

HIGH SPEED TYPE COMPACT RADIATION THERMOMETER



MODEL IR-BHT

Model IR-BHT is compact radiation thermometers for quick measurement of temperature without contact to objects. The card sized detector with built-in functions including converting function and alarming function has analog output and alarm output. The thermometer can easily be installed in narrow places, production lines, small equipment, and other places, and utilized extensively as a temperature sensor or a temperature switch.



FEATURES

- Compact (card size) and light weight (220g)
- 24VDC drive
- 4 to 20mA DC
- Gain () and alarm settings

MODELS

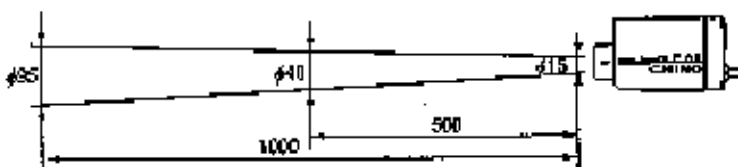
IR-BHT_1

Distance and diameter

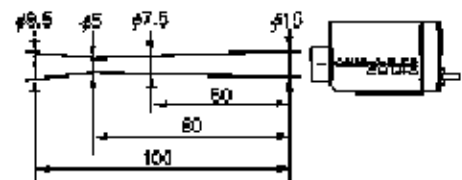
- 1: Standard type
 $\phi 40\text{mm}/500\text{mm}$
- 2: For small diameter/
short distance type
 $\phi 5\text{mm}/80\text{mm}$
- S: For small
diameter/
Long distance type
 $\phi 40\text{mm}/1000\text{mm}$
- H: For combustion gas
 $\phi 60\text{mm}/500\text{mm}$

MEASURING DISTANCE AND DIAMETER

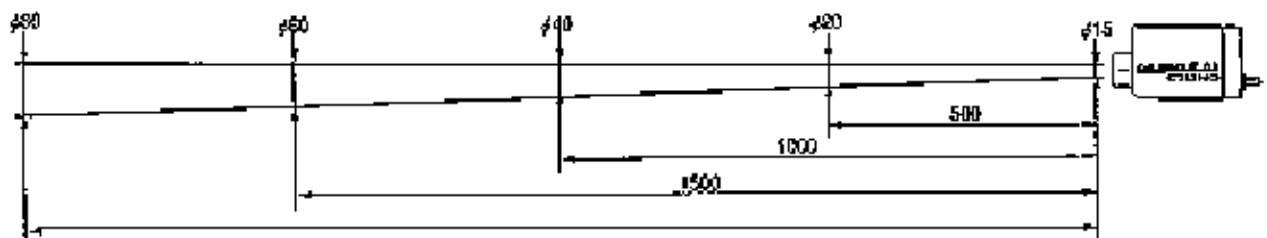
• IR-BHT11



• IR-BHT21



• IR-BHTS1



■ SPECIFICATIONS

• Detector

Model	IR-BHT11	IR-BHT21	IR-BHTS1
Measuring system	Wide-band radiation thermometer		
Detecting element	Thermopile		
Measuring wavelength	8 to 13μm		
Measuring range	0 to 300°C		
Accuracy ratings	±3°C at lower than 200°C, ±1.5% of measured value at higher than 200°C (=1.0, under the reference operating conditions)		
Resolution	0.2°C		
Reproducibility	±0.2°C		
Response time	0.1sec (95%)		0.2sec (95%)
Optical system	Ge lens		
Measuring diameter	ø40/500mm	ø5/80mm	ø40/1000mm
Emissivity	=0.2 to 1.8 (Semi-fixed control knob)		
Analog output	4 to 20mADC (Load resistance: Lower than 280Ω)		
Alarm	Settings by adjustable resistor on the rear panel		
Alarm output	Open collector (Applied voltage: Lower than 30VDC Current capacity: Lower than 100mA)		
Working temperature	0 to 50°C		
Power voltage	12 to 24VDC		
Current consumption	Lower than 60mA		
Connecting cable	Standard 2m (Max. 200m, For longer than 2m, an extension cable is used.)		
Casing	Diecast aluminum		
Water proofing	JIS C-920 Drip-proof II type IP-X2		
Mounting method	Fixing by two M4 screws or tripod		
Weight	About 220g		

