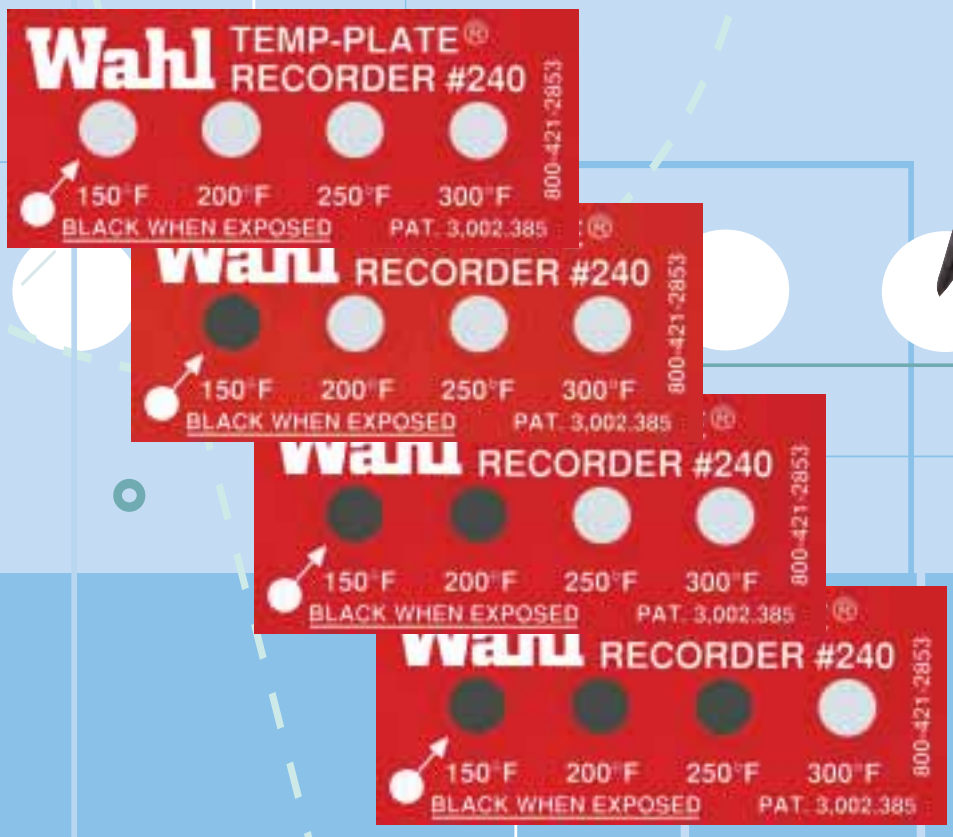
Wahl
INSTRUMENTS, INC.

TEMP-PLATE®

Irreversible Temperature Recorders

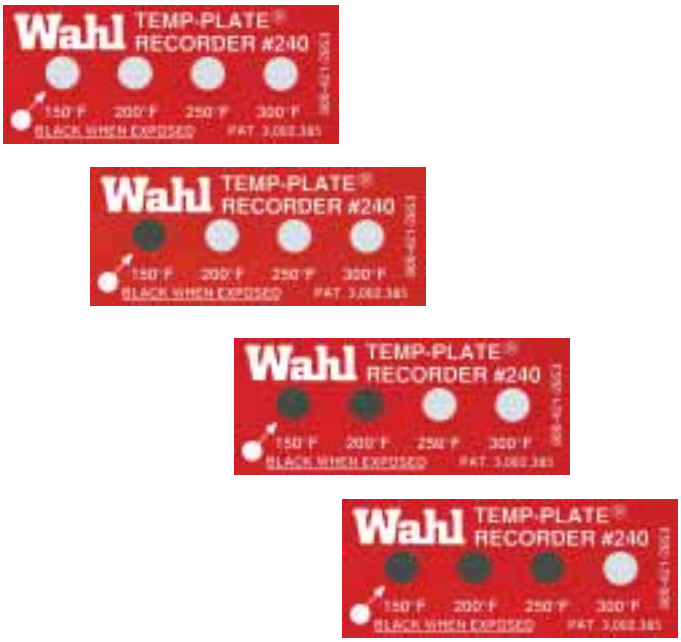


PALMER Wahl
INSTRUMENTATION GROUP

Temp-Plate® Irreversible Temperature Recording Labels

Table of Contents

These economical non-reversible chemical change thermometers instantly record an overheat occurrence and provide a permanent, NIST-traceable record. Temp-Plates are used in thousands of applications where other surface temperature monitoring and recording methods are impractical, cost prohibitive, or inaccurate.



Wahl Temp-Plate part number 240-151F sample shown at actual size after exposure to progressively higher temperatures. Each temperature position turns irreversibly black at the rated temperature point.

- Easy, self-adhesive installation on most surfaces
- Heat-sensitive indicator "positions" turn permanently black when the rated temperature points are reached or exceeded
- Positions are carefully graduated to allow readily visible temperature history information
- Calibrated to ±1% NIST traceable accuracy from 90°F to 500°F (32°C to 260°C)
- Wide selection of temperature ranges (both °F and °C), sizes, and number of recording positions
- Provides a permanent record of overheating
- High-visibility graphics (red, white and black) ensure easy, quick, and positive readings, even in low-light conditions and small label sizes
- Each temperature position is clearly printed with the rated temperature
- Resistant, when properly installed, to solvents, fuels, grease, oil, water and steam
- Continuous monitoring with no interruption due to power failure or battery exhaustion

Certification Services Available

Easy to Use-Simply peel off backing of self adhesive Temp-Plates and apply to any clean surface. Only .010" thick.

