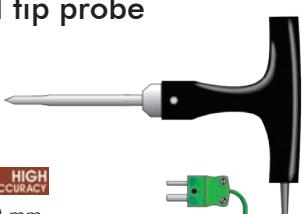


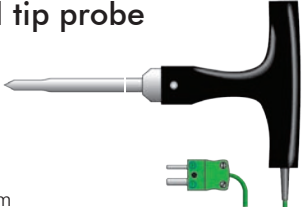
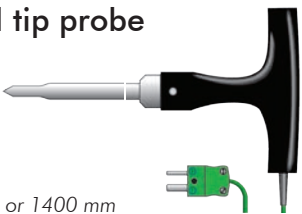
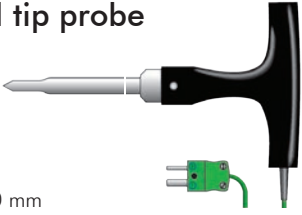
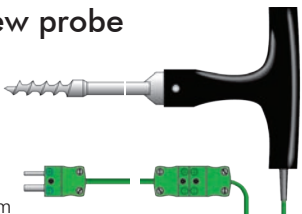


Interchangeable Probe Handle

& plug-mounted type K thermocouple probes

| | T/C | order code |
|--|---|---|
| <p>interchangeable probe handle</p>  <p> Ø25 x 151 mm </p> | 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. | K <ul style="list-style-type: none"> 323-950 T <ul style="list-style-type: none"> 327-950 |
| <p>penetration probe</p>  <p>   Ø3.3 x 120 mm </p> | This stainless steel, penetration probe is strong, versatile and ideal for liquids or semi-solids. A fast response version with reduced tip is also available. <ul style="list-style-type: none"> • response time less than three seconds • probe temperature range -75 to 250 °C | K <ul style="list-style-type: none"> 133-161 133-153 (reduced tip) T <ul style="list-style-type: none"> 137-161 137-153 (reduced tip) |
| <p>air or gas probe</p>  <p>   Ø3.3 x 120 mm </p> | This probe has a perforated stainless steel tip for fast response. Ideal for chill cabinets, fridges, freezers and HVAC units. <ul style="list-style-type: none"> • response time less than one second • probe temperature range -75 to 250 °C | K <ul style="list-style-type: none"> 133-301 T <ul style="list-style-type: none"> 137-301 |
| <p>surface probe</p>  <p> Ø8 x 120 mm </p> | 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. <ul style="list-style-type: none"> • response time less than one second • probe temperature range -75 to 250 °C | K <ul style="list-style-type: none"> 133-045 133-046 (right-angled) |

Heavy Duty Temperature Probes













type K or T thermocouple

| | T/C | order code |
|---|-----|--|
| penetration probe    Ø4 x 100 mm | K | 133-124 |
| | T | 137-124 |
| reduced tip probe    Ø6.35 x 100 mm | K | 133-126 |
| | T | 137-126 |
| reduced tip probe    Ø6.35 x 300 mm | K | 133-120 |
| | T | 137-120 |
| reduced tip probe  Ø8 x 500 mm | K | 133-130 |
| | T | 137-130 |
| reduced tip probe  Ø9.5 x 1000 or 1400 mm | K | 133-136 (1000 mm) 133-135 (1400 mm) |
| | T | 137-136 (1000 mm) 137-135 (1400 mm) |
| reduced tip probe  Ø9.5 x 2000 mm | K | 133-133 |
| | T | 137-133 |
| corkscrew probe    Ø8 x 100 mm | K | 133-175 |
| | T | 137-175 |

for a coiled lead, replace the first digit (1) of the order code with the number 3








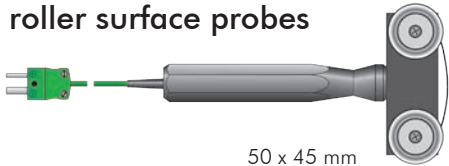
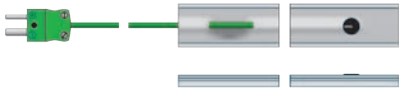
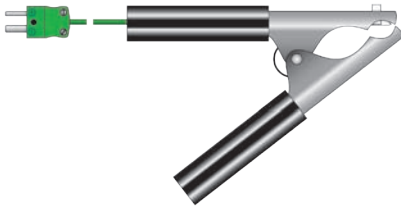
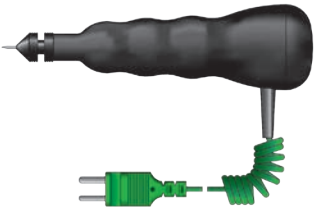

