INSTRUMENTATION FOR HYDROPONICS

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Specialists in the design & manufacture of
temperature measuring equipment since 1983

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pH PAL PLUS pH METER

- Pocket-sized meter, ideal for everyday use
- Automatic recalibration feature
- Easy-to-read 8 mm LCD display
- Display hold function

The pH Pal Plus pH meter is a user-friendly, simple-to-use pocket-sized pH meter that incorporates an automatic recalibration feature. At the touch of a button, the instrument will automatically recalibrate itself when used in conjunction with a 7.00 pH buffer solution.

The unit is housed in a water-resistant case and features an easy-to-read 8 mm LCD display indicating pH over the range of 0 to 14 pH with a resolution of 0.1 pH and an accuracy of ±0.2 pH.

The pH Pal Plus meter will power-off automatically after ten minutes, maximising battery life. This pH Pal is ideal for measuring the pH in food processing, hydroponics and water testing applications. The pH meter is an invaluable tool when mixing concentrates with water.

The unit is powered by four LR44 button cell batteries (supplied) and includes a protective cap. For pH buffer solutions and capsules, see page 7.

HYDROPONICS & HORTICULTURE

OPTIONAL ACCESSORY:

- This ready-made 7.00 pH buffer solution ensures the pH meter is reading correctly

HOLD   AUTO OFF   IP65

Specification	pH Pal Plus pH meter
Range	0 to 14 pH
Resolution	0.1 pH
Accuracy	±0.2 pH
Battery & life	4 x 1.5 volt LR44 button cell - 150 hours
Display	8 mm LCD
Dimensions	15 x 32 x 170 mm
Weight	70 grams

Order code	Description
813-513	pH Pal Plus pH meter
816-051	7.00 pH buffer solution - 100 ml

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8000 pH METER

- Easy-to-use 2-point recalibration function
- Supplied complete with a pH electrode

The 8000 pH meter features an easy to read, LCD display and is supplied with a budget pH electrode.

The 8000 pH meter indicates pH over the range of 0 to 14 pH with a resolution of 0.01 pH and an accuracy of ±0.05 pH. The pH readings are manually temperature compensated over the range of 0 to 60 °C (default 25 °C).

The unit will power off automatically after ten minutes, maximising battery life.

At the touch of a button, the instrument will automatically re-calibrate itself when used in conjunction with pH buffer solutions. See page 7 for pH electrodes, buffer solutions and capsules.

Budget
pH electrode
(823-504)

Order code	Description
860-800	8000 pH meter
The 8000 pH meter is inclusive of pH electrode	

Specification	8000 pH meter
Range	0 to 14 pH
Resolution	0.01 pH
Accuracy	±0.05 pH
Battery & life	3 x 1.5 volt AAA - 5000 hours
Sensor type	Combination electrode
Display	Custom LCD
Dimensions	25 x 56 x 128 mm
Weight	130 grams

8100 pH & TEMPERATURE METER KIT

- Simultaneously displays pH & temperature
- Automatic temperature compensation (ATC)

The 8100 pH meter features an easy to read, LCD display and is supplied as a kit which includes an 8100 pH meter, budget pH electrode, temperature probe, 4.01 and 7.00 pH buffer solutions and zip pouch for easy transportation and storage.

The 8100 pH meter indicates pH over the range of 0 to 14 pH with a resolution of 0.01 pH and temperature over the range of 0 to 99.9 °C with a resolution of 0.1 °C.

The pH readings are automatically temperature compensated over the operating range of 0 to 60 °C utilising the temperature probe supplied.

At the touch of a button, the instrument will automatically re-calibrate itself when used in conjunction with pH buffer solutions. See page 7 for pH electrodes, buffer solutions and capsules.

Temperature probe
(170-101)

Budget pH electrode
(823-504)

Order code	Description
860-810	8100 pH kit
170-101	Spare temperature probe
Kit inclusive of temperature probe and electrode	

Specification	pH meter	Temperature
Range	0 to 14 pH	0 to 99.9 °C
Resolution	0.01 pH	0.1 °C
Accuracy	±0.05 pH	±0.5 °C
Battery & life	3 x 1.5 volt AAA - 5000 hours	
Sensor type	Combination electrode / Thermistor	
Display	Custom LCD	
Dimensions	25 x 56 x 128 mm	
Weight	130 grams	

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8100 PLUS pH METER

- Manual/automatic temperature compensation
- Easy-to-use 2-point recalibration function
- High accuracy ±0.02 pH
- Waterproof IP66/67, robust design

The 8100 Plus pH meter is a three-in-one instrument that features a large easy to read, LCD display that indicates pH over the range of -2 to 16 pH with a resolution of 0.01 pH, mV over the range of -1000 to 1000 mV and temperature over the range of -39.9 to 149.9 °C with a resolution of 0.1 °C. The LCD display features both low battery indication and a user selectable backlight.