PALMER Wahl INSTRUMENTATION GROUP

(800) 421-2853 • FAX (828) 658-0728 • www.instrumentationgroup.com

Temp-Plate® Irreversible Temperature Recording Labels

Instant Temperature Record

Temp-Plates are self adhesive temperature recording labels that can be read at a glance. Rated temperatures are printed at the sensor window. Each Temp-Plate contains one to several sealed heat-sensitive elements which change chemical structure when exposed to heat exceeding their calibrated temperatures. Each pearl gray indicator turns permanently and irreversibly black in less than one second and with ± 1% accuracy. With proper installation, Temp-Plates resist exposure to solvents, fuels, grease, oil, water and steam.

Where exacting temperature is critical, a Temp-Plate's miniaturized size permits installation on parts and in areas where other recording instruments prove impractical. Temp-Plates provide a continuous monitor for overheat that does not distort the temperature of the item being measured. Temp-Plates are easy to apply. For use during testing, Temp-Plates can be removed and entered into the test record log books. Available in a vast array of configurations and ranges. Nominal thickness is 0.01" (.3mm).

Temp-Plates are dedicated either °C, or °F, or both. Degree C scales accommodate international use laboratories and the electronic industry, while degree F scales accommodate U.S. industry and aviation.

Construction

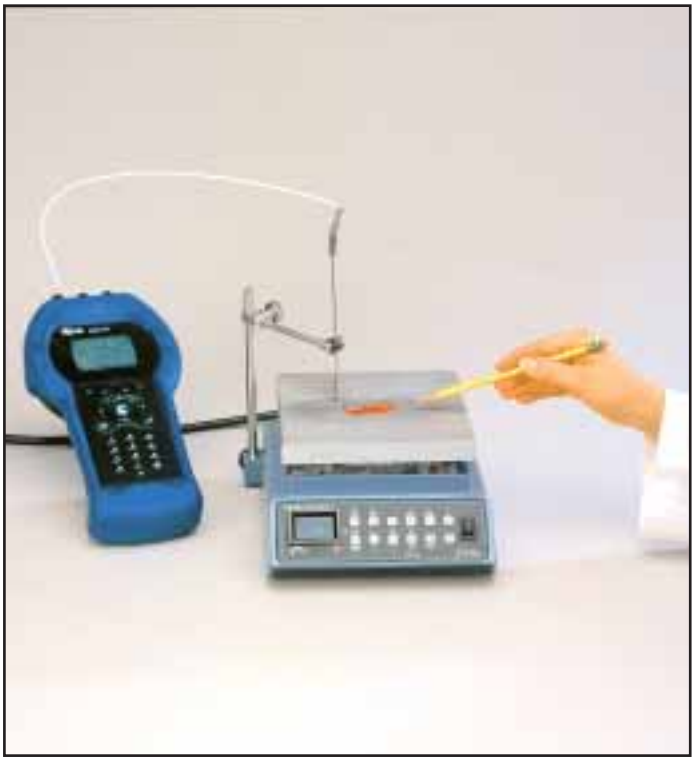
Most Temp-Plates use a laminated construction consisting of a heat resistant plastic cover to encapsulate the temperature-sensitive chemical indicators and protect them from contamination from water, oil and solvents. The bottom laminate of plastic film contains pressure sensitive adhesive rated for elevated temperature installation. To install, remove the protective backing and apply to any clean, dry surface.

Quality Assurance

Temp-Plates are manufactured with the same meticulous care as all other Wahl instruments. Temperature accuracy is verified by calibration tests on all lots of chemical elements used in the manufacture of Temp-Plates. Records of the calibration data are on permanent file at Wahl where the accuracy of test in strumentation is traceable to the U.S. National Bureau of Standards.

Calibration Method

Temp-Plates are tested by placing test samples close to calibrated thermocouples installed on the surface of a special heavy-duty hot plate. A temperature rise rate not exceeding 1°C per minute is maintained and the temperature point where the color change occurs is carefully observed and recorded. The calibration accuracy of Temp-Plates is traceable by lot number.



Testing Temp-Plate Accuracy - Surface calibration standard used for factory traceable lot numbers.

Temp-Plate® Applications

Versatile, easy-to-read Temp-Plate Labels help monitor and prevent overheating of valuable machinery, electrical parts, electronic components, perishable goods and other heat-sensitive materials and equipment. Temp-Plates are an economical, efficient tool for laboratory work, testing and quality control. Temp-Plates accurately:

Monitor overheating, wear and friction in machinery parts, such as bearings, gear boxes, transmission housings, radiators and heat exchangers.

Check overheating in electrical equipment, such as transformers, relays, generators, rectifiers, motor casings and bearings, underground power lines.

Audit overheated electronic parts, such as tubes, transformers, resistors, circuit boards and transistors.

Monitor commercial aircraft for preventive maintenance, such as engines, hydraulic systems, wheels, tires, brakes, heating systems, and avionics.

