

NP15 Series Infrared Sensor

LT/LR/H1(1M)/H2(2M)/H3(3M)

Operator's Manual



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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 Introduction

Thank you for choosing the NP15 infrared thermometer.

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.

1.1 User Interface

A: LCD backlight

B: Laser symbol

C: Max/Min

D: High/Low alarm

E: Battery symbol

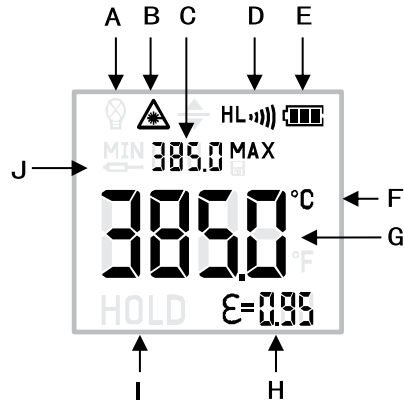
F: °C/°F unit

G: IR temperature

H: Emissivity

I: Hold mode

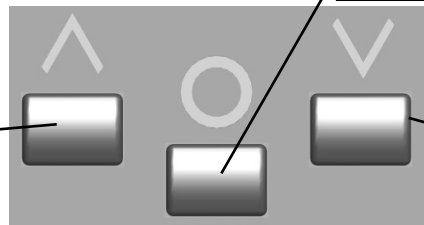
J: TCK temperature



[O] Mode Button : In [HOLD mode], each time you press it, you will enter to another function setup, e.g. press one time to enter to emissivity setup, press it again will save emissivity and enter to MIN/MAX setup and so on.

1.2 Display

[^] Up/Laser : With this button you can setup the laser or increase the chosen value or read MAX/MIN result in [HOLD mode].



[v] Down/Display backlight : With this button to you can setup the backlight or reduce the chosen value.

1.3 External Functions

1. Laser/Optics
2. Trigger
3. Battery Compartment
4. LCD Display
5. T/C Input
6. USB Port



2 Measurement

2.1 Basic Operation


Turn On: Press the trigger to turn on the unit and enter **[Measurement mode]**.

Measuring: Aiming at a target, pull the trigger and keep it pressed.

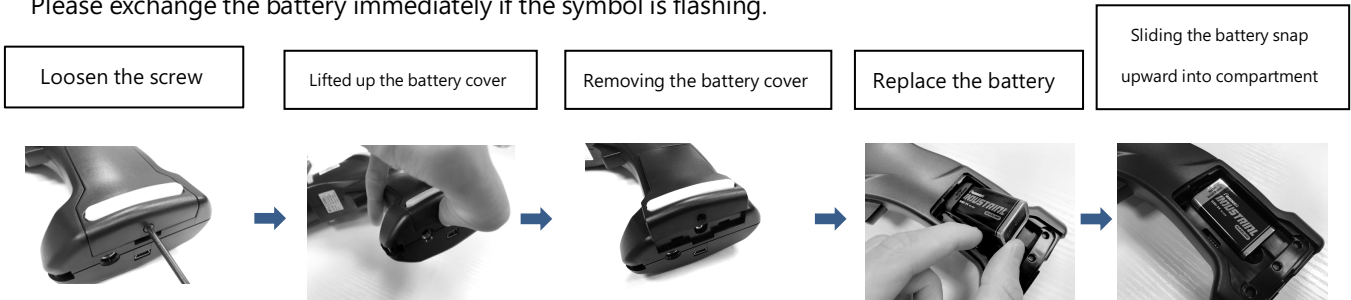
The display will show the current temperature value.

Switch Off: The unit will automatically switch off after 7 seconds, if no button is pressed.

2.2 Battery Installation

The NP15 is equipped a 9V alkaline battery. If the battery is low the battery symbol  will appear in the display.


Please exchange the battery immediately if the symbol is flashing.




2.3 Hold-Function

If you release the trigger, the unit enters to **[HOLD mode]**. The display will retain its last measurement for 7 seconds, with the **[HOLD]** symbol appearing on the bottom left corner of the display. The unit automatically switches off after this time if no button is pressed.

