

Foodcare



Foodcare Line **Products for Temperature**





Temperature

Temperature is an important parameter throughout many stages of the food production process; from manufacturing, to pasteurization, to storage, temperature measurement is essential. There are a variety of thermometer technologies that can be utilized to obtain these temperature measurements. Thermocouple thermometers provide a fast response, are capable of measurement at very high temperatures, and provide moderate accuracy. Thermistor thermometers offer high accuracy with a moderate response time within a limited temperature range. Hanna offers a variety of thermometers and application specific probes for all temperature measuring needs.

Meat

The temperature of meat at slaughterhouses is a vital quality control test and needs to be checked at various points of production. Fresh meat should be stored at about 2°C (35.6°F).

For deep-freeze meat in storage, it should have an internal temperature around -22°C (-7.6°F) with the surface temperature reaching -35°C (-31°F). In order to thaw the meat properly, the surrounding temperature should be 7°C (44.6°F).

Ham and Sausages

The temperature of salted meat stored for several months is around 2°C (35.6°F). Afterwards, the product is rinsed and dried at around 25°C (77°F) prior to maturing at a preset temperature for a particular product. For sausages, the mixed ingredients are cooked at a certain temperature and then cooled at around 5 to 15°C (41 to 59°F).

Milk and Dairy Products

Milk is checked for impurities and bacteria upon collection. During storage, the temperature of milk is normally kept below 5°C (41°F). In order to slow down cream formation, milk is homogenized at about 60°C (140°F).

The pasteurization of milk results in the reduction of microorganisms by 95% and is attained by raising the temperature to over 72°C (161.6°F). For UHT (ultra heat treated), milk is heated to 135/150°C (275/302°F) in a pressurized vessel for a few seconds. If the process is repeated for several minutes, all microorganisms, including spores, are destroyed and the sterilized milk will have a 12 month shelf life. For cheese, temperature needs to be adjusted before and during various processes, for example, when rennet is added.

Temperature in the maturation chamber also determines the period of maturation needed. Likewise, temperature is important in the production of butter. For example, skimmed milk is separated from cream at around 55°C (131°F) and the cream is then cooled to about 8°C (46.4°F). The temperature of incoming milk is raised to 45°C (113°F) before the addition of a culture for yogurt manufacturing. In order to denature the whey proteins, milk is raised to very high temperatures. The incubation temperature is maintained for a few hours prior to its cooling to about 10°C (50°F).

Sanitization of Machinery

The temperature of cleansing agents, together with their concentration, have a significant bearing on how effectively the machinery is sanitized. The temperature for fermentation vessels can range from room temperature to 40°C (104°F). For milk and yogurt, tanks may reach 70°C (158°F) and as high as 150°C (302°F) for steam sterilizers. In addition, regulatory bodies recommend a certain minimum temperature for cleaning agents to be effective; this can vary from 24°C (75.2°F) for iodine and ammonia and 49°C (120.2°F) for chlorine.





Chocolate

Fermentation of cocoa beans is started by increasing the temperature to about 50°C (122°F). At different stages of chocolate manufacturing such as crystallization, accurate temperature measurement is a must. Once the chocolate is ready, the storage temperature should be monitored to ensure that it stays in the 15°C (59°F) range.

Confectioneries

In confectioneries, temperature of the sugar syrup will dictate the consistency of the final product. For caramel or other soft candies, the sugar syrup is heated to 250°F (121°C); a brittle hard candy, such as a lollipop, requires the sugar syrup to be heated to 300°F (148°C). A few degrees temperature variation may cause significant differences from one batch to the next. Thermistor thermometers, such as the HI93501, offer a high level of accuracy for accurate temperature monitoring in the confectionery production process.

Bread and Pasta

The temperature of stored grain in silos is controlled to ensure that premature fermentation does not occur. During pasta production, water at about 25°C (77°F) is added to wheat flour during fermentation of dough for bread-making, the temperature is kept at around 30°C (86°F). The oven temperature for baking should be around 260°C (500°F) and once baked, bread is cooled to room temperature. For semi-finished products that can be flash-baked, the dough has to be stored at very low temperatures.

Beverages

The temperature of spring or deep well waters that are extracted for beverage production must be continuously monitored to ensure purity. During the production of soft drinks, syrup is pasteurized before being added, to prevent bacteriological problems. In order to prepare fruit juices, fruit pulp is heated to just below boiling point for a few seconds to reduce the presence of microorganisms. During both of these processes, accurate temperature monitoring is crucial.

Coffee

Coffee is one the favorite beverages consumed by billions of people worldwide. Coffee, no matter the brand and quality, can be affected drastically during the brewing stage. The water quality plays a vital role in determining the taste of the beverage. An equally important physical factor is the temperature of the water. Brewing is a chemical reaction between hot water and coffee. Overall, the brewing process extracts compounds from the coffee grounds; how these compounds are extracted is temperature-dependent. Slight variations in temperature affect the taste and aroma of the coffee. Colder water will result in less extraction, leaving the coffee tasting sour, weak and diluted, whereas, water that is too hot will cause over extraction, resulting in bitter and burnt tasting coffee.

In order to invoke an aroma, coffee beans are heated up to 200°C (392°F). During roasting, the temperature is closely monitored. In order to provide a long shelf life, the finished product is frozen at -40°C (-40°F) prior to drying. To produce a good coffee, it is important to ensure that the temperature of coffee machines does not exceed 80°C (176°F).



Brewing

At its core, all beer is made from the same 4 ingredients: water, yeast, hops and grain. Some brewers will choose to modify this basic recipe to include spices or fruits, as seen in many Belgian beers. Regardless of additives, all beers can be classified as either an ale or a lager based on which yeast is used: ale yeast or lager yeast. Temperature plays an important role in yeast fermentation and can be a deciding factor as to which style is chosen.

To begin, milled grains, such as barley and oats, are added to a large vessel called the mash tun. Hot water is added, activating malt enzymes from the grains which then convert the starches into fermentable sugars. The next step, called lautering, separates the sugary liquid known as wort from the spent grains. In order to end enzymatic activity, the temperature is brought to over 170° Fahrenheit, a process known as mashing out. The wort and some water is sent through the mash, removing any final sugars. Brewers can use temperature and time to manipulate which enzymes are active to bring out the desired sugars and influence taste. In general, lower mash temps increase fermentability while higher temps decrease it.

The wort goes through a series of boils while hops and other additives are added, and once cooled down, the yeast is pitched and thus begins the process of fermentation. Over the course of the next 7 to 10 days, the yeast will convert the simple sugars in the hopped wort into alcohol and carbon dioxide.

During fermentation, sugar from the grains are converted to ethanol and carbon dioxide via yeast. Ale yeast ferments best at higher temperatures, typically 65-70°F (18-21°C). At these warmer temperatures, fermentation speeds up, taking less time and also producing esters and phenols that add to the flavor. Lager yeasts ferment best at lower temperatures around 50-55°F (10-13°C). These yeasts tend to ferment slower, producing fewer phenols and creating a flavor more influenced by the hops and grains.



