



# Food Processing

## waterproof thermometers & temperature recorders



Selecting the correct thermometer for a food processing application is, by definition, very important to achieve the maximum accuracy and repeatability of the temperature.

The selection criteria for a digital thermometer should include:

- measurement range
- resolution of the reading 1 °C, 0.1 °C or 0.01 °C
- desired accuracy
- response time
- additional features such as max/min, hold & backlight

The following pages offer a selection of thermometers that are suitable for food processing applications, i.e. heavy duty and water resistant or waterproof instruments. Many of our thermometers are suitable for use as part of HACCP.

### what is HACCP?

Hazard Analysis and Critical Control Point is a system that was devised to provide quality assurance throughout the food industry by establishing critical monitoring (control) points. It is a legal requirement for food businesses to have a suitable HACCP plan in place.

### The seven principles of HACCP:

1. **Conduct a hazard analysis** - identify the food safety hazards associated with your business, e.g. multiplication of harmful bacteria
2. **Determine the critical control points** - if there is no later stage in the process that will then make the food safe, e.g. cooking, then it is a CCP.
3. **Establish critical limits** - temperature limits, below or above which, food will not be acceptable.
4. **Monitor and control the CCPs** - if it cannot be monitored or measured, it is not a CCP. You cannot monitor by placing a hand in the fridge or looking at food to see if it is at the right temperature.
5. **Establish correct actions** - if a critical limit is exceeded, you must have a procedure in place to take a corrective action.
6. **Establish verification procedures** - how do you know that your temperatures are OK, unless you regularly calibrate your thermometer? This is just one example of verification.
7. **Documenting records and procedures** - you will find it difficult to demonstrate your controls, unless you keep records of your actions.

Conscientious implementation of HACCP principles by plant operators demonstrates their commitment to food safety; improves employee awareness of their role in protecting consumers and emphasises management's responsibility for safe production.



# Therma 20/22 Plus Thermometers

## in a robust IP66/67 waterproof case

- Therma 22 Plus accepts type T thermocouple & thermistor probes
- FREE traceable certificate of calibration
- 'Biomaster' anti-bacterial additive

The Therma 20 Plus waterproof thermometer offers IP66/67 protection and is housed in a robust waterproof white ABS case. The thermometer utilises state of the art electronic circuitry, designed for reliability and ease of use and can be submerged or washed under a running tap - ideal for food processing applications where cleaning is paramount.

The Therma 20 Plus measures temperature over the range of -39.9 to 149.9 °C with a 0.1 °C resolution.

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

The instrument is housed in an ergonomic, ABS case that includes 'Biomaster' additive which reduces bacterial growth. Each unit has an integrated rubber seal to ensure complete water resistance and help reduce the possibility of damage in harsh environments.

The Therma 20 Plus incorporates an easy to use waterproof Lumberg screw-locking type connector, allowing a wide range of interchangeable thermistor probes to be used. We offer an extensive range of probes, see pages 80 and 81 for details.

### Therma 22 Plus thermometer

The Therma 22 Plus incorporates all the features of a Therma 20 Plus, but also accepts type T thermocouple probes giving a faster response time and wider temperature range of -199.9 to 400 °C. See page 77 for our range of type T thermocouple probes.



order code	description
232-040	Therma 20 Plus
232-041	Therma 22 Plus
174-266	penetration probe

the Therma 20/22 Plus are exclusive of probe



waterproof penetration probe  
Ø3.3 x 130 mm (174-266)

### optional accessory

- thermistor test caps with UKAS Certificate of Calibration - see page 99 for details



specification	Therma 20 Plus	Therma 22 Plus
range - type T thermocouple	n/a	-199.9 to 400 °C
range - thermistor	-39.9 to 149.9 °C	
resolution	0.1 °C to 299.9 °C thereafter 1 °C	
instrument only accuracy	±0.2 °C	
system accuracy - type T t/c	±0.5 °C (-49.9 to 149.9 °C)	
system accuracy - thermistor	±0.4 °C (-24.9 to 109.9 °C)	
battery	3 x 1.5 volt AAA	
battery life	7500 hours	
sensor type	thermistor	thermistor/type T t/c
display	15 mm LCD	
dimensions	32 x 71 x 141 mm	
weight	220 grams	

