

SAFETY

1. Use extreme caution when the laser beam is turned on.
2. Do not let the beam enter your eye, another person's eye or the eye of an animal.
3. Be careful not to point the beam on a reflective surface and strike your eyes.
4. Do not allow the laser light beam impinge on any gas which can explode.
5. **KEEP OUT OF REACH OF ALL CHILDREN.**

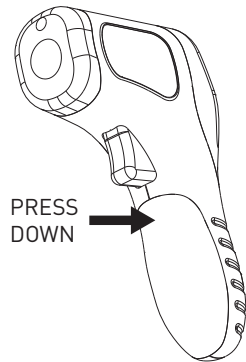
CAUTION

LASER RADIATION
DO NOT STARE INTO BEAM

DIODE LASER
<1mW OUTPUT@630-675NM
CLASS II LASER PRODUCT

BATTERY REPLACEMENT

If the meter does not power on as usual or the low battery icon appears on the LCD display, please replace the batteries with a new 9V battery as soon as possible. The way to open the battery cover see below operation:



Dispose of the battery in an environmentally safe manner at a recycling point.

DO NOT DISPOSE OF IN YOUR BIN!

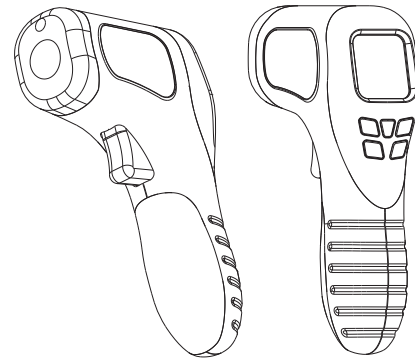
TROUBLE SHOOTING

1. Power on but no display or the display disappears
 - a. Check the battery is in place with good contact to the pins and the correct way round.
 - b. Remove battery for one minute and re-install.
 - c. Replace the battery.
2. For all other issues please contact your supplier.

WARRANTY

This thermometer has a one year warranty from date of purchase.

This warranty covers normal operation and does not cover batteries (including leaks), misuse, abuse, alteration, tampering, neglect, improper maintenance or improper calibration.



AVANTI

INFRARED
THERMOMETER



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Product made in China to rigid specification utilising high-grade materials.
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Product Code 12946 www.avantihomewares.com

AVANTI

INFRARED
THERMOMETER
USER MANUAL

Thank you for purchasing this infrared thermometer. We recommend that you read and follow the manual carefully before use.

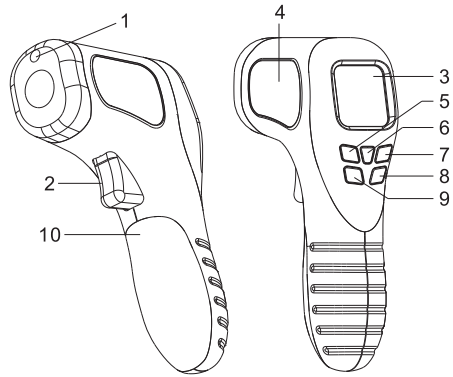
FEATURES

- Laser on/off switch function
- LCD with white backlight and bar graph display
- Celsius and Fahrenheit switchable
- High/Low temperature alarm setting
- Auto power off
- Data recording and data hold function
- Emissivity adjustable
- Room temperature measurement
- MAX/MIN/AVE/DIF reading record function
- Low battery indicator

SPECIFICATIONS

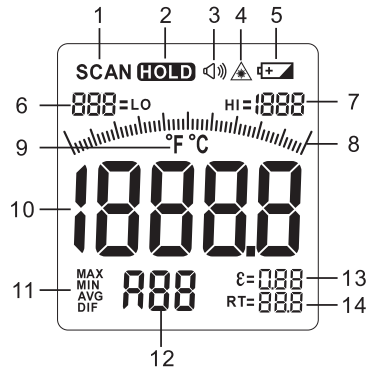
TEMPERATURE RANGE	-50° to 750°C
ACCURACY	±1.5% or ±1.5°C
RESOLUTION	0.1°C or 0.1°F
REPEATABILITY	1% of reading or 1°C
RESPONSE TIME	500m Sec, 95% response
SPECTRAL RESPONSE	8-14 um
EMISSION	0.95 preset (adjustable)
DISTANCE TO SPOT SIZE	12 : 1
OPERATION TEMPERATURE	0 to 50°C (32° to 122°F)
OPERATION HUMIDITY	10 to 90%RH
STORAGE TEMPERATURE	-10° to 60°C (14° to 140°F)
STORAGE HUMIDITY	10 to 75% RH
SIZE	145 x 90 x 35mm
WEIGHT	120g (included 9V battery)