HI935012 Brewing Thermometer

with 1 m stainless steel probe

The HI935012 is a waterproof portable thermistor thermometer made for the brewing professional that needs to measure the temperature in the center of a tank or vessel. This meter can be used at other critical points of the brewing process including the wort boil and fermentation. The HI935012 is supplied with the FC762N2 thermistor probe that is made of stainless steel and is 1 meter long. For a fast and accurate measurement the pre-calibrated semi-conductor sensor is located in the tip of the probe.

- **Durable IP67 waterproof casing**
 - Designed to withstand the knocks, drops, and spills of real life, the new IP67 body ensures top performance in any environment. These meters are totally protected against dust and water intrusion from any direction.
- **Large LCD**
 - An enhanced LCD displays the measurement reading in °C or °F, stability indicator, error messages, and low battery indicator.

- **CAL Check™**
 - The calibration check (CAL Check) feature of the HI935012 is an internal diagnostic feature that checks for any drift in the electronics that occurs with all digital thermometers over time. When the meter is turned CAL Check looks to see if the internal calibration is within $\pm 0.3^{\circ}\text{C}$. If the drift is greater and error (err) message will be displayed. With CAL Check you can be confident that the meter is working properly.
- **Probe Error Messages**
 - The "NO PROBE" message is displayed on the meter when a probe is not attached or there is a break in the cable.
- **Stability Indicator**
 - An hourglass indicator is displayed on the LCD until a stable reading is obtained. Once a reading stabilizes, the indicator disappears and a reading can be recorded.

- **Long Battery Life:**
 - The thermometer has an exceptional battery life of approximately 4500 hours using three common AAA batteries. The battery percent level is displayed when powered on alerting the user to the remaining battery life.
- **Automatic Shut-off**
 - The meter can be set to automatically turn off after 8 minutes or 60 minutes.

Specifications	HI935012
Range*	-20.0 to 120.0°C; -4.0 to 248.0°F
Resolution	0.1°C; 0.1°F
Meter Accuracy @ 23.0°C $\pm 5^{\circ}\text{C}$	$\pm 0.1^{\circ}\text{C}$ (-20.0 to 120.0°C); $\pm 0.2^{\circ}\text{F}$ (-4.0 to 248.0°F)
Probe Accuracy (FC762N2)	$\pm 0.3^{\circ}\text{C}$ (-10.0 to 80.0°C); $\pm 0.5^{\circ}\text{F}$ (14 to 176°F); $\pm 0.7^{\circ}\text{C}$ / $\pm 1.3^{\circ}\text{F}$ remaining range
Probe	FC762N2 1 m (3.3') penetration probe with 1 m (3.3') white cable and white handle
Battery Type / Life	1.5V AAA (3) / approximately 4500 hours of continuous use; user-selectable auto-off after 8 or 60 minutes of non-use (can be disabled).
Environment	for product internal measurement: rated operating condition: -20 to 50°C (-4 to 122°F) limiting condition: -30 to 50°C (-22 to 122°F) storage and transportation condition: -40 to 70°C (-40 to 158°F) relative humidity 100 %
Storage/transport temperature	-40 to 70°C (-40 to 158°F)
Dimensions	140 x 57 x 28 mm (5.5 x 2.2 x 1.1")
Mass	175 g (6.17 oz.)
Ordering Information	HI935012 is supplied with FC762N2 temperature probe, protective rubber boot, 1.5V AAA batteries (3), quick reference guide, and instructions in a soft carrying case.

* The measurement range may be limited by probe type, and applies to the probe shaft.



Supplied with carrying case

The HI935012 is supplied with a soft carrying case that holds both the probe and the meter. There is a pouch inside for easy access to the meter.



Interchangeable with FC762 series thermistor probes



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Interchangeable
with FC762 series
thermistor probes

HI93501 Thermistor Thermometer

HI93501 is a thermistor style thermometer that includes a stainless steel replaceable style penetration probe (FC762PW). It measures temperatures from -50 to 150°C (-58 to 302.0°F).

Standard features include waterproof casing (rated IP65) and stainless steel penetration probe designed for continuous contact with foodstuffs in accordance with regulation (EC) number 1935/2004. HI93501 also includes features such as CAL Check, low battery detection, auto-off capability, and long battery life.

- EN 13485 compliant
- FC762PW thermistor probe
- CAL Check™ feature
- Remaining battery life indication / low battery detection
- Auto-off
- IP65 Waterproof casing

Specifications	HI93501
Range*	-50.0 to 150.0°C; -58.0 to 302.0°F
Resolution	0.1°C; 0.1°F
Meter Accuracy @ 23.0°C ±5°C	±0.1°C (-50.0 to 150.0°C); ±0.2°F (-58.0 to 302.0°F)
Probe Accuracy (FC762PW)	±0.3°C (-10.0 to 80.0°C); ±0.5°F (14 to 176°F); ±0.7°C / ±1.3°F remaining range
Response time for 90% of final value	10 seconds
Probe	FC762PW general purpose penetration probe with 1 m (3.3') white cable and white handle
Battery Type / Life	1.5V AAA (3) / approximately 4500 hours of continuous use; user-selectable auto-off after 8 or 60 minutes of non-use (can be disabled).
Environment	for air measurement: Type E for product internal measurement: rated operating condition: -20 to 50°C (-4 to 122°F) limiting condition: -30 to 50°C (-22 to 122°F) storage and transportation condition: -40 to 70°C (-40 to 158°F) relative humidity 100 %
Storage/transport temperature	-40 to 70°C (-40 to 158°F)
Dimensions	140 x 57 x 28 mm (5.5 x 2.2 x 1.1")
Mass	175 g (6.17 oz.)
Certification	EN 13485:2001 suitability: storage and transport; climatic environment: E; accuracy class: 1;
Ordering Information	HI93501 is supplied with FC762PW temperature probe, 1.5V AAA batteries (3), quick reference guide, and instructions. HI93501-03 includes the above without probe.

* The measurement range may be limited by probe type, and applies to the probe shaft.

