

**IVAC<sup>®</sup>**  
TURBO ★TEMP<sup>™</sup>

**ELECTRONIC  
THERMOMETER**

**MODELS 218X**

***DIRECTIONS FOR USE***



**INTRODUCTION**

- About the Thermometers . . . . . 1
- Features . . . . . 2
- Specifications . . . . . 3
- Controls/Indicators . . . . . 3
- Symbols . . . . . 3

**SETUP PROCEDURE**

- Installation . . . . . 5
- Home Base . . . . . 6
- Calibration Self-Check . . . . . 7
- Start-Up . . . . . 7

**FEATURES AND OPTIONS**

- Normal Use Operating Instructions . . . . . 9
- Oral Temperature Measurement . . . . . 9
- Rectal Temperature Measurement . . . . . 10
- Monitor Mode Operating Instructions . . . . . 11
- Axillary Temperature Measurement . . . . . 11
- Pulse Timer Operation . . . . . 12
- Information Display . . . . . 12
- Problems/Solutions . . . . . 14
- Accessories . . . . . 16

**MAINTENANCE**

- Cleaning . . . . . 17
- Cautions . . . . . 17
- Service Information . . . . . 17
- Inspection Requirements . . . . . 18
- Limited Warranty . . . . . 19
- Sales and Service Offices . . . . . 20

**List of Illustrations**

- Figure 1/1a Features . . . . . 1,2
- Figure 2 Instrument Start-Up . . . . . 7
- Figure 3 Installing Probe Cover . . . . . 9
- Figures 4/5/6 Oral Temperature Measurement . . . . . 9
- Figure 7 Probe Ejection . . . . . 10
- Figure 8 Axillary Temperature Measurement . . . . . 11
- Figure 9 Pulse Timer . . . . . 12
- Figure 10 Thermometer Display . . . . . 13
- Figure 11 Accessories . . . . . 16

INTRODUCTION

SETUP PROCEDURE

FEATURES AND OPTIONS

MAINTENANCE



About the Thermometers

The TURBO★TEMP™ Electronic Thermometer, Models 218X are electronic thermometers which use a heat-sensing device known as a thermistor to sense temperature. The thermistor is part of the electrical circuit and is located at the tip of the probe.

In Monitor mode, the display is continually updated in response to changes in temperature.

In Normal mode, a final temperature is displayed with an audible beep. To obtain this temperature, the probe tip measures the rate of change in temperature when the thermistor comes into contact with surrounding tissue. A final temperature is calculated based on this rate of change.

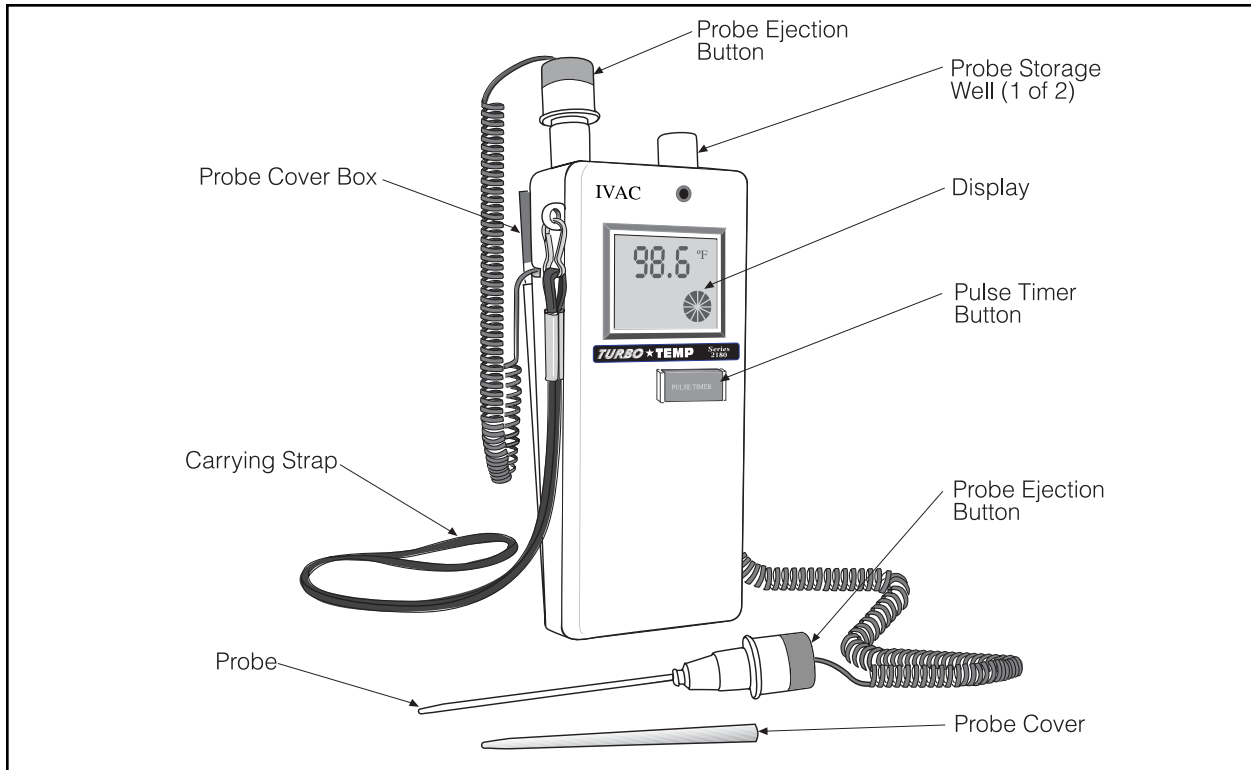


Figure 1 - Features

## Features

The IVAC® TURBO★TEMP™ Electronic Thermometer is a digital thermometer capable of taking fast, accurate temperatures. Its many features include:

