



ThermoWorks

WAND™

**Non-Contact,
Digital Forehead Thermometer**
THD2FE



Operating Instructions

For tips on using infrared thermometers visit the ThermoWorks Help Center at help.thermoworks.com.

Indications for Use

ThermoWorks WAND is a non-contact digital forehead thermometer intended for the intermittent measurement of human body temperature in people of all ages.

Operating Instructions for Forehead Use

Press  to turn on the instrument. Hold the instrument within 1.5 inches from the center of the forehead and press and hold 'Start' until you hear one beep (unless muted) to indicate the reading is complete. Readings should take approximately 1 second.

The instrument will automatically turn off after 60 seconds. Manually turn the instrument off by pressing and holding the  for 5 seconds.

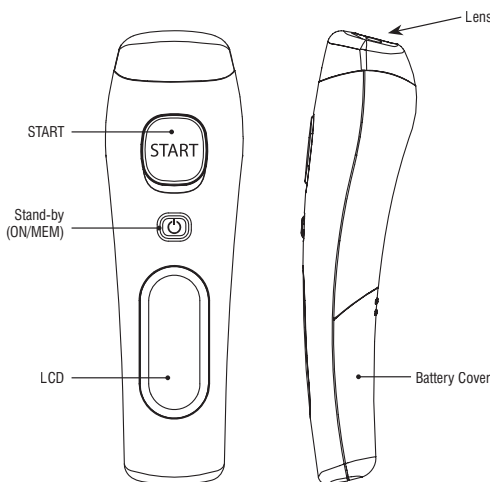
The temperature displayed is the "oral equivalent" value. If the temperature is above 99.5°F (37.5°C) you will hear three short beeps followed by one long beep.

For Best Results:

Keep the forehead area clean. Keep away from sweat, cosmetics, and scars while taking measurements.

Please remain in a stable environment for 5 minutes and avoid exercising, bathing, or showering for 30 minutes, which can artificially raise your temperature.

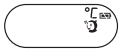
Features



Specifications

Forehead Range	93.2 to 108°F (34 to 42.2°C)
Surface Range	-7.6 to 176°F (-22 to 80°C)
Operating Range	50 to 104°F (10 to 40°C) 15 to 85% RH
Storage Range	-4 to 122 (-20 to 50°C), RH≤85%
Transport. Temp	Shall be less than 158°F (70°C), RH≤95%
Atmospheric Pressure	800 to 1013 hPa
Forehead Accuracy	±0.4°F (0.2°C) within 95 to 107.6°F (35 to 42°C) Otherwise ±0.5°F (0.3°C)
Surface Accuracy	±0.5°F (±0.3°C) with 17.6 to 108°F (22 to 42.2°C) Otherwise ±4° or ±4°F (±2°C), whichever is greater
Resolution	0.1°
Units	°F/°C
Response Time	1 second
Auto-Off	60 seconds
Battery	2 x AAA, 3,000 hours
Dimensions	6.2 L x 1.9 W x 1.6 D inches (158 L x 48 W x 40.2 D mm)
Weight	3.5 oz (100 g)
Expected Service Life	4 years
Contents	Thermometer x 1, Operating Instructions x 1, Battery AAA x 2

Functions

Forehead Temperature	This instrument has been designed for personal use. It is not meant to replace a visit to the doctor. Please compare the measurement result to your regular body temperature. Consult with your doctor if you have health concerns.	
Surface Temperature	Surface mode shows the actual and unadjusted surface temperature, which is different from the body temperature. To access surface mode, press and hold  while pressing 'Start' once. You will see the  on the display. Press and hold 'Start' for continuous surface measurements.	
High Temp Alert	If the thermometer detects a temperature of $\geq 99.5^{\circ}\text{F}$ (37.5°C) using forehead mode, you will hear three short beeps followed by one long beep.	
Memory Locations	You can store 25 of the most recent temperature readings. To access these, start with the instrument turned on and press  once. The saved reading will display indicated by the  icon. Press  again to advance through saved readings	
Switch °F/°C	Start with the instrument turned off. Press and hold 'Start' for approximately 3 seconds while pressing the (power icon) once. The icon will switch from °F to °C. Complete the process again to switch back to °F. Please Note: All stored memory readings will be deleted when switching between units.	 
Mute	The default setting is for sound on. To turn the sound off, press and hold the  button for 3 seconds. The  icon will flash on the display and the instrument is muted. Complete the process again to turn the sound on and unmute the instrument.	

Battery Replacement

When the "Low Battery" icon flashes, the batteries should be replaced immediately with 2x AAA, 1.5 volt batteries. To open the battery cover, use your thumbs to press down and slide the battery cover off. Remove and properly dispose the used batteries promptly, keeping away from children. Insert the new batteries according to the correct polarity. Replace the battery cover.