Fast Response Temperature Probes

exposed junction wire type K or T thermocouple

| | | T/C | order code |
|---|--|-----|--|
| PTFE wire probe   $\varnothing 1.5 \times 1000$ 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. <ul style="list-style-type: none"> • response time less than 0.5 of a second • probe temperature range -75 to 250 °C | K | 133-362 (1000 mm) 133-363 (2000 mm) |
| | | T | 137-362 (1000 mm) 137-363 (2000 mm) |
| heavy duty PTFE wire probe   $\varnothing 2.4 \times 1000$ 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. <ul style="list-style-type: none"> • response time less than 0.5 of a second • probe temperature range -75 to 250 °C | K | 133-372 (1000 mm) 133-373 (2000 mm) |
| | | T | 137-372 (1000 mm) 137-373 (2000 mm) |
| fibreglass wire probe   $\varnothing 1.5 \times 1000$ 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. <ul style="list-style-type: none"> • response time less than 0.5 of a second • probe temperature range -60 to 350 °C | K | 133-382 (1000 mm) 133-383 (2000 mm) |
| | | T | 137-382 (1000 mm) 137-383 (2000 mm) |
| high temperature wire probe   $\varnothing 3 \times 1000$ 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. <ul style="list-style-type: none"> • response time less than 0.5 of a second • probe temperature range -60 to 600 °C | K | 133-387 (1000 mm) 133-389 (2000 mm) |
| | | T | 137-387 (1000 mm) 137-389 (2000 mm) |
| attachment pads  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. <ul style="list-style-type: none"> • for use over the range of -50 to 200 °C | | 600-485 |
| probe extension lead - straight  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. | K | 627-732 (1000 mm) 627-733 (2000 mm) |
| probe extension lead - coiled  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. | K | 627-740 (1000 mm) 627-741 (2000 mm) |
| miniature plug or socket  16 x 19 mm 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 $\varnothing 0.5$ mm. | K | 625-217 (plug) 421-501 (socket) |






Special Temperature Probes

type K or T thermocouple

| | | T/C | order code |
|---|---|-----|--|
| miniature needle probe    Ø1.4 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. <ul style="list-style-type: none"> • response time less than 1 second • probe temperature range -75 to 250 °C | K | 133-180 <i>(1m lead)</i> 133-182 <i>(2m lead)</i> |
| | | T | 137-180 <i>(1m lead)</i> 137-182 <i>(2m lead)</i> |
| fast response meat probe    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. <ul style="list-style-type: none"> • response time less than 1 second • probe temperature range -75 to 250 °C | K | 133-150 |
| | | T | 137-150 |
| magnet surface probe  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. <ul style="list-style-type: none"> • response time less than 20 seconds • probe temperature range -20 to 80 °C | K | 133-017 |
| | | T | 137-017 |
| roller surface probes  50 x 45 mm | These roller surface probes have either s/steel or PTFE wheels and are designed for measuring moving surfaces. Max. speed 100 m/min. <ul style="list-style-type: none"> • response time less than 0.5 of a second • probe temperature range -75 to 250 °C | K | 123-038 <i>(s/steel)</i> 123-036 <i>(PTFE)</i> |
| | | | |
| velcro pipe probe  20 x 500 mm | This 500 mm wrap-around velcro pipe probe is suitable for medium and large pipe temperature measurement in the HVAC industry. Supplied with a two metre lead. <ul style="list-style-type: none"> • response time less than 20 seconds • probe temperature range -10 to 100 °C | K | 133-080 |
| | | | |
| pipe clamp probe  | 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. <ul style="list-style-type: none"> • response time less than 2 seconds • probe temperature range -10 to 100 °C | K | 133-040 |
| | | | |
| adjustable tyre probe   Ø1 x 10 mm | This fast response probe has an adjustable depth stop (1 to 10 mm) which the user can manually set. This probe has been specifically designed for measuring tyre temperatures, supplied with a one metre coiled lead and moulded thermocouple connector. <ul style="list-style-type: none"> • response time less than 0.5 of a second • probe temperature range -75 to 250 °C | K | 343-100 |
| | | | |

