OPTEX

Non-contact infrared thermometer
PT-S80 / PT-U80

PT-80 - High Performance, Easy Operation Durable Package, with Convenient Measurement

Specification

Model	PT-S80	PT-U80 (with USB output)
Measuring range	-30 to 600℃	
Field of view	30 mm / 1000 mm (D:S = 33:1)	
Optics	Si lens	
Sensing element	Thermopile	
Wavelength	8 to 14 μm	
Response time	0.5 sec. / 90 %	
Accuracy (ε=0.95)	-30.0 to 0℃: ±3℃, 0.1℃ to 200℃: ±2℃, 201℃ to 600℃: ±1 %	
Repeatability	±1℃ of reading value	
Display resolution	-30.0 to 199.9℃: 0.1℃, 200 to 600℃: ±1 %	
Sighting method	Coaxial Laser marker (Class 2)	
HOLD time	15 seconds	
Continuous measurement mode	N / A	ON/OFF Selectable
USB output	N / A	Available
Data storing	Single memory	35-point memory (max 150-point)
Back light	EL back light	
High / Low alarm	Alarm LED, Buzzer, (ON/OFF Selectable)	
Emissivity (E) adjustment	0.95 / 0.86 / 0.70 Selectable	ε(0.3 to 1.20 / 0.01 step)
Display function	NOR/MAX/MIN	
Power supply	AA alkaline battery (2 pieces)	
Battery life	15 hours (with max load)	
Ambient temperature	0 to 50℃	
Ambient humidity	35 to 85 % RH (no condensation)	
Storage temperature / humidity	- 10 to 50℃ / 35 to 85 % RH	
Material	ABS / TEEE	
Dimensions	H x W x D = 182 x 58 x 38 mm	
Weight	Approx. 230 g (including batteries)	

Accessories: Size AA alkaline battery (two) for operation check, Instruction manual, Protective case for PT-S80/U80, USB cable (for PT-U80 only), Optional: Black body tape HB-250
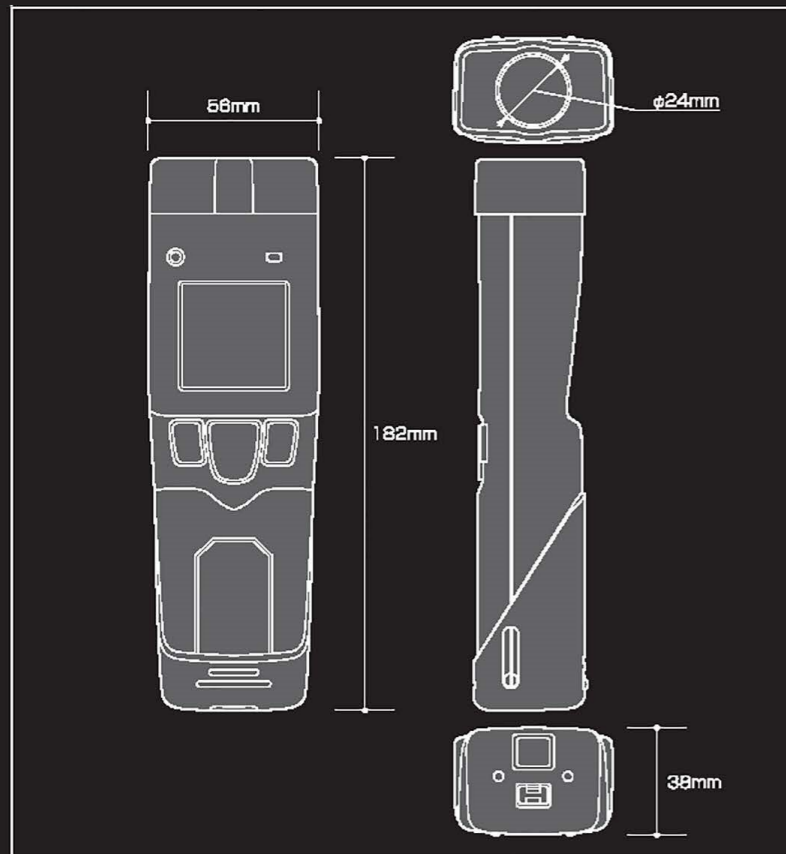*Specifications are subject to change for product improvement without prior notice.

