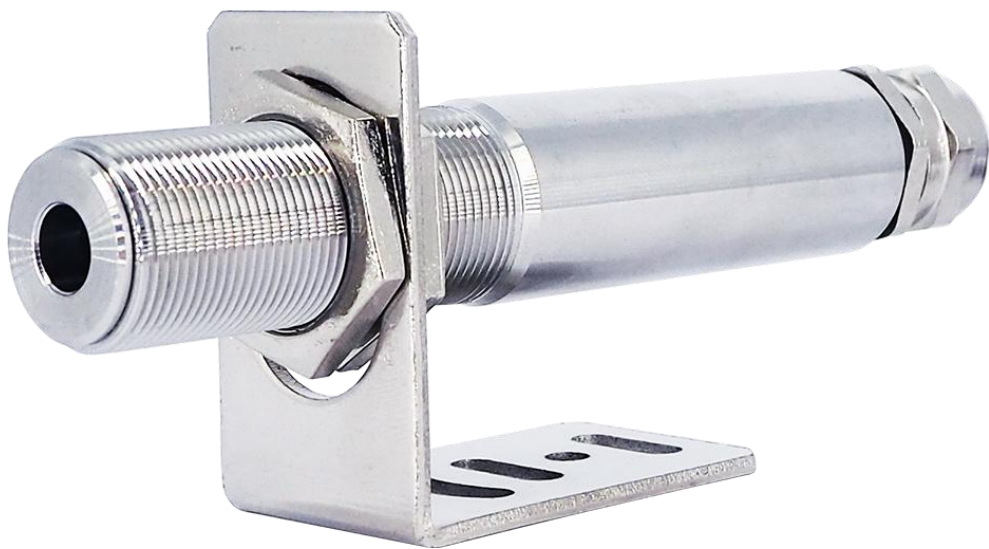


Non-contact infrared thermometer



Preface

- Thank you for purchasing our products.
- This manual is the instruction manual about each function, wiring method, setting method, operation method, troubleshooting method, etc. of the product.
- Please read this manual carefully before operation and use the product correctly to avoid unnecessary damage caused by incorrect operation.
- After you have read it, please keep it in a place where you can access it at any time for reference during operation.

Note

- The contents of this manual are subject to change without notice due to function upgrades, etc.
- If you find any errors in the contents of this manual, please contact us.
- Reproduction or duplication of the contents of this manual is strictly prohibited.
- This product is not allowed to be used in explosion-proof applications.

Confirm package contents

- After opening the box, please confirm the contents of the package before starting operation.
- If you find that the model and quantity are wrong or the appearance is physically damaged, please contact our company.
- Product list

Serial number	Item Name	Quantity	Remark
1	Temperature sensor	1	With 1.5m cable
2	Certificate of Conformity	1	
3	Instruction manual	1	
4	L-shaped mounting bracket	1	
5	Mounting nuts	2	

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1.Product introduce

ABSD-01A infrared temperature sensor can calculate the surface temperature of the object by measuring the infrared radiation intensity emitted by the target without touching the target. Non-contact temperature measurement is the biggest advantage of infrared thermometers, allowing users to easily measure targets that are difficult to approach or move.

ABSD-01A series temperature sensor is an integrated infrared temperature sensor, the sensor, optical system and electronic circuit are integrated in the stainless steel shell; ABSD-01A series is easy to install, and the standard thread on the metal shell can be quickly connected to the installation site; At the same time, ABSD-01A series also has various options (such as purger, mounting bracket, adjustable mounting bracket, purge protective cover, etc.) to meet the requirements of various working conditions.

2. Technical parameters

Basic performance

- Protection class: IP65 (NEMA-4)
- Ambient temperature: 0~60°C
- Storage temperature: -20~80°C
- Relative humidity: 10~95% (no condensation)
- Case material: stainless steel
- Cable length: 1.5m (standard), other special specifications (customized)

Electrical parameters

- Working power supply: DC 24V
- Maximum current: 30mA
- Output signal: 4-20mA, 0-5V, 0-10V, RS485, RS232