- Digital-display of temperature readings in Celsius or Fahrenheit
- Powered by readily-available disposable alkaline batteries (size AA)
- Automatic turn-on and turn-off
- Two color coded probe wells to accommodate oral (blue) and rectal (red) probes
- Recalls last available predictive temperature reading
- Audible tone signals final temperature reading (Normal mode only)
- Internal timer to deter theft
- Broken probe indicator
- Large display panel with automatic backlight
- Sixty second clock display divided into five second increments for timing pulse and respiration rates. Audible tones at fifteen, thirty, and sixty seconds
- Tissue contact pinwheel display indicates tissue contact (Normal mode only)
- Performs self-tests and auto calibration
- Uses disposable probe covers
- Rugged design and construction utilizing advanced microprocessor technology
- Home base for storage

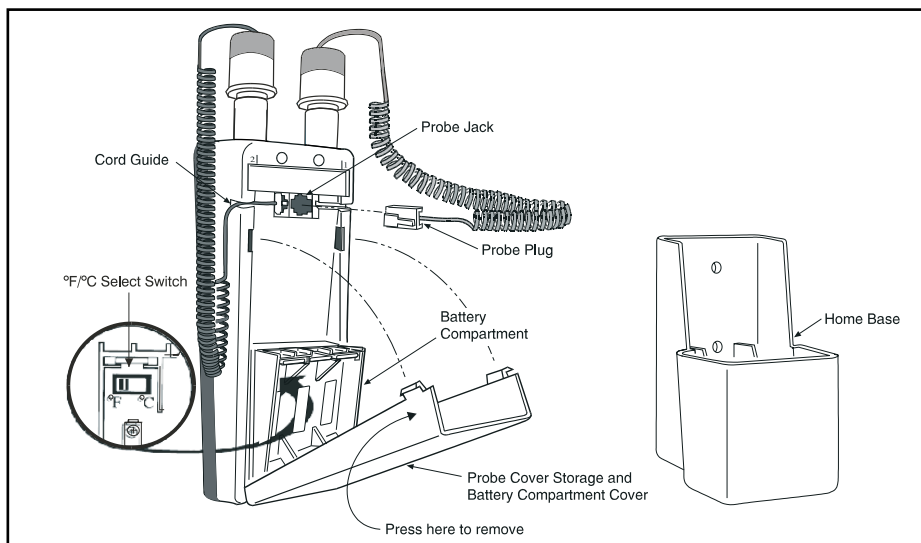


Figure 1a. - Features

## Specifications

NORMAL MODE	35.6°C to 41.1°C (96°F to 106°F)
MONITOR MODE	26.7°C to 41.1°C (80°F to 106°F)
PULSE TIMER	0 to 60 seconds
ACCURACY	(When tested with the thermometer in the Monitor Mode and using a Model 2885/2886/2887/2888 probe in a calibrated water bath); ±0.1°C* (±0.2°F)
POWER SOURCE	4.5 VDC, Type: Alkaline AA size x3
DIMENSIONS	Length 17.50 cm; (6.88 in.) Width 7.30 cm; (2.88 in.) Depth 5.70 cm; (2.23 in.)
WEIGHT	Approximately 410 grams (.9lb) with batteries
CASE	Durable, lightweight, ABS plastic
TRANSPORT/STORAGE TEMPERATURE	-31°C to 48.9°C (-23.8°F to +120°F)
TRANSPORT/STORAGE HUMIDITY	5-95% Relative Humidity Non Condensing

\* Meets the range specified in the ASTM Specifications #E1112, Table 1, which is 98.0°F - 102.0°F.

## Controls/Indicators

### Pulse Timer Button

Starts pulse clock, recalls last available predictive reading, activates backlight, and used to initiate Monitor mode.

### Audible Tone

Sounds when measurement is completed, when pulse timer is activated or terminated, or when an error message occurs.

### Symbols



°F/°C Select switch



Attention - refer to accompanying documentation.



