OPERATION MANUAL

INFRARED THERMOMETER

CE

Model: ■ 8895

INTRODUCTION

- ◆ Temperature range from -40 to 1500ºF (-40 to 816ºC)
- ◆ Emissivity adjustable
- ◆ Switchable ºF or ºC readings
- ◆ Laser targeting
- ◆ Back-light
- ◆ Long battery life
- ◆ Quick and simple operation

PACKAGE CONTENTS

- ◆Operation manual
- ◆Two AA batteries
- ◆Protective pouch
- ◆Carrying case

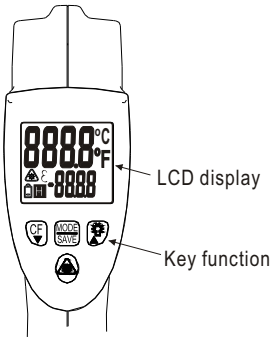
SAFETY RULES

The product conforms the assessment for Consumer Products Safety Law with PSC mark in Japan .

CAUTION

This equipment is intended for use by industry professionals who know their professional environments. Temperature measurements are often taken in potentially hazardous areas. Know and use the safety standards prescribed by your profession.

SYMBOLS



A)LCD display.

1. F / C temperature unit indicators.
2. ℄ Emissivity indicator.
3. Hold H freeze reading .
4. Laser safety mark .
5. Low battery annunciator.
6. Main display for measured reading.
7. Sub-display for emissivity value.

B)Key function.

1. : Fahrenheit / Centigrade unit selection .Down / Decrease emissivity value .
2. : Enter Emissivity adjustment mode .Save the emissivity value.
3. : Activate Backlight and up/ Increase emissivity value.
4. : Laser sighting mark .

LASER TARGETING

CAUTION

The meter complies with FDA performance standard , 21CFR Subchapter J.

LASER SAFETY

Do not point the laser toward the eyes or face of a person or animal.

Laser light can cause eye injury, if the beam makes direct eye contact.

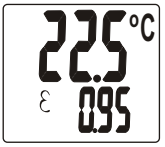
Reflected Laser light can also cause damage, if a mirror or a glass-like surface reflects the beam directly into the eyes.

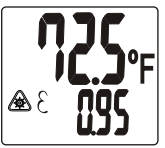
Laser's potential to cause damage is retained for hundreds of feet.

To activate Laser sighting , press and hold the trigger ,then press Laser key , now laser beam shows on the surface you want to measure .

Now , you see a laser icon is displayed on the screen.

To turn off laser sighting , press and hold the trigger , then press Laser key again to eliminate laser beam .
Now , laser icon is disappeared.



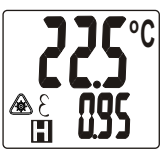


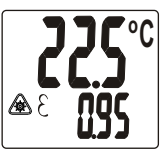
OPERATING INSTRUCTIONS

This instrument's light weight, pistol grip design, flip battery compartment and large LCD display make it convenient for most temperature measurement needs and accessible to processes not suited for conventional "contact" temperature measurements.

While releasing the trigger , the reading will be freezed , H icon indicates holding the current measurement .

The meter will be automatically turn off for saving power in 10 seconds under non-operation .

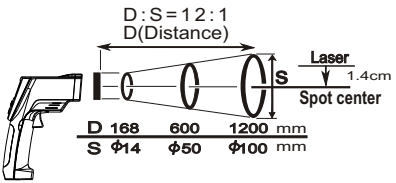




TAKING MEASUREMENT SAMPLES

To take temperature measurements, point the instrument at the surface to be measured and pull the trigger.
A tube has been incorporated along the top of the barrel to aid the user in spotting the surface area to be measured (target).

Although this simple explanation works well in most cases, there are other factors that may impact the measurement accuracy.
Consider these influences before using the data you obtain with your infrared thermometer:



- The target must completely fill the spot diameter seen by the infrared sensor, otherwise the temperature displayed will be influenced by the surface surrounding the target. The ratio of the distance from the end of the barrel to the size of the spot being measured is 12**: 1.**

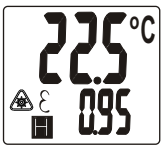
For example, using the meter,an object that is 6" in diameter can be accurately measured from 72" away.