FREE traceable certificate of calibration included

# ThermaCheck Plus Thermometer

## in a robust IP66/67 waterproof case

- backlight, auto-power off, max/min & hold functions
- meets the European Standard EN13485
- integrated rubber seal for durability
- high system accuracy  $\pm 0.4$  °C

The ThermaCheck Plus is a waterproof, hand held thermistor thermometer which offers IP66/67 protection and is housed in a robust waterproof white ABS case. The thermometer utilises state of the art electronic circuitry, designed for reliability and ease of use and can be submerged or washed under a running tap - ideal for food processing applications where cleaning is paramount.

Measuring temperature over the range of -39.9 to 149.9 °C with a 0.1 °C resolution, the ThermaCheck Plus features a large, easy to read, LCD display with max/min, °C/°F, hold, open circuit, low battery indication and a user selectable backlight. The unit also incorporates an auto-power off facility that automatically turns the instrument off after ten minutes, maximising battery life.

The instrument is housed in an ergonomic, ABS case that includes 'Biomaster' additive which reduces bacterial growth. Each unit has an integrated rubber seal to ensure complete water resistance and help reduce the possibility of damage in harsh environments.

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



### optional accessories

- protective silicone boot, wide range of colours available - see below for details
- anti-bacterial wipes - see page 35



order code	description
232-042	ThermaCheck Plus
830-231	protective silicone boot - white
830-232	protective silicone boot - yellow
830-233	protective silicone boot - green
830-234	protective silicone boot - red
830-235	protective silicone boot - blue
830-257	protective silicone boot - black
832-015	stainless steel wall bracket

specification	ThermaCheck Plus
range	-39.9 to 149.9 °C
resolution	0.1 °C
accuracy	$\pm 0.4$ °C (-29.9 to 129.9 °C)
battery	3 x 1.5 volt AAA
battery life	7500 hours
sensor type	thermistor
display	15 mm LCD
dimensions	32 x 71 x 141 mm
weight	298 grams

FREE traceable certificate of calibration included

# ThermaQ<sup>®</sup> Thermometer

## two channel type K thermocouple input

- simultaneously displays two probe temperatures
- audible alarm with variable volume control
- programmable high/low alarm

The ThermaQ thermometer allows the user to simultaneously use two type K thermocouple probes whilst displaying both current temperatures and the maximum and minimum recorded temperatures. This allows the user to monitor, for example, both an item of food and the oven air temperature at the same time or monitor the rise and fall of temperatures across refrigeration units.

The thermometer measures temperature over the range of -99.9 to 299.9 °C with a 0.1 °C resolution or 300 to 1372 °C with a 1 °C resolution. The unit features a large, easy to read LCD display with °C/°F, T1, T2, max/min, open circuit, low battery indication, programmable high/low audible alarm and a user selectable backlight.

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

We offer an extensive range of interchangeable type K thermocouple probes for a variety of different applications, see below and pages 71 to 76.



specification	ThermaQ
range	-99.9 to 1372 °C
resolution	0.1 °C to 299.9 °C thereafter 1 °C
accuracy	±0.4 °C ±0.1 % of reading
battery & life	3 x 1.5 volt AAA - 3000 hours
sensor type	K thermocouple
display	custom LCD
dimensions	32 x 71 x 141 mm
weight	230 grams

FREE traceable certificate of calibration included

order code	description
231-050	ThermaQ
830-258	protective silicone boot - black
832-015	stainless steel wall bracket