Pulse Timer







*Danger: The Turbo★Temp™ Electronic Thermometer is an explosion hazard, do not use in the presence of flammable anesthetics.*

*NOTE: Batteries must be installed exactly as shown on the battery compartment or the instrument will not function. Install negative end of battery first to prevent damage to the battery contacts. To open battery compartment, press one side of battery cover until latch releases, then press other side (refer to Figure 1a).*



*Dispose of exhausted or used batteries in accordance with applicable regulations.*

*NOTE: Whenever batteries are replaced, the instrument will perform a self-test routine of the instrument hardware which will take about 15 seconds. Should the instrument fail a self-test, a FIX ME message along with a code number will appear in the display. Refer to the Calibration Self-Test and Service Information sections of this manual for further information. At the end of the self-test routine, the instrument will emit beeps continuously and display RETURN TO BASE. The Turbo★Temp™ Electronic Thermometer must be returned to the home base to reset the anti-theft timer whenever batteries are replaced.*

1. Carefully unpack the TURBO★TEMP™ Electronic oral and rectal probes, and carrying strap, checking to ensure that each item is undamaged.
2. Using the adhesive mounting tape attached to the back of the dispenser, or the screws supplied, attach the Probe Cover Dispenser Bracket (Model 896) to a convenient location and install a box of 200 probe covers.
3. Set the instrument to the °C (Celsius) or °F (Fahrenheit) scale, as desired, by adjusting the recessed switch on the left side of the battery compartment with a small screwdriver or pen tip (°C=right switch position; °F=left switch position) see Figure 1a.
4. Attach the home base to a convenient location using either the adhesive tape or screws supplied with the instrument. The home base may be attached to either a horizontal or vertical surface.
5. Install 3 size AA batteries and install cover. \*
6. Insert the connectors on the probe cords (oral or rectal) into the connector sockets on the back of the instrument, and route the probe cord through the cord guide (see Figure 1a). Insert the probes into the probe storage wells in the top of the instrument. Insure the oral (blue) probe plug is connected to the #2 socket and the rectal (red) probe is connected to socket #1.

\* Remove batteries if thermometer is not likely to be used for some time.

---

**CAUTION:** Do not use any kind of extender cables between oral or rectal probe cables and instrument. Instrument will not operate if probes are misconnected.

7. a. Model 2180 - Attach carrying strap to thermometer, if desired. Place the thermometer in the Home Base to activate. Always store the instrument in the home base when not in use.
- b. Model 2185 - Remove the two hex drive screws on both sides of the Home Base using the tool provided. Place the thermometer in the Home Base to activate. Tighten the screws using the tool provided.

---

**CAUTION:** Do not over tighten the screws.

### Home Base

1. Place the TURBO★TEMP™ Electronic Thermometer in the home base before using it for the first time or the instrument will not operate. The instrument must also be returned to the home base whenever the batteries are replaced.
2. The anti-theft timer and alarm are reset by returning the thermometer to the home base. When the anti-theft timer is configured for 8 hour operation (FACTORY DEFAULT), the RETURN TO BASE message will be displayed approximately one hour before the timer interval expires. When the anti-theft timer is configured for one hour operation, the RETURN TO BASE message will be displayed approximately 10 minutes before the timer interval expires. When the timer interval expires (either 8 hours or 1 hour) the instrument will alarm with 3 long beeps or continuous beeps, (depending upon configuration settings) flash RETURN TO BASE message and cease to function.

The calibration check verifies that the microprocessor is able to correctly measure resistance in the circuit, and convert that resistance to a temperature value. When a probe is removed from its well, the battery power is applied to the circuit. This self-check can be verified by observing the displays as the thermometer probe is removed from its well:

- Select and remove one probe; note an audible beep. The instrument will be in Normal mode.
- Verify that the display briefly shows 188.8°E and all messages. The self-check takes place during this time.
- Verify that the test display is replaced by "26.7°C"(80.0°F).
- In Monitor mode\*, the message MONITOR MODE will display, and the Pulse Timer button should be released.
- If the message FIX ME CAL appears, the thermometer is out of calibration and requires service.

\* To place the thermometer into Monitor mode, push and hold the PULSE TIMER button while removing one probe from its well. The pulse timer clock wedges appear and there is an audible beep.

**OPERATIONAL PRECAUTIONS**  
*Electromagnetic Compatibility*

*Operating the thermometer near equipment which radiates high-energy electromagnetic and radio frequencies (electrosurgical/cauterizing equipment, portable radios, cellular telephones, etc.) may cause false alarm conditions. If this happens, reposition the thermometer away from the source of interference and perform a new measurement.*

Start-Up

Install a box of 20 probe covers in the storage compartment at the rear of the instrument. Place the carrying strap around your neck, if desired.

With your thumb and forefinger, grasp the base of a probe and withdraw it from the probe storage well (see Figure 2). This action automatically turns on the instrument. Verify that all display segments, except the pulse timer clock, momentarily light and that the instrument beeps once. When this sequence is complete, the instrument will display the temperature or "Lo" if the ambient temperature is less than 26.7°C (80.0°F) indicating the instrument is ready for use.

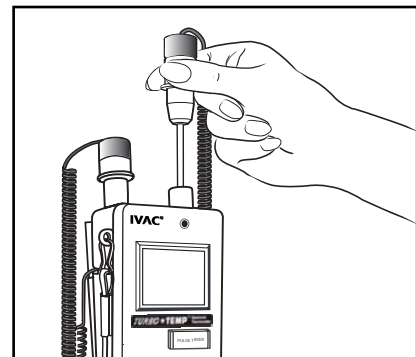


Figure 2 - Instrument Start-Up by Removing the Probe



## Normal Use Operating Instructions

**CAUTION:** Use only IVAC® P850A Probe Covers with the TURBO★TEMP™ Thermometer. The size, shape, and thermal characteristics of the probe covers can affect the performance of the instrument. Inaccurate readings or retention problems may occur unless IVAC® probe covers are used. To avoid cross contamination, use each cover only once.