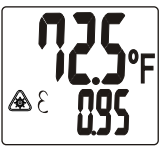
When using the gun to find hot -spots, accuracy of the reading is not as important as keeping the gun at the same distance from the target for each sample measurement.
If you are looking for hot-spots on electrical panels, for instance, you could take the readings from 6' away each time, even though you may only be filling half the spot diameter. The critical information in this process would be any significantly higher temperature .

- Emissivity of an object will also affect accuracy.
- This instrument is sensitive to electromagnetic interference (EMI), such as that generated by spark plug wires, radio transmitters and welders. Do not use this instrument in close proximity to equipment that may produce such interference
- The instrument must be used within the ambient temperature range specified in the specification table

SELECTING FAHRENHEIT OR CENTIGRADE SCALES

Select the scale you prefer to use (ºF or ºC) by pressing the ("ºC/ºF ▼ ") push-button while the trigger is pulled.





BACKLIGHT OPERATION

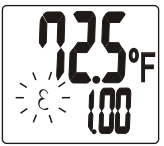
To toggle the backlight on or off, press the push-button with the backlight ( ) symbol while the trigger is pulled. Once the backlight has been turned on, it will come on each time the trigger is pulled until it is toggled off.
Please note that this feature significantly reduces the battery's life.

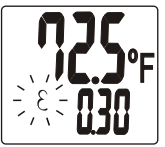
REAL-TIME TEMPERATURE MEASUREMENT MODE

This display mode shows the actual temperature of surfaces measured. This value is updated at least once every 1/2 second. When the instrument is powered up for the first time, this mode is pre-set.

EMISSIVITY ADJUSTMENT

When a process calls for repeated measurements of like materials, such as evaluating a plastic solidity at a processing plant, the best method of attaining quick, reliable temperature readings is to adjust the emissivity setting of your meter.





Press and hold the trigger , then press **MODE** button , flash ε displays on the screen . Please refer to the emissivity table on pages 12,13 and 14 ,emissivity value is adjustable from 0.30 to 1.0.

To decrease the value by pressing the (°F/°C/ ▼) push-button. To increase this value, press the (☀/▲) push-button.
To save the newly set value, press the **MODE/SAVE** push-button again, now LCD turns to the normal mode ε icon now stop flashing.

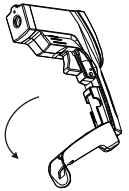
SPECIFICATION

Temp. range	-40°C ~ 816°C (-40°F ~ 1500°F)
Accuracy (Whichever is greater)	± 2°C less than 0°C ±2% or 2°C <300°C ± 2.5%or 5°C >300°C <500°C ±3% above 500°C
Emissivity	Adj. 0.3-1.0
Laser Sighting	YES
Backlight	YES
Hold reading	YES
Resolution	0.1°C , 0.1°F (<280°C)
	1°C , 1°F (>280°C)
Distance:Spot	12:1
Response time	500ms
Storage Amb.	-20~50°C(0-90%RH)
Repeatability	1°C
Dimension	195 x 134 x 50 mm
Laser power	< 1 mW
Power supply	2 x AA batteries
Operating Hum.	Max. 80% RH
Auto power off	YES

Note: Accuracy is specified for the meter operation within 18-28°C temperature ambient .

BATTERY REPLACEMENT

To remove and replace the battery, open the battery compartment under the pistol grip forward with your fingers , pull out the strap under the batteries, replace with new batteries and cover the battery compartment gently .



TROUBLESHOOTING

- **No display or erratic display:** Check the battery for proper voltage and tight contact at the battery clip. Ensure the unit is at the specified operating temperature.

- **Constant or spurious over-load (OL) display:** Check battery voltage. Check for electromagnetic interference (EMI). To check for EMI, move the unit to an open area, away from high voltage and radio or radar transmitting sources.

- **Erroneous temperature readings:** Inspect the infrared lens for blockage or contamination.

MAINTENANCE

Follow cleaning instructions. Check battery for proper voltage and tight fit in the battery clip.
Ensure the small red and black wires are not in a position to be pinched or cut, as the battery is replaced in its slot.

Case cleaning :
Use caution with a damp cloth to clean the exterior housing , ensure no water or soap is allowed inside the meter ,or on the infrared lens.

Lens cleaning :
WARNING : Recommend to clean the lens after a time of period using the meter and make sure the lens is clean enough to ensure the reading accuracy. By using low pressure compressed air to remove any particles on the lens , if the contamination can not be removed with air , use a soft cotton swab .

