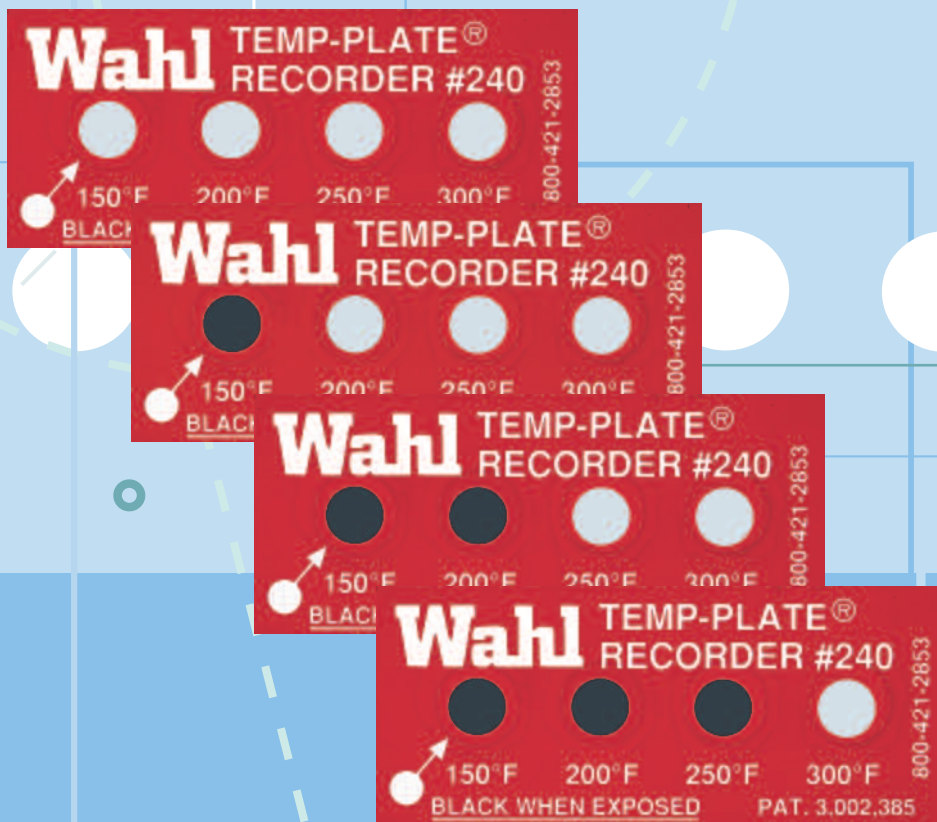




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TEMP-PLATE®

Irreversible Temperature Recording Labels



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PALMER Wahl
INSTRUMENTATION GROUP

Temp-Plate® Irreversible Temperature Recording Labels

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Wahl Temp Plate Temperature Recording Labels are:

- 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 $\pm 1\%$ 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



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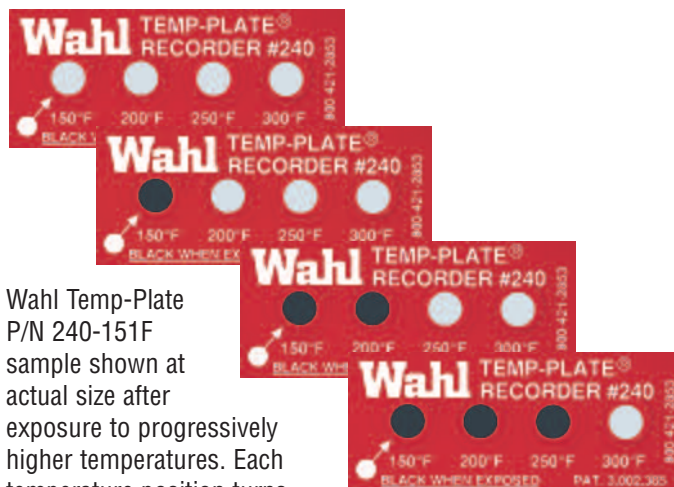
NEW! WB130 Wahl Breaker Overheat Indicators for Predictive Maintenance

Monitors Circuit Breaker & Electrical
Equipment Temperature for Overheat
see page 7 for details



- Continuously monitors electrical equipment. These economical non-reversible chemical change temperature labels 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
P/N 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 to Use-Simply peel off backing of self adhesive Temp-Plates, and apply to any clean surface. Only .010" thick.