**CAUTION:** If a patient's temperature is below 96.0°F, the unit will automatically switch from the normal mode into the monitor mode within 60 seconds. MONITOR MODE will be displayed and a correct final temperature reading may require 3 minutes or longer. The unit will not beep at final temperature. It will continue to monitor the patient's temperature until the probe is removed from the patient and returned to the storage well.

### Oral Temperature Measurement

For oral temperature measurement use the blue, oral probe. Insert the probe completely and firmly into a probe cover to ensure a secure fit (see Figure 3). Failure to firmly install the probe cover may result in the probe cover becoming loose or disengaging during use. **Be careful not to press the probe ejection button (where the cord exits the probe) as this might loosen or eject the probe cover.**

1. Have patient open mouth slightly. Holding the probe loosely, **place the probe tip into the sublingual pocket where the richest blood supply is located (see Figures 4 and 5).**
2. Hold the probe during the entire temperature measurement process (see Figure 6) and **keep the probe tip in contact with tissue at all times. Do not allow patient to reposition or hold the probe.**

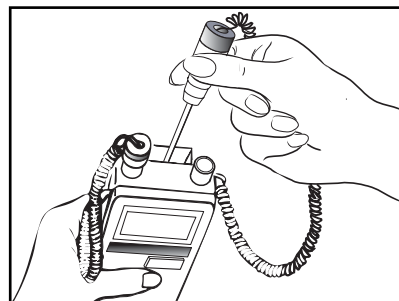


Figure 3 - Installing Probe Cover

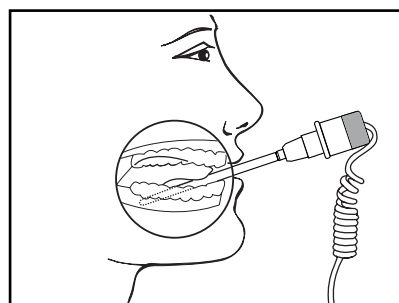


Figure 5 - Side View



Figure 6 - Oral Temperature Measurement

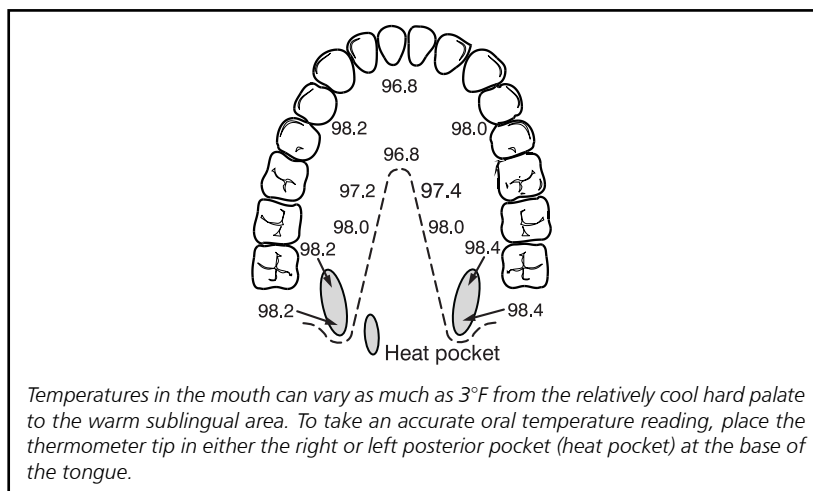


Figure 4 - Examples of the Temperature Variations at the Floor of the Mouth

**NOTE:** If the probe tip temperature is higher than 33.3°C (92°F) when taken out of the probe well, the thermometer will not be able to quickly predict the patient's temperature. Instead, the thermometer will automatically go into Monitor mode. MONITOR MODE will then be displayed. A correct final temperature reading may require 3 minutes or longer. The instrument will not beep at final temperature. It will continue to monitor the patient's temperature until the probe is removed from the patient and returned to the storage well.

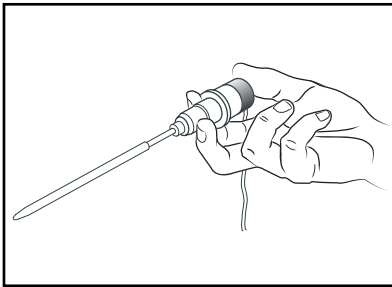


Figure 7 - Probe Ejection

- While the patient's temperature is being determined, the tissue contact pinwheel will appear in the top right corner of the display and the 26.7°C (80.0°F) will be replaced by an advancing temperature. Three audible tones indicates that the measurement is complete, and the patient's temperature (in degrees and tenths of a degree) will appear on the display panel. The display will clear as the probe is returned to the storage well.

**NOTE:** If there is a long delay from the time the probe is removed from the probe storage well until it is inserted into the patient's mouth, it is possible that the instrument will not display a final temperature. If this occurs, insert the probe into the probe storage well, remove it again and start a new measurement.

**NOTE:** If an unusually high or low temperature reading is obtained, reconfirm the reading before beginning treatment.

- Observe the displayed temperature and remove the probe from the patient's mouth. Hold the probe as you would a syringe and press the probe ejection button at the base of the probe to eject the used probe cover into a waste container (see Figure 7).
- Return the oral (blue) probe to the blue probe storage well. This will automatically turn off and reset the thermometer for the next temperature.
- To recall the last available temperature reading, press the PULSE TIMER button. DO NOT withdraw the probe from the storage well as this will cause memory to be erased.