EMISSIVITY VALUES

Typical Emissivity Values-Metals

SURFACE	EMISSIVITY
Iron and Steel	
Cast iron (polished)	0.2
Cast iron (tumed at 100°C)	0.45
Cast iron (tumed at 1000°C)	0.6 to 0.7
Steel (ground sheet)	0.6
Mild steel	0.3 to 0.5
Steel plate (oxidized)	0.9
Iron plate (rusted)	0.7 to 0.85
Cast iron (rough)rusted	0.95
Rough ingot iron	0.9
Molten cast iron	0.3
Molten mide steel	0.3 to 0.4
Stainless steel (polished)	0.1
Stainless steel (Various)	0.2 to 0.6
Aluminum	
Polished aluminum	0.1*
Aluminum (heavily oxidized)	0.25
Aluminum oxide at 260°C	0.6
Aluminum oxide at 800°C	0.3
Aluminum Alloys, various	0.1 to 0.25
Brass	
Brass (polished)	0.1*
Brass (roughened surface)	0.2
Brass (oxide)	0.6
Copper	
Copper (polished)	0.05*
Copper (oxide)	0.8
Molten copper	0.15
Lead	
Leadr (polished)	0.1*
Leadr (oxide at 25°C)	0.3
Leadr (oxide)	0.6
Nickel and its alloys	
Nickel (pure)	0.1*
Nickel plate (oxide)	0.4 to 0.5
Nichrome	0.7
Nichrome (oxide)	0.95

EMISSIVITY VALUES

Typical Emissivity Values-Metals

SURFACE	EMISSIVITY
Zinc (oxidized)	0.1*
Galvanized iron	0.3
Tin-plated steel	0.1*
Gold (polished)	0.1*
Silver (polished)	0.1*
Chromium (Polished)	0.1*

Emissivity Values-Non-Metals

Refractory & Building Materials	
Red brick (rough)	0.75 to 0.9
Fire clay	0.75
Asbestos	0.95
Concrete	0.7
Marble	0.9
Carborundum	0.85
Plaster	0.9
Alumina (fine grain)	0.25
Alumina (coarse grain)	0.45
Silica (fine grain)	0.4
Silica (coarse grain)	0.55
Zirconium silicate up to 500°C	0.85
Zirconium silicate at 850°C	0.6
Quartz(rough)	0.9
Carbon (graphite)	0.75
Carbon (soot)	0.95
Timber (various)	0.8 to 0.9
Miscellaneous	
Enamel (any color)	0.9
Oil paint (any color)	0.95
Lacquer	0.9
Matte black paint	0.95 to 0.98
Aluminum lacquer	0.5
Water	0.98
Rubber (smooth)	0.9
Rubber (rough)	0.98
Plastics(varous,solid)	0.8 to 0.95

Plastics films(.05 mm thick)	0.5 to 0.95
Polythene film(.03 mm thick)	0.2 to 0.3
Rubber (smooth)	0.9
Rubber (rough)	0.98
Plastics(varous,solid)	0.8 to 0.95
Plastics films(.05 mm thick)	0.5 to 0.95
Polythene film(.03 mm thick)	0.2 to 0.3
Paper and cardboard	0.9
Silicone polish	0.7

*Emissivity varies with purity

WARRANTY

The meter is warranted to be free from defects in materials and workmanship for a period of one year from the date of purchase.

This warranty covers normal use and does not cover damage which occurs in shipment or failure which results from alteration, tampering, accident, misuse, abuse, neglect or improper maintenance.
A purchase receipt or other proof of original purchase date will be required before warranty repairs will be rendered. Instruments out of warranty will be repaired for a service charge.

Accuracy, the Zenith of
Measuring / Testing Instruments !

- Hygrometer/Psychrometer
- Thermometer
- Anemometer
- Sound Level Meter
- Air Flow meter
- Infrared Thermometer
- K type Thermometer
- K.J.T. type Thermometer
- K.J.T.R.S.E. type Thermometer
- pH Meter
- Conductivity Meter
- T.D.S. Meter
- D.O. Meter
- Saccharimeter
- Manometer
- Tacho Meter
- Lux / Light Meter
- Moisture Meter
- Data logger
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