AMPROBE®

IR-750

50:1 IR Thermometer with memory

Users Manual

- Mode d'emploi
- Bedienungshandbuch
- Manual d'Uso
- Manual de uso
- Användarhandbok

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50:1 IR Thermometer with memory

Users Manual

English

October 2011, Rev.1

Limited Warranty and Limitation of Liability

Your Amprobe product will be free from defects in material and workmanship for 1 year from the date of purchase, unless local laws require otherwise. This warranty does not cover fuses, disposable batteries or damage from accident, neglect, misuse, alteration, contamination, or abnormal conditions of operation or handling. Resellers are not authorized to extend any other warranty on Amprobe's behalf. To obtain service during the warranty period, return the product with proof of purchase to an authorized Amprobe Test Tools Service Center or to an Amprobe dealer or distributor. See Repair Section for details. THIS WARRANTY IS YOUR ONLY REMEDY. ALL OTHER WARRANTIES - WHETHER EXPRESS, IMPLIED OR STAUTORY - INCLUDING IMPLIED WARRANTIES OF FITNESS FOR A PARTICULAR PURPOSE OR MERCHANTABILITY, ARE HEREBY DISCLAIMED. MANUFACTURER SHALL NOT BE LIABLE FOR ANY SPECIAL, INDIRECT, INCIDENTAL OR CONSEQUENTIAL DAMAGES OR LOSSES, ARISING FROM ANY CAUSE OR THEORY. Since some states or countries do not allow the exclusion or limitation of an implied warranty or of incidental or consequential damages, this limitation of liability may not apply to you.

Repair

All test tools returned for warranty or non-warranty repair or for calibration should be accompanied by the following: your name, company's name, address, telephone number, and proof of purchase. Additionally, please include a brief description of the problem or the service requested and include the test leads with the meter. Non-warranty repair or replacement charges should be remitted in the form of a check, a money order, credit card with expiration date, or a purchase order made payable to Amprobe® Test Tools.

In-Warranty Repairs and Replacement – All Countries

Please read the warranty statement and check your battery before requesting repair. During the warranty period any defective test tool can be returned to your Amprobe® Test Tools distributor for an exchange for the same or like product. Please check the "Where to Buy" section on www.amprobe.com for a list of distributors near you. Additionally, in the United States and Canada In-Warranty repair and replacement units can also be sent to a Amprobe® Test Tools Service Center (see address below).

Non-Warranty Repairs and Replacement – US and Canada

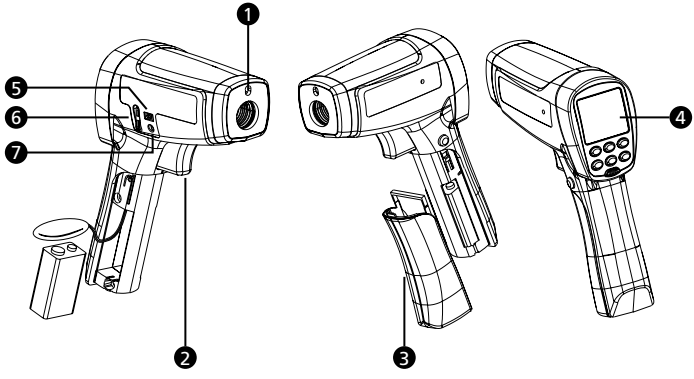
Non-warranty repairs in the United States and Canada should be sent to a Amprobe® Test Tools Service Center. Call Amprobe® Test Tools or inquire at your point of purchase for current repair and replacement rates.

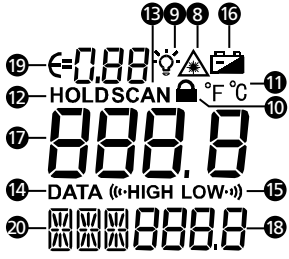
In USA	In Canada
Amprobe Test Tools	Amprobe Test Tools
Everett, WA 98203	Mississauga, ON L4Z 1X9
Tel: 877-AMPROBE (267-7623)	Tel: 905-890-7600

Non-Warranty Repairs and Replacement – Europe

European non-warranty units can be replaced by your Amprobe® Test Tools distributor for a nominal charge. Please check the "Where to Buy" section on www.amprobe.com for a list of distributors near you.

European Correspondence Address*
Amprobe® Test Tools Europe
Beha-Amprobe GmbH
In den Engematten 14
79286 Glottertal, Germany
Tel.: +49 (0) 7684 8009 - 0
www.amprobe.eu
*(Correspondence only – no repair or replacement available from this address. European customers please contact your distributor.)





1. Laser Aperture
2. Trigger
3. Battery Cover
4. Display
5. USB connector
6. K-type thermocouple connector
7. Power adaptor connector (for optional accessory)
8. Laser "ON" symbol
9. Display backlight
10. Measurement lock (Continuous measurement)
11. Temperature unit (Celsius / Fahrenheit)
12. 8 seconds auto display hold
13. Making measurement (Pulling the trigger)
14. Built in memory up to 99 points
15. Programmable high and low alarm
16. Low battery indicator
17. Primary display
18. Secondary display
19. Emissivity (Adjustable from 0.10 to 1.00)
20. MAX, MIN, DIF, AVG temperature values

    HAL, LAL temperature setting

    DATA point selection

    T-C K-type thermocouple measurement

CONTENTS

SYMBOLS

	Caution! Refer to the explanation in this Manual.
	Warning! Laser light. Do not stare into laser beam.
°C	Celsius.
°F	Fahrenheit.
	Battery indication.
CE	Complies with European Directives.
	Do not dispose of this product as unsorted municipal waste. Contact a qualified recycler.