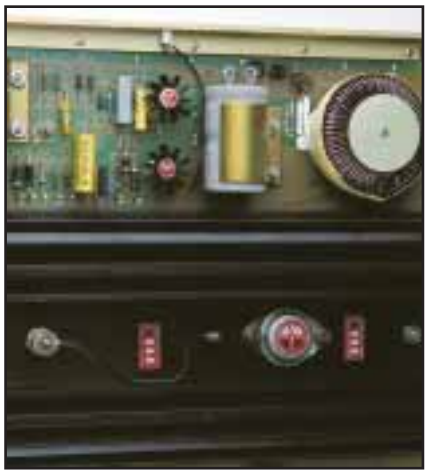
Prevent heat-related deterioration of materials, such as pharmaceuticals, pacemakers, foods, chemicals and film.

Protect computers and computer rooms, cargo compartments, blast tubes, rocket chamber walls, and bomb and ordnance storage areas.

WARRANTY
Irreversible Temp-Plates are a perfect "tattle-tale" of warranty abuse. Specify for overheat detection of computer installations, electrical hydraulic & mechanical equipment. Shown P/N 240 110-140°F on communications board.

PREVENTIVE MAINTENANCE
Guard against failures of hydraulic systems and high-pressure oil lines. Shown P/N 240 used to detect overheating in a line coupling.

ELECTRONIC CIRCUIT DESIGN
Measure operating circuits under actual conditions. Shown power supply circuit. P/N 101-4 on capacitor, P/N 442 on TO5 cases, P/N 311 and P/N 441 on stand-off resistors.



DESIGN EVALUATION
Heat dissipation study. Shown P/N 101-4 (82-120°C) on heat sink. P/N 444 (80-125°C) on TO3 power transistor and P/N 442 (60-90°C) on TO5 transistor.

QUALITY CONTROL
Verify process temperatures. In flow solder process circuit boards to be preheated 76-87°C. P/N 430 shows 76°C actual. Another P/N 430 monitors I.C. temperature.

DESIGN CAPABILITY
Measure transformer core and insulation temperature compared to design rating. P/N 101-4.

PALMER Wahl INSTRUMENTATION GROUP

(800) 421-2853 • FAX (828) 658-0728 • www.instrumentationgroup.com

Four Position Temp-Plate®

Wahl's versatile Four-Position Temp-Plates are the most popular configuration for general-purpose maintenance. Careful selection of temperature points from the tables below will allow detection and recording of most overheat occurrences. Choose from STANDARD, MINI, or MICRO sizes.

How to Order Four Position Temp-Plate

General Ordering Information

- All Temp-Plates are shown at actual size
- Temp-Plates are priced, sold, and shipped in reclosable storage **boxes of 10** labels of the same Part Number. Unit of measure is "box".
- Temp-Plate cover material is made of: Mylar (clear) for ranges 90/350˚F (32/176˚C)
  Kapton (amber) for 350/500˚F (176/260˚C)
- Specify Part Number by selecting the **Base Part No.** for **Standard**, **Mini**, or **Micro** size from the table below. Then add the **Range Code Suffix** to complete the Part Number.
  *Example: **240-150F** for a standard size with temperature positions at 150˚, 160˚, 170˚, & 180˚F*
  For more information, see "Standard Specifications", catalog page 9

STANDARD Four-Position
Base Part No. 240
.75" X 1.75" (19 x 44 mm)

MINI Four-Position
Base Part No. 101-4
.38" X .82" (10 x 21 mm)

MINI Four-Position, Round
Base Part No. 444
.56" Diameter (14 mm)

MICRO Four-Position
Base Part No. 441
.13" X .44" (3 x 11 mm)

MICRO Four Position, Round
Base Part No. 442
.25" Diameter (6 mm)

Special Unmarked MICRO Four-Position, Round
Base Part No. 440
.25" Diameter (6 mm)

