

CONTROL
COMPANY



CONTROL COMPANY



Traceable[®] Thermometer Guide

ISO 17025 ACCREDITED (A2LA)

ISO 9001 QUALITY-CERTIFIED (DNV)

Traceable® Thermometers

All Traceable® products are provided with a Traceable® Calibration Certificate from our ISO 17025 calibration laboratory. All thermometer certificates are accredited by the American Association for Laboratory Accreditation (A2LA).

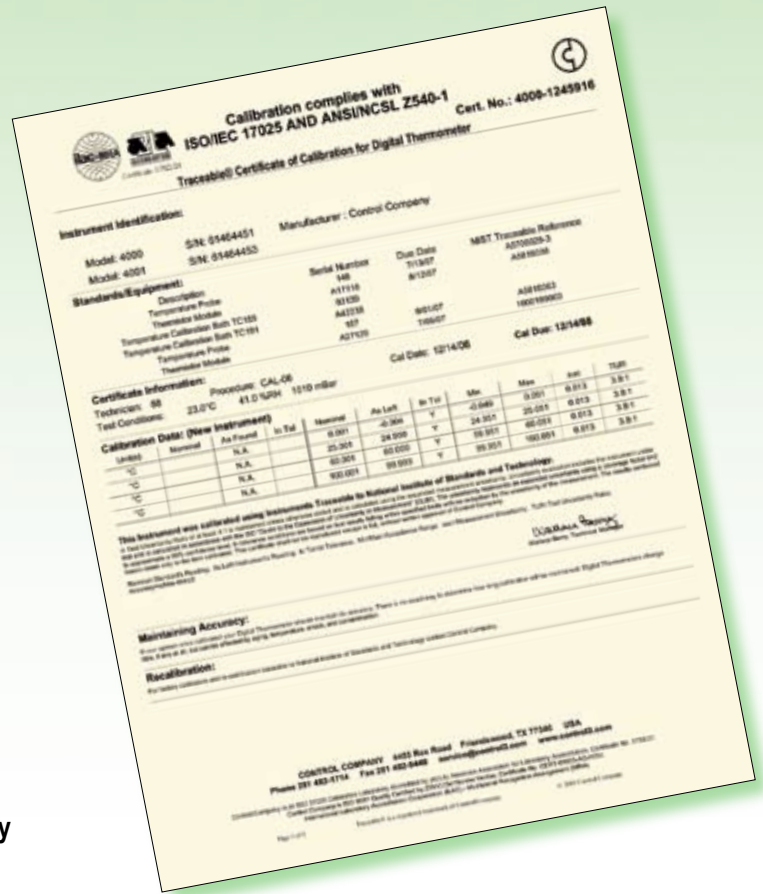
Traceable® Certificate indicates the product is traceable to standards provided by the National Institute of Standards and Technology (NIST), a U.S. Government agency within the Commerce Department. The Traceable® Certificate complies with ANSI/NCSL Z540-1.

A2LA is widely recognized internationally through bilateral and multilateral agreements and through its participation in the International Laboratory Accreditation (ILAC) and Multilateral Recognition Arrangement (MRA). Through Control Company's A2LA Accreditation, our Traceable® Certificates are internationally recognized by accreditation agencies and governments in over 75 countries.

A Traceable® Certificate includes all of the information to meet today's stringent accreditation demands, CLIA requirements, government specifications, and ISO 9000 certifications.

Control Company is an ISO 9001 Quality Certified Company

This quality certification provides users with the assurance that they receive only the finest and most reliable products. It is worldwide recognition of superb quality for innovative electronic products. ISO 9001 Certification insures that every product is checked and rechecked to provide for absolutely the highest quality. In addition, ISO 9001, in contrast to other ISO 9000 certifications, requires that the design phase of every product be included in the quality requirements. The 9001 certification provides that quality is designed into every product beginning with the first drawing. Control Company is ISO 9001 certified by DNV (Det Norske Veritas).



All Control Company Thermometers are mercury free.



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Traceable® Digital Thermometer

Traceable® Digital Thermometer reads to 0.001°

Scientific thermometer is ideal for critical experimental requirements, quality control, and routine measurements. Unit reads in °C and °F. Expanded temperature range covers -58.000 to 302.000°F and -50.000 to 150.000°C. Resolution is 0.001°. Accuracy is ±0.05°C between 0.0 to 100°C.

Unit conforms to ITS-90, International Temperature Standard

Instant MEMORY key recalls minimum and maximum readings over any time period. HOLD button "freezes" display for reading later. For ease in reading, a key changes the display to show one, two, or three significant numbers after the decimal point. Internal data logger capture the minimum and maximum temperatures every hour for 24 hours. This temperature monitor shows exactly when a reading occurred.

High precision makes this thermometer ideal for measuring temperatures in cuvettes, gas systems, reagents, chemical solutions, soil, water baths, ovens, incubators, pharmaceuticals, petroleum products, foods and wastewater. Designed for years of reliable service even in severe environments.

Large, 1.27 cm-high, bright, high-contrast LCD display makes the thermometer easy to read. Membrane keys provide a splash-proof design.

Lightening-fast temperature changes

The fast-response probe supplied with the unit displays even the slightest temperature change instantly. Readings are updated three times a second. Universal, stainless-steel probe is triple purpose for liquid, air/gas, and semi-solids. Accurate readings with tip penetration of 0.84 cm. Probe has a diameter of 0.32 cm, stem length of 16 cm, an overall length of 23 cm and a cable length of 152 cm.

Traceable to NIST for accuracy

To assure accuracy an individually serial-numbered Traceable® Certificate is provided from our ISO 17025 calibration laboratory accredited by A2LA. It indicates traceability to standards provided by NIST (National Institute of Standards and Technology). Size is 8.9 x 14 x 3.2 cm. Weight is 226.8 g. Supplied with probe, 9-volt alkaline battery, plastic carrying case, and Traceable® Certificate. Replacement battery Cat. No. 1112.

Cat. No. 4000 Traceable® Digital Thermometer

Cat. No. 4005 Traceable® Digital Thermometer for YSI Series 400 probes

Identical to Cat. No. 4000 thermometer but accepts only YSI series 400 probes. Supplied without probe.

Cat. No. 4006 Traceable® Digital Thermometer for YSI Series 400 probes

Identical to Cat. No. 4000 thermometer accepts only YSI series 400 probes. Supplied with YSI probe.



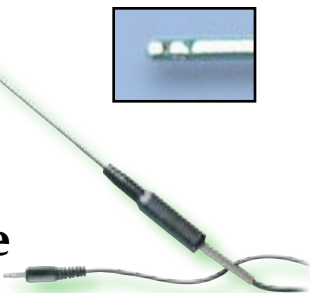
Computer Output

Cat. No.	Accessories
4001	Replacement Probe for Cat. No. 4000
4021	Micro Probe for Cat. No. 4000 - Stainless steel is 0.127 cm diameter, 12.7 cm overall, cable length is 137.2 cm
4022	Surface Probe - Measures surface temperatures for Cat. No. 4000
4023	Air Probe - Measures air temperatures for Cat. No. 4000
4002	Padded Carrying Case
4235	Data Acquisition System and AC Adaptor for Cat. No. 4000 - Accessory-complete Data Acquisition System (DAS) captures, displays, and stores readings in Windows®. Data can be read as-is or imported into databases, spreadsheets, word processors, and statistical programs. The AC Adaptor allows continuous AC operation, 115 VAC. Supplied are 3.5" diskette, 36" cable (that plugs into the instrument and computer serial port), and AC Adapter.
4236	AC Adaptor

Air Probe

Measures air temperatures. Dimensions: 0.3 cm diameter, 10 cm stem length, 15.25 cm overall length, 183 cm cable length.

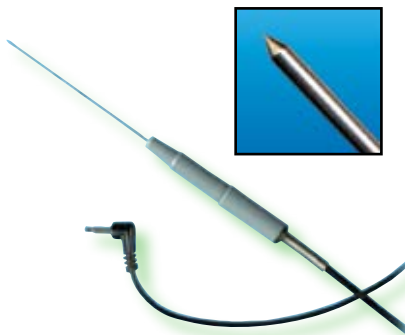
Cat. No. 4023 Accessory Air Probe



Micro Probe

Stainless-steel, 0.1 cm diameter, 7 cm stem length, 14 cm overall length, 152 cm cable length.

Cat. No. 4021 Accessory Micro Probe



Surface Probe

Accessory probe Measures surface temperatures. Dimensions: 0.8 cm disk diameter, 9 cm stem length, 15.25 cm overall length, 178 cm cable length.

Cat. No. 4022 Accessory Surface Probe



Traceable® Long-Stem Thermometer

Replaces mercury and glass thermometers

Perfect-sized unit fits into flasks, cuvettes, test tubes, and beakers. Read temperatures in foods, gases, samples, reagents, water baths, and semi-solids. Stainless-steel probe is resistant to most laboratory chemicals. Long stem allows user to make measurements while stirring solutions in deep vessels.

Unbeatable accuracy

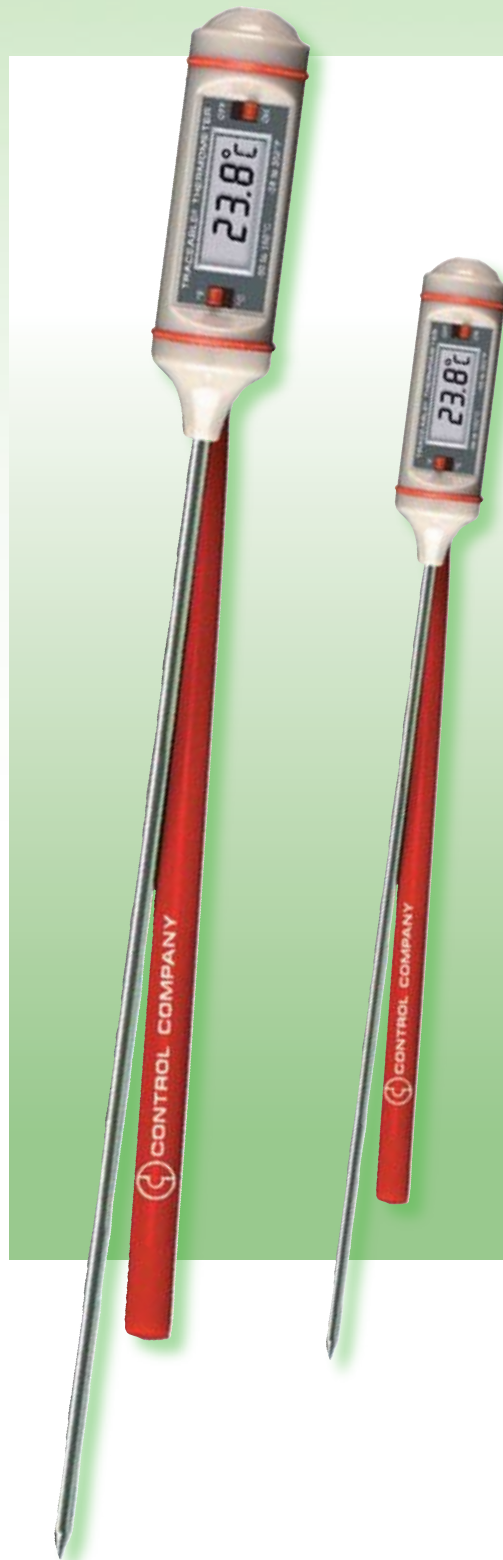
Displays -58 to 482°F and -50 to 250°C. Resolution is 0.1° from -20 to 200° (1° outside this range). Accuracy is ±1°C between -20 to 120°C. Ultra™ model accuracies are ±0.2 and ±0.5°C at tested points. Readings are updated every second.

Eliminates mercury

Almost unbreakable plastic and stainless-steel construction (no glass or mercury) makes it safe. Brilliant LCD display is ¼-inch-high. Designed for all ovens and incubators.

Traceable to NIST for accuracy

To assure accuracy an individually serial-numbered Traceable® Certificate is provided from our ISO 17025 calibration laboratory accredited by A2LA. It indicates traceability to standards provided by NIST (National Institute of Standards and Technology). Case is made of rugged ABS plastic, diameter is 13/16-inch. Stem diameter is 0.14 inch. Weight is less than one ounce. Supplied with 1-year battery, Traceable® Certificate, and protective sleeve. Replacement battery Cat. No. 1039.



Cat. No.	Description	Stem Length	Overall Length	Range	Accuracy
4052	Traceable® Long-Stem Thermometer	8 inches	11 inches	-58 to 302°F -50 to 150°C	±1°C
4352	Traceable® Ultra™ Long-stem Thermometer	8 inches	11 inches	-58 to 302°F -50 to 150°C	±0.2°C
4353	Traceable® Extra-long-stem wide-range Thermometer	11½ inches	14½ inches	-58 to 482°F -50 to 250°C	±1°C
4354	Traceable® Ultra™ Extra-long-stem wide-range Thermometer	11½ inches	14½ inches	-58 to 482°F -50 to 250°C	±0.5°C

Stainless Steel Probe Thermometer Specifications Chart

Cat. No.	Page No.	Traceable® Certificate NIST/A2LA	Range	Resolution	Accuracy (°C)	Probe Length (inch)	Waterproof Total Unit/ Cable/Probe	Unit Size (inches)	Alarm	Display Min/Max
4000	3	Yes	-58 to 302°F / -50 to 150°C	0.001°	±0.05	6¾	n/n/y	3½ x 5½ x 1¼	no	yes
4052	4	Yes	-58 to 302°F / -50 to 150°C	0.1°	±1	8	n/n/a/y	1¾ x 11	no	no
4352	4	Yes	-58 to 302°F / -50 to 150°C	0.1°	±0.2*	8	n/n/a/y	1¾ x 11	no	no
4353	4	Yes	-58 to 482°F / -50 to 250°C	0.1°	±1	11.4	n/n/a/y	1¾ x 14¾	no	no
4354	4	Yes	-58 to 482°F / -50 to 250°C	0.1°	±0.5*	11.4	n/n/a/y	1¾ x 14¾	no	no
4050	6	Yes	-58 to 572°F / -50 to 300°C	0.1°	±1.5	3½	n/n/a/y	7	no	no
4350	6	Yes	-58 to 572°F / -50 to 300°C	0.1°	±0.4*	3½	n/n/a/y	7	no	no
4149	6	Yes	-58 to 536°F / -50 to 280°C	0.1°	±1.0	8	n/n/a/y	9¼	no	no
4349	6	Yes	-58 to 536°F / -50 to 280°C	0.1°	±0.4*	8	n/n/a/y	9¼	no	no
4371	7	Yes	-58 to 572°F / -50 to 300°C	0.1°	±1.0	8	y/n/a/y	10¼	no	yes
4378	7	Yes	-58 to 572°F / -50 to 300°C	0.1°	±0.4*	8	y/n/a/y	10¼	no	yes
4042	7	Yes	-67 to 300°F / -55 to 149°C	0.1°	±1.8	4¾	n/n/a/y	4¾	no	no
4044	7	Yes	-67 to 300°F / -55 to 149°C	0.1°	±1.0	4¾	n/n/a/y	4¾	no	no
4342	7	Yes	-67 to 300°F / -55 to 149°C	0.1°	±0.4*	4¾	n/n/a/y	4¾	no	no
4344	7	Yes	-67 to 300°F / -55 to 149°C	0.1°	±0.2*	4¾	n/n/a/y	4¾	no	no
4351	8	Yes	-58 to 302°F / -50 to 150°C	0.1°	±1.0	1	n/n/a/y	3¾	no	no
4049	8	Yes	-58 to 302°F / -50 to 150°C	0.1°	±1.0	5¼	n/n/a/y	6½	no	no
4374	8	Yes	-58 to 302°F / -50 to 150°C	0.1°	±0.2*	5¼	n/n/a/y	6½	no	no
4355	8	Yes	-58 to 302°F / -50 to 150°C	0.1°	±1.0	5¼	n/n/a/y	6½	no	no
4420	9	Yes	-58 to 572°F / -50 to 300°C	0.1°	±1.5	3½	y/n/a/y	7¼	no	yes
4421	9	Yes	-58 to 572°F / -50 to 300°C	0.1°	±0.4*	3½	y/n/a/y	7¼	no	yes
4370	9	Yes	-58 to 536°F / -50 to 280°C	0.1°	±1.0	8	y/n/a/y	9½	no	no
4369	9	Yes	-58 to 536°F / -50 to 280°C	0.1°	±0.4*	8	y/n/a/y	9½	no	no
4146	10	Yes	-58 to 302°F / -50 to 150°C	0.1°	±1.0	7	n/n/y	3 x 2 x ½	no	no
4045	10	Yes	-58 to 500°F / -50 to 260°C	0.1°	±1.0	7¼	n/n/y	2 x 4 x ½	yes	yes
4373	11	Yes	-58 to 572°F / -50 to 300°C	0.1°	±1.0	7½	y/y/y	6¾ x 2¾ x 1	yes	yes
4430	11	Yes	-58 to 572°F / -50 to 300°C	0.1°	±1.0	7½	n/n/y	2½ x 4¼ x ½	yes	yes
4372	12	Yes	-58 to 572°F / -50 to 300°C	0.1°	±1.0	4½	n/n/a/y	11	no	no
4272	12	Yes	-58 to 572°F / -50 to 300°C	0.1°	±0.3*	4½	n/n/a/y	11	no	no
4152	12	Yes	-58 to 500°F / -50 to 250°C	0.1°	±1.0	5½	n/n/y	2½ dia. x ¾	no	no
4252	12	Yes	-58 to 500°F / -50 to 250°C	0.1°	±0.5*	5½	n/n/y	2½ dia. x ¾	no	no
4377	12	Yes	-58 to 572°F / -50 to 300°C	0.1°	±1.0	5½	n/n/y	2½ dia. x ¾	yes	yes
4368	12	Yes	-58 to 572°F / -50 to 300°C	0.1°	±0.5*	5½	n/n/y	2½ dia. x ¾	yes	yes
4039	13	Yes	-58 to 572°F / -50 to 300°C	0.1°	±1.0	5	y/y/y	1¼ x ½	no	yes
4339	13	Yes	-58 to 572°F / -50 to 300°C	0.1°	±0.2*	5	y/y/y	1¼ x ½	no	yes
4147	13	Yes	32 to 392°F / 0 to 200°C	1°	±2.0	8½	n/n/y	2¾ x 3 x ½	yes	no
4376	14	Yes	-58 to 572°F / -50 to 300°C	0.1°	±1.0	2¾	n/y/y	1½ x 2¾ x ½	no	yes
4110	14	Yes	-58 to 500°F / -50 to 260°C	0.1°	±1.0	8	n/n/y	2½ x 6½ x 1	yes	yes

*Ultra™ thermometers are tested a selected test points to be within tighter than normal tolerances to assist in providing improved accuracy. Other points will not necessarily fall within the same accuracy as those found at the selected test points.