2.4 Laser Sighting

Pull the trigger (keep it pressed) and then press UP button [^] to activate or deactivate the laser. The laser symbol  in the display (only if the trigger is pulled) indicates the active laser.



 **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!**



2.5 Display Backlight

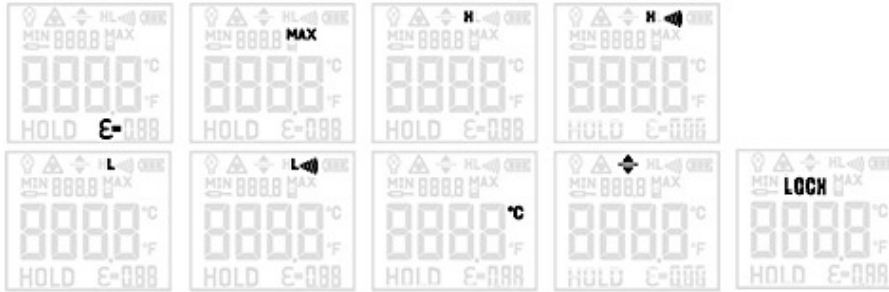
Pull the Trigger (keep it pressed) and then press the DOWN button [V] to activate/deactivate the display backlight.



2.6 Unit Settings

You can setup the emissivity, max/min/TCK display, high/low alarm, temperature unit, offset and trigger lock by pressing the MODE button [O] in **[HOLD mode]**. The respective function will be flashing in the display. With the UP [^] and DOWN [V] buttons, you can change parameters or activate/deactivate functions. To save the settings you have to press the MODE button [O] again (will also switch to the next function) or pull the trigger to end the setting. If you have not activated any button for 7 seconds, the instrument will not save the current modification and shut down automatically.

Release the trigger to enter to the [HOLD mode]. Each time you press the MODE button [O], the unit will switch to next function interface in turn as follows. With the UP [^] and DOWN [v] buttons you can change parameters or activate/ deactivate functions.



press MODE button [O]

(E=) Emissivity

(MAX / MIN / ←) (MAX / MIN / ←)

(H with bar graph) High Alarm ON

High Alarm Value

(L with bar graph) Low Alarm ON

Low Alarm Value

(°C/°F) Temperature Unit

(O with diamond) Offset

(LOCH) Trigger Lock

Emissivity (E=)

In [HOLD mode], press the MODE button [O] to set the emissivity.

- 1) Emissivity (E=) flashing
- 2) Press UP [^] or DOWN [v] button to increase/reduce the emissivity.
- 3) To save the setting, press the MODE button [O] again (will also switch to the Max/ Min/ TC Probe function).



Max/ Min/ TC Probe

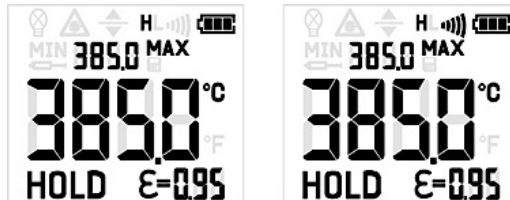
In [HOLD mode], press the MODE button [\bigcirc] repeatedly until enter into the Min/Max/TC probe mode. Press the UP [\wedge] /DOWN [\vee] button to setup which mode you want. MIN/MAX indicates the minimum/maximum value of current measurement. The TC probe value \leftarrow will be displayed and continued measurement without pulling the trigger, if a probe is connected. To save the setting, press the MODE button [\bigcirc] again (will also switch to the High Alarm function).



High/Low Alarm

1) High Alarm

In [HOLD mode], press the MODE button [\bigcirc] until enter the High Alarm mode. To activate/deactivate High Alarm, please press the UP [\wedge] or DOWN [\vee] button if the (H) is shown in the display. The High Alarm function is activated as soon as the display shows the sign (H \leftarrow).