The pH readings are either manually or automatically temperature compensated over the range of 0 to 80 °C. To automatically compensate, it is necessary to utilise a thermistor temperature probe. Each unit incorporates an auto-power off facility that automatically turns the instrument off after ten minutes, maximising battery life.

The 8100 Plus has an integrated rubber seal to ensure complete water resistance and helps to reduce the possibility of damage in harsh environments. At the touch of a button, the instrument will automatically re-calibrate (two-point autocal) itself when used in conjunction with pH buffer solutions. For pH electrodes, buffer solutions and capsules, see page 7.

Each unit incorporates an easy to use BNC connector and Lumberg screw-locking type connector, allowing a wide range of interchangeable thermistor probes to be used. We offer an extensive range of temperature probes, see our website for full details.

General purpose electrode (823-501)

Temperature probe (170-100)

8100 PLUS pH METER KIT

Each kit contains:

- 8100 Plus pH meter (225-085)
- Temperature probe (170-100)
- General purpose pH electrode (823-501)
- 4.01 pH buffer solution (816-050)
- 7.00 pH buffer solution (816-051)
- Zip pouch (830-080)

Order code	Description
225-085	8100 Plus pH meter*
860-820	8100 Plus kit
170-100	Temperature probe
830-231	Protective silicone boot - white
832-015	Stainless steel wall bracket
*The 8100 Plus is exclusive of pH electrode & probe	

Specification	pH	mV	Temperature
Range	-2 to 16 pH	± 1000 mV	-39.9 to 149.9 °C
Resolution	0.01 pH	1 mV	0.1 °C
Accuracy	±0.02 pH	±1 mV	±0.4 °C (-9.9 to 69.9 °C)
Battery & life	3 x 1.5 volt AAA - 2500 hours		
Sensor type	Combination electrode / Thermistor		
Display	12 mm LCD		
Dimensions	32 x 71 x 141 mm		
Weight	230 grams		

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8500 CONDUCTIVITY METER

- Measures ppm, mS/cm & temperature
- Automatic temperature compensation
- Easy-to-use 1-point recalibration function
- Compact & robust design

The 8500 Conductivity Meter is a three-in-one instrument that features an easy-to-read LCD display that indicates parts per million over a range of 0 to 3500 ppm with a resolution of 1 ppm, millisiemens/cm over a range of 0.00 to 5.00 mS/cm with a resolution of 0.01 mS/cm, and temperature over the range of 0 to 50 °C with a resolution of 0.1 °C.

Both the ppm and mS/cm readings are automatically temperature compensated over the operating range of 0 to 50 °C, utilising the temperature sensor in the probe.

Each unit is housed in a robust ABS case and powered by three AAA batteries that give a minimum of 5000 hours of battery life.

The unit will power-off automatically after ten minutes, maximising battery life.

At the touch of a button, the instrument will recalibrate itself when used in conjunction with 816-071 calibration solution.

- **816-071 Calibration Solution**
  To maintain accurate readings, use this calibration solution in conjunction with your Conductivity Meter.

Order code	Description
225-528	8500 Conductivity meter
816-071	Calibration solution - 100ml
830-231	Protective silicone boot - white
830-080	Zip pouch
Certificate of analysis is available upon request	

HOLD   IP65   AUTO OFF   Biomaster PROTECTED   2 YEAR GUARANTEE   MADE IN BRITAIN

Specification	mS/cm	ppm	Temperature
Range	0.00 to 5.00 mS/cm	0 to 3500 ppm	0.0 to 50.0 °C
Resolution	0.01 mS/cm	1 ppm	0.1 °C
Accuracy	± 2% F.S mS/cm	± 2% F.S ppm	± 0.5 °C
Battery	3 x 1.5 volt AAA		
Battery life	5000 hours (normal use)		
EC Calibration	Manual, 1 point		
Display	Custom LCD		
Dimensions	25 x 56 x 128 mm		
Weight	130 grams		

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pH ELECTRODES WITH BNC CONNECTOR

pH meters are only part of the system, of equal importance is the design of the pH electrodes that are used to physically measure the product. This range of standard hand held pH electrodes are fully interchangeable via a BNC connector and are designed for use with the 8000/8100 and 8100 Plus pH meters or similar.