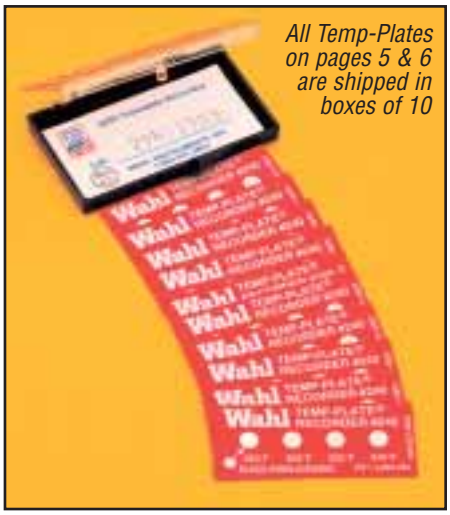
TEMP-PLATE SIZE and AVAILABILITY					RANGE CODE SUFFIX			
Stand.	Mini	Mini Round	Micro	Micro Round	Suffix	°F Positions	Suffix	°C Positions
240*	N/A	N/A	N/A	N/A	**-091F**	90-95-100-105	**-033C**	32-35-37-41
240*	N/A	N/A	N/A	N/A	**-090F**	90-100-110-120	**-032C**	32-37-43-48
240	101-4	444	441	442	**-100F**	100-110-120-130	**-037C**	37-43-48-54
240	101-4	444	441	442	**-101F**	100-120-140-160	**-038C**	37-48-60-71
240	101-4	444	441	442	**-110F**	110-120-130-140	**-043C**	43-48-54-60
240	101-4	444	441	442	**-120F**	120-140-160-180	**-048C**	48-60-71-82
240	101-4	444	441	442	**-140F**	140-160-180-200	**-060C**	60-71-82-93
240	101-4	444	441	442	**-141F**	140-180-220-260	**-061C**	60-82-104-126
240	101-4	444	441	442	**-150F**	150-160-170-180	**-065C**	65-71-76-82
240	101-4	444	441	442	**-151F**	150-200-250-300	**-066C**	65-93-121-148
240	101-4	444	441	N/A	**-161F**	160-170-180-190	**-072C**	71-76-82-87
240	101-4	444	441	442	**-160F**	160-180-200-220	**-071C**	71-82-93-104
240	101-4	444	441	442	**-170F**	170-180-190-200	**-076C**	76-82-87-93
240	101-4	444	441	442	**-180F**	180-200-230-250	**-082C**	82-93-110-121
240	101-4	444	441	442	**-190F**	190-200-210-220	**-087C**	87-93-98-104
240	101-4	444	441	442	**-200F**	200-210-220-230	**-093C**	93-98-104-110
240	101-4	444	441	442	**-201F**	200-220-240-260	**-094C**	93-104-115-126
240	101-4	444	441	442	**-202F**	200-250-300-350	**-095C**	93-121-148-176
240	N/A	N/A	441	N/A	**-220F**	220-250-280-310	**N/A**	
240	101-4	444	441	442	**-230F**	230-240-250-260	**-110C**	110-115-121-126
240	101-4	444	441	442	**-250F**	250-260-270-280	**-121C**	121-126-132-137
240	101-4	N/A	441	N/A	**-270F**	270-280-290-300	**-132C**	132-137-143-148
240	101-4	444	441	442	**-280F**	280-300-320-340	**-137C**	137-148-160-171
240	101-4	444	441	442	**-310F**	310-320-330-340	**-154C**	154-160-165-171
240	101-4	N/A	441	N/A	**-350F**	350-360-370-380	**-176C**	176-182-187-193
240	101-4	N/A	441	N/A	**-351F**	350-400-450-500	**-177C**	176-204-232-260
240	101-4	N/A	441	N/A	**-360F**	360-380-400-420	**-182C**	182-193-204-215
240	101-4	N/A	441	N/A	**-390F**	390-400-410-420	**-198C**	198-204-210-215
240	101-4	N/A	441	N/A	**-391F**	390-410-435-450	**-199C**	198-210-223-232
240	101-4	N/A	441	N/A	**-420F**	420-435-450-465	**-215C**	215-223-232-240
240	101-4	N/A	441	N/A	**-435F**	435-450-465-490	**-223C**	223-232-240-254

* *Available in these ranges in a minimum of five-box order only.*

Part No. 440 – Special Unmarked MICRO Four-Position, Round
Customer selection of any four recording temperature positions listed above. Minimum is 100°F (37°C), Maximum is 350°F (176°C). Note that no temperatures are printed on this Temp-Plate.
A legend supplied with each box provides identification of the selected points. Perfect for warranty work. Two box minimum order. Order as Part No. 440 and either specify the four positions you require or you may use the Range Code Suffix if you wish to use the points as specified.

Three, Six & Eight Position Temp-Plates®

When Wahl's selection of Four-Position Temp-Plates provide too few or too many recording positions, we can still offer an off-the-shelf solution to the problem. MINI-sized Temp-Plates in six and eight-positions and MICRO-sized three-position are available from stock.



NIST Lot Traceability
Each box of Temp-Plates is provided with a NIST secondary standard accuracy traceable lot number. Permanent records at Wahl's factory will validate your quality assurance programs.

How to Order Three, Six, & Eight Position Temp-Plates

General Ordering Information

- All Temp-Plates are shown at actual size
- Temp-Plates are priced, sold, and shipped in reclosable storage **boxes of 10** labels of the same Part Number. Unit of measure is "box".
- Temp-Plate cover material is made of: Mylar (clear) for ranges 90/350˚F (32/176˚C)
  Kapton (amber) for 350/500˚F (176/260˚C)
- Specify Part Number by selecting the **Base Part No.** from the tables below. Then add the **Range Code Suffix** to complete the Part Number.
  *Example: **101-6-290F** for a **MINI**-sized, six-position Temp-Plate with temperature points at 290°, 300°, 310°, 320°, 330° and 340°F.*
- *See "Standard Specifications", catalog page 9, for more information.*

MINI Eight-Position
Base Part No. 101-8
.38" X 1.5"
(10 x 38 mm)

RANGE CODE SUFFIX FOR EIGHT POSITION, BASE PART NO. 101-8

Suffix	°F Positions	Suffix	°C Positions
-110F	110-120-130-140-150-160-170-180	**-043C**	43-48-54-60-65-71-76-82
-190F	190-200-210-220-230-240-250-260	**-087C**	87-93-98-104-110-115-121-126
-270F	270-280-290-300-310-320-330-340	**-132C**	132-137-143-148-154-160-165-171
-350F	350-370-390-410-435-450-465-500	**-176C**	176-187-198-210-223-232-240-260

MINI Six-Position
Base Part No. 101-6
.38" X 1.16"
(10 x 29 mm)