Note: Reference operating conditions: 23°C ± 5°C 35 to 75%RH

• Indicator with power supply/Converter with reflection correction

		Indicator with power supply		Converter with reflection correction
Model		IR-GBHA1	IR-GC1	IR-GBG2
Input signal		4 to 20mADC		4 to 20mADC Rear radiation source temperature: Pt100 or 4 to 20mADC
Functions	Power supply for detector	○ (24VDC 80mA)	○ (24VDC 100mA)	○ (12VDC 60mA)
	Digital display	○	○	○
	Insulation output 4 to 20mADC	○	○	○
	Alarm function	—	○ (High speed alarm)	○
	Modulation function	—	○	○
	Reflection ratio correction function	—	—	○
	Sensor correction	—	—	○
Working temperature range		0 to 50°C		-10 to 50°C
Working humidity range		Lower than 85%RH (No condensation)	Lower than 90%RH (No condensation)	20 to 90%RH (No condensation)
Power supply		100VAC, 50/60Hz	100 to 240VAC, 50/60Hz	100 to 240VAC, 50/60Hz
Power consumption		Max. 7VA	Max. 20VA	Max. 15VA
Weight		About 500g	About 400g	About 600g

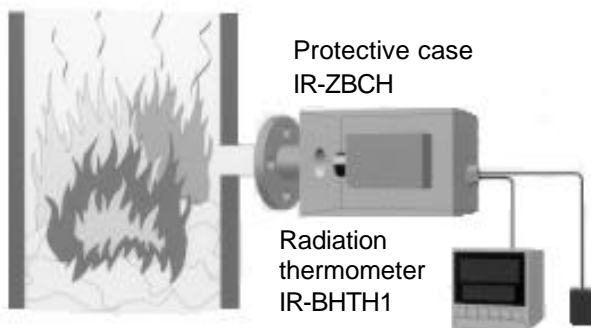
Note: Please use a converter with reflection correction if an object is influenced by rear radiation source.

Radiation Thermometer for combustion gas Model: IR-BHTH1

This radiation thermometer is for the measurement of temperature inside combustion furnaces by measuring the temperature of CO₂ being included in combustion gas. As the measuring object is gas, of which density is low, minimum 1m of the thickness on the measuring direction is required.



■ COMPOSITION



Power source
Output voltage (12 to 24V)

■ SPECIFICATIONS

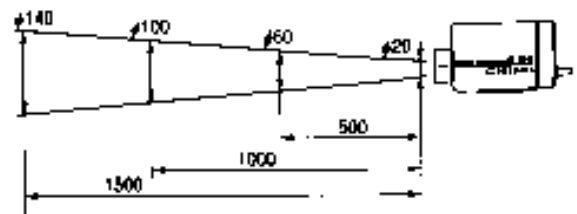
Detecting element: Thermopile
Measuring wavelength: 4.3μm
Measuring range: 500 to 1300°C
Accuracy ratings: ±1.5% of measured value
(=1.0, under the reference operating conditions)
Response time: About 10sec(95%)
Analog output: 4 to 20mADC
Load resistance: lower than 280Ω
Power voltage: 12 to 24VDC
Current consumption: Lower than 60mA
Connecting cable: 5m
Casing: Diecast aluminum
Weight: About 220g

Note: If the object is measured through a sighting window, please use the glass window made by calcium fluoride or sapphire. (The measurement is not possible through a general glass.)
Note: Alarm output is disabled.

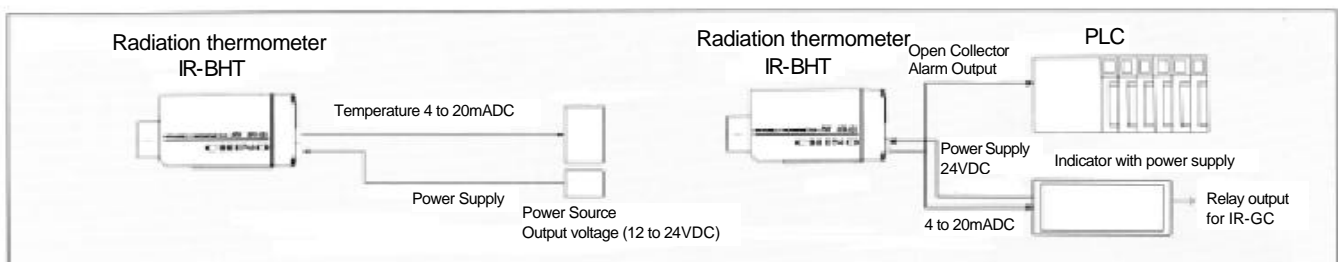
■ ACCESSORY

Protective case (IR-ZBCH):
Flange part Water-cooling
With a glass sealing inside of furnace