FC762 Foodcare Thermistor Probes

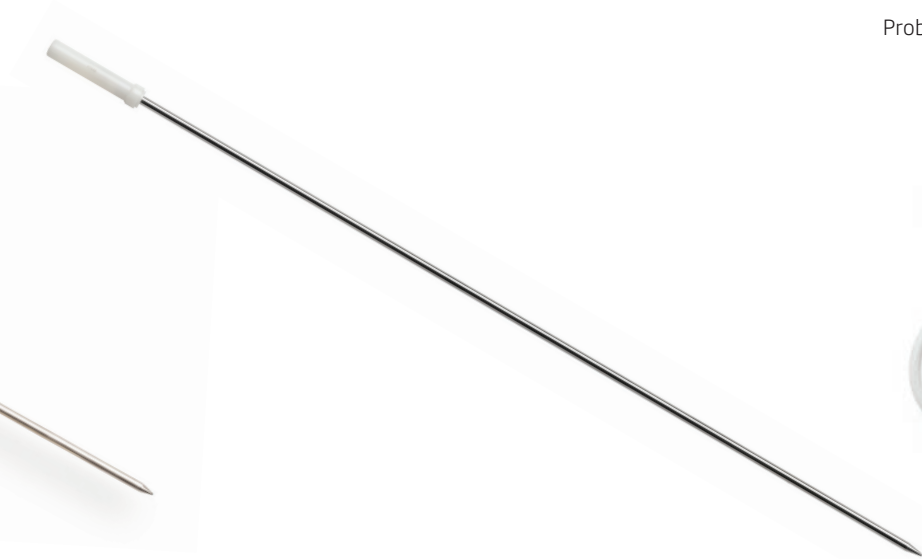
FC762PW Foodcare Penetration Probe, General Purpose



Specifications

Code	FC762PW
Sensor	NTC Thermistor
Range	-50 to 150°C (-58 to 302°F)
Accuracy	±0.3°C (-10 to 80°C)/±0.5°F (14 to 176°F); ±0.7°C / ±1.3°F (outside)
Interchange Error	±0.2°C (±0.4°F)
Connector Type	RCA
Response time (90% of final value)	6 seconds
Probe Dimensions	L 100 mm x dia 3 mm (3.9 x 0.12")
Probe Material	AISI 316 stainless steel
Probe Handle	Polypropylene (PP)
Probe Handle Color	white
Cable Type	PVC/straight
Cable Length	white / 2 m (6.6')

FC762N2 Foodcare Probe for Tanks, Vessels, and Vats



Specifications

Code	FC762N2
Sensor	NTC Thermistor
Range	-50 to 150°C (-58 to 302°F)
Accuracy	±0.3°C (-10 to 80°C)/±0.5°F (14 to 176°F); ±0.7°C / ±1.3°F (outside)
Interchange Error	±0.2°C (±0.4°F)
Connector Type	RCA
Probe Dimensions	L 1000 mm x 10 mm (39" x 0.39")
Probe Material	Stainless steel
Probe Handle	PVDF
Probe Handle Color	white
Cable Type	PVC/straight
Cable Length	white / 2 m (6.6')

FC762W1/2 Wire probe designed for liquid immersion

Probe does not incorporate a handle.



Specifications

Code	FC762W1/2
Sensor	NTC Thermistor
Range	-50 to 150°C (-58 to 302°F)
Accuracy	±0.3°C (-10 to 80°C)/±0.5°F (14 to 176°F); ±0.7°C / ±1.3°F (outside)
Interchange Error	±0.2°C (±0.4°F)
Connector Type	RCA
Response time (90% of final value)	2 min 45 sec (98%FS)
Probe Dimensions	L 50 mm x dia 3.6 mm (2" x 0.14")
Probe Material	AISI 316 stainless steel
Cable Type	PVC/straight
Cable Length	white / 2 m (6.6')

HI935001 K-Type Thermocouple Thermometer

Food service, food preparation, packaging, storage and transport of food require temperature to be monitored or controlled. Spot checking temperatures with Hanna food thermometers ensures daily work routines are carried out at the correct temperature.

HI935001 is a thermometer that includes a K-type thermocouple stainless steel replaceable style penetration probe (FC766PW). This thermometer offers a large range of temperature measurement; from -50 to 300°C (-58.0 to 572°F).

Standard features include waterproof casing (rated IP65) and stainless steel penetration probe designed for continuous contact with foodstuffs in accordance with regulation (EC) number 1935/2004. HI935001 also includes features such as CAL Check, low battery detection, auto-off capability, and long battery life.

- FC766PW K-type thermocouple probe
- CAL Check™ feature
- Remaining battery life indication/low battery detection
- Auto-off
- IP65 Waterproof casing



Interchangeable
with FC766 series
thermocouple probes

Specifications	HI935001
Range*	-50.0 to 199.9°C / 200 to 300°C; -58.0 to 399.9°F / 400 to 572°F
Resolution	0.1°C (-50.0 to 199.9°C) / 1°C (200 to 300°C); 0.1°F (-58.0 to 399.9°F) / 1°F (400 to 572°F)
Meter Accuracy @ 23.0°C ±5°C	±0.4°C (-50.0 to 300°C); ±0.7°F (-58.0 to 572°F)
Probe Accuracy (FC766PW)	±1.6°C (-50.0 to 300°C); ±2.9°F (-58.0 to 572°F)
Response time for 90% of final value	20 seconds
Probe	FC766PW penetration, K-type thermocouple probe with 1 m (3.3') white cable and white handle
Battery Type / Life	1.5V AAA (3) / approximately 3500 hours of continuous use; user-selectable auto-off after 8 or 60 minutes of non-use (can be disabled).
Environment	Rated operating condition: -20 to 50 °C (-4 to 122 °F) limiting condition: -30 to 50°C (-22 to 122°F) storage and transportation condition: -40 to 70 °C (-40 to 158°F) relative humidity 100 %
Storage/transport temperature	-40 to 70°C (-40 to 158°F)
Dimensions	140 x 57 x 28 mm (5.5 x 2.2 x 1.1")
Weight	178 g (6.27 oz.)
Ordering Information	HI935001 is supplied with FC766PW temperature probe, 1.5V AAA batteries (3), quick reference guide, and instructions. HI935001-03 includes the above without probe.

* The measurement range may be limited by probe type, and applies to the probe shaft.

HI935007 K-Type Thermocouple Thermometer

Food service, food preparation, packaging, storage and transport of food require temperature to be monitored or controlled. Spot checking temperatures with Hanna food thermometers ensures daily work routines are carried out at the correct temperature.

HI935007 is a thermometer that incorporates a fixed K-type thermocouple stainless steel penetration probe to provide the greatest accuracy. This thermometer offers a large range of temperature measurement; from -50 to 300°C (-58.0 to 572°F).

Standard features include waterproof casing (rated IP65) and stainless steel penetration probe designed for continuous contact with foodstuffs in accordance with regulation (EC) number 1935/2004. HI935007 also includes features such as CAL Check, low battery detection, auto-off capability, and long battery life.

