IR Crop Temperature/ External Soil Temperature Meter

PRODUCT MANUAL

Item # 2958

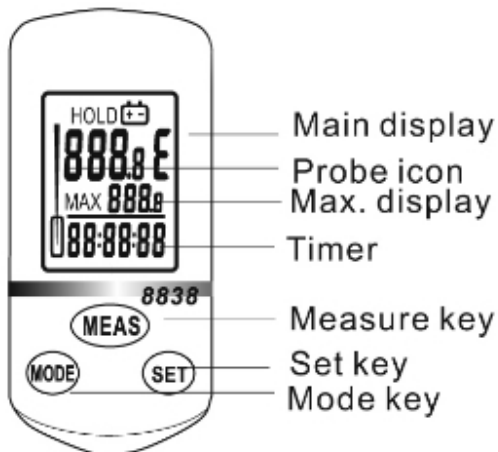**Spectrum®**
Technologies, Inc.

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Thank you for purchasing the Infrared Crop Temp / External Soil Temp Meter. The meter is designed to combine non-contact IR thermometer with a penetration probe to enable both leaf surface and soil temperature measurement using the same meter. Please read this manual thoroughly before using your meter.

SPECIFICATIONS

Infrared Temperature	
Emissivity	0.97
Distance to Target Ratio	3:1
Range	-40 to 149°F (-40 to 65°C)
Accuracy	±2°F (±1°C)
Probe Temperature	
Range	-40 to 149°F (-40 to 65°C)
Accuracy	±1°F (±.5°C) for 23 to 149°F (-5 to 65°C) ±2°F (±1°C) for -40 to 23°F (-40 to –5°C)
Response Time	<500ms
Auto Power Off	20 seconds
IP Rating	IP65
Power Supply	9V battery

Description

Front Panel

LCD Display

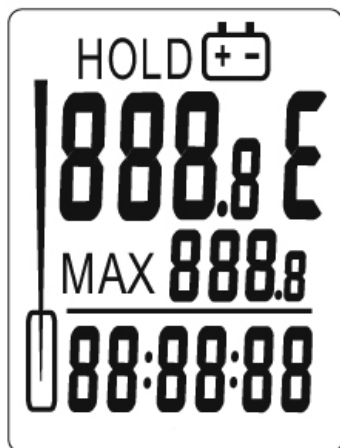Top Row:
"HOLD": Last reading displayed
Battery icon: Low battery warning

Main Display: Real time temp.

Middle Display: Max temp.

Lower Display: Timer

Probe icon: Probe measurement
mode

Operation

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

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.

Switch temperature units
Select °C or °F by pressing SET button when the meter is on. In probe mode, wait for readings to stabilize before switching units.
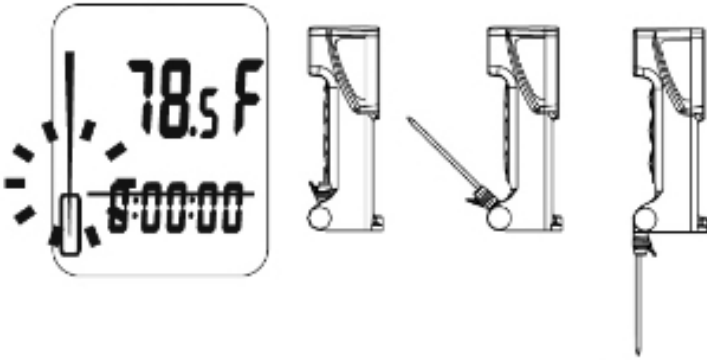
IR measurement: Surface temperature
Point the infrared sensor to the target, press and hold MEAS button to scan the object surface, the illumination beam can be seen highlighting the measurement area. The LCD displays real time temperature and maximum value since power on.

Probe measurement: Soil or liquid temperature
Press MODE button to enter probe measurement mode. A probe icon shows on the left of the LCD. Unfold the probe

and insert into the target at least 1/2" (10mm) deep for several seconds or stir the liquid to 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 stabilize.

It is important to clean the probe tip before and after every measurement for better accuracy and probe life maintenance.

Data Hold
The 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. Then the "HOLD" icon will display on the top of LCD along with the held reading.

Timer function
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.

The alarm sounds for 30 seconds when the timer reaches 0. Users may press any button to stop alarming or just wait for 30 seconds until it automatically stops.

Notes

The meter is waterproof at IP65 rating and the probe is washable. Take care not to let water, steam or smoke get directly into the infrared sensor, as it will affect the accuracy.

The probe is not replaceable. Do not attempt to unplug the probe as this will damage the unit.

Troubleshooting

Meter does not turn on or display flashes
Check the battery voltage and replace with fresh battery if necessary.

Display is fixed and the function keys don't work
Remove the battery for one minute and then reinstall it. Replace with a new battery if the 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
Clean the probe before and after every measurement. Proper maintenance can assure better performance and longer life of the probe.

Warranty

This product is warranted to be free from defects in material or work-manship for one year from the date of purchase. During the warranty period Spectrum will, at its option, either repair or replace products that prove to be defective. This warranty does not cover damage due to improper installation or use, lightning, negligence, accident, or unau-thorized modifications, or to incidental or consequential damages be-yond the Spectrum product. Before returning a failed unit, you must obtain a Returned Materials Authorization (RMA) from Spec-trum. Spectrum is not responsible for any package that is returned without a valid RMA number or for the loss of the package by any ship-ping company.

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DECLARATION OF CONFORMITY

Spectrum Technologies, Inc.
12360 S. Industrial Dr. East
Plainfield, IL 60585 USA

Model Numbers: 2958
Description: Infrared Temperature Meter with External Probe
Type: Electrical Equipment for Measurement, Control, and Laboratory Use
Directive: 2004/108/EC
     EN 61326-1:2006
     EN 61000-4-2:1995, including A1:1998 and A2:2001
     EN 61000-4-3:2002
     EN 55011:2007

Michael J. Dunning, Weather Products Manager   January 16, 2009

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