IMPORTANT NOTE: All labels 120°F/48°C and below are considered low temperature and are shipped with an ice pack to prevent the labels from turning in transit. They are shipped by Fed Ex Express Overnight. These labels should be refrigerated upon receipt or they could turn before their intended use.

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 $\pm 1\%$ 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.

Certification Services Available

Quality Assurance

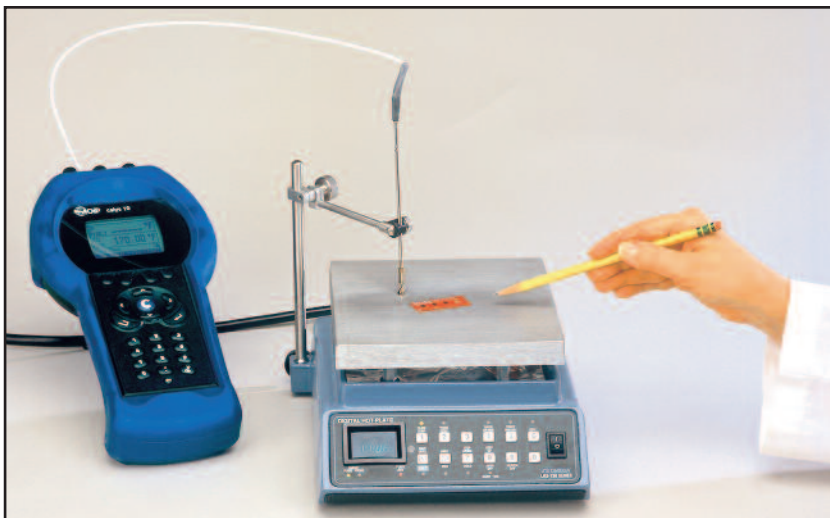
Temp-Plates are manufactured with the same meticulous care as all other Wahl instruments. Temperature accuracy is verified by calibration tests on all lots of chemical elements used in the manufacture of Temp-Plates. Records of the calibration data are on permanent file at Wahl where the accuracy of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

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.

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.



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

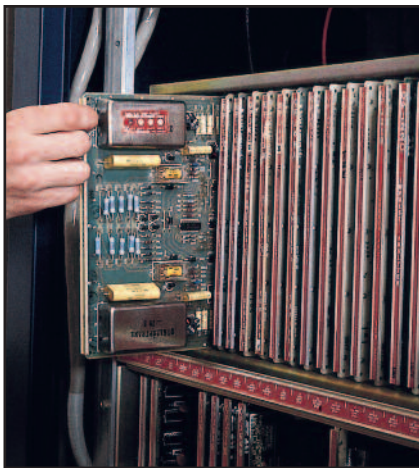


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Applications

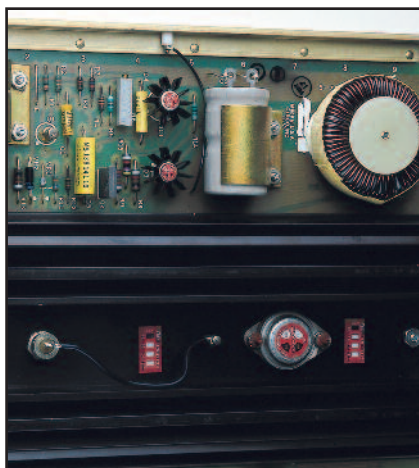
Versatile, easy-to-read Temp-Plate Labels help monitor and prevent overheating of valuable machinery, electrical parts, electronic components, perishable goods and other heat-sensitive materials and equipment. Temp-Plates are an economical, efficient tool for laboratory work, testing and quality control.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

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



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.