PRODUCT DESCRIPTION



1. Laser output
2. Measuring button
3. LCD display
4. Product label
5. Rec button
6. Mode button
7. Laser/Backlight button
8. Max/Min/Avg/Dif button (↑)
9. °C/°F button (↓)
10. Battery cover

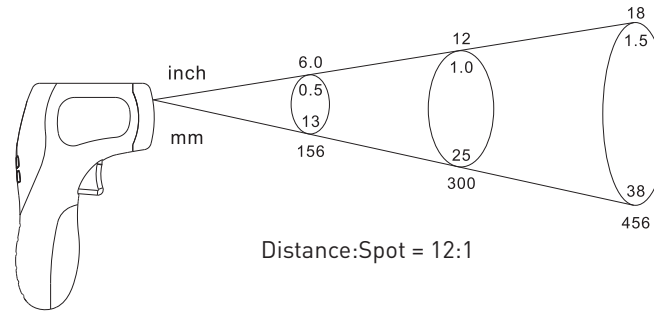
LCD DISPLAY



1. Measuring indicator
2. HOLD symbol
3. Buzzer alarm symbol
4. Laser switch indicator
5. Low battery indicator
6. Low temperature limit alarm
7. High temperature limit alarm
8. Bargraph
9. Temperature units: °C, °F
10. Digital readout
11. Max/Min/Avg/Dif reading mode indicator
12. Data recording display (Max 30 datas)
13. Emissivity (adjustable)
14. Room temperature measurement reading

FIELD OF VIEW

This infrared thermometer's field of view is 12:1, meaning that if the meter is 30cm from the target, the diameter of the object under test must be at least 3cm. Other distances are shown below in the field of view diagram.



OPERATION

1. Turning on and off the thermometer

Press the **Measuring button** to turn on the thermometer. The thermometer will auto power off after 7 seconds without any operation.

2. Hold function

This instrument will automatically enter hold mode without measuring. Under hold mode, current reading display will be frozen/shown.

3. Max/Min/Avg value measurement function

Press **Max/Min/Avg button (↑)** to choose Max reading, Min reading, Avg reading display mode.

Max: When in this mode the meter will display the maximum value when reached.

Min: When in this mode the meter will display the minimum value when reached.

AVG: When in this mode the meter will display the average value when reached.

DIF: When in this mode the meter will display the differential value of maximum value and minimum value when reached.

4. Laser and Backlight function

- a. Press **Laser/Backlight button** to turn on/off laser.
- b. Press this button for over 2 seconds to turn on/off backlight.

5. Temperature units switch function

Press **°C/°F button (↓)** to switch the temperature units between Celsius and Fahrenheit.

6. Data recording function

Press **Rec button** to manual store any measuring data (Max 30 recordings).

7. Data recall function

Press **Rec button** for over 2 seconds to recall data.

***°C/°F button (↓); Max/Min/Avg button (↑)**

8. Low and High temperature limit alarm setup

Press **Mode button** for over 2 seconds to adjust the alarm temperature.

***Mode button (→); °C/°F button (↓); Max/Min/Avg button (↑)**

9. Emissivity adjustable

Under Scan mode: **°C/°F button (↓)** and **Max/Min/Avg button (↑)** to adjust the emissivity.

Most (90% of typical applications) organic materials and painted or oxidised 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 or 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.

EMISSIVITY VALUES

SUBSTANCE	THERMAL EMISSIVITY	SUBSTANCE	THERMAL EMISSIVITY
Asphalt	0.90 to 0.98	Cloth (black)	0.98
Concrete	0.94	Human skin	0.98
Cement	0.96	Leather	0.75 to 0.80
Sand	0.90	Charcoal (powder)	0.96
Earth	0.92 to 0.96	Lacquer	0.80 to 0.95
Water	0.92 to 0.96	Lacquer (matt)	0.97
Ice	0.96 to 0.98	Rubber (black)	0.94
Snow	0.83	Plastic	0.85 to 0.95
Glass	0.90 to 0.95	Timber	0.90
Ceramic	0.90 to 0.94	Paper	0.70 to 0.94
Marble	0.94	Chromium oxides	0.81
Plaster	0.80 to 0.90	Copper oxides	0.78
Mortar	0.89 to 0.91	Iron oxides	0.78 to 0.82
Brick	0.93 to 0.96	Textiles	0.90