## Rectal Temperature Measurement

For rectal temperature measurement use the red rectal probe from the red (rectal) well. Insert the probe completely and firmly into a cover. Failure to firmly install the probe cover may result in the probe cover becoming loose or disengaged during use. Be careful not to press the probe ejection button where the cord exits the probe as this might loosen or eject the probe cover.

- Touch the tissue about 1.3 cm (0.5 inch) above the sphincter muscle and carefully insert the probe, using current hospital technique for penetration. (The use of a lubricant is optional.)
- To ensure continuous tissue contact and maximize patient comfort, hold the probe in position until the audible tone

sounds three times, indicating the patient's temperature has been reached.

3. Note the temperature, withdraw the probe, press the probe ejection button to eject the used probe cover, and return the rectal (red) probe to the red probe storage well.

In Monitor mode, the TURBO★TEMP™ Electronic Thermometer continuously measures the patient's temperature as it rises or falls.

*NOTE: If an unusually high or low temperature reading is obtained, reconfirm the reading before beginning treatment.*

## Monitor Mode Operating Instructions

### Monitor Mode

1. Push and hold the PULSE TIMER button.
2. While pressing the pulse timer button select and remove one probe.
3. Attach a probe cover.
4. When the display test has completed, release the PULSE TIMER button. MONITOR MODE will be displayed.
5. After positioning the probe, observe the changing display reading. When the display stops changing (3-5 minutes), the patient's current temperature is indicated on the display. (The instrument will not beep to indicate final temperature reading.)

## Axillary Temperature Measurement

1. For axillary temperature measurement, **instrument must be placed in the Monitor Mode** (follow steps 1-3 under Monitor Mode Operating Instructions above).
2. Place probe in patient's axilla, making sure the tip of the probe is in contact with the skin and positioned as close as possible to the axillary artery with the patient's arm held close to their side (see Figure 8). The 26.7°C (80.0°F) will be replaced with the probe tip temperature as the probe warms up.
3. Leave probe in place for the same length of time as required by standard hospital procedure for taking an axillary temperature. (The instrument will not beep to indicate final temperature reading.)
4. Observe patient's temperature, remove probe, eject probe cover, and return probe to storage well.

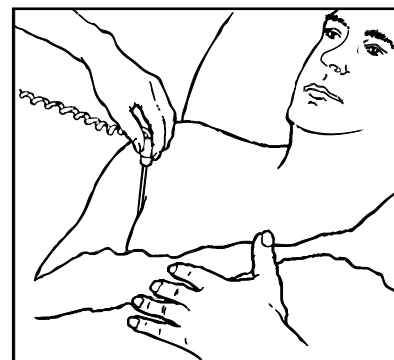


Figure 8 - Axillary Temperature Measurement

## Pulse Timer Operation

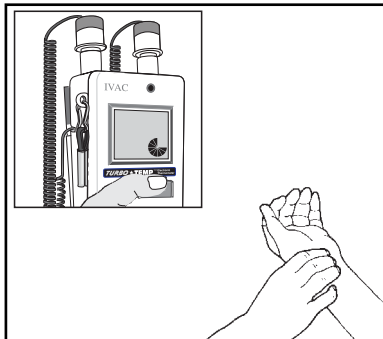


Figure 9 - Pulse Timer

The pulse timer feature is intended to be used in the same manner as you would use a watch for calculating heart rate or respiration rate.

1. Locate the patient's pulse (see Figure 9).
2. Begin taking pulse and, at the same time, press the PULSE TIMER button. The instrument will emit a single short beep to indicate the start of the pulse timer clock. All twelve segments of the clock will come on. One segment will turn off every five seconds, moving sequentially around the clock, starting at 12 o'clock. The last segment turns off at 60 seconds. The instrument will beep once at 15 seconds, beep twice at 30 seconds, and beep three times and turn off at 60 seconds. Pulse is calculated in the same manner as using a stopwatch.
3. Pulse Timer operation can be terminated at any time by pressing the PULSE TIMER button. The instrument will emit three short beeps to indicate termination, and the pulse timer display will turn off.

## Information Display

NORMAL USE

**TISSUE CONTACT PINWHEEL** - Consists of three arrows, sequentially forming a circle, with arrowheads rotating clockwise. Motion indicates tissue contact (Normal mode only).

**PULSE TIMER CLOCK** - Consists of twelve pie wedges forming a clock. Provided to time events such as pulse rate or respiration rate.

**MONITOR MODE** - Indicates instrument is functioning in Monitor mode to continuously track a patient's temperature. The temperature is indicated on the display and will change as the patient's temperature rises or falls. If the pulse timer button is not pressed when the probe is removed and this message appears, it indicates that the instrument attempted a temperature measurement when the starting probe tip temperature was above 33.3°C (92.0°F). The instrument is unable to quickly "predict" a patient's temperature, so it automatically switches to Monitor mode. The temperature on the display will slowly rise and may require 3 minutes or longer before final temperature is reached.



**LOW BATTERY** - Indicates batteries are low. Battery replacement is not required until the **REPLACE BATTERY** alarm is displayed (see below).