			Order code
BUDGET pH ELECTRODE Ø12 x 120 mm		This plastic bodied electrode is ideal for measuring the pH in liquids and semi-solids, in a variety of industries including hydroponics, education and scientific.	823-504
GENERAL PURPOSE ELECTRODE Ø12 x 120 mm		This plastic bodied electrode is ideal for measuring the pH in liquids and semi-solids in a wide variety of industries including food processing, agriculture and pharmaceutical.	823-501
SPEAR-SHAPED ELECTRODES Ø6 or Ø12 x 120 mm		These glass penetration pH electrodes measure pH in semi-solid and soft materials. Ideal for use in a wide variety of industries including food processing and agriculture.	823-502 (Ø12 mm) 823-503 (Ø6 mm)
KNIFE PROBE ELECTRODE Ø20 x 145 mm		This stainless steel, sheathed glass electrode is ideal for insertion into meat, cheese or similar. The knife probe can also be used in a variety of applications in food processing and agriculture.	823-514

Please note: maximum operating temperature range of pH electrodes is 80 °C. Each electrode is supplied with a one metre lead.

CALIBRATION SOLUTIONS & CAPSULES

pH buffer, cleaning & storage solutions

These ready-made solutions are suitable for checking and cleaning pH instrumentation and pH electrodes.

Buffer solutions are available for 4.01, 7.00 and 10.01 pH.

Order code	Description
816-050	4.01 pH buffer solution - 100 ml
816-051	7.00 pH buffer solution - 100 ml
816-052	10.01 pH buffer solution - 100 ml
816-027	7.00 pH buffer solution - 1 Ltr
816-040	Cleaning solution - 500 ml
816-041	Storage solution - 500 ml

pH buffer capsules

These DIY pH buffer capsules are available in four standard values, 4.00, 7.00, 9.00 and 10.00 pH.

Each capsule makes 100 ml of solution when mixed with de-ionised water. Supplied in packs of ten capsules.

Order code	Description
816-004	4.00 pH buffer capsules (10)
816-007	7.00 pH buffer capsules (10)
816-009	9.00 pH buffer capsules (10)
816-010	10.00 pH buffer capsules (10)

HORTISTICK NUTRIENT TESTER

- Displays pH, temperature & nutrient concentration
- Backlight, auto power-off & display hold functions
- Automatic recalibration feature
- Water resistant IP65 instrument

The HortiStick nutrient tester is a three-in-one instrument that combines the measurement of pH, conductivity (mS) and temperature. The unit simultaneously displays nutrient concentration along with either pH or temperature. This easy to use meter is ideal for the testing of hydroponic solutions and water treatment processes.

The instrument features two clear LCD displays and indicates pH and temperature over the range of 0 to 14 pH and 0 to 49.9 °C. The HortiStick incorporates both automatic temperature compensation and a one-touch auto-calibration feature, as well as a user selectable backlight, display hold and an auto-power off facility, maximising battery life.

The instrument is suitable for everyday use and is housed in a rugged, water resistant case with built-in shock resistant sensor which offers IP65 protection. For prolonged use, a replacement electrode is also available - see below.

The HortiStick is powered by four AA batteries (supplied) and includes a protective cap.

Order code	Description
813-800	HortiStick nutrient tester
813-811	Replacement pH electrode
816-071	2.8 mS nutrient solution - 90 ml

HOLD **AUTO OFF** **IP65**

Specification	pH	EC	temperature
Range	0 to 14 pH	0 to 4 mS	0 to 49.9 °C
Resolution	0.1 pH	0.1 mS	0.1 °C
Accuracy	±0.2 pH	±0.2 mS	±0.5 °C
Battery & life	4 x 1.5 volt AA - 50 hours (continuous use)		
Display	2 x 10 mm LCD		
Dimensions	Ø36 x 415 mm		
Weight	275 grams		

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HORTICARE NUTRIENT TESTER

- Easy-to-use recalibration function
- Helps maximise plant growth

The HortiCare nutrient tester indicates the levels of nutrient concentrations, allowing the user to perform accurate checks, resulting in a consistent harvest and healthier plants. The unit measures EC (mS), cF or TDS (ppm) levels of essential mineral elements in soluble form.

The instrument features an easy to read LCD display and is housed in a robust, water resistant (IP65) case suitable for everyday use.

The HortiCare nutrient tester incorporates an automatic calibration feature. At the touch of a button, the instrument will automatically re-calibrate itself when used in conjunction with a 6.7 mS (67 cF or 4700 ppm) standard solution (see below). Each tester is supplied with batteries and a protective cap.