the ThermaQ is exclusive of probes

		order code
<p><b>oven/air probe</b></p> <p>grate clip →</p> <p>Ø3.5 x 50 mm</p> <p><b>A HIGH ACCURACY</b></p>	<p>This oven/air probe is ideal for monitoring air temperatures. Using the grate clip provided, attach the probe to an oven rack/shelf. Supplied with a two metre stainless steel braided lead.</p> <ul style="list-style-type: none"> <li>• response time less than 10 seconds</li> <li>• probe temperature range -50 to 350 °C</li> </ul>	<p>133-441</p> <p>830-530 (spare clip)</p>
<p><b>crocodile clip oven probe</b></p> <p>crocodile clip →</p> <p>Ø4 x 20 mm with 2000 mm lead</p> <p><b>A HIGH ACCURACY</b></p>	<p>Oven probe incorporating a crocodile clip that can easily be attached to an oven rack or similar. Supplied with a two metre stainless steel braided lead.</p> <ul style="list-style-type: none"> <li>• response time less than 2 seconds</li> <li>• probe temperature range -50 to 350 °C</li> </ul>	<p>133-041</p>
<p><b>penetration probes</b></p> <p>(133-177)</p> <p>Ø4 x 225 mm</p> <p><b>A HIGH ACCURACY</b></p>	<p>These stainless steel penetration probes are ideal for continuous monitoring in ovens. Supplied with a two metre stainless steel braided lead or stainless steel armoured lead.</p> <ul style="list-style-type: none"> <li>• response time less than 10 seconds</li> <li>• probe temperature range -50 to 250 °C</li> </ul>	<p>133-177 (braided)</p> <p>133-178 (armoured)</p>

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

# Saf-T-Log<sup>®</sup> Thermometer

## paperless temperature recording

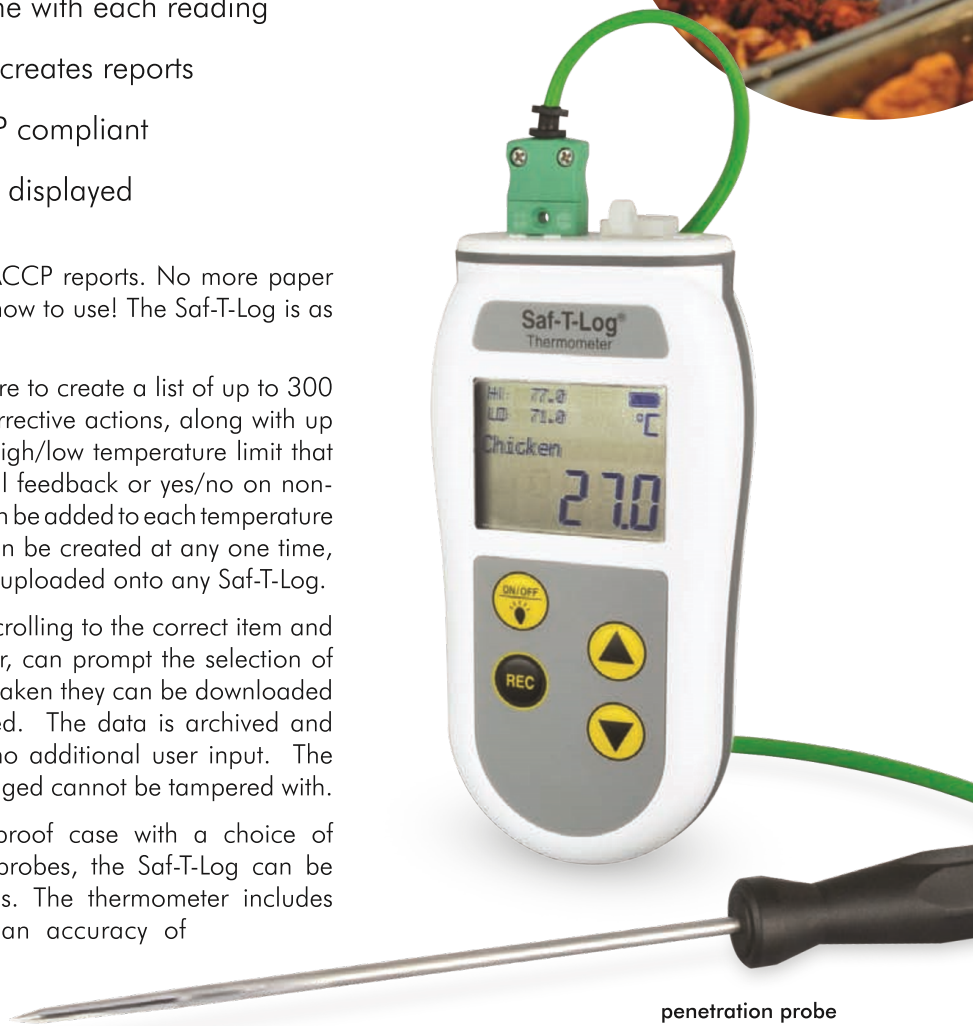
- displays date, time & user name with each reading
- automatically archives data & creates reports
- helps your business be HACCP compliant
- PASS/FAIL & corrective actions displayed

Measure, store, download and print HACCP reports. No more paper logs or complicated PDA's to train staff how to use! The Saf-T-Log is as easy to use as your current thermometer.

