

493-648.

Accuracy Guide

Thermocouples

| Type | Conductors | Temperature Range | Tolerances to BS4937 Class 1 |
|------|--|--|---|
| K | Nickel Chromium/Nickel Aluminium (Ni-Cr/Ni-Al) | -200°C to +1250°C / -328°F to +2280°F | -40°C to +1000°C: ±1.5°C or ±0.4% whichever is the greater / -40°F to +1830°F: ±2.5°F whichever is the greater |
| T | Copper/Copper Nickel (Cu/Cu-Ni) | -200°C to +400°C / -328°F to +750°F | -40°C to +350°C: ±0.5°C or ±0.4% whichever is the greater / -40°F to +660°F: ±1.0°F whichever is the greater |

Thermocouple Type T material is selected for ±0.2°C over the range -20°C to +70°C.

Platinum Resistance

| Type | Conductors | Temperature Range | Tolerances to BS1904 Grade A |
|-------|---------------------|---|--|
| P1100 | Platinum Resistance | -200°C to +800°C / -328°F to +1470°F | -200°C to +600°C: ±0.15°C ±0.2% / -328°F to +1110°F: ±0.3°F ±0.2% |

Ordering information:

Standard model – use code number shown, eg: K0234S.

Color-coded model – place ‘C’ at the end of the code number, eg: TO234SC.

Sensor Time Constant

The time constant is the time taken for the sensor to reach 63% of the final reading and is the industry standard means of measuring probe response time. Five times this figure is normally required to obtain a steady reading.

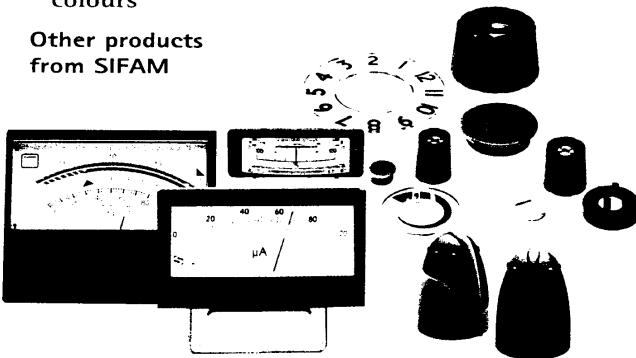
The results given in this leaflet were obtained in an agitated water/glycol bath and may differ from those obtained under other conditions, but can be used as a general guide when selecting probes for your requirement.

Customisation – for branding or OEM’s

- ◆ Printed part number – unique to your organization
- ◆ Your logo on the ‘thumb-stop’ tab
- ◆ Custom handle colours
- ◆ Custom moulded handle
- ◆ Custom retractile colours

SIFAM’s probes can be customised to a small or large degree depending on the batch size and yearly volumes required. Why not talk to our Sales Office and let us help you set new standards in temperature measurement!

Other products from SIFAM



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SIFAM – The plastics and measurement technology group

Certificate No. Q 851037

As part of our policy of continuous product improvement we reserve the right to change specifications at any time.



Setting new standards in temperature measurement

Probe Specifier

Designed and produced in the UK by RGR Associates – 2500UK/500US/04/98



Versatile
temperature
probes
designed for
accuracy and
strength

SIFAM's new range of probes are certain to set new standards in temperature measurement and ensure trouble-free usage, time and time again.

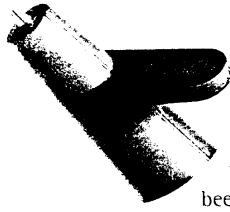
Born out of extensive market research, destructive testing and analysis of similar products, these new probes are better designed than anything else available today. Furthermore, as they are the first probes to come with detailed specifications as to their mechanical strength, you can buy with confidence, knowing that they are capable of withstanding the demands of today's industrial applications.

Made for a tough life!

These are probably the strongest hand-held probes available and have been built to withstand considerable push, pull and twist forces. The probes' cable restraints are also extremely durable.

Ergonomic winner

The probe has been especially designed to fit comfortably into the hand and features a unique 'thumb-stop' for ease of use as well as protection against slipping. Furthermore, for penetration applications, the angle of the general purpose probe's point has been set to provide less resistance at the insertion point.



Clean styling

The probe's handle parts are ultrasonically welded and sealed to IP67, so that it may be scrubbed clean without affecting the internal wiring. With sealed tip probes, the complete unit is protected to IP67. To prevent cross-contamination, we recommend that probes are cleaned with anti-bacterial wipes.