- Nutrient solution
  This ready-made 6.7 mS solution is used to regularly re-calibrate conductivity and nutrient meters, to ensure that accurate readings are maintained

Order code	Description
813-771	HortiCare nutrient tester
816-070	6.7 mS nutrient solution - 90 ml

Specification	EC	cF	TDS
Range	0 to 10.0 mS	0 to 100 cF	0 to 7000 ppm
Resolution	0.1 mS	1 cF	100 ppm
Accuracy	±0.2 mS	±2 cF	±2% off full scale
Battery & life	4 x 1.5 volt LR44 - 100 hours		
Display	8 mm LCD		
Dimensions	15 x 32 x 170 mm		
Weight	70 grams		

TDS CONDUCTIVITY TESTERS

- Easy-to-use, pocket-sized meter
- Water resistant to IP65

These TDS conductivity testers indicate ppm (parts per million) or µS (micro-siemens), ideal for monitoring a variety of applications including the amount of salts, nutrients or dissolved solids in water. At the touch of a button the readings are automatically temperature compensated over the range of 0 to 50 °C.

There are four models, two TDS and two conductivity testers, suitable for testing either low or high concentrations of total dissolved solids in liquids.

See below for our range of ppm, µS and mS calibration solutions, all supplied in 90 ml bottles.
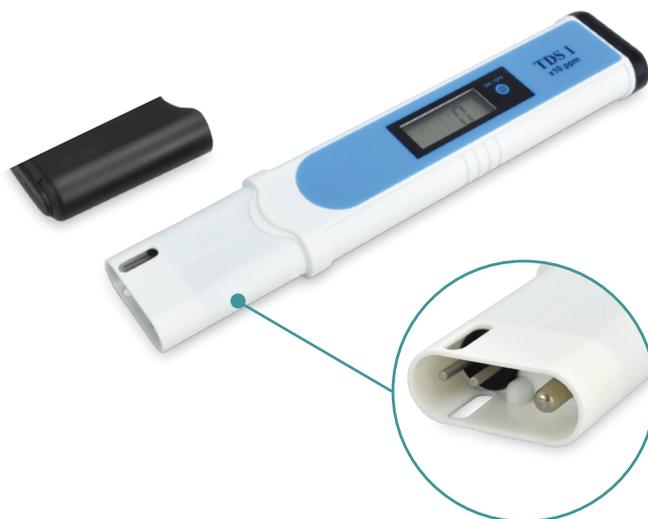
Order code	Description
813-525	TDS1 ppm tester
813-526	TDS2 ppm tester
813-527	COND3 µSiemen tester
813-528	COND4 µSiemen tester
816-055	1382 ppm solution - 90 ml (Use with TDS1)
816-057	6440 ppm solution - 90 ml (Use with TDS2)
816-054	1413 µS solution - 90 ml (Use with TDS3)
816-056	12.88 mS solution - 90 ml (Use with TDS4)

Specification	TDS1	TDS2	COND3	COND4
Range	10-1990	100-9900	10-1990	100-19900
Resolution	10 ppm	100 ppm	10 µS	100 µS
Accuracy	±2 % of full scale			
Battery & life	4 x 1.5 volt LR44 - 100 hours			
Display	6 mm LCD			
Dimensions	15 x 32 x 147 mm			
Weight	70 grams			

6500 THERMA-HYGROMETER

- High accuracy ±3 %rh & ±1 °C
- Remote %rh & temperature probe

The 6500 therma-hygrometer measures both relative humidity and air temperature. The clear, easy to read LCD displays %rh over the range of 0 to 100 %rh with a resolution of 0.1 %rh and temperature over the range of -20 to 70 °C with a resolution of 0.1 °C/ °F.

The unit incorporates a custom LCD with %rh, °C/°F, dew point indication, max/min and hold. An auto-power off facility turns the therma-hygrometer off automatically after ten minutes, maximising battery life.

The 6500 therma-hygrometer incorporates four, easy to use, push buttons allowing the user to select on/off, hold, max/min and mode functions. Each unit is supplied with a remote sensor and integral PVC lead.

Order code	Description
224-655	6500 therma-hygrometer
830-227	Protective silicone boot - black
890-111	*UKAS 3-point Certificate
*Price when purchased with a new instrument	

Specification	Temperature	Humidity
Range	-20 to 70 °C	0 to 100 %rh
Resolution	0.1 °C/°F	0.1 %rh
Accuracy	±1 °C ±1 digit*	±3 %rh (20 to 80 %rh)
Hysteresis	N/A	±1 %rh
Sensor type	Silicon bandgap	Capacitance polymer
Battery & life	3 x 1.5 volt AAA - 10000 hours	
Display	12 mm LCD	
Dimensions	25 x 56 x 128 mm	
Weight	185 grams	

*Accuracy ±1 °C over the range 5 to 45 °C otherwise ±1.7 °C

POCKET HYGROMETER

- Max/min memory function
- Displays both humidity & temperature

The pocket hygrometer incorporates a large, clear LCD that simultaneously displays both humidity and temperature over the range of 20 to 95 %rh and 0 to 49.9 °C.