After pressing MODE button again, the High Alarm value can be adjusted using the UP [^] or DOWN [v]. To save the setting, press the MODE button [○] again (will also switch to the Low Alarm function).



Low Alarm

In [HOLD mode], press the MODE button [○] until enter the Low Alarm mode. To activate/deactivate Low Alarm, please press the UP [^] or DOWN [v] button if the (L) is shown in the display. The Low Alarm function is activated as soon as the display shows the sign (L ■■■).

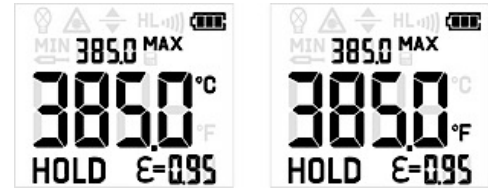


After pressing MODE button again, the Low Alarm value can be adjusted using the UP [^] or DOWN [v]. To save the setting, press the MODE button [○] again (will also switch to the Temperature Unit function).



Temperature Unit

Press the MODE button [\bigcirc] enter to the temperature unit mode, and press the UP [\wedge] or DOWN [\vee] button to toggle between $^{\circ}\text{C}$ and $^{\circ}\text{F}$ measurements. Press the MODE button [\bigcirc] again (will also switch to the **Offset** function).



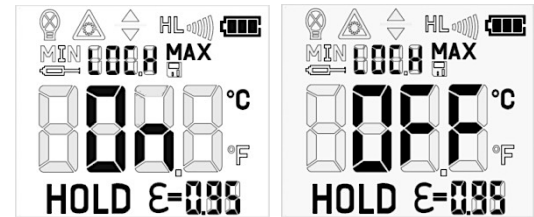
Offset

In [HOLD mode], press the MODE button [\bigcirc] repeatedly until enter the temperature Offset mode (\blacklozenge). Then, press the UP [\wedge] or DOWN [\vee] button to setup the temperature offset value (± 10). Press the MODE button [\bigcirc] again (will also return to the **Trigger Lock** function) or the trigger.



Trigger Lock

In [HOLD mode], press the MODE button [\bigcirc] repeatedly until enter the Trigger Lock mode (LOCH) and press the UP [\wedge] or DOWN [\vee] button to toggle between ON or OFF. To save the setting, press the MODE button [\bigcirc] again (will also return to the **Emissivity setting** function) or the trigger.



3 Data Logger

The NP15 has an internal data logger for 2,000 points.

3.1 Storing Data

Press the trigger to turn on the unit and then release the trigger to enter to [HOLD mode], and press the DOWN [V] button, there will be a number #; MAX/disk icon appear above the current temperature result. The number # indicate the memory position. You can choose the memory position from 1~2,000 with the UP[^]/DOWN[v] button. Press the MODE button [O] can save the Max temperature of this measurement to the current position.

3.2 Recall of Data

In [Measurement mode], keep the trigger pressed and then press the MODE button [O] to recall the saved data. The data logger position # and MAX/disc icon (flashing) will be shown in the display. Users can choose the memory position by press the UP[^]/ DOWN[v] button.



3.3 Reset of the Data Logger

Please press the DOWN [v] button during the [HOLD mode]. Select logger position 0 and press MODE button [O] again. Three buzzer signals confirm the successful reset.



4 Software

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

4.1 System Requirements

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

4.2 Install driver for USB Adapter

Please install the driver for Infrared Thermometer Adapter first. After connecting the NP15 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 the NP15 is plugged in. In parenthesis the COM Port number is shown.

4.3 STonline software

1) Please connect the NP15 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.

2) Starting the measurement

Please press the menu: [Measurement (M)\ Start]

3) Scaling of the temperature axis

In the menu item settings [Diagram (A)]

Global Auto Scaling: the temperature range of the diagram is automatically adapted to the respective peak values.

Local Auto Scaling: the temperature range of the diagram will be dynamically adapted to the respective peak values.

Manual scaling: It can be done at any time using the control elements of the temperature axis.

4) Stop the measurement

To stop the current measurement, please press the menu: [Measurement (M)\ Stop].