■ MEASURING DISTANCE AND DIAMETER

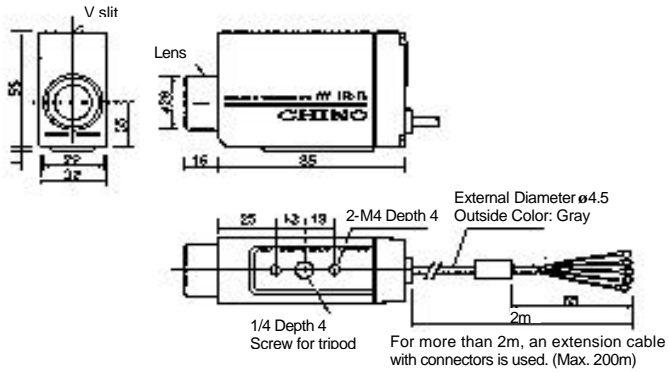


Unit: mm

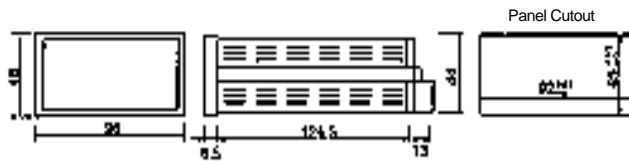


EXTERNAL DIMENSIONS

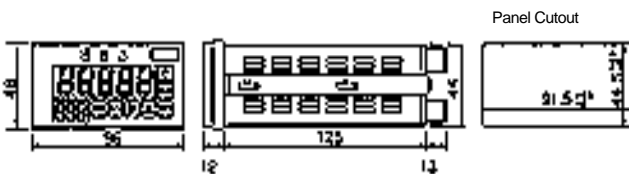
Radiation Thermometer IR-BHT1



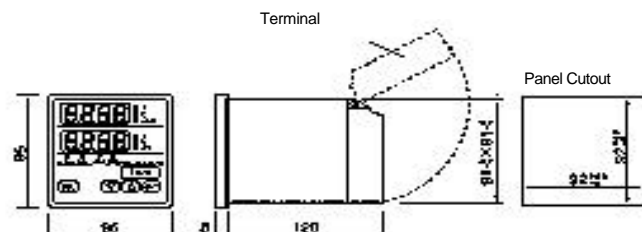
Indicator with power supply IR-GBHA1, IR-GBHH



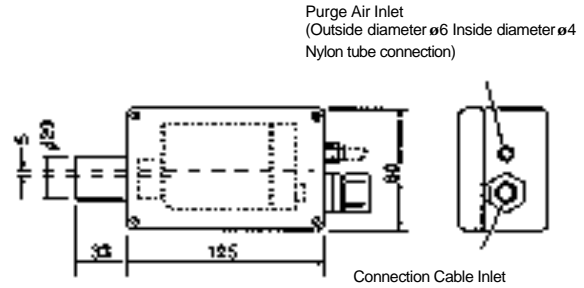
IR-GC1



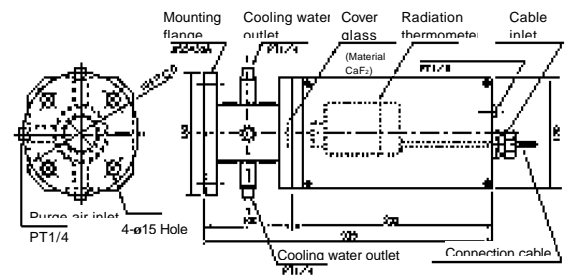
Converter with reflection correction IR-GBG2



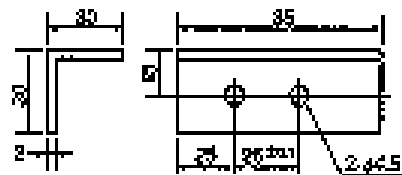
Protective Case IR-ZBCSH



IR-ZBCH (for IR-BHTH1 only)



Mounting Bracket IR-ZBML



Unit: mm

Specifications subject to change without notice. Original 2000.5