- Fixed K-type thermocouple probe
- CAL Check™ feature
- Remaining battery life indication/low battery detection
- Auto-off
- IP65 Waterproof casing

Specifications	HI935007
Range*	-50.0 to 199.9°C / 200 to 300°C; -58.0 to 399.9°F / 400 to 572°F
Resolution	0.1°C (-50.0 to 199.9°C) / 1°C (200 to 300°C); 0.1°F (-58.0 to 399.9°F) / 1°F (400 to 572°F)
System Accuracy (Meter @ 23.0°C ±5°C)	±1°C (-50.0 to 100.0°C) / ±2°C (100.0 to 300°C); ±1.8°F (-58.0 to 212°F) / ±3.6°F (212 to 572°F)
Probe	fixed penetration, K-type thermocouple probe with 1 m (3.3') white cable and white handle
Response time for 90% of final value	20 seconds
Battery Type / Life	1.5V AAA (3) / approximately 3500 hours of continuous use; user-selectable auto-off after 8 or 60 minutes of non-use (can be disabled).
Environment	Rated operating condition: -20 to 50°C (-4 to 122°F) limiting condition: -30 to 50°C (-22 to 122°F) storage and transportation condition: -40 to 70°C (-40 to 158°F) relative humidity 100 %
Storage/transport temperature	-40 to 70°C (-40 to 158°F)
Dimensions	140 x 57 x 28 mm (5.5 x 2.2 x 1.1")
Mass	178 g (6.27 oz.)
Ordering Information	HI935007 is supplied with fixed temperature probe, 1.5V AAA batteries (3), quick reference guide, and instructions.

* The measurement range applies to the probe shaft.



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HI9350011 K-Type Thermocouple Thermometer

with ultra-fast probe



Interchangeable
with FC766 series
thermocouple probes

The HI9350011 is a waterproof portable K-Type thermocouple thermometer made for the food professional that is required to monitor temperature as part of a hazardous analysis of critical control points (HACCP) plan including in food service, production, packaging, transportation, restaurants or catering. The HI9350011, as a meter, can measure over a wide range of temperatures from -50.0°C (-58.0°F) up to 300°C (573°F) and offers a very high accuracy of $\pm 0.4^{\circ}\text{C}$ ($\pm 0.7^{\circ}\text{F}$). The accuracy of the meter is assured with advanced diagnostic features including CAL-Check that checks for abnormal drift of the internal electronics, battery error prevention system (BEPS) that will not allow a reading to be taken when there is not sufficient battery power and probe diagnostics that alert the user when the probe is not connected or has been damaged.

HI9350011 Foodcare thermometer is supplied with the replaceable FC766C1 Ultra-Fast K-Type thermocouple probe that will reach 90% of the final reading within 4 seconds. The tip of FC766C1 is just 1.6 mm (0.06") in diameter allowing for easy penetrations into solids and semi-solids. The AISI 316 stainless steel body is 95 mm (3.7") long and is safe for food contact in compliance with Regulation (EC) 1935/2004.

- FC766C1 ultra-fast K-type thermocouple probe
- CAL Check™ feature
- Remaining battery life indication/low battery detection
- Auto-off
- IP65 Waterproof casing

Specifications	HI9350011
Range*	-50.0 to 199.9°C / 200 to 300°C; -58.0 to 399.9°F / 400 to 572°F
Resolution	0.1°C (-50.0 to 199.9°C) / 1°C (200 to 300°C); 0.1°F (-58.0 to 399.9°F) / 1°F (400 to 572°F)
Meter Accuracy @ 23.0°C $\pm 5^{\circ}\text{C}$	$\pm 0.4^{\circ}\text{C}$ (-50.0 to 300°C); $\pm 0.7^{\circ}\text{F}$ (-58.0 to 572°F)
Probe Accuracy (FC766C1)	$\pm 1.6^{\circ}\text{C}$ (-50.0 to 300°C); $\pm 2.9^{\circ}\text{F}$ (-58.0 to 572°F)
Response time for 90% of final value	4 seconds
Probe	FC766C1 penetration, K-type thermocouple probe with 1 m (3.3') white cable and white handle
Battery Type / Life	1.5V AAA (3) / approximately 3500 hours of continuous use; user-selectable auto-off after 8 or 60 minutes of non-use (can be disabled).
Environment	Rated operating condition: -20 to 50 °C (-4 to 122 °F) limiting condition: -30 to 50°C (-22 to 122°F) storage and transportation condition: -40 to 70 °C (-40 to 158°F) relative humidity 100 %
Storage/transport temperature	-40 to 70°C (-40 to 158°F)
Dimensions	140 x 57 x 28 mm (5.5 x 2.2 x 1.1")
Weight	178 g (6.27 oz.)
Ordering Information	HI9350011 is supplied with FC766C1 temperature probe, 1.5V AAA batteries (3), quick reference guide, and instructions.

*The measurement range may be limited by probe type, and applies to the probe shaft.

HI935004 T-Type Thermocouple Thermometer

Food service, food preparation, packaging, storage and transport of food require temperature to be monitored or controlled. Spot checking temperatures with Hanna food thermometers ensures daily work routines are carried out at the correct temperature.

HI935004 is a thermometer that includes a T-type thermocouple stainless steel replaceable style penetration probe (FC767PW). This thermometer offers temperature measurement from -50 to 300°C (-58.0 to 572°F).

Standard features include waterproof casing (rated IP65) and stainless steel penetration probe designed for continuous contact with foodstuffs in accordance with regulation (EC) number 1935/2004. HI935004 also includes features such as CAL Check, low battery detection, auto-off capability, and long battery life.

- EN 13485 compliant
- FC767PW T-type thermocouple probe
- CAL Check™ feature
- Remaining battery life indication / low battery detection
- Auto-off
- IP65 Waterproof casing

Specifications	HI935004
Range*	-50.0 to 199.9°C / 200 to 300°C; -58.0 to 399.9°F / 400 to 572°F
Resolution	0.1°C (-50.0 to 199.9°C) / 1°C (200 to 300°C); 0.1°F (-58.0 to 399.9°F) / 1°F (400 to 572°F)
Meter Accuracy @ 23.0°C ±5°C	±0.4°C (-50.0 to 300°C); ±0.7°F (-58.0 to 572°F)
Probe Accuracy (FC767PW)	±0.6°C (-50 to 100.0°C); ±1.6°C (100.0 to 300°C); ±1.1°F (-58 to 212°F); ±2.9°F (212 to 572°F)
Response time for 90% of final value	20seconds
Probe	FC767PW penetration, T-type thermocouple probe with 1 m (3.3') white cable and white handle
Battery Type / Life	1.5V AAA (3) / approximately 3500 hours of continuous use; user-selectable auto-off after 8 or 60 minutes of non-use (can be disabled).
Environment	for air measurement: Type E for product internal measurement: rated operating condition: -20 to 50°C (-4 to 122°F) limiting condition: -30 to 50°C (-22 to 122°F) storage and transportation condition: -40 to 70°C (-40 to 158°F) relative humidity 100 %
Storage/transport temperature	-40 to 70°C (-40 to 158°F)
Dimensions	140 x 57 x 28 mm (5.5 x 2.2 x 1.1")
Mass	178 g (6.27 oz.)
Certification	EN 13485:2001 suitability: storage and transport; climatic environment: E; accuracy class: 1;
Ordering Information	HI935004 is supplied with FC767PW temperature probe, 1.5V AAA batteries (3), quick reference guide, and instructions. HI935004-03 includes the above without probe.

*The measurement range may be limited by probe type, and applies to the probe shaft.