**BATTERY REPLACE** - Indicates the batteries are unusable and must be replaced.

**RETURN TO BASE** - Displayed continuously indicates that 10 minutes (for 1 hour configuration) or 1 hour (for an 8 hour configuration) or less remains before the expiration of the predetermined anti-theft time period (factory set to 8 hours). When the configured time period expires, the instrument will emit 3 long or continuous beeps (depending upon configuration settings), display the **RETURN TO BASE** message and cease to function. Return to home base to reset anti-theft timer.

**BROKEN PROBE** - (accompanied by **FIX ME** and broken probe indicator, either oral or rectal) - Indicates a probe is broken and needs to be replaced. Replace probe in well or unplug probe to reset. Replace with new probe if the message persists.

**FIX ME #** (accompanied by three long beeps and a number) - Indicates instrument detects a self-test failure. Instrument operation is discontinued until the failure is corrected. Remove one battery, then reinstall battery. The instrument will run through the self-test routine. If the fix me message appears again, record the fix me number and refer to the Service Information section of this manual.

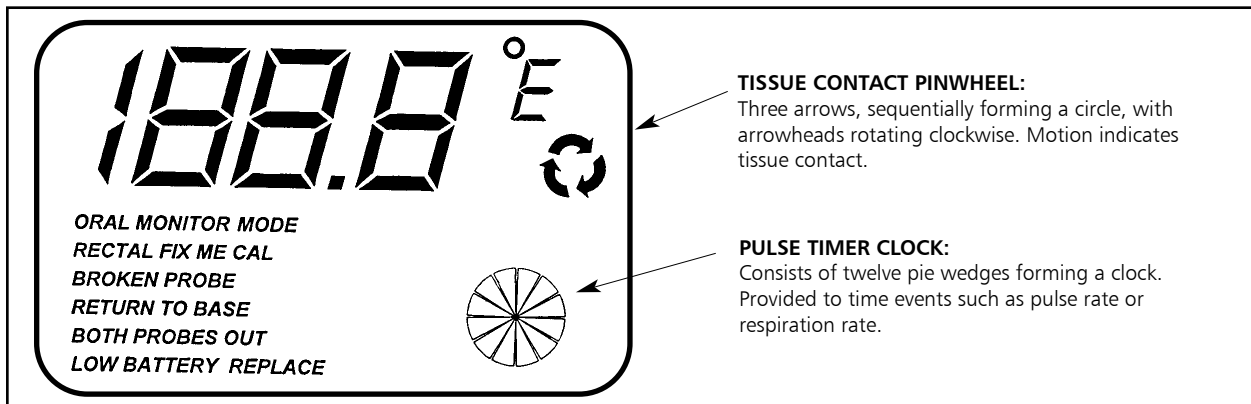


Figure 10 - Thermometer Display

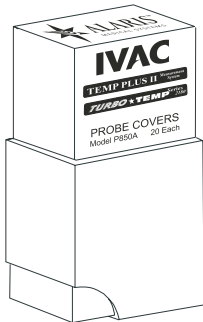
## PROBLEMS/SOLUTIONS

DISPLAY MESSAGE	SOLUTION
1 FIX ME	<ul style="list-style-type: none"> <li>Calculated ROM CRC does not match copy burned into ROM. Requires Service.</li> </ul>
2 FIX ME	<ul style="list-style-type: none"> <li>RAM test failed. Requires Service.</li> </ul>
3 FIX ME	<ul style="list-style-type: none"> <li>Analog fault detected. A/D reference voltages do not match expected values +/- tolerances. Requires Service.</li> </ul>
4 FIX ME	<ul style="list-style-type: none"> <li>Heater Interlock fault detected. Heater interlock has failed to disable the probe heater circuitry. Requires Service.</li> </ul>
5 FIX ME	<ul style="list-style-type: none"> <li>The instrument has detected an internal malfunction. Requires service.</li> </ul>
FIX ME CAL	<ul style="list-style-type: none"> <li>A/D calibration phase timed out. "CAL" is displayed in LCD panel. Requires Service.</li> </ul>
ORAL FIX ME BROKEN PROBE	<ul style="list-style-type: none"> <li>The instrument has detected a broken oral (blue) probe. Requires Service.</li> </ul>
RECTAL FIX ME BROKEN PROBE	<ul style="list-style-type: none"> <li>The instrument has detected a broken rectal (red) probe. Requires Service.</li> </ul>