*1) The exclusive software for PT-U80 is available at Optex Website. It is not provided with hardware.
*2) We recommended use with Personal Computer and Windows 2000 or XP operating system, equipped with USB connector for a proper function. USB Rev1.1 conformity.
*3) Operation may fail depending on peripheral devices connected to the PC.
*4) The exclusive software is available at URL: URL http://www.optex.co.jp/meas/english

standard accessory
Protective case

Outside dimensions

58mm
φ24mm
182mm
38mm

Options

Black Tape **HB-250**

The Black Tape (HB-250) is designed for more accurate measurement, especially if the target object has a shiny surface. Apply HB-250 on the surface of the target and measure the area covered by HB-250 with emissivity setting at 0.95.

⚠ Caution

■ Difficult measurement cases
• When the surface being measured is reflective, such as polished metal.
  * (Before measuring, apply the optional HB-250 tape or apply a matte finish.)
• When measuring through glass

■ Safety Instructions
• Please read through the instruction manual before use.
• This product is not a clinical thermometer, therefore, cannot be used for medical purposes.
• Keep the thermometer away from water contact, as it is not waterproof.
• Avoid rapid change of the ambient temperature, as this may cause measurement error.
• Keep the thermometer away from strong electromagnetic sources.

■ Laser beam
• This product uses laser classified as class II complying with JIS C 6802.
• For safe use, follow the warning labels attached to this product.
• This is a portable product with the laser maker certificated by JQA (Japan Quality Assurance of Organization).

● The images used in this catalog include image drawings to assist understanding of operation.

● Actual displays/operations while measuring may differ from the images shown in this catalog.

This is a realization of a long-standing need – a fully-featured product.
Basic functions and flexible operation set a new industry standard.
For professional use – high performance and effortless operation.

Non-contact infrared thermometer

PT-S80 / PT-U80 (With USB output)

S80 / U80 Features

EL back light	Large LED indicator
Coaxial laser marker	MAX/MIN display
High/Low alarm	Protective case

S80 Only

Selectable emissivity	Single memory function

U80 Only

Continuous measurement function	Emissivity adjustment
PC Connection	35-point memory function (max 150 points)
Clock function	Time alarm function

Checking for hot spots in an electrical panel.

Checking for abnormal heating in a bearing.

Laser emission window

Silicon lens

Alarm LED
High alarm "RED"
Low alarm "GREEN"

Ambient Light sensor

MAX / MIN button
For switching display functions and selecting setting value

MEASURE button
For temperature measurement and other various settings

MEM/CAL button
Store the DATA
Recall the DATA

SET button (inside of cover)
PT-S80: ALARM For setting
PT-U80: Emissivity, ALARM For clock setting

OPTEX
THERMO-HUNTER

MEAS 15:00
600℃
MAX 600
Hi

MEASURE

MAX MIN   MEM CAL

Rubber

Rubber

Front   **Side**

* No power ON/OFF button. The power automatically turns off after 15 seconds if buttons are released.

for Professional

Introduction (Development Background)

PT-80 non-contact thermometers enable you to quickly and safely measure the surface temperature of a target from a distance, without touching.

