# 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<sup>rds</sup> 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

### 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

### 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.

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

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 Add 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  $\Omega$  (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         Image: Comparison of the second	This stainless steel penetration probe is strong, versatile and ideal for measuring liquids and semi-solids. • Response time less than 2 seconds • Probe temperature range -75 to 250 °C	123-160 323-160 (coiled lead)
PENETRATION PROBE	<ul> <li>This extended, stainless steel penetration probe is strong, versatile and ideal for measuring liquids and semi-solids.</li> <li>Response time less than 2 seconds</li> <li>Probe temperature range -75 to 250 °C</li> </ul>	123-168 323-168 (coiled lead)
FAST RESPONSE PROBE         Image: Comparison of the second seco	<ul> <li>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.</li> <li>Response time less than 2 seconds</li> <li>Probe temperature range -75 to 250 °C</li> </ul>	123-159 323-159 (coiled lead)
NEEDLE PENETRATION PROBE         Image: Comparison of the second	<ul> <li>This fast response, stainless steel needle penetration probe is ideal for liquids or semi-solids i.e. soft rubber or plastic.</li> <li>Response time less than 1 second</li> <li>Probe temperature range -75 to 250 °C</li> </ul>	123-100 323-100 (coiled lead)
OVEN PROBE           Image: Contract of the second	<ul> <li>This oven probe has a stainless steel handle and a two metre PTFE high temperature lead.</li> <li>An oven probe without a handle is available.</li> <li>Response time less than 2 seconds</li> <li>Probe and lead temperature range -75 to 250 °C</li> </ul>	133-170 133-173 (no handle)
RIGID BETWEEN PACK PROBE	<ul> <li>This rigid, stainless steel between pack probe is strong and versatile, designed specifically to measure between packets or boxes of produce.</li> <li>Response time less than 2 seconds</li> <li>Probe temperature range -75 to 250 °C</li> </ul>	123-060 323-060 (coiled lead)
HIGH TEMPERATURE PROBE	<ul> <li>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.</li> <li>Response time less than 2 seconds</li> <li>Probe temperature range -40 to 1100 °C</li> </ul>	123-204 323-204 (coiled lead)
HIGH TEMPERATURE PROBE	<ul> <li>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.</li> <li>Response time less than 3 seconds</li> <li>Probe temperature range -40 to 1100 °C</li> </ul>	123-212 323-212 (coiled lead)
HIGH TEMPERATURE PROBE	<ul> <li>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.</li> <li>Response time less than 4 seconds</li> <li>Probe temperature range -40 to 1100 °C</li> </ul>	123-213 323-213 (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	This rounded tip, stainless steel probe is	123-240
	designed for inserting into Binder self-sealing glands to measure the temperature of vessels or radiators.	323-240 (coiled lead)
Active Active Ø3 x 130 mm	<ul> <li>Response time less than 3 seconds</li> <li>Probe temperature range -75 to 250 °C</li> </ul>	
AIR OR GAS PROBE	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.	123-300 323-300 (coiled lead)
	<ul> <li>Response time less than 1 second</li> <li>Probe temperature range -75 to 250 °C</li> </ul>	
T-SHAPED AIR OR GAS PROBE	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.	123-310 323-310 (coiled lead)
	<ul> <li>Response time less than 1 second</li> <li>Probe temperature range -75 to 250 °C</li> </ul>	
RIBBON SURFACE PROBE	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.	123-030 123-032 (right-angled)
Ø15 x 130 mm	<ul> <li>Response time less than 1 second</li> <li>Probe temperature range -75 to 250 °C</li> </ul>	
RIBBON SURFACE PROBE	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.	123-044 123-052 (right-angled)
Ø8 x 130 mm	<ul> <li>Response time less than 1 second</li> <li>Probe temperature range -75 to 250 °C</li> </ul>	
WATERPROOF SURFACE PROBE	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. • Response time less than 1 second • Probe temperature range -75 to 250 °C	123-046 323-046 (coiled lead)
Ø6 x 130 mm	<ul> <li>This surface probe incorporates a spring-loaded copper disc sensing tip. The probe is ideal for a variety of surface temperature measurements.</li> <li>Response time less than 1 second</li> <li>Probe temperature range -100 to 600 °C</li> </ul>	123-000* 323-000* (coiled lead)
HEAVY-DUTY SURFACE PROBE	This high temperature surface probe is ideal for measuring the temperature of griddles, hotplates etc. A right-angled version is also available • Response time less than 1 second • Probe temperature range -100 to 1000 °C	123-020* 123-028* (right-angled)
	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.	123-162 123-158 (reduced tip)
	<ul> <li>Response time less than 2 seconds</li> <li>Probe temperature range -75 to 250 °C</li> </ul>	

