



IR-04

Infrared Thermometer

Description:

The IR-04 series infrared thermometers measure temperatures in the range of -32°C to $+1500^{\circ}\text{C}$ at a distance ratio from 8:1 to 50:1 without contact to the object. The radiation of the object of measurement is constantly compared with the radiation of the sensor's surroundings and the current value of the object's surface temperature is displayed by the IR-04 within at least 500 milliseconds. An additional thermocouple probe can be attached to the IR-04 for measuring inside objects or fluids. The thermocouple can also be used to measure the emissivity of the target and automatically corrects the measurement accordingly. A version with USB adapter and data logging software can be used for easily recording the measured values or for stationary use over time, in intervals from 1 second to 999 hours. A tripod is optionally available. The data can be stored in a text file to be used with programs such as Excel™, Access™ or Word™ for further analysis, graphing and reports. All handheld devices use a 9 V battery as power source, offering continuous measuring up to 16 hours.

Features

/ For temperatures up to 1500°C

/ Very robust

/ Ranges up to 50:1 (D:S ratio)

/ Memory log

/ Continuous reading

/ USB connector

Application:

Handheld infrared thermometers are used in the industry whenever a quick measuring is needed. Because of their range and versatility, they can be used to measure the surface temperature of very hot and hard to reach objects from a safe distance. An additional probe expands the range of application even further, as well as various configuration options, like adjustable emissivity. The probe can be used for cooling chain testing in the food industry or automotive maintenance. The IR-04s recognize surface temperatures; they are free of repercussions and can measure even objects of small specific heat capacity or less thermal conduction such as plastic or various types of glass. The dynamics are solely determined by the evaluation electronics, with the result, that fast changing conditions of temperature can be captured.



Standard Thermometers:

Model	IR-04.85	IR-04.115	IR-04.115P	IR-04.125
Description	Close range (< 600mm)	Mid temperature, mid range (< 1000 mm)	Mid temperature, mid range (< 1000 mm), extended features	High temperature, mid range (< 1000 mm), extended features, probe*
Temperature range	-4°...+619°F -20°...+326°C	-25°...+999°F -32°...+535°C	-25°...+999°F -32°...+535°C	-25°...+1400°F -32°...+760°C
Distance to spot ratio	8:1	12:1	12:1	12:1
Spectral range	5...14µm	5...14µm	5...14µm	5...14µm
Emissivity	Fixed at 0.95	Fixed	Adjustable 0.10 to 1.00	Adjustable 0.1 to 1.0
Accuracy	± 2% of reading or 2°C whichever is greater	± 5.4°F (± 3°C) -25°...-4°F (-32°...-20°C) ± 3,6°F (± 2°C) -4°...+212°F (-20°...+100°C) ± 2% 212°...999°F (100°...535°C)	± 5°F (± 3°C) -25°...-4°F (-32°...-20°C) ± 3,6°F (± 2°C) -4°...+212°F (-20°...+100°C) ± 2% > 212°F (100°C)	± 5°F (± 3°C) -25°...-4°F (-32°...-20°C) ± 3,6°F (± 2°C) -4°...+212°F (-20°...+100°C) ± 2% > 212°F (100°C)
Repeatability	± 2°F (± 1°C)	± 2°F (± 1°C)	± 2°F (± 1°C)	± 2°F (± 1°C)
Resolution	0.1°F (0.1°C)	0.1°F (0.1°C)	0.1°F (0.1°C)	0.1°F (0.1°C)
Response time	500 ms.	500 ms.	500 ms.	500 ms.
Operating temperature	32°...122°F (0...50°C) 10 - 90% RH	32°...122°F (0...50°C) 10 - 90% RH	32°...122°F (0...50°C) 10 - 90% RH	32°...122°F (0...50°C) 10 - 95% RH
Storage temperature	14°...140°F (-10°...60°C)	14°...140°F (-10°...60°C)	14°...140°F (-10°...60°C)	14°...140°F (-10°...60°C)
LCD backlight	Yes	Yes	Yes	Yes
Dual display	NA	NA	NA	Yes
°F & °C Selectable	Yes	Yes	Yes	Yes
Laser sight switchable	User selectable, class II laser, less than 1mW			
Auto power off	Automatically after approx. 6 seconds			
Max/Min/Avg/ΔT	No	No	Yes	Yes
Auto measuring	No	No	Yes	Yes
Audible alarm	No	Yes	Yes	Yes
10 Point memory	No	No	Yes	Yes
Electronic trigger lock	No	Yes	Yes	Yes
Tripod mount	Yes	No	No	Yes
USB data output	No	No	No	No
Type K thermocouple	No	No	No	Yes
Operating software	No	No	No	No
Power supply	9V Battery	9V Battery	9V Battery	9V Battery
Battery life (laser off)	16 hrs for continuous operation	15 hrs for continuous operation		15 hrs for continuous operation
Dimensions	5.9 x 5.2 x 1.8" (150 x 133 x 45 mm)	6.8 x 3.6 x 1.8" (173 x 93 x 45 mm)		7.09 x 5.12 x 1.57" (180 x 130 x 40 mm)
Weight (with battery)	4.7 oz (135 g)	7.8 oz (220 g)	7.8 oz (220 g)	6.87 oz (195 g)
Included accessories	User manual, 9V battery	User manual, 9V battery, soft pouch		User manual, 9V battery, carrying case