SOLUTION	DISPLAY MESSAGE
<ul style="list-style-type: none"> <li>(1) A rectal (red) probe has been inserted into the oral (blue) well.</li> </ul> <p style="text-align: center;">OR</p> <ul style="list-style-type: none"> <li>(2) A broken or unconnected probe has been inserted into the oral (blue) well while a rectal (red) probe is connected, but is not in its well.</li> </ul>	<p style="text-align: center;">Prb</p> <p>RECTAL</p> <p style="text-align: right;">FIX ME</p>
<ul style="list-style-type: none"> <li>(1) An oral (blue) probe has been inserted into the rectal (red) well.</li> </ul> <p style="text-align: center;">OR</p> <ul style="list-style-type: none"> <li>(2) A broken or unconnected probe has been inserted into the rectal (red) well while an oral (blue) probe is connected, but is not in its well.</li> </ul>	<p style="text-align: center;">Prb</p> <p>ORAL</p> <p style="text-align: right;">FIX ME</p>
<ul style="list-style-type: none"> <li>A rectal (red) probe has been plugged into the oral connector #2. Plug rectal (red) probe into rectal connector #1.</li> </ul>	<p style="text-align: center;">Con</p> <p>RECTAL</p> <p style="text-align: right;">FIX ME</p>
<ul style="list-style-type: none"> <li>An oral (blue) probe has been plugged into the rectal side (connector #1). Plug oral (blue) probe into oral connector #2.</li> </ul>	<p style="text-align: center;">Con</p> <p>ORAL</p> <p style="text-align: right;">FIX ME</p>
<ul style="list-style-type: none"> <li>A rectal (red) probe has been connected to the oral connector #2 and an oral (blue) probe has been connected to the rectal connector #1. Reverse connectors.</li> </ul>	<p style="text-align: center;">Con</p> <p>ORAL RECTAL</p> <p style="text-align: right;">FIX ME</p>
<ul style="list-style-type: none"> <li>(1) One or both probes are in the wells, but their connectors have not been plugged into the instrument.</li> </ul> <p style="text-align: center;">OR</p> <ul style="list-style-type: none"> <li>(2) The probes are broken.</li> </ul>	<p style="text-align: center;">Con</p> <p style="text-align: right;">FIX ME</p>
<ul style="list-style-type: none"> <li>Both probes are withdrawn from the probe storage wells. The instrument will not operate with both probes withdrawn. The message will continue to display until at least one probe is returned to the probe storage well, or one of the probes is disconnected from the instrument.</li> </ul>	<p style="text-align: center;">BOTH PROBES OUT</p>

INFORMATION DISPLAY

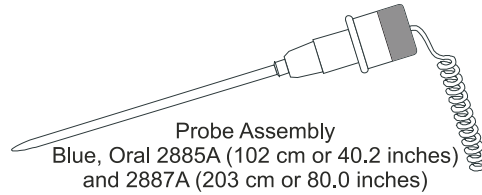
## Accessories



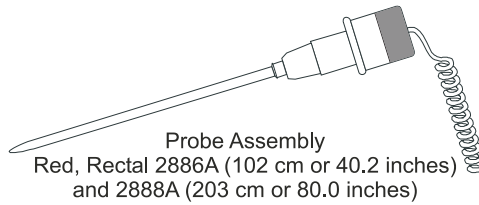
Probe Cover Box with dispenser



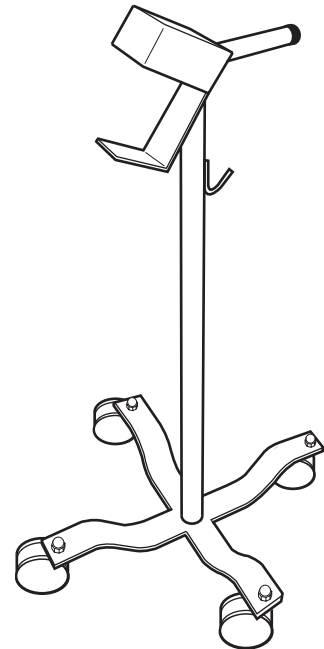
Probe well plug cover



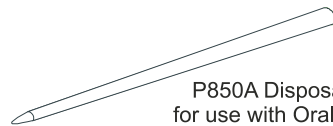
Probe Assembly  
Blue, Oral 2885A (102 cm or 40.2 inches)  
and 2887A (203 cm or 80.0 inches)



Probe Assembly  
Red, Rectal 2886A (102 cm or 40.2 inches)  
and 2888A (203 cm or 80.0 inches)



Model 2031  
Instrument Stand



P850A Disposable Probe Cover  
for use with Oral and Rectal Probes

## Cleaning

*NOTE: Betadine may discolor the case. Use 10% solution of bleach to remove discoloration. Apply the above solutions with a dampened sponge, soft brush, or a cloth, then wipe dry with a clean cloth or towel.*

*NOTE: ALARIS Medical Systems does not recommend EtO sterilization of the Model 2180/2185 Series thermometers.*

It is good practice to periodically clean the instrument surface by wiping it with a soft cloth dampened with a mild detergent and warm water. Refer to Housekeeping, Central Service or Infection Control departments in your facility for further information.

You may use the following cleaning solutions: Cidex® \*, Betadine®, 10% solution of bleach (9 parts water, one part bleach), 3% Hydrogen peroxide.

If you currently use a specific cleaning agent or disinfectant, we recommend that you examine its chemical ingredients prior to use on the thermometer. If you question the effect your specific cleaning agent or disinfectant has on your instrument, contact your local ALARIS Medical Systems sales and service office or distributor.

\* Cidex is a registered trademark of Surgikos, Inc. Betadine is a registered trademark of Purdue-Frederick.

## Cautions

**DO NOT USE ALCOHOL, AMMONIA, OR AMMONIUM CHLORIDE BASED AGENTS** as they could damage the plastic exterior of the instrument.

Do not allow fluids to enter the instrument. Fluid leakage into the instrument can cause damage.

