

IR-H SERIES HAND HELD RADIATION THERMOMETERS



The IR-H series is a small and lightweight handheld Infrared thermometer with a clear viewfinder.

The thru-the-lens optical system enables it to measure small targets from a long distance.

The measured value can be read on the internal digital display in the viewfinder. Three models are available – a high functional type IR-HQH having combined functions of a 2 color type + single color wide range type, a single color medium temperature type – IR-HI and a single color high temperature type IR-HS.

Data logging software is available for easy data processing by a personal computer.



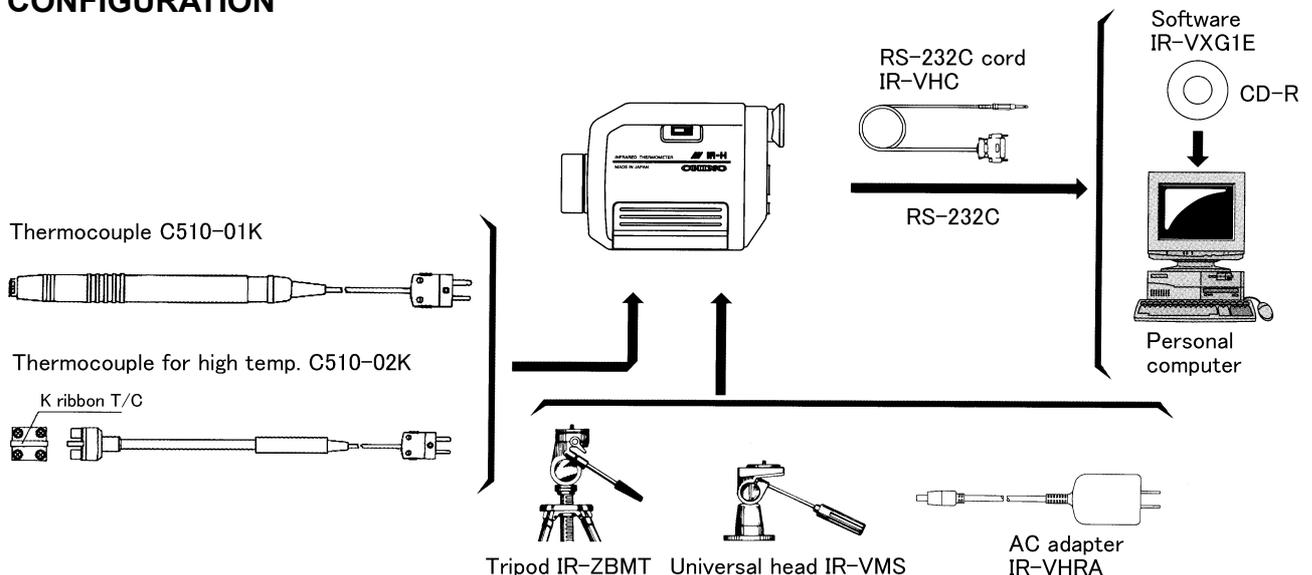
■ FEATURES

- High functional type [2-color type + single color wide range type] available.
- The InGaAs element is used to reduce influence of emissivity, high sensitivity and high accurate measurement.
- The digital display of measured value is displayed in the viewfinder and on the front panel.
- A target size of 20mm diameter can be measured at the distance of 4m.
- You can measure low temperature surface's and compensate emissivity by connecting a K-type surface thermocouple.
- Long-term measurement by a hand is made easy due to its small size (W148 x H100 x D 70mm) and lightweight (about 350g).
- A maximum 500 data can be stored and replayed.
- Math functions (maximum value, minimum value, average value, peak and delay)

■ CE

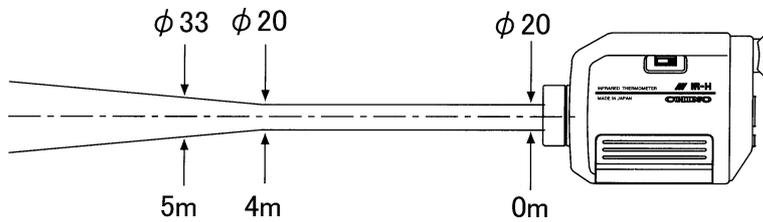
- EN61326
- Emission: Class B
- Immunity: Table 1 - Minimum immunity test requirements
- Directives: 89/336/EEC, 92/31 EEC amendment, 93/68/EEC amendment