Traceable[®] Pocket Thermometer

Unique, flat-profile design, weight of a single ounce, and built-in pocket clip make it ideal to carry in a shirt pocket. Thermometer range is -58 to 572°F and -50 to 300°C . Place probe in any solution and enjoy digital resolution of 0.1° from -20 to 200° (1° otherwise). Accuracy is $\pm 1.5^{\circ}\text{C}$. Ultra[™] model accuracy is $\pm 0.4^{\circ}\text{C}$ at tested points. A HOLD button freezes a reading for later observation; another button switches from $^{\circ}\text{F}$ to $^{\circ}\text{C}$.

Safe for all lab tests

Stainless-steel and plastic construction (no glass or mercury) makes it the safest lab thermometer ever designed. Measure temperature in soil, cuvettes, test tubes, food products, incubators, petroleum hydrocarbons, and virtually all lab tests. Probe guard snaps to handle to extend overall length to $10\frac{3}{4}$ inches.

Updates every second

Large, bright LCD is $\frac{1}{4}$ -inch-high and 20 times more readable than eye-straining guesses at pointer or mercury positions. Readings are updated every second. Operates continuously for $1\frac{1}{2}$ years on a single, replaceable silver-oxide battery.

Traceable to NIST for accuracy

To assure accuracy an individually serial-numbered Traceable[®] Certificate is provided from our ISO 17025 calibration laboratory accredited by A2LA. It indicates traceability to standards provided by NIST (National Institute of Standards and Technology). Unit is supplied with a protective case. Dimensions: stem length, $3\frac{1}{2}$ inches; stem diameter, 0.14 inches; overall length, 7 inches. Weight is 1 ounce. Replacement battery Cat. No. 1039.

Cat. No. 4050	Traceable[®] Pocket Thermometer	Accuracy $\pm 1.5^{\circ}\text{C}$
Cat. No. 4350	Traceable[®] Ultra[™] Pocket Thermometer	Accuracy $\pm 0.4^{\circ}\text{C}$



Traceable[®] Robo[™] Thermometer

Adjustable for ultimate viewing

Rotating digital display (180 degrees) makes for easy reading at any angle. Position the readout at a right angle for a "heads-up" display or straight to view sample and temperature simultaneously. Read temperatures in reagents, water baths, foods, air, and any semi solid.

Extra-wide range covers from -58 to 536°F and -50 to 280°C . Press a button to change between Fahrenheit and Celsius. Enjoy digital resolution of 0.1° from -20 to 200° . Accuracy is $\pm 1^{\circ}\text{C}$ between -20 and 100°C . Ultra[™] model accuracy is $\pm 0.4^{\circ}\text{C}$ at tested points. Readings are updated every second. Stainless-steel probe is resistant to most laboratory chemicals. Long stem allows the user to make measurements while stirring solutions. It is ideal for use in deep vessels.

Replaces mercury thermometers

Plastic and stainless-steel construction (no glass or mercury) makes it safer than mercury thermometers. It is virtually indestructible and stores flat in a pocket.

Traceable to NIST for accuracy

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Cat. No. 4149	Traceable[®] Robo[™] Thermometer	Accuracy $\pm 1.0^{\circ}\text{C}$
Cat. No. 4349	Traceable[®] Ultra[™] Robo[™] Thermometer	Accuracy $\pm 0.4^{\circ}\text{C}$



Traceable® Lollipop™ Shock/Waterproof Thermometer

Lollipop™ Design Thermometer is waterproof

New heads-up Lollipop™ Traceable® Waterproof/Shockproof Thermometer replaces hazardous mercury units. Stainless-steel probe is resistant to most laboratory chemicals. Wide range covers 99 percent of the lab's routine temperature measurements: -58 to 572°F and -50 to 300°C. Resolution is 0.1° from -20 to 200°; 1° outside this range. Accuracy is ±1°C between 0 and 100°C. Ultra™ model accuracy is ±0.4°C at tested points. Reading updates every second.

Records minimum/maximum reading

At the touch of a button, memory recalls highest and lowest temperature readings over any time period. Reading updates every second. Solid-state construction eliminates dangers inherent in breakable glass and toxic mercury thermometers.

All-weather compatible

Operates without fail in any lab condition—outdoors too. Waterproof construction is ideal for wet labs, wash-down areas, and virtually all field applications. Engineered to be shockproof in drop tests up to 5 feet. Bright ¼-inch-high display is easy to view.

Traceable to NIST for accuracy

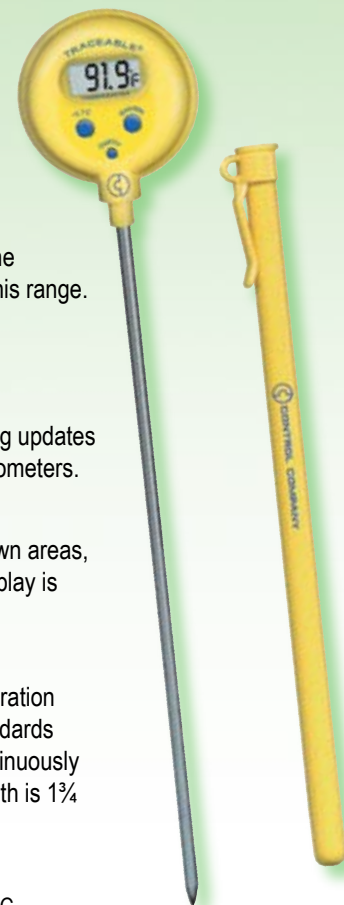
To assure accuracy an individually serial-numbered Traceable® Certificate is provided from our ISO 17025 calibration laboratory accredited by A2LA. It indicates traceability to standards provided by NIST (National Institute of Standards and Technology). Supplied complete with stainless-steel probe, probe cover, and silver-oxide battery (runs continuously for one year). Stem dimensions are 0.14 inch diameter and 8 inch length. Overall unit length is 10¼ inches, width is 1¾ inches and depth is ½-inch. Weight is ⅞ ounce. Replacement battery Cat. No. 1102.

Cat. No. 4371 Traceable® Lollipop™ Shockproof/Waterproof Thermometer

Accuracy ±1°C

Cat. No. 4378 Traceable® Ultra™ Lollipop™ Shockproof/Waterproof Thermometer

Accuracy ±0.4°C



Traceable® Digital Dial Thermometer °F/°C

Wide temperature span combines the ranges of more than 90 different mercury thermometers. No on/off switch—it's always reading. Operates continuously for 1½ years on a single, replaceable silver-oxide battery.

Range from "brrr" to "blistering"

Range is -67.0 to 300.0°F and -55-149°C. Place probe in a water bath and enjoy digital resolution to 0.1° and an accuracy of ±1°C between -20 to 100°C. Ultra™ model accuracy is ±0.2°C at tested points. Stainless-steel and plastic construction (no glass and no mercury) makes it the best and safest lab thermometer ever designed. Ideal for use in soil, cuvettes, test tubes, food products, incubators, biomedical reagents, and petroleum hydrocarbons.

Traceable to NIST for accuracy

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Lightweight for portability

Large, bright ¾-inch-high LCD (liquid crystal display) is 20 times more readable than eye-straining guesses at pointers or mercury positions. Readings are updated every 10 seconds. Supplied with a protective case, silver-oxide battery and Traceable® Certificate. Unit dimensions are 4¾-inch stem length, stem diameter of 0.19 inch and 1½-inch dial diameter. Weight is 1⅞ ounces. Replacement battery Cat. No. 4032.

Cat. No. 4042 Traceable® Digital Dial Thermometer °F

Accuracy ±1.8°F

Cat. No. 4044 Traceable® Digital Dial Thermometer °C

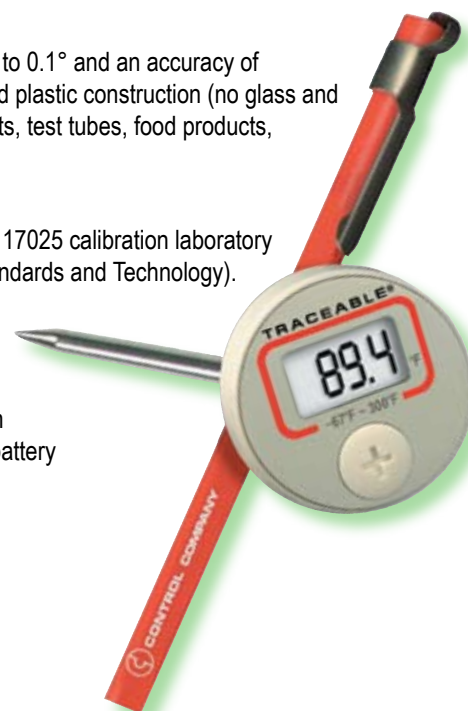
Accuracy ±1.0°C

Cat. No. 4342 Traceable® Ultra™ Digital Dial Thermometer °F

Accuracy ±0.4°F

Cat. No. 4344 Traceable® Ultra™ Digital Dial Thermometer °C

Accuracy ±0.2°C



Traceable® Key-Chain Thermometer

Pocket-size Traceable® Key-Chain Thermometer is perfect for carrying with you. Clip to a lab coat buttonhole, jacket zipper, or belt loop, or use it with your keys.

Hang in storerooms or fume hoods for easy monitoring. Fast, one-second response makes it ideal for measuring ambient air temperature. One-inch stainless-steel probe is designed for penetration of semi-solids and liquid measurements. Provides accurate readings when immersed only 1/3-inch.

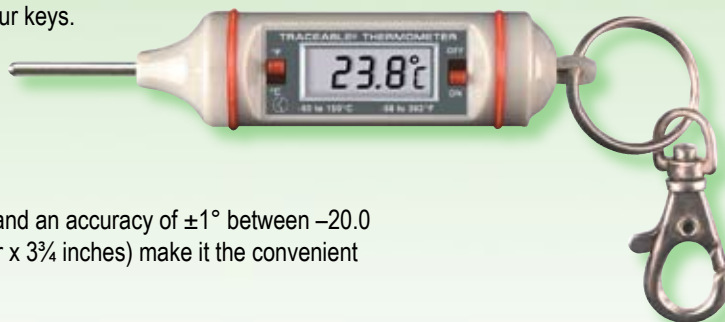
Range is -58 to 302°F and -50 to 150°C with a resolution of 0.1° and an accuracy of ±1° between -20.0 to 100.0°C. Lightweight (1/2 oz) and miniature size (3/4-inch diameter x 3 3/4 inches) make it the convenient pocket thermometer.

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Case is rugged ABS plastic. Supplied battery powers unit for 1 year of continuous operation. Replacement battery Cat. No. 1039.

Cat. No. 4351 Traceable® Key-Chain Thermometer



Traceable® Jumbo-Display Dial Thermometer

Thermometer reads both °F and °C

Dedicate this thermometer to a specific test. Provides continuous monitoring for over a year. To provide for even longer battery life, the unit has an on/off switch. Thermometer is switchable between °F/°C.

Wide range of -58 to 302°F/-50 to 150°C covers 90 percent of lab temperature measurements. To achieve this temperature range with equivalent precision would require over 150 mercury thermometers. Enjoy digital resolution of 0.1° from -20 to 200° (1° outside this range). Accuracy is ±1°C between -20 and 100°C. Ultra™ model accuracy is ±0.2°C at tested points. Readings are updated every second.

Resists corrosion

Smooth, stainless-steel probe is perfect for "gunky" and viscous solutions. Probe is resistant to most laboratory chemicals. Its piercing tip makes it perfect for measuring temperatures of semi-solids. Plastic and stainless-steel construction (no glass or mercury) makes it safer than mercury thermometers.

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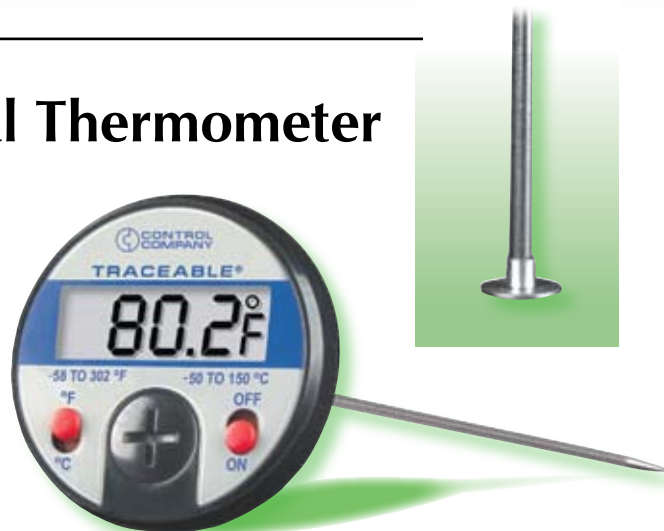
Extra-large, easy-to-read display is 3/8-inch-high. Bright LCD display is easier to read than eye straining guesses at pointers or mercury positions. Stem length is 5 1/4 inches, stem diameter is 0.15 inch, and top diameter is 2 1/8 inches. Overall length is 6 1/2 inches. Weight is 1 ounce. Supplied with silver-oxide battery and Traceable® Certificate. Replacement battery Cat. No. 1039.

Cat. No. 4049 Traceable® Jumbo-Display Dial Thermometer Accuracy ±1.0°C

Cat. No. 4374 Traceable® Ultra™ Jumbo-Display Dial Thermometer Accuracy ±0.2°C

Cat. No. 4355 Traceable® Surface Dial Thermometer Accuracy ±1.0°C

Identical to Cat. No. 4049 but with 1/2-inch-diameter metal disk at end of probe for surface measurements



Traceable® Waterproof Food Thermometer

Traceable® Waterproof Food Thermometer's membrane switches, ABS body, and stainless steel probe make it ideal for food labs, food processing, food preparation, and brewing. Waterproof construction allows it to be used in labs, plants, wash-down areas, and the field. Unit eliminates the dangers inherent in breakable glass and toxic mercury thermometers.

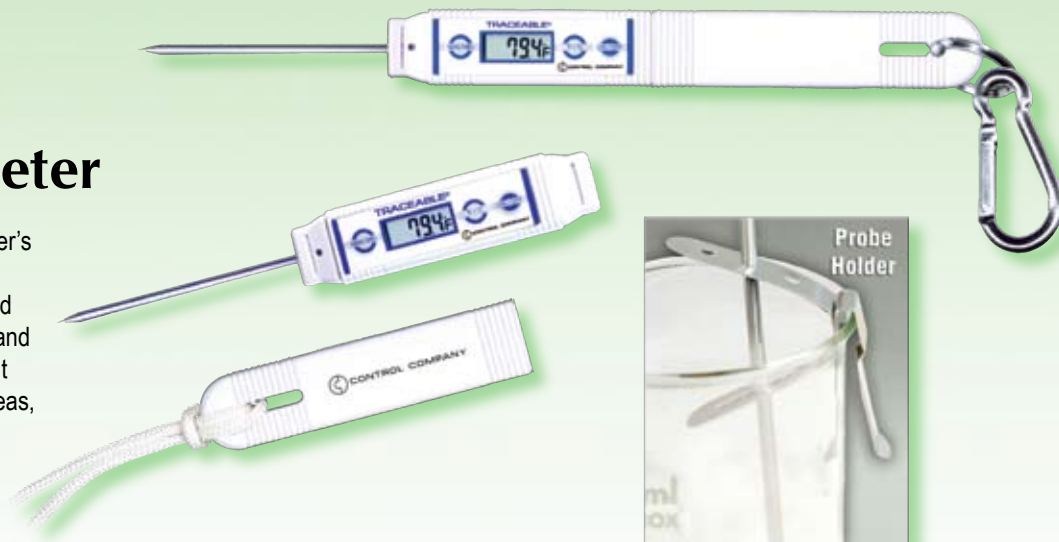
Range is -58 to 572°F and -50 to 300°C, resolution is 0.1° from -20 to 200° (1° otherwise), and accuracy is ±1.5°C. Ultra™ model accuracy is ±0.4°C at tested points. At the touch of a button, it displays minimum and maximum readings over any period.