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	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. • Response time less than 3 seconds • Probe temperature range -75 to 250 °C	143-161 143-162 143-164 143-165 143-166 143-167
REDUCED TIP PROBE	<ul> <li>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.</li> <li>Response time less than 7 seconds</li> <li>Probe temperature range -75 to 250 °C</li> </ul>	143-120 343-120 (coiled lead)
BELL SURFACE PROBE	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. • Response time less than 3 seconds • Probe temperature range -75 to 200 °C	143-080 (straight) 143-084 (45° angle) 143-086 (90° angle)
WATERPROOF FLOW PROBE	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. • Response time less than 1 second • Probe temperature range -75 to 250 °C	143-310 343-310 (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	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	<ul> <li>This stainless steel, penetration probe is strong, versatile and ideal for liquids or semi-solids.</li> <li>A fast response version with reduced tip (Ø1.8 x 25 mm) is also available.</li> <li>Response time less than 2 seconds</li> <li>Probe temperature range -75 to 250 °C</li> </ul>	133-161 (120 mm) 133-153 (120 mm reduced tip) 133-154 (80 mm reduced tip)
SURFACE PROBE	<ul> <li>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.</li> <li>Response time less than 1 second</li> <li>Probe temperature range -75 to 250 °C</li> </ul>	133-045 133-046 (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
VIEW MARKER W3.3 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. • Response time less than 2 seconds • Probe temperature range -75 to 250 °C	133-174
PENETRATION PROBE         Image: Constraint of the second	<ul> <li>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.</li> <li>Response time less than 3 seconds</li> <li>Probe temperature range -75 to 250 °C</li> </ul>	133-124
REDUCED TIP PROBE	<ul> <li>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.</li> <li>Response time less than 9 seconds</li> <li>Probe temperature range -75 to 250 °C</li> </ul>	133-126 (100 mm) 133-120 (300 mm)
REDUCED TIP PROBE	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. • Response time less than 20 seconds • Probe temperature range -75 to 250 °C	133-130
REDUCED TIP PROBE	<ul> <li>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.</li> <li>Response time less than 20 seconds</li> <li>Probe temperature range -75 to 250 °C</li> </ul>	133-136 (1000mm) 133-135 (1400mm)
REDUCED TIP PROBE	<ul> <li>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.</li> <li>Response time less than 20 seconds</li> <li>Probe temperature range -75 to 250 °C</li> </ul>	133-133
CORKSCREW PROBE	<ul> <li>This stainless steel probe incorporates a heavy-duty</li> <li>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.</li> <li>Response time less than 9 seconds</li> <li>Probe temperature range -75 to 250 °C</li> </ul>	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
	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.	133-362 (1000mm) 133-363 (2000mm)
Action Action 01.5 x 1000 or 2000 mm	<ul> <li>Response time less than 1 second</li> <li>Probe temperature range -75 to 250 °C</li> </ul>	
HEAVY-DUTY PTFE WIRE PROBE	<ul> <li>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.</li> <li>Response time less than 1 second</li> <li>Probe temperature range -75 to 250 °C</li> </ul>	133-372 (1000 mm) 133-373 (2000 mm)
FIBREGLASS WIRE PROBE	<ul> <li>This fibreglass, exposed junction wire probe is ideal for measuring the air temperature of ovens, hot cupboards and similar appliances.</li> <li>Extended probe lengths over two metres are available upon request.</li> <li>Response time less than 1 second</li> <li>Probe temperature range -60 to 350 °C</li> </ul>	133-382 (1000mm) 133-383 (2000mm)
HIGH TEMPERATURE WIRE PROBE	<ul> <li>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.</li> <li>Response time less than 1 second</li> <li>Probe temperature range -60 to 600 °C</li> </ul>	133-387 (1000 mm) 133-389 (2000 mm)
ATTACHMENT PADS	These easy-to-use attachment pads are recommended for attaching small diameter wire thermocouples to surfaces. Supplied in packs of 25. • For use over the range of -50 to 200 °C	600-485
PROBE EXTENSION LEAD - STRAIGHT	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) 627-733 (2000 mm)
PROBE EXTENSION LEAD - COILED	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) 627-741 (2000 mm)
MINIATURE PLUG OR SOCKET	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) 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	<ul> <li>This miniature, stainless steel needle probe is supplied with a one or two metre PTFE lead.</li> <li>Ideal for measuring small semi-solid items and sous vide cooking.</li> <li>Response time less than 1 second</li> <li>Probe temperature range -75 to 250 °C</li> </ul>	133-180 (Im lead) 133-182 (2m lead)
FAST RESPONSE MEAT PROBE         Image: Ima	This fast response, meat penetration probe is specially designed for measuring burger patties etc. Supplied with a one metre coiled lead. • Response time less than 2 seconds • Probe temperature range -75 to 250 °C	133-150
BURGER PROBE	<ul> <li>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.</li> <li>Response time less than 4 seconds</li> <li>Probe temperature range -75 to 250 °C</li> </ul>	123-745 (6 mm tip) 123-746 (12 mm tip)
MAGNET SURFACE PROBE	<ul> <li>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.</li> <li>Response time less than 30 seconds</li> <li>Probe temperature range -20 to 80 °C</li> </ul>	133-017
ROLLER SURFACE PROBE	<ul> <li>These roller surface probes have either stainless steel or PTFE wheels and are designed for measuring moving surfaces. Max. speed 100 m/min.</li> <li>Response time less than 2 seconds</li> <li>Probe temperature range -75 to 250 °C</li> </ul>	123-038 (s/steel) 123-036 (PTFE)
GRIDDLE SURFACE PROBE	<ul> <li>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.</li> <li>Response time less than 2 seconds</li> <li>Probe temperature range -50 to 250 °C</li> </ul>	133-018 (armoured)
VELCRO PIPE PROBE	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. • Response time less than 30 seconds • Probe temperature range -10 to 100 °C	133-080
PIPE CLAMP PROBE	<ul> <li>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.</li> <li>Response time less than 4 seconds</li> <li>Probe temperature range -10 to 100 °C</li> </ul>	133-040
ADJUSTABLE TYRE PROBE	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. <b>Type K Only.</b> • Response time less than 2 seconds • 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