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.

Temp-Plate® Applications

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.

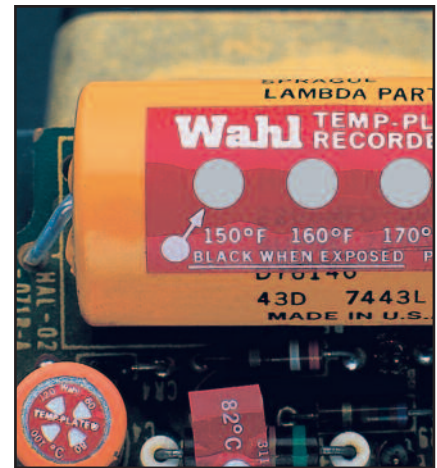


PREVENTIVE MAINTENANCE

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

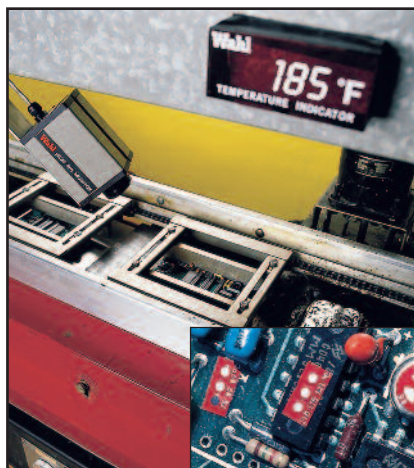
Prevent heat-related deterioration of materials, such as pharmaceuticals, pace-makers, foods, chemicals and film.

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



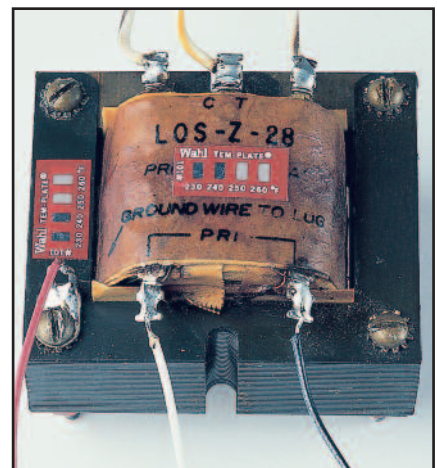
ELECTRONIC CIRCUIT DESIGN

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.



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.

See Important Note regarding shipping Temp-Plates on pg 9.

Four Position Temp-Plate®

Four
Position

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-PLATES

GENERAL

ORDERING

INFORMATION

- All Temp-Plates are shown at actual size. *For more information, see "Standard Specifications", catalog pg 9.*
- Temp-Plates are priced, sold, and shipped in reclosable storage **boxes of 10** labels of the same Part Number. Unit of measure is "box". Note: Label 444 is shipped in a reclosable bag of 10.
- 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



STANDARD Four-Position

Base Part No. **240**

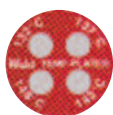
.75" X 1.75" (19 x 44mm)



MINI Four-Position

Base Part No. **101-4**

.38" X .82" (10 x 21mm)



MINI Four-Position, Round

Base Part No. **444**

.56" Diameter (14mm)



MICRO Four-Position

Base Part No. **441**

.13" X .44" (3 x 11mm)



MICRO Four Position, Round

Base Part No. **442**

.25" Diameter (6mm)

* Available in these ranges in a minimum of five-box order only.
** Not available in 170F.