Unique holder allows probe to be positioned at any height while attached to beakers, stainless cylinders, or vats. Flat-profile design, weight of a single ounce, and built-in pocket clip make it ideal for carrying in a shirt pocket. Probe guard snaps to handle to extend overall length to 10¾ inches. Readings are updated every second.

To assure accuracy an individually serial-numbered Traceable® Certificate is provided from our ISO 17025 calibration laboratory accredited by A2LA. It indicates traceability to standards provided by NIST (National Institute of Standards and Technology). Supplied with probe holder, key chain, and lanyard. Large, bright LCD is ¼-inch-high. Operates continuously for 1½ years on supplied replaceable silver-oxide battery. Size: stem length, 3½ inches; stem diameter, 0.14 inches; overall length, 7¼ inches. Weight is 1 ounce.

Cat. No. 4420
Traceable® Waterproof Food Thermometer with holder Accuracy ±1.5°C

Cat. No. 4421
Traceable® Ultra™ Waterproof Food Thermometer with holder Accuracy ±0.4°C



Traceable® Food/Waterproof/ Piercing Thermometer



New piercing thermometer measures the internal temperature of stored, frozen, or prepared food. Stainless-steel probe is ideal for use in soil, brewing, food processing, refrigeration, and pharmaceutical applications. Waterproof construction allows it to be used in labs, plants, wash-down areas, and the field. Manufactured to be drop-proof from 5 feet. Eliminates the dangers inherent in breakable glass and toxic mercury thermometers.

Wide range covers 99 percent of routine temperature measurements: -58 to 536°F and -50 to 280°C. Resolution is 0.1° from -20 to 200° (1° outside this range). Accuracy is ±1°C between -20 to 100°C. Ultra™ model accuracy is ±0.4°C at tested points. Reading is updated every second.

Traceable to NIST for accuracy

To assure accuracy an individually serial-numbered Traceable® Certificate is provided from our ISO 17025 calibration laboratory accredited by A2LA. It indicates traceability to standards provided by NIST (National Institute of Standards and Technology).

Large, bright, highly readable LCD display is ¼-inch-high. Stem dimensions: 0.19 inch diameter and 8-inch length. Unit dimensions: 9½-inch overall length, 3¼-inch-width, and 1-inch depth. Weight is 1¼ ounces. Supplied with silver-oxide battery and Traceable® Certificate. Replacement battery Cat. No. 1039.

Cat. No. 4370 Traceable® Food/Waterproof/Piercing/Drop-proof Thermometer
Accuracy ±1.0°C

Cat. No. 4369 Traceable® Ultra™ Food/Waterproof/Piercing/Drop-proof Thermometer
Accuracy ±0.4°C



Traceable® Mini-Thermometer

So easy—no directions needed

Business-card size is perfect to carry with you. Fits in tool kit, briefcase, or coat pocket. Measures only 3 x 2 x ½ inches and weight is just 1 ounce. Small but powerful unit displays from -58 to 302°F and -50 to 150°C, with a resolution of 0.1° between -20 and 200°. Accuracy is ±1°C between -20 to 100°C.

Traceable to NIST for accuracy

To assure accuracy an individually serial-numbered Traceable® Certificate is provided from our ISO 17025 calibration laboratory accredited by A2LA. It indicates traceability to standards provided by NIST (National Institute of Standards and Technology).

Easy-to-read digits are ⅜-inch-high. Stainless-steel probe (0.14-inch diameter x 7-inch length) is resistant to most chemicals. Cable (18-inch length) wraps into a slot around unit and probe clips to unit for easy storage. Size is 3 x 2 x ½ inches. Weight is 1 ounce. Supplied with a Traceable® Certificate and 1-year silver-oxide battery. Replacement battery Cat. No. 1039.

Cat. No. 4146 Traceable® Mini-Thermometer

Traceable® Digital Thermometer

Affordable routine thermometer now has extra features

At the touch of a button, display temperatures from -58.0 to 500.8°F and -50.0 to 260.0°C, switch from °F to °C, or set high/low alarms.



Ideal for all solutions

This is the thermometer to use in foods, soils, cuvetts, water baths, wastewater, and incubators. Resolution is 0.1° and accuracy is ±1°C.

Always-on monitoring

Thermometer monitors temperature around the clock. Single battery runs continuously for 1 year. One-half-inch high display is readable from 10 feet.

Thermometer automatically "watches" solutions. Both a high and low alarm may be programmed in 1° increments. When temperature rises above or falls below set points, a 1-minute audible alarm signals an out-of-range condition. Alarm automatically resets when temperature returns to "in-range" reading. Alarm mode may be switched off when not required.

Timer counts down from 99 hours, 59 minutes and may be set 1-minute increments. When zero is reached, a 1-minute alarm sounds, and "TIMER" flashes until a button is pressed.

Traceable to NIST for accuracy

To assure accuracy an individually serial-numbered Traceable® Certificate is provided from our ISO 17025 calibration laboratory accredited by A2LA. It indicates traceability, for temperature only, to standards provided by NIST (National Institute of Standards and Technology). Probe clips to unit for handy storage. Stainless steel probe has a diameter of 0.14 inch, a length of 7¼ inches, and a cable length of 3 feet. Size is 2 x 4 x ½ inches and weight is 3 ounces. Comes with flip-open stand for bench use. Supplied complete with probe, AAA battery, and Traceable® Certificate. Replacement battery Cat. No. 1105.

Cat. No. 4045 Traceable® Digital Thermometer

Traceable® Memory/Waterproof Thermometer

Waterproof data-log thermometer with alarm

Make those scribbled, hard-to-decipher records on scratch paper a thing of the past.

Traceable® ten-memory data-log waterproof thermometer captures ten temperature readings, stores them in memory, and recalls them on command. No paper needed.

Covers 99 percent of routine temperature measurements: -58 to 572°F and -50 to 300°C. Resolution is 0.1° from -20 to 200° (1° outside this range). Accuracy is ±1°C between -20 and 100°C.

Reading updates every second. Perfect for food, agricultural, petrochemical, and pharmaceutical applications.



Features galore

Waterproof construction allows use in wet labs, wash-down areas, and outside. Bold digits (½-inch-high) are easy to read. Features include °F/°C switch, minimum and maximum memory readings over any time period, HOLD switch (freezes the display to capture temperature to memory), and 10 memories. Both high and low audible alarm may be programmed in 1° increments. Sounds 4 seconds every minute until temperature returns to "in-range" reading or alarm-off is pressed.

Traceable to NIST for accuracy

To assure accuracy an individually serial-numbered Traceable® Certificate is provided from our ISO 17025 calibration laboratory accredited by A2LA. It indicates traceability to standards provided by NIST (National Institute of Standards and Technology).

Stainless-steel probe has a ¼-inch diameter, 7½-inch length, and 22-inch cable. Cable stores in case. Shock-resistant ABS plastic case is 6⅝ inches high by 2⅞ inches wide by 1-inch deep. Weight is 4 ounces. Silver-oxide battery supplied. Replacement battery Cat. No. 1039.

Cat. No. 4373 Traceable® Memory/Waterproof Thermometer



Traceable® Kangaroo™ Thermometer

Traceable® Kangaroo™ Thermometer carries the 42" probe cable in a reel-compartment "pouch" inside the case of the unit. Perfect "carry around" portable thermometer fits in a shirt pocket, or use the built-in stand with a bench "foot print" of only 4½ square inches.

Intuitive "never read the directions" operation allows every user to record identical results. Range is -58.0 to 572°F and -50.0 to 300°C with a resolution of 0.1° (between -19.9 to 199.9) otherwise 1° and an accuracy of ±1°C (between -30 and 250°C) otherwise ±2°C.

Unit automatically captures and recalls minimum and maximum temperature readings over any time period. High and low alarm which may be programmed in 1° increments. Alarm sounds every minute until temperature returns to non-alarm condition. Hold button freezes the display to record a current reading.

To assure accuracy an individually serial-numbered Traceable® Certificate is provided from our ISO 17025 calibration laboratory accredited by A2LA. It indicates traceability to standards provided by NIST (National Institute of Standards and Technology).

Stainless steel probe (0.14 inch diameter x 7½ inch length) is resistant to most chemicals. Supplied silver-oxide battery runs continuously for 1 year. Large ¾-inch digits are readable from 20 feet. Compact size is 2½ x 4¾ x ½ inches and weight is 2¾ ounces. Replacement battery Cat. No. 1039.

Cat. No. 4430 Traceable® Kangaroo™ Thermometer

Traceable® Flip-Stick™ Thermometer

New flip-to-open design is easy to use. Stainless-steel probe may be positioned at any angle. Fold-up, protected probe permits carrying on the wrist strap or in a pocket. Big-digit, 3/4-inch-high display may be viewed at a glance. Shockproof in drop tests up to 5 feet.

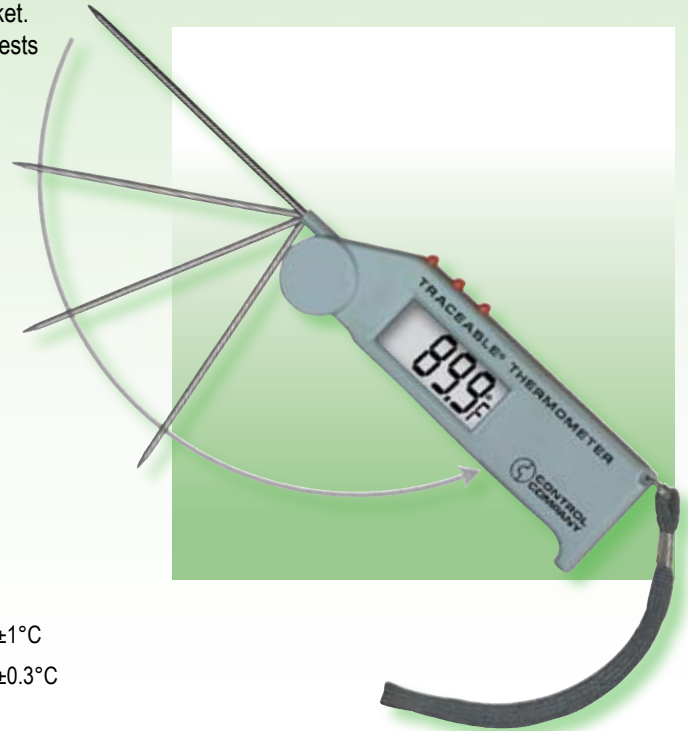
Reading is updated every second

Features include °F/°C switch, minimum and maximum memory readings over any time period, and a HOLD switch (freezes the display to capture a temperature). Wide range covers 99 percent of routine temperature measurements in °F and °C: -58 to 572°F and -50 to 300°C. Resolution is 0.1° from -20 to 200° (1° outside this range). Accuracy is ±1°C between -20 and 100°C. Ultra™ model accuracy is ±0.3°C at tested points.

Traceable to NIST for accuracy

To assure accuracy an individually serial-numbered Traceable® Certificate is provided from our ISO 17025 calibration laboratory accredited by A2LA. It indicates traceability to standards provided by NIST (National Institute of Standards and Technology). Dimensions are a 0.14 inch stem diameter, 4 1/2-inch stem length, an extended length of 11 inches, 6-inch folded length, width of 5/8-inch and 1 1/2-inch-height. Weight is 2 3/8 ounces. Replacement battery Cat. No. 1105.

- Cat. No. 4372** Traceable® Flip-Stick™ Thermometer Accuracy ±1°C
- Cat. No. 4272** Traceable® Ultra™ Flip-Stick™ Thermometer Accuracy ±0.3°C



Traceable® Full-Scale Thermometer

Readings are updated every second and displayed on a 3/8-inch LCD readout. Magnetic back allows for placement on a metal surface (incubators, freezers, water baths). Unit also incorporates flip-open easel for use on lab bench and spring fastener for clipping to any edge. Stainless-steel probe with piercing tip allows constant exposure to extreme temperatures at the ends of the range.

Traceable to NIST for accuracy

To assure accuracy an individually serial-numbered Traceable® Certificate is provided from our ISO 17025 calibration laboratory accredited by A2LA. It indicates traceability to standards provided by NIST (National Institute of Standards and Technology). Full-Scale Thermometer model switchable temperature ranges are -58 to 500°F and -50 to 250°C. Resolution is 0.1° from -20° to 200° and 1° elsewhere. Full-Scale Thermometer Plus model switchable temperature ranges are -58 to 572°F and -50 to 300°C.



Resolution is 0.1° from -20° to 200° and 1° elsewhere. Plus model also includes the following features: high/low alarm, minimum/maximum memories, and hold.

Dimensions: Thermometer diameter 2.1 inches and 5/16-inch depth; probe length 5 1/2-inch and 0.14 inch diameter; 10 foot cable length. Supplied with a Traceable® Certificate and 1.5V silver-oxide battery for 1 1/2 years of continuous use. Replacement battery Cat. No. 1039.

Cat. No.	Description	Range	Accuracy
4152	Traceable® Full-Scale Thermometer	-58 to 500°F (-50 to 250°C)	±1.0°C between -20 to 100°C
4252	Traceable® Ultra™ Full-Scale Thermometer	-58 to 500°F (-50 to 250°C)	±0.5°C at tested points
4377	Traceable® Full-Scale Plus Thermometer	-58 to 572°F (-50 to 300°C)	±1.0°C between -20 to 100°C
4368	Traceable® Ultra™ Full-Scale Plus Thermometer	-58 to 572°F (-50 to 300°C)	±0.5°C at tested points



Traceable® Alarm Thermometer/Alarm Timer

Unique thermometer/timer with alarms is perfect for monitoring liquids, air/gas, or semi-solids. Measure in °F or °C with a range of 32 to 392°F and 0 to 200°C. Resolution is 1° and accuracy is ±2°C. Triple display simultaneously shows time remaining to zero, probe temperature, and temperature alarm setting. Large, 1½ x 2-inch LCD display may be read from 9 feet away. Two distinctive alarms signal time and temperature.

Alarms for temperatures and time

Temperature alarm may be set in 1° increments. A five-minute alarm sounds continuously when temperature rises above alarm set point. Alarm continues for 5 seconds every minute until switched off or temperature falls below set point. Timer counts down from 24 hours and may be set in 1-minute increments. When zero is reached, a 1-minute alarm sounds, "Time's Up" flashes, and timer begins counting up. For repetitive times, a memory recalls previous setting. Intuitive controls are front-mounted.

Folding display permits any-angle view

Viewing angle is adjustable. Fold-back display panel completely and magnets on back permit vertical mounting.

Metal cable for ovens

Detachable, curved stainless-steel probe has a ¼-inch diameter and 8½-inch length. Metal cable (42 inches) may be placed in an oven or incubator.

Traceable to NIST for accuracy

To assure accuracy an individually serial-numbered Traceable® Certificate is provided from our ISO 17025 calibration laboratory accredited by A2LA. It indicates traceability to standards provided by NIST (National Institute of Standards and Technology). High-impact, chemical-resistant ABS plastic base is 2¾ x 3 x ½ inches, display is 2¾ x 2½ x ½ inches, weight is 4¼ ounces. Supplied with a Traceable® Certificate and AAA battery for 1-year "always-on" monitoring. Replacement battery Cat. No. 1105.

Cat. No. 4147 Traceable® Alarm Thermometer/Alarm Timer

Traceable® Waterproof Thermometer °F/°C

Traceable® thermometer with waterproof case, cable, and probe

Here's the perfect thermometer for wet areas. Case is waterproof and shockproof. Use for round-the-clock monitoring of liquids, air/gas, or semi-solids in freezers, water baths, outdoor tanks, incubators, and refrigerators. Stainless-steel probe is resistant to most laboratory chemicals.

Wide temperature range

Wide range covers 99 percent of the lab's routine temperature measurements: Range is -58 to 572 °F and -50 to 300°C with a resolution of 0.1° from -19.9 to 199.9° (otherwise 1°). Accuracy is ±1°C between -20 and 100°C. Ultra™ model accuracy is ±0.2°C at tested points. "Easy view", ¼-inch-high LCD digits may be read with a glance.

Records minimum/maximum readings

At the touch of a button, memory recalls highest and lowest temperature readings over any time period. Reading updates every second. Solid-state construction eliminates dangers inherent in breakable glass and toxic mercury thermometers.

All-weather compatible

Thermometer operates without fail in rugged conditions and outdoors. Waterproof construction is ideal for wet labs, wash-down areas, and virtually all field applications. Unit is engineered to be shockproof in drop tests up to 5 feet. Stainless-steel probe, 10-foot cable and digital-display housing are all waterproof.

Traceable to NIST for accuracy

To assure accuracy an individually serial-numbered Traceable® Certificate is provided from our ISO 17025 calibration laboratory accredited by A2LA. It indicates traceability to standards provided by NIST (National Institute of Standards and Technology).