Interchangeable
with FC767 series
thermocouple probes

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Fixed thermocouple probe

HI935008 T-Type Thermocouple Thermometer

Food service, food preparation, packaging, storage and transport of food require temperature to be monitored or controlled. Spot checking temperatures with Hanna food thermometers ensures daily work routines are carried out at the correct temperature.

HI935008 is a thermometer that incorporates a fixed T-type thermocouple stainless steel penetration probe to provide the greatest accuracy. This thermometer offers temperature measurement from -50 to 300°C (-58.0 to 572°F).

Standard features include waterproof casing (rated IP65) and stainless steel penetration probe designed for continuous contact with foodstuffs in accordance with regulation (EC) number 1935/2004. HI935008 also includes features such as CAL Check, low battery detection, auto-off capability, and long battery life.

- EN 13485 compliant
- Fixed T-type thermocouple probe for HI935008
- CAL Check™ feature
- Remaining battery life indication / low battery detection
- Auto-off
- IP65 Waterproof casing

Specifications	HI935008
Range*	-50.0 to 199.9°C / 200 to 300°C; -58.0 to 399.9°F / 400 to 572°F
Resolution	0.1°C (-50.0 to 199.9°C) / 1°C (200 to 300°C); 0.1°F (-58.0 to 399.9°F) / 1°F (400 to 572°F)
System Accuracy (Meter @ 23.0°C ±5°C)	±0.5°C (-50.0 to 100.0°C); ±1°C (100.0 to 300°C); ±0.9°F (-58.0 to 212°F); ±1.8°F (212 to 572°F)
Response time for 90% of final value	20 seconds
Probe	fixed penetration, T-type thermocouple probe with 1 m (3.3') white cable and white handle
Battery Type / Life	1.5V AAA (3) / approximately 3500 hours of continuous use; user-selectable auto-off after 8 or 60 minutes of non-use (can be disabled).
Environment	for air measurement: Type E for product internal measurement: rated operating condition: -20 to 50°C (-4 to 122°F) limiting condition: -30 to 50°C (-22 to 122°F) storage and transportation condition: -40 to 70°C (-40 to 158°F) relative humidity 100 %
Storage / Transport Temperature	-40 to 70°C (-40 to 158°F)
Dimensions	140 x 57 x 28 mm (5.5 x 2.2 x 1.1")
Weight	178 g (6.27 oz.)
Certification	EN 13485:2001 suitability: storage and transport; climatic environment: E; accuracy class: 0.5
Ordering Information	HI935008 is supplied with fixed temperature probe, 1.5V AAA batteries (3), quick reference guide, and instructions.

*The measurement range applies to the probe shaft.

HI9350041 T-Type Thermocouple Thermometer

with ultra-fast probe

The HI9350041 is a waterproof portable T-Type thermocouple thermometer made for the food professional that is required to monitor temperature as part of a hazardous analysis of critical control points (HACCP) plan including in food service, production, packaging, transportation, restaurants or catering. The HI9350041, as a meter, can measure over a wide range of temperatures from -50.0°C (-58.0°F) up to 300°C (572°F) and offers a very high accuracy of ±0.4°C (±0.7°F). The accuracy of the meter is assured with advanced diagnostic features including CAL Check that checks for abnormal drift of the internal electronics, battery error prevention system (BEPS) that will not allow a reading to be taken when there is not sufficient battery power and probe diagnostics that alert the user when the probe is not connected or has been damaged.

This Foodcare thermometer is supplied with the replaceable FC767C1 Ultra-Fast T-Type thermocouple probe that reaches 90% of the final reading within 4 seconds. The tip of FC767C1 is just 1.6 mm (0.06") in diameter allowing for easy penetrations into solids and semi-solids. The AISI 316 stainless steel body is 95 mm (3.7") long and is safe for food contact in compliance with Regulation (EC) 1935/2004.

The HI9350041 with the HI767C1 is certified according to EN13485:2001 standard that has strict requirements for accuracy, response time, operating and storage conditions as applied to the measurement of product temperature which are intended for use in transportation, storage and distribution facilities of refrigerated, frozen or deep-frozen food and ice cream.

- FC767C1 ultra-fast T-type thermocouple probe
- CAL Check™ feature
- Remaining battery life indication / low battery detection
- Stability Indicator
- Auto-off
- IP65 Waterproof casing

Specifications	HI9350041
Range*	-50.0 to 199.9°C / 200 to 300°C; -58.0 to 399.9°F / 400 to 572°F
Resolution	0.1°C (-50.0 to 199.9°C) / 1°C (200 to 300°C); 0.1°F (-58.0 to 399.9°F) / 1°F (400 to 572°F)
Meter Accuracy @ 23.0°C ±5°C	±0.4°C (-50.0 to 300°C); ±0.7°F (-58.0 to 572°F)
Probe Accuracy (FC767C1)	±0.6°C (-50 to 100.0°C); ±1.6°C (100.0 to 300°C); ±1.1°F (-58 to 212°F); ±2.9°F (212 to 572°F)
Response time for 90% of final value	4 seconds
Probe	FC767C1 penetration, T-type thermocouple probe with 1 m (3.3') white cable and white handle
Battery Type / Life	1.5V AAA (3) / approximately 3500 hours of continuous use; user-selectable auto-off after 8 or 60 minutes of non-use (can be disabled).
Environment	for air measurement: Type E for product internal measurement: rated operating condition: -20 to 50°C (-4 to 122°F) limiting condition: -30 to 50°C (-22 to 122°F) storage and transportation condition: -40 to 70°C (-40 to 158°F) relative humidity 100 %
Storage/transport temperature	-40 to 70°C (-40 to 158°F)
Dimensions	140 x 57 x 28 mm (5.5 x 2.2 x 1.1")
Mass	178 g (6.27 oz.)
Ordering Information	HI9350041 is supplied with FC767C1 temperature probe, 1.5V AAA batteries (3), quick reference guide, and instructions.

*The measurement range may be limited by probe type, and applies to the probe shaft.



Interchangeable
with FC767 series
thermocouple probes

Foodcare

HANNA
instruments

FC766 Foodcare K-Type Thermocouple Probes

FC766PW Foodcare Penetration Probe



Specifications	
Code	FC766PW
Max. Temperature	300°C (570°F)
Response time (90% of final value)	13 seconds
Probe Dimensions	L 120 mm x dia 3 mm (4.7 x 0.12")
Probe Material	stainless steel
Probe Handle	Polypropylene (PP)
Probe Handle Color	white
Cable Type	Polyurethane (PUR)/coiled
Cable Color/Length	white / 1 m (3.3')
Connector Type	K-Type

FC766C1 Foodcare Ultra-fast Probe



Specifications	
Code	FC766C1
Max. Temperature	300°C (570°F)
Accuracy	±1.6°C (-50 to 300°C)/ ±2.9°F (-58 to 573 °F)
Response time (90% of final value)	3 seconds
Probe Dimensions	L 100 mm x dia 3 mm (3.9 x 0.12")
Probe Material	AISI 316 stainless steel
Probe Handle	Polypropylene (PP)
Probe Handle Color	white
Cable Type	Polyurethane (PUR)/coiled
Cable Color/Length	white / 1 m (3.3')
Connector Type	K-Type

FC766TR2 Foodcare Penetration Probe for Semi-Solid Samples



Specifications	
Code	FC766TR2
Range	-40 to 250°C (-40 to 482°F)
Response time (90% of final value)	14 seconds
Probe Dimensions	L 1000 mm x dia 10 mm (3.3' x 0.39")
Probe Material	stainless steel
Probe Handle	PVDF
Probe Handle Color	white
Cable Type	Polyurethane (PUR)/coiled
Cable Color/Length	white/2 m (6.6')
Connector Type	K-Type

FC766 Foodcare K-Type Thermocouple Extensions and Probe

FC766HD Foodcare Probe Handle

A rugged, PVC handle with a 1 meter (3.3') cable. It is provided with a female connector, which allows the connection of any FC766Px probe.