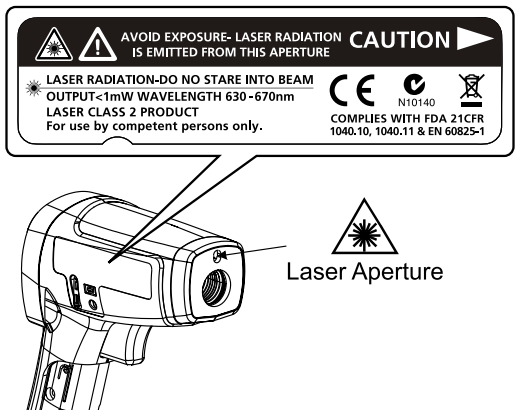
SAFETY INFORMATION

The instrument complies with:

EN 61010-1 General Safety

EN 60825-1 Laser Safety

EN 61326-1 Electromagnetic Emissions and Susceptibility



⚠ *Warning*

- *Do not stare into laser beam.*
- *Do not point laser directly at eye or indirectly off reflective surfaces.*
- *For use by competent persons only.*
- *Do not point laser directly at eye or indirectly off reflective surfaces.*
- *Replace the batteries as soon as the low-battery indicator appears.*
- *Verify the Tester's operation by measuring on a known voltage source. Do not use the thermometer if it operates abnormally.*
- *Do not operate the thermometer around explosive gas, vapor, or dust.*
- *To avoid a burn hazard or fire, know that reflective objects may be much hotter than the indicated temperature reading.*
- *Do not leave the thermometer on or near objects of high temperature.*
- *If the thermometer is used in a manner not specified by this manual, the protection provided by the thermometer may be impaired or may result in hazardous laser radiation exposure.*

⚠ *Cautions*

To avoid damaging the thermometer under measurement, protect them from the following:

- *EMF (electro-magnetic fields) from arc welders, induction heaters*
- *Static electricity*
- *Thermal shock (caused by large or abrupt ambient temperature changes — allow 30 minutes for instrument to stabilize before use)*
- *Do not leave the thermometer on or near objects of high temperature*

UNPACKING AND INSPECTION

Your shipping carton should include:

1	Thermometer (IR-750)
1	USB cable
1	K-type thermocouple probe
1	Carrying bag
1	Hard carrying case
1	9V battery (installed)
1	Users manual

If any of the items are damaged or missing, return the complete package to the place of purchase for an exchange.

FEATURES

The Amprobe IR-750, a precision performance 50:1 spot to distance ratio infrared thermometer, offers unparalleled accuracy and response time with a temperature measurement range of -58°F to 2822°F or -50°C to 1550°C. The IR-750 is perfect for demanding quality and process control applications with extremely high accuracy and distance to spot. The IR-750 also features 99 data points recognition, thermocouple inputs, and USB download for advanced HVAC/R, electrical, industrial maintenance, automotive as well as quality control and fire prevention applications.

- 50:1 Distance to Spot Ratio
- Temp Range of 0°F to -58°F to 2822°F or -50°C to 1550°C
- Precision accuracy and rapid response time
- Laser pointer, backlit dual LCD Display
- Auto display hold and MAX/MIN memory
- Adjustable emissivity for measuring a variety of materials
- 99 memory locations and PC download cable included

HOW THE THERMOMETERS WORK

Infrared thermometers measure the surface temperature of an object. The thermometer's optics sense emitted, reflected, and transmitted energy, which is collected and focused onto a detector. The unit's electronics translate the signal into a temperature reading which the unit displays .

OPERATING THE THERMOMETER

Temperature Measurement

The Thermometer turns on when you press the trigger
The Thermometer turns off when no activity is detected for 8 seconds.

To measure temperature, point the thermometer at an object and pull the trigger. You can use the laser pointer to help aim the thermometer. Pull and hold the trigger when measuring the target surface. When release the trigger, the display will hold the reading for 8 seconds. Be sure to consider distance-to-spot size ratio and field of view. The laser is used for aiming only and is not related to temperature measurement.

The thermometer features an auto off function that automatically powers down the thermometer after 8 seconds of inactivity. To turn the thermometer on, pull the trigger.

Rotary Switch Positions

Button	Description
YELLOW button	Press YELLOW button to toggle between MAX, MIN, DIF, AVG, HAL, LAL, DATA and T-C options. When the Thermometer goes into sleep mode, press MODE to turn the Thermometer ON again and it displays the last measurement result.
SET	Press to enter set-up mode stepping through Emissivity, Trigger Lock and Switching °C/°F set-up. Details refer to the below Emissivity, Trigger Lock and °C / °F set-up.
	Press to turn the display backlight ON or OFF. Selectable two level of display backlight to adapt different lighting conditions.

✹	Press ✹ to turn the laser light ON or OFF. ⚠✹ symbol on the display Indicates laser light is ON.
▼/▲	When the Thermometer enters the setup up mode (SET), press ▼ or ▲ to select a set-up option (Emissivity, Trigger lock, Switching °C / °F). When the Thermometer enters HAL, LAL and DATA mode, press ▼ or ▲ to select a set-up option (Emissivity, Trigger lock, Switching °C / °F).

Laser

⚠ ***Cautions***

To avoid injury, do not point the laser directly at eye or indirectly off reflective surfaces.

The thermometer is equipped with a laser used for aiming purposes only. The laser turns off when the trigger is released.

To enable or disable the laser:

1. *Press ✹ button to enable or disable the laser. Symbol appears on the display when laser is enabled.*

Emissivity set-up

1. Press **SET** button to select Emissivity set-up, icon ϵ is blinking on the display
2. Press ▲ to increase the value by 0.01. Press and hold ▲ for quick setting. The maximum value is 1.00.
3. Press ▼ to decrease the value by 0.01. Press and hold ▼ for quick setting. The minimum value is 0.01.
4. Press MODE button to complete the setting and exit Emissivity set-up, or press SET button to complete the setting and continue setting for Trigger Lock.