May be placed anywhere

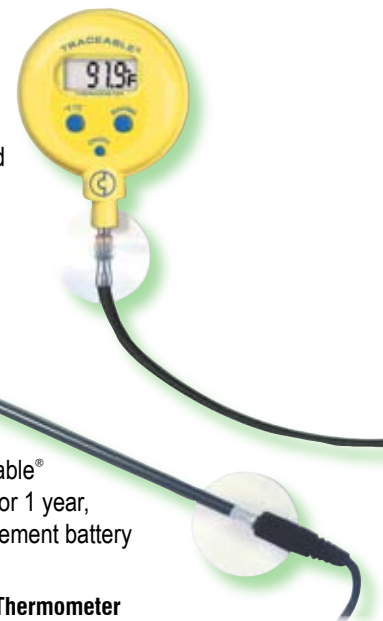
Supplied with suction cups, magnet to attach to metal, and Velcro™ to attach to any surface. Comes with Traceable® Certificate and 1.5 volt silver-oxide battery for 1 year, continuous, "always-on" monitoring. Replacement battery Cat. No. 1102.

Cat. No. 4039

Traceable® Waterproof Thermometer with probe/cable
Accuracy ±1°C

Cat. No. 4339

Traceable® Ultra™ Waterproof Thermometer with probe/cable
Accuracy ±0.2°C



Traceable® Snap-in Module with Probe

Versatile panel-mount module snaps into place or is stand-alone unit. Comes complete with stainless-steel probe featuring an extended 10-foot cable and easy-to-grab handle.

Easy-view, four-digit LCD is ¾-inch-high

Records minimum and maximum memory readings over any time period. Temperature range encompasses virtually all testing requirements: -58 to 572°F and -50 to 300°C. Resolution is 0.1° from -20 to 200°; 1° outside this range. Accuracy is ±1°C between -20 and 100°C. Reading updates every second.

Traceable to NIST for accuracy

To assure accuracy an individually serial-numbered Traceable® Certificate is provided from our ISO 17025 calibration laboratory accredited by A2LA. It indicates traceability to standards provided by NIST (National Institute of Standards and Technology).

Dimensions: 1½-inch-height; 2⅞-inch width; ½-inch-depth. Probe diameter 0.14 inch; probe length (including handle) 2¾ inches; cable length 10 feet. Supplied with a Traceable® Certificate, probe, cable and battery. Replacement battery Cat. No. 1039.

Cat. No. 4376 Traceable® Snap-in Module with probe



Traceable® Universal Thermometer with Alarm

Universal Thermometer is affordable and easy to use

Use this thermometer anywhere. Constructed of shock-resistant ABS plastic. Water-resistant case is sealed with an O-ring gasket to stop dirt, dust, fumes, and water. Perfect for use in lab or plant's worst environment. Splash-proof soft pouch (with shoulder strap) protects unit and provides handy storage for probe. Reads both °F and °C on a jumbo, ¾-inch-high LCD display. Range is -58.0 to 500.0°F and -50.0 to 260.0°C. Resolution is 0.1° and accuracy is ±1.0°C or 1% of reading.

Thermometer monitors temperature continuously for 3 years and features a selectable display update rate of 1 second or 10 seconds. A high and low alarm may be programmed in 1° increments. When temperature rises above or falls below the set points, a 1-minute audible alarm signals an out-of-range condition, and a symbol flashes on the LCD display. The alarm mode may be switched off for use as a non-alarm thermometer. At the touch of a button, memory recalls highest and lowest temperature readings over any time period.

Countdown timer

Countdown timer function may be programmed in 1-minute increments from 99 hours 59 minutes (display shows hours, minutes, and seconds remaining). Unit sounds alarm when zero is reached. Accuracy is 0.01%.



Traceable to NIST for accuracy

To assure accuracy individually serial-numbered Traceable® Certificates for time and temperature are provided from our ISO 17025 calibration laboratory accredited by A2LA. They indicate traceability to standards provided by NIST (National Institute of Standards and Technology).

Total package

Supplied with Traceable® Certificates, probe, soft pouch, and two AAA alkaline batteries. Triple-purpose, stainless-steel probe (liquids, air/gas, and semi-solids) dimensions: diameter 0.14 inch, stem length 4¼ inches, overall length 8 inches. Cable length is 4 feet. Unit measures 2½ x 6½ x 1 inches and weight is 8 ounces. Replacement battery Cat. No. 1105.

Cat. No. 4110 Traceable® Universal Thermometer with Alarm

Cable Probe Thermometer Specifications Chart

Cat. No.	Page No.	Traceable® Certificate NIST/A2LA	Range	Resolution	Accuracy (°C)	Length (inch)		Waterproof Total Unit/Cable/Probe	Unit Size (inches)	Alarm	Display Min/Max
						Probe	Cable				
4048	15	Yes	-58 to 158°F / -50 to 70°C	1°	±1	0.75	120	n/y/y	2¾ x 4¼ x ¾	yes	yes
4127	16	Yes	-58 to 158°F / -50 to 70°C	1°	±1	2.5	120	n/y/y	2¾ x 4¼ x ¾	yes	yes
4227	16	Yes	-40 to 122°F / -40 to 50.0°C	0.1°	±0.5	2.5	120	n/y/y	2¾ x 4¼ x ¾	no	yes
4105	17	Yes	-40 to 176°F / -40 to 80°C	0.5°	±1.0	1.5	72	n/y/y	3½ x 3½ x 1	no	yes
4120	17	Yes	-58 to 158°F / -50 to 70°C	1°	±1	0.75	120	n/y/y	2½ x 2½ x ¾	no	yes
4123	18	Yes	-58 to 158°F / -50 to 70°C	0.1°	±1.0	0.75	120	n/y/y	2¾ x 2¾ x ¾	no	no
4122	18	Yes	32 to 122°F / 0 to 50°C	0.1°	±1.0	N/A	N/A	n/na/na	2¾ x 2¾ x ¾	no	no
4047	18	Yes	-58 to 158°F / -50 to 70°C	0.1°	±1.0	0.75	120	n/y/y	3¼ x 2½ x ⅝	no	no
4142	19	Yes	-58 to 158°F / -50 to 70°C	0.1°	±1.0	0.68	42	n/y/y	4 x 4 x ⅝	yes	no
4140-4141	19	Yes	-58 to 158°F / -50 to 70°C	0.1°	±1.0	0.68	36	n/y/y	3 x 3 x ½	yes	no
4115	20	Yes	-58 to 158°F / -50 to 70°C	0.1°	±1.0	0.75	120	n/y/y	4¼ x 4¼ x ⅝	yes	yes
4126	20	Yes	-58 to 158°F / -50 to 70°C	0.1°	±1.0	0.75	120	n/y/y	2¾ x 4¼ x ¾	no	yes
4144	21	Yes	-58.0 to 158.0°F	0.1°	±1.0	0.2	36	n/y/y	4¼ x 1 x ⅝	no	yes
4145	21	Yes	-50 to 70°C	0.1°	±1.0	0.2	36	n/y/y	4¼ x 1 x ⅝	no	yes



Traceable® Memory Monitoring Thermometer

Perfect thermometer for monitoring liquids, air/gas, or semi-solids in tanks, freezers, water baths, incubators, and refrigerators

Minimum and maximum memory

Triple display simultaneously shows high, low, and current temperatures. Minimum and maximum memory feature permits monitoring conditions overnight, on weekends, or any time period. Unit reads ambient temperature or probe temperature. Range is -58.0 to 158.0°F and -50.0 to 70.0°C. Resolution is 1°. Accuracy is ±1°C.

High- and low-temperature alarm

Alarm may be set in 1° increments. Alarm sounds when temperature rises above or falls below set points. Alarm continues to sound for up to 12 hours, even if temperature returns to non-alarm range.

Traceable to NIST for accuracy

To assure accuracy an individually serial-numbered Traceable® Certificate is provided from our ISO 17025 calibration laboratory accredited by A2LA. It indicates traceability to standards provided by NIST (National Institute of Standards and Technology).

Submersible probe and cable

Unit is supplied with a flip-open stand for lab bench, slot for wall mounting, and Velcro™ to attach to any surface. Easy-view, ½-inch-high digits may be read from 10-feet. Wire-mounting bracket permits easy probe placement. Sensor and 10-foot cable perform accurately even when both are under water. Sensor measures ⅜-inch in diameter and is ¾-inch long. Supplied with an AA alkaline battery for continuous 1-year "always-on" monitoring, probe, and Traceable® Certificate. Case is high-impact chemical-resistant ABS plastic. Unit measures 2¾ x 4¼ x ¾ inches and weight is 4 ounces. Replacement battery Cat. No. 1111.

Cat. No. 4048 Traceable® Memory Monitoring Thermometer



Traceable® Refrigerator/Freezer Thermometer

“Temperature buffered” bottle insulates sensor from rapid temperature changes

Accurately monitor temperatures in freezers, water baths, heating blocks, incubators, and refrigerators with this enclosed “temperature-buffered” sensor. Bottle insulates sensor from rapid temperature changes when door is opened. Thermometer fulfills all CDC thermometer and vaccine thermometer requirements.

Records high/low readings

Triple display simultaneously shows high, low, and current temperatures. Minimum/maximum monitors high/low readings overnight, on weekends, or for any time period—a significant advantage over “current reading-only” glass thermometers. Range is -58 to 158°F and -50 to 70°C with a resolution of 1° and accuracy of $\pm 1^{\circ}\text{C}$.

Signals out-of-range conditions

Alarm feature provides alert when temperature rises above or falls below a set point. Alarm is programmable in 1° increments. Visual and audible signals continue even if temperature returns to non-alarm range. Ten-foot micro-cable permits refrigerator doors to close on it.

Avoids contaminants

Solid-state probe eliminates mercury contamination in refrigerators. Probe is sealed in a miniature bottle ($1 \times 2\frac{1}{2}$ inches) filled with patented nontoxic glycol. Solution is GRAS (generally recognized as safe) by the FDA (Food and Drug Administration). Eliminates concerns about incidental contact with food or drinking water.

Traceable to NIST for accuracy

To assure accuracy an individually serial-numbered Traceable® Certificate is provided from our ISO 17025 calibration laboratory accredited by A2LA. It indicates traceability to standards provided by NIST (National Institute of Standards and Technology).

High-impact, chemical-resistant ABS plastic case is $2\frac{3}{4} \times 4\frac{1}{4} \times \frac{3}{4}$ inches. Weight is 4 ounces. Velcro™ and magnetic strips are provided for mounting of both thermometer and bottle sensor. Supplied with a Traceable® Certificate and AA battery for continuous, 1-year “always-on” monitoring. Replacement battery Cat. No. 1111.

Cat. No. 4127 Traceable® Refrigerator/Freezer Thermometer (pictured left)

Cat. No. 4227 Traceable® Refrigerator/Freezer Thermometer High-Resolution, High-Accuracy and Min/Max Memory (Identical to 4127 but with a range of -40.0 to 122.0°F (-40.0 to 50.0°C) a resolution of 0.1° , an accuracy of $\pm 0.5^{\circ}\text{C}$, and without an alarm.)

Cat. No. 4527 Traceable® 5ml Vaccine Thermometer (Same as Cat. No. 4127 with small 5ml bottle.)

Cat. No. 4627 Traceable® 5ml Vaccine Thermometer (Same as Cat. No. 4227 with small 5ml bottle.) (pictured right)

Traceable® Thermometer with Time/Date Maximum/Minimum Memories

Thermometer displays current, minimum, and maximum temperatures. Most importantly, it captures and shows the exact time and date when the minimum and maximum temperature occurred.

Long-term recording

Ideal for monitoring solutions, refrigerators, and room temperature. Range is -40.0 to 176.0°F and -40.0 to 80.0°C with a resolution of 0.5° and accuracy of $\pm 1^{\circ}\text{C}$. Display's $\frac{3}{8}$ -inch-high digits show min/max of ambient or probe temperature, time of day, and month/day. Thermometer fulfills all CDC thermometer and vaccine thermometer requirements.

Submersible probe

Wire mounting bracket permits easy probe placement. Sensor and 6-foot cable perform accurately even when both are under water. Sensor has $\frac{3}{16}$ -inch diameter and $1\frac{1}{2}$ -inch length.

Traceable to NIST for accuracy

To assure accuracy an individually serial-numbered Traceable® Certificate is provided from our ISO 17025 calibration laboratory accredited by A2LA. It indicates traceability to standards provided by NIST (National Institute of Standards and Technology).

Supplied with a flip-open stand for the bench, a slot for wall mounting, Velcro™ to attach to any surface, a Traceable® Certificate, and AAA alkaline battery for continuous 1-year monitoring. High-impact ABS plastic case is $3\frac{5}{8} \times 3\frac{5}{8} \times 1$ inches and weight is $3\frac{1}{2}$ ounces. Replacement battery Cat. No. 1105.



Cat. No. 4105 Traceable® Thermometer with Time/Date Maximum/Minimum Memory

Cat. No. 4305 Traceable® Thermometer with Time/Date Maximum/Minimum Memory with Bottle

Same as Cat. No. 4105 but supplied with a special glycol-filled bottle probe designed specifically for refrigerator/freezer applications. (See picture insert)

Cat. No. 4605 Traceable® 5ml Vaccine Thermometer with Time/Date Max/Min Memory

(Same as 4305 with small 5ml bottle.)

Traceable® Sentry™ Thermometer °F/°C

Simultaneously displays high/low and current temperature

A triple display constantly shows high, low, and current temperatures. Instantly view if freezer, water bath, or incubator is within temperature spec. Monitor temperature of any experiment—overnight, weekends, even during lunch. Range is -58 to 158°F or -50 to 70°C . Resolution is 1° and accuracy is $\pm 1^{\circ}\text{C}$. Sensor and 10-foot cable may be placed under water, in refrigerator, or freezer. Small cable diameter ($\frac{1}{16}$ -inch) allows refrigerator doors to close on it with no effect. Unplugging the cable activates a sensor inside the unit for monitoring ambient room temperature.

One-button operation is a snap

Simple, one-button operation resets the high/low memories. Probe's wire-mounting bracket permits easy sensor placement. Low battery is signaled on the display. Thermometer fulfills all CDC thermometer and vaccine thermometer requirements.

Traceable to NIST for accuracy

To assure accuracy an individually serial-numbered Traceable® Certificate is provided from our ISO 17025 calibration laboratory accredited by A2LA. It indicates traceability to standards provided by NIST (National Institute of Standards and Technology). Unit's high-impact ABS plastic case has a flip-open stand, wall hanging hook, magnet, and Velcro™ mounting tape. Size is $2\frac{5}{8} \times 2\frac{1}{2} \times \frac{3}{4}$ inches and weight is $1\frac{1}{8}$ ounces. Unit runs continuously for 1 year on the supplied battery. Replacement battery Cat. No. 1039.



Cat. No. 4120 Traceable® Sentry™ Thermometer °F

Cat. No. 4121 Traceable® Sentry™ Thermometer °C

Cat. No. 4322 Traceable® Sentry™ Thermometer °F with Bottle

Same as Cat. No. 4120 but supplied with a special glycol-filled bottle probe designed specifically for refrigerator/freezer applications. (See picture insert)

Cat. No. 4321 Traceable® Sentry™ Thermometer °C with Bottle

Same as Cat. No. 4121 but supplied with a special glycol-filled bottle probe designed specifically for refrigerator/freezer applications. (See picture insert)

Cat. No. 4522 Traceable® Sentry™ 5ml Vaccine Thermometer °F with Bottle

(Same as Cat. No. 4322 with small 5ml bottle.)

Cat. No. 4521 Traceable® Sentry™ 5ml Vaccine Thermometer °C with Bottle

(Same as Cat. No. 4321 with small 5ml bottle.)



Traceable® Monitoring Thermometer

“Always-on” Monitoring Thermometer with 10 feet of submersible cable and probe

Monitor temperatures of liquids, air/gas, and semi-solids from across the room on a giant LCD display. Perfect thermometer for monitoring reagents or solutions in tanks, water baths, incubators, and refrigerators. Reads from -58.0 to 158.0°F and -50.0 to 70.0°C with 0.1° resolution and $\pm 1^{\circ}\text{C}$ accuracy. Reads in $^{\circ}\text{F}$ or $^{\circ}\text{C}$ with the flick of a switch. Unit displays ambient temperature and probe temperature at the touch of a button. Microcomputers and solid-state construction rid lab of glass thermometer breakage and mercury problems. Display updates every 10 seconds, thus eliminating 3-minute “lag” inherent in glass and dial thermometers.

Place everywhere

“Easy view”, $\frac{3}{4}$ -inch-high display may be read from 10 feet. Velcro™ tabs on back allow unit to be placed on ovens, water baths, desiccators, or refrigerators. Ten-foot cable and sensor perform accurately even under water.

Traceable to NIST for accuracy

To assure accuracy an individually serial-numbered Traceable® Certificate is provided from our ISO 17025 calibration laboratory accredited by A2LA. It indicates traceability to standards provided by NIST (National Institute of Standards and Technology). Sensor diameter is $\frac{3}{16}$ -inch. Unit is $3\frac{1}{4} \times 2\frac{1}{4} \times \frac{5}{8}$ inches. Weight is $2\frac{1}{2}$ ounces. Supplied with a Traceable® Certificate, sensor bracket, Velcro™ tabs, flip-open stand for bench use, and 1-year AAA battery. Replacement battery Cat. No. 1105.