Specifications

Code	FC766HD
Probe Handle	Polypropylene (PP)
Probe Handle Color	white
Cable Type	Polyurethane (PUR)/coiled
Cable Color/Length	white / 1 m (3.3')
Connector Type	K-Type

FC766EX Foodcare Extension Cable

A coiled cable which extends the probe cable by 1 m (3.3') , with two connectors at the two ends (1 male and 1 female).



Specifications

Code	FC766EX
Cable Type	Polyurethane (PUR)/coiled
Cable Color/Length	white / 1 m (3.3')
Connector Type	K-Type

FC766PF1 Foodcare Stainless Steel Probe with Exposed Sensor

The FC766PF1 is a K-type thermocouple temperature probe that is ideal for measuring samples at very high temperatures, such as in industrial applications and is recommended to be used with the FC766HD probe handle and/or FC766EX extension cable.



Specifications

Code	FC766PF1
Range	-40 to 300°C
Probe Dimensions	L100mm x dia 1.5mm
Probe Material	stainless steel
Sensor	exposed wires
Connector Type	K-Type

FC766 Foodcare K-Type Thermocouple Probes for Specific Applications

FC766F/1 Foodcare Wire Probe for Hard to Reach Places



Specifications

Code	FC766F/1
Range	-40 to 400°C (-40 to 752°F)
Response time (90% of final value)	14 seconds
Probe Dimensions	dia 2 mm (0.08")
Sensor	exposed wire
Cable Type	Fiberglass insulated/straight
Cable Length	1 m (3.3')
Connector Type	K-Type

FC766Y/1 Foodcare Wire Probe for Ovens and Furnaces



Specifications

Code	FC766Y/1
Range	-40 to 1000°C (-40 to 1832°F)
Response time (98% of final value)	15 seconds
Probe Dimensions	L 1000 mm x dia 1.5 mm (39" x 0.06")
Probe Material	stainless steel
Cable Type	Stainless Steel/straight
Cable Length	1 m (3.3')
Connector Type	K-Type

FC766W1/1 Foodcare Wire Probe with Insulated Cable



Specifications

Code	FC766W1/1
Range	-40 to 120°C
Response time (98% of final value)	2 min 30 sec
Probe Dimensions	L 44 mm x dia 5mm (1.7" x 0.2")
Probe Material	stainless steel
Cable Type	Polyurethane (PUR)/straight
Cable Color / Length	white/1 m (3.3')
Connector Type	K-Type

FC766 Foodcare K-Type Thermocouple Probes for Specific Applications

FC766T/1 Foodcare Wire Probe for Hard to Reach Places



Specifications

Code	FC766T/1
Range	-40 to 250°C (-40 to 482°F)
Probe Dimensions	dia 1.9 mm (0.07")
Sensor	exposed wire
Cable Type	PTFE insulated/straight
Cable Length	1 m (3.3')
Connector Type	K-Type

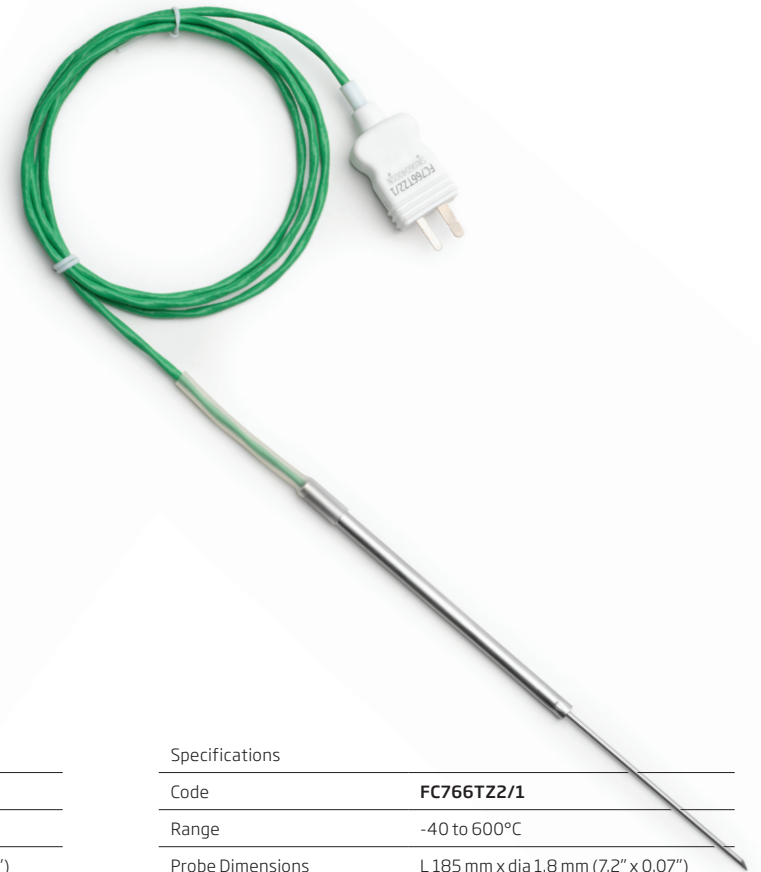
FC766TZ1/1 Foodcare Wire Stainless Steel Probe for Hard to Reach Places



Specifications

Code	FC766TZ1/1
Range	-40 to 200°C
Probe Dimensions	L 100 mm x dia 1.5 mm (3.9" x 0.06")
Sensor	stainless steel
Cable Type	straight
Cable Length	1 m (3.3')
Connector Type	K-Type

FC766TZ2/1 Foodcare Wire Stainless Steel Penetration Probe



Specifications

Code	FC766TZ2/1
Range	-40 to 600°C
Probe Dimensions	L 185 mm x dia 1.8 mm (7.2" x 0.07")
Sensor	stainless steel
Cable Type	straight
Cable Length	1 m (3.3')
Connector Type	K-Type