RANGE CODE SUFFIX FOR SIX-POSITION, BASE PART NO. 101-6

Suffix	°F Positions	Suffix	°C Positions
-110F	110-120-130-140-150-160	**-043C**	43-48-54-60-65-71
-170F	170-180-190-200-210-220	**-076C**	76-82-87-93-98-104
-230F	230-240-250-260-270-280	**-110C**	110-115-121-126-132-137
-290F	290-300-310-320-330-340	**-143C**	143-148-154-160-165-171
-350F	350-360-370-380-390-400	**-176C**	176-182-187-193-198-204
-420F	420-435-450-465-480-500	**-215C**	215-223-232-240-248-260

MICRO Three-Position
Base Part No. 430
Available in Mylar only
.13" X .30"
(3 x 8 mm)

RANGE CODE SUFFIX (CELSIUS ONLY) FOR THREE-POSITION, BASE PART NO. 430

Suffix	°C Positions	Suffix	°C Positions
-043C	43-48-54	**-104C**	104-115-121
-060C	60-65-71	**-110C**	110-115-121
-076C	76-82-87	**-121C**	121-126-132
-082C	82-93-104	**-126C**	126-132-137
-093C	93-98-104	**-143C**	143-148-154

PALMER Wahl INSTRUMENTATION GROUP
(800) 421-2853 • FAX (828) 658-0728 • www.instrumentationgroup.com

Single Position Temp-Plates®

When the recorded temperature reached is a question of one point only, or space is at a minimum, Wahl Single-Position Temp-Plates provide history at a glance. Easy-to-read recording position is simply either "off" (light gray) or "on" (black) at one temperature point only. Perfect for warranties and critical process points.

How to Order Single Position Temp-Plates

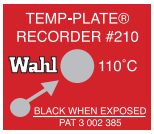
General Ordering Information

- All Temp-Plates are shown at actual size
- Temp-Plates are priced, sold, and shipped in reclosable storage boxes with labels of the same Part Number. The **414 Temp-Plate** comes in **boxes of 20** labels and the **210 Temp-Plate** in **boxes of 10** labels. Unit of measure is "box".
- Temp-Plate cover material is made of: Mylar (clear) for ranges 100/350˚F (38/176˚C)
  Kapton (amber) above 350˚F (176˚C)
- Specify Part Number by selecting the **Base Part No.** from the tables below. Then add the **Range Code Suffix** to complete the Part Number.
  *Example: **414-200F-093C** for a temperature point of 200˚F and 93˚C.*
- *See "Standard Specifications" catalog page 9, for more information.*

Single-Position, Round
Base Part No. 414
.56" Diameter
(14 mm)
Note: Printed with both °F and °C

RANGE CODE SUFFIX FOR SINGLE POSITION, BASE PART NO. 414

Suffix	°F & °C Position	Suffix	°F & °C Position	Suffix	°F & °C Position
-095F-035C	95°F and 35°C	**-210F-099C**	210°F and 99°C	**-350F-177C**	350°F and 177°C
-100F-038C	100°F and 38°C	**-220F-104C**	220°F and 104°C	**-360F-182C**	360°F and 182°C
-105F-041C	105°F and 41°C	**-230F-110C**	230°F and 110°C	**-370F-188C**	370°F and 188°C
-110F-043C	110°F and 43°C	**-240F-116C**	240°F and 116°C	**-380F-193C**	380°F and 193°C
-115F-046C	115°F and 46°C	**-250F-121C**	250°F and 121°C	**-390F-199C**	390°F and 199°C
-120F-049C	120°F and 49°C	**-260F-126C**	260°F and 126°C	**-400F-204C**	400°F and 204°C
-130F-054C	130°F and 54°C	**-270F-132C**	270°F and 132°C	**-410F-210C**	410°F and 210°C
-140F-060C	140°F and 60°C	**-280F-137C**	280°F and 137°C	**-420F-216C**	420°F and 216°C
-150F-066C	150°F and 66°C	**-290F-143C**	290°F and 143°C	**-435F-224C**	435°F and 224°C
-160F-071C	160°F and 71°C	**-300F-149C**	300°F and 149°C	**-450F-232C**	450°F and 232°C
-170F-077C	170°F and 77°C	**-310F-154C**	310°F and 154°C	**-465F-241C**	465°F and 241°C
-180F-082C	180°F and 82°C	**-320F-160C**	320°F and 160°C	**-480F-249C**	480°F and 249°C
-190F-088C	190°F and 88°C	**-330F-166C**	330°F and 166°C	**-490F-254C**	490°F and 254°C
-200F-093C	200°F and 93°C	**-340F-171C**	340°F and 171°C	**-500F-260C**	500°F and 260°C



Single-Position
Base Part No. 210
1" x .75"
(25 x 19mm)
Note: Printed either °F or °C

STANDARD RANGE CODE SUFFIX* FOR SINGLE POSTION, BASE PART NO. 210

Suffix	°C Position	Suffix	°F Position
-043C	43°C	**-220F**	220°F
-054C	54°C	**-270F**	270°F
-071C	71°C		

Custom Ranges available for Part No. 210.

Any other temperature point from 100˚F to 350˚F or 37˚C to 176˚C may be ordered.

Order by using base part number 210 with suffix identifying the desired temperature point in ˚F or ˚C.
Example: 210-123C.