Measurement parameters

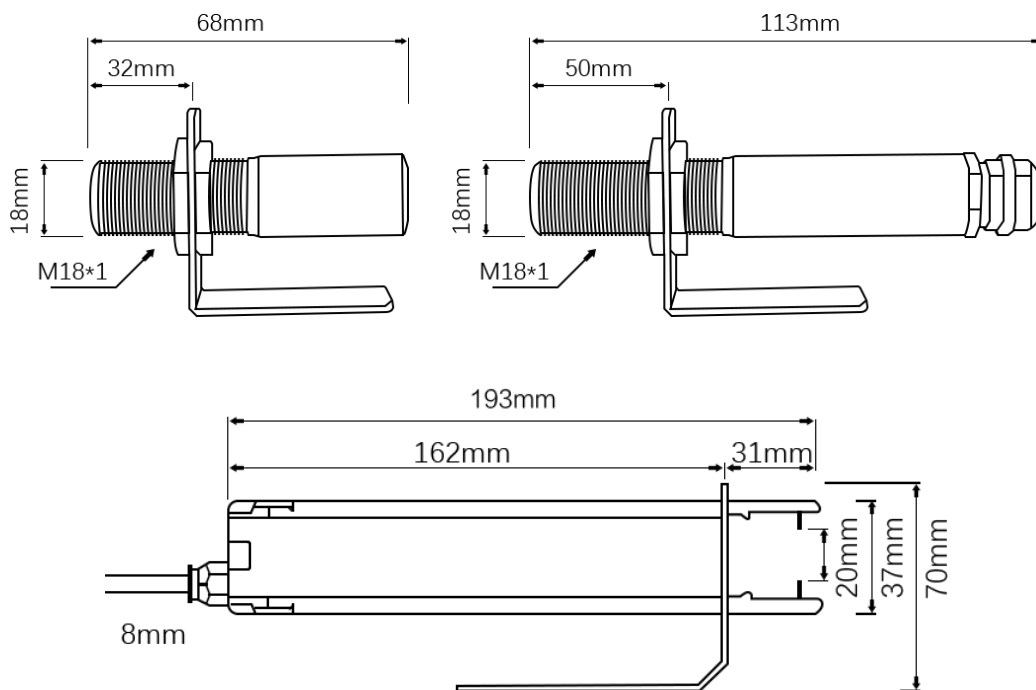
- Spectral range: 8~14μm
 - Temperature range: -20~1300°C segment optional
 - Optical resolution: 20:1
 - Response time: 150 ms (95%)
-

- Temperature measurement accuracy: $\pm 1\%$ of the measured value or $\pm 1.5^{\circ}\text{C}$, whichever is greater
- Repeat accuracy: $\pm 0.5\%$ of the measured value or $\pm 1^{\circ}\text{C}$, whichever is greater
- Product size: 113mm $\times$ ϕ 18mm or 68mm $\times$ ϕ 18mm (length*diameter)
- Emissivity: 0.95 fixed (other emissivity can be customized)

3. Working principle

Any object radiates infrared energy outward, and the intensity of the radiation varies with temperature. Infrared thermometers generally use infrared radiation energy with a wavelength in the range of 0.8 to 18 μm . An infrared temperature sensor is an optoelectronic sensor that receives infrared radiation and converts it into an electrical signal, which is amplified, linearized, and processed by electronic circuits to display or output temperature.

4. Product size



5. Matters needing attention

5.1 Maximum distance and size of the measured point

The size of the measured target and the optical characteristics of the infrared thermometer determine the maximum distance between the measured target and the measuring head. In order to avoid measurement errors, the measured target should fill the field of view of the probe head as much as possible. Therefore, the measured point

should be kept always smaller than the measured object or at least the same size as the measured target.

5.2 Ambient temperature

ABSD-01A series infrared temperature sensor can work in the ambient temperature range of 0~60°C. Otherwise, please choose the cooling protection cover.

5.3 Lens cleaning

The lens of the instrument must be kept clean to avoid measurement errors or even damage to the lens due to sticky dust, soot and other pollutants, if the lens is sticky with dust, wipe it with mirror wipe paper dipped in anhydrous alcohol.

5.4 Electromagnetic interference

In order to prevent electromagnetic interference, please ensure the following measures.

Please try to keep the infrared temperature sensor away from electromagnetic field sources (such as motors, motors, high-power cables, etc.) during installation, and add metal sleeves if necessary.

6.Product installation

6.1 Mechanical installation

ABSD-01A series metal shell with M18×1 thread can be used for direct installation or installation by using mounting brackets. The adjustable mounting brackets can make the adjustment of the measuring head more convenient.

When adjusting the object to be measured and the measuring head, make sure that the light path is not blocked.

6.2 Wiring definition

Signal	Wiring method	Line Color	Wiring definition
4-20mA	Two-wire system	Red	24VDC+
		Blue	Current+
	Three-wire system	Red	24VDC+
		Black、Orange	24VDC-
		Blue	Current+
	Four-wire system	Red	24VDC+
		Black	24VDC-
		Blue	Current+
		Orange	Current-
0-5V/ 0-10V	Three-wire system	Red	24VDC+
		Black、Blue	24VDC-
		White	Voltage+
	Four-wire system	Red	24VDC+
		Black	24VDC-
		White	Voltage+
		Blue	Voltage-
RS485	Four-wire system	Red	24VDC+
		Black	24VDC-
		Green	RS485 A
		White	RS485 B

7. Maintenance and warranty

7.1 Maintenance

Please contact our service department when you encounter any problems with your ABSD-01A series temperature sensor. Our customer service staff will give you technical support on how to set up the temperature sensor to work, the calibration process, and maintenance.

7.2 Guarantee

Each instrument undergoes a quality inspection process and if any problems occur, please contact the after-sales technical immediately.

The warranty period is 12 months from the factory. After the warranty period, the manufacturer additionally guarantees the repair or replacement of components within 6 months. If the instrument is disassembled or damaged by improper use, the warranty does not apply.

If there is a problem with the instrument during the warranty period, it can be replaced, calibrated or repaired free of charge, and the shipping costs incurred during this period will be borne by the sender. The manufacturer reserves the right to repair the instrument or replace the components at its option. If the failure of the instrument is due to improper use by the user, the user must bear the cost of repair, in which case the user may inquire in advance about the cost of repair.