■ CONFIGURATION



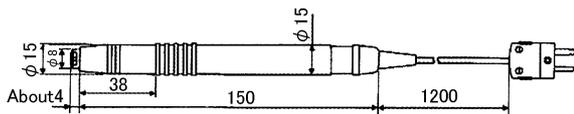


■ DIAMETER/DISTANCE



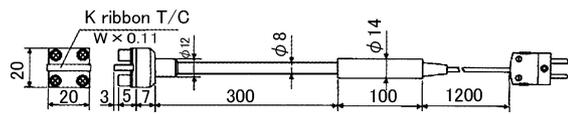
■ THERMOCOUPLES

Model: C510-01K



Element: K
 Measuring range: Max. 500°C (Top: Ceramic)
 Response time: About 1.8 seconds (90% response to 150°C aluminum block surface)

Model: C510-02K



Element: K
 Measuring range: Max. 800°C
 Response time: 4 seconds (90% response to 340°C aluminum block surface)

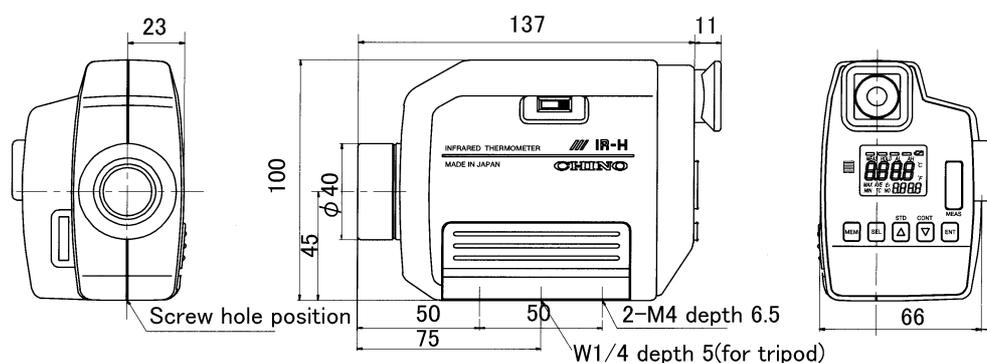
Unit: mm

■ SPECIFICATIONS

Types	Single color For medium temperature	Single color For high temperature	High functional type [2-color type + single color wide range type]
Model	IR-HI	IR-HS	IR-HQH
Measuring system	Narrow band radiation thermometer		
Element	InGaAs	Si	Si / InGaAs
Wavelength	1.55 μm	0.9 μm	0.9/1.55 μm
Temperature range	300 to 1000°C	600 to 2000°C	600 to 2000°C (2-color) / 400 to 3000°C (single color) (key switching)
Accuracy rating At $\epsilon=1.0$, ref. operation condition: 23°C \pm 5°C, 35 to 75%RH	$\pm 6^\circ\text{C}$	Less than 1000°C: $\pm 6^\circ\text{C}$ 1000 to 1500°C: $\pm 0.6\%$ of measured value 1500 to 2000°C: $\pm 1.2\%$ of measured value More than 2000°C: $\pm 2.4\%$ of measured value	
Repeatability	Within $\pm 1^\circ\text{C}$		
EMC Stability	1. Temperature drift: 0.2°C / °C 2. $\pm 3^\circ\text{C}$; $\pm 50^\circ\text{C}$ [(at the connection with code for RS-232C, AC adapter or thermocouple C510-0 (K))]	1. Temperature drift: Less than 1000°C: 0.2°C / °C More than 1000°C: 0.02% of measured value / °C 2. $\pm 15^\circ\text{C}$; $\pm 50^\circ\text{C}$ [(at the connection with code for RS-232C, AC adapter or thermocouple C510-0 (K))]	
Resolution	1°C		
Response time	0.25 second (1.8 or 4 seconds: connecting with surface temperature sensor)		
Emissivity compensation	0.100 to 1.900 (0.001 increment)		
Math	Maximum value, minimum value, average value		
Signal modulation	Peak, delay		
Display	LCD digital display 4-digit in viewfinder and on front panel		
Data storage	Maximum 500 data		
Communications	RS232C (Data logging software / IR-VXG1E, sold separately)		
Optics	Fixed focus system		
Diameter/Distance	$\phi 20/4000\text{mm}$ (Refer to " Diameter/Distance ".)		
Finder	Direct view finder		
Lens diameter	$\phi 20\text{mm}$		
Thermocouple input	K thermocouple: -50 to 800°C Accuracy: $\pm 2^\circ\text{C}$ (at 23 \pm 5°C)		
Other functions	Automatic power-off, automatic back-light display, continuous measurement °C/°F selection, battery check, high/low alarms		
Working temperature	0 to 50°C		
Power	AA battery 2 pieces (about 50 hours at continuous operation) or AC power adapter (sold separately)		
Case material/color	Resin/gray		
Outside dimensions / weight	W148 x H100 x D70mm, about 350g (thermometer)		