Special Temperature Probes


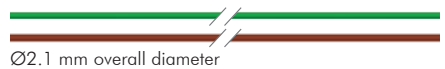
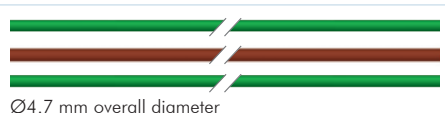
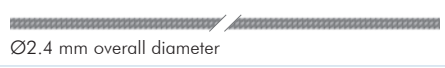
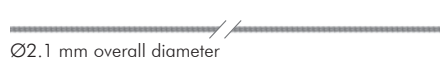
type K or T thermocouple

| | T/C | order code |
|--|--|---|
| oven/air probe  grate clip → Ø3.5 x 50 mm A HIGH ACCURACY | 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 two metre stainless steel braided lead. <ul style="list-style-type: none"> • response time less than 10 seconds • probe temperature range -50 to 350 °C | K 133-441 830-530 (spare clip) |
| crocodile clip oven probe  crocodile clip → Ø4 x 20 mm with 2000 mm lead A HIGH ACCURACY | Oven probe incorporating a crocodile clip that can easily be attached to an oven rack or similar. Supplied with a two metre stainless steel braided lead. <ul style="list-style-type: none"> • response time less than 2 seconds • probe temperature range -50 to 350 °C | K 133-041 |
| penetration probes  (133-177) Ø4 x 225 mm A HIGH ACCURACY | These stainless steel penetration probes are ideal for continuous monitoring in ovens. Supplied with a two metre stainless steel braided lead or stainless steel armoured lead. <ul style="list-style-type: none"> • response time less than 10 seconds • probe temperature range -50 to 350 °C | K 133-177 (braided) 133-178 (armoured) |
| general purpose probe  Ø3.3 x 100 mm A HIGH ACCURACY A HIGH ACCURACY | This stainless steel probe is suitable for a wide range of applications. Supplied with a one metre PTFE insulated lead and connector. <ul style="list-style-type: none"> • response time less than 3 seconds • probe temperature range -75 to 250 °C | K 133-158 T 137-158 |
| food simulant probe  9 x 100 x 100 mm A HIGH ACCURACY A HIGH ACCURACY | 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. <ul style="list-style-type: none"> • probe temperature range 0 to 100 °C | K 133-350 T 137-350 |

longer leads are available for the probes above, please contact our technical sales office for more information.








thermocouple cable

When connecting thermocouples to measuring instruments, it is important that extension or compensation cable is used. It is essential that the same polarity is maintained (copper cable should never be used). All cable is manufactured to BS4937 and is IEC colour-coded. A variety of insulation materials are available in 100 metre reels.

| | T/C | order code |
|--|--------------------------------------|------------|
|  Ø1 mm overall diameter PTFE insulated - twin-twisted 1/0.2 mm one strand of Ø0.2 mm wire | K 627-908 T 627-912 | |
|  Ø2.1 mm overall diameter PTFE insulated - flat pair 7/0.2 mm seven strands of Ø0.2 mm wire | K 628-048 T 628-052 | |
|  Ø4.7 mm overall diameter PVC insulated - flat pair 7/0.2 mm seven strands of Ø0.2 mm wire | K 627-833 T 627-837 VX 627-839 | |
|  Ø2.4 mm overall diameter glassfibre insulated - s/s overbraid 7/0.2 mm seven strands of Ø0.2 mm wire | K 628-308 T 628-312 | |
|  Ø2.1 mm overall diameter glassfibre insulated - flat pair 7/0.2 mm seven strands of Ø0.2 mm wire | K 628-310 | |