Note: Default emissivity is 0.95.

Table of Surface Emissivity

Measure Surface	Switch Setting
METALS	
Aluminum	
Oxidized	0.2 – 0.4
Alloy A3003	
Oxidized	0.3
Roughened	0.1 – 0.3
Brass	
Burnished	0.3
Oxidized	0.5
Cooper	
Oxidized	0.4 – 0.8
Electrical Terminal Blocks	0.6
Haynes	
Alloy	0.3 – 0.8
Inconel	
Oxidized	0.7 – 0.95
Sandblasted	0.3 – 0.6
Electoropolished	0.15
Iron	
Oxidized	0.5 – 0.9
Rusted	0.5 – 0.7
Iron Cast	
Oxidized	0.6 – 0.95
Unoxidized	0.2
Molten	0.2 – 0.3

Iron Wrought	
Dull	0.9
Lead	
Rough	0.4
Oxidized	0.2 – 0.6
Molydbenum	
Oxidized	0.2 – 0.6
Nickel	
Oxidized	0.2 – 0.5
Platinum	
Black	0.9
Steel	
Cold-Rolled	0.7 – 0.9
Ground Sheet	0.4 – 0.6
Polished Sheet	0.1
Zinc	
Oxidized	0.1

Measure Surface	Switch Setting
NON-METALS	
Asbestos	0.95
Asphalt	0.95
Basalt	0.7
Carbon	
Unoxidized	0.8 – 0.9
Graphite	0.7 – 0.8
Carborundum	0.9

Ceramic	0.95
Clay	0.95
Concrete	0.95
Cloth	0.95
Glass	
Plate	0.85
Gravel	0.95
Gypsum	0.8 – 0.95
Ice	0.98
Limestone	0.98
Paper (any colour)	0.95
Plastic	
Opaque	0.95
Soil	0.9 – 0.98
Water	0.93
Wood, (natural)	0.9 – 0.95

Trigger Lock

The thermometer trigger can be locked on for continuous measurement.
To lock the trigger:

1. Press **SET** button to select Trigger Lock set-up, icon is blinking on the display
2. Press ▲ or ▼ to select ON or OFF.
3. Press **YELLOW** button to complete the setting and exit Trigger Lock set-up, or press **SET** button to complete the setting and continue setting for °C / °F.

°C / °F Set-up

1. Press **SET** button to select °C / °F set-up, icon °C or °F is blinking on the display
2. Press ▲ or ▼ to select °C or °F.
3. Press **YELLOW** button to complete the setting and exit °C / °F set-up.

MAX, MIN, DIF, AVG

The thermometer can measure maximum (MAX), minimum (MIN), differential (DIF) or average (AVG) temperatures each time a reading is taken. These values are available for infrared measurements.

1. Press **YELLOW** button until **MIN** or **MAX** or **AVG** or **DIF** appears on the display
2. Pull and hold the trigger while aiming at the target surface.
3. The value will show on secondary display.

High Alarm (HAL) and Low Alarm (LAL)

The thermometer has a programmable high and low alarm to designate high or low readings depending on the thresholds entered. When the alarm level is reached, an alarm will sound. This feature is not available when measuring by thermocouple.

To set either the high or low alarm:

1. Press **YELLOW** button to select **HAL** or **LAL** option.
2. Press ▲ or ▼ to adjust the threshold value.
3. Press SET button to complete the setting. Symbol ((·HIGH or LOW·)) will appear on the display.

To turn off the high or low alarm:

1. Press **YELLOW** button to select **HAL** or **LAL** option.
2. Press SET button. Disappearance of Symbol ((·HIGH or LOW·)) on the display indicates high or low alarm is off.

DATA Memory

The thermometer has 99 points data storage and the stored data can be downloaded via IR-750 software. To save the data:

1. Press **YELLOW** button to select **DATA** option.
2. Press ▲ or ▼ to select data record number
3. Pull and hold the trigger while aiming at the target surface, press DATA button to save the measurement value. You can also save the measurement value within 8 seconds of display hold after releasing the trigger.

K-Type Thermocouple Measurement

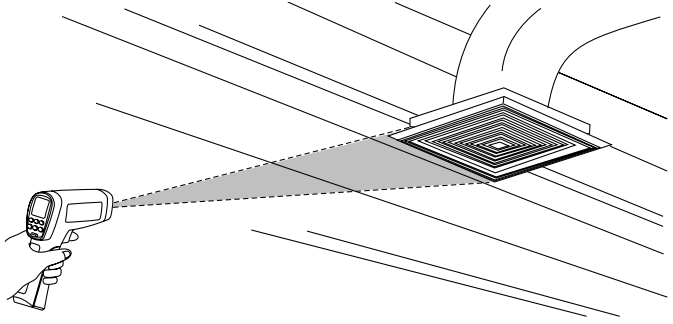
To avoid electrical shock or personal injury, do not connect the thermocouple contact probe to live electrical circuits.

The thermometer comes with a bead K-type thermocouple probe.
K type thermocouple is connected to the thermometer via TC-K input connector located on right side of the thermometer. The probe can be used simultaneously while the thermometer is taking non-contact measurements.