The save data [File (F)\Save Diagram] opens an explorer window to select destination and file name.

5) Diagram setting

The menu item settings [Diagram (A)\Settings] enable the settings for data diagram.

Color: temperature graph and digital display.

Initial Time Interval(S): time frame on x-axis at the beginning of measurement.

4.4 Download logger data

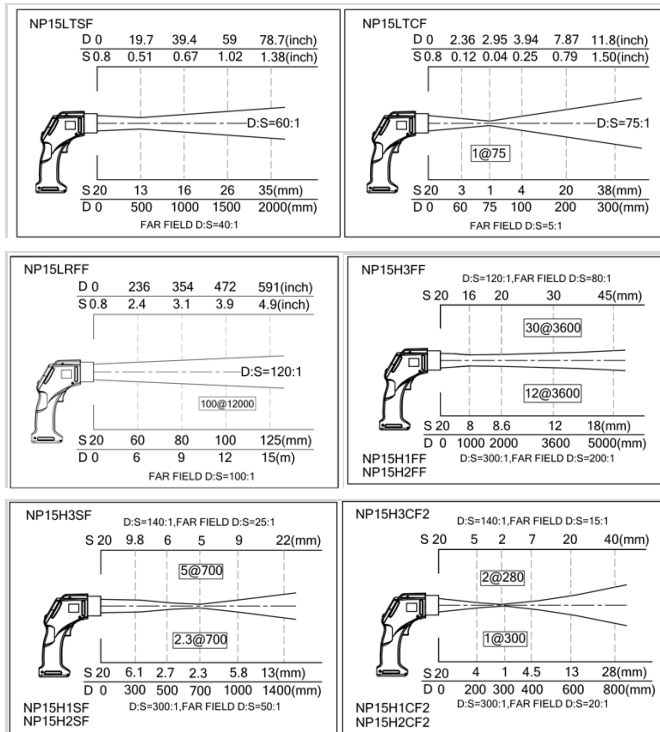
To download the logger data from the infrared thermometer, please press the download menu: [Measure (M)\Download Data].

5 Specification

Model	NP 1 5 L T	NP 1 5 L R	NP 1 5 H 1	NP 1 5 H 2	NP 1 5 H 3
Temperature Range	-30°C ~ 900°C	-30°C ~ 1300°C	600°C ~ 1600°C	300°C ~ 1300°C	100°C ~ 600°C
Optics Resolution (90%)	60:1 (SF) / 75:1 (CF)	120 : 1	300 : 1	300 : 1	140:1 / 120:1 (FF)
Spectral Response	8 ~ 14μm	8 ~ 14μm	1μm	1.6μm	2.3μm
Response Time (95%)	300ms	300ms	5ms	5ms	5ms
Sighting	Dual Laser				
Emissivity	0.10 ~ 1.00, ±0.01				
Accuracy*	LT/LR: ≥ 20°C, ±1% of reading or ±1°C, whichever is greater; ±1,5°C (-20 to 19.9°C), ±2,5°C (-30 to -20.1°C) H1/H2/H3 : ±(0.5% of reading +2°C)				
Repeatability*	LT/LR:±0.5% of reading or ±0.5°C, whichever is greater ; H1/H2/H3:±(0.3% of reading +1°C)				
Configurations	Real time/Hold · Max/Min				
Alarm Functions	HIGH/LOW alarm (audible & visible)				
Data Logger	2,000 points				
LCD Backlight	green and red/blue (alarm)				
Digital Interface / Input	Mini USB / Type K : -40°C ~ 400°C, accuracy : ±1% or ±1°C, whichever is greater				
Ambient Temperature	0°C ~ 50°C				
Relative Humidity	10% ~ 95%, non-condensing				
Power Supply	9V alkaline battery or USB				
Dimensions/Weight	163.5(L) x207(W) x70(H)mm/470g				

*At 23±5°C, emissivity LT/LR=0.95 · H1/H2/H3=1.00

6 Optical Charts



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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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