Industrial Probes

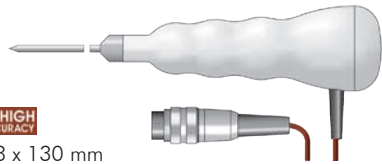
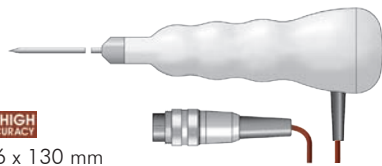
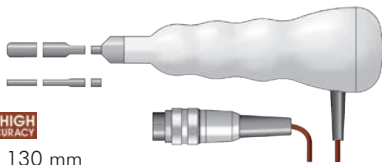

type K or T thermocouple

| | | T/C | order code |
|---|---|-----|--|
| Ø4.8mm standard probes  Ø4.8 x 100 or 150 mm | These Ø4.8 mm general purpose, stainless steel probes are ideal for a variety of applications and available in two lengths. Supplied with a two metre PVC lead. <ul style="list-style-type: none"> • response time less than 9 seconds • probe temperature range -50 to 100 °C | K | 133-453 (100 mm) 133-454 (150 mm) |
| | | T | 137-453 (100 mm) 137-454 (150 mm) |
| Ø6mm standard probes  Ø6 x 100 or 150 mm | These Ø6 mm general purpose, stainless steel probes are ideal for a variety of applications and available in two lengths. Supplied with a two metre PVC lead. <ul style="list-style-type: none"> • response time less than 10 seconds • probe temperature range -50 to 100 °C | K | 133-448 (100 mm) 133-449 (150 mm) |
| | | T | 137-448 (100 mm) 137-449 (150 mm) |
| Ø6.35mm standard air probe  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. <ul style="list-style-type: none"> • response time less than 5 seconds • probe temperature range -50 to 100 °C | K | 133-499 |
| | | T | 137-499 |
| mineral insulated probes  Ø1.5 or 3 x 180 mm | These 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. <ul style="list-style-type: none"> • response time less than 2 seconds • probe temperature range -200 to 1100 °C | K | 133-420 (Ø1.5 mm) 133-425 (Ø3 mm) |
| | | | |
| mineral insulated probes  Ø1.5 or 3 x 500 or 1000mm | These extended, 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. <ul style="list-style-type: none"> • response time less than 2 seconds • probe temperature range -200 to 1100 °C | K | 133-421 (Ø1.5 x 500mm) 133-428 (Ø3 x 500mm) 133-422 (Ø1.5 x 1m) 133-429 (Ø3 x 1m) |
| | | | |
| pipe probes  Ø50, Ø75 or Ø100 mm | These pipe probes are ideal for measuring the surface temperature of pipes in refrigeration, heating, ventilating systems etc. Simple design for simplicity of use. Supplied with a two metre PVC lead. <ul style="list-style-type: none"> • response time less than 10 seconds • probe temperature range -50 to 100 °C | K | 133-460 (Ø50 mm) 133-461 (Ø75 mm) 133-462 (Ø100 mm) |
| | | | |
| submersible probe  19 x 100 mm | This stainless steel, weighted probe is fully submersible. Ideal for use in water tanks and similar vessels. Supplied with a one, two or three metre PVC lead. <ul style="list-style-type: none"> • response time less than 10 seconds • probe temperature range -50 to 100 °C | K | 133-304 (1m lead) 133-305 (2m lead) 133-306 (3m lead) |
| | | | |

longer leads are available for the probes above, please contact our technical sales office for more information.