1. Press **YELLOW** button to enter T-C mode. The display shows OL before the measurement is made.
2. Connect the K type thermocouple to the thermometer via TC-K input connector located on right side of the thermometer. Press the trigger to start measuring. Secondary display shows the measurement reading.
3. Release the trigger, the reading is kept on display (display hold: 8 seconds)

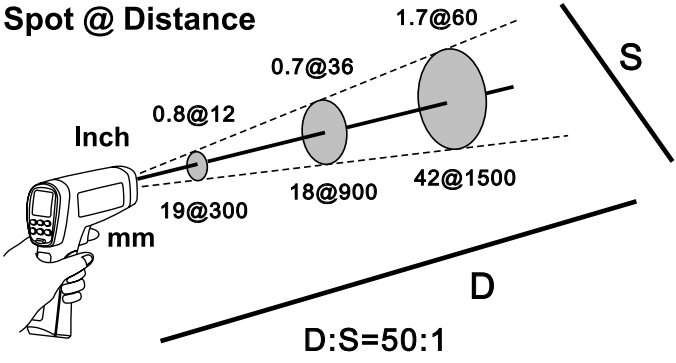
Locating a Hot or Cold Spot

To find a hot or cold spot, aim the Thermometer outside the target area. Then, slowly scan across the area with an up and down motion until you located the hot or cold spot.



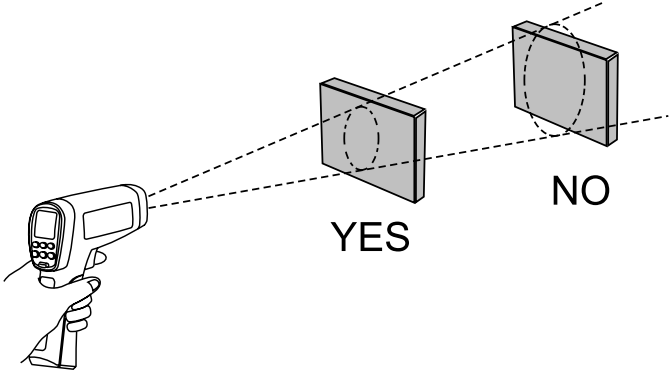
Distance and Spot Size

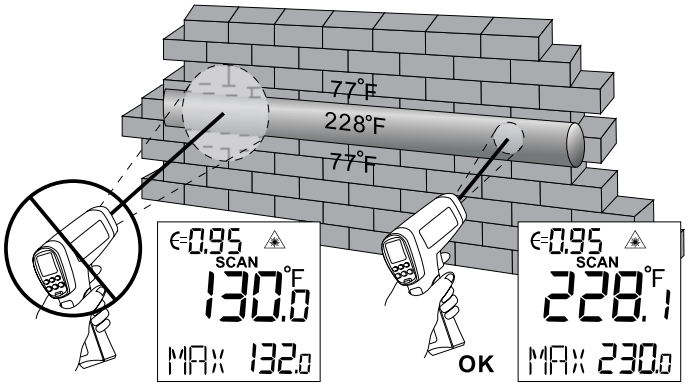
As the distance (D) from the target being measured increases, the spot size (S) of the area measured by the instrument becomes larger. The spot size indicates 90% encircled energy.



Field of View

Make sure that the target is larger than the spot size. The smaller the target, the closer you should be to it.





Emissivity

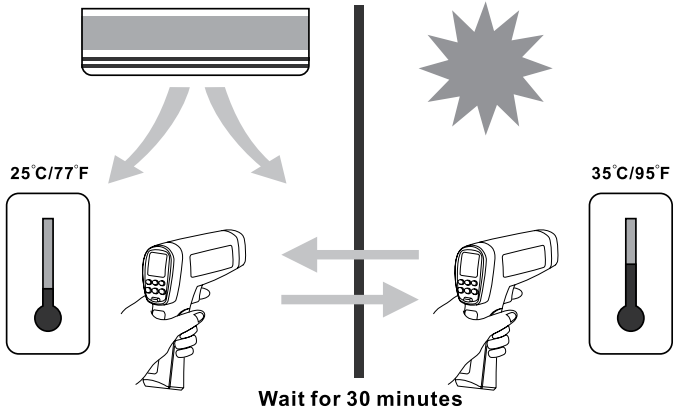
Emissivity describes the energy-emitting characteristics of materials. Most organic materials and painted or oxidized surfaces have an emissivity of about 0.95.
If possible, to compensate for inaccurate readings that may result from measuring shiny metal surfaces, cover the surface to be measured with masking tape or flat black paint (<150°C / 302°F) and use the high emissivity setting. Allow time for the tape or paint to reach the same temperatures as the surface beneath it. Measure the temperature of the tape or painted surface.

If you cannot use paint or use tape, then you could improve the accuracy of your measurements with the emissivity selector. Even with emissivity selector, it can be difficult to get a completely accurate infrared measurement of a target with a shiny or metallic surface.

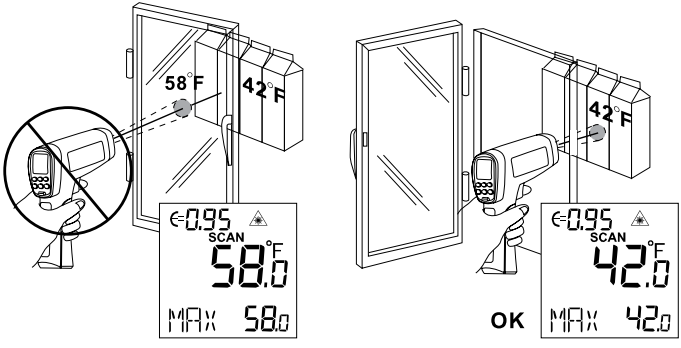
The Thermometer allows you to adjust the emissivity for the type of surface before measured.
Refer to Table of Surface Emissivity. But it is only a typical case. You could base on your own case and materials to have different setting.

Reminders

1. Changes of surrounding ambient temperature can result in inaccurate reading, allow time for the instrument to adopt the change of ambient before use. Specified accuracy applies after 30 minutes when the instrument changes to a different environment ambient.



2. The instrument cannot measure through transparent surfaces such as glass. It will measure the surface temperature of the glass instead.



3. See table of Surface Emissivity for use in measuring shiny or polished metal surfaces (stainless steel, aluminum, etc.).