**Do not autoclave or immerse the TURBO ★ TEMP™ Thermometer as damage will occur.**

## Service Information

If the IVAC® TURBO ★ TEMP™ Electronic Thermometer fails to perform as indicated by the Directions for Use or performs erratically and the cause cannot be determined, **DO NOT USE THE INSTRUMENT.** Refer to qualified service personnel.

To obtain service, application information, replacement parts, circuit diagrams, component parts lists, descriptions, calibration instructions, technical manuals or the location of authorized distributors, please contact your local ALARIS Medical Systems office located on page 20 of this document. When requesting service, please be sure to include a description of the error message or difficulty experienced. Should it be necessary to return the product for service, carefully package the instrument and both probes (preferably in the original packaging), and return to the appropriate service or distribution center. ALARIS Medical Systems cannot assume any responsibility for loss of or damage to returned equipment while in transit.

---

## Inspection Requirements

---

Regular Inspections		Periodic Inspections	
<i>Procedure</i>	<i>Frequency</i>	<i>Inspection</i>	<i>Frequency</i>
Start-Up Sequence	Each Usage	Visual Inspection	12 months
Cleaning	As Required	Start-Up	12 months
Inspect for Damage		Pulse Timer Operation	12 months
Case	Each Usage	Calibration Verification	12 months
Display	Each Usage	Anti-Theft Check	12 months
Probe(s)	Each Usage	Electrical Safety Tests	*
Battery Condition	Each Usage		

\* Not required for a battery powered instrument.

---

## LIMITED WARRANTY

ALARIS Medical Systems, Inc. (hereinafter referred to as "ALARIS Medical Systems") warrants that:

- A. Each new TURBO★TEMP™ Electronic Thermometer, including non-disposable probes which accompany the new instrument at the time of purchase, is free from defects in material and workmanship under normal use and service for a period of one year from the date of delivery by ALARIS Medical Systems to the first purchaser.
- B. Each new accessory purchased separately (e.g., non-disposable probes) is free from defects in material and workmanship under normal use and service for a period of ninety (90) days from the date of delivery by ALARIS Medical Systems to the first purchaser.

If any product requires service during the applicable warranty period, the purchaser should contact the local ALARIS Medical Systems affiliate office or distributor to determine appropriate repair facility. Repair or replacement will be carried out at ALARIS Medical Systems' expense subject to the terms of this warranty. The product requiring service should be returned promptly, properly packaged and postage prepaid. Loss or damage in return shipment to ALARIS Medical Systems shall be at purchaser's risk.

In no event shall ALARIS Medical Systems be liable for any incidental, indirect or consequential damages in connection with the purchase or use of any ALARIS Medical Systems product. This warranty shall not apply to, and ALARIS Medical Systems shall not be responsible for, any loss arising in connection with the purchase or use of any ALARIS Medical Systems product which has been repaired by anyone other than an authorized ALARIS Medical Systems service representative or altered in any way so as, in ALARIS Medical System's judgment, to affect its stability or reliability, or which has been subject to misuse or negligence or accident, or which has had the serial or lot number altered, effaced or removed, or which has been used otherwise than in accordance with the instructions furnished by ALARIS Medical Systems. This warranty is in lieu of all other warranties, express or implied, and of all other obligations or liabilities on ALARIS Medical System's part, and ALARIS Medical Systems neither assumes nor authorizes any representative or other person to assume for it any other liability in connection with the sale of ALARIS Medical Systems products.

**ALARIS MEDICAL SYSTEMS DISCLAIMS ALL OTHER WARRANTIES, EXPRESS OR IMPLIED, INCLUDING ANY WARRANTY OF MERCHANTABILITY OR OF FITNESS FOR A PARTICULAR PURPOSE OR APPLICATION.**

See packing inserts for international warranty, if applicable.

## Sales and Service Offices

To obtain authorized service contact:

Within the United States:

**ALARIS Medical Systems, Inc.**  
**Corporate Office**  
P.O. Box 85335  
San Diego, CA 92186-5335

Telephone: (858) 458-7000  
Facsimile: (858) 458-7760

Outside of the United States contact one of the following offices:

**ALARIS Medical UK Ltd.**

The Crescent  
Jays Close  
Basingstoke  
Hants RG22 4BS  
UK

Telephone: (01256) 47 44 55  
Facsimile: (01256) 33 08 60

**ALARIS Medical France, S.A.**

95, Rue Pereire  
BP 8217  
78108 Saint-Germain-en-Laye Cedex  
FRANCE

Telephone: 01 39 10 50 00  
Facsimile: 01 30 61 22 23

**ALARIS Medical Systems Deutschland GmbH**

Schuetzenstrasse, 62  
D-35398 Giessen  
DEUTSCHLAND

Telephone: 0641 982 44 0  
Facsimile: 0641 982 44 21

**ALARIS Medical Systems, Inc.**

**International Headquarters**

The Crescent  
Jays Close  
Basingstoke  
Hants RG22 4BS  
UK

Telephone: +44 1256 38 82 00  
Facsimile: +44 1256 38 83 88





ALARIS Medical Systems, Inc.  
10221 Wateridge Circle  
San Diego, California 92121-2733 USA

Mail:  
P.O. Box 85335  
San Diego, California 92186-5335 USA

ALARIS Medical UK, Ltd  
The Crescent  
Jays Close  
Basingstoke  
Hants RG22 4BS  
UK