This pen-shaped hygrometer is ideal for monitoring the humidity and temperature in a wide range of applications. This versatile unit incorporates a max/min button which allows the user to display the maximum and minimum humidity and temperature simultaneously.

Unlike many hygrometers that are large and heavy to carry around, this compact hygrometer is truly pocket-sized and convenient to use.

The unit is housed in a slim, pen-shaped, ABS case measuring 20 x 23 x 130 mm and incorporates a pocket clip.

Order code	Description
810-190	Pen-shaped pocket hygrometer

Specification	Temperature	Humidity
Range	0 to 49.9 °C	20 to 95 %rh
Resolution	1 °C	1 %rh
Accuracy	±1 °C	±3 %rh (30 to 80 %rh)
Sensor type	Silicon bandgap	Capacitance
Battery & life	3 volt CR2032 lithium coil cell - 15000 hours	
Display	Custom LCD	
Dimensions	20 x 23 x 130 mm	
Weight	31 grams	

THERMA-HYGROMETER - ALARM

- Integral %rh & remote temperature probe
- Large LCD with max/min & alarm functions

This therma-hygrometer simultaneously displays both the humidity and temperature in addition to indicating and recording the maximum and minimum readings.

The instrument measures both humidity and temperature over the range of 0 to 49.9 °C and 20 to 99 %rh via the internal sensors. Using the external temperature sensor the temperature range is extended to -49.9 to 69.9 °C.

The unit features a temperature alert alarm that will sound when the external remote temperature probe indicates the temperature is 0 °C or below. This feature is ideal for frost/freeze alert in horticulture and similar.

The unit is housed in an ABS case, measuring 20 x 65 x 97 mm, that incorporates a useful foldaway stand and a keyhole slot for hanging on a wall.

Remote probe

Order code	Description
810-155	Therma-hygrometer - alarm
810-158	Replacement probe for 810-155

Specification	Temperature	Humidity
Range - internal	0 to 49.9 °C	20 to 99 %rh
Range - external	-49.9 to 69.9 °C	N/A
Resolution	0.1 °C/°F	1 %rh
Accuracy	±1 °C	±5 %rh (30 to 80 %rh)
Sensor type	Thermistor	Capacitance
Battery & life	1.5 volt AAA - 10000 hours	
Display	Dual custom LCD	
Dimensions	20 x 65 x 97 mm	
Weight	70 grams	

THERMA-HYGROMETER - PANEL MOUNTING

- Displays both humidity & temperature
- Easy panel-mounting installation

This panel-mounted therma-hygrometer simultaneously displays both humidity over the range of 20 to 99 %rh and temperature over the range of 0 to 49.9 °C with a resolution of 1 %rh and 0.1 °C. This instrument is ideal for OEMs for installing into equipment, i.e. vivariums, incubators and similar.

The therma-hygrometer is easily installed into a panel via a mounting hole with a minimum Ø33 mm cut-out. The unit incorporates a screw clamp with a maximum panel thickness of 7 mm.

The therma-hygrometer features a max/min memory function for both temperature and humidity. The unit is powered by a CR2032 coin cell battery with a life expectancy of 5000 hours continuous use.

Panel-mounting

Order code	Description
810-180	Therma-hygrometer - panel
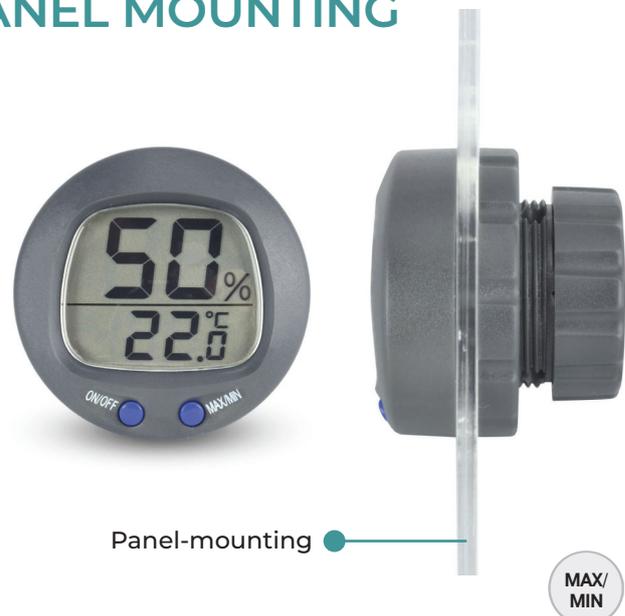
Specification	Temperature	Humidity
Range	0 to 49.9 °C	20 to 99 %rh
Resolution	0.1 °C	1 %rh
Accuracy	±1 °C	±5 %rh (30 to 80 %rh)
Sensor type	Thermistor	Capacitance
Battery & life	3 volt CR2032 lithium coin cell - 5000 hours	
Display	Dual custom LCD	
Dimensions	Ø50 x 41 mm	
Weight	42 grams	