Troubleshooting

	Er1 is displayed when the measurement was taken before the instrument had stabilized. Er3 is displayed when the ambient temperature is not between 50 to 104°F (10 to 40°C). The instrument should always be allowed plenty of time (minimum of 15 minutes) to stabilize to the ambient temperature.
	Error 5-9 is displayed for all other error messages; it is necessary to reset the thermometer. To reset the thermometer, turn it off and remove the batteries for at least one minute. Reinsert the batteries and turn on. If the error message remains, please contact Technical Support at techsupport@thermoworks.com for further assistance.
	'Hi' or 'Lo' is displayed when the temperature being measured is outside of the measurement range. In forehead mode this is lower than 93.2°F (34°C) or higher than 108°F (42°C). In surface mode this is lower than -7.6°F (-22°C) or higher than 176°F (80°C).
	Instrument cannot be powered on. Please try a new battery.
	Replace batteries

Intended Operator - At least 11 years old (5 years intensive reading experience), no maximum.

Storage & Cleaning

The instrument should be stored at room temperature, away from liquids and direct sunlight. If there are any temperature differences between the place where the instrument is stored and where you are going to measure, please allow the instrument to stabilize to the ambient temperature for at least 15 minutes. Holding the instrument too long may cause a higher ambient temperature reading. This could make the body temperature measurement lower than usual.

The sensor lens is the most delicate part of the instrument and should be kept clean at all times. Care should be taken when cleaning the lens to avoid damage. Use only a soft cloth or cotton swab with medical alcohol, allowing the lens to dry fully before using the instrument again.

Warranty

This instrument carries a one-year warranty against defects in either components or workmanship. During this period, products that prove to be defective will, at the discretion of ThermoWorks, be either repaired or replaced without charge. Full details of liability are available within ThermoWorks Terms & Conditions of Sale at www.thermoworks.com/product-warranty.

For warranty, service, and technical assistance, please contact ThermoWorks' Technical Support at (801) 756-7705 or email at techsupport@thermoworks.com

Symbol Descriptions

	Caution		Please read the instructions for use
	BF type applied part		Paper recycling
IP22	Classification for water ingress and particulate matter		Battery recycling
			Power/Memory

 Warning: No modification of this equipment is allowed

 Please read the instructions for use

 BF Type applied part

ThermoWorks, Inc
741 E Utah Valley Drive
American Fork, UT 84003
www.thermoworks.com

P-20-004-02-a

Manufacturer's declaration-electromagnetic emissions

WAND is intended for use in the electromagnetic environment (for home healthcare) specified below. The customer or the user of WAND should assure that it is used in such an environment.

Emissions test	Compliance	Electromagnetic environment – guidance (for home healthcare environment)
RF emissions CISPR 11	Group 1	WAND uses RF energy only for its internal function. Therefore, its RF emissions are very low and are not likely to cause any interference in nearby electronic equipment.
RF emissions CISPR 11	Class B	WAND is suitable for use in all establishments, including domestic establishments and those directly connected to the public low-voltage power supply network that supplies buildings used for domestic purposes.

Manufacturer's declaration – electromagnetic immunity

WAND is intended for use in the electromagnetic environment (for home healthcare) specified below. The customer or the user of WAND should assure that it is used in such an environment.

Immunity test	IEC 60601 test level	Compliance level	Electromagnetic environment – guidance (for home healthcare environment)
Electrostatic discharge(ESD) IEC 61000-4-2	Contact: ± 8 kV Air ± 2 kV, ± 4 kV, ± 8 kV, ± 15 kV	Contact: ± 8 kV Air ± 2 kV, ± 4 kV, ± 8 kV, ± 15 kV	Floors should be wood, concrete or ceramic tile. If floors are covered with synthetic material, the relative humidity should be at least 30%
Power frequency (50, 60 Hz) magnetic field IEC 61000-4-8	30 A/m 50 Hz or 60 Hz	30 A/m 50 Hz and 60 Hz	WAND power frequency magnetic fields should be at levels characteristic of a typical location in a typical home healthcare environment.

Manufacturer's declaration – electromagnetic immunity

WAND is intended for use in the electromagnetic environment (for home healthcare) specified below. The customer or the user of WAND should assure that it is used in such an environment.

Immunity test	IEC 60601 test level	Compliance level	Electromagnetic environment – guidance (for home healthcare environment)
Radiated RF IEC 61000-4-3	10 V/m 80 MHz – 2,7 GHz 80 % AM at 1 kHz	10 V/m 80 MHz – 2,7 GHz 80 % AM at 1 kHz	Recommended separation distance: $d = 1,2 \sqrt{P}$ $d = 1,2 \sqrt{P}$ 80 MHz to 800 MHz $d = 2,3 \sqrt{P}$ 800 MHz to 2,7 GHz Where P is the maximum output power rating of the transmitter in watts (W) according to the transmitter manufacturer and d is the recommended separation distance in metres (m). Field strengths from fixed RF transmitters, as determined by an electromagnetic site survey,^a should be less than the compliance level in each frequency range.^b Interference may occur in the vicinity of equipment marked with the following symbol: 

NOTE 1 - At 80 MHz and 800 MHz, the higher frequency range applies.

