

OPERATION MANUAL

FOOD SAFETY INFRARED THERMOMETER



Model: 8838



INTRODUCTION

Thank you for purchasing this infrared thermometer. The meter is designed to combine non-contact IR thermometer and a RTD penetration probe to enable both surface and internal temperatures measurement, which is very suitable for food industry application. The timer and temp. zone indication make the meter particularly helpful in conducting a HACCP (Hazard Analysis and Critical Control Point) program for food safety.

SPECIFICATIONS

Temp. range

Infrared: $-40\sim 280^{\circ}\text{C}$ ($-40\sim 536^{\circ}\text{F}$)

Probe : $-40\sim 200^{\circ}\text{C}$ ($-40\sim 392^{\circ}\text{F}$)

Accuracy (operating temp.: $23^{\circ}\text{C}\pm 2^{\circ}\text{C}$)

Infrared

$<0^{\circ}\text{C}$ (32°F): $\pm 1^{\circ}\text{C}$ (2°F) ± 0.1

$>65^{\circ}\text{C}$ (150°F): $\pm 1.5\%$ of rdg

$0\sim 65^{\circ}\text{C}$ ($32\sim 150^{\circ}\text{F}$): $\pm 1^{\circ}\text{C}$ (2°F)

Probe

$<-5^{\circ}\text{C}$ (23°F): $\pm 1^{\circ}\text{C}$ (2°F)

$>65^{\circ}\text{C}$ (150°F): $\pm 1^{\circ}\text{C}$ or 1.5% of rdg

$-5\sim 65^{\circ}\text{C}$ ($23\sim 150^{\circ}\text{F}$): $\pm 0.5^{\circ}\text{C}$ (1°F)

Resolution : $0.1^{\circ}\text{C}/0.2^{\circ}\text{F}$

Repeatability : 1°C or 2°C

Response time : $<500\text{ms}$

Distance to spot ratio: 3:1

Emissivity : Fixed at 0.97

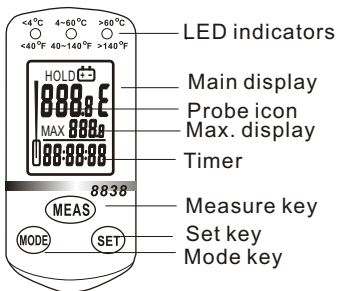
Auto power off : 20 seconds

IP rating : IP65

Dimensions: Max. $167\times 61.5\times 35.5\text{mm}$

INDICATORS AND DISPLAY

Front panel description



LED indicators





Green: <math><4^{\circ}\text{C}</math>(40°F) or $>60^{\circ}\text{C}$(140°F)
(Safe condition for food)

Red : $4\sim 60^{\circ}\text{C}$(40~140°F)
(Danger zone where mass bacteria grow)

LCD display

1. Main display:
Real time temp.
2. Middle display:
Max. temp.
3. Lower display:
Timer in "Hour
:Minute:Second" order



4.  : Probe measurement mode
5. HOLD: Freeze the last reading
6.  : Low battery indicator

OPERATION

1. Power On/Off

Press any key to turn on the meter in last operating mode. It automatically turns off after 20 sec. non-operation.

2. Select display modes

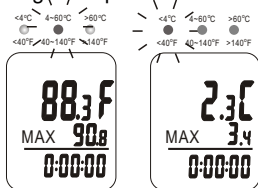
Press MODE button to select display modes. It cycles among IR, Probe, and Counter operation modes. In IR mode, the LCD shows real time temp. and max. reading. The Probe mode displays a probe icon on the left and temp. on the main screen.

3. Switch temperature units

Select °C or °F by pressing SET button when the meter is on. In probe mode, to switch units when readings get stable.

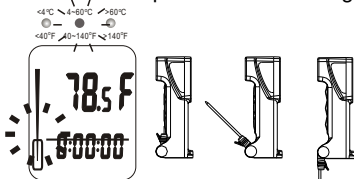
4. IR measurement: Surface temp.

Point the infrared sensor to the target, press and hold MEAS button to scan the object surface, the illumination beam can be seen highlighting the measurement area. The LCD displays real time temp. and max. value since power on. And the LED will flash correspondingly to tell the reading falls in safe or danger temp. zone.