Colour Coding

Colour-coded tabs (ideal for the food industry) are available in a range of colours and can be fitted to the finger support with ease. These tabs can be overprinted with your company logo.

- ◆ Attractive, ergonomic, functional design
- ◆ Rugged construction for a tough life
- ◆ EMC compliance
- ◆ Fast response
- ◆ Comprehensive range
- ◆ Colour coded tagging system
- ◆ Easy ordering procedure
- ◆ Cables in accordance with the International Electro-Technical Commission

Easy ordering procedure

Finally, to make re-ordering as simple as possible, each probe has been printed with a reference number. So, thanks to our new range of probes, not only can you forget all previous performance problems, you can simply quote the reference on the probe rather than try to describe it in detail to your supplier!

Brown - T Type Thermocouple
Green - K Type Thermocouple

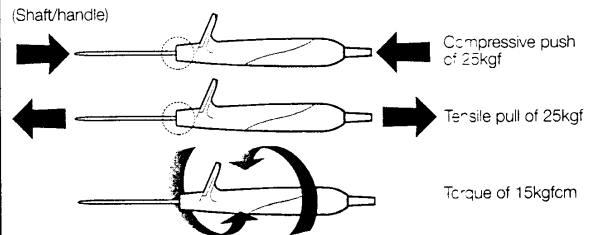
(Thermistor cables remain black whilst Platinum Resistance cables are grey)

Probe part number prefixes

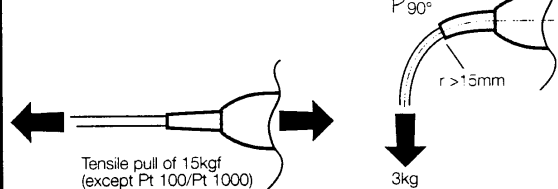
| Sensor type | Range |
|-------------|--|
| K | For type K thermometers |
| T | For type T thermometers |
| P | Pt 100 platinum resistance |
| Q | Pt 1000 platinum resistance |
| H | Thermistor, for use with thermistor thermometers |

Please note that Type T and Type K probes can be used with most manufacturers' instruments. Please call us to confirm compatibility.

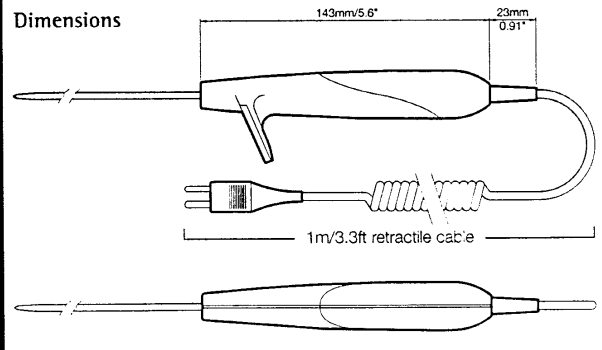
Strength you can trust



Strength specifications (cable)



Dimensions



Industrial

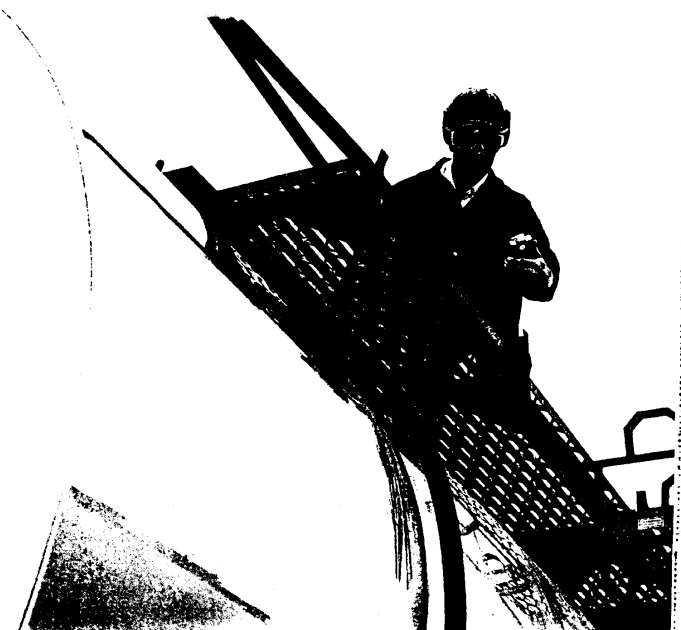
A new industrial standard is set!