Hand Held Temperature Probes

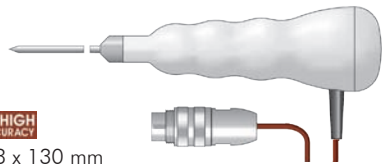

type T thermocouple probes with lumberg connectors

| | T/C | order code |
|--|---|--------------|
| <p>penetration probe</p>  <p>A HIGH ACCURACY Ø3.3 x 130 mm</p> | <p>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.</p> <ul style="list-style-type: none"> • response time less than 3 seconds • probe temperature range -75 to 250 °C | T 177-166 |
| <p>fast response probe</p>  <p>A HIGH ACCURACY Ø2.6 x 130 mm</p> | <p>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.</p> <ul style="list-style-type: none"> • response time less than 1 second • probe temperature range -75 to 250 °C | T 177-100 |
| <p>rigid between pack probe</p>  <p>A HIGH ACCURACY Ø6 x 130 mm</p> | <p>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.</p> <ul style="list-style-type: none"> • response time less than 3 seconds • probe temperature range -75 to 250 °C | T 177-060 |
| <p>air or gas wire probe</p>  <p>Ø2.4 x 1000 mm PTFE lead A HIGH ACCURACY</p> | <p>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.</p> <ul style="list-style-type: none"> • response time less than 0.5 seconds • probe temperature range -75 to 250 °C | T 177-372 |

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

Waterproof Temperature Probes

type T thermocouple probes with lumberg connectors

| | T/C | order code |
|---|---|--------------|
| <p>penetration probe</p>  <p>A HIGH ACCURACY Ø3.3 x 130 mm</p> | <p>This waterproof, 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.</p> <ul style="list-style-type: none"> • response time less than 3 seconds • probe temperature range -75 to 250 °C | T 177-266 |
| <p>penetration probe</p>  <p>Ø3.3 x 100 mm A HIGH ACCURACY</p> | <p>This waterproof, stainless steel, plug-mounted probe is strong, versatile and ideal for measuring liquids, semi-solids and granular materials.</p> <ul style="list-style-type: none"> • response time less than 3 seconds • probe temperature range -75 to 250 °C | T 177-200 |

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



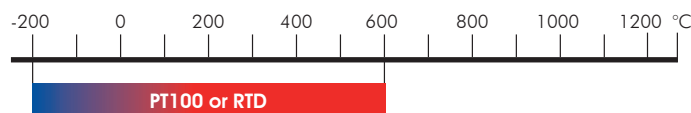
RTD/PT100 Probes

for use with Precision/Precision Plus thermometers



Thermometers are only part of the system; of equal importance is the design of the temperature probes used to physically measure the item. ETI manufactures an extensive range of PT100 (RTD) probes to compliment our range of portable, hand held thermometers and data-loggers.

Resistance temperature detector probes are slower to respond to changes in temperature than thermocouple probes, but are generally more accurate.



resistance temperature detectors

Resistance temperature detector (PT100 or RTD) probes consist of flat film or a wire wound platinum resistance sensor element. The measurement resistance value changes in line with the temperature being measured.

lead types





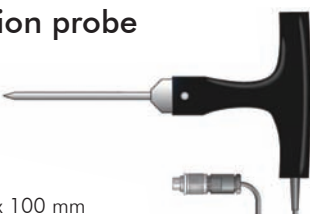
PVC lead is a general purpose lead and available in lengths up to 100 metres. Stainless steel braided lead is a high temperature (fibreglass insulated) lead with a maximum temperature of 350 °C. As standard and where appropriate, each probe is supplied with a one metre straight PVC lead and a connector. Maximum temperature for both PVC and PU leads is 80 °C.

applications

Applications quoted are typical for the specific probe, although there are many alternative uses for which the probe could be equally suitable. For advice on a specific probe for a particular application, please contact the ETI technical sales team. Where requirements cannot be met from the existing standard range of probes, then bespoke designs can be manufactured.