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	-090F	90-100-110-120	-032C	32-37-43-48	
240*	N/A	N/A	N/A	N/A	-091F	90-95-100-105	-033C	32-35-37-41	
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	442	-160F	160-180-200-220	-071C	71-82-93-104	
240	101-4	444	441	N/A	-161F	160-170-180-190	-072C	71-76-82-87	
240	101-4	444	441**	442	-170F	170-180-190-200	-076C	76-82-87-93	
N/A	N/A	444	N/A	N/A	N/A		-077C	76-93-110-126	
N/A	N/A	444	N/A	N/A	N/A		-078C	76-98-110-132	
N/A	N/A	444	N/A	N/A	N/A		-079C	76-93-104-132	
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	
N/A	N/A	N/A	441	N/A	N/A		-126C	126-132-137-143	
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	

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



Special Unmarked Security MICRO Four-Position, Round

Base Part No. **440**

.25" Diameter (6mm)



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Three, Six, & Eight Position Temp-Plates

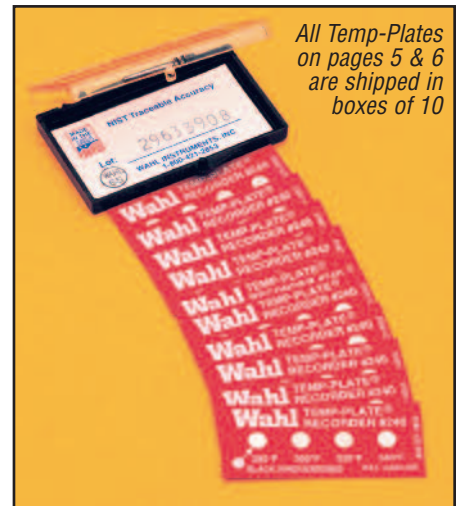
Three, Six & Eight Position Temp-Plates®

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.

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.



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.



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

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 29mm)

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 8mm)

RANGE CODE SUFFIX FOR THREE-POSITION, Base Part No. 430

Suffix	°C Positions	Suffix	°C Positions	Suffix	°F Positions
-043C	43-48-54	-110C	110-115-121	-180F	180-190-200F
-060C	60-65-71	-121C	121-126-132	-181F	180-190-210F
-076C	76-82-87	-126C	126-132-137	-182F	180-200-220F
-082C	82-93-104	-143C	143-148-154		
-093C	93-98-104	-160C	160-165-171		
-104C	104-115-121				



See Important Note regarding shipping Temp-Plates on pg 9.



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08/05 Rev B

Single Position Temp-Plates®

Single
Position

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

- All Temp-Plates are shown at actual size.

ORDERING

- Temp-Plates are priced, sold, and shipped in reclosable storage boxes with labels of the same Part Number.

INFORMATION

- **414** comes in **bags of 20** labels, **210** in **boxes of 10** labels. **WB130** in **bags of 30**. 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.

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



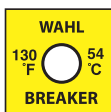
MINI Single-Position, Round

Base Part No. 414

.56" Diameter
(14mm)

Note: Printed with both
°F and °C

Suffix	°F & °C Position	Suffix	°F & °C Position	Suffix	°F & °C Position
NA	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-127C	260°F and 127°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-138C	280°F and 138°C	-420F-216C	420°F and 216°C
-150F-066C	150°F and 66°C	-290F-143C	290°F and 143°C	-435F-224F	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 Part No. WB130

0.470" x 0.470"

(11.93 x 11.93mm)

Printed: 130°F and 54°C

NEW! Wahl Breaker Overheat Indicators for Predictive Maintenance
Continuously Monitors Circuit Breaker & Electrical Equipment Temperature
with no interruption due to power failure or battery exhaustion.
Provides a permanent record of overheating.

Package of 30 includes: 1 Self-Adhesive Panel Inspection Log

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



STANDARD Single-Position

Base Part No. 210

1" x 0.75" (25 x 19mm)

Note: Printed either
°F or °C

Suffix	°C Position	Suffix	°F Position
-043C	43°C	-095F	95°F
-054C	54°C	-220F	220°F
-071C	71°C	-270F	270°F

*Custom Temperature Points available for Part No. 210.

Any other temperature point from 90°F to 350°F or 32°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: 210-220F.



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IC Batch/Vacuum Chamber Temp-Plates®

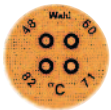
A specialized Four-Position Temp-Plate for monitoring overheat conditions directly on the surface of integrated circuits during wafer fabrication. Designed to withstand exposure to high heat, vacuums and corrosive gases when used in the demanding semiconductor industry.

