



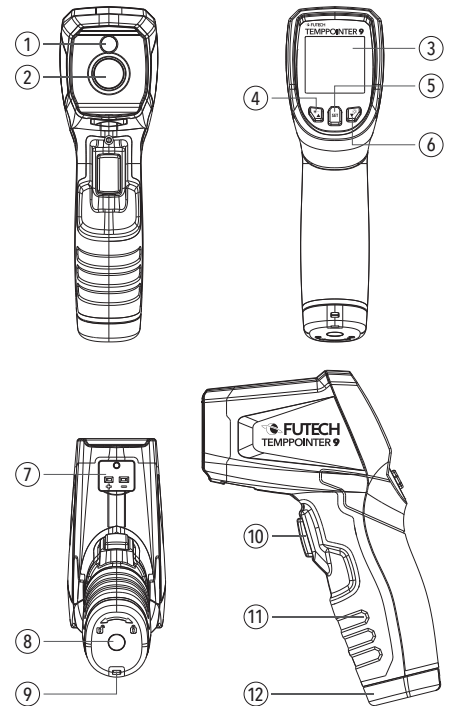
Thank you for purchasing the Futech Temppointer 9. This device is designed for non-contact (infrared) temperature measurements at the touch of a button. The built-in laser pointer increases target accuracy while the backlight LCD and handy push-buttons combine for convenient, ergonomic operations.

The Temppointer 9 can be used to measure the temperature of objects' surface that is improper to be measured by traditional (contact) thermometer, such as moving objects, the surface with electricity current or objects which are uneasy to be touched.

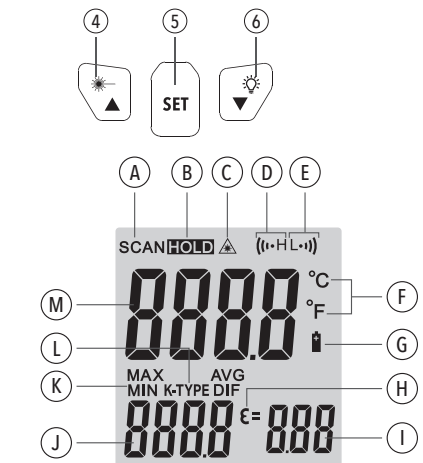
Proper use and care of this meter will provide years of reliable service.

DESCRIPTION

1. Laser hole
2. Infrared (IR) sensor
3. LCD Display
4. Laser button / Up button (for EMS, High Alarm, Low Alarm)
5. SET button (Settings)
6. Backlight / Down button (for EMS, High Alarm, Low Alarm)
7. TYPE-K input
8. Built-in screw for tripod 1/4"
9. Lanyard hole
10. Measurement trigger
11. Handle grip
12. Battery cover



- A. Scan symbol
- B. Hold symbol
- C. Laser "ON" symbol
- D. High Alarm symbol
- E. Low Alarm symbol
- F. °C / °F symbol
- G. Low power symbol
- H. Emissivity symbol
- I. Emissivity value
- J. Temperature values for the MAX / MIN / AVG / DIG / TYPE-K
- K. Symbols for MAX / MIN / AVG / DIF
- L. TYPE-K symbol
- M. Current Temperature Value



FEATURES

- Rapid detection functions
- Precise non-contact measurements
- Circular laser indication of measurement zone
- Unique flat surface, modern housing design
- IP54 rated for dust/waterproof
- 2m drop tested
- Automatic Data Hold
- Emissivity Digitally adjustable from 0,10 to 1,0
- MAX, MIN, AVG, DIF temperature displays
- Backlight LCD display
- Automatic selection range and Display Resolution 0,1°C (0,1°F)
- Set high and low alarms
- Type-K input

WIDE RANGE OF APPLICATION

Food preparation, Safety and Fire inspectors, Plastic mouldings, Asphalt, Marine and Screen printing, measure ink and dryer temperature, thermography's, HVAC/R, Diesel and Fleet maintenance.

SAFETY

Use extreme caution when the laser beam is turned on.

Do not let the beam enter your eyes, another person's eyes or the eyes of an animal. Be careful that reflections of the beam (on a reflective surface) do not strike your eyes.

Do not aim the laser beam at any gas that may explode.

Please read the complete safety instructions in the booklet delivered with this device.