In industrial applications, the combination of ergonomic functionality and durability give the SIFAM probe an unmatched advantage - this is a probe for the 21st century! For the huge range of possible applications there is only one probe to buy - SIFAM!

| Code | Description and Application | Tip Dimensions |
|---------------|--|----------------|
| K0112S | NEEDLE PROBE Fast response probe. Applications include food, pharmaceutical, shellfish, rubber (e.g. car tyre) measurements. Time Const. (secs) 0.5 Max. Tip Temp. 400°C/750°F | |
| K0234S | GENERAL PURPOSE PROBE Strong, fast response and suitable for a wide range of applications - liquids, semi-solids, air and granular materials. Can be used for general food penetration. Time Const. (secs) 0.6 Max. Tip Temp. 1000°C/1830°F | |
| K0334S | AIR PROBE Extremely fast response for gas and air temperatures. Ideal for the refrigeration, heating and ventilating industries. Time Const. (secs) 0.3 Max. Tip Temp. 500°C/930°F | |
| K0454S | SURFACE PROBE Providing a fast response and comprising of a 3.5mm diameter spring loaded copper disc to allow uniform pressure on surface to be measured. Time Const. (secs) 0.4 Max. Tip Temp. 500°C/930°F | |
| K0900S | PIPE (VELCRO) PROBE For taking surface measurements of pipes. Ideal for heating, refrigeration and milking systems. Consisting of a sensor embedded in a 300mm length velcro strip designed for wrapping around pipes. Time Const. (secs) 2.6 Max. Tip Temp. 100°C/210°F | |
| K0254S | HEAVY DUTY GENERAL PURPOSE PROBE Suitable for a wide range of applications in harsh environments. Time Const. (secs) 1.3 Max. Tip Temp. 1000°C/1830°F | |
| K0584S | RUGGED SURFACE PROBE Fitted with heavy duty retractable cable, providing a fast response for all types of industrial applications, including bearing temperatures. Time Const. (secs) 0.5 Max. Tip Temp. 750°C/1380°F | |
| K0684S | BAND SURFACE/AIR LOW TEMPERATURE PROBE Provides a rapid response for air and surface temperature measurements. Uses include sheet metal, photocopier rollers and electronic component testing. Time Const. (secs) 0.4 Max. Tip Temp. 250°C/480°F | |
| K0714S | SEMI-FLEXIBLE MINERAL INSULATED PROBE Small diameter, fast response probe, for taking temperature measurements of substances within intricate laboratory apparatus. Time Const. (secs) 1.0 Max. Tip Temp. 1000°C/1830°F | |
| K0736S | SEMI-FLEXIBLE GENERAL PURPOSE PROBE Versatile probe with mineral insulated sensor and inconel sheath for measurements of substances where access is restricted. Time Const. (secs) 2.6 Max. Tip Temp. 1000°C/1830°F | |
| K0000S | EXPOSED JUNCTION THERMOCOUPLE PTFE INSULATED For general purpose use in the heating and refrigeration industries - including radiator, fan, water and air temperatures. Time Const. (secs) 0.5 Max. Tip Temp. 250°C/480°F | |
| K0256S | BITUMEN PROBE For taking tar temperature measurements in the construction industry. Time Const. (secs) 1.3 Max. Tip Temp. 1000°C/1830°F | |