*different kinds of probes are available, depending on the application. Please specify the desired use when ordering.



High-Temperature Thermometers:

Model	IR-04.135	IR-04.215	IR-04.235
Description	High temperature, long range (< 1500 mm), extended features	High temperature, extra long range (> 1500 mm), extended features, USB, probe*	extra high temperature, extra long range, extended features
Temperature range	-58°...+1832°F -50°...+1000°C	-58°...+1832°F -50°...+1000°C	-58°...+2732°F -50°...+1500°C
Distance to spot ratio	30:1	50:1	50:1
Spectral range	8 to 14µm	8 to 14µm	8 to 14µm
Emissivity	Adjustable 0.10 to 1.00	Adjustable 0.10 to 1.00	Adjustable 0.10 to 1.00
Accuracy	± 5.4°F (± 3°C) -58...-4°F (-50...-20°C) and ± 3.6°F (± 2°C) -4...+212°F (-20...+100°C) and ± 2% > 212°F (100°C)		
Repeatability	± 2°F (± 1°C)	± 2°F (± 1°C)	± 2°F (± 1°C)
Resolution	0.1°F (0.1°C)	0.1°F (0.1°C)	0.1°F (0.1°C)
Response time	500 ms.	500 ms.	500 ms.
Operating temperature	32...122°F (0...+50°C) 10 - 90% RH	32...122°F (0...+50°C) 10 - 90% RH	32...122°F (0...+50°C) 10 - 90% RH
Storage temperature	14...140°F (-10...+60°C)	14...140°F (-10...+60°C)	14...140°F (-10...+60°C)
LCD backlight	Yes	Yes	Yes
Dual display	Yes	Yes	Yes
°F & °C Selectable	Yes	Yes	Yes
Laser sight switchable	User selectable, class II laser, less than 1mW		
Auto power off	Automatically after approx. 6 seconds	Automatically after approx. 30 seconds	Automatically after approx. 6 seconds
Max/Min/Avg/ΔT	Yes	Yes	Yes
Auto measuring	Yes	Yes	Yes
Audible alarm	Yes	Yes	Yes
10 Point memory	Yes	Yes	Yes
Electronic trigger lock	Yes	Yes	Yes
Tripod mount	Yes	Yes	Yes
USB data output	No	Yes	No
Type K thermocouple	No	Yes	No
Operating software	No	Software included	No
Power supply	9V Battery	9V Battery	9V Battery
Battery life (laser off)	15 hrs for continuous operation	15 hrs for continuous operation	15 hrs for continuous operation
Dimensions	7.9 x 5.0 x 1.9" (200 x 127 x 47mm)	7.9 x 5.0 x 1.9" (200 x 127 x 47mm)	6.7 x 5.2 x 1.8" (200 x 132 x 45mm)
Weight (with battery)	12.7 oz (360 g)	12.7 oz (360 g)	11.6 oz (330 g)
Included accessories	User Manual, 9V Battery, Carrying Case, and Wrist Strap	User Manual, 9V Battery, Carrying Case, Wrist Strap & Software	User Manual, 9V Battery, Carrying Case, and Wrist Strap

Ordering Codes:

*different kinds of probes are available, depending on the application. Please specify the desired use when ordering.

Order number

IR-04. 115

IR-04 Infrared Thermometer

Model - see table /

85, 115, 115P, 125, 135, 215, 235

