Non-Contact Infrared Temperature Sensor/Transmitter

IR - 20

Temperature Range: 0~400°C
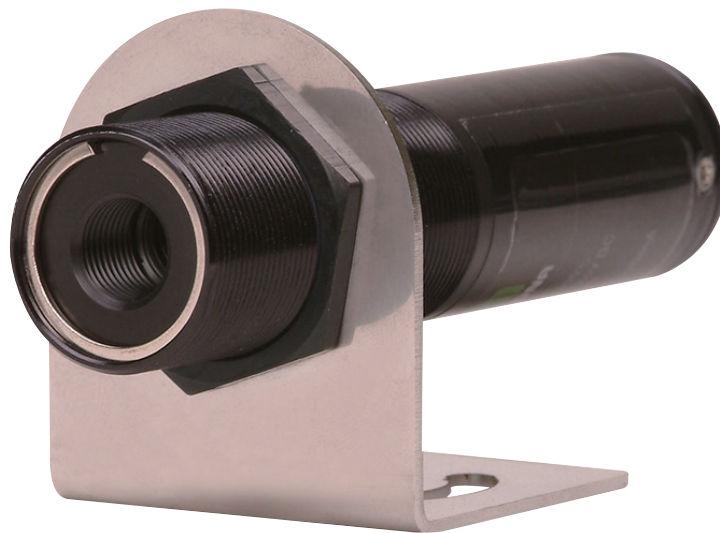
GASDNA

http://www.gasdna.com

1. Features

IR-20 non-contact infrared thermometer measures the infrared wavelength emitted from the target spot and converts it to standard current signal output (4~20mA). It can measure from 0 ℃ to maximum 400℃ in the distance of 10:1 D:S (Distance to Spot)

Emissivity is 0.95 (fixed).

※Applications

Plastics, Fluids, Rubber, Coated components, Asphalt, Wood, Paper, Ceramics, Textiles, Glass, Food etc.

2. Ordering information
Code Number IR-20-□-□-□

MODEL	Description
IR-20	
Code A	Temperature Range
1	0~200℃
2	0~400℃
Z	Other
Code B	Output
N	DC 4~20mA
V	Voltage Output(1~5V)
Z	Other
Code C	Cable Length
1	3M
Z	Other

3. Accessories

품명	모양	용도	비고
Fixing nut		Sensor fixing nut	Basic accessory
Mounting bracket		Sensor mounting bracket	Basic accessory

4. SPECIFICATIONS

Temperature Range	0~400℃
Device	Thermopile
Accuracy	±3%/F.S
Repeatability	±1% of Rdg
Field of View(D:S)	10:1
Optical spectrum wave	8~14㎛
Responsive Time	500msec or below
Emissive rate	0.95 fixed
Analog Output	4~20mA, 1~5V(option)
Power	DC 20~24V(Max 50mA)
Ambient temperature(no water cooling)	0~70℃
Temperature Resolution	0.1℃
Warm up Period	1 to 2 minutes
Thermal Shock	About 30 minutes for 25℃ abrupt ambient temperature change.
Operating Relative Humidity	5~90%
Operating Ambient Temperature	−30~85℃
Waterproof	IP65,NEMA 4
Dimensions	Ø36 ×110.5(L)
Casing material	Aluminum Alloy
Weight	150g
Cable length	3m,other

5. OPTICAL FIELD OF VIEW (DS 10:1)

DISTANCE: SENSOR TO OBJECT (IN)

SPOT DIA.＊ (IN)

D:S=10:1

SPOT DIA.＊ (MM)

DISTANCE: SENSOR TO OBJECT (MM)