| | | |
|---------------|---|--|
| K0236S | FLUE PROBE Strong, fast response probe, complete with adjustable securing cone and screw for flue gas measurements. Particularly aimed at the heating and ventilating industries. Time Const. (secs) 0.6 Max. Tip Temp. 1000°C/1830°F | |
| P0234S | GENERAL PURPOSE Pt100 PROBE Versatile and strong probe for applications such as liquids, semi-solids, air and granular materials. Ideal for laboratory use. Time Const. (secs) 2.0 Max. Tip Temp. 600°C/1110°F | |
| Q0234S | PRECISION Pt1000 PROBE For use with the T600i bench mounted thermometer. Time Const. (secs) 2.0 Max. Tip Temp. 600°C/1100°F | |
| Q0254S | PRECISION Pt1000 PROBE For use with the T600i bench mounted thermometer. Time Const. (secs) 3.0 Max. Tip Temp. 600°C/1100°F | |
| T0334S | AIR PROBE For taking air temperatures such as in store rooms or cold rooms. Also used to take 'air on' and 'air off' temperatures of a refrigeration unit as recommended by the Department of Health. Time Const. (secs) 0.3 Max. Tip Temp. 375°C/700°F | |
| T0684S | SURFACE PROBE For non-destructive monitoring of surfaces such as hot plates or food packs. Designed to stabilise within seconds of being applied to a surface. Time Const. (secs) 0.4 Max. Tip Temp. 250°C/480°F | |
| T0234S | GENERAL PURPOSE PENETRATION PROBE Colour-coded handles are available to help avoid cross-contamination between food-stuffs. Suitable for food penetration and liquid temperature monitoring. Time Const. (secs) 0.6 Max. Tip Temp. 250°C/480°F | |
| T0112S | HYPODERMIC PENETRATION PROBE Fast response probe. Applications include food, pharmaceutical, shellfish, rubber (e.g. car tyre) measurements. Time Const. (secs) 0.5 Max. Tip Temp. 375°C/700°F | |
| T0254S | 'T' INDUSTRY/FREEZER PROBE Suitable for a wide range of applications in harsh environments. Time Const. (secs) 1.3 Max. Tip Temp. 375°C/700°F | |
| T0000S | EXPOSED JUNCTION/FRIDGE PROBE With PFA insulation. Used to monitor temperatures by placing the wire probe inside the fridge/freezer and shutting the door to give a true reading. Time Const. (secs) 0.5 Max. Tip Temp. 250°C/480°F | |

Please note: The probes above are supplied with one metre of cable (retractile or straight as illustrated) and plug.



Food

Our probes can stand the heat!

You won't be throwing these probes out of the kitchen. They have been made to withstand the most demanding and hostile of environments. Also, these probes offer a clever colour tab system to identify usage with specific foods or tasks.

| Code | Description and Application | Tip Dimensions |
|--------|---|----------------|
| K0112S | NEEDLE PROBE Fast response probe. Applications include food, where no marks should be left. | |
| | Time Const. (secs) 0.5 Max. Tip Temp. 400°C/750°F | |
| K0234S | GENERAL PURPOSE PROBE Strong, fast response and versatile for a wide range of applications - liquids, semi-solids, air and granular materials. Can be used for general food penetration. | |
| | Time Const. (secs) 0.6 Max. Tip Temp. 1000°C/1830°F | |
| K0334S | AIR PROBE Extremely fast response for on and off air temperatures. Ideal for the refrigeration, heating and ventilating industries. | |
| | Time Const. (secs) 0.3 Max. Tip Temp. 500°C/930°F | |
| K0684S | BAND SURFACE/AIR LOW TEMPERATURE PROBE Provides a rapid response for air and surface temperature measurements. Uses include food surfaces/ equipment and packaging tests. | |
| | Time Const. (secs) 0.4 Max. Tip Temp. 250°C/480°F | |
| K0000S | EXPOSED JUNCTION THERMOCOUPLE PTFE INSULATED For general purpose use. With PFA insulation. Used to monitor temperatures by placing the wire probe inside the fridge/freezer and shutting the door to give a true reading. | |
| | Time Const. (secs) 0.5 Max. Tip Temp. 250°C/480°F | |
| K0254S | HEAVY DUTY PROBE Robust probe for taking temperature measurements of very viscous liquids and frozen foods. | |
| | Time Const. (secs) 1.3 Max. Tip Temp. 1000°C/1830°F | |
| K0454S | SURFACE PROBE Providing a fast response and comprising a 3.5mm diameter spring loaded copper disc to allow uniform pressure on surface to be measured. | |
| | Time Const. (secs) 0.5 Max. Tip Temp. 500°C/930°F | |
| T0334S | AIR PROBE For taking ambient air temperatures such as in store rooms or cold rooms. Also used to take 'air on' and 'air off' temperatures of refrigeration units. | |
| | Time Const. (secs) 0.3 Max. Tip Temp. 375°C/700°F | |
| T0684S | SURFACE PROBE For non-destructive monitoring of surfaces such as hot plates or food packs. Designed to stabilise within seconds of being applied to a surface. | |
| | Time Const. (secs) 0.4 Max. Tip Temp. 250°C/480°F | |
| T0234S | GENERAL PURPOSE FOOD PENETRATION PROBE Suitable for food penetration and liquid temperature monitoring. Colour-coded tabs are available to help avoid cross-contamination between food-stuffs. | |
| | Time Const. (secs) 0.6 Max. Tip Temp. 375°C/700°F | |
| T0112S | HYPODERMIC FOOD PENETRATION PROBE Designed to cause the minimum amount of damage to food-stuffs being monitored. Ideal for cheese, meat or fruit. Not to be used on frozen food-stuffs. | |
| | Time Const. (secs) 0.5 Max. Tip Temp. 375°C/700°F | |
| T0254S | 'FROZEN FOOD' PROBE This heavy duty probe is for use in monitoring frozen goods. Before readings are taken, a hole should be drilled and then the probe inserted. | |
| | Time Const. (secs) 1.3 Max. Tip Temp. 375°C/700°F | |
| T0000S | FRIDGE PROBE With PFA insulation. Used to monitor temperatures by placing the wire probe inside the fridge/freezer and shutting the door to give a true reading. | |
| | Time Const. (secs) 0.5 Max. Tip Temp. 250°C/480°F | |

