

IT-3 Infrared Thermometer Datasheet

IT-3 Highlights

IT-3 is an economical and integrated infrared thermometer, provides a single sensor solution for forging, heat treatment, smelting, hot pressing sintering etc.. The series with 5 models can measure target temperatures from -25°C to 2500°C . The unit's onboard electronics are protected by an aluminium alloy housing, allowing the sensor to work in ambient temperature up to 60°C without cooling.

IT-3 infrared thermometer features coaxial laser sighting. Its distance-to-spot ratio is 120:1/200:1 and the smallest spot size is 2mm. Laser sighting and high-resolution provide solutions for either small targets or long-distance measurements. Standard features include adjustable emissivity 0.10 to 1.00, which is suitable for ferrous metals with bad surface finish and some non-metallic materials.

IT-3 infrared thermometer can be equipped with a compact monitor that configures the functions via the front panel. It also has RS485 communications, through which the thermometer can be connected to a computer in the control room. This enables users to view, configure, focus the thermometer locally or remotely.

Applications: forging, heat treating, smelting, glass melting, wire mills and so on.

Measurement Specifications:

Temperature Ranges:

IT-3L1	$-25-500^{\circ}\text{C}$
IT-3L2	$-25-1000^{\circ}\text{C}$
IT-3H1	$300-1200^{\circ}\text{C}$
IT-3H2	$500-1400^{\circ}\text{C}$
IT-3H3	$800-2500^{\circ}\text{C}$

Detector

IT-3L1, IT-3L2	Thermopile 8-14 μm
IT-3H1, IT-3H2	InGaAs 0.7-1.7 μm
IT-3H3	Si 0.4-1.1 μm

Accuracy

IT-3L1, IT-3L2	$\pm 1\%$ (FS)
IT-3H1, IT-3H2, IT-3H3	$\pm 0.5\%$ (FS)

Repeatability

$\pm 0.5\%$

Temperature Resolution

0.5°C

Response Time

$\leq 5\text{ms}$

Emissivity

0.10 to 1.00 (0.01)



Optical Specifications:

Typical Spot Size at Minimum Focus Distance

Models	D:S	Minimum Spot Size
IT-3L1	70:1	4.3mm@300mm
IT-3L2	70:1	4.3mm@300mm
IT-3H1	120:1	3mm@360mm
IT-3H2	200:1	3mm@600mm
IT-3H3	200:1	3mm@600mm

Electrical Specifications:

Outputs

Analog	0-20mA, 4-20mA, 0-5V
Digital	RS485
Alarm	No

Adjustable

Emissivity setting
Laser control
Trigger
Response time

Power Supply

24VDC $\pm 20\%$ 500mA

General Specifications:

Environmental Rating

IP65

Ambient Temperature

Without cooling	$0-65^{\circ}\text{C}$
With air cooling	110°C
With water cooling	165°C