IC Batch/Vacuum Chamber Temp-Plates®

A specialized Four-Position Temp-Plate for monitoring overheat conditions directly on the surface of integrated circuits during wafer fabrication. Designed to withstand exposure to high heat, vacuums and corrosive gases when used in the demanding semiconductor industry.

Special Application Four Position Temp-Plate Ordering Information

Four-Position IC Batch/Vacuum Temp-Plate Ordering Information:

- Temp-Plates are priced, sold and shipped in reclosable storage **boxes of 10** labels of the same Part Number. Unit of measure is "box".
- Temp-Plate cover material is Kapton only, reverse printed for vacuum chamber use.
- Specify Part Number by adding the **Range Code Suffix** to the **Base Part No.** *Example: **443-198C** for a Four-Position round Temp-Plate with temperature points of 198, 204°, 210° and 215°C.*
- *See "Standard Specifications", catalog page 9, for more information.*

MINI Four-Position, Round IC Batch and Vacuum Chamber Base Part No. 443
.56" Diameter
(14 mm)

RANGE CODE SUFFIX FOR MINI, FOUR-POSITION, ROUND IC BATCH & VACUUM CHAMBER, BASE PART NO. 443

Suffix	°C Position	Suffix	°C Position	Suffix	°C Position
-037C	37-43-48-54	**-076C**	76-82-87-93	**-154C**	154-160-165-171
-038C	37-48-60-71	**-082C**	82-93-110-121	**-176C**	176-182-187-193
-043C	43-48-54-60	**-087C**	87-93-98-104	**-177C**	176-204-232-260
-048C	48-60-71-82	**-093C**	93-98-104-110	**-182C**	182-193-204-215
-060C	60-71-82-93	**-094C**	93-104-115-126	**-198C**	198-204-210-215
-061C	60-82-104-126	**-095C**	93-121-148-176	**-199C**	198-210-223-232
-065C	65-71-76-82	**-110C**	110-115-121-126	**-215C**	215-223-232-240
-066C	65-93-121-148	**-121C**	121-126-132-137	**-223C**	223-232-240-254
-071C	71-82-93-104	**-132C**	132-137-143-148		
-072C	71-76-82-87	**-137C**	137-148-160-171		

MINI Four-Position IC Batch and Vacuum Chamber Base Part No. 101-4
.38" X .82"
(10 x 21 mm)

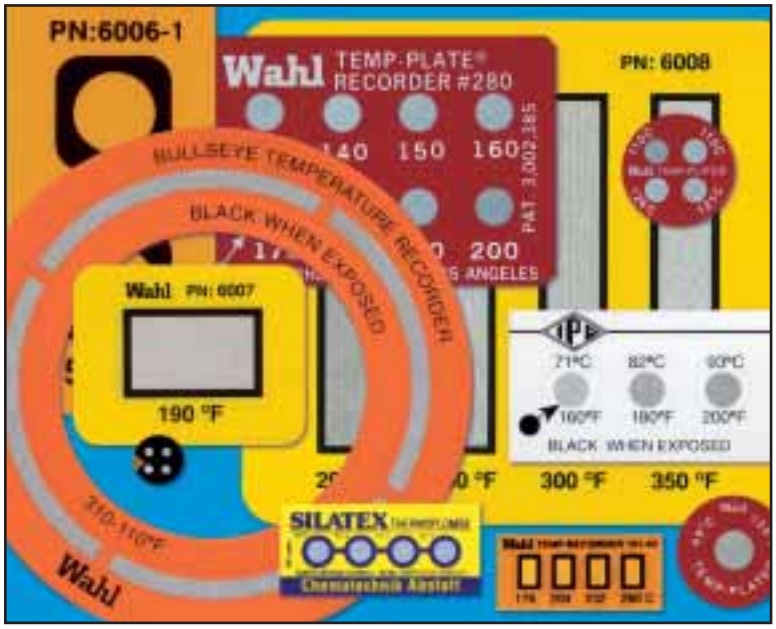
RANGE CODE SUFFIX FOR MINI FOUR-POSITION IC BATCH & VACUUM CHAMBER, BASE PART NO. 101-4

Suffix	°C Position	Suffix	°C Position	Suffix	°C Position
-037VC	37-43-48-54	**-072VC**	71-76-82-87	**-132VC**	132-137-143-148
-038VC	37-48-60-71	**-076VC**	76-82-87-93	**-137VC**	137-148-160-171
-043VC	43-48-54-60	**-082VC**	82-93-110-121	**-154VC**	154-160-165-171
-048VC	48-60-71-82	**-087VC**	87-93-98-104	**-176VC**	176-182-187-193
-060VC	60-71-82-93	**-093VC**	93-98-104-110	**-177VC**	176-204-232-260
-061VC	60-82-104-126	**-094VC**	93-104-115-126	**-198VC**	198-204-210-215
-065VC	65-71-76-82	**-095VC**	93-121-148-176	**-199VC**	198-210-223-232
-066VC	65-93-121-148	**-110VC**	110-115-121-126	**-223VC**	223-232-240-254
-071VC	71-82-93-104	**-121VC**	121-126-132-137		

PALMER Wahl INSTRUMENTATION GROUP
(800) 421-2853 • FAX (828) 658-0728 • www.instrumentationgroup.com

Special Application and Custom Designed Temp-Plates®

In addition to the wide selection of off-the-shelf Temp-Plates, Wahl's engineering, graphics design and manufacturing experience invites OEM's and end-users to solve their unique temperature recording requirements. We have successfully created custom and made-to-order Temp-Plates in partnership with a wide variety of manufacturing, design, maintenance and research industry leaders, including commercial and aviation, aerospace, energy, medical, pharmaceutical, and the computer industry.