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. **443** comes in **bags of 10**. 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.

RANGE CODE SUFFIX FOR MINI, FOUR-POSITION, ROUND IC BATCH & VACUUM CHAMBER, Base Part No. 443



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

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		

RANGE CODE SUFFIX FOR MINI FOUR-POSITION IC BATCH & VACUUM CHAMBER, Base Part No. 101-4



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

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		

RANGE CODE SUFFIX FOR MICRO, FOUR-POSITION, IC BATCH & VACUUM CHAMBER, Base Part No. 450



Micro Four-Position IC Batch and Vacuum Chamber
Base Part No. 450
0.2" X 0.65"
(5 x 16.5mm)

Suffix	°C Position	Suffix	°C Position
-043VC	43-48-54-60	-115VC	115-121-126-132
-065VC	65-71-76-82	-132VC	132-137-143-148
-087VC	87-93-98-104	-154VC	154-160-165-171
-110VC	110-115-121-126	-176VC	176-182-187-193

Note: 450 Label is shown larger than actual size, and is packaged in resealable plastic bags.



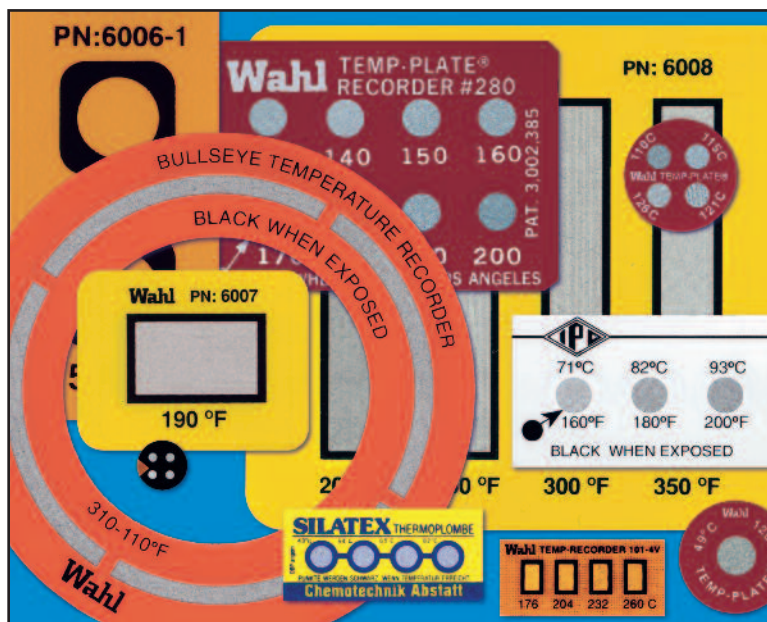
See Important Note regarding shipping Temp-Plates on pg 9.

Special Application and Custom Designed Temp-Plates®

**Special
Application
Custom Design**

In addition to the wide selection of off-the-shelf Temp-Plates, Wahl's engineering, graphics design and manufacturing experience invites OHM and end-users to solve their unique temperature recording requirements.

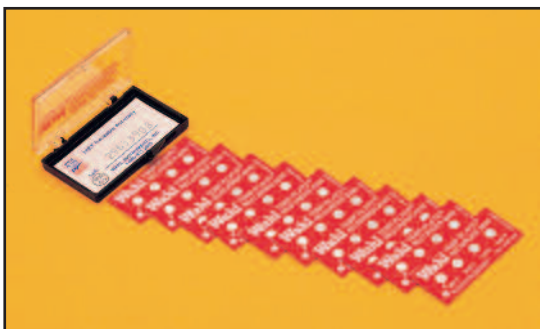
We have successfully created custom and made-to-order Temp-Plates in partnership with a wide variety of manufacturing, design, maintenance and research industry leaders, including commercial and aviation, aerospace, energy, medical, pharmaceutical, and the computer industry.



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. $\pm 2.5^\circ\text{F}$ at 250°F or $\pm 1.2^\circ\text{C}$ 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 (0.330mm)

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.

