

IR-THERMOMETER IR 260-8S

ITEM NO. 100980

INTRODUCTION

Dear customer,

Thank you for making the excellent decision to purchase this Voltcraft® product.

You HAVE acquired a high-quality product with a name that stands for outstanding products in the field of measuring, charging and power technology, which excel due to professional competence and constant innovation.

With Voltcraft®, you will be able to cope even with the most difficult tasks whether you are an ambitious hobby user or a professional user. Voltcraft® offers reliable technology combined with exceptional value for money.

Therefore, we are absolutely sure: that starting to use Voltcraft will also be the start of a long, successful relationship.

We hope you will enjoy using your new Voltcraft® product!

INTENDED USE

The IR-260-8S is a device for non-contact temperature measurement, which uses the infrared energy emitted by an object to determine the temperature. The IR-260-8S thermometer is ideal for measuring the temperature of hot, hard-to-reach, or moving objects. It measures the surface temperature of an object. However, it cannot make measurements through transparent surfaces such as glass or plastic. The thermometer has a temperature range of -30°C to 260°C. Power is supplied by a 9 V battery.

Measurements must not be carried out under unfavourable ambient conditions. Adverse ambient conditions include:

- Moisture or excessive humidity
- Dust or combustible gases, vapours or solvents
- Thunderstorms or conditions as during a storm (e.g. strong electrostatic fields should be avoided)

This product fulfils European and national requirements related to electromagnetic compatibility (EMC). CE conformity has been verified and the relevant statements and documents have been deposited at the manufacturer.

Unauthorised conversion and/or modification of the device are inadmissible because of safety and approval reasons (CE). Any usage other than described above is not permitted and can damage the product and lead to associated risks such as short-circuit, fire, electric shock, etc. Please read the operating instructions thoroughly and keep them for further reference.

CONTENT OF DELIVERY

- Infrared thermometer
- 1 x 9 V battery
- Operating instructions

SAFETY INSTRUCTIONS



We do not assume liability for resulting damages to property or personal injury if the product has been abused in any way or damaged by improper use or failure to observe these operating instructions. The warranty/ guarantee will then expire!

The icon with exclamation mark indicates important information in the operating instructions. Carefully read the whole operating instructions before operating the device, otherwise there is risk of danger.

Persons / Product

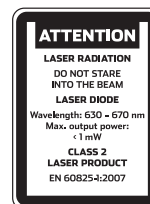
- The product is not a toy and should be kept out of reach of children and pets!
- On commercial premises, the accident prevention regulations of the Association of Industrial Professional Associations with respect to electrical systems and operating equipment must be observed.
- In schools, training centres, Hobby and DIY workshops, the handling of measuring appliances must be responsibly supervised by trained personnel.
- The device may only be operated in a closed, dry room. The space may not become damp or wet as this poses a risk of electrocution!
- The product must not be subjected to heavy mechanical stress or intense vibration.
- The product must not be exposed to electromagnetic fields, static electrical fields, extreme temperatures, direct sunlight or dampness.



- If there is reason to believe that safe operation is no longer possible, put the device out of operation and secure it against unintended operation. Safe operation is no longer possible if:
 - the product shows visible damages,
 - the product no longer works and
 - the product was stored under unfavourable conditions for a long period of time,
 - the product was subject to considerable transport stress.
- The product should not be connected immediately after it has been brought from an area of cold temperature to an area of warm temperature. Condensed water might destroy the product. Wait until the product stabilises to adapt to the new ambient temperature before use.
- The device must not be exposed to humidity or liquids.
- Steam, dust, smoke and/or vapours can prevent accurate measurement by obstructing the thermometer's optics.
- The manufacturer or supplier accepts no responsibility whatsoever for incorrect displays or the consequences which can arise from such incorrect displays.