Made-to-Order Temp-Plates
Custom Temp-Plates produced to customer's specifications. Custom size, shape, range, positions, color, and logo imprint, subject to factory approval.

Temp-Plate Standard Specifications

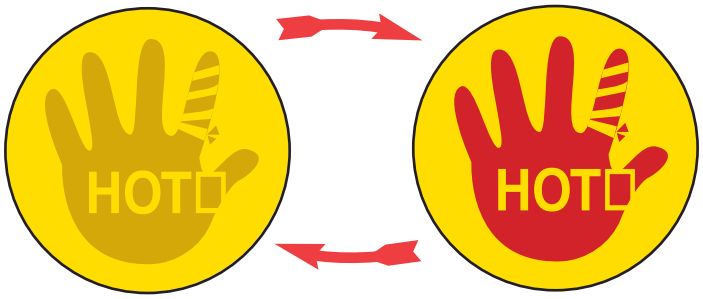
Rated Temp.	90°F to 500°F (32°C to 260°C)
Accuracy	Color change at 1% of indicated value, e.g. ±2.5°F at 250°F or ±1.2°C at 121°C.
Color Change	Irreversible change from pearl gray to black at rated temperatures.
Response Time	Less than 1 second when measured in water.
Traceability	Lots are traceable to codes found in the back of each box. The accuracy calibration records on file at Wahl Instruments are traceable to NIST.
Mounting	Pressure-sensitive adhesive backing rated to 500°F on smooth, clean, dry surfaces.
Thickness	0.013 inch (0.330 mm)
Shelf Life	Two years minimum when Temp-Plate labels are stored in their original container at an ambient temperature of 60° to 80°F and a relative humidity of 50%. One year on reversible Temp-Plate Labels when stored away from UV light.

Hot Hands™ Reversible Temperature Monitors

Industrial safety labels prevent skin burns

Wahl's industrial safety warning labels protect against skin burns when affixed to potentially hazardous surfaces.

When the self-adhesive bright yellow 1.5" diameter reversible temperature indicator reaches its calibrated temperature of about 122˚F (50˚C), which is skin burn temperature, A BRIGHT RED HAND APPEARS WHICH SAYS "HOT". When the temperature cools to normal, the verbal message will disappear and change back to its original solid non-indicating position.



Safe

Hot 122˚F

Applications

- Indicates when machinery is "ON" or "OFF"
- Hot Ovens
- Motors
- Appliances
- Hot Plates
- Transformers
- Pipes
- Radiators
- Heaters

Hot Hands Ordering Information

- Hot Hands are shown at actual size
- Hot Hands are priced, sold, and shipped in **packages of 50** labels.

Part No. 11895-1 Temperature Warning Safety Label

Label Indicates at: 122˚F (50˚C)

Label Withstands Maximum Temperature Of: 194˚F (90˚C)

Temp-Spy® Series

Low Cost Temperature Labels

Temp-Spy is an all plastic, self adhesive temperature recording label that is non-reversible. It is designed and produced in Wahl's US factory to meet the needs of high volume users who need a quality product, low cost, and rapid delivery.

Highly Visible, Easy to Read

A yellow format is easily seen at a distance, pinpointing hot spots

Model TS3 covers a narrow range of approximately 20˚C with 3 indicators.

Applications

- Electric Motors
- Bearings
- Electronic Modules
- Steam Traps
- Electric Power Connections
- Relays

RANGE CODE SUFFIX BASE PART NUMBER TS3

Suffix	°C Position
-43C	43-54-65
-60C	60-71-82
-93C	93-104-115
-126C	126-137-148
-160C	160-171-182
-193C	193-210-223
-232C	232-240-254

TS3
Base Part No.TS3
.75" X 1.5" (19 x 38 mm)

PALMER Wahl INSTRUMENTATION GROUP

(800) 421-2853 • FAX (828) 658-0728 • www.instrumentationgroup.com

Reversible Temp-Plates®

Reversible Temp-Plate Temperature labels are used for applications demanding digital readings of current ambient temperatures. Offered in a wide range of sizes, temperature spans and increments, these versatile and economical thermometers, like Irreversible Temp-Plates, are suitable for thousands of uses.

- Self-adhesive back sticks securely to almost any flat surface - glass, metal, ceramics, plastics or fabrics.
- The indicating digit becomes easily visible as temperature increases. Digits change from black (invisible), through the color spectrum, then back to black.
- Compact size works in small areas where space is limited. Perfect for refrigerated transport, product showcases and storage rooms.
- Ranges from -22°F (-30°C) up to 248°F (120°C) in 2°,9° and 18°F (1°,2°, 5°, and 10°C) increments.
- Reversible Temp-Plates have a shelf life of 1 year when stored away from UV light
- Rugged, unbreakable construction without glass or plastic parts to shatter.
- Economical method of monitoring multiple temperature points within plant or warehouse environment.