Cat. No. 4047 Traceable® Monitoring Thermometer

Traceable® Solar-Powered Thermometer

Thermometer is “always-on” and runs for years powered from light in lab or plant. Efficient and cost-saving solar panels make unit environmentally attractive. Monitor ambient temperature or temperatures of liquids, air/gas, and semi-solids. View from across the room on a large LCD display.

Dedicate to one test

Perfect thermometer for measuring temperatures of solutions in tanks, water baths, incubators, and refrigerators. Sensor and cable perform accurately even when under water. It's ideal for food inspection, petroleum tests, quality control, biomedical studies, R/D analysis, and wastewater tests. Reads in $^{\circ}\text{F}$ or $^{\circ}\text{C}$ at the flick of a switch. Display updates every 10 seconds to save time and eliminate 3-minute “lag” inherent in glass and dial thermometers. Resolution is 0.1° . Accuracy is $\pm 1^{\circ}\text{C}$. Thermometer sits on bench, has slot for wall mounting, and is supplied with Velcro™ to attach to any surface.

Traceable to NIST for accuracy

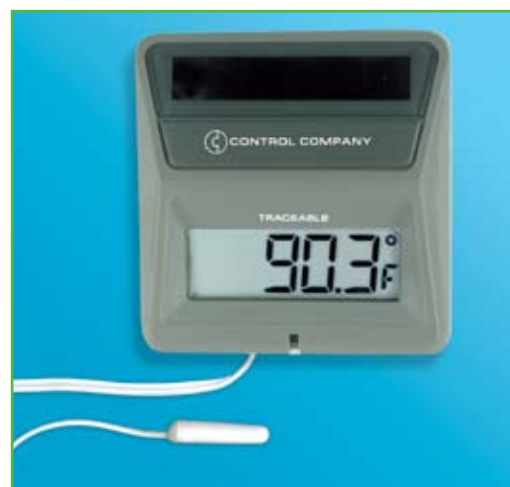
To assure accuracy an individually serial-numbered Traceable® Certificate is provided from our ISO 17025 calibration laboratory accredited by A2LA. It indicates traceability to standards provided by NIST (National Institute of Standards and Technology). Supplied with solar panels, backup battery for dim areas, external $\frac{3}{16}$ -inch-diameter sensor, and 10-foot cable. Unit measures $2\frac{3}{4} \times 2\frac{3}{4} \times \frac{3}{4}$ inches and weight is 2 ounces. Replacement battery Cat. No. 1039.

Cat. No. 4123 Traceable® Solar-Powered Thermometer, External

Probe sensor range is -58.0 to 158°F and -50.0 to 70.0°C .

Cat. No. 4122 Traceable® Solar-Powered Thermometer, Internal

Internal ambient sensor range is 32.0 to 122°F and 0 to 50.0°C .





Traceable® Big-Digit 4-Alert Alarm Thermometer °C/°F

Large, 1½-inch-high digits can be viewed from across the lab. Unique Four-Alert Thermometer provides user with precise monitoring of the slightest change in temperature. Temperature range is -58.0 to 158.0°F or -50.0 to 70.0°C, resolution is 0.1°, and accuracy is ±1°C. Front panel controls are easy to set. Unit displays both probe and ambient temperature.

Warns if too hot or cold

Alarm will activate at a temperature above a setting, below a setting, between two settings, or outside two settings. Green/red lights blink and an alarm sounds when an out-of-range condition is detected. Continuous alarm sounds every minute for 5 seconds until the temperature returns to a non-alarm condition or until the alarm is turned off.

Traceable to NIST for accuracy

To assure accuracy an individually serial-numbered Traceable® Certificate is provided from our ISO 17025 calibration laboratory accredited by A2LA. It indicates traceability to standards provided by NIST (National Institute of Standards and Technology).

No-hassle mounting

Supplied with self-adhesive wall mount and a flip-open lab bench stand. Sensor has 0.2-inch diameter by ¾-inch length. Supplied with an accessory, "place anywhere" sensor-holding suction cup. Cable length is 3½ feet. ABS plastic shock-resistant and chemical-resistant case is 4 x 4 x ¾ inches. Weight is 4¼ ounces. Replacement battery Cat. No. 1105.

Cat. No. 4142 Traceable® Big-Digit Four-Alert Alarm Thermometer °C

Cat. No. 4143 Traceable® Big-Digit Four-Alert Alarm Thermometer °F

Traceable® Four-Alarmer Thermometer °C/°F

Thermometer has four unique alarm configurations: alarm triggers when temperature is higher than set point, lower than set point, outside of high and low set points, or inside of high and low set points. This allows precise monitoring of any appliance (water bath, incubator, refrigerator), or experiment.

Green/red lights blink and alarm sounds when out-of-range condition is detected. Continuous alarm sounds every minute for 5 seconds until the temperature returns to non-alarm condition or until alarm is turned off.

Controls on front panel

Temperature range is -58.0 to 158.0°F or -50.0 to 70.0°C with a resolution of 0.1° and an accuracy of ±1°C. One-half-inch-high digits are readable from 10 feet. Front panel controls make it easy to set.

Traceable to NIST for accuracy

To assure accuracy an individually serial-numbered Traceable® Certificate is provided from our ISO 17025 calibration laboratory accredited by A2LA. It indicates traceability to standards provided by NIST (National Institute of Standards and Technology).

Durable design

High-impact, chemical-resistant ABS plastic case is 3 x 3 x ½ inches. Sensor diameter is 0.2 inches by ¾-inch length. Cable is 3 feet long. Weight is 2¼ ounces. Supplied with a removable suction cup, flip-open lab bench stand, self-adhesive wall mount, Traceable® Certificate and battery. Replacement battery Cat. No. 1105.

Cat. No. 4140 Traceable® Four-Alarmer Thermometer °C

Cat. No. 4141 Traceable® Four-Alarmer Thermometer °F





Traceable® Radio-Signal Remote Thermometer

Read temperatures 100 feet away

Module transmits on a radio frequency of 433 MHz, penetrating walls, with a range of 100 feet. May be set to channel 1, 2, or 3. Data is transmitted every 30 seconds. Main unit can receive and display data from 3 different remote modules. Display's trend indicator shows whether temperature is rising or falling. Minimum and maximum memory display allows monitoring of conditions over short or long periods, including overnight or weekends. An alarm may be set in 1° increments. The alarm sounds when the temperature rises above or falls below the two set points. Jumbo digits (1 1/8 inches high) may be read from 25 feet. Cases are high-impact, chemical-resistant ABS plastic. Thermometer fulfills all CDC thermometer and vaccine thermometer requirements.

Read up to three modules

Total of three modules may be used with the main receiver. The splashproof remote module is supplied an internal and external sensor. External sensor (3/16 inch diameter by 3/4 inch long) and 10-foot cable perform accurately even when both are under water. Switchable °F/°C range is -58.0 to 158.0°F and -50 to 70.0°C. Resolution is 0.1° and accuracy is ±1°C.

Traceable to NIST for accuracy

To assure accuracy an individually serial-numbered Traceable® Certificate is provided from our ISO 17025 calibration laboratory accredited by A2LA. It indicates traceability to standards provided by NIST (National Institute of Standards and Technology). Supplied with one main unit 4 1/4 x 4 1/2 x 5/8 inches, weight is 6 oz, one remote module 2 1/2 x 3 1/2 x 3/4 inches, weight is 3 oz., internal probe, and external probe/cable. Also supplied with a Traceable® Certificate, flip-open stand, wall bracket, Velcro™ to attach to any surface, two AA and two AAA alkaline batteries (batteries operate continuously for eight months). Replacement AA battery Cat. No. 1111. Replacement AAA battery Cat. No. 1105.

Cat. No. 4115 Traceable® Radio-Signal Remote Thermometer with Module

Cat. No. 4116 Additional Traceable® Remote Module

Cat. No. 4117 Traceable® Stainless-steel Probe-

Triple-purpose probe (liquids, air/gas, semisolids) has 1/8-inch diameter, 8 1/2 inches overall length and a cable length of 5-feet.

Cat. No. 4118 Traceable® External Bottle Probe-

Probe sealed in a mini bottle filled with a patented nontoxic glycol solution for "temperature buffering." Monitors products subjected to door openings in freezers, incubators, and refrigerators.

Cat. No. 4618 Traceable® 5ml Vaccine Bottle Probe-

Same as Cat. No. 4118 with small 5ml bottle

Traceable® Big-Digit Memory Thermometer

Big-digit thermometer w/ dual min/max memory

Easy-view, 1 1/8-inch-high jumbo digits may be read from 25 feet. Dual display permits reading ambient and probe temperatures simultaneously. Minimum/maximum memory readings may be displayed or reset at the touch of a button.

External probe range is -58.0 to 158.0°F/ -50.0 to 70.0°C. Ambient sensor (inside case) range is 23.0 to 122.0°F/-5.0 to 50.0°C. Resolution is 0.1° and accuracy is ±1°C. This stable and accurate unit requires no adjustment or maintenance. External (3/16-inch diameter) probe is supplied with a 10-foot cable. Both cable and sensor perform accurately when under water. "Always-on" (no off switch) instrument makes constant readings.

Traceable to NIST for accuracy

To assure accuracy an individually serial-numbered Traceable® Certificate is provided from our ISO 17025 calibration laboratory accredited by A2LA. It indicates traceability to standards provided by NIST (National Institute of Standards and Technology). Unit is equipped with a flip-open stand, a slot for wall mounting, and Velcro™ to attach to any surface. Supplied with a Traceable® Certificate and AAA battery for continuous, 1-year "always-on" monitoring. Case is high-impact, chemical-resistant ABS plastic. Size is 2 3/4 x 4 1/4 x 3/4 inches and weight is 4 ounces. Replacement battery Cat. No. 1105.

Cat. No. 4126 Traceable® Big-Digit Memory Thermometer

Traceable® Stick Thermometer



Minimum/maximum memory thermometer measures liquid, air/gas, or semi-solids to a resolution of 0.1°. Range is -58.0 to 158.0°F or -50 to 70°C with an accuracy of ±1°C. At the touch of a button recall highest or lowest temperatures achieved over any time period. Unit simultaneously displays probe and ambient temperatures.

To assure accuracy an individually serial-numbered Traceable® Certificate is provided from our ISO 17025 calibration laboratory accredited by A2LA. It indicates traceability to standards provided by NIST (National Institute of Standards and Technology).

Stick Thermometer's submersible sensor is 0.2 inch in diameter and submersible cable length is 3 feet. One ounce weight makes it perfect for carrying in the pocket, or it may be placed anywhere using the supplied self-adhesive Velcro tabs. Furnished silver-oxide battery powers unit continuously for a year. Chemical-resistant and shockproof ABS plastic case is 4¼ x 1 x 5⁄8 inches.

Cat. No. 4144

Traceable® Stick Thermometer °C

Cat. No. 4145

Traceable® Stick Thermometer °F

Econo Traceable® Refrigerator Thermometer



Inexpensive refrigerator thermometer switchable range is from 14.2 to 131.0°F and -9.9 to 55.0°C with a resolution of 0.1°. Accuracy is ±1°C in the range of 0 to 25°C and ±1.5°C outside range. Ultra™ model accuracy is ±0.5°C at tested points. Always-hold™ secure suction cup on the back allows the unit to be located anywhere inside the refrigerator; also supplied with place-anywhere Velcro™. Display updates every 30 seconds. This allows capturing a reading without any effect from an open refrigerator door. Wide range of the thermometer also makes it an ideal unit to monitor temperatures in storerooms, labs, offices, hoods, and cabinets.

Traceable to NIST for accuracy

To assure accuracy an individually serial-numbered Traceable® Certificate is provided from our ISO 17025 calibration laboratory accredited by A2LA. It indicates traceability to standards provided by NIST (National Institute of Standards and Technology). Easy-view, see-through-display LCD digit height is ½-inch. Supplied with long-life 1.5-volt silver-oxide battery. Size is 1 x 2½ x 3⁄8 inches. Weight is ½ ounce. Replacement battery Cat. No. 1102.

Cat. No. 4157

Econo Traceable® Refrigerator Thermometer

Accuracy ±1°C

Cat. No. 4158

Econo Traceable® Ultra™ Refrigerator Thermometer

Accuracy ±0.5°C

Traceable® Big-Digit See-Thru™ Thermometer

Use the Traceable® Big-Digit See-Thru™ Thermometer outdoors, in storerooms, at fume hoods, labs, clean rooms, refrigerators, and plant areas. May be attached to the outside of a window to view outdoor temperatures. Transparent display with 1¼-inch-high digits show current and minimum/maximum temperatures. Automatically clears and updates the min/max readings daily. Range is -13.0 to 158.0°F or -25.0 to 70.0°C with a resolution of 0.1° and an accuracy of ±1°C.

Traceable to NIST for accuracy

To assure accuracy an individually serial-numbered Traceable® Certificate is provided from our ISO 17025 calibration laboratory accredited by A2LA. It indicates traceability to standards provided by NIST (National Institute of Standards and Technology).

Supplied with mounting tape, Velcro™, AAA battery, and Traceable® Certificate. Size is 3½ x 4¼ x 3⁄4 inches. Weight is 8 ounces. Replacement battery Cat. No. 1105.

Cat. No. 4159 Traceable® Big-Digit See-Thru™ Thermometer °F

Cat. No. 4160 Traceable® Big-Digit See-Thru™ Thermometer °C



Type-K Probe Thermometer Specifications Chart

Cat. No.	Page No.	Traceable® Certificate NIST/A2LA	Range	Resolution	Accuracy (°C)	Length (inch)		Waterproof Total Unit/ Cable/Probe	Unit Size (inches)	Alarm	Display Min/Max
						Probe	Cable				
4025-4026	22	Yes	-40 to 2000°F / -40 to 1200°C	1°	±1	0.13	48	n/y/y	3 x 5 x 1	no	no
4232-4233	22	Yes	-58 to 1382°F / -50 to 750°C	1°	±0.75% + 1°C	0.13	48	n/n/y	2¾ x 4¼ x ¾	no	no
4015	23	Yes	-328 to 2498°F / -200 to 1370°C	0.1° / 1°	±1.0	0.13	48	n/y/y	3¼ x 7 x 1½	yes	yes
4135	23	Yes	-58 to 1999°F / -50 to 1300°C	1°	±0.3% + 1°C	0.13	48(2)	n/y/y	2¾ x 5¼ x 1¼	no	max only
4134	24	Yes	-58 to 1999°F / -50 to 1300°C	1°	±0.3% + 1°C	0.13	48	n/y/y	2¾ x 5¼ x 1¼	no	max only
4029	24	Yes	-50 to 1999°F / -50 to 1230°C	0.1°	±0.3% + 1°C	0.13	48	n/y/y	3 x 7 x 1¼	no	yes
4137	25	Yes	-50 to 1999°F / -50 to 1230°C	0.1°	±0.75% + 1°C	0.13	48(2)	n/y/y	7 x 3 x 1¼	no	yes
4007	26	Yes	-350 to 2200°F / -212 to 1200°C	0.1°	±1.0	6.25	40	n/n/y	3½ x 5½ x 1¼	no	yes
4425	27	Yes	-58.0 to 2372°F / -50.0 to 1300°C	0.1°	±0.75% + 1°C	5	40	n/n/y	2¾ x 5½ x 1¼	no	no



Traceable® Expanded-Range Thermometer °F/°C

Shirt pocket-size, Expanded-Range Thermometer is inexpensive

Shockproof, pocket-size thermometer is ideal for lab, plant, and field use. Expanded-range, fast-response, and one-switch operation make it the perfect routine thermometer. Range is -40 to 2000°F or -40 to 1200°C. Resolution is 1° and meter only accuracy is ±(1°C + 1%) from 0 to 750°C. Two probes allow simultaneous monitoring of two tests. This thermometer is designed for simple operation. Three-position switch indicates probe 1, probe 2, or off.

Traceable to NIST for accuracy

To assure accuracy an individually serial-numbered Traceable® Certificate is provided from our ISO 17025 calibration laboratory accredited by A2LA. It indicates traceability to standards provided by NIST (National Institute of Standards and Technology).

As small as a 3x5-inch card

Comes ready to use with two fast-response, Type-K beaded sensors with 4-foot cable, and 9-volt battery. Size is 3 x 5 x 1-inch and weight is 4 ounces. Replacement battery Cat. No. 1112.

Cat. No. 4025 Traceable® Expanded-Range Thermometer °F

Cat. No. 4026 Traceable® Expanded-Range Thermometer °C

Cat. No. 4138 Easy-Use Adaptor - 115 VAC

(For a complete description of type-k accessory probes see page 26.)

Traceable® Pocket-Size™ Type-K Thermometer

Shockproof, pocket size thermometer is ideal for lab, plant, and field use. New microchip design provides ultra low cost unit. Wide-range, fast-response, and one-switch operation make it the perfect routine thermometer. It is compatible with all type-K probes. Range is -50 to 750°C or -58 to 1382°F, with a resolution of 1° and meter accuracy of ±(1°C + .75%) between 0 to 500°C and ±(1°C + 1%) 500 to 750°C. Below 0 accuracies are: -20°C ± 2°C, -40°C ± 4°C, and -50°C ± 5°C.

