

Wide Range Measurement

400 to 1200°C



Features

■ Reliable Functions

- 400 to 1200°C Wide Range Measurement
- 4 to 20mA Analog Output with Scaling function
- E-TEACH function for automatic emissivity adjustment
- High-speed response time 50ms/90%

■ Tough and Heavy-Duty

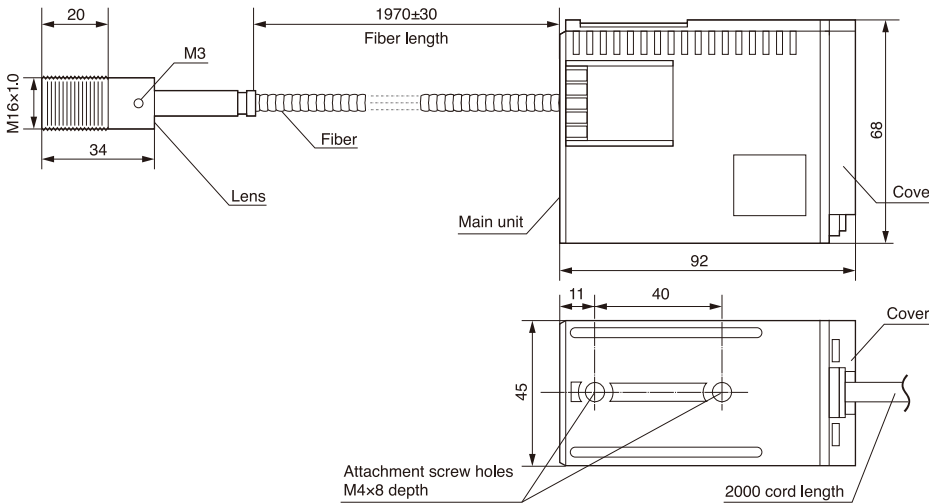
- Sensor head withstand up to 150°C ambient temperature
- Compact design allows installation in small confined spaces
- Tough Glass fiber for harsh environment.
- 3 types fiber length is selectable (2m standard, 5 and 10m as customized)

Dimensions

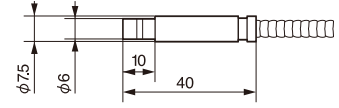
Unit [mm]

Main Unit

(with BFL-30/Standard lens)



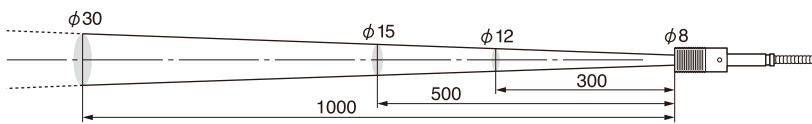
(without lens)



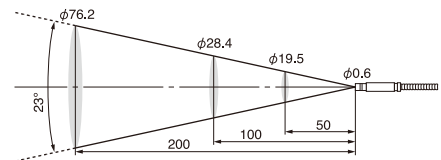
Field of View

Unit [mm]

BFL-30/standard lens



without lens



*Calibration at the factory is done with BFL-30 standard lens.

The optical resolution values stated in "Field of View" are at minimum 90% energy.

The size of measuring object should be sufficiently larger than the field of view (spot size) shown in the above illustration.

Specifications

Models	BF-30I-A
Temperature range	400~1200°C
Area size	φ30 / 1000mm
Optics	infrared Fiber-optics
Spectral response	InGaAs / 1.2~2.6μm
Response speed	50ms / 90%
Accuracy	±2% of reading value
Repeatability	±1°C
Display resolution	1°C
Analog output	4-20mA
Output resolution	0.1~0.5°C (Depending on the setting value <100~800°C> of "High Limit"-<Low Limit">
Emissivity ratio (ε) adjustment	0.10~1.20
Delay function	Normal 1~200 variable
Power supply	DC12~24V±10% / MAX100mA
Ambient temperature	0~50°C (Amplifier unit) 0~150°C (Fiber optics)
Environmental humidity	35~85%Rh (without dew condensation)
Storage temperature	-10~+60°C
Vibration resistance	10~55Hz, amplitude 1.5mm, two hours each in the direction of X, Y, Z
Water resistance	IP65
Materials	Ring, Case : glass-containing PBT, Rear : PSF, Cover : PC Fiber : SUS, Lens attachment : BS/Ni-M
Weight	500g

Accessories : Attachment×1, M4 screw×2, Nut for lens (M16) ×2

Optional accessories : Air Purge BF-AP2

*Design and specification are subject to change for product improvement without prior notice.

Cautions

This product is made from Glasfiber and extremely sensitive to shock and bending. The followings are the instruction so you would not break the fiber optics by rough treatment.

1. DO NOT PULL THE FIBER.
2. DO NOT GIVE SHOCK.
3. BENDING RADIUS= min.50mm

Safe Usage

This user's manual contains various warnings to ensure safe usage of the product and prevent damage and injury to you and other persons. Please be sure to heed the warnings and strictly follow safety procedures.

- ⚡ This symbol signifies a prohibited action.
- ⚠ This symbol signifies a required action.

Environmental Warnings

- ⚠ KEEP THE THERMOMETER AWAY FROM DIRECT SUNLIGHT, DUST, HIGH TEMPERATURES AND HIGH HUMIDITY DURING USE AND STORAGE.
Otherwise, the optical lens will become dirty or damaged. Such usage or strage will result in incorrect measurements.
- ⚠ DO NOT APPLY SUDDEN CHANGE OF ENVIRONMENTAL TEMPERATURES TO THE THERMOMETER.
Sudden temperature changes of environments may cause incorrect measuring results. In such cases, leave the thermometer for a moment to let it return to a stable condition prior to the next measurements.
- ⚠ KEEP THE THERMOMETER AWAY FROM PRODUCTS WHICH PRODUCE STRONG ELECTROMAGNETIC WAVES. DO NOT USE IN AN ATMOSPHERE CONTAINING CORPOSIVE GASES OR EXPLOSIVE GASES.
Usage in such environments will cause irreparable damages to the unit and incorrect measurements.

Usage Warnings

- ⚠ AVOID MEASURING SHINY OBJECTS.
Shiny objects reflect surrounding temperatures. The emissivity rate of the unit can be adjusted to compensate for this problem.
- ⚠ DO NOT USE WITH NON-STANDARD VOLTAGE.
Using the unit out of DC 12~24 voltage range may result in damage to the unit, shorts, fires and injuries. In such cases, immediately switch the unit off.
- ⚠ DO NOT TOUCH TO THE OBJECT THAT IS BEING MEASURED.
The unit is a non-contact thermometer. Touching the unit to objects with high temperatures will result in irreparable damages in the shape of the unit and incorrect measurements.
- ⚠ DO NOT TOUCH THE LENS.
Do not touch the lens with hard or sharp objects. Do not insert foreign objects into the light receiving part. Otherwise, damage to the lens or incorrect measurements will occur.
- ⚠ DO NOT USE NEAR ELECTRIFIED OBJECTS.
Otherwise, irreparable damages or incorrect measurements will result.

Usage Warnings

Please note that the fiber, which is the material of this product, falls under the regulated item of the Export Trade Control Order.



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