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

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

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



penetration probe  
Ø3.3 x 130 mm (123-160)

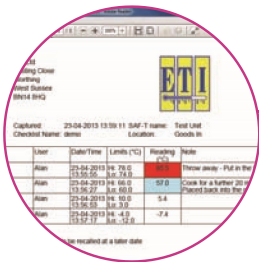


### Custom Checklists

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

### Corrective Actions

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



### Report Generator

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



specification	Saf-T-Log
range	-100 to 1372 °C
resolution	0.1 °C
accuracy	$\pm 0.4$ °C $\pm 0.1$ % of reading
battery	3 x 1.5 volt AAA
battery life	>2500 hours (without backlight)
sensor type	type K thermocouple
display	12 mm LCD
dimensions	32 x 71 x 141 mm
weight	220 grams

FREE traceable certificate of calibration included

order code	description
292-701	Saf-T-Log
123-160	penetration probe
830-231	protective silicone boot - white

the Saf-T-Log is exclusive of probe

# TempTest<sup>®</sup> 2 Smart Thermometer

## with air, surface or penetration probe

- patented, automatic 360° rotational display
- small, compact, waterproof (IP67) design
- meets the European Standard EN13485

The TempTest 2 smart thermometer incorporates a large, easy to read digital display, with a precise read-out of temperature over the range of -49.9 to 299.9 °C with a 0.1 °C/°F resolution and an accuracy of ±0.4 °C (-49.9 to 199.9 °C). The thermometer will power off automatically after ten minutes, maximising battery life. This feature can be disabled.

The thermometer is housed in a waterproof IP67 case with an ergonomic rubber seal, both include the 'Biomaster' additive to reduce bacterial growth. As well as being waterproof, it is 'probably' one of the fastest reading contact thermometers on the market today. The true temperature of a product can be measured in just three seconds.

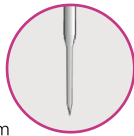
Both low battery (icon) and open circuit indication are displayed, when applicable. Each TempTest 2 is powered by two AAA batteries with a minimum life expectancy of 5000 hours in normal use without the backlight. Each unit is supplied with a permanently attached hand held probe with 500 mm PVC lead.



### choice of probe styles

The TempTest 2 is also available with two additional probe styles; surface or air. The fast response air or gas probe is an invaluable tool in establishing the correct air temperature quickly in refrigeration units, storage areas and other similar applications. The waterproof, ribbon surface probe is particularly useful for determining the temperature of hot plates, grills, pipework etc. **Please note:** the accuracy and speed of response will be dependant on whether the surface is flat.

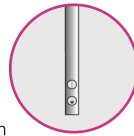
#### penetration probe



Ø3.3 x 100 mm

This fast response, stainless steel penetration probe has a reduced tip and is ideal for measuring a wide variety of applications including liquids and semi-solids.

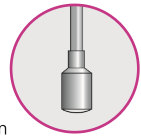
#### air or gas probe



Ø3.3 x 100 mm

This fast response air or gas probe is ideal for measuring the air temperature in fridges, freezers, chill cabinets and similar.

#### waterproof surface probe



Ø8 x 100 mm

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



backlit LCD

order code	description
222-910	TempTest 2 - penetration probe
222-913	TempTest 2 - air probe
222-914	TempTest 2 - surface probe



specification	TempTest 2
range	-49.9 to 299.9 °C
resolution	0.1 °C/°F
accuracy	±0.4 °C (-49.9 to 199.9 °C) otherwise ±1 °C
battery	2 x 1.5 volt AAA
battery life	5000 hours (normal use, without backlight)
sensor type	K thermocouple
display	11 mm LCD
dimensions	17 x 47 x 120 mm
weight	140 grams

FREE traceable certificate of calibration included



# CaterTemp® Plus Thermometer

robust, waterproof & salt resistant

- extruded aluminium case for superior durability
- supplied complete with food penetration probe
- rubber bumper seals for impact resistance
- meets the European Standard EN13485

The CaterTemp Plus hand held thermometer is housed in a robust extruded aluminium waterproof case, offering IP66/67 protection, with a white anti-bacterial/salt resistant powder coated finish. The instrument incorporates the latest microprocessor technology with improved durability, designed for reliability and ease of use in day-to-day catering and food processing applications.