To assure accuracy an individually serial-numbered Traceable® Certificate is provided from our ISO 17025 calibration laboratory accredited by A2LA. It indicates traceability to standards provided by NIST (National Institute of Standards and Technology).

Comes ready to use with a fast-response, Type-K probe with beaded sensor, 4-foot cable, leatherette case, and 9-volt battery (150 to 200 continuous hours). Size is 2¾ x 4¼ x ¾ inches and weight is 4 ounces. Replacement battery Cat. No. 1112.

Cat. No. 4232 Traceable® Pocket-Size™ Type-K Thermometer °F

Cat. No. 4233 Traceable® Pocket-Size™ Type-K Thermometer °C

(For a complete description of type-k accessory probes see page 26.)



Traceable® Total-Range Thermometer

Total-Range Thermometer reads -328 to 2498°F

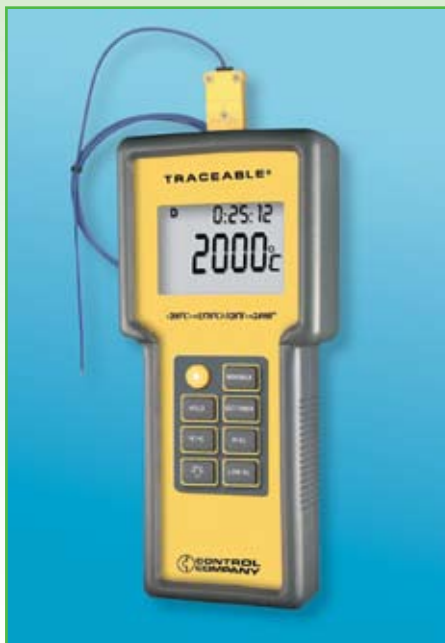
Thermometer reads from -328 to 2498°F and -200 to 1370°C with a resolution of 0.1° and 1°. Switch from °F to °C at the touch of a button. Jumbo-size, 3/8-inch-high digits are readable from 10 feet away. Unit features HOLD button that freezes display to capture current reading. Batteries power unit for 1 year of routine use.

Seals out moisture

Total-Range Thermometer is one of the most technically advanced, fastest-reading, yet easy-to-use thermometers ever designed. A microprocessor updates the display twice a second. Rugged unit is constructed of shock-resistant ABS plastic. Water-resistant case is sealed with an O-ring gasket to stop dirt, dust, fumes, and water— perfect for use in lab or plant's worst environment.

Use with all Type-K probes

Meter only accuracy: $\pm 1^\circ\text{C}$ between -50°C to 740°C , otherwise $\pm 2^\circ\text{C}$. Uses all Type-K thermocouple probes.



Memories, alarms, min/max and timer

At the touch of a button, recall minimum and maximum temperature readings captured during any time. Alarm function may be set in 1° increments. Alarm sounds when the temperature rises above or falls below high/low set points. Countup timer alarm may be set from 23 hours 59 minutes to 1 minute. Sound signals when time is reached. Back-lighting button permits reading in dark areas.

Traceable to NIST for accuracy

To assure accuracy an individually serial-numbered Traceable® Certificate is provided from our ISO 17025 calibration laboratory accredited by A2LA. It indicates traceability for temperature only to standards provided by NIST (National Institute of Standards and Technology).

Designed for rough handling

Comes ready to use with PVC protective casing with flip-out stand, Traceable® Certificate, three AAA batteries, and fast-response, Type-K beaded probe with cable length of 4 feet. Size is 3¼ x 7 x 1½ inches and weight is 8 ounces. Replacement battery (3 each) Cat. No. 1105.

Cat. No. 4015 Traceable® Total-Range Thermometer

(For a complete description of type-k accessory probes see page 26.)

Traceable® 2-Channel Thermometer

Provides recessed front panel adjustable offsets on two channels allowing user to adjust thermometer exactly to a specific temperature, in-house calibration, or particular sensor for increased accuracy.

Shockproof rubber case

Provided rubberized case makes it a virtually "environment-proof" instrument for all weather, shock, and abusive conditions. Supplied with Velcro™ wrist strap. Built-in stand makes it ideal for lab bench.

Temperatures to 1999°F

Large LCD display shows temperatures of probe 1, probe 2, or the difference (delta) of the two probes. Readout in °F and °C. Temperature range is -58 to 1999°F and -50 to 1300°C. Resolution is 1°. Meter only accuracy is $\pm 0.3\%$ plus 1°C. Extra-large, 3/4-inch-high display is readable from 12 feet.

Traceable to NIST for accuracy

To assure accuracy an individually serial-numbered Traceable® Certificate is provided from our ISO 17025 calibration laboratory accredited by A2LA. It indicates traceability to standards provided by NIST (National Institute of Standards and Technology).

Stores highest temperatures reached

Max button captures the highest reading achieved. HOLD button freezes display to capture current reading. Uses all Type-K thermocouples. Supplied with two immediate-response probes which indicate temperature changes in less than one second. Size is 2¾ x 5¼ x 1¼ inches and weight is 5½ ounces. Replacement battery Cat. No. 1112.

Cat. No. 4135 Traceable® Two-Channel Thermometer with Offsets

(For a complete description of type-k accessory probes see page 26.)



Traceable® Digital Thermometer with Recorder Output

Recorder jack provides a millivolt signal output. This enables thermometer to be used with any chart recorder, strip recorder, or computer that accepts millivolt signals.

Output results on demand

Monitor conditions in chambers, clean rooms, food processing, scientific labs, and all temperature-sensitive manufacturing operations. Recorder output provides a hard copy for today's stringent QC documentation requirements. Output specifications are 1 mV output per degree in 0.1° display mode and 0.1 mV output per degree in the 1° display mode. Range is -50 to 1999°F and -50 to 1300°C, with a meter only accuracy of $\pm 0.3\%$ of the reading plus 1°C. Resolution is 0.1° from -50.0 to 199.9° and is 1° for other readings.

Stores highest readings reached

Maximum button captures the highest reading achieved. HOLD button freezes display to capture current reading. Uses all Type-K thermocouples. Large, bright, 1/2-inch-high, four-digit LCD display can be read from 10 feet away. Handheld unit is completely portable and designed for years of dependable and reliable service.

Traceable to NIST for accuracy

To assure accuracy an individually serial-numbered Traceable® Certificate is provided from our ISO 17025 calibration laboratory accredited by A2LA. It indicates traceability to standards provided by NIST (National Institute of Standards and Technology). Comes ready to use with fast-response, Type-K beaded probe with 4 foot cable length, 9-volt battery, recorder output jack, and Traceable® Certificate. Size is 2 3/4 x 5 1/4 x 1 1/4 inches and weight is 5 1/2 ounces. Replacement battery Cat. No. 1112.

Cat. No. 4134 Traceable® Digital Thermometer with Recorder Output

Cat. No. 4138 Easy-Use Adaptor - 115 VAC

(For a complete description of type-k accessory probes see page 26.)



Traceable® Dual-Channel Thermometer

Thermometer shows two probe readings and the difference between readings

Monitor temperatures using two probes. Dual display simultaneously shows temperature of both probes or temperature of one probe and the difference between probes (T1-T2). With two separate sensors you can note temperature variations in an incubator/oven or temperature gradations in a water bath. Sense changes between inlet and outlet temperatures in any system. HOLD switch allows the display to be frozen to capture readings.

Temperature range to 1999°F

Temperature ranges are -50.0 to 1999°F and -50.0 to 1230°C. Resolution is 0.1° under 200° and 1° above 200°. Meter only accuracy is 0.3% plus 1°C. Extra-large, 3/4-inch-high display is readable from 15 feet. Uses all Type-K thermocouple probes.



Chemical and shock-resistant case

Ideal for quality control, measuring temperatures in wastewater, petroleum products, and biotechnology applications. Rugged case is chemical and shock-resistant ABS plastic.

Traceable to NIST for accuracy

To assure accuracy an individually serial-numbered Traceable® Certificate is provided from our ISO 17025 calibration laboratory accredited by A2LA. It indicates traceability to standards provided by NIST (National Institute of Standards and Technology).

Comes ready to use

Supplied with 9-volt alkaline battery and two fast-response, Type-K beaded probes, which indicate temperature changes in less than one second. Cable length is 4 feet. Measures 3 x 7 x 1 1/4 inches and weight is 9 ounces. Replacement battery Cat. No. 1112.

Cat. No. 4029 Traceable® Dual-Channel Thermometer

Cat. No. 4138 Easy-Use Adaptor - 115 VAC

(For a complete description of type-k accessory probes see page 26.)



Traceable® Double Thermometer with Computer Output

Serial RS-232 output allows thermometer to be connected to computer or data logger for capturing and storing results. Resolution is 0.1° (from -50.0 to 199.9°F) and 1° in both °C and °F over the entire range of -50 to 1999°F or -50 to 1230°C. Meter only accuracy is ±0.75% + 1°C. Memory recalls maximum and minimum readings. HOLD button freezes display for reading later. Dual channels permit monitoring two separate probes. Dual display simultaneously shows temperature of both probes or temperature of one probe and the difference between probes (T1-T2).

Traceable to NIST for accuracy

To assure accuracy an individually serial-numbered Traceable® Certificate is provided from our ISO 17025 calibration laboratory accredited by A2LA. It indicates traceability to standards provided by NIST (National Institute of Standards and Technology).

Supplied with two probes

Digits are 3/4-inch high. Case is impact-resistant ABS plastic. Uses all Type-K thermocouple probes. Supplied with two instant (less than one second) response probes (48-inch cable), 9-volt battery, and Traceable® Certificate. Size is 7 x 3 x 1 1/4 inches and weight is 9 1/2 ounces. Replacement battery Cat. No. 1112.

Cat. No. 4137 Traceable® Double Thermometer



Computer Output

Cat. No.	Description
4136	Data Acquisition System — Complete DAS-3™ Data Acquisition System captures, displays, and stores readings on any IBM-compatible PC. Information can be imported into databases. Diskette (3.5 inches) and 5-foot serial cable with D9F plug.
4325	Data Logger (see complete description below)
4138	Easy-Use Adaptor - 115 VAC

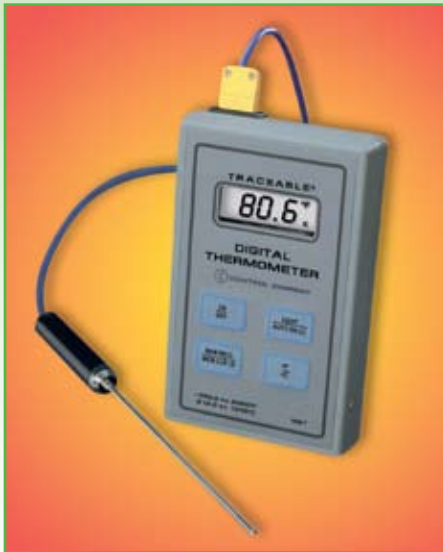


Data Logger

Accessory Data Logger— Complete DAS-4™ System captures and stores up to 8000 bytes (over 1000 readings). Readings may be taken at intervals from 1 second to 8 hours. Stored readings may be downloaded to any PC and viewed. Can be read as-is or imported to spreadsheets, databases, and statistical programs. Supplied complete with 36-inch serial cable with D9F computer plug, 3 1/2-inch diskette Windows®, and four AA alkaline batteries. Size is 5 x 3 x 1 inches. Weight is 7 ounces. For use with Traceable® thermometers featuring RS-232 output.

Cat. No. 4325 Data Logger

(For use with thermometers 4132, 4137, and 4315.)



Traceable® Memory Wide-Range Thermometer

Wide-Range Thermometer reads °F or °C at the touch of a button

Thermometer temperature range covers -350 to 2200°F and -212 to 1200°C. Resolution from -99.9 to 999.9° is 0.1° and 1° elsewhere. Meter only accuracy is ±1°C.

Triple-purpose probe

Stainless-steel, triple-purpose, Type-K thermocouple probe may be used to measure temperatures of liquids, air/gas, and semi-solids. Large, ½-inch-high LCD display is easy to read. Membrane keypad provides a splash-proof design.

Remembers min/max readings

Minimum and maximum readings may be recalled instantly. Unit features red backlit display so that answers may be read in poor lighting— even total darkness.

Traceable to NIST for accuracy

To assure accuracy an individually serial-numbered Traceable® Certificate is provided from our ISO 17025 calibration laboratory accredited by A2LA. It indicates traceability to standards

provided by NIST (National Institute of Standards and Technology). Supplied with Type-K, stainless-steel thermocouple probe, 9-volt battery (for 1 year of nominal use), AC adaptor for continuous use, and Traceable® Certificate. Size is 3½ x 5½ x 1¼ inches. Weight is 6½ ounces. Replacement battery Cat. No. 1112.

Cat. No. 4007 Traceable® Memory Wide-Range Thermometer

(For a complete description of type-k accessory probes see below.)

Low-Temperature Probe

Stainless-steel with handle; triple purpose (liquids, air/gas, and semi-solids), Type-K (NiCr/NiAl) probe. Temperature range is -240 to 220°C. Dimensions: diameter 0.17 inch; stem length 12 inches; overall length 17 inches. Supplied with 8-foot expandable cable.

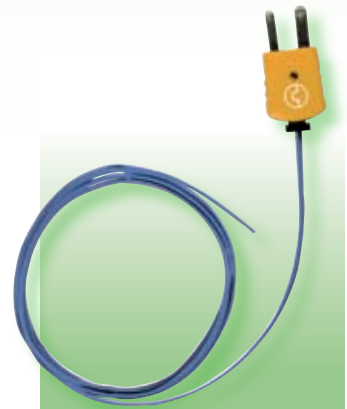
**Cat. No. 8039
Low-Temperature Probe**



Beaded Probe

Fast-Response, Type-K thermocouple, beaded probe. Teflon cable can withstand temperatures of -40 to 250°C continuous or 300°C short-term use. Dimensions: 0.06-inch diameter probe with cable length of 4 feet for use with all Type-K thermometers in liquids, air/gas, and semi solids.

Cat. No. 4028 Beaded Probe



High-Temperature Probe

Ten-foot-long 0.19-inch diameter braided metal wire cable with smooth tip measures -73 to 982°C continuous or 1093°C short-term use. For use with all Type-K thermometers in liquids, air/gas, and semi-solids.

**Cat. No. 8613
High-Temperature Probe**



Stainless-Steel Probe

Stainless-steel with handle, triple purpose (liquids, air/gas, and semi-solids), Type-K (NiCr/NiAl) probe. Temperature range is -50 to 700°C. Dimensions: 0.13-inch diameter; 6¼-inch stem length; 9¾-inch overall length. Supplied with 40-inch cable.

**Cat. No. 4014
Stainless steel Probe**



Surface Probe

Stainless-steel with handle, is for use with type-K thermometers. Temperature range is -73 to 760°C. Dimensions: 5-inch probe length; 0.5-inch tip diameter; 8½-inch overall length. Supplied with 36-inch cable.

Cat. No. 4008 Surface Probe



Traceable® Workhorse™ Thermometer

Type-K Workhorse™ Thermometer provides a sharp readout in dim and very bright light, long battery life (150 to 200 continuous hours), high accuracy, wide temperature range, and a new chip design for an ultra low cost.

Type-K range is -58.0 to 2372°F and -50.0 to 1300°C . Resolution is 0.1° between -50.0 to 200.0 and 1° elsewhere. Meter accuracy is $\pm(1^{\circ}\text{C} + .75\%)$ between 0 to 500°C ; $\pm(1^{\circ}\text{C} + 1\%)$ 500 to 750°C ; $\pm(1^{\circ}\text{C} + 2\%)$ 750 to 1000°C ; $\pm(3^{\circ}\text{C} + 4\%)$ 1000 to 1200°C ; $\pm 2^{\circ}\text{C}$ at -20 ; $\pm 3^{\circ}\text{C}$ at -40 ; and $\pm 4^{\circ}\text{C}$ at -50 .

Recessed front panel adjustable offset allow user to adjust thermometer exactly to a specific temperature, in-house calibration, or a particular sensor for increased accuracy. HOLD button freezes display to capture current reading. Supplied with bench stand. It is compatible with all type-K probes. To assure accuracy an individually serial-numbered Traceable® Certificate is provided from our ISO 17025 calibration laboratory accredited by A2LA. It indicates traceability to standards provided by NIST (National Institute of Standards and Technology).

Supplied with fast response Type-K probe, bench stand, 9-volt battery, and carrying case. Probe diameter is $\frac{1}{8}$ -inch, stem length $3\frac{1}{8}$ inches, overall length 5 inches and a cable length of 40 inches. Size is $2\frac{3}{4} \times 5\frac{1}{2} \times 1\frac{1}{4}$ inches and weight is 6 ounces. Replacement battery Cat. No. 1112.

Cat. No. 4425 Traceable® Workhorse™ Thermometer

(For a complete description of type-k accessory probes see page 26.)



Traceable® RTD Platinum Thermometer

Fast, one-button operation

Read degrees Fahrenheit or Celsius at the flick of a switch. Innovative 0.01° digital thermometer developed specifically for lab and plant use is the finest-performing RTD Platinum Thermometer ever designed. Precise answers make it ideal for experimental requirement. Ease of use makes it perfect for routine quality-control needs. One-button operation allows everyone in lab to report identical readings and eliminates operator technique errors. State-of-the-art, fourth-generation aerospace engineering incorporates the most modern and sophisticated electronics in temperature measurement to achieve utmost in precision, stability, and dependability.