THERMA-HYGROMETER

- Max/min temperature & humidity function
- Remote probe has 3 metre lead

These therma-hygrometers simultaneously display both the humidity and temperature in addition to indicating and recording the maximum and minimum temperature and humidity readings.

The 810-145 measures both temperature and humidity utilising the internal sensors. The 810-140 features an internal sensor which measures temperature together with an external remote probe with an integrated three metre lead measuring both temperature and humidity.

These therma-hygrometers are ideal for monitoring both temperature and humidity in grow rooms, greenhouses and similar to ensure optimum environmental conditions are maintained.

Each unit incorporates a useful foldaway stand and a keyhole slot for hanging on a wall.

Remote probe

Order code	Description
810-145	Therma-hygrometer
810-140	Therma-hygrometer - with probe

Specification	Temperature	Humidity
Range - internal	0 to 50 °C	10 to 99 %rh*
Range - external	-20 to 70 °C**	10 to 99 %rh**
Resolution	0.1 °C/°F	1 %rh
Accuracy	±1 °C	±5 %rh (30 to 70 %rh)
Battery & life	1.5 volt AAA - 10000 hours	
Display	Dual custom LCD	
Dimensions	20 x 100 x 110 mm	
Weight	135 grams */170 grams**	

*applies to 810-145 only **applies to 810-140 only

THERMA-HYGROMETER - WITH PROBE

- Remote %rh & temperature probe
- Frost/freeze audible alarm feature

This therma-hygrometer simultaneously displays both the humidity and temperature in addition to indicating and recording the maximum and minimum readings.

Utilising the internal sensor the instrument measures temperature over the range of 0 to 49.9 °C. The external remote probe with integrated three metre lead measures both temperature and humidity over the range of -49.9 to 69.9 °C and 20 to 98 %rh.

The unit features a temperature alert alarm that will sound when the external remote probe indicates the temperature is 0 °C or below. This feature is ideal for frost/freeze alert in horticulture and similar.

The therma-hygrometer is housed in an ABS case measuring 18 x 41 x 76 mm, that incorporates a foldaway stand. Each unit is supplied with a probe wall bracket.

Remote probe

Order code	Description
810-195	Therma-hygrometer - with probe

Specification	Temperature	Humidity
Range - internal	0 to 49.9 °C	N/A
Range - external	-49.9 to 69.9 °C	20 to 98 %rh
Resolution	0.1 °C/°F	1 %rh
Accuracy	±1 °C	±5 %rh @ 25 %rh
Sensor type	Thermistor	Capacitance
Battery & life	1.5 volt AAA - 10000 hours	
Display	Dual custom LCD	
Dimensions	18 x 41 x 76 mm	
Weight	90 grams	

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THERMASTICK® THERMOMETER

- Reduced tip for faster response
- Waterproof to IP66

The ThermaStick is a handy, pocket-sized, waterproof IP66 thermometer that incorporates a Ø2.5 x 115 mm stainless steel penetration probe with a reduced fast response Ø1.6 mm tip. An ideal economical solution for numerous temperature measurement applications.

The thermometer measures temperature over the range of -49.9 to 299.9 °C with a resolution of 0.1 °C/°F and features two easy to use push buttons, on/off and max/min.

The ThermaStick is powered by a single lithium coin cell battery that gives a minimum of 5000 hours use. The unit will power-off automatically after ten minutes, maximising battery life.

Available in white, red or blue, each unit is supplied with a probe cover that incorporates a pocket clip for safe storage and transportation.

Order code	Description
810-401	ThermaStick thermometer - white
810-404	ThermaStick thermometer - red
810-405	ThermaStick thermometer - blue

Specification	ThermaStick
Range	-49.9 to 299.9 °C
Resolution	0.1 °C/°F
Accuracy	±0.5 °C (-10 to 100 °C) otherwise ±2.5 °C
Battery	3 volt CR2032 lithium coin cell
Battery life	5000 hours
Sensor type	Thermistor
Display	12 mm LCD
Dimensions	Ø46 x 15 x 188 mm
Weight	28 grams

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MINI RAYTEMP® IR THERMOMETER

- Laser dot alignment for precise targeting
- Ideal for monitoring leaf temperatures

The Mini RayTemp is a compact, lightweight and low cost infrared thermometer. Simply aim and pull the trigger to display the surface temperature instantly. Monitoring leaf, light and canopy temperatures will ensure optimum growing conditions are maintained.