Storage Temperature

$-20-70^{\circ}\text{C}$

Relative Humidity

10-95%, non-condensing

Thermal Shock

GB/T2423.1, GB/T2423.2

Anti Disturbance

JB/T9233.11-1999

Dimension

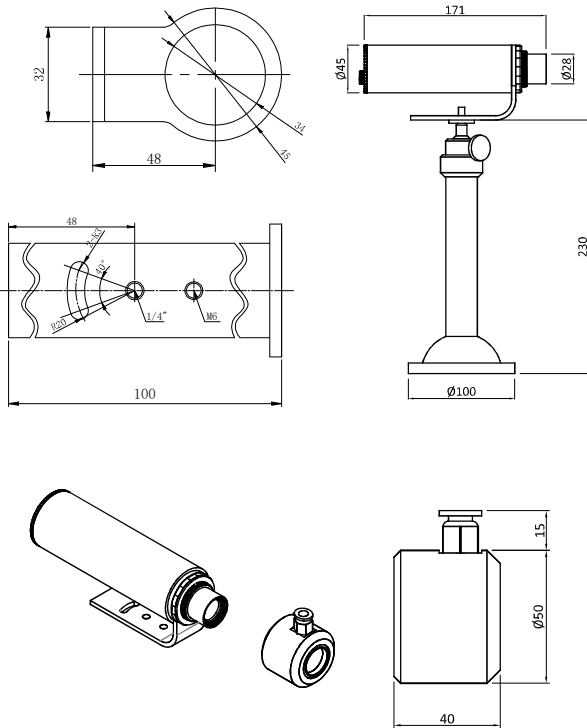
L: max170mm; $\Phi 45\text{mm}$

Weight

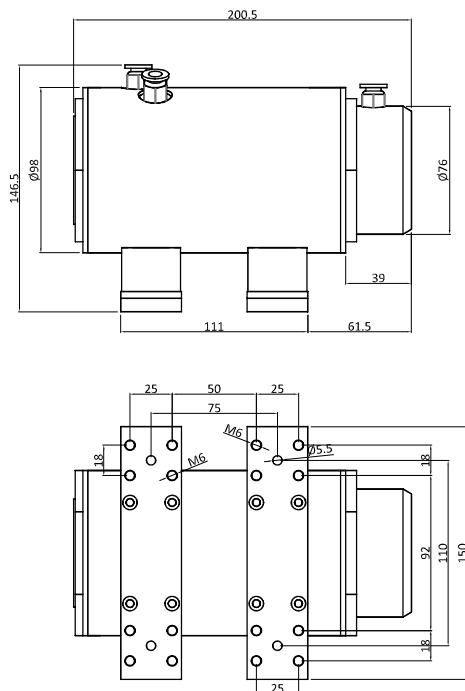
510g

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Dimension :

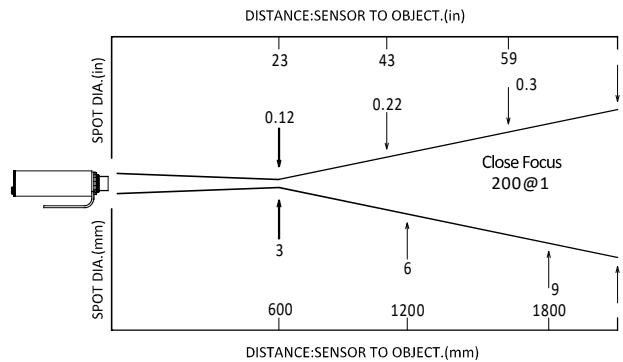
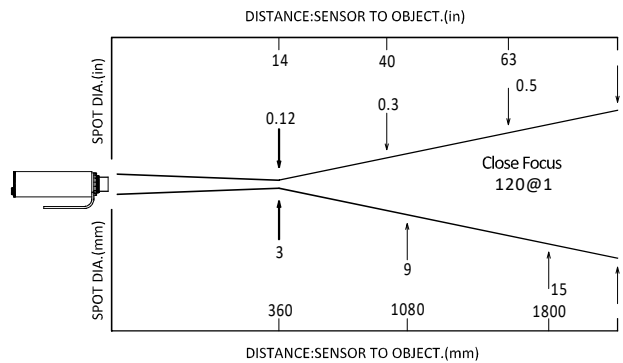
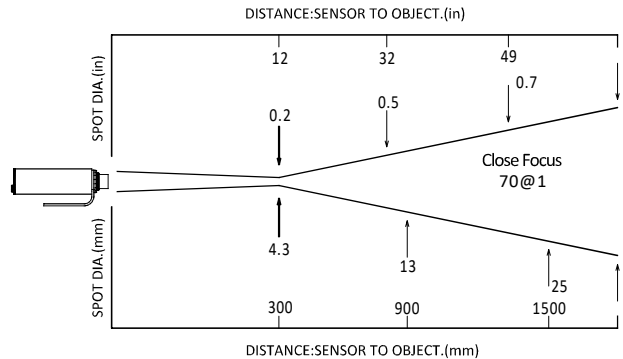


Water-cooled Jacket



NOTES: All dimensions are in millimeters.

Optical Specifications



Options

Options must be specified at time of order

- Manufacturer's calibration certificate based on Q/DK001-2015

Accessories

- RS232/485 converter serving for stand-alone or multiple sensors
- Protective Windows according to spectral range
- Cable extensions in different lengths
- Water/Air Cooled Housing for field retrofit as stainless steel or aluminium
- Extra rugged cast metal housing for thermal/mechanical environmental protection