4. Steam, dust, smoke, etc., can prevent accurate measurement by obstructing the instrument's optics.

TYPICAL MEASUREMENTS

This section describes a variety of measurements often performed by technicians.

Reminder:

- User could select to turn on or off the backlight and laser whenever you are making readings with the Thermometer.
- Relatively high emissivity normally means emissivity setting of about 0.95.
- Relatively low emissivity normally means emissivity setting of about 0.30.
- When user cannot identify the emissivity of the object to be measured, user could cover the surface to be measured (temperature >150°C) with black electric tape (emissivity of about 0.95). Allow time for the tape to reach the same temperature as the object to be measured. Measure and record the temperature of the tape.

Target the Thermometer to the object to be measured, adjust the emissivity setting to make it as the same temperature as the tape. At this time, the Thermometer emissivity setting is close to the emissivity of the object to be measured, measurement could be started.

Testing Contactors (starters)

1. Press **SET** to select emissivity. Press ▲ / ▼ to select relatively low emissivity for bright contacts, or 0.7 mid level for darkened contacts.
2. Press **YELLOW** button to select **MAX**.
3. Measure line and load side of one pole without releasing trigger.
4. A temperature difference between the line and load sides of a pole indicate increased resistance of one point and a contactor may be failing.

Testing Enclosed Relays

1. Press **SET** and then press ▲ / ▼ to set emissivity to relatively low for un-insulated connectors or relatively high for plastic encased relays or for Bakelite enclosed relays or insulated connectors.

2. Press **YELLOW** button to select **MAX**.
3. Start to scan.
4. Measure the relay casing, looking for hot spots.
5. Measure electrical connections on relay terminals looking for hot spots.

Testing Fuses and Buss Connections

1. Press **SET** and then press ▲ / ▼ to set emissivity to relatively high for paper covered fuse body or insulated connections.
2. Press **YELLOW** button to select **MAX**.
3. Scan the paper covered length of fuse.
4. Without releasing the trigger, scan each fuse. Unequal temperatures between fuses may indicate voltage or amperage imbalance.
5. Press **SET** and then press ▲ / ▼ to set emissivity to relatively low, for metal fuses and caps and insulated buss connections.
6. Press **MODE** to select **MAX**.
7. Scan each end cap on each fuse.

Note: Unequal temperatures or a high temperature indicates loose or corroded connection through the fuse buss spring clip

Testing Electrical Connections

1. Press **SET** and then press ▲ / ▼ to set emissivity to relatively low for un-insulated connectors or buss connections or relatively high for insulated connections.

   Note: Conductors are typically smaller than the Thermometer's spot size. If the spot size is bigger than the connector, the temperature reading is the average within the spot.
2. Scan the conductor, moving toward direction of electrical connector (quick connector, wire nut, buss connection, etc.).

Scanning Walls for Air Leaks or Insulation Deficiencies

1. Turn off heating, cooling, and blower.
2. Press **SET** to select emissivity. Press ▲ / ▼ to select emissivity relatively high for painted surfaces or window surfaces.

3. Press **YELLOW** button to select **MIN** when opposite side of wall is at lower temperature and or select **MAX** when opposite side of wall is at higher temperature.
4. Measure an interior partition wall surface temperature.
5. Do not release the trigger. Record this temperature as your baseline (or benchmark) for a "perfectly" insulated wall.
6. Face the wall to be scanned. Stand 1.5m away to scan a 4cm spot on the wall.
7. Scan horizontal rows of wall from top to bottom, or horizontal rows of ceiling from wall to wall. Look for greatest deviations from baseline temperature to identify problems. This completes the insulation test scan.

Turn on the blower (no heat, no cooling) and retest. If test results with the blower on are different than results with the blower off, this may indicate air leaks in conditioned envelope walls. The air leaks are caused by duct leaks that create a pressure differential across the conditioned space envelope.

Testing Bearings

⚠ Warning
To avoid injury when testing bearings:

1. Do not wear loose clothing, jewelry, or anything around neck when working around moving parts such as motors, belts, blower, and fans.

2. Make sure an electrical disconnect is within reach and operating correctly and freely.

3. Do not work alone.

Note: It works best to compare two similar motors operating similar loads

1. Press **SET** and then press ▲ / ▼ to select relatively high emissivity.
2. Press **SELECT** to select **MAX**.
3. Enable motor and allow it to reach steady state operating temperatures.
4. Disable the motor if possible.
5. Measure the two motor bearing temperatures.
6. Compare the two motor bearing temperatures. Unequal temperatures or a high temperature can indicate a lubrication or other bearing problem that is resulting from excess friction.
7. Repeat the sequence for the blower bearings.

Testing Belts and Sheaves

1. Press **SET** and then press ▲ / ▼ to select relatively high emissivity.
2. Press **SELECT** to select **MAX**.
3. Enable the motor and allow it to reach a steady state operating temperatures.
4. Aim the Thermometer at the surface to be measured.
5. Start recording temperature.
6. Slowly move the Thermometer up the belt toward second sheave.
   - If belt is slipping, sheave temperature will be high from friction.
   - If belt is slipping, belt temperature will remain high between sheaves.
   - If belt is not slipping, belt temperature will reduce between sheaves.
   - If inner surfaces of sheaves are not a true "V" shape, this indicates belt slippage and will continue to operate at elevated temperatures until sheave is replaced.
   - Sheaves must be properly aligned (include "pitch & yaw") for belt and sheaves to operate at appropriate temperatures. A straight edge or taut string, can be used to check alignments.
   - Motor sheave should operate at a temperature consistent with blower sheaves.
   - If motor sheave is at a higher temperature at motor shaft than at outer circumference, belt is probably not slipping.
   - If outer circumference of sheave is at higher temperature than sheave at motor shaft, then belt is probably slipping and sheaves may be misaligned.