IMPORTANT NOTE: All labels 120°F/48°C and below are considered low temperature and are shipped with an ice pack to prevent the labels from turning in transit. They are shipped by Fed Ex Express Overnight. These labels should be refrigerated upon receipt or they could turn before their intended use.



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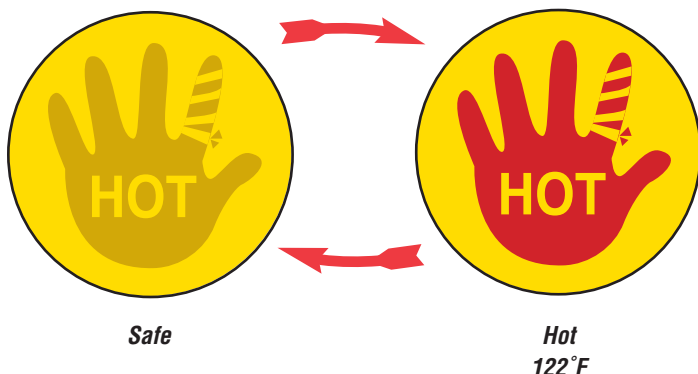
Hot Hands and Temp-Spy

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" (38mm) 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.



APPLICATIONS

- Indicates when machinery is "ON" or "OFF"
- Hot Plates
- Transformers
- Hot Ovens
- Pipes
- Motors
- Radiators
- Appliances
- 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 TSK3 covers a narrow range of approximately 20°C with 3 indicators.



TS3

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

APPLICATIONS

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

RANGE CODE SUFFIX Base Part No. 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

See Important Note regarding shipping Temp-Plates on pg 9.

Reversible Temp-Plates have been discontinued. Part numbers below in Bold and are only available while supplies last.

Reversible Temp-Plates®

Reversible Temp-Plate

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 RTF-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	NA
760/90C&F	60° to 90°C / 140° to 194°F	5°C/9°F	NA
730/90C&F	30° to 90°C / 86° to 194°F	10°C/18°F	NA
790/120C&F	90° to 120°C / 194° to 248°F	5°C/9°F	NA

NARROW, SIXTEEN-POSITION DUAL SCALE RTF-P

Part No.	Range	Increments	Qty.
N1658/88F&C	58° to 88°F / 14° to 31°C	2°F/2°C	NA
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	NA
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	NA

WIDE, SIXTEEN-POSITION DUAL SCALE RTF-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 RTF-P

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

REFRIGERATOR, DUAL SCALE RTF-P

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

FREEZER, DUAL SCALE RTF-P

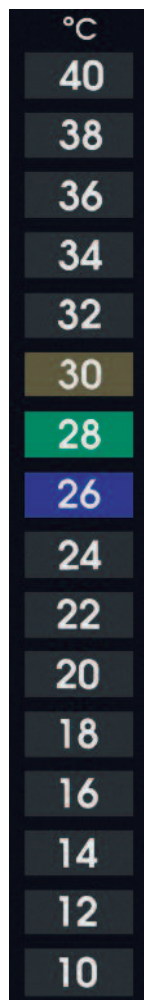
Part No.	Range	Increments	Qty.
F-10/25F&C	-10° to 25°F / -23° to -4°C	5°F/3°C	NA



All RTF-P Are Shown Actual Size



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

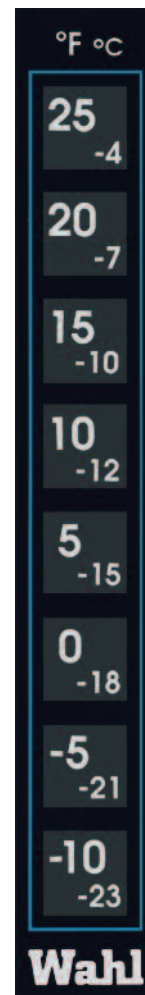


Narrow Sixteen-Position Dual Scale RTF-P
0.5" X 5"
(13 X 127mm)



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

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



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



America's First Manufacturer of Industrial Temperature and Pressure Instrumentation

Wahl designs and manufactures to the most stringent quality standards. We provide certified, traceable calibration data in support of companies whose requirements include meeting ISO 9001:2008, FAA and FDA quality standards. Calibrations to both IPTS-68 and ITS-90 are available. We maintain a calibration system in conformance with ANSI/NCSL Z-540 and MIL-STD-45662A.