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### THERMADATA® WI-FI LOGGER THERMOCOUPLE PROBES

		Order code
GENERAL PURPOSE PROBE	<ul> <li>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.</li> <li>Response time less than 5 seconds</li> <li>Probe temperature range -75 to 250 °C</li> </ul>	133-158 (1000 mm) 133-220 (3000 mm) 133-222 (5000 mm)
FOOD SIMULANT PROBE	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. • Probe temperature range -20 to 100 °C	133-350 (1000 mm) 133-352 (3000 mm) 133-354 (5000 mm)
Ø4.8MM STANDARD PROBE	<ul> <li>This Ø4.8 mm general purpose, stainless steel probe is ideal for a variety of applications.</li> <li>Supplied with a two metre PVC lead.</li> <li>Response time less than 17 seconds</li> <li>Probe temperature range -50 to 100 °C</li> </ul>	133-453
Ø6MM STANDARD PROBE	<ul> <li>This Ø6 mm general purpose, stainless steel probe is ideal for a variety of applications.</li> <li>Supplied with a two metre PVC lead.</li> <li>Response time less than 20 seconds</li> <li>Probe temperature range -50 to 100 °C</li> </ul>	133-448
Ø6.35MM STANDARD AIR PROBE         Image: Constraint of the second seco	<ul> <li>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.</li> <li>Supplied with a two metre PVC lead.</li> <li>Response time less than 2 seconds</li> <li>Probe temperature range -50 to 100 °C</li> </ul>	133-499
MINERAL INSULATED PROBES	<ul> <li>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.</li> <li>Response time less than 2 seconds</li> <li>Probe temperature range -200 to 1100 °C</li> </ul>	133-420 (180 mm) 133-421 (500 mm) 133-422 (1000 mm)
MINERAL INSULATED PROBES	<ul> <li>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.</li> <li>Response time less than 4 seconds</li> <li>Probe temperature range -200 to 1100 °C</li> </ul>	133-425 (180 mm) 133-428 (500 mm) 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 call our sales office on 01903 202151 or email technical@etiltd.com

### LUMBERG CONNECTOR TYPE T THERMOCOUPLE PROBES

		Order code
PENETRATION PROBE	<ul> <li>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.</li> <li>Response time less than 5 seconds</li> <li>Probe temperature range -75 to 250 °C</li> </ul>	177-166
FAST RESPONSE PROBE	<ul> <li>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.</li> <li>Response time less than 4 seconds</li> <li>Probe temperature range -75 to 250 °C</li> </ul>	177-100
RIGID BETWEEN PACK PROBE	<ul> <li>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.</li> <li>Response time less than 3 seconds</li> <li>Probe temperature range -75 to 250 °C</li> </ul>	177-060
AIR OR GAS WIRE PROBE	<ul> <li>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.</li> <li>Response time less than 2 seconds</li> <li>Probe temperature range -75 to 250 °C</li> </ul>	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	<ul> <li>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.</li> <li>Response time less than 5 seconds</li> <li>Probe temperature range -75 to 250 °C</li> </ul>	177-266
PENETRATION PROBE         Image: Constraint of the second	<ul> <li>This waterproof, stainless steel, plug-mounted probe with Lumberg connector is strong, versatile and ideal for measuring liquids, semi-solids and granular materials.</li> <li>Response time less than 4 seconds</li> <li>Probe temperature range -75 to 250 °C</li> </ul>	177-200

