BUILT IN2

Dimensions and Functions

■Dimensions

Caution Label
Laser emitter
Ring
Fitting screw
Cover
Model ID

68
42.5
45
92

11
40

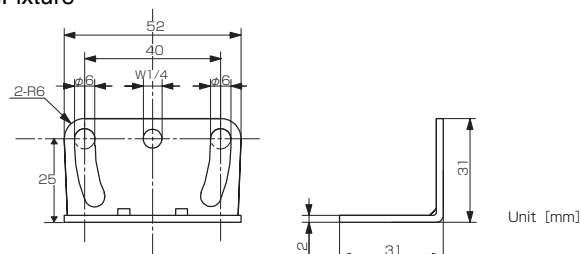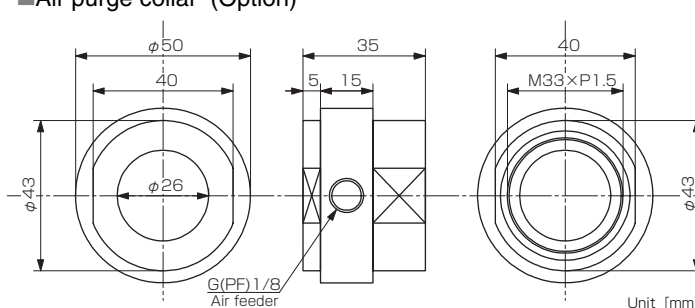Screw holes M4 x 8mm depth
2m cable length
Unit [mm]

■Functions

■Operation parts
MEAS
500℃℉
TEACH ε DELAY

■Display part
Normal measurement mode
MEAS
500℃℉
TEACH   DELAY ℃℉

Menu bar

℃／℉ mode switchable display (TA-type only)

Up button
ENTER.LASER
Down button
Emissivity (ε)TEACH setting
Emissivity (ε)manual settting
Delay settting

ENTER/LASER power switch
※When the laser is ON, the power switch will turn red.

■Fixture

52
40
2-R6
W1/4
25
31
31
Unit [mm]

■Air purge collar (Option)

φ50
φ40
φ43
φ26
35
5 15
40
M33×P1.5
φ43
G(PF)1/8
Air feeder
Unit [mm]

[Option]Black Tape
HB-250

●Dimensions : 60x2000mm
●Withstand heat up to 250℃
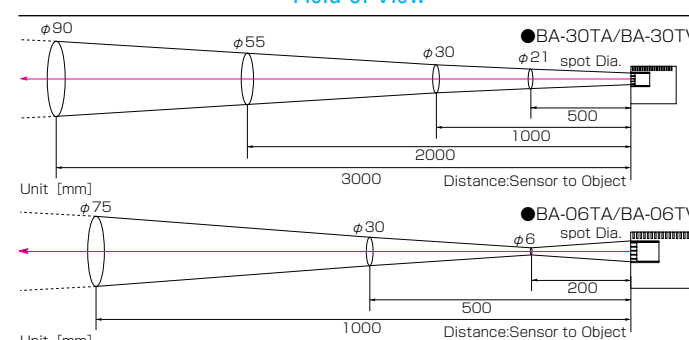
[Hint for accurate measurement]
The black tape (HB-250) is designed for more accurate measurement, especially if the target object has a shiny surface. Apply HB-250 on the surface of the target and measure the area covered by HB-250 with emissivity setting at 0.95.

Specifications

Models	BA-06TV	BA-06TA	BA-30TV	BA-30TA
Measuring Range	0～500℃ (display −20～520℃)			
Field of View	φ6／200mm		φ30／1000mm	
Optics	Silicon lens			
Sensing Element	Thermopile／8～14μm			
Response Time	500ms／90%			
Measuring Accuracy	±1% of reading value or ±2℃, whichever is larger (ε≒1.0)			
Repeatability	±1℃ of reading value			
Display Resolution	1℃			
Analog Output	1mV/℃	4-20mA	1mV/℃	4-20mA
Output Resolution	0.2℃			
Sighting Method	Coaxial laser marker (Class 2)			
Emissivity ratio (ε) Adjustment	0.10～1.20 (0.01／1 step)			
Delay	1 (0.5sec)～200 (Approx 10sec)			
Power Source / Consumption Current	DC12～24V±10% · MAX150mA			
Ambient Temperature	0～50℃			
Ambient Humidity	35～85%RH (without dew condensation)			
Storage Temperature	−10～60℃			
Vibration Resistance	3G (20～50Hz, in accordance with JIS C0911)			
Water Resistance	IP65			
Materials	Ring case: glass-containing PBT, Rear cover: PC			
Weight	350g			

Standard accessories: attachment fittings x 1, attachment screw (M4) x 2
Optional accessories: Air Purge Collar
※Design and specifications are subject to change for product improvement without prior notice.