NOTE 2 - These guidelines may not apply in all situations. Electromagnetic propagation is affected by absorption and reflection from structures, objects and people.

Field strengths from fixed transmitters, such as base stations for radio (cellular/cordless) telephones and land mobile radios, amateur radio, AM and FM radio broadcast and TV broadcast cannot be predicted theoretically with accuracy. To assess the electromagnetic environment due to fixed RF transmitters, an electromagnetic site survey should be considered. If the measured field strength in the location in which WAND is used exceeds the applicable RF compliance level above, WAND should be observed to verify normal operation. If abnormal performance is observed, additional measures may be necessary, such as re-orienting or relocating WAND.

Recommended separation distances between portable and mobile RF communications equipment and WAND

WAND is intended for use in an electromagnetic environment (for home healthcare) in which radiated RF disturbances are controlled. The customer or the user of WAND can help prevent electromagnetic interference by maintaining a minimum distance between portable and mobile RF communications equipment (transmitters) and WAND as recommended below, according to the maximum output power of the communications equipment.

Rated maximum output power of transmitter- W	Separation distance according to frequency of transmitter - m		
	150 kHz to 80 MHz $d = 1,2 \sqrt{P}$	80 MHz to 800 MHz $d = 1,2 \sqrt{P}$	800 MHz to 2,7 GHz $d = 2,3 \sqrt{P}$
0,01	N/A	0,12	0,23
0,1	N/A	0,38	0,73
1	N/A	1,2	2,3
10	N/A	3,8	7,3
100	N/A	12	23

For transmitters rated at a maximum output power not listed above, the recommended separation distance d in meters (m) can be estimated using the equation applicable to the frequency of the transmitter, where P is the maximum output power rating of the transmitter in watts (W) according to the transmitter manufacturer.

NOTE 1 - At 80 MHz and 800 MHz, the separation distance for the higher frequency range applies.

NOTE 2 - These guidelines may not apply in all situations. Electromagnetic propagation is affected by absorption and reflection from structures, objects and people.

Manufacturer's declaration-electromagnetic immunity

Test specifications for ENCLOSURE PORT IMMUNITY to RF wireless communications equipment

WAND is intended for use in the electromagnetic environment (for home healthcare) specified below. The customer or the user of WAND should assure that it is used in such an environment.

Test frequency (MHz)	Band ^{a)} (MHz)	Service ^{a)}	Modulation ^{b)}	Maximum power (W)	Distance (m)	IMMUNITY TEST LEVEL (V/m)	Compliance LEVEL (V/m) (for home healthcare)
385	380–390	TETRA 400	Pulse modulation b) 18 Hz	1,8	0,3	27	27
450	430–470	GMRS 460, FRS 460	FM c) ±5 kHz deviation 1 kHz sine	2	0,3	28	28
710	704–787	LTE Band 13,17	Pulse modulation b) 217 Hz	0,2	0,3	9	9
745							
780							
810	800–960	GSM 800/900, TETRA 800, iDEN 820, CDMA 850, LTE Band 5	Pulse modulation b) 18 Hz	2	0,3	28	28
870							
930							
1720	1700–1990	GSM 1800; CDMA 1900; GSM 1900; DECT; LTE Band 1, 3, 4, 25; UMTS	Pulse modulation b) 18 Hz	2	0,3	28	28
1845							
1970							
2450	2400–2570	Bluetooth, WLAN, 802.11 b/g/n, RFID 2450, LTE Band 7	Pulse modulation b) 217 Hz	2	0,3	28	28
5240	5100–5800	WLAN 802.11 a/n	Pulse modulation b) 217 Hz	0,2	0,3	9	9
5500							
5785							

NOTE If necessary to achieve the IMMUNITY TEST LEVEL, the distance between the transmitting antenna and the ME EQUIPMENT or ME SYSTEM may be reduced to 1 m. The 1 m test distance is permitted by IEC 61000-4-3.

a) For some services, only the uplink frequencies are included.

b) The carrier shall be modulated using a 50 % duty cycle square wave signal.

c) As an alternative to FM modulation, 50 % pulse modulation at 18 Hz may be used because while it does not represent actual modulation, it would be worst case.

- ⚠ This is not as AP or APG product.
- ⚠ This device should not submerge into any liquids and expose it to direct moisture.

⚠ There is no gender or age limitation for using the infrared thermometer.

⚠ Choking from swallowing small parts and batteries by children or pets is possible, please keep small parts and batteries at places where children and pets can't reach.