| | | |
|--------|--|--|
| T0834S | AIR/BETWEEN PACK PROBE Health departments recommend the use of this type of probe. The sensor is encased at the end of a long flat probe which is designed to slide between food packs without causing damage. | |
| | Time Const. (secs) 0.5 Max. Tip Temp. 100°C/212°F | |
| H0234S | GENERAL PURPOSE PROBE** For taking all types of food product temperatures, using our 3246 thermometer. | |
| | Time Const. (secs) 1.9 Max. Tip Temp. 120°C/248°F | |
| H0334S | AIR PROBE** For checking air on/air off temperatures in refrigerators and freezers. | |
| | Time Const. (secs) 1.1 Max. Tip Temp. 120°C/248°F | |
| H0800S | BETWEEN PACK PROBE** For checking still air temperatures in refrigerators and freezers. | |
| | Time Const. (secs) 3.5 Max. Tip Temp. 100°C/248°F | |
| H0000S | FRIDGE PROBE** For non-destructive checking of food temperatures. | |
| | Time Const. (secs) 3.5 Max. Tip Temp. 120°C/248°F | |

Please note: Type K and type T probes are supplied with one metre of retractile cable and plug. Type T thermocouples are specially selected to give an accuracy of $\pm 0.2^\circ\text{C}$ over the range -20°C to $+70^\circ\text{C}$, allowing the system accuracy of instrument and probe to meet fully the UK Department of Health food hygiene guideline requirements.

** For use with Digitron Thermistor Thermometers only.

HVAC

A breath of fresh air!

The world of heating and ventilation can be very demanding for a probe. The highly durable nature of our new probes ensures a long and trouble-free operational life. To enhance reliability, most probes are supplied with retractile cable and moulded plug and cable strain reliefs at the points of plug and handle connection.

| Code | Description and Application | Tip Dimensions |
|--------|--|----------------|
| K0234S | GENERAL PURPOSE PROBE Strong, fast response and versatile for a wide range of applications - liquids, semi-solids, air and granular materials. | |
| | Time Const. (secs) 0.6 Max. Tip Temp. 1000°C/1830°F | |
| K0334S | AIR PROBE Extremely fast response for gas and air temperatures. Ideal for the refrigeration, heating and ventilating industries. | |
| | Time Const. (secs) 0.3 Max. Tip Temp. 500°C/930°F | |
| K0684S | BAND SURFACE/AIR LOW TEMPERATURE PROBE Provides a rapid response for air and surface temperature measurements. Uses include sheet metal, photocopier rollers and electronic component testing. | |
| | Time Const. (secs) 0.4 Max. Tip Temp. 250°C/480°F | |
| K0000S | EXPOSED JUNCTION THERMOCOUPLE PTFE INSULATED For general purpose use in the heating and refrigeration industries - including radiator, fan, water and air temperatures. | |
| | Time Const. (secs) 0.5 Max. Tip Temp. 250°C/480°F | |
| K0236S | FLUE PROBE Strong, fast response probe, complete with adjustable securing cone and screw for flue gas measurements. Particularly aimed at the heating and ventilating industries. | |
| | Time Const. (secs) 0.6 Max. Tip Temp. 1000°C/1830°F | |
| K0900S | PIPE (VELCRO) PROBE For taking surface measurements of pipes. Ideal for heating, refrigeration and milking systems. Consisting of a sensor embedded in a 300mm length velcro strip designed for wrapping around pipes. | |
| | Time Const. (secs) 2.6 Max. Tip Temp. 100°C/210°F | |

Please note: the range of wire thermocouples are designed for fast reliable measurement of many general applications. They are supplied with one metre of cable and plug.