Field of View

φ90
φ55
φ30
●BA-30TA/BA-30TV
φ21 spot Dia.
500
1000
2000
3000
Unit [mm]
Distance:Sensor to Object

φ75
φ30
●BA-06TA/BA-06TV
φ6 spot Dia.
200
500
1000
Unit [mm]
Distance:Sensor to Object

※The laser marker is aimed at the center of the measuring area.
※The optical resolution values stated in "Field of View" are at 90% energy.
 The size of the target object should be sufficiently lager than the field of view (spot size)shown in the above illustration.

Safe Usage

⚠WARNING	Do not look into the laser nor direct it toward the eyes. Even the reflection is harmful. Laser may cause eye injury or damage your health.
⚠CAUTION	This product is not a clinical thermometer ; therefore, it cannot be used for medical purposes.

Environmental Warnings

❶KEEP THE THERMOMETER AWAY FROM DIRECT SUNLIGHT, DUST, HIGH TEMPERATURES AND HIGH HUMIDITY WHILE IN USE AND STORAGE.
This may cause irreparable damage or incorrect measurement.

❶DO NOT EXPOSE THE THERMOMETER TO SUDDEN TEMPERATURE CHANGES.
Sudden temperature change of the environment may cause incorrect measurement. In such cases, wait until the thermometer reaches steady temperature before taking measurement.

❶KEEP THE THERMOMETER AWAY FROM STRONG ELECTROMAGNETIC SOURCES, CORROSIVE OR EXPLOSIVE GASES.
This may cause irreparable damage or incorrect measurement.

Usage Warnings

⊘AVOID MEASURING SHINY SURFACES.
Shiny surfaces reflect radiation from surrounding objects. Although the emissivity ratio can be adjusted to compensate for this problem, accurate measurement is difficult.

⊘USE THE CORRECT VOLTAGE.
Applying voltages other than 12-24VDC may cause short-circuit, damages, fire or injury. In such cases, turn the power off immediately.

❶DO NOT LET THE THERMOMETER TOUCH THE OBJECTS THAT IS BEING MEASURED.
The unit is a non-contact thermometer. Touching or getting too close to the objects with high temperatures may cause irreparable damage or incorrect measurement.

⊘DO NOT TOUCH THE LENS.
Do not touch the lens with anything hard or things with sharp points, which may damage the lens. A damaged lens causes incorrect measurement.

❶KEEP THE THERMOMETER AWAY FROM CHARGED OBJECTS.
This may cause irreparable damage or incorrect measurement.

Products mentioned in this catalogue are equipped with Class 2 laser.
In case of re-export to foreign countries, please confirm the relevant regulation for laser products in the destination country.

Non-Contact Thermometer

THERMO-HUNTER
BUILT-IN2
Built-in Amplifier : BA series

A built-in coaxial Laser Marker lets you easily target the object, giving accurate measurement with ε-TEACH function.

BA-30TA/BA-06TA（Current Output Type）
BA-30TV/BA-06TV（Voltage Output Type）

●Coaxial laser marker ●Built-in digital display ●Measuring range : 0～500℃
●Analog output (TA-type : 4-20mA / TV-type : 1mV/℃)

Measure Objects Quickly and Accurately keeping a Safety Distance
--Spot measuring within a temperature range of 0~500℃ at ±1% level of precision

Optex's Built-In 2 Thermo-Hunter is the first non-contact thermometer of its class incorporating a digital display. Plus, it comes in a compact body packed with many built-in user-friendly features to help you to measure objects with high precision.
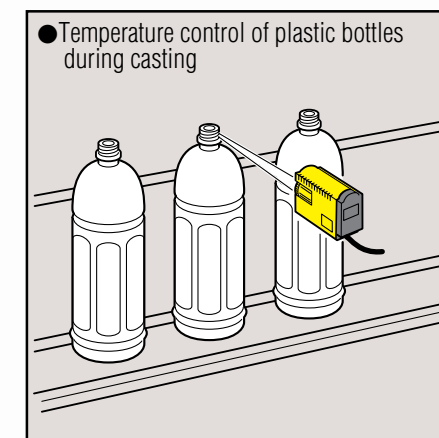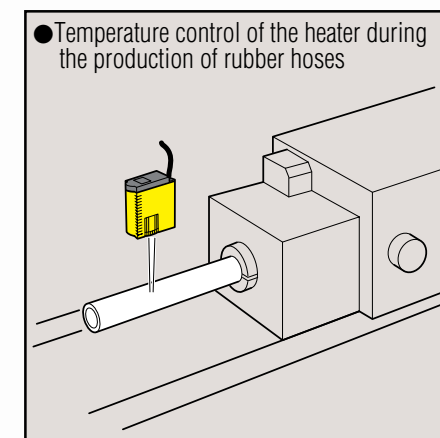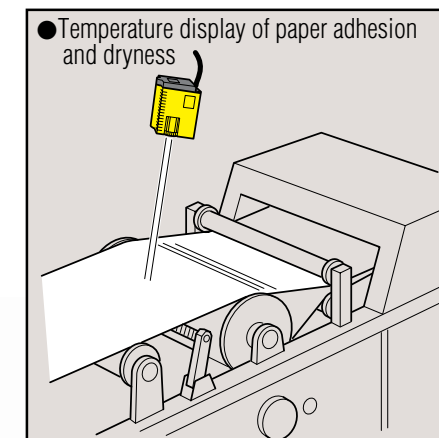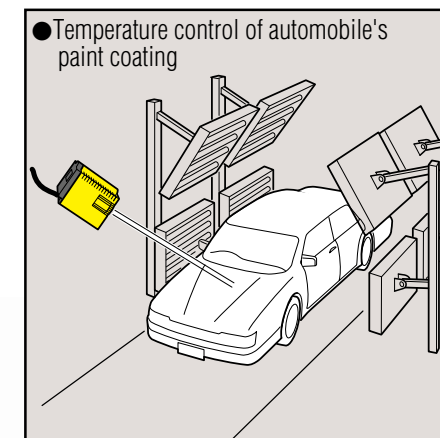The ε-TEACH function lets you easily adjust the emissivity ratio. The Coaxial Laser Marker allows you to confirm the measuring area.

