# IT-6 Infrared Thermometer Datasheet

## IT-6 Highlights

IT-6 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 ranging from -25℃ to 2500℃. The unit's onboard electronics are protected by an aluminium alloy housing, allowing the sensor to work in ambient temperature up to 60℃ without cooling.

IT-6 thermometer features coaxial laser sighting. The optical resolution is 150:1 and the smallest spot size is 2mm. Laser sighting and high-resolution provides solution for either small targets or long-distance measurements. Standard features include adjustable emissivity which are 1.0, 0.9, 0.8 and 0.7. It is suitable for ferrous metal with bad surface finish and some non-metallic materials.

IT-6 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-6L1 | -25-500℃ |
| IT-6L2 | -25-1000℃ |
| IT-6H1 | 300-1200℃ |
| IT-6H2 | 500-1400℃ |
| IT-6H3 | 800-2500℃ |
| Detector | |
| IT-6L1, IT-6L2 | Thermopile 8-14μm |
| IT-6H1, IT-6H2 | InGaAs 0.7-1.7μm |
| IT-6H3 | Si 0.4-1.1μm |
| Accuracy | |
| IT-6L1, IT-6L2 | ±1%(FS) |
| IT-6H1,IT-6H2,IT-6H3 | ±0.5%(FS) |
| Repeatability | ±0.5% |
| Temperature Resoution | 0.5℃ |
| Response Time | ≤5ms |
| Emissivity | 1.0, 0.9, 0.8, 0.7 adjustable |

## Optical Specifications:

**Typical Spot Size at Minimum Focus Distance**

| Models | D:S | Minimum Spot Size |
|---|---|---|
| IT-6L1 | 70:1 | 4.3mm@300mm |
| IT-6L2 | 70:1 | 4.3mm@300mm |
| IT-6H1 | 120:1 | 3mm@360mm |
| IT-6H2 | 220:1 | 2.7mm@600mm |
| IT-6H3 | 220:1 | 2.7mm@600mm |

## Electrical Specifications:

| | |
|---|---|
| Outputs | |
| Analog | 0-20mA,4-20mA,0-5V |
| Digital | RS485 |
| Alarm | No |
| Adjustable | Emissivity setting<br>Laser control<br>Trigger<br>Response time |
| Power Supply | 24VDC ±20% 500mA |

## General Specifications:

| | |
|---|---|
| Environmenta Rating | IP65 |
| Ambient Temperature | |
| Without cooling | 0-65℃ |
| With air cooling | 110℃ |
| With water cooling | 165℃ |
| Storage Temperature | -20-70℃ |
| Relative Humidity | 10-95%, non-condensing |
| Thermal Shock | GB/T2423.1,GB/t2423.2 |
| Anti Disturbance | JB/T9233.11-1999 |
| Dimension | L:max170mm; Φ45mm |
| Weight | 510g |

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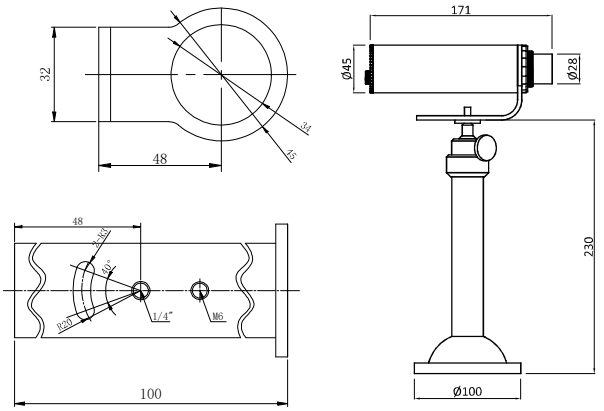
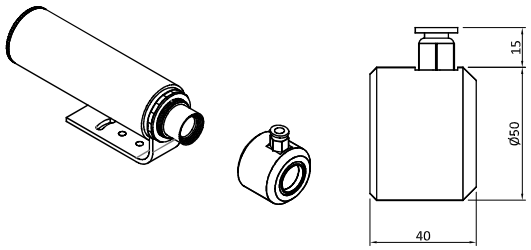
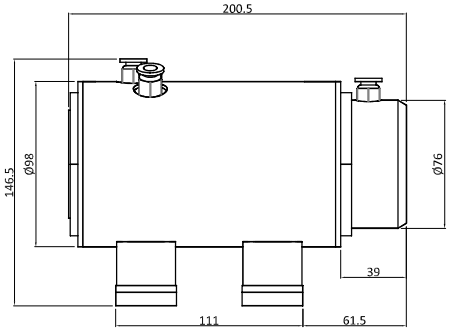
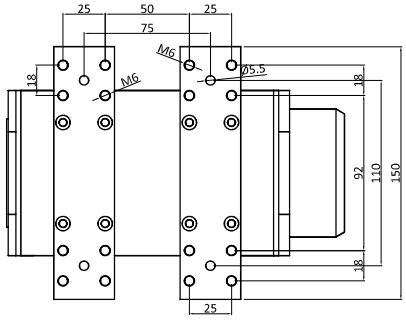
## Dimension :



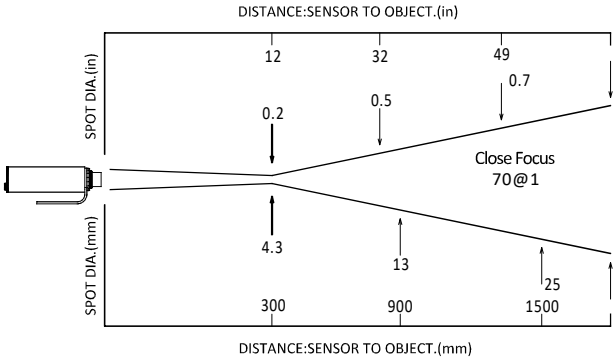

Water-cooled jacket

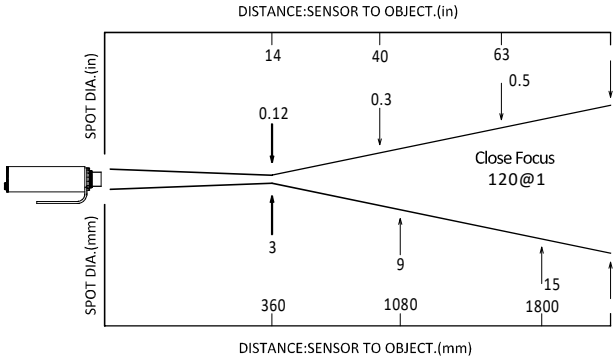


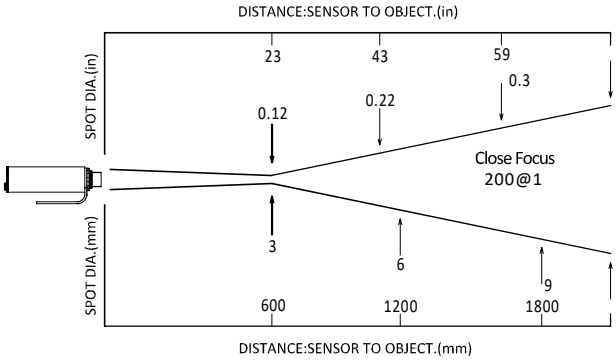




NOTES: All dimensions are in millimeters.

## 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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