User Manual

⟨D⟩ DIGI-SENSE™

Infrared Wand with
8:1 Distance-to-Sight Ratio

Model 20250-24

LOW BATTERY

SCAN

CE

Introduction

The Digi-Sense Infrared Temperature Wand (Model 20250-24) is a noncontact measurement accessory to be used with the Digi-Sense Professional series of thermocouple thermometers (models 20250-17, -18, -19, -20).

Unpacking

Check individual parts against the list of items below. If anything is missing or damaged, please contact your instrument supplier immediately.

1. Wand

2. One 9 V battery

3. User manual

How it Works

Infrared thermometers measure the surface temperature of an object. The unit's optics sense emitted, reflected, and transmitted energy, which is collected and focused onto a detector. The unit's electronics translate the information into a temperature reading which is displayed on the unit. The laser is used for aiming purposes only.

Field of View

Make sure that the target is larger than the unit's spot size. The smaller the target, the closer you should be to it. When accuracy is critical, make sure the target is at least twice as large as the spot size.

Distance and Spot Size

As the distance (D) from the object increases, the spot size (S) of the area measured by the unit becomes larger.

Good Measuring Practices

Holding the meter by its handle, point the IR sensor toward the object whose temperature is to be measured. The meter automatically compensates for temperature deviations from ambient temperature. Keep in mind that it will take up to 30 minutes for the IR sensor to stabilize if going from ambient temperatures to a much higher (or lower) temperature measurement.

Setup and Operation

1. Plug the connector on the IR wand into the IR input jack on the side of the meter (see Fig. 1). If the wand is connected properly, "IR - - - -" or an "IR TEMP" icon will be shown on the meter display.

2. Point the tip of the wand as close as possible to the object being measured without physically touching the object.

3. Press the SCAN button on the wand to begin measuring and the IR temperature measurement will be shown on the meter display.
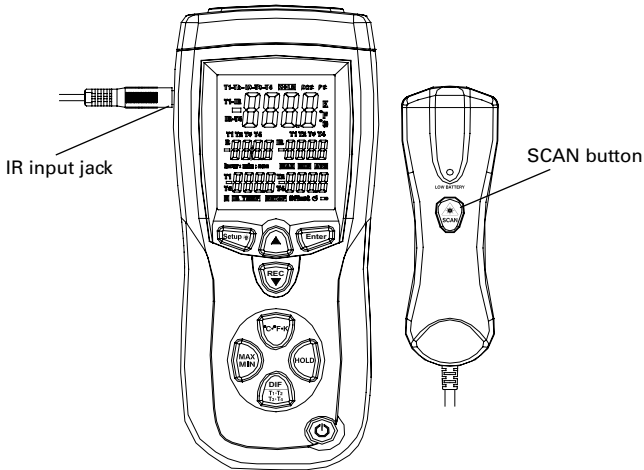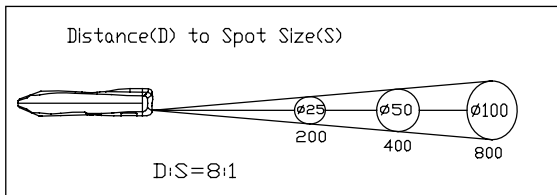

Fig. 1

Specifications

Temperature range	–31 to 1022°F (–35 to 550°C)
Resolution	1 mV per °F/°C
Basic accuracy	±2% or ±4°F (2°C)
Response time	Less than 500 ms
Optical resolution (Distance-to-Spot ratio)	8:1
Plug diameter	Banana plug: 0.16" (4 mm)
Dimensions	6½" x 2" x 1½" (16.4 x 5 x 4 cm)
Power	One 9 V battery

Field of View

The wand's field of view is 8:1, meaning that if the sensor is 8 inches from the target, the diameter of the object under test must be at least 1 inch. Other distances are shown in the diagram below. Make sure that the target is larger than the unit's spot size. The smaller the target, the closer you should be to it. When accuracy is critical, make sure the target is at least twice as large as the spot size. As the distance (D) from the object increases, the spot size (S) of the area measured by the unit becomes large. The relationship between distance and spot size is shown in diagram. The focal point for each unit is 8" (203 mm). The spot sizes indicate 90% encircled energy.

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Distance(D) to Spot Size(S)

                              ⌀25    ⌀50    ⌀100
                               200    400    800
          D:S=8:1
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Safety

- Use extreme caution when the laser beam is turned on.

- Do not let the laser beam enter your eye, another person's eye or the eye of an animal.

- Be careful not to let the laser beam on a reflective surface strike your eye.

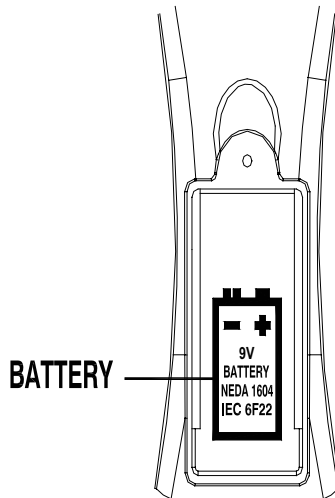- Do not allow the laser light beam to impinge on any gas which can explode.

CAUTION

LASER RADIATION
DO NOT STARE INTO BEAM

DIODE LASER
<1mW Output at 675nm
CLASS II LASER PRODUCT

Maintenance and Repair

Cleaning and Storage

- The wand should be cleaned with a damp cloth and mild detergent when necessary. Do not use solvents or abrasives.

- Store the wand in an area with moderate temperature and humidity conditions.

Battery Replacement

When the battery power falls low, the low-battery LED indicator will light. Unscrew the cover of rear battery compartment to replace the 9 V. Ensure the cover is securely refastened when finished.

BATTERY —— 9V
BATTERY
NEDA 1604
IEC 6F22

For Product and Ordering Information, Contact:

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