The CaterTemp Plus thermometer measures temperature over the range of -49.9 to 299.9 °C with a 0.1 °C resolution. The instrument features a large, easy to read, LCD display with open circuit and low battery indication. The unit is powered by a 9 volt PP3 battery which gives the thermometer approximately 5000 hours continuous use.

The on/off button is conveniently located at the front of the instrument as is the display hold facility. The CaterTemp Plus thermometer incorporates a secure battery compartment with a waterproof cover.

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

### colour-coded rubber bumper seals

The CaterTemp Plus thermometer is available with colour-coded rubber bumper seals that can help avoid cross-contamination - see below

### optional accessories

- acrylic wall bracket - screws not supplied (832-150)
- protective black PVC boot (830-242)
- anti-bacterial wipes - see page 35



order code	description
221-056	CaterTemp Plus - black seal
221-256	CaterTemp Plus - yellow seal
221-356	CaterTemp Plus - green seal
221-456	CaterTemp Plus - red seal
221-556	CaterTemp Plus - blue seal
830-242	protective PVC boot - black
832-150	acrylic wall bracket

specification	CaterTemp Plus
range	-49.9 to 299.9 °C
resolution	0.1 °C
accuracy	±0.4 °C ±0.1 % of reading
battery & life	9 volt PP3 alkaline - 5000 hours
sensor type	K thermocouple
display	12 mm LCD
dimensions	35 x 60 x 115 mm
weight	286 grams
FREE traceable certificate of calibration included	

# Therma Plus Thermometer

robust, waterproof & salt resistant

- extruded aluminium case for superior durability
- meets the European Standard EN13485
- FREE traceable certificate of calibration
- interchangeable thermocouple probes

The Therma Plus hand held thermometer is housed in a robust extruded aluminium waterproof case, offering IP66/67 protection with a white anti-bacterial/salt resistant powder coated finish. The unit incorporates the latest microprocessor technology, designed for reliability and ease of use in routine day-to-day food processing and industrial applications.

The unit features a large, easy to read, LCD display with open circuit and low battery indication. The Therma Plus thermometer measures temperature over the range of -99.9 to 1372 °C, -99.9 to 299.9 °C with a 0.1 °C resolution, auto-ranging to 1 °C resolution over the range of 300 to 1372 °C.

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

The Therma Plus is available with colour-coded rubber bumper seals, black, yellow, green, red or blue.

## choice of probes

Conveniently located at the top of the instrument is the thermocouple probe socket that allows a wide range of interchangeable, thermocouple type K probes to be connected to the instrument.

For our full range of thermocouple probes for the Therma Plus - see pages 71 to 76.



order code	description
221-071	Therma Plus - black seal
221-271	Therma Plus - yellow seal
221-371	Therma Plus - green seal
221-471	Therma Plus - red seal
221-571	Therma Plus - blue seal
143-162	penetration probe
830-242	protective PVC boot - black
832-150	acrylic wall bracket

the Therma Plus is exclusive of probe



waterproof penetration probe  
Ø3.3 x 130 mm (143-162)

## optional accessories

- protective black PVC boot (830-242)
- acrylic wall bracket - (screws not supplied) (832-150)
- three-point temperature checkers - see page 98 for details



specification	Therma Plus
range	-99.9 to 1372 °C
resolution	0.1/1 °C auto-ranging @ 299.9 °C
accuracy	±0.4 °C ±0.1 % of reading
battery & life	9 volt PP3 alkaline - 5000 hours
sensor type	K thermocouple
display	12 mm LCD
dimensions	35 x 60 x 115 mm
weight	194 grams

FREE traceable certificate of calibration included