FC767 Foodcare T-Type Thermocouple Probes

FC767C1 Foodcare Ultra-fast Probe



Specifications

Code	FC767C1
Response time (90% of final value)	4 seconds
Probe Dimensions	L 100 mm x dia 3 mm (3.9" x 0.12")
Probe Material	AISI 316 stainless steel
Probe Handle	Polypropylene (PP)
Probe Handle Color	white
Cable Type	Polyurethane (PUR)/coiled
Cable Color/Length	white / 1 m (3.3')
Connector Type	T-Type

FC767PW Foodcare Penetration Probe



Specifications

Code	FC767PW
Range	300°C (570°F)
Accuracy	±0.6°C (-50 to 100.0°C); ±1.6°C (100.0 to 300°C) / ±1.1°F (-58 to 212 °F); ±2.9°F (212 to 573 °F)
Response time (90% of final value)	15 seconds
Probe Dimensions	L 120 mm x dia 3 mm (4.7" x 0.12")
Probe Material	stainless steel
Probe Handle	Polypropylene (PP)
Probe Handle Color	white
Cable Type	Polyurethane (PUR)/coiled
Cable Color/Length	white / 1 m (3.3')
Connector Type	T-Type

FC767TR2 Foodcare Penetration Probe for Semi-Solid Samples



Specifications

Code	FC767TR2
Range	-40 to 250°C (-40 to 482°F)
Response time (90% of final value)	14 seconds
Probe Dimensions	L 1000 mm x dia 10 mm (39" x 0.4")
Probe Material	stainless steel
Probe Handle	PVDF
Probe Handle Color	white
Cable Type	Polyurethane (PUR)/coiled
Cable Color/Length	white/2 m (6.6')
Connector Type	T-Type

FC767 Foodcare T-Type Thermocouple Probes for Specific Applications

FC767W1/1 Foodcare Wire Probe with Insulated Cable



Specifications	
Code	FC767W1/1
Range	-40 to 120°C
Response time (98% of final value)	2min 10 sec
Probe Dimensions	L 44 mm x dia 5mm (1.7" x 0.2")
Probe Material	stainless steel
Cable Type	Polyurethane (PUR)/straight
Cable Color/Length	white/1 m (3.3')
Connector Type	T-Type

FC767Y/1 Foodcare Wire Probe for Ovens and Furnaces



Specifications	
Code	FC767Y/1
Range	-40 to 1000°C (-40 to 1832°F)
Response time (98% of final value)	15 seconds
Probe Dimensions	L 1000 mm x dia 1.5 mm (39" x 0.06")
Probe Material	stainless steel
Cable Type	Stainless Steel/straight
Cable Length	1 m (3.3')
Connector Type	T-Type

FC767F/1 Foodcare Wire Probe for Hard to Reach Places



Specifications	
Code	FC767F/1
Range	-40 to 400°C (-40 to 752°F)
Response time (90% of final value)	14 seconds
Probe Dimensions	dia 2 mm (0.08")
Sensor	exposed wire
Cable Type	Fiberglass insulated/straight
Cable Length	1 m (3.3')
Connector Type	T-Type

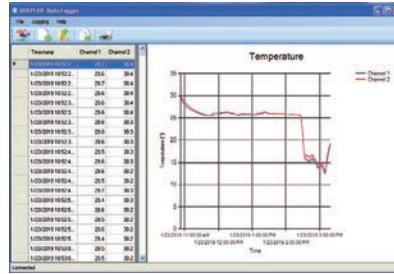


HI148 Series Waterproof Thermologgers

The HI148 series of thermologgers are ideal for monitoring temperature in applications such as food processing, transportation, museums, and horticulture.

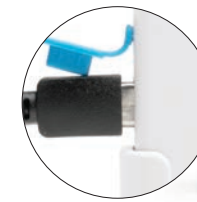
The thermologgers feature extensive memory capacity: 16,000 samples for 1-channel models and 8000 samples/channel for 2-channel models.

The HI92148 application software (required) supports communication between the logger and a PC running Windows® OS through a USB-C cable. Using the application, data acquisition parameters are user selectable and logged data can be downloaded and stored via USB cable.



- IP67 waterproof casing
- Wall cradle included for versatile installation and easy thermologger removal
- One or two channels, with internal and/or external sensor
- 16,000 samples (for 1-channel models) or 8000 samples/channels (for 2-channels models)
- Programmable high and low alarms
- Programmable logging interval from 1 second to 24 hours for 1-channel models, from 2 seconds to 24 hours for 2-channel models
- Storing of temperature at logging interval, or min or max temperature between logging intervals
- Logging delay start from 1 second to 199 hours using the HI92148 PC application or the Log start button
- Non-volatile storage of logging parameters and data in EEPROM
- BEPS (Battery Error Prevention System)
- Security password and lot serial number
- USB Type-C connector
- All HI148 thermologgers are factory calibrated.

Specifications		HI148 Series
Model	Sensors	
HI148-1	T1 internal	-20.0 to 60.0°C / -4.0 to 140.0°F
HI148-2	T1 external	-40.0 to 125.0°C / -40.0 to 257.0°F
HI148-3	T1 internal T2 external	-20.0 to 60.0°C / -4.0 to 140.0°F -40.0 to 125.0°C / -40.0 to 257.0°F
HI148-4	T1 external T2 external	-40.0 to 125.0°C / -40.0 to 257.0°F -40.0 to 125.0°C / -40.0 to 257.0°F
Resolution		0.1 °C (-40.0 to 100.0 °C); 0.2 °C (temp. >100.0 °C) 0.1 °F (-40.0 to 190.0 °F); 0.3 °F (temp. >190.0 °F)
Accuracy		±0.5 °C (-40.0 to 0.0 and 70.0 to 100.0 °C); ±0.4 °C (0.0 to 70.0 °C); ±1.0 °C (>100.0 °C) ±1.0 °F (-40.0 to 32.0 and 158.0 to 212.0 °F); ±0.8 °F (32.0 to 158.0 °F); ±2.0 °F (>212.0 °F)
Additional Specifications	Probe	stainless steel probe with 1 m (3.3') silicone cable; 33.5 mm (1.32") length, 3.5 mm (0.14") diameter
	Battery Type / Life	1.5V AAA (3 pcs.) / approximately 2 years of use
	Environment	-20.0 to 60.0 °C (-4.0 to 140.0 °F); RH 100%
	Dimensions	107 x 59 x 17 mm (4.2 x 2.3 x 0.7")
	Weight	130 g (4.6 oz)
Ordering Information		HI148-1 (1 internal sensor) is supplied with wall cradle, software, USB type A to C cable, batteries, and instruction manual. HI148-2 (1 external sensor) is supplied with wall cradle, software, USB type A to C cable, batteries, and instruction manual. HI148-3 (1 internal, 1 external sensors) is supplied with wall cradle, software, USB type A to C cable, batteries, and instruction manual. HI148-4 (2 external sensors) is supplied with wall cradle, software, USB type A to C cable, batteries, and instruction manual.