Each unit features a clear, easy to read, LCD display with low battery, backlight indication and an auto-power off facility that turns the instrument off after ten seconds, maximising battery life.

The Mini RayTemp also incorporates laser assisted alignment as standard, to assist in pin-pointing the area of measurement. The unit incorporates a 12:1 optic ratio (target distance/diameter ratio) and a fixed emissivity of 0.95.

Order code	Description
814-080	Mini RayTemp
830-040	Protective nylon pouch

Specification	Mini RayTemp
Range	-50 to 330 °C
Resolution	0.1 °C/°F
Accuracy	±2 °C (0 to 330 °C) otherwise ±4 °C or ±4 % whichever is greater
Field of view	Target ratio 12:1
Emissivity	0.95 fixed
Battery & life	9 volt PP3 - 80 hours continuous use
Display	Custom LCD
Dimensions	36 x 88 x 131 mm
Weight	143 grams

AUTO OFF

HYDROPONICS & HORTICULTURE

MAX/MIN THERMOMETER

- Displays tank and grow room temperature
- Records & displays max/min temperature

This max/min alarm thermometer simultaneously displays the actual temperature whilst displaying the maximum and minimum temperatures.

The instrument measures the grow room (in) temperature over the range of 0 to 49.9 °C using the unit's internal sensor. Utilising the remote external temperature sensor, (out) the unit measures nutrient tanks and similar over the range of -49.9 to 69.9 °C.

The unit features a programmable hi/low temperature alarm that will sound when the preset limits have been exceeded.

The unit is housed in an ABS case, measuring 20 x 65 x 97 mm, that incorporates a useful foldaway stand and a keyhole slot for hanging on a wall.

Remote probe

Order code	Description
810-090	Max/min alarm thermometer

Specification	max/min alarm
Range - internal	0 to 49.9 °C
Range - external	-49.9 to 69.9 °C
Resolution	0.1 °C/°F
Accuracy	±1 °C
Battery & life	1.5 volt AAA - 10000 hours
Sensor type	Thermistor
Display	Custom LCD
Dimensions	20 x 65 x 97 mm
Weight	88 grams

MAX/MIN & IN/OUT THERMOMETER

- Temperature range -49.9 to 69.9 °C
- Easy-to-read display

The max/min and in/out thermometer simultaneously displays both the in (internal sensor) and the out (remote sensor) as well as the max/min temperatures at the push of a button. The instrument features a programmable, audible high/low alarm (remote probe only).

Each unit is powered by a AAA battery and is supplied with small, water resistant, detachable remote probe with a three metre PVC lead. With a 5000 hour battery life the AAA batteries will only need changing every 6 months.

The max/min thermometer is housed in an ABS case which incorporates a foldaway stand and a keyhole slot for hanging on the wall.

Remote probe

Order code	Description
810-080	In/out thermometer

| Specification	max/min & in/out
Range - internal	-19.9 to 69.9 °C
Range - external	-49.9 to 69.9 °C
Resolution	0.1 °C/°F
Accuracy	±1 °C ±1 digit
Sensor type	Thermistor
Battery & life	1.5 volt AAA - 5000 hours
Sensor type	Thermistor
Display	Dual custom LCD
Dimensions	20 x 65 x 97 mm
Weight	100 grams

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LCD BAR GRAPH MAX/MIN THERMOMETER

● Simultaneously displays both current & max/min temperatures
● Temperature range -19.9 to 49.9 °C

This digital max/min thermometer simultaneously displays the actual temperature whilst displaying the max and min temperatures on a digital LCD bar graph.

The thermometer measures temperature over the range of -19.9 to 49.9 °C with a resolution of 0.1 °C/°F and an accuracy of ±1 °C. To reset the recorded max and min temperatures, simply press the white button on the front of the thermometer.

The instrument is housed in a black ABS case which incorporates a slot for hanging and is powered by a single AAA battery (supplied).