5. **Probe measurement: Internal temp.**

Press MODE button to enter probe measurement mode that a probe icon shows on the left of LCD. Unfold the probe and insert to the target at least 10mm deep for some seconds or stir the liquid to make equilibrate with the target object, and then press MEAS to measure internal temp..The probe icon blinks while measuring and stops with short beeps when the readings get stable. The red or green LED flashes to indicate temp zone of the readings.



It is important to clean the probe tip before and after every measurement. This is not only for hygienic reason but also for better accuracy and probe maintenance.

6. **Data Hold**

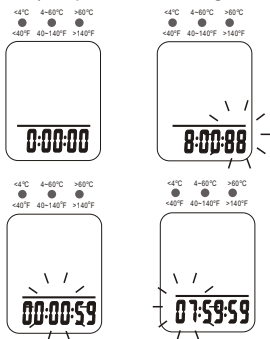
Data hold function works in both IR and probe modes. In IR measurement, just release MEAS button, the meter stops measuring and holds the last reading until next measurement is taken or power off. To hold the data in probe measurement, release MEAS button and wait until it gets the stable reading. Now "HOLD" icon shows on the top of LCD along with held reading.

7. HACCP indication

HACCP is a preventative approach to food safety used at all stages of food production and preparation processes. The meter features LED indicators to identify the critical temp. points in both IR and Probe modes. When temp. readings fall below 4°C(40°F) or above 60°C(140°F), green light blinks to tell the food is in safe condition. And red light blinks when temp. is between 4°C ~60°C(40°F~140°F) that food-borne bacteria grow rapidly and potential hazard may exist.

8. Timer function

Time factor is very important in food processing, storage and safety monitoring. The meter has timer and alarm for control purpose, which ranges up to 9:59'59". Press MODE to enter counter setting(after probe mode), and the LCD displays 0:00:00(hour: minute : second) or previous setting.



Press MEAS to start countdown with previous setting, or press SET button to have a new one. The Second digits will blink first for value change. Press SET again to increase the value and then MODE to select minute and hour digits. After hour setting is completed, press MEAS to count down.

“:” blinks while the counter is working. Users can pause or continue it by pressing MEAS button in counter mode. Or press MODE to return to IR or probe mode and let it count down in the background. The counting timer will remain on the screen even when it auto turns off.

Alarm sounds for 30 seconds when timer reaches 0. Users may press any button to stop alarming or just wait for 30 seconds till it automatically stops.

OPERATION NOTES

1. The meter is waterproof at IP65 rating and the probe is washable. Only be careful not to let steam or smoke gets directly into the infrared sensor, or it will affect the accuracy.
2. The probe is designed as not replaceable. Try not to unplug the probe which may damage the unit.
3. When surface scan temperature falls close to the HACCP zone boundaries, it is recommended to check the internal temp. for further verification.

TROUBLESHOOTING

- ***Meter does not turn on or display flashes***

Check the battery voltage and/or replace with fresh battery if necessary.

- ***Display is fixed and function keys don't work***

Remove the battery for one minute and then put it back to try again. Or replace with a new battery if problem isn't solved after reset.

MAINTENANCE

Case cleaning:

Use a damp cloth to clean the exterior housing. Make sure no water goes inside the infrared lens.

Lens cleaning:

Clean the infrared lens after a certain time of operation. Use low pressure compressed air or soft damp swab to remove the particles on the lens.

Probe cleaning:

Sterilize the probe before and after every measurement with water or detergent. Proper maintenance can assure better performance and longer life of the probe.

WARRANTY

The meter is warranted to be free from defects in material and workmanship for 1 year. The warranty covers normal operation and does not cover battery, misuse, abuse, improper maintenance, alteration, neglect, or damage resulting from leaking batteries. Proof of purchase is required for warranty repairs. Warranty is void if the meter has been opened.

RETURN AUTHORIZATION

Authorization must be obtained from the supplier before returning items for any reason. When requiring a RA (Return Authorization), please include data regarding the defective reasons, the meters are to be returned along with good packing to prevent any damage in shipment and insured against possible damage or loss.

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- ▲ K.J.T.R.S.E. type Thermometer
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- ▲ T.D.S. Meter
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