Checking Hydronic Radiant Heat Applications

1. Press **SET** and then press / to select relatively high emissivity.
2. Press **YELLOW** button to select **MAX**.
3. To locate radiant heat tubes in floor, temporarily elevate the loop temperature to create hotter spots for identifying tubing runs.
4. Before releasing trigger, press **YELLOW** button to toggle between **MIN**, **MAX**, DIF floor temperatures and record the temperature for future comparison and trending under similar conditions.

Measuring Grille, Register, or Diffuser Discharge Temperature

1. Press **SET** and then press ▲ / ▼ to select relatively high emissivity.
2. Aim the Thermometer at the discharge air grille, register, or diffuser.
3. Measure discharge temperature.
4. Release trigger to freeze the temperature reading for 8 seconds and record this temperature.
5. Grille, register, or diffuser temperature should be equivalent to discharge temperature at the air handler.

Checking for Blockage in Air-To-Air Evaporator or Condensers

1. Remove panels to gain access to coil return bends or hairpins.
2. Press **SET** and then press ▲ / ▼ to select relatively high emissivity for copper tube.
3. Start the refrigeration system.
4. Aim the Thermometer at coil turn bends/hairpins.
5. Start recording temperature.
6. Take temperature of each return bend/hairpin.
    - All evaporator return bends/hairpins should be at or slightly above evaporator saturation temperature from the pressure/temperature chart.
    - All condenser return bend/hairpins should be at or slightly less than condenser saturation temperature.
    - If a group of return bends/hairpins do not conform to expected temperatures, that indicates a blocked or restricted distributor or distributor tube.

System Prerequisites

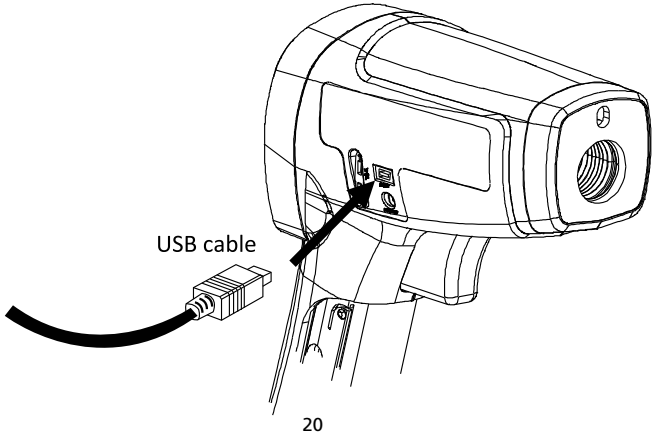
Recommended configuration

Processor	Pentium® 4 or higher with support of all customary operating systems
Operating system	Microsoft Windows® 2000 / XP / Vista / Win7
Memory	512 MB RAM or higher
Monitor	VGA (1024 x 768)
Drive	CD-ROM
Input device	Mouse or compatible
Interface	USB for data transmission

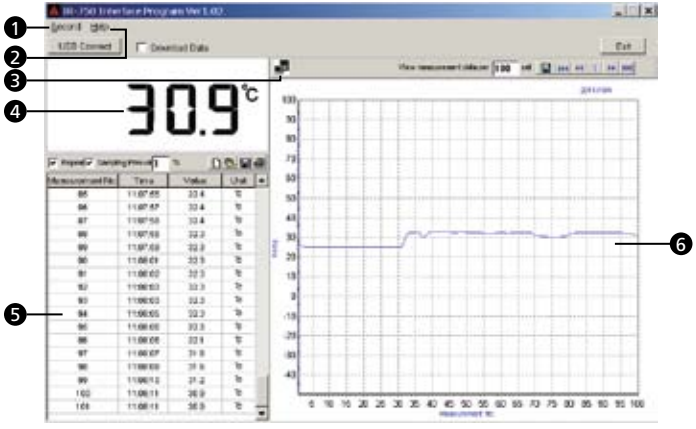
Install IR-750 Software

- Insert the provided CD disk into CD-ROM drive.
- Double-click "IR-750_VX.XX.exe" (X can be 0 to 9 or blank, indicating the software version)
- The pop-up windows will guide you through the program setup process.

Connecting USB cable to IR-750 Thermometer



Main Screen



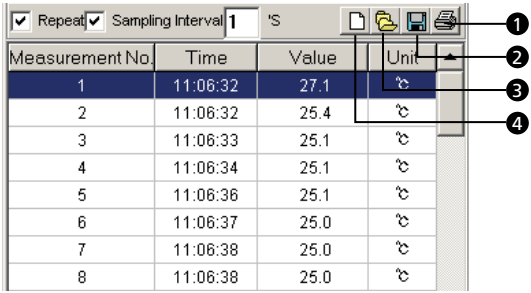
1. Record command enables you to create New, Save file and Set the numbers of measurement (1000, 5000, 10000, 50000, 100000 or limitless).
2. Help command enables you to view the software operation instructions.
3. Blinking indicates IR-750 is connected to the software
4. Main display screen of measurement
5. Secondary display screen for measurement data
6. Measurement data in graph

Using Program

USB Connect button enables you to connect to IR-750 thermometer and start measurement. Click "USB Connect" and is blinking indicates IR-750 Thermometer is successfully connected to the PC and IR-750 Thermometer will automatocally start taking measurements. Primary display screen shows current measurement temperatures,secondary display screen shows all measurement data.

Download Data enables you to download data saved in IR-750 Thermometer. Tick "Download Data" and click "USB Connect", the saved data will automatically upload to PC and display on secondary display.