HOW IT WORKS

Infrared thermometers measure the surface temperature of an object. The unit's optics sense emitted, reflected and transmitted energy, which is collected and focused onto a detector. The unit's electronics translate the information into a temperature reading, which is displayed on the display. The laser in this device is used for aiming purposes only.

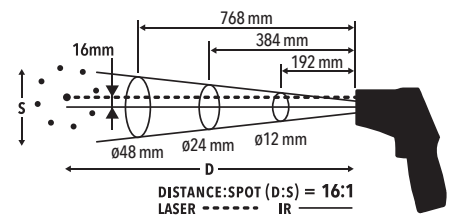
FIELD OF VIEW

Make sure the target is larger than the unit's spot size. The smaller the target, the closer you should go to make your measurement. When accuracy is critical, make sure the target is at least twice as large as the spot size.

DISTANCE & SPOT SIZE

As the distance (D) from the object increases, the spot size (S) of the area measured by the Temppointer 9 becomes larger.

The relationship between distance and spot size for this unit is 16:1. This means that when measuring at a distance of 16cm of the object, the measuring surface has approximately a diameter of 1cm.



MEASUREMENT OPERATION

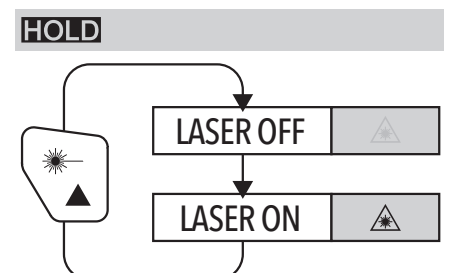
- Hold the meter by its handle grip and point it towards the surface to be measured.
- Pull and hold the trigger (10) to turn the meter on and begin testing. The SCAN symbol (A) will appear on the LCD display. As long as the trigger isn't released, temperatures will be scanned.
To locate a hot-spot: Aim the thermometer outside the area of interest. Scan across with an up and down motion until you locate a hot spot.
- If there appears nothing on the screen, please check the batteries.
- Release the trigger and the HOLD symbol (B) will appear on the LCD display. This indicates the last temperature measurements stays available in the device.
- The meter will automatically power down approximately 10 seconds after the trigger is released.

NOTE

- AN INFRARED THERMOMETER MUST ADAPT TO AMBIENT TEMPERATURE. THIS MAY TAKE UP TO 30 MINUTES TO ADJUST TO HIGH TEMPERATURE FLUCTUATIONS. SO, WAIT A FEW MINUTES BETWEEN MEASURING A HOT AND COLD OBJECT.
- AN INFRARED THERMOMETER CANNOT BE MEASURED THROUGH TRANSPARENT SURFACES (EG. GLASS). HE WILL THEN MEASURE THE TEMPERATURE OF THE GLASS.
- STEAM, DUST, SMOKE ... MAKE MEASUREMENTS WITH AN INFRARED THERMOMETER LESS ACCURATE TO UNRELIABLE.

EXTRA FUNCTIONS

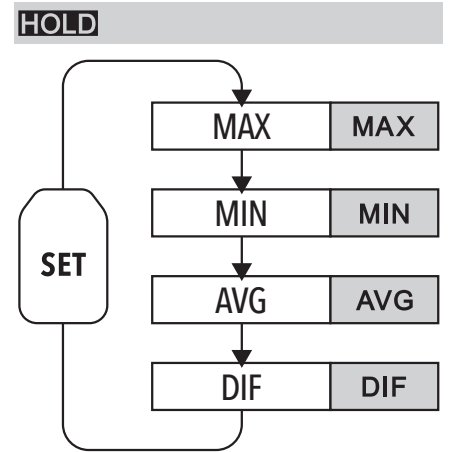
- As long as the HOLD symbol (B) is visible on the screen, pushing the Laser button / Up button (4) will switch on or off the laser indication.



· As long as the HOLD symbol (B) is visible on the screen, pushing the Backlight / Down button (6) will switch on or off the backlight of the LCD display.

· As long as the HOLD symbol (B) is visible on the screen, pushing the SET button (5) will show you MAX / MIN / AVG / DIF values during the last measurement (after pushing the measurement trigger (10)).