Laser

- Never look into the laser beam and never point it at people or animals. Laser radiation can cause damage to eyes or skin.
- This product is equipped with a class 2 laser according to EN 60 825-1. Never open the device.
- Any adjustment or service work is only to be carried out by qualified personnel who are familiar with the risks involved. Improperly made adjustments may result in hazardous laser radiation.
- During operation of the device, the laser has to be directed in such a way that no person is located within the range of projection and that unwanted reflected rays (e.g. due to reflecting objects) do not get into the range of any person.
- If possible, restrict the range of radiation by using screens or partitions.
- Never open the device. Any adjustment or service work is only to be carried out by qualified personnel who are familiar with the risks involved. Improperly made adjustments may result in hazardous laser radiation.
- Included in the delivery are reference signs for the laser in different languages. In case the sign on the laser is not written in the language of your country, please fix the respective sign onto the laser.



Battery

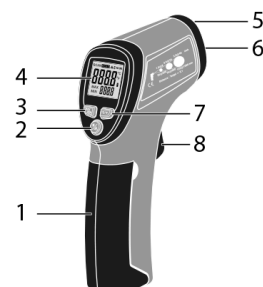
- Observe correct polarity while inserting the battery.
- Remove the battery if the device is not used for a long period of time to avoid damage through leaking. Leaking or damaged batteries might cause acid burns when contact with skin, therefore use suitable protective gloves to handle corrupted batteries.
- Keep batteries out of reach of children. Do not leave the battery lying around, as there is risk, which children or pets could swallow it.
- Make sure that batteries are not dismantled, short-circuited or thrown into fire.
- Never recharge non-rechargeable batteries. There is a risk of explosion!

Miscellaneous

- The product must not be used for medical or public purposes.
- Repair works must only be carried out by a specialist/ specialist workshop.
- If there are any technical questions, please contact:
 - International: www.conrad.com/contact
 - United Kingdom: www.conrad-electronic.co.uk/contact

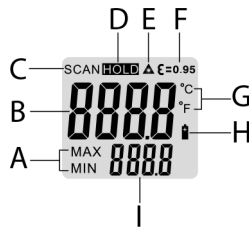
OPERATING ELEMENTS

1. Battery compartment
2. "LCD/Laser" button
3. "MAX/MIN" button
4. LC display
5. Laser pointer
6. Infrared sensor
7. "°C/°F" button
8. Trigger



DISPLAY

- A Symbol for "MAX/MIN" mode
- B Measured temperature
- C Symbol for "SCAN" mode
- D Symbol for "HOLD" function
- E Laser symbol
- F Emissivity symbol
- G Temperature units
- H Low battery symbol
- I Maximum/minimum temperature



INSERTING THE BATTERIES

- Replace the battery as soon as the low battery symbol appears on the display.
- Open the battery compartment cover.
- Connect the 9 V battery to the battery connector. The 9 V battery can only be inserted one way and hence cannot have the wrong polarity. Do not use force to insert the battery.
- Close the battery compartment cover.

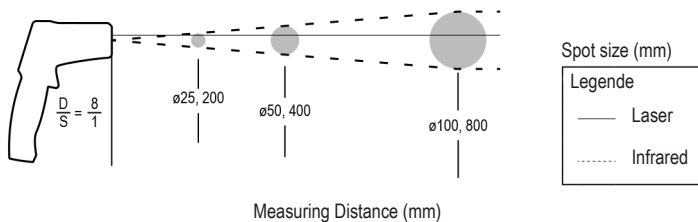
OPERATION

Operating principle

IR thermometers measure the surface temperature of an object. The sensor on the device records the heat radiation emitted, reflected and transmitted from the object, and converts this information into a temperature value. The emission level is a value used to describe the energy radiation characteristics of a material. The higher the value, the more capable the material is of emitting radiation. Many organic materials and surfaces have an emission level of approx. 0.95. Metallic surfaces or shiny materials have a lower emission level and therefore return inaccurate measured values.

Measurement distance / measurement surface area ratio (D/S)

- To achieve accurate measurements, the target must be larger than the thermometer's measuring area. The measured temperature is the average temperature of the area measured.
- The smaller the target, the smaller the measurement distance between thermometer and target object has to be.
- The distance to target / size of IR focal spot ratio is 8:1. With a distance of 8 cm to the target, the size of the IR focal spot is thus 1 cm.