Exit Exit and close the program



❶ Print data

❷ Save data (*.txt, *.xls, *.xml)

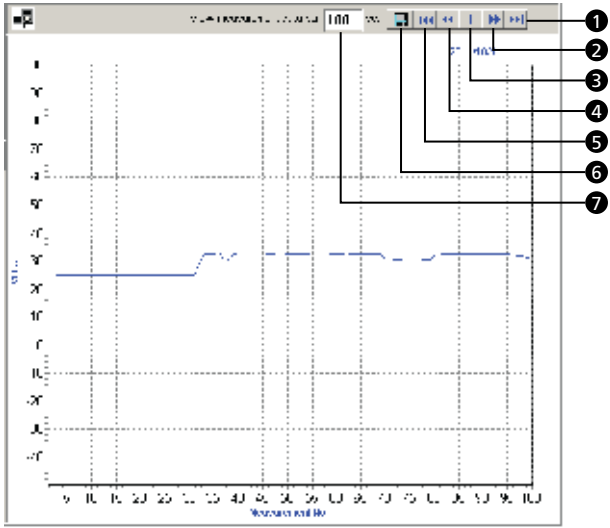
❸ Open files (*.txt, *.xls, *.xml)

❹ Deleting current data and create a new data.

Repeat: Tick to display every measurement with the interval you set. Un-tick "Repeat", the secondary display screen will only show measurement result that is different from the last measured temperature. The graph display will show complete measurement result in graphics despite "Repeat" is ticked or un-ticked.

Sampling Interval allows you to set the sampling intervals of measurement (1 to 9999 seconds).

Note: when measurement data reaching to 10000 sets (measurement No.), a warning message will pop up and stop measurements. Save or clear the measurement data before continuing next measurements.



❶ Last page

❷ Next page

❸ Current page

❹ Previous page

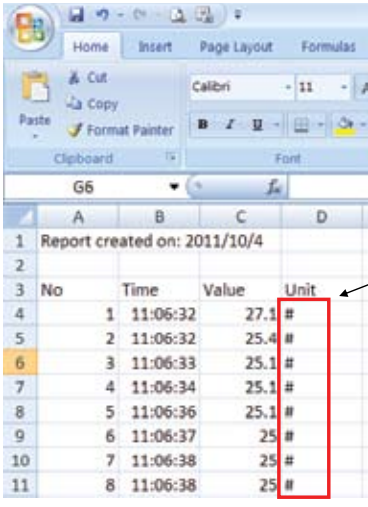
❺ First page

❻ Save graph in current page as *.bmp

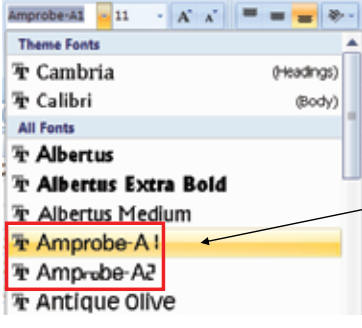
❼ Set numbers of measurement data on graph display

Test Report

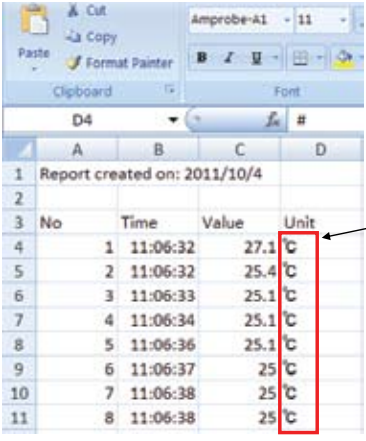
Test data can be saved as *.txt, *.xls, *.xml by clicking button. When opening data report, make sure selecting Font format as Amprobe-A1 or Amprobe-A2 in “Unit” column in order to display correct temperature unit °C or °F.



or ? indicates incorrect Font selection for temperature unit



Select Amprobe-A1 or Amprobe-A2 to display correct temperature unit

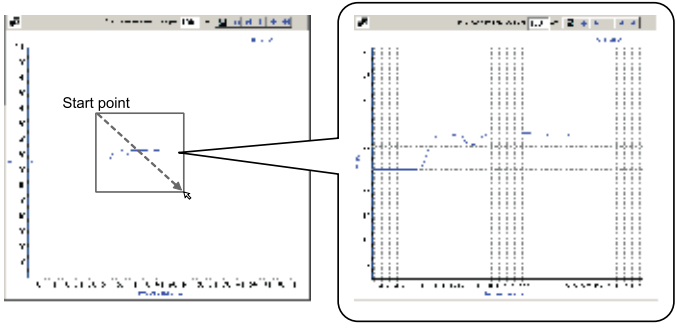


	A	B	C	D
1	Report created on: 2011/10/4			
2				
3	No	Time	Value	Unit
4	1	11:06:32	27.1	℃
5	2	11:06:32	25.4	℃
6	3	11:06:33	25.1	℃
7	4	11:06:34	25.1	℃
8	5	11:06:36	25.1	℃
9	6	11:06:37	25	℃
10	7	11:06:38	25	℃
11	8	11:06:38	25	℃

Correct display of temperature unit

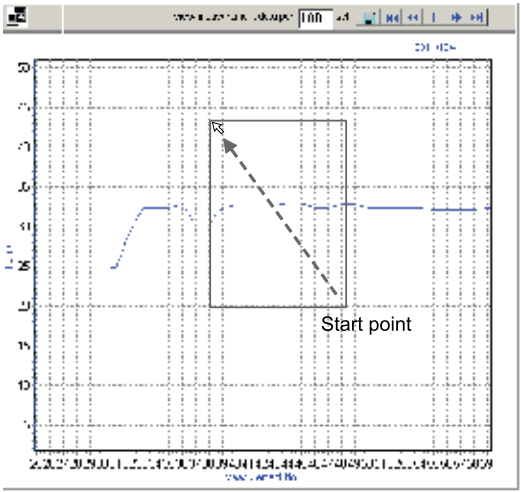
Zoom In Selected Graph

To enlarge the particular part of the graph, use the mouse pointer to select area from upper-left point to lower-right point.