- MAX Maximum value of last measurement
- MIN Minimum value of last measurement
- AVG Average value of last measurement
- DIF Difference between MAX and MIN value of last measurement



· As long as the SCAN symbol (A) is visible on the display and the TYPE-K thermocouple is connected, the Type-K symbol (L) is visible on the display. The display will show the temperature measured by the Type-K probe automatically and only in the lower left quarter (J) of the display. In this case, it isn't possible to change to MAX / MIN / AVG / DIF!

PLEASE NOTE THAT THE CURRENT TEMPERATURE VALUE (M) ON THE DISPLAY IS THE TEMPERATURE MEASURED BY THE INFRARED SENSOR (2).

SETTINGS

Press the SET button (4) for approx. 3 seconds to enter the settings. The Emissivity-symbol (H) starts to blink (first step of the settings). Each time you press SET button (5) shortly, you jump to the next item of the settings menu. (The picture on the right shows the sequence of the items in the settings menu.)

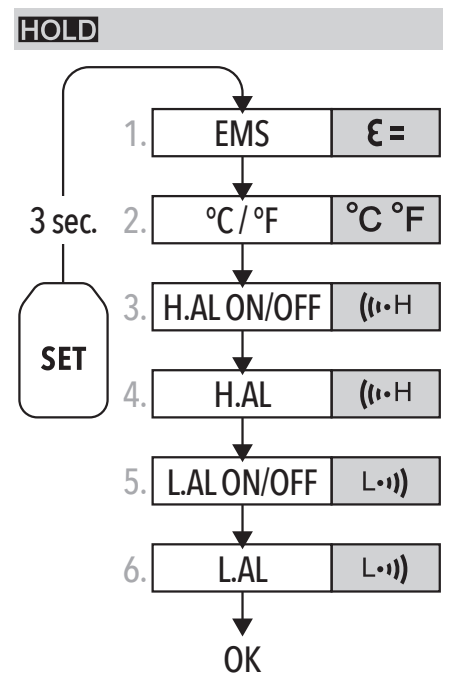
1. Emissivity [EMS]

The amount of infrared energy radiated by an object is proportional to the temperature of the object and the ability of the material to radiate energy. This ability refers to "radiation coefficient" or "emissivity". Emissivity is the ratio of the average emission power to a black radiator at the same temperature. Emission is for materials between 0.10 and 1.00. Materials with low emissivity (<0.60) emit little energy, typically for materials with a shiny, light surface (e.g. metals). Materials with high emissivity (>0.90) emit much energy, typically for matte, dark areas. The lower the emissivity, the more difficult it is to measure accurately. (Check the emissivity table on the last page)

Most (90% of typical applications) organic materials and painted or oxidized surfaces have an emissivity of 0,95 (pre-set in the unit). Inaccurate readings will result from measuring shiny or polished metal surfaces.

To compensate, cover the surface to be measured with masking tape of flat black paint. Allow time for the tape to reach the same temperature as the material underneath it. Measure the temperature of the tape or painted surface.

If the emissivity symbol (H) is blinking, you can set the emissivity value with the up button (4) and/or the down button (6).



2. °C/°F

This device can show the measured temperature in °C or in °F

If the °C or the °F symbol (F) is blinking, you can change the measuring unit by using the up button (4) and/or the down button (6).

3. High Alarm Level (H.AL) On/Off

You can set a High Alarm Level if you want the Temppointer 9 attends you when the measured temperature is above the H.AL temperature you've set.

If the H.AL symbol (D) is blinking, and "on" or "off" is on the screen, you can set the H.AL function on or off by using the up button (4) and/or the down button (6).

4. High Alarm Level (H.AL)

You can choose the maximum allowed temperature. If the measured temperature is above this temperature and de H.AL function is ON (see step 3), the Temppointer 9 attends you by making a sound and a blinking H.AL symbol (D). Temperatures can set between -50 to 800°C (-58 to 1472°F).

If the H.AL symbol (D) is blinking, and a value is on the screen, you can change the High Alarm Level by using the up button (4) and/or the down button (6).

5. Low Alarm Level (L.AL) On/Off

You can set a Low Alarm Level if you want the Temppointer 9 attends you when the measured temperature is under the L.AL temperature you've set.

If the L.AL symbol (E) is blinking, and "on" or "off" is on the screen, you can set the L.AL function on or off by using the up button (4) and/or the down button (6).

6. Low Alarm Level (L.AL)

You can choose the minimum allowed temperature. If the measured temperature is under this temperature and de L.AL function is ON (see step 5), the Temppointer 9 attends you by making a sound and a blinking L.AL symbol (E). Temperatures can set between -50 to 800°C (-58 to 1472°F).