PT100 Class A Temperature Probes

for use with the Precision 0.1 °C thermometer

| | | order code |
|--|---|---|
| <p>penetration probe</p>  <p>Ø3.3 x 130 mm</p> | <p>This stainless steel penetration probe is strong, versatile and ideal for measuring liquids and semi-solids accurately in a variety of applications.</p> <ul style="list-style-type: none"> • response time less than 4 seconds • probe temperature range -50 to 200 °C | 160-160 |
| <p>air or gas probe</p>  <p>Ø3.3 x 130 mm</p> | <p>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.</p> <ul style="list-style-type: none"> • response time less than 4 seconds • probe temperature range -50 to 200 °C | 160-300 |
| <p>liquid probe</p>  <p>Ø3.3 x 130 mm</p> | <p>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.</p> <ul style="list-style-type: none"> • response time less than 4 seconds • probe temperature range -50 to 200 °C | 160-220 |
| <p>air or gas wire probe</p>  <p>Ø3.7 x 30 mm with 1000 mm FEP lead</p> | <p>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.</p> <ul style="list-style-type: none"> • response time less than 4 seconds • probe temperature range -50 to 200 °C | 160-372 |
| <p>penetration probe</p>  <p>Ø4 or Ø6.35 x 100 mm</p> | <p>Available in Ø4 or Ø6.35 mm diameter, this robust, stainless steel penetration probe incorporates a T-shaped polypropylene handle and is ideal for a variety of heavy duty applications.</p> <ul style="list-style-type: none"> • response time less than 12 seconds • probe temperature range -50 to 200 °C | 160-124 (Ø4 mm) 160-126 (Ø6.35 mm) |

PT100 1/10 DIN Temperature Probes

for use with the Precision Plus 0.01 °C thermometer

| | | order code |
|--|---|------------|
| <p>liquid probe</p>  <p>Ø3.3 x 130 mm</p> | <p>This hand held 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.</p> <ul style="list-style-type: none"> • response time less than 4 seconds • probe temperature range -200 to 200 °C | 160-222 |
| <p>liquid probe</p>  <p>Ø4.8 x 250 mm with 2000 mm PTFE lead</p> | <p>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.</p> <ul style="list-style-type: none"> • response time less than 10 seconds • probe temperature range -200 to 200 °C | 160-446 |

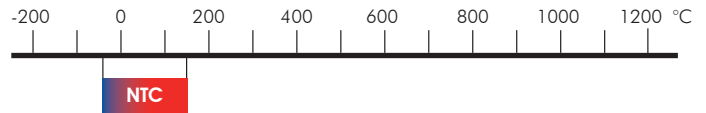


thermistor probes

for thermometers & data-loggers



Thermometers are only part of the system; of equal importance is the design of the temperature probes used to physically measure the item. ETI manufactures an extensive range of thermistor probes to compliment our range of thermometers, data-loggers and instrumentation.



NTC thermistor probes

Thermistor probes are accurate probes that exhibit a change in resistance with a change of temperature. Thermistor probes have a negative temperature co-effective (NTC), the resistance decreases with the increase in temperature. Thermistor probes cover a limited temperature range and are generally slower to respond to changes in temperature than thermocouples but quicker than PT100 probes. Thermistor probes tend to be smaller than PT100 probes but larger than thermocouple probes. Thermistor probes are not recommended for the measurement of surface temperatures.

lead types





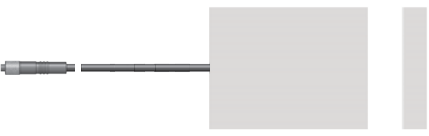

PVC lead is a general purpose lead. FEP (fluoroethylene -propylene) lead is a low temperature lead ideal for working in sub-zero environments to a minimum temperature of -100°C. As standard and where appropriate, each probe is supplied with a one metre straight PVC lead and is fitted with a compatible Lumberg or binder connector. Maximum temperature for both PVC and PU leads is 80 °C.

applications

Applications quoted are typical for the specific probe, although there are many alternative uses for which the probe could be equally suitable. For advice on a specific probe for a particular application, please contact the ETI technical sales team. Where requirements cannot be met from the existing standard range of probes, then bespoke designs can be manufactured.