CALIBRATION SERVICES

STANDARD CERTIFICATION: Unit is calibrated to factory specifications using NIST traceable equipment.

Certificate of Conformance - Statement that our product meets published specifications. Included on the packing list with each shipment.

"Long Form" Certificate of Conformance - Available upon request, includes Certificate of Conformance with customer's PO number, items shipped, and any product serial numbers for products included in the shipment.

Calibration Sticker - (or tag) Advising you of the date your instrument(s) was/were calibrated, and the suggested date for the next calibration. This is provided with most products at time of purchase, and when you return a product for calibration.

NIST TRACEABLE TEST REPORT: Unit is calibrated to factory specifications using NIST Traceable equipment. Provides instrument test data with details of standard instruments used to perform the calibration.



"As Received" and "As Left" Test Data are provided, as appropriate, with any out-of-tolerance conditions noted, and a unique test number assigned.

NIST Traceable Calibration Sticker provides the date your instrument(s) was/were calibrated, technician performing the calibration, suggested date for the next calibration, and references the unique test number shown in the Test Report. Our Quality Management System is certified to conform to ISO9001:2008.

REPAIR AND OTHER SERVICES

REGISTER YOUR PRODUCT: Registration is fast and easy. In about a minute you can register your product for Warranty Protection and our Calibration Reminder Service to keep your QC Program in compliance. Go to: www.palmerwahl.com/register

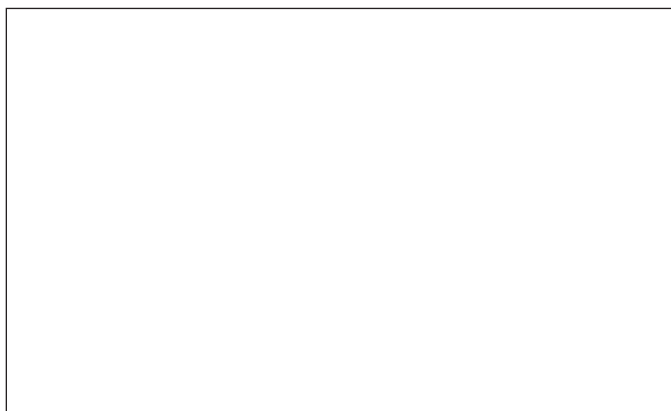
REPAIR and OTHER SERVICES: Palmer Wahl offers repair and calibration services on most products we sell. The customer will receive a written estimate for approval before proceeding with work. Repair pricing includes Standard Certification as listed above.

Detailed Repair Report - Available upon request, this report provides details of evaluation and repairs made.

Custom Points - Palmer Wahl will calibrate your instruments at your specified temperature or pressure points.

Special Requests - When calibrating your instrument, our experienced personnel will help you to achieve the level of quality you require in your facility. **Note:** Before returning your product to us, please contact us to obtain a **Return Merchandise Authorization Number**, (RMA). Call Customer Service at 1-800-421-2853 or go to www.palmerwahl.com and click on: Service > Product Return Request.

Wahl Temp-Plates are available from:



Palmer Wahl 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.

Why you need to Calibrate your Instruments

- Increase customer satisfaction with consistent products.
- Comply with quality standards.
- Improve product quality.
- Ensure traceability throughout your entire manufacturing process.
- Palmer Wahl can calibrate your equipment for you. We also offer a complete line of Calibrators to integrate all the necessary functions for adjustment and maintenance of your process.
- We make it easy to use our products and services, and Palmer Wahl is there to help every step of the way.

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PW1250
08/05 Rev B
Revised 02/19/15