Reliable results in any solution

High-precision thermometer is geared specifically for measuring temperatures in soil, foods, ovens, cuvetts, gas systems, water baths, wastewater, incubators, chemical solutions, petroleum products, and extremely cold conditions. Manufactured for years of reliable service, even in severe environments.

Accuracy delivers on-the-dot readings

Resolution is 0.01° below 200° and 0.1° above 200° . Accuracy is $\pm(0.1\% + 0.2^{\circ}\text{C})$ below 200°C and $\pm(0.15\% + 0.5^{\circ}\text{C})$ above 200°C . HOLD button freezes display for reading later. Fail-safe display shows low battery and probe condition. Readings are updated $2\frac{1}{2}$ times per second. Jumbo, $\frac{1}{2}$ -inch-high digits and bright, high-contrast LCD display make the thermometer easy to read. Serial RS-232 output allows thermometer to be connected to computer or data logger for capturing and storing results.

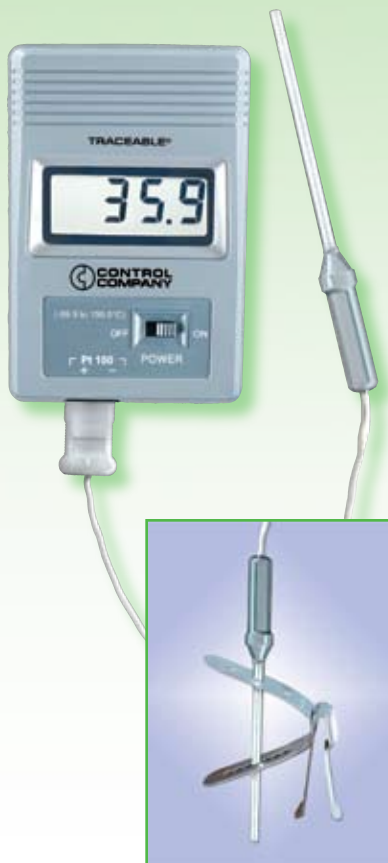
Traceable to NIST for accuracy

To assure accuracy an individually serial-numbered Traceable® Certificate is provided from our ISO 17025 calibration laboratory accredited by A2LA. It indicates traceability to standards provided by NIST (National Institute of Standards and Technology). Platinum (100-ohm) 4-wire probe is triple-purpose for liquids, air/gas, and semi-solids. Probe range is -58° to 752°F and -50° to 400°C . Dimensions: stem length 6 inches, stem diameter 0.13 inch, overall stem length 12 inches, cable length 40 inches, cable diameter $\frac{1}{8}$ -inch. Supplied with probe, 9-volt battery, and Traceable® Certificate. Size is $7 \times 3 \times 1\frac{1}{4}$ inches. Weight is $9\frac{1}{2}$ ounces. Replacement battery Cat. No. 1112.



Computer Output

- | | | | |
|----------------------|--|----------------------|--|
| Cat. No. 4132 | Traceable® RTD Platinum Thermometer | Cat. No. 4136 | Data Acquisition System (see complete description on page 25) |
| Cat. No. 4133 | Replacement probe for 4132 | Cat. No. 4325 | Data Logger (see picture and specifications on page 25) |
| Cat. No. 4138 | Easy-Use Accessory Adapter 115 VAC | | |



Traceable® –100.0 Platinum Freezer Thermometer

RTD Platinum Freezer Thermometer accurately monitors temperatures in freezers, water baths, heating blocks, incubators, and refrigerators. Range is –99.9 to 199.9° C with a resolution of 0.1° and an accuracy of $\pm(0.5\% + 0.5^\circ\text{C})$. Ten-foot ultra-thin micro-cable permits freezer doors to close on it without affecting the seal. Fast-response 100-ohm platinum probe is triple purpose for use with liquids, air/gas, and frozen material.

Traceable to NIST for accuracy

To assure accuracy an individually serial-numbered Traceable® Certificate is provided from our ISO 17025 calibration laboratory accredited by A2LA. It indicates traceability to standards provided by NIST (National Institute of Standards and Technology).

Adjustable probe holder, Velcro™, and magnetic strips are provided for mounting of both thermometer and probe. Supplied with probe, Traceable® Certificate, carrying case, and 9-volt alkaline battery. RTD Platinum probe is 1/8 x 5 inches. High-impact, chemical-resistant ABS case is 2 3/4 x 4 1/4 x 3/4 inches. Weight is 4 1/4 ounces. Replacement battery Cat. No. 1112.

Cat. No. 4230 Traceable® –100.0 Platinum Freezer Thermometer



Traceable® Printing Thermometer °F/°C

Printing Thermometer provides permanent record—prints time and date

Prints current temperature readings and minimum/maximum readings. Provides permanent record of temperature and time of day/date/month. Two-line LCD display with 1/2-inch-high digits continuously and simultaneously shows temperature and time. The perfect dependable and reliable unit to monitor temperature in lab, plant, and field. Fulfills federal requirements for CLIA specification 493.1252. Printer provides hard copy for today's stringent quality-control documentation.

Hard copy results

Printer automatically prints current temperature, high/low memory, and current time of day at any programmed interval or by manual command. Automatic printing may be programmed to print in any minute interval from 1 minute to 99 hours, 59 minutes. Printout shows exact date/time at which highest and lowest temperatures occurred.

Wide range

Displays temperatures from –58.0 to 158.0°F or –50.0 to 70.0°C with a resolution of 0.1° and an accuracy of $\pm 2^\circ\text{F}$ (1.0°C). Fast-response, stainless-steel probe is triple-purpose for liquids, air/gas, and semi-solids. Display is updated every 10 seconds. Time is displayed to the minute in 24-hour military format.



Traceable to NIST for accuracy

To assure accuracy an individually serial-numbered Traceable® Certificate is provided from our ISO 17025 calibration laboratory accredited by A2LA. It indicates traceability to standards provided by NIST (National Institute of Standards and Technology).

Survives rough handling

Supplied with probe, Traceable® Certificate, four AA batteries, lithium battery, 10-foot paper roll, and pouch carrying case. Tough, chemical- and shock-resistant case is 3 1/2 x 8 x 1 1/4 inches and weight is 10 ounces. Probe is 8 inches long x 0.14 inch diameter. Cable length is 50 inches. Replacement lithium battery Cat. No. 1005. Replacement AA battery Cat. No. 1111.

Cat. No. 4100

Traceable® Printing Thermometer °F

Cat. No. 4101

Traceable® Printing Thermometer °C

Cat. No.	Accessories
4182	Replacement Printing Paper (pack of 6 rolls)
8789	Replacement Ink Roller
9533	Replacement Probe
4183	Adaptor (for AC operation)

Infrared Thermometer Specifications Chart

Cat. No.	Page No.	Traceable® Certificate NIST/A2LA	Range	Resolution	Accuracy (°C)	Field of View ❶	Emissivity ❷	Laser	Min/Max Readings	Hi/Lo Alarms	Hold	Special Features
4475	29	Yes	-7 to 230°F / -22 to 110°C	0.1°	±1 between 15 to 40°C or ±1.5	1:1	0.95 fixed	N/A	Yes	N/A	Yes	Key-chain
4480	30	Yes	-27 to 428°F / -33 to 220°C	0.1°	±1 + 2%	1:1	0.95 fixed	N/A	N/A	N/A	Yes	Pocket Clip/ Strap/ Key-chain
4481	30	Yes	-67 to 482°F / -55 to 250°C	0.1°	±1 + 2%	6:1	0.5 to 1.00 in .01 steps	Yes	Yes	N/A	Yes	Wrist strap
4470	31	Yes	-76 to 932°F / -60 to 500°C	1°	±2 or 2%	11:1	0.95 fixed	Yes	N/A	N/A	Yes	Trigger grip
4472	31	Yes	0 to 600°F / -20 to 315°C	1°	±2 or 2%	8:1	0.3 to 1.00 in .01 steps	Yes	Yes	Yes	Yes	9 memories
4482	32	Yes	-76 to 932°F / -60 to 500°C	0.1°	±1 + 2%	11:1	0.1 to 1.00 in .01 steps	Yes	Yes	Yes	Yes	Trigger grip
4375	32	Yes	-4 to 752°F / -20 to 100°C	0.1°	±3 or 3%	7:1	0.2 to 1.00 in 0.1 steps	Yes	Yes	N/A	Yes	Trigger grip
4315	33	Yes	14 to 572°F / -10 to 300°C	0.1°	±2 or 2%	7:1	0.1 to 0.95 in .01 steps	N/A	Yes	N/A	Yes	Probe 40-inch cable
4483	33	Yes	-58 to 1832°F / -50 to 1000°C	0.1° to 200, 1° over 200	±2°C +1.5%	50:1	0.95 fixed	Yes	N/A	N/A	Yes	Trigger grip
4484	33	Yes	-58 to 1832°F / -50 to 1000°C	0.1° to 200, 1° over 200	±2°C +1.5%	50:1	0.1 to 1.00 in .01 steps	Yes	Yes	Yes	Yes	Trigger grip

❶ What is Field of View?

Field of View is similar to a flashlight. The further the object is away, the bigger the diameter of the beam. The further you are from a sample, the larger the area the IR thermometer is measuring. For example: if the Field of View ratio for a thermometer is 6:1, then, when the thermometer is six inches from an object the sensor is looking at and measuring a one-inch diameter. If the thermometer is 12 inches away, then the spot size being measured is two inches.

❷ What is Emissivity?

Emissivity refers to the amount of infrared radiation an object emits. The emissivity adjustment on IR thermometers is used to compensate for different materials. The default emissivity of 0.95 covers 90% of typical applications. For thermometers with adjustable emissivity a materials chart with suggested settings is provided. Generally very shiny, highly reflective surfaces require low emissivity settings.



MiniIR™ Traceable® Thermometer

New generation in IR—the pocket revolution

Pocket-size, infrared thermometer captures temperature readings of any surface—liquids, solids, and semi-solids in less than a second. Operation is simple—turn it on, point at sample, and take reading. Non-invasive, “no-touch” temperature measurements are ideal for food preparation, life sciences, field use, clean rooms, and for fast inspections.

Range is -7.0 to 230°F and -22.0 to 110°C with a resolution of 0.1°. Accuracy is ±1°C between 15.0 to 40.0°C, and ±1.5°C outside of this range. Emissivity is fixed at 0.95. Field of view is 1:1. Incredibly low price is achieved with sophisticated break-thru NASA-style microelectronics. Remarkable performance matches IRs priced over ten times this unit.

Traceable to NIST for accuracy

To assure accuracy an individually serial-numbered Traceable® Certificate is provided from our ISO 17025 calibration laboratory accredited by A2LA. It indicates traceability to standards provided by NIST (National Institute of Standards and Technology). Features include: easy-read ½-inch-high digital display, soft-touch keys, flip-open stand, key chain, switchable °C/°F, hold, minimum only/ maximum only readings, continuously-on mode, low battery alert, and battery with 40 continuous hour life. Size is 2½ x 1½ x ½ inches. Weight is 1 ounce. Replacement battery Cat. No. 1005.

Cat. No. 4475 MiniIR™ Traceable® Thermometer



Traceable® Infrared Thermometer with Wristband

Traceable® Infrared Thermometer, operation is simple—turn on, point at sample, and take a reading in less than a second. Unit reads both Fahrenheit and Celsius of any surface—solids, semi-solids, and liquids. Non-invasive, no-touch, measurements are ideal for food preparation, life sciences, pharmaceuticals, petroleum products, clean rooms, electronics, and field use.

Temperature range is -67 to 482°F and -55 to 250°C . Resolution is 0.1° . Accuracy is $\pm 1^{\circ}\text{C} + 2\%$. To assure accuracy an individually serial-numbered Traceable® Certificate is provided from our ISO 17025 calibration laboratory accredited by A2LA. It indicates traceability to standards provided by NIST (National Institute of Standards and Technology).

Hold, freezes the display at the current reading. Field of view is 6:1. The emissivity is 0.05 to 1.00 in .01 steps. Minimum and maximum feature permits viewing highest and lowest readings at any time. Laser beam permits perfect sample target sighting. Features a handy wristband. Size is $4 \times 2 \times \frac{3}{4}$ inches. Weight is $2\frac{1}{4}$ ounces. Display indicates low battery. Battery is supplied with unit. Replacement battery Cat. No. 1005.

Cat. No. 4481 Traceable® Infrared Thermometer with Wristband



Traceable® Infrared Thermometer with Pocket Clip

Traceable® Infrared Thermometer has the following performance characteristics. Operation is simple—turn on, point at sample, and take a reading in less than a second. Units read both Fahrenheit and Celsius of any surface—solids, semi-solids, and liquids. Non-invasive, no-touch, measurements are ideal for food preparation, life sciences, pharmaceuticals, petroleum products, clean rooms, electronics, and field use.



Temperature range is -27 to 428°F and -33 to 220°C . Resolution is 0.1° . Accuracy is $\pm 1^{\circ}\text{C} + 2\%$. To assure accuracy an individually serial-numbered Traceable® Certificate is provided from our ISO 17025 calibration laboratory accredited by A2LA. It indicates traceability to standards provided by NIST (National Institute of Standards and Technology).

Hold, freezes the display at the current reading. Field of view is 1:1. The fixed emissivity of 0.95 covers 90% of all applications. Features a handy pocket clip, key-chain, and lanyard. Size is $3\frac{1}{4} \times \frac{3}{4}$ inches. Weight is $\frac{3}{4}$ ounces. Display indicates low battery. Batteries are supplied with unit. Replacement battery Cat. No. 1039.

Cat. No. 4480 Traceable® Infrared Thermometer with Pocket Clip

Traceable® Infrared Thermometer Gun

Small, lightweight Traceable® Infrared Thermometer Gun takes instant, less-than-a-second, temperature readings of any surface. Unique design permits one-handed "point-and-shoot" readings. Laser-sighting beam permits aiming precisely at target surface. Uses include food preparation, pharmaceuticals, electronics, safety inspection, and any liquid or solid.

Range is -76 to 932°F and -60 to 500°C with a resolution of 1°. Accuracy: $\pm 2^\circ\text{C}$ or 2% of reading. Emissivity is fixed at 0.95. Field of view is 11:1 (example: reads a spot the size of 2 inches from 22 inches away). Features include backlighting at the touch of a button, data hold (freezes display reading), laser, low-battery indicator, automatic maximum recording, a °C/°F button, auto-off feature (15 seconds) to conserve battery power, and continuously on.

Traceable to NIST for accuracy

To assure accuracy an individually serial-numbered Traceable® Certificate is provided from our ISO 17025 calibration laboratory accredited by A2LA. It indicates traceability to standards provided by NIST (National Institute of Standards and Technology). Size is 7 x 3 x 1½ inches. Weight is 6 ounces. Includes two AAA batteries and Traceable® Certificate. Replacement battery Cat. No. 1105.

Cat. No. 4470 Traceable® Infrared Thermometer Gun



Traceable® Infrared Thermometer with Memory/Alarm

Traceable® Infrared Thermometer utilizes laser targeting for precise touchless measurement

Temperature range is 0 to 600°F and -20 to 315°C with a resolution of 1° and an accuracy of $\pm 2^\circ\text{C}$ or 2% of the reading. Small, lightweight, unit takes readings in under one second. Laser beam permits perfect temperature target sighting. Use in petroleum, electronics, plants, and outdoors. Use with liquids or solids. Because the infrared output of some objects is unique, keys permit adjusting emissivity from 0.3 to 1.0. Field of view is 8:1 (example: reads a spot the size of 2 inches from 16 inches away).

Traceable to NIST for accuracy

To assure accuracy an individually serial-numbered Traceable® Certificate is provided from our ISO 17025 calibration laboratory accredited by A2LA. It indicates traceability to standards provided by NIST (National Institute of Standards and Technology). Features include backlighting at the touch of a button, data hold (freezes display reading), laser, maximum/minimum memory, 9 memories, high/ low audible alarm, average readings, differential readings, low-battery indicator, and a °C/°F button. Size is 6 x 2 x 1¼ inches. Weight is 6 ounces. Includes wrist-strap, soft-sided carrying case, 9-volt battery, and Traceable® Certificate. Replacement battery Cat. No. 1112.

Cat. No. 4472 Traceable® Infrared Thermometer with Memories/Alarm



Traceable® Infrared Thermometer with Trigger Grip

Traceable® Infrared Thermometer, operation is simple—turn on, point at sample, and take a reading in less than a second. Unit reads both Fahrenheit and Celsius of any surface—solids, semi-solids, and liquids. Non-invasive, no-touch, measurements are ideal for food preparation, life sciences, pharmaceuticals, petroleum products, clean rooms, electronics, and field use. Temperature range is -76 to 932°F and -60 to 500°C . Resolution is 0.1° . Accuracy is $\pm 1^{\circ}\text{C} + 2\%$.

