SENTEST Instruments

NP10
Infrared Sensor

Operator's Manual

Content

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*Note: Read the manual carefully before the initial start-up. The producer reserves the right to change the herein described specifications in case of technical advance of the product.

1. Description

1.1 Basic of Infrared thermomety

Infrared thermometer is an optoelectronic sensor. Any object of a temperature above absolute zero (-273 °C) emits electromagnetic radiation. Infrared thermometer calculates the surface temperature on the basis of the emitted infrared radiation from the object. By determining its radiation intensity the temperature of an object can thereby be determined in a non-contact way.

1.2 Scope of Delivery
• NP10 Thermometer
• User Manual

1.3 Maintenance

Keep the lens clean at all times. Any foreign matter on the lens would affect measurement accuracy. The lens surface can be cleaned with a soft, humid tissue moistened with water or a water based glass cleaner. Never use cleaning compounds which contain solvents for the lens.
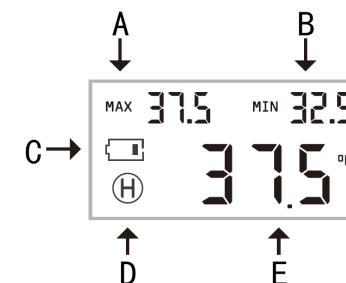
1.4 Electrical Interference

Keep away from strong EMF (electromagnetic fields). Avoid static electricity, arc welders, and induction heaters. Avoid abrupt changes of the ambient temperature.

2. Factory Defaults

• Laser   On
• Backlit   On
• Emissivity   0.95
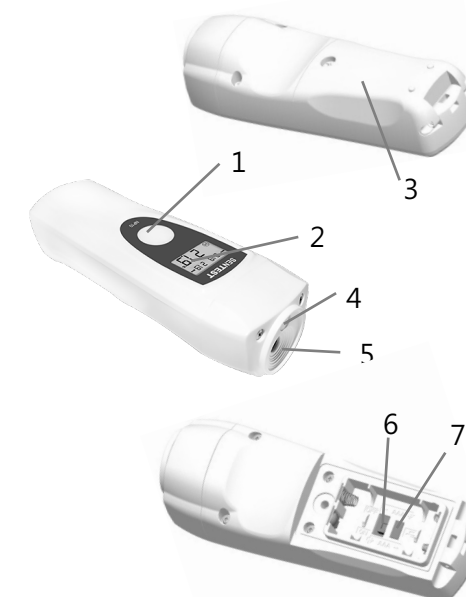• Temperature Unit   °C

3. Operation

3.1 Display

A Max
B Min
C Battery symbol
D Hold mode
E Temperature

3.2 User Interface

1 Measure Button
2 Display
3 Battery Compartment
4 Laser
5 Optics
6 Laser Switch
7 USB port

3.3 Measurement

Please aim with the unit at the target and press the Measure Button. After release of the Measure Button the last reading will be shown for 7 seconds on HOLD mode. If you do not press the button during the HOLD mode the unit shuts down automatically after 7 seconds.

3.4 Laser sighting

To turn on/off the laser sighting, please open the battery cover with a Phillips screwdriver, remove the batteries, and set the laser switch in the ON or OFF position.


LASER LIGHT
DO NOT STARE INTO BEAM
CLASS 2 LASER
<1mW / 650 nm
IEC 825 (1994)

WARNING: Do not point the laser directly at the eyes of persons or animals! Do not stare into the laser beam. Avoid indirect exposure via reflective surfaces!

3.5 USB Port

The USB port is located inside Battery Compartment. Please open the battery cover, and remove the batteries, to access the USB port.

Laser switch   USB port
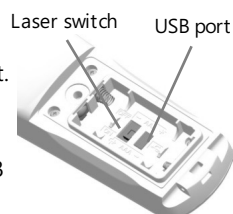
4. Specification

Temperature Range	-30°C ~ 600°C
Spectral Response	8 ~ 14um
Optics Resolution	15 : 1 (90% energy)
Accuracy*	± 1% of reading or ± 1 °C, whichever is greater
Repeatability*	± 0.5% of reading or ± 0.5 °C, whichever is greater
Temperature Resolution	0.1°C
Response Time	300ms (95%)
Emissivity	0.10 ~ 1.00
Configurations	Real time/Hold、Max/Min
LCD Backlight	green and red, blue (alarm)
Temperature Unit	°C or °F
Digital Interface	Mini USB
Laser Sighting	IEC Class2/FDA classⅡ ，<1mW，
Alarm Functions	HIGH/LOW alarm (audible & visible)
Ambient Temperature	0°C ~ 50°C
Storage Temperature	-20°C ~ 60°C (without battery)
Relative Humidity	10% ~ 95% (non-condensing)
Power Supply	AAA alkaline battery x 2
Dimensions/Weight	143(L)X51(W)X35(H)/120g(with batteries)
Battery life time	20 hours (laser on)、 40 hours (laser off)

*At 23±5°C, emissivity =0.95

5. Optical Chart

The optical diagram indicate the target spot diameter at any given distance between the target object and the sensing head. The spot size will change in longer distance corresponding to the following drawing. In order to prevent measuring errors the object must be as least as big as the spot size.

NP10LTSF

| S | 6 | 9 | 20 | 40 | 60(mm) |
| D | 0 | 100 | 300 | 600 | 900(mm) |

D:S=15:1

FAR FIELD D:S=10:1
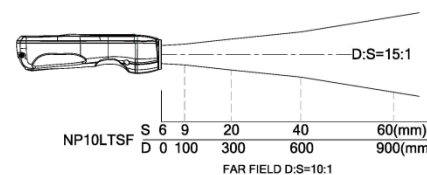
6. Software

The STonline software is specially developed for SENTEST infrared thermometers. Users can set the unit, download the logger data and recording temperature curve through the software.

System Requirements
- Operation system : XP, Vista or Win 7/8/10
- Hard disk with at least 30 MByte free space
- At least 128M RAM
- USB Interface

6.1 Install driver for USB Adapter :

Please install the driver for Infrared Thermometer Adapter first. After connecting the NP10 through USB cable to your PC, the system will allocate the infrared thermometer adapter driver automatically.

To find out which COM-Port number your computer set, open the device manager (Start – Settings – Control Panel – System – Hardware – Device Manager). In the category "Ports (COM & LPT)" you can find the "Infrared Thermometer Adapter (DR 6.x)" (only if your NP10 is plugged in). In parenthesis the COM Port number is shown.

6.2 STonline Software

Please connect the NP10 to your PC and start STonline software, and open at first [Menu: Setup(S)\Interface Settings], to choose the correct Com port and set the Baud Rate to 115,200.

After the unit connected to your personal computer, and the STonline software is started successfully, the communication has been established. The status line will be displayed in the left bottom: active COM port and successfully communication with the connected sensor. And the target temperature will show on the left in digital form.

7. Warranty

Each product passes through a quality process. Nevertheless, if a failure occurs please contact the customer service at once. The period of warranty starts from the date of delivery of the product to the customer and shall cover a period of 12 months. This warranty shall not apply to fuses, batteries, or any product that has been subject to misuse, neglect, accident, or abnormal conditions of operation.

The manufacturer shall not be liable for any special, incidental or consequential damages, whether in contract, tort, or otherwise. If a failure occurs during the warranty period, the product will be replaced, calibrated or repaired without further charges. The freight costs will be paid by the sender. The manufacturer reserves the right to exchange components of the product instead of repairing it.

If the failure results from misuse, neglect, accident, or abnormal conditions of operation or storage, the user has to pay for the repair. In that case you may ask for a cost estimate beforehand.

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NP10-E201707A