THERMO-HUNTER
BUILT-IN2

■Non-contact measuring and the digital display offer a wide range of applications

●Temperature control of automobile's paint coating

●Temperature display of paper adhesion and dryness

●Temperature control of the heater during the production of rubber hoses

●Temperature control of plastic bottles during casting

Adaptable to dusty environments
Air purge collar(Option)
BA-AP1

Air purge collar is used to keep dust, moisture, airborne particles and vapors away from the lens.
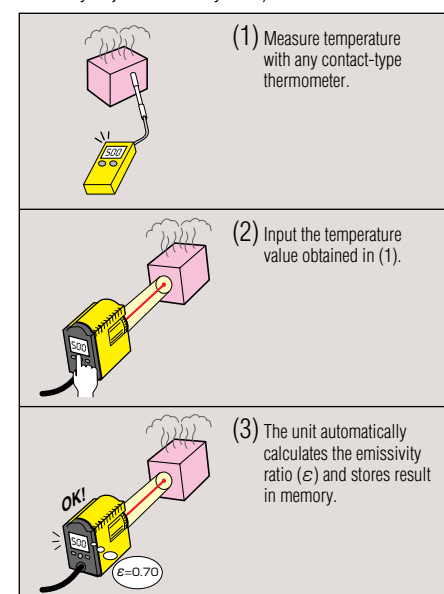
| Specifications	
Air pressure	Max.0.2MPa(2Kgf/cm²)
Air flow	50 to 150Nℓ/min
Ambient temperature and air	0 to 50℃
Conduit aperture	G(PF)1/8
Weight	About 90g
Material	Aluminium

New Features

ε-TEACH Function Simplifies Emissivity Adjustment

Enter the temperature measured by a contact-type thermometer (thermocouples, etc.) just once and the rest is automatic. The unit calculates the emissivity ratio(ε) and memorizes the result.(You may also manually adjust emissivity ratio)

(1) Measure temperature with any contact-type thermometer.

(2) Input the temperature value obtained in (1).

(3) The unit automatically calculates the emissivity ratio (ε) and stores result in memory.

Precise spot measurement in sharp field of view from a safety distance

You can precisely measure small targets within a narrow area from a distance. You can measure an object's temperature with accuracy just like a spot-light aiming at the object.

Built-in series
BA-32T

New Built-in2
BA-30TV
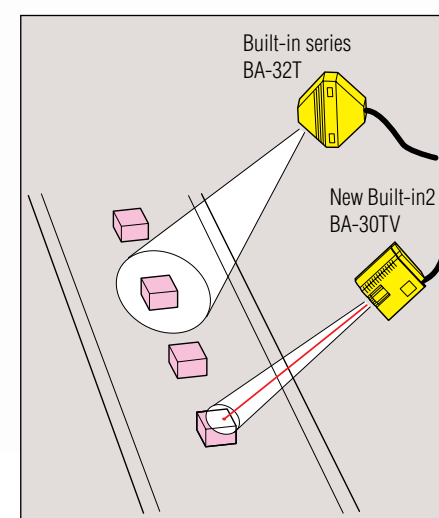
Coaxial laser marker lets you assure the target with your own eyes

The built-in coaxial laser marker allows you to check the field of view. It also enables you to focus quickly and easily on the object with precision since it aims at the center of the object, preventing the thermometer from slipping slightly off into the wrong axis.

2-type analog output

You can choose an analog output from the two types : TV-type(1mV/℃) which can be connected to devices such as a panel meter or a TA-type(4-20mA) which is suitable for long-distance transmissions.