Measuring

1. To obtain the best measurement results, orient the infrared sensor of the thermometer vertically to the target object surface.
2. Hold down the trigger to start the measurement. "SCAN" appears on the display.
3. The measured temperature is shown on the display.
4. While holding down the trigger, press the "LCD/Laser" button
 - once to activate the laser pointer (laser symbol appears on the display),
 - twice for additionally activating the LCD backlight,
 - three times to switch off the laser pointer, or
 - four times to switch off the LCD backlight.
5. After the trigger has been released the measured value is saved for approx. eight seconds. "HOLD" appears on the display.
6. The thermometer switches off automatically after eight seconds of inactivity. Press the "°C/°F" button to switch between the two units.

➔ The device saves the measured maximum and minimum temperatures during the current measurement. Press the "MAX/MIN" button to show these values in the lower part of the display.

CARE AND MAINTENANCE

Lens cleaning: Blow off loose particles using clean compressed air and then brush the remaining debris away with a fine lens brush. Wipe the surface with a lens cleaning cloth or a clean, soft, lint-free cloth. In the case of fingerprints or any other grease formation, the cloth may be moistened with water or lens cleaning fluid. Do not use acid, alcohol, or other solvents or harsh, linty cloth to clean the lens. Avoid and excessive pressure.

Cleaning the exterior: To clean the exterior housing, use soap and water or a mild commercial cleaner. Do not use abrasive or solvents!

DISPOSAL

a) General



Electronic products are recyclable material and do not belong in the household waste. When the device has become unusable, dispose of it in accordance with the current statutory regulations.



Remove any inserted batteries and dispose of them separately from the product.

b) Batteries/rechargeable batteries

As the end user, you are required by law (Battery Ordinance) to return all used batteries/rechargeable batteries; disposal of them in the household waste is prohibited!



Batteries/rechargeable batteries containing hazardous substances are labelled with these symbols to indicate that the disposal of them in the household waste is forbidden.

The symbols for dangerous heavy metal constituents are: Cd=Cadmium, Hg=Mercury, Pb=Lead (name written on the battery/rechargeable battery, e.g., under the rubbish bin symbol on the left).

You can return your used batteries/rechargeable batteries free of charge at the official collection points of your community, in our stores, or at places where batteries or rechargeable batteries are sold!

You thereby fulfil your statutory obligations and contribute to the protection of the environment.

TECHNICAL DATA

Power supply	.....9 V battery
Emissivity	.....0.95 (not adjustable)
Laser wavelength	.....630 - 670 nm
Laser emission rating	.....< 1 mW
Laser class	.....II
Measuring range	.....-30 °C to 260 °C (-22 °F to 500 °F)
Operating temperature	.....0 °C to 50 °C (32 °F to 122 °F)
Storage temperature	.....-20 °C to 60 °C (-4 °F to 140 °F)
Relative air humidity	.....10% to 90% (Operation)< 80 % (Storage)
Dimensions (W x H x D)	.....41.5 x 160 x 82 mm
Weight	.....180 g

Measuring range	Resolution	Accuracy
-30 °C to 0 °C (-22 °F to 32 °F)	0.1 °C/°F	± 4.5 °C (± 8 °F)
0 °C to 260 °C (32 °F to 500 °F)		± 2.5 % rdg ± 2 °C (± 4 °F)

Emission level of different surfaces



The emission levels in the table are approximate values. Different parameters such as geometry and the surface quality can affect the emission level of an object.

Surface	Emission level	Surface	Emission level
Asphalt	0.90 – 0.98	Varnish (matt)	0.97
Concrete	0.94	Human skin	0.98
Ice	0.96 – 0.98	Mortar	0.89 – 0.91
Ferric oxide	0.78 – 0.82	Paper	0.70 – 0.94
Soil. Humus	0.92 – 0.96	Plastics	0.85 – 0.95
Hard plaster	0.80 – 0.90	Sand	0.90
Glass/ceramics	0.90 – 0.95	Textiles	0.90
Rubber (black)	0.94	Water	0.92 – 0.96
Varnish	0.80 – 0.95	Bricks	0.93 – 0.96

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