■ OUTSIDE DIMENSIONS

Unit: mm



■ DATA LOGGING SOFTWARE / IR-VXG1E (sold separately)

Three kinds of data management mode, real-time trend mode, multi-point monitoring mode by utilizing memory, and 1-point historical trend mode, are available. Graph display, report creation, printing, and data storage can be easily executed. The export of the measured data to worksheet applications is also possible.

General specifications	Model	IR-VXG1E
	Environment	OS Windows 95/98 (Minimum 10MB is required to install.)
	Media	CD-R (2m of RS-232C cable with D-Sub 9 pins female connector is attached.)
	Readout	Readout of transmitted data by RS-232C from IR-H
	Functions	Display on a personal computer, Data storage and replay, Printer output
	Graphic display	640 x 480 dots (initial), 1024 x 768 dots (resized by a personal computer)
	Measurement mode	Real-time trend mode, Multi-point monitoring mode, 1-point trend mode

		Real-time trend	Multi-point monitoring (30 points)	1-point trend (500 data)
Data logging system	Readout of data stored	<ul style="list-style-type: none"> Real-time trend graph (in real-time trend logging mode) Alarm summary 	<ul style="list-style-type: none"> Readout of monitoring data up to 30 points Creation of reports (table, graph) [Input of measurement place name] and [settings of high/low alarms] are enabled on each measurement place. [Grouping each 5-point] on table and graph 	<ul style="list-style-type: none"> Readout of continuous data up to 500 data Display by graph Display of all data Display of specified data (100 points/10 points selectable) Maximum, minimum and average
	Data logging and graphic display	<ul style="list-style-type: none"> Measuring cycle: 0.5 to 10 seconds Chart speed: 10-second, 1-minute, 5-minute, 10-minute, 1-hour, 2-hour/screen (6-step selection) Scroll function: Chart time axis can be scrolled after measurement stop or reply of data stored. Temperature range: Auto-range or fixed range is selectable. High/low alarms Alarm summary (at stop of data logging) 		
Storage/output	Storage type	<ul style="list-style-type: none"> File for replay of trend graph 	<ul style="list-style-type: none"> Storage of 30 points data base 	<ul style="list-style-type: none"> Continuous data up to 500 data
	Export to Excel 97 (*)	<ul style="list-style-type: none"> All data of date, time and temperature on real-time trend Alarm summary 	<ul style="list-style-type: none"> Monitoring data base table up to 30 points 	
	Data stored	<ul style="list-style-type: none"> Maximum 1000 data (Maximum memory capacity 600KB) Alarm summary 100 data (Renewed to up-dated data) 	<ul style="list-style-type: none"> Data base up to 30 points 	
	Printer output	<ul style="list-style-type: none"> Real-time trend graph Alarm summary report 	<ul style="list-style-type: none"> Table form report Graph form report 	<ul style="list-style-type: none"> Historical trend graph

(*) on condition that Excel 97 has been installed in a personal computer

■ ACCESSORIES (sold separately)

Accessories	Models	Specifications
AC power adapter	IR-VHRA	Input voltage 100 to 240VAC, Output voltage 4.8VDC
Tripod	IR-ZBMT	
Universal head	IR-VMS	
Thermocouple	C510-01K	K thermocouple, Maximum 500°C, Response time about 1.8 seconds
Thermocouple for high temp.	C510-02K	K thermocouple, Maximum 800°C, Response time about 4 seconds

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Specifications subject to change without notice. Printed in Japan (I) 2002. 5

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