NTC Thermistor Temperature Probes

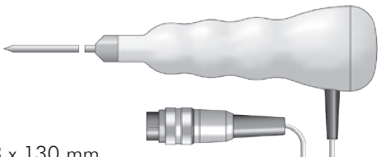
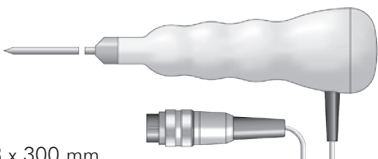
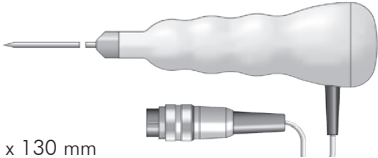
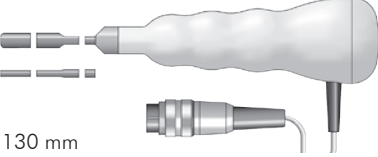
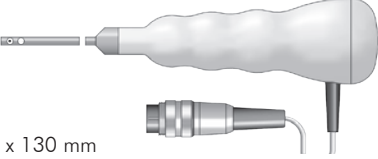
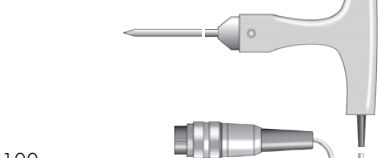
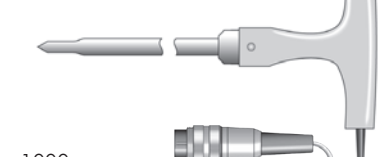
for use with ThermaData® loggers

| | | order code |
|--|--|--|
| <p>general purpose probe</p>  <p>Ø3.3 x 100 mm</p> | <p>This stainless steel penetration probe is suitable for a wide range of remote monitoring applications. Supplied with a one, two or three metre PUR/PVC lead and three-pin Binder connector.</p> <ul style="list-style-type: none"> • response time less than 2 seconds • probe temperature range -40 to 125 °C | <p>172-011 (1000 mm)</p> <p>172-012 (2000 mm)</p> <p>172-013 (3000 mm)</p> |
| <p>general purpose probe</p>  <p>Ø3.3 x 300 mm</p> | <p>This extended, stainless steel penetration probe is suitable for a wide variety of remote monitoring applications. Supplied with a one metre PUR/PVC lead and three-pin Binder connector.</p> <ul style="list-style-type: none"> • response time less than 2 seconds • probe temperature range -40 to 125 °C | <p>172-168</p> |
| <p>liquid probe</p>  <p>Ø3.3 x 100 mm</p> | <p>This liquid probe features a rigid, stainless steel stem with a flat tip. Ideal for a wide variety of pharmaceutical applications. Supplied with a one, two or three metre PUR/PVC lead and three-pin Binder connector.</p> <ul style="list-style-type: none"> • response time less than 2 seconds • probe temperature range -40 to 125 °C | <p>172-382 (1000 mm)</p> <p>172-383 (2000 mm)</p> <p>172-384 (3000 mm)</p> |
| <p>air or gas probe</p>  <p>Ø3.7 x 30 mm</p> | <p>This stainless steel, air or gas probe is ideal for measuring air temperature in chill cabinets, fridges/freezers, offices, storage areas etc. Supplied with a one, two or three metre PUR/PVC lead and three-pin Binder connector.</p> <ul style="list-style-type: none"> • response time less than 1 second • probe temperature range -40 to 125 °C | <p>172-372 (1000 mm)</p> <p>172-373 (2000 mm)</p> <p>172-374 (3000 mm)</p> |
| <p>food simulant probe</p>  <p>9 x 100 x 100 mm</p> | <p>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 three-pin Binder connector.</p> <ul style="list-style-type: none"> • probe temperature range 0 to 100 °C | <p>172-350</p> |
| <p>logger extension lead</p>  <p>150 mm PVC lead</p> | <p>This logger extension lead enables the user to connect any ETI NTC thermistor probe, fitted with a Lumberg connector to a ThermaData logger. The extension lead can be extended up to a maximum of two metres without adversely affecting the readings or accuracy.</p> <ul style="list-style-type: none"> • maximum temperature 80 °C | <p>172-015</p> |

Please note: the maximum temperatures quoted are probe tip temperatures. The maximum PUR/PVC lead temperature is 80 °C.