If the L.AL symbol (E) is blinking, and a value is on the screen, you can change the Low Alarm Level by using the up button (4) and/or the down button (6).

BATTERY REPLACEMENT

When the battery power gets to low, the Low power symbol (G) will appear on the display. Replacement of the 2x AAA batteries is required.

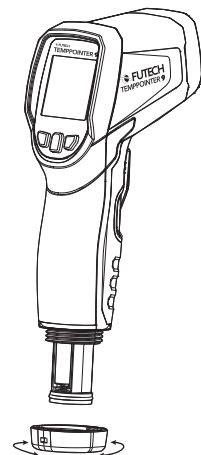
Open the battery cover (12), then take out the batteries and replace them with new ones. (Pay attention to the batteries polarity.) Put the batterycover back in place.

MAINTENANCE

Repairs or services are not covered in this manual and should only be carried out by qualified trained technicians.

Periodically, wipe the body with a dry cloth. Do not use abrasives or solvents on this instrument.

For service, use only manufacturer's specified parts.



SPECIFICATIONS
TK TEMPERATURE

Range:	-50 to 1370°C	-58 to 2498°F
Display resolutions:	0,1°C < 1000; 1°C > 1000	0,1°F < 1000; 1°F > 1000
Accuracy:	±2°C at -50 to 0°C ±0,5% of reading ±1,5°C at 0 to 1370°C	±3,6°F at -58 to 32°F ±0,5% of reading ±3°F at 32 to 2498°F

IR TEMPERATURE

Range:	-50 to 800°C	-58 to 1472°F
D:S	16:1	
Display resolutions:	0,1°C < 1000; 1°C > 1000	0,1°F < 1000; 1°F > 1000
Accuracy: (assumes ambient operating temperature of 23 to 25°C / 73 to 77°F)	-50 to 20°C ±3,5°C 20 to 300°C ±1% 300 to 800°C ±1,5%	-58 to 68°F ±6,3°F 68 to 572°F ±1% 572 to 1472°F ±1,5%
Repeatability:	-50 to 20°C: ±1,8°C 20 to 800°C: ±0,5% or ±0,5°C	-31 to 68°F: ±3,2°F 68 to 1472°F: ±0,5% or ±0,9°F
Response time:	150ms	
Spectral Response	8~14µm	
Emissivity	Digitally adjustable from 0,10 to 1,0	
Out of range indication:	LCD display will show "----"	
Polarity	Automatic (no indication for positive polarity) Minus (-) sign for negative polarity	
Diode laser	Class 2 laser product, Output <1mW, Wavelength 630-670nm	
Operating temperature	0 to 50°C	32 to 122°F
Storage temperature	-10 to 60°C	14 to 140°F
Relative humidity	10%~90%RH (operating) <80%RH (storage)	
Power supply	2x 1,5V AAA batteries	

EMISSIVITY VALUES

ASPHALT	0,90 - 0,98
CONCRETE	0,94
CEMENT	0,96
SAND	0,90
SOIL/EARTH	0,92 - 0,96
WATER	0,92 - 0,96
ICE	0,96 - 0,98
SNOW	0,83
GLASS	0,90 - 0,95
CERAMIC	0,90 - 0,94
MARBLE	0,94
PLASTER	0,80 - 0,90
MORTAR	0,89 - 0,91
BRICK	0,93 - 0,96
CLOTH (BLACK)	0,98
SKIN (HUMAN)	0,98
LEATHER	0,75 - 0,80
CHARCOAL (POWDER)	0,96
LACQUER	0,80 - 0,95
LACQUER (MATT)	0,97
RUBBER (BLACK)	0,94
PLASTIC	0,85 - 0,95
TIMBER	0,90
PAPER	0,70 - 0,94
CHROMIUM OXIDES	0,81
COPPER OXIDES	0,78
IRON OXIDES	0,78 - 0,82
TEXTILES	0,90

Futech is a registered brand of Laseto NV, Belgium.

Futech declares that the Temppointer 9 is in conformity with the following standards:

- EN61326-1:2013
- EN61326-2-2:2013

following the provisions of Directive:

- 2014/30/EU



Tested by Bureau Veritas Shenzhen Co., Ltd. / Dongguan Branch
 Certificate number CE190311N034