Order code	Description
810-105	Digital max/min - black
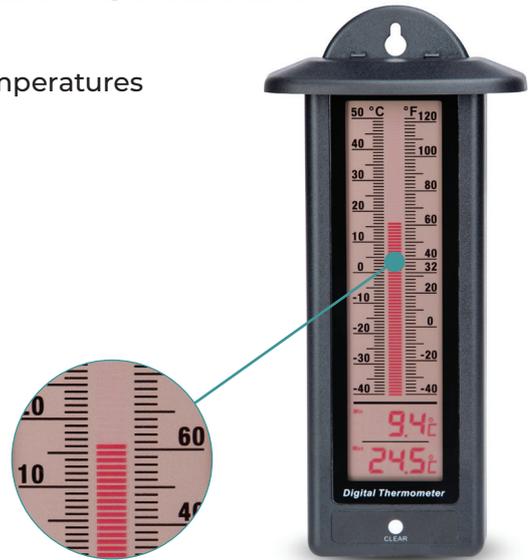
Specification	Digital max/min
Range	-19.9 to 49.9 °C
Resolution	0.1 °C/°F
Accuracy	±1 °C
Battery	1.5 volt AAA
Battery life	17500 hours
Display	Custom LCD
Dimensions	20 x 66 x 212 mm
Weight	188 grams

Room thermometer

These digital max/min thermometers simultaneously display the actual temperature whilst displaying the max and min temperatures.

Each thermometer measures temperature over the range of -20 to 69.9 °C with a 0.1 °C/°F resolution.

The unit is housed in an ABS case measuring 29 x 79 x 187 mm. The instrument incorporates a slot for hanging and is powered by one AA battery (supplied).

Order code	Description
810-120	Digital max/min - white
810-121	Digital max/min - green

Digital max/min thermometer

Remote probe

This max/min and alarm thermometer indicates temperature over the range of -24.9 to 69.9 °C with a resolution of 0.1 °C/°F and an accuracy of ±1 °C.

The thermometer features a large, easy to read LCD display, max/min memory function to record the highest and lowest temperatures and a high/low programmable audible alarm, ideal for frost alert. The unit incorporates two temperature sensors, a remote water resistant probe with one metre PVC lead for the appliance temperature and an internal sensor for the room temperature.

| Order code	Description
810-125	Digital max/min thermometer

SPIRIT-FILLED ROOM THERMOMETERS

- Simple & cost-effective means of measuring temperature
- Traditional, spirit-filled design - mercury free

These traditional, spirit-filled room thermometers display temperature over the range of -30 to 50 °C with an accuracy of ±1 °C and a clearly marked scale in both °C and °F.

Models 803-229, 803-232 and 803-233 are housed in a white, ABS plastic case whereas model 803-292 is housed in a smooth grained, traditional style, beechwood case. Model 803-233 indicates the Factory Act minimum working temperature of 16 °C.

These room thermometers feature a wall-mounted slot for hanging and are ideal for recording temperatures in the office, factory, laboratory or home.
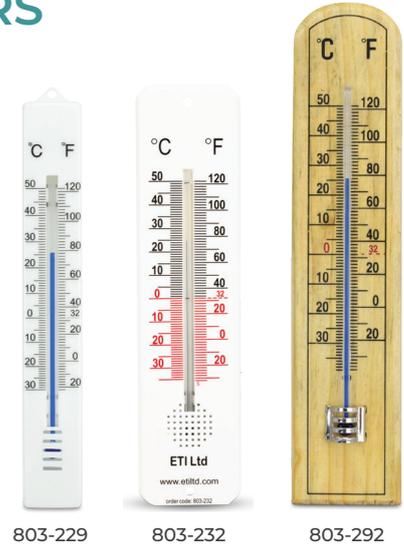
803-229   803-232   803-292

803-233 shown wall mounted

Order code	Description
803-229	White 25 x 175 mm
803-232	White 45 x 195 mm
803-233	White 45 x 195 mm - Factory Act
803-292	Wooden 45 x 205 mm

Compost thermometer

This bi-metal dial compost thermometer incorporates a colour-coded, easy to read dial. A compost thermometer is an important piece of equipment for any good gardener, in respect of ascertaining the temperature of any compost heap.

Each compost thermometer incorporates a 50 mm dial with a 5 x 500 mm pointed stainless steel stem.

The dial includes three temperature zones showing Warm, Active and Hot. The scale indicates temperature over the range 0 °C to 100 °C.

Order code	Description
800-765	Dial compost thermometer

Rain gauge

This garden rain gauge in clear ABS plastic is easy to use and will measure the amount of rain from 0 to 40 mm/m2. As rain falls, the gauge cup will fill up to a maximum of 500 ml, allowing the user to determine the daily rainfall on the simple to read scale.

The revolving ring will manually record the amount of rain that has fallen in the given period. The rain gauge can be mounted on a Ø26 mm pole (pole not supplied). The revolving ring will determine the amount of rain that has fallen in the given period.

Order code	Description
808-145	Rain gauge - clear ABS plastic

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