Traceable to NIST for accuracy

To assure accuracy an individually serial-numbered Traceable® Certificate is provided from our ISO 17025 calibration laboratory accredited by A2LA. It indicates traceability to standards provided by NIST (National Institute of Standards and Technology). The dual display shows current temperature plus one of the following eight modes: emissivity value, maximum memory, minimum memory, differential, average (time weighted), high temperature alarm, low temperature alarm, and probe temperature. Minimum and maximum feature permits viewing highest and lowest readings at any time. Thermometer displays the average of all readings made and the difference between two readings. Audible, user settable, high and low alarms signal out of range conditions. Memory permits recalling individually captured temperatures. Hold, freezes the display at the current reading. Backlighting permits viewing in low light conditions. Adjustable emissivity from 0.1 to 1.00. Field of view is 11:1 (for example, at a distance of 22 inches the reading spot size is 2 inches). Range using type-K thermocouple jack is -83 to 2552°F and -64 to 1400°C . Type-K probe supplied. Display indicates low battery. Batteries are supplied with unit. Size is $7 \times 2\frac{3}{4} \times 1\frac{1}{2}$ inches. Weight is 6 ounces. Replacement battery Cat. No. 1105.



Cat. No. 4482 Traceable® Infrared Thermometer with Trigger Grip

Traceable® Noncontact Infrared Thermometer

Portable noncontact, infrared temperature measuring thermometer features adjustable emissivity. This control provides the widest possible range for accurately measuring different surface temperatures. Unique gun design allows one-handed use.

Traceable to NIST for accuracy

To assure accuracy an individually serial-numbered Traceable® Certificate is provided from our ISO 17025 calibration laboratory accredited by A2LA. It indicates traceability to standards provided by NIST (National Institute of Standards and Technology). Adjustable emissivity from 0.2 to 1.0. Field of view is 7:1 (for example, at a distance of 21 inches the reading spot size is 3 inches). Surface temperature range is switchable from 14.0 to 572°F and -10.0 to 300°C . Resolution is 0.1° . Accuracy is $\pm 3^{\circ}\text{C}$ or $\pm 3\%$ of the reading, whichever is greater. Range using type-K thermocouple jack is -148 to 2372°F and -100 to 130°C . Type-K probe is supplied.

Min/Max memory

Features data hold, maximum memory, minimum memory, and 1-second sampling. Dimensions: $7\frac{3}{4} \times 4\frac{3}{4} \times 2\frac{1}{2}$ inches. Weight is $9\frac{5}{8}$ ounces. Includes Traceable® Certificate, Type-K Beaded probe, carrying case, and 9-volt battery. Replacement battery Cat. No. 1112.

Cat. No. 4375 Traceable® Noncontact Temperature Indicator





Traceable® Infrared Digital Thermometer with Cable

Noncontact digital thermometer allows simply pointing the sensor and reading a temperature

Probe never comes in contact with surface or solution. Cable permits exact positioning of the sensor. Jumbo, 1 $\frac{1}{2}$ -inch-high display may be switched from 14.0 to 572°F and -10.0 to 300°C. Switchable resolution is 0.1° or 1°. Accuracy is $\pm 2^\circ\text{C}$ or 2% of the reading.

Connects to computer or data logger

Serial RS-232 output allows the thermometer to be connected to a computer or data logger for monitoring and storing results.

Recalls high, low, and average readings

The field of view is 7:1 (example: at a distance of 21 inches the reading spot size is 3 inches). Probe has an emissive adjustment with a range of 0.1 to 0.95. This allows all types of material and liquid to be read. Sensor wavelength is 6 to 12 microns. Ultra-fast sampling rate is once per second. At the touch of a button, instrument recalls highest, lowest, and average readings. DATA HOLD button freezes display to capture readings.

Traceable to NIST for accuracy

To assure accuracy an individually serial-numbered Traceable® Certificate is provided from our ISO 17025 calibration laboratory accredited by A2LA. It indicates traceability to standards provided by NIST (National Institute of Standards and Technology). Unit is supplied with probe (6 x 1 $\frac{1}{2}$ x 1 $\frac{1}{2}$ inches), 40-inch cable, Traceable® Certificate, 9-volt alkaline battery, and serial computer output. Unit size is 7 x 3 x 1 $\frac{1}{2}$ inches and weight is 9 $\frac{1}{2}$ ounces. Replacement battery Cat. No. 1112.

Cat. No. 4315 Traceable® Infrared Digital Thermometer with Cable

Cat. No. 4136 Data Acquisition System (see complete description on page 25)

Cat. No. 4325 Data Logger

Cat. No. 4138 Easy-Use Adapter 115 VAC

Traceable® Infrared Wide-Range Thermometer with 50:1 field of view



Infrared Thermometer Gun takes instant, less-than-a-second, temperature readings of any surface. Unique design permits one-handed "point-and-shoot" readings. Laser-sighting beam permits aiming precisely at target surface. It is ideal for food preparation, pharmaceuticals, field use, electronics, and safety inspection.

To assure accuracy an individually serial-numbered Traceable® Certificate is provided from our ISO 17025 calibration laboratory accredited by A2LA. It indicates traceability to standards provided by NIST (National Institute of Standards and Technology).

Range is -58 to 1,832°F and -50 to 1,000°C with a resolution of 0.1° to 200, 1° over 200. Accuracy is $\pm 1.5\% + 2^\circ\text{C}$. Field of view is 50:1 (example: reads a spot the size of 6 inches from 25 feet away). Features include backlighting at the touch of a button, data hold (freezes display reading), laser, low-battery indicator, and °C/°F buttons. Size is 9 x 4 x 2 $\frac{1}{4}$ inches. Weight is 10 ounces. Includes 9-volt battery. Replacement battery Cat. No. 1112.

Cat. No. 4483 Traceable® Infrared Wide-Range Thermometer 50:1 field of view
(Emissivity is fixed at 0.95) (pictured left)

Cat. No. 4484 Traceable® Infrared Wide-Range Plus Thermometer 50:1 field of view
Emissivity adjustable from 0.10 to 1.00 in 0.01 steps. Also features minimum/maximum memory, average readings, and high/low audible alarms. (pictured right)



Traceable[®] Temperature Controller

Turn equipment on/off at any temperature

Controller turns any piece of equipment on or off when temperature rises above "high" set point or falls below "low" set point. Wide setting range of -4 to 140°F and -20 to 60°C permits maintaining temperatures above or below ambient. Control heating elements, cooling blocks, hot plates, heating mantles, cooling systems, or incubators to $\pm 1^\circ\text{C}$. Controller may be set in 1° increments. Display reads in °F and °C with a 0.1° resolution. Unit accepts standard, three-pronged plug and controls equipment rated to 1800 watts, 15 amps. Brilliant, 1/2-inch-high LCD shows the temperature and time of day to the exact second. Red LED status light indicates on/off mode of attached equipment. Uses the same microchip and software that control sophisticated plant operations. May also be programmed to turn equipment on and off at any minute of any day. "Always-remember" memory permits programming three different pairs of on/off time switchings per day. Memory chip and display are powered by two AAA batteries. Settings are maintained for 1 year in the event of electrical outage.

Learn to operate in seconds

Simple commands are a joy to use. Display walks you through steps. Set high and low temperatures or schedule timer on/off settings in just seconds with press of a few buttons. Manual override permits equipment to be switched on or off instantly without disturbing temperature or timer settings.

Traceable to NIST for accuracy

To assure accuracy an individually serial-numbered Traceable[®] Certificate is provided from our ISO 17025 calibration laboratory accredited by A2LA. It indicates traceability for temperature only to standards provided by NIST (National Institute of Standards and Technology).

Both controller and relay are 2 3/4 x 5 1/2 x 1 1/4 inches and weight is 1 pound. UL-rated relay may be used with equipment to 115 VAC, 1800 watts, 15 amps. Temperature sensor cable is 3 1/2 feet in length. Unit is supplied with batteries and a Traceable[®] Certificate. Replacement battery Cat. No. 1105.

Cat. No. 4130 Traceable[®] Temperature Controller



Traceable[®] Thermometer/Clock/ Humidity Monitor

Clock with a brain sits on the bench or desk

Unique unit simultaneously displays time of day, temperature, and humidity. Clock displays A.M./P.M. or 24-hour military time to the exact minute with 0.01% accuracy. Noting changes is easy with triple display. Internal sensors make it ideal for use in hoods, storerooms, clean rooms, incubators, drying chambers, and environmental cabinets. Temperature range is 32.0 to 122.0°F and 0.0 to 50.0°C. Resolution is 0.1° and accuracy is $\pm 1^\circ\text{C}$. Relative humidity range is 20 to 90%. Resolution is 1% RH and accuracy is $\pm 4\%$. At the touch of a button, memory recalls highest and lowest temperature and humidity readings. Permits monitoring conditions overnight, on weekends, or any time period.

Traceable to NIST

To assure accuracy an individually serial-numbered Traceable[®] Certificate is provided from our ISO 17025 calibration laboratory accredited by A2LA. It indicates traceability to standards provided by NIST (National Institute of Standards and Technology). Supplied with Traceable[®] Certificate, 1-year AAA battery, built-in stand, and wall mount. Size is 4 1/4 x 2 1/4 x 1/2 inches and weight is 2 1/2 ounces. Replacement battery Cat. No. 1105.

Cat. No. 4040 Traceable[®] Thermometer/Clock/
Humidity Monitor

Super-Helpful view of a Traceable® Certificate

How to get big results from small budgets

Order Traceable® products today. Each one is serial numbered, each one is supplied with an individual Traceable® Certificate.

Accredited by A2LA (The American Association for Laboratory Accreditation) dedicated to "one test accepted everywhere, one accreditation accepted everywhere".

A2LA is your assurance of internationally recognized technical laboratory competence.

Traceable® Certificates are recognized by ILAC and MRA.

Displays catalog number for complete product reference

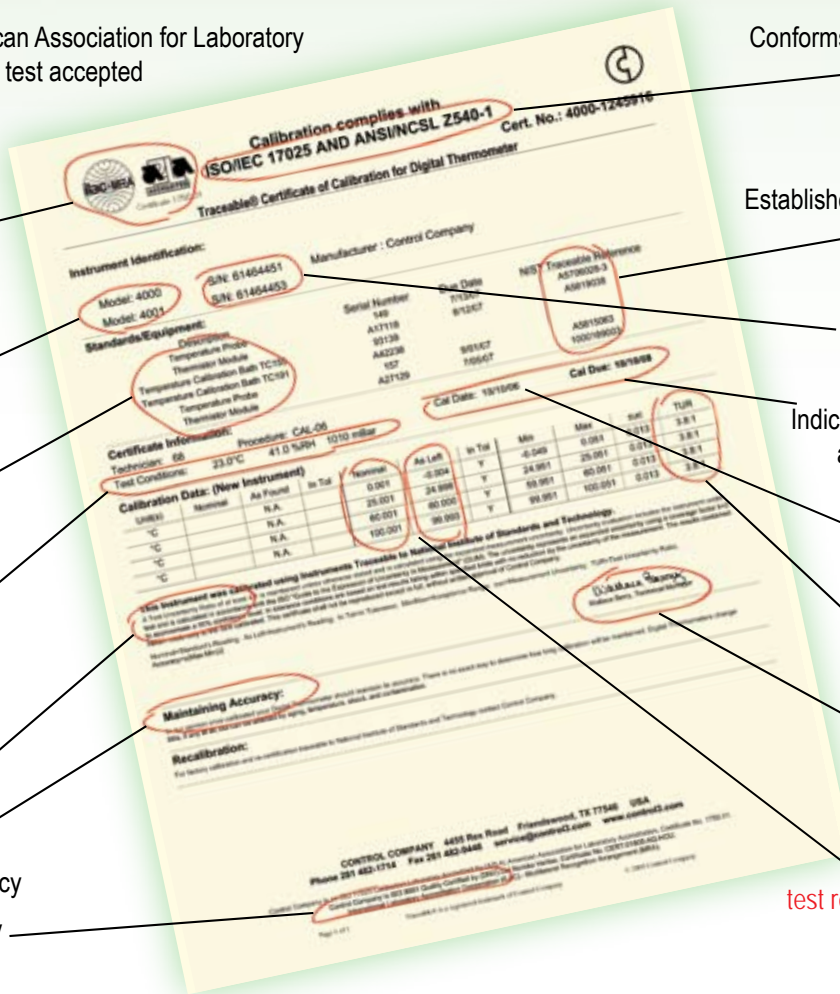
Calls out the test equipment used for calibration

Reports environmental conditions at the time of measurement

Spells out test uncertainty ratio and confidence level

Lists specific conditions that may affect product's accuracy

Supplied by an ISO 9001 quality certified facility



Conforms to universally recognized ISO 17025 Standard, a requirement for all serious ISO 9000 facilities

Establishes with reference numbers the "unbroken chain" of traceability to NIST

Displays serial number for total product identification

Indicates Calibration Due Date, a benchmark for continued instrument accuracy

Specifies Calibration Date when the unit was tested

Spells out test uncertainty ratio and confidence level

Signed by the Technical Manager

Provides measurement test results for your specific unit

How to make measurements with absolute accuracy

Your lab's test results are important. That's why accurate instrument performance is our top priority. Before it's shipped to you, every single Traceable® product is calibrated by our ISO 17025 calibration laboratory accredited by A2LA. Every product is supplied from our ISO 9001, DNV quality-certified facility.

The Traceable® Certificate is included with every product. Precise accuracy is provided from the moment you open the box. Every Traceable® product is supplied with a Traceable® Certificate indicating accreditation by A2LA (The American Association for Laboratory Accreditation).

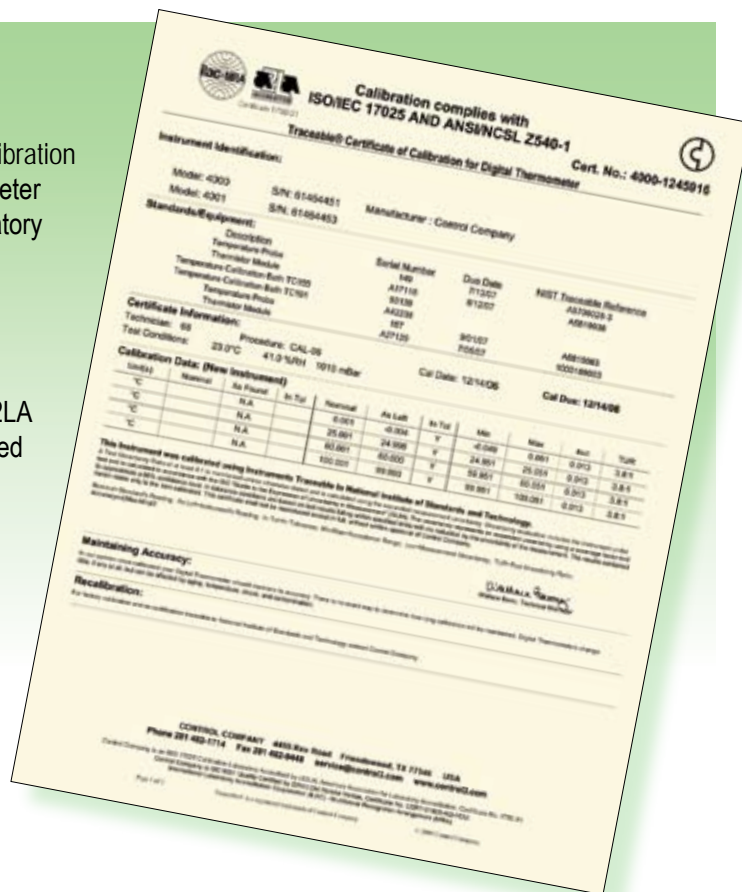
Traceable® Thermometers

All Traceable® Thermometers are provided with a Traceable® Calibration Certificate from our ISO 17025 calibration laboratory. All thermometer certificates are accredited by the American Association for Laboratory Accreditation (A2LA).

A2LA is widely recognized internationally through bilateral and multilateral agreements and through its participation in the International Laboratory Accreditation (ILAC) and Multilateral Recognition Arrangement (MRA). Through Control Company's A2LA Accreditation; Traceable® Certificates are internationally recognized by accreditation agencies and governments in over 75 countries.

Traceable® Certificate indicates the product is traceable to standards provided by the National Institute of Standards and Technology (NIST), a U.S. Government agency within the Commerce Department. The Traceable® Certificate complies with ANSI/NCCL Z540-1.

A Traceable® Certificate includes all of the information to meet today's stringent accreditation demands, CLIA requirements, government specifications, and ISO 9000 certifications.



ISO 9001 Quality-Certified

Control Company is an ISO 9001 Quality-Certified Company. This provides you with the assurance that you are supplied with only the finest and most reliable products. Control Company is recognized worldwide for superb quality and innovative products. We are one of the world's market leaders for digital equipment. Control Company is pleased to offer you the extra confidence that ISO 9001 Certification brings to every Control product. (DNV Certificate No. CERT-01805-2000-AQ-HOU-RAB).

ISO 17025 Calibration Laboratory Accredited

Control Company is an ISO 17025 calibration laboratory accredited by The American Association for Laboratory Accreditation (A2LA) meeting the requirements of ISO/IEC 17025 and ANSI/NCCL Z540-1. This ensures that you are supplied accurate instruments, individually tested to be traceable to NIST, and a Traceable® Certificate (A2LA Certificate No. 1750.01).



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