Reversible Temp-Plate Ordering Information

SEVEN-POSITION DUAL SCALE RT-P

Part No.	Range	Increments	Qty.
7-30/0C&F	-30° to 0°C / -22° to 32°F	5°C/9°F	10
70/30C&F	0° to 30°C / 32° to 86°F	5°C/9°F	10
730/60C&F	30° to 60°C / 86° to 140°F	5°C/9°F	10
760/90C&F	60° to 90°C / 140° to 194°F	5°C/9°F	10
730/90C&F	30° to 90°C /86° to 194°F	10°C/18°F	10
790/120C&F	90° to 120°C / 194° to 248°F	5°C/9°F	10

NARROW, SIXTEEN-POSITION DUAL SCALE RT-P

Part No.	Range	Increments	Qty.
N1658/88F&C	58° to 88°F / 14° to 31°C	2°F/2°C	10
N1626/56F&C	26° to 56°F / -3° to 13°C	2°F/1°C	10
N1614/31C&F	14° to 31°C / 58° to 88°F	1°C/2°F	10
N16-3/13C&F	-3° to 13°C / 26° to 56°F	1°C/2°F	10
N1690/120F&C	90° to 120°F / 32° to 49°C	2°F/1°C	10
N1632/49C&F	32° to 49°C / 90° to 120°F	1°C/2°F	10

WIDE, SIXTEEN-POSITION DUAL SCALE RT-P

Part No.	Range	Increments	Qty.
W1660/90F&C	60° to 90°F / 16° to 32°C	2°F/1°C	100

WIDE, SIXTEEN-POSITION CELSIUS SCALE RT-P

Part No.	Range	Increments	Qty.
W1610/40C	10° to 40°C	2°C	100
W160/75C	0° to 75°C	5°C	100
W1625/100C	25° to 100°C	5°C	100
W1618/33C	18° to 33°C	1°C	100

REFRIGERATOR, DUAL SCALE RT-P

Part No.	Range	Increments	Qty.
R32/54F&C	32° to 54°F / 0° to 12°C	4°F/2°C	100

FREEZER, DUAL SCALE RT-P

Part No.	Range	Increments	Qty.
F-10/25F&C	-10° to 25°F / -23° to -4°C	5°F/3°C	100

All RT-P's Are Shown Actual Size

Seven-Position Dual Scale RT-P
1.75" X .50" (45 X 13mm)

Wide Sixteen-Position Dual Scale and Celsius Scale RT-P
0.75" X 5.187"
(19 X 130mm)

Narrow Sixteen-Position Dual Scale RT-P
0.5" X 5"
(13 X 127mm)

Refrigerator Dual Scale RT-P
0.75" X 5.187"
(19 X 130mm)

Freezer, Dual Scale RT-P
0.75" X 5.187"
(19 X 130mm)

PALMER Wahl
INSTRUMENTATION GROUP

The World's Finest Manufacturers of Industrial Temperature, Pressure and Humidity Instrumentation

PALMER INSTRUMENTS, INC.

- Industrial Glass Thermometers
- Bimetal Dial Thermometers
- Pressure Gauges and Accessories
- Temperature and Pressure Recorders
- Liquid Filled Dial, Direct Drive Thermometer Systems
- Thermowells and Fittings
- ASTM and Laboratory Thermometers
- Process Thermometers
- Sanitary Thermometers and Gauges
- Thermometer Contract Manufacturing

Wahl INSTRUMENTS, INC.

- Heat Prober® Meter/Probe Thermometer Systems
- Heat Spy® Hand-Held Infrared Thermometers
- Digi-Stem® Digital Industrial Thermometers
- Temperature Transmitters and Switches
- Temp-Plate® Irreversible and Reversible Temperature Labels
- Heat Spy Monitor® Fixed Infrared Sensors
- In situ RTD and Thermocouple Probes and Connection Systems
- Thermistor Probes and Connection Systems
- Specialty Probes for OEM applications
- Probe extension Cables and Connectors

AOIP

- Portable Electronic Temperature and Process Calibrators
- Bench Top Electronic Temperature and Process Calibrators
- Bench Top Precision Thermometers

Lufft

- Dataloggers for Temperature, Humidity, Barometric Pressure, CO2 and Meterorological Conditions
- Modular Data Logger for Measuring, Logging and Control
- Hand-Held RTD, Dual Thermocouple, and Combination Thermocouple and RTD Meters
- Hand-Held Pressure and Differential Pressure Meters, Temperature, Humidity, and Dew Point Meters
- Electronic Weather Stations

Instrumentation Group Warranty

Manufacturer warrants all products listed in this catalog to be free from defects in material or workmanship under normal use and service. The Manufacturer agrees to repair or replace any product which upon examination is revealed to have been defective due to faulty workmanship or material if returned to our factory, transportation charges prepaid, within the product specific warranty period stated in the catalog by the manufacturer. This warranty is in lieu of all other warranties, expressed or implied and of all obligations or liabilities on its part for damages including but not limited to consequential damages, following the use or misuse of instruments sold by the Manufacturer. No agent is authorized to assume for Manufacturer any liability except as set forth above.

234 Old Weaverville Road • Asheville, North Carolina • 28804-1228
Phone (800) 421-2853 • (828) 658-3131 • Fax (828) 658-0728 • Email: palmerwahl@instrumentationgroup.com
www.instrumentationgroup.com

PW1250 11/03