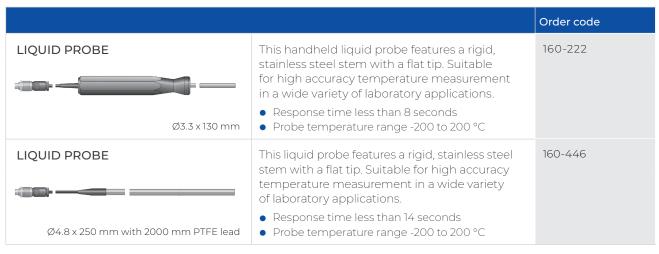
Please note: the above type T thermocouple probes (177-266 & 177-200) are suitable for use with the Therma 22 Plus and are waterproof to IP67 when connected to an instrument

### PT100 CLASS A TEMPERATURE PROBES

		Order code
PENETRATION PROBE	<ul> <li>This stainless steel penetration probe is strong, versatile and ideal for measuring liquids and semi-solids accurately in a variety of applications.</li> <li>Response time less than 6 seconds</li> <li>Probe temperature range -100 to 200 °C</li> </ul>	160-160
AIR OR GAS PROBE	<ul> <li>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.</li> <li>Response time less than 4 seconds</li> <li>Probe temperature range -100 to 200 °C</li> </ul>	160-300
LIQUID PROBE	<ul> <li>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.</li> <li>Response time less than 6 seconds</li> <li>Probe temperature range -100 to 200 °C</li> </ul>	160-220
AIR OR GAS WIRE PROBE	<ul> <li>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.</li> <li>Response time less than 4 seconds</li> <li>Probe temperature range -100 to 200 °C</li> </ul>	160-372

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

# PT100 1/10<sup>TH</sup> DIN TEMPERATURE PROBES



Please note: accuracy of the above PT100 1/10<sup>th</sup> 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	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. Response time less than 5 seconds Probe temperature range -40 to 150 °C	174-161 174-162 174-164 174-165 174-166 174-167
Ø3.3 x 300 mm	<ul> <li>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.</li> <li>Response time less than 5 seconds</li> <li>Probe temperature range -40 to 150 °C</li> </ul>	174-168
Ø2.6 x 130 mm	<ul> <li>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.</li> <li>Response time less than 4 seconds</li> <li>Probe temperature range -40 to 150 °C</li> </ul>	174-100
RIGID BETWEEN PACK PROBE	<ul> <li>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.</li> <li>Response time less than 3 seconds</li> <li>Probe temperature range -40 to 150 °C</li> </ul>	174-060
AIR OR GAS PROBE	<ul> <li>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.</li> <li>Response time less than 2 seconds</li> <li>Probe temperature range -40 to 150 °C</li> </ul>	174-300
PENETRATION PROBE	<ul> <li>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.</li> <li>Response time less than 4 seconds</li> <li>Probe temperature range -40 to 150 °C</li> </ul>	170-169
REDUCED TIP PROBE	<ul> <li>This extended, robust Ø9.5 mm stainless steel reinforced probe incorporates a heavy-duty,</li> <li>T-shaped polypropylene handle and a reduced sensing tip (Ø6.35 x 25 mm) for faster response.</li> <li>Ideal for a wide variety of heavy-duty, general purpose industrial or food processing applications.</li> <li>Response time less than 15 seconds</li> <li>Probe temperature range -40 to 150 °C</li> </ul>	170-136

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

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CORKSCREW PROBE	<ul> <li>This frozen food probe incorporates a heavy-duty</li> <li>T-shaped, polypropylene handle and</li> <li>a corkscrew design sensing tip. Ideal for</li> <li>measuring deep frozen foods or other frozen</li> <li>materials. Supplied with a one metre PVC</li> <li>detachable lead.</li> <li>Response time less than 9 seconds</li> <li>Probe temperature range -40 to 150 °C</li> </ul>	170-175
FOOD SIMULANT PROBE           9 x 100 x 100 mm	<ul> <li>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.</li> <li>Probe temperature range -20 to 100 °C</li> </ul>	170-350
AIR OR GAS WIRE PROBE	<ul> <li>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.</li> <li>Response time less than 2 seconds</li> <li>Probe temperature range -40 to 150 °C</li> </ul>	170-372
FOIL BETWEEN PACK PROBE	<ul> <li>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.</li> <li>Response time less than 3 seconds</li> <li>Probe temperature range -20 to 75 °C</li> </ul>	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
Ø3.3 x 130 mm	<ul> <li>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.</li> <li>Response time less than 5 seconds</li> <li>Probe temperature range -40 to 150 °C</li> </ul>	174-266
Ø3.3 x 100 mm	<ul> <li>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.</li> <li>Response time less than 4 seconds</li> <li>Probe temperature range -40 to 150 °C</li> </ul>	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