

FOT-6 Infrared Thermometer Datasheet

FOT-6 Highlights

FOT-6 fiber optic infrared thermometer provides accurate measurement for targets that are obstructed by smoke, steam or particulates, or are either moving or smaller than the instrument's field of view. It measures target temperatures ranging from 400°C to 3000°C with four models. It consists of a rugged fiber optic cable plus optical head assembly connected to an electronics housing containing the detector, processing electronics, internal user interface/ LED display, and termination connections for field wiring. The electronics maintain high accuracy in ambient operating temperatures up to 60°C. The optical head consists of a small stainless steel cylindrical housing and lens assembly. The optical head accommodates an air-purge collar to prevent lens contamination and can be capable of withstanding ambient temperatures up to 220°C. The fiber optic cable is protected by metal armor. The assembly accommodates a small bend radius for threading through tight spaces.

LED display provides a convenient on-line indicator of the thermometer's operating status and easy operation of setting the parameters. The sensor features through-the-lens optical sighting. The optical resolution is 160:1 and the smallest spot size is 2mm. The emissivity is 0.10 to 1.00 in 0.01 increment.

FOT-6 thermometer can be equipped with a compact, value-priced monitor that configures the functions via the front panel. It also includes optional bidirectional RS485 serial interface between the pyrometer in the factory and a computer in the control room. This enables remote set-up, monitoring and maintenance, especially valuable for installation in hard-to-reach locations.

Measurement Specifications:

Temperature Ranges:

FOT-6H1	400-1200°C
FOT-6H2	500-1400°C
FOT-6H3	800-1500°C
FOT-6H4	1000-1800°C

Detector

FOT-6H1, FOT-6H2	InGaAs 0.8-1.7μm
FOT-6H3, FOT-6H4	InGaAs 0.5-1.1μm

Accuracy ±0.5%(FS)

Repeatability ±0.2%

Temperature Resolution 0.5°C

Response Time ≤5ms

Emissivity 0.10 to 1.00 (0.01)



Optical Specifications:

Typical Spot Size at Minimum Focus Distance

Models	D:S	Minimum Spot Size
FOT-6H1, FOT-6H2	150:1	2mm@300mm
FOT-6H3, FOT-6H4	300:1	1mm@300mm

Electrical Specifications:

Outputs

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

Adjustable

Emissivity setting
Laser control
Work pattern
Response time

Power Supply 24VDC ±20% 500mA

General Specifications:

Environmenta Rating IP65

Ambient Temperature

Without cooling	0-65°C
With air cooling	110°C
With water cooling	165°C

Storage Temperature -20-70°C

Relative Humidity 10- 95%, non-condensing

Thermal Shock GB/T2423.1,GB/t2423.2

Anti Disturbance JB/T9233.11-1999

Dimension L:max186mm; Φ50mm

Weight

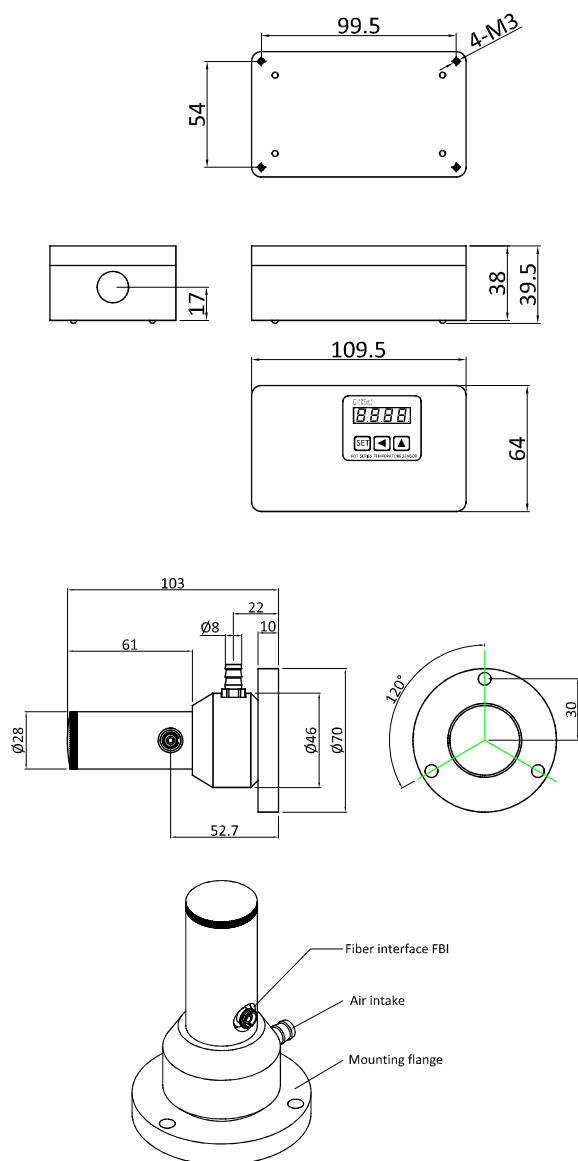
Optical head	180g
Electronics housing	275g

Fiber Cable Protection

rated to 100°C (optional up to 315°C), stainless steel armour, Viton coated, IP65, provision for conduit to protect fiber cable

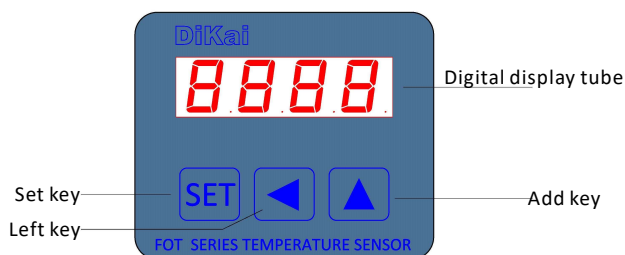
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Dimension :

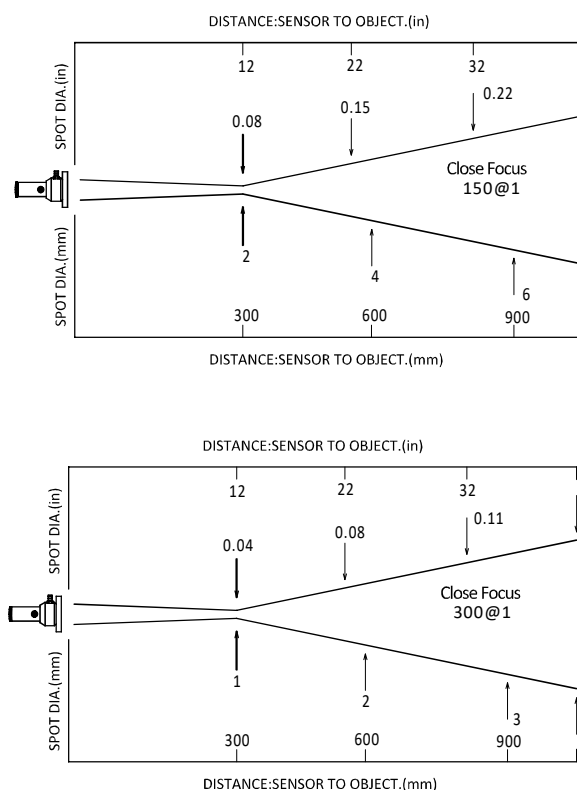


NOTES: All dimensions are in millimeters.

User Interface



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