You can use  button to save the selected enlarged graph.

To resume to its original full view, use the mouse pointer to select any area on the graph from lower-right point to upper-left point.


Start point

SPECIFICATION

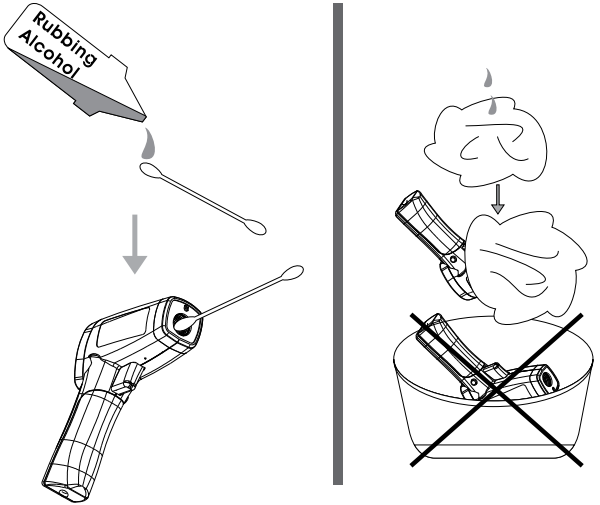
Feature	IR-750
Temperature Range	-50°C to 1550°C (-58°F to 2822°F)
Accuracy (Assumes ambient operating temperature of 23°C to 25°C (73°F to 77°F)	>0°C to 1550°C (>32°F to 2822°F): ±1.8% or ±1.8°C (±4°F), whichever is greater >-35°C to 0°C (-31°F to 32°F): ±1.8%+1°C (2°F) or ±2.8°C (±6°F), whichever is greater -50°C to -35°C (-58°F to -31°F): not specified (for reference only)
Repeatability	±0.5% of reading or ±0.5°C (±1°F), whichever is greater
Display Resolution	0.1°C / 0.1°F of reading < 999.9 0.2°C / 0.2°F of reading below 10°C (50°F) 1°C / 1°F of reading > 999.9
Spectral Response	8µm to14µm
Laser Sighting	Single point laser
Laser Power	Output > 1mW Class 2, wavelength 630 to 670nm
Response Time (95%)	250ms
Distance to Spot (D:S)	50:1
Minimum Spot Size	19mm
Emissivity	Digitally adjustable from 0.10 to 1.00 by 0.01. Pre-set emissivity is 0.95
Ambient Operating Temperature	0°C to 50°C 32°F to 120°F
Relative Humidity	0% to 75% non-condensing
Storage Temperature	-20°C to 65°C -4°F to 150°F (Battery not installed)
Temperature Display	°C or °F selectable

Display Hold	8 sec
MAX/MIN Temperature Display	√
DIF/AVG Temperature Display	√
USB interface	√
Data storage	99
Programmable high and low alarm	√
K-Type thermocouple measurement	√
Dual LCD Display	√
LCD Backlit	√
Low Battery Indication	√
Tripod mount	√
Power	9V 6F22 alkaline battery or by Amprobe EPS-700-US (US plug) or EPS-700-EUR (European plug) power adaptor
Battery Life	10 hours with laser and backlight on 30 hours with laser and backlight off
Dimension (H x L x W)	Approx.183 x 147 x 57 mm (7.2 x 5.8 x 2.3 in)
Weight	Approx.345 g (0.76 lb) with battery installed
Optional accessory	Power adaptor EPS-700-US (US plug), EPS-700-EUR (European plug)

MAINTENANCE

Lens Cleaning: Blow off loose particles using clean compressed air. Gently brush remaining debris away with a camel's hair brush. Carefully wipe the surface with a moist cotton swab. The swab may be moistened with water or rubbing alcohol.
NOTE: DO NOT use solvents to clean the plastic lens.
Case Cleaning: Use soap and water on a damp sponge or soft cloth.

⚠ Caution!
Do not submerge the unit in water.



TROUBLE SHOOTING

Code	Problem	Action
OL	Target temperature is over range	Select target within specifications
-OL	Target temperature is under range	Select target within specifications

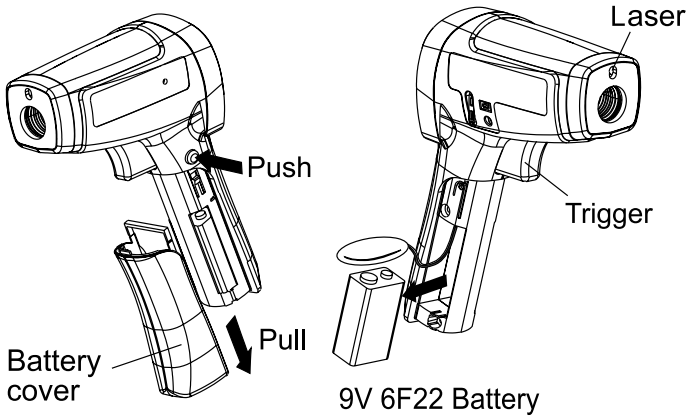
Battery indication	Low battery	Check and/or replace battery
Blank display	Possible dead battery	Check and/or replace battery
Laser does not work	1.Low or dead battery 2.Ambient temperature above 40°C (104°F)	1.Replace battery 2.Use in area with lower ambient temperature
Beeper beeps continuously	Check if high/low alarm has been set? And measurement value has over the limit?	Re-set high/low alarm setting or cancel the limit setting

BATTERY REPLACEMENT

To install or change one 9V battery (see below):

1. Push the button and pull the handle downward to open battery cover.
2. Install the battery noting its correct polarity.
3. Re-install the battery cover.

Battery: 9V 6F22 alkaline battery or equivalent



Visit www.Amprobe.com for

- Catalog
- Application notes
- Product specifications
- User manuals

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