USB connection



HI148-1
1 internal sensor
(shown with included wall cradle)



HI148-2
1 external sensor



HI148-3
1 internal and 1 external sensor



HI148-4
2 external sensors

Monitoring Refrigerated Trucks

Monitoring temperature of refrigerated trucks is essential during food transport. Chilled meats must remain below 7°C during transport; the temperature of milk must remain below 8°C post pasteurization. Data loggers ensure temperatures in storage and during transport do not exceed quality control and federally regulated temperature limits. Hanna's HI144 T-loggers allow for easy quality control monitoring.



HI144 T-Logger with Locking Wall Cradle

The monitoring of temperature is critical through all stages in food distribution. This includes from the time it is packaged and stored to transportation to the local market or restaurant. For cold food storage it is necessary to ensure that the product is always stored properly to maintain quality and for safety to prevent bacteria growth. The HI144-10 will help to be compliant in recording temperatures as part of a HACCP monitoring program.

For building maintenance, this logger can track environmental temperatures of an office or warehouse to ensure that heating or air conditioning thermostats are programmed correctly and hot or cold air is distributed evenly.

Using the supplied PC software HI144-10 can be programmed to record the temperature in intervals from 1 minute to 24-hours and can store up to 8,000 readings.

The HI144-10 is supplied with the HI144 T-Logger, USB cradle, wall mount with lock and software. Additional HI144 T-loggers can be ordered without the cradle and software. Each T-logger has its' own unique serial number to identify individual units.

- **Compact waterproof data logger**
 - LCD displays temperature, high and low alarms, logging status and battery indicator
 - Wall mount with lock
 - USB docking cradle for programming and transferring of data (HI144-10)
- **Programming options**
 - Choice of start: From the PC, a specific date/time, or push button on T-Logger
 - Choice of measurement units: °C or °F to display on LCD
 - High and low alarm set points with indicators on LCD
 - Selectable logging interval in minutes and hours
 - Choice of data management: Store until full, fixed number or wrap around
- **Instrument status review:**
 - Battery life and days used
 - Serial number of device
 - Programmed device settings
- **PC software (using HI144002 USB docking cradle):**
 - Graphic user interface to program settings
 - Data export as an .xls file
 - Built in graphing that can be scaled with quick reference to programmed high and low alarm
- **Stores up to 8,000 measurements**
- **2-year battery life**



Specifications	HI144
Range	-30.0 to 70.0°C/-22.0 to 158.0°F
Resolution	0.1°C/0.1°F
Accuracy	±0.4°C (-20 to 60°C); ±0.6°C (outside); ±0.7°F (-4 to 140°C); ±1.1°F (outside)
Calibration	factory-calibrated
Data Logging	up to 8,000 samples
Logging Interval	user selectable, from 1 minute to 24 hours
PC Connectivity	HI144002 docking cradle connected to PC with USB cable and running HI92144 software
Battery Type / Life	CR2032 3V lithium ion / approximately 2 years
Environment	0 to 50°C (32 to 122°F); RH 100% (IP67)
Dimensions	60 x 37 x 17 mm (2.4 x 1.5 x 0.7")
Weight	29.4 g (1 oz.) with battery
Ordering Information	HI144 is supplied with HI144 T-Logger, CR2032 lithium ion battery, wall cradle, lock, and instruction manual. HI144-10 is supplied with HI144 T-Logger, HI144002 USB communication cradle, USB flash drive with HI92144 Windows® compatible software, CR2032 lithium ion battery, wall cradle, lock, and instruction manual.



HI151 Checktemp®4 Temperature Tester

with folding probe

HI151 Checktemp 4 is the perfect portable, high-accuracy thermometer for home and professional kitchens. The sharp, stainless steel, fold-out probe is ideal when testing fresh, cooked and semi-frozen food. The sensing tip allows the user to accurately measure the temperature of thin food or the thickest part of the sample. HI151 Checktemp 4 measures temperature in both °C and in °F.

The thermometer has a waterproof and compact casing and is factory calibrated. The calibration is verified every time the thermometer is turned ON. The thermometer features a motion sensor which eliminates the need of closing and reopening the probe when the meter goes idle.

Six color-coded thermometers are available to meet the food hygiene and Hazard Analysis Critical Control Point (HACCP) regulations.

- Ergonomic shape
- Measures in both °C and °F
- Case features IP67 protection and floats
- Large LCD
- Turns on by motion sensor
- Internal calibration verification

Specifications		HI151
Temperature	Range	-50.0 to 300 °C / -58.0 to 572.0 °F
	Resolution	0.1 °C (-50.0 to 199.9 °C); 1.0 °C (200.0 to 300.0 °C) 0.1 °F (-58.0 to 199.9 °F); 1.0 °F (200.0 to 572.0 °F)
	Accuracy (@25°C/77°F)	± 0.4 °C (-50.0 to -30.0 °C); ± 0.2 °C (-30.0 to 170.0 °C) ± 0.4 °C (170.0 to 199.9 °C); ± 1.0 °C ± 1 digit (200.0 to 300.0 °C) ± 0.8 °F (-58.0 to -22.0 °F); ± 0.4 °F (-22.0 to 199.9 °F) ± 1.0 °F (200.0 to 392.0 °F); ± 2.0 °F ± 1 digit (392.0 to 572.0 °F)
	Calibration	factory calibrated
	Additional Specifications	Probe stainless steel probe with penetration tip; 103 x 3 mm (dia.) (4.06 x 0.12" dia.)
	Battery Type / Life	CR2032 Li-ion (2) / approx. 4000 hours of continuous use
	Auto-off	1 min, 2 min (default), 8 min, 60 min.or OFF
	Environment	-30.0 to 50.0°C (32.0 to 122.0°F)
	Case ingress protection rating	IP67, floating case
	Dimensions	165 x 45 x 24 mm (6.5 x 1.8 x 0.9")
	Weight	85 g (3.0 oz)
Ordering Information	HI151 (white/dairy products) is supplied with batteries, quality certificate, and instruction manual. HI151-1 (red/raw meat) is supplied with batteries, quality certificate, and instruction manual. HI151-2 (blue/raw fish) is supplied with batteries, quality certificate, and instruction manual. HI151-3 (yellow/cooked meat) is supplied with batteries, quality certificate, and instruction manual. HI151-4 (green/salad and fruits) is supplied with batteries, quality certificate, and instruction manual. HI151-5 (brown/vegetables) is supplied with batteries, quality certificate, and instruction manual.	



HI151
white, for dairy products



HI151-1
red, for raw meat



HI151-2
blue, for raw fish



HI151-3
yellow, for cooked meat



HI151-4
green, for salad and fruits



HI151-5
brown, for vegetables

Easy to access battery compartment



Protective Boots

HI710027 Blue Protective Boot for thermocouple thermometers with a replaceable probe

Our optional HI710027 blue shockproof rubber boot offers maximum impact protection for thermocouple thermometers with a replaceable probe.



HI710026 Blue Protective Boot for thermistor and fixed probe thermometers

Our optional HI710026 blue shockproof rubber boot offers maximum impact protection for thermistor and fixed probe thermometers.