Hand Held Temperature Probes

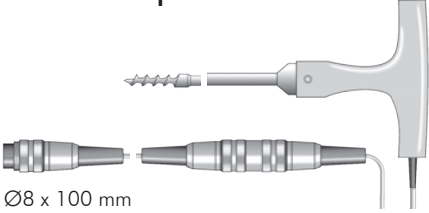
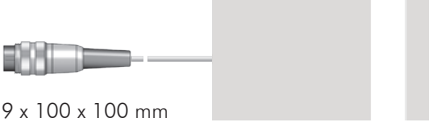


NTC thermistor probes with lumberg connectors

| | | order code |
|---|--|--|
| <p>penetration probe</p>  <p>Ø3.3 x 130 mm</p> | <p>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.</p> <ul style="list-style-type: none"> • response time less than 2 seconds • probe temperature range -40 to 150 °C | <ul style="list-style-type: none"> ● 174-161 ● 174-162 ● 174-164 ● 174-165 ○ 174-166 ● 174-167 |
| <p>penetration probe</p>  <p>Ø3.3 x 300 mm</p> | <p>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.</p> <ul style="list-style-type: none"> • response time less than 2 seconds • probe temperature range -40 to 150 °C | 174-168 |
| <p>fast response probe</p>  <p>Ø2.6 x 130 mm</p> | <p>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.</p> <ul style="list-style-type: none"> • response time less than 1 second • probe temperature range -40 to 150 °C | 174-100 |
| <p>rigid between pack probe</p>  <p>Ø6 x 130 mm</p> | <p>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.</p> <ul style="list-style-type: none"> • response time less than 3 seconds • probe temperature range -40 to 150 °C | 174-060 |
| <p>air or gas probe</p>  <p>Ø3.3 x 130 mm</p> | <p>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.</p> <ul style="list-style-type: none"> • response time less than 2 seconds • probe temperature range -40 to 150 °C | 174-300 |
| <p>penetration probe</p>  <p>Ø4 x 100 mm</p> | <p>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.</p> <ul style="list-style-type: none"> • response time less than 5 seconds • probe temperature range -40 to 150 °C | 170-169 |
| <p>reduced tip probe</p>  <p>Ø9.5 x 1000 mm</p> | <p>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 25mm) for faster response. Ideal for a wide variety of heavy duty, general purpose industrial or food processing applications.</p> <ul style="list-style-type: none"> • response time less than 18 seconds • 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, 20 Plus, 22 Plus, DTR & 8100 Plus

Hand Held Temperature Probes

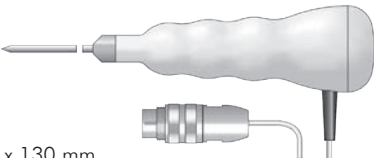

NTC thermistor probes with lumberg connectors

| | | order code |
|---|---|------------|
| <p>corkscrew probe</p>  <p>Ø8 x 100 mm</p> | <p>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.</p> <ul style="list-style-type: none"> • response time less than 6 seconds • probe temperature range -40 to 150 °C | 170-175 |
| <p>food simulant probe</p>  <p>9 x 100 x 100 mm</p> | <p>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.</p> <ul style="list-style-type: none"> • probe temperature range 0 to 100 °C | 170-350 |
| <p>air or gas wire probe</p>  <p>Ø3.7 x 30 mm with 1000 mm FEP lead</p> | <p>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.</p> <ul style="list-style-type: none"> • response time less than 1 second • probe temperature range -40 to 150 °C | 170-372 |
| <p>foil between pack probe</p>  <p>40 x 50 mm with 1000 mm FEP lead</p> | <p>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.</p> <ul style="list-style-type: none"> • response time less than 3 seconds • probe temperature range 0 to 100 °C | 170-090 |

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

Waterproof Temperature Probes

NTC thermistor probes with lumberg connectors

| | | order code |
|--|--|------------|
| <p>penetration probe</p>  <p>Ø3.3 x 130 mm</p> | <p>This waterproof, stainless steel penetration probe 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.</p> <ul style="list-style-type: none"> • response time less than 3 seconds • probe temperature range -40 to 150 °C | 174-266 |
| <p>penetration probe</p>  <p>Ø3.3 x 100 mm</p> | <p>This waterproof, stainless steel plug-mounted penetration probe is versatile and strong. Ideal for measuring liquids, semi-solids and granular materials in a wide variety of applications.</p> <ul style="list-style-type: none"> • response time less than 3 seconds • probe temperature range -40 to 150 °C | 172-000 |

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



In 2017 ETI proudly received, for the third time in five years, the '**Queen's Award for Enterprise for International Trade**'

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