Our greatest concern when we developed the PT-80 was simply to provide a user-friendly product for as many users as possible and not develop something that was overly complex and restricted only to certain users. Nor did we wish to merely show off the specifications in the catalog.
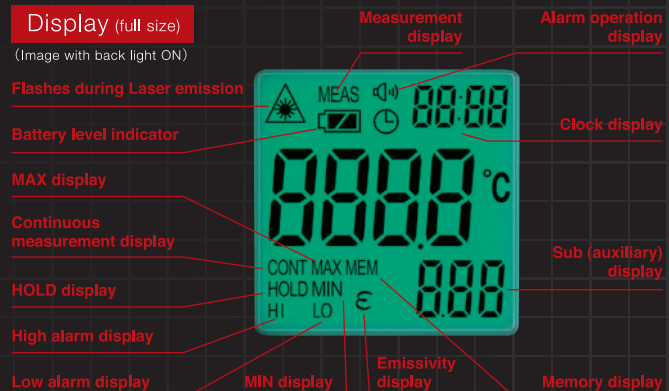
To reach our goal, we realized high performance and high efficiency by reviewing all the requests and suggestions we had received from our customers, as well as including our basic ideas for user-friendliness.

After many design reviews of the basic functions, additional functions, and operability, we finally settled on and released the PT-80 series.

This is the latest product from OPTEX at the start of 2005.
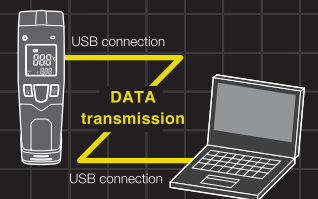
Features

1 Pursuit of easy readability

For a clear view of your measurement values, we equipped the display with **an EL back light**. In addition, we incorporated **the large LCD** with 3 display levels allowing more information to be shown more clearly and with larger sized characters.

As the EL back light is sensor activated, it lights only when ambient light conditions are low.

Users will be satisfied under many different lighting conditions at the ease of reading the PT-80 display.

POINT① Equipped with EL back light   **POINT②** Large LCD with 34 x 34 mm

Display (full size)
(Image with back light ON)

Flashes during Laser emission
Battery level indicator
MAX display
Continuous measurement display
HOLD display
High alarm display
Low alarm display

Measurement display
Alarm operation display
Clock display

MEAS 88:88
88888℃
CONT MAX MEM
HOLD MIN
HI LO ℃ 888

Sub (auxiliary) display
MIN display
Emissivity display
Memory display

2 Pursuit of convenience

Collecting and storing measurement data for reports can be tedious..
For efficient use of measured data, we equipped the PT-U80 with the ability to Send/Receive data when connected to a PC via **USB**. Using imported data for creating reports is easy. With **the Preset Report Form** it becomes even easier. Each data setting is also possible on the PC side.
The software is downloadable from our website.

USB connection
DATA transmission
USB connection

POINT① USB means easy connection to a PC

POINT② Equipped with easy report form generator.

USB connection (Bottom)

OPTEX
THERMO-HUNTER
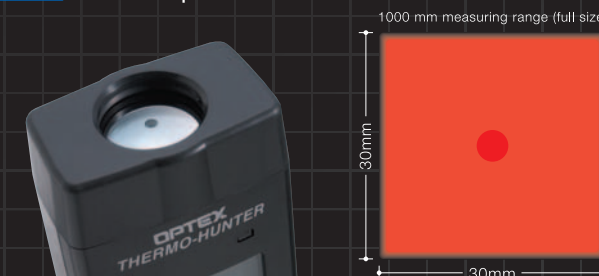Communication Software

URL http://www.optex.co.jp/meas/

3 Pursuit of visibility

If the laser pointer is shifted off-axis from an actual measurement center, it is difficult to accurately locate it again in the same place. To solve this difficulty, the PT-80 is equipped with **a co-axial laser marker** which points at the exact center of the measurement area, independent of working distance.

POINT Equipped with a coaxial laser maker for precise acquisition of measurement position

1000 mm measuring range (full size)
30mm
30mm

4 Pursuit of easy measurement

Often, measurement from a long distance can be difficult and sometimes impossible due to a wide measurement area.
The PT-80's measurement area is 30 x 30 mm from a distance of 1 m. Even from 5 m, its **long-focus design** still manages an area of only 150 x 150 mm. So safe and secure measurement is possible even in difficult to reach or dangerous locations.

POINT Long-focus design enables easy long-distance measurement.

Optical axis / Laser marker

□20 □30 □60 □90 □150

0 500 1000 2000 3000 5000
D:S=33:1 (Unit: mm)