*FOCUS POINT D:S = 10:1   FAR FIELD D:S = 10:1
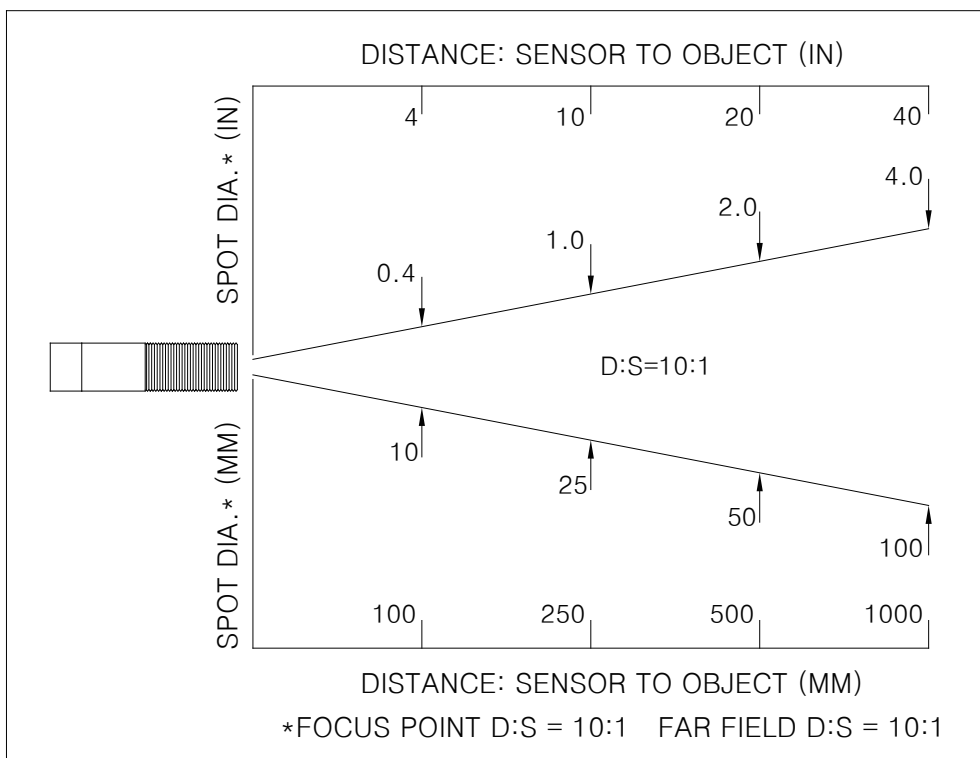
6. IR-20 OUTSIDE DIMENSION

M25*1P

50

101.5

Ø25
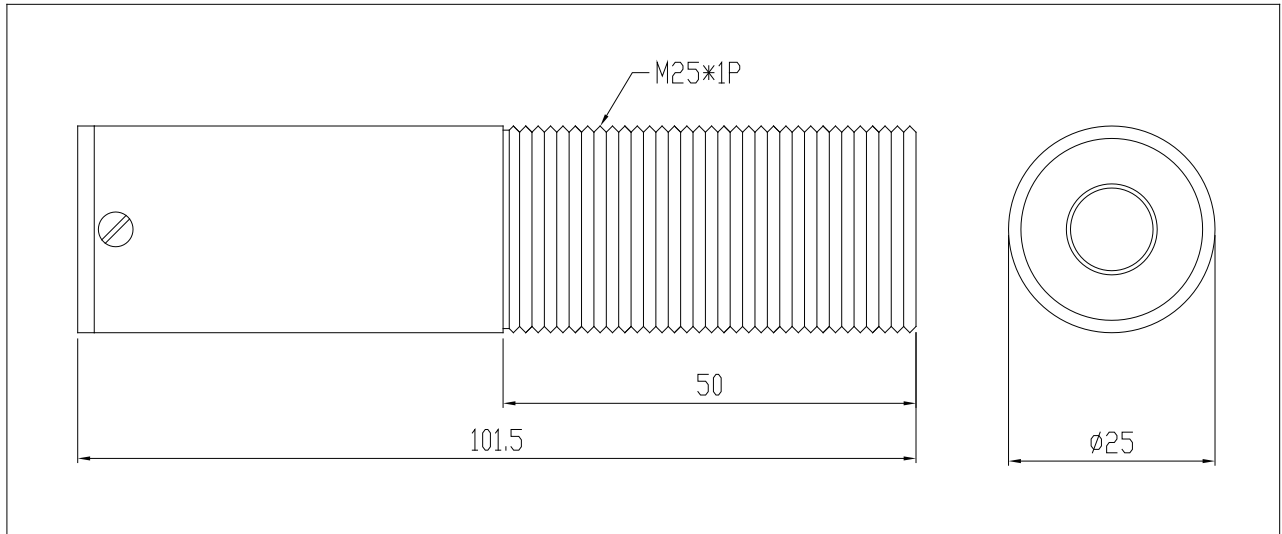
7. Electrical Connection

50.0

+24V out ⑤
0V out ⑥
Signal input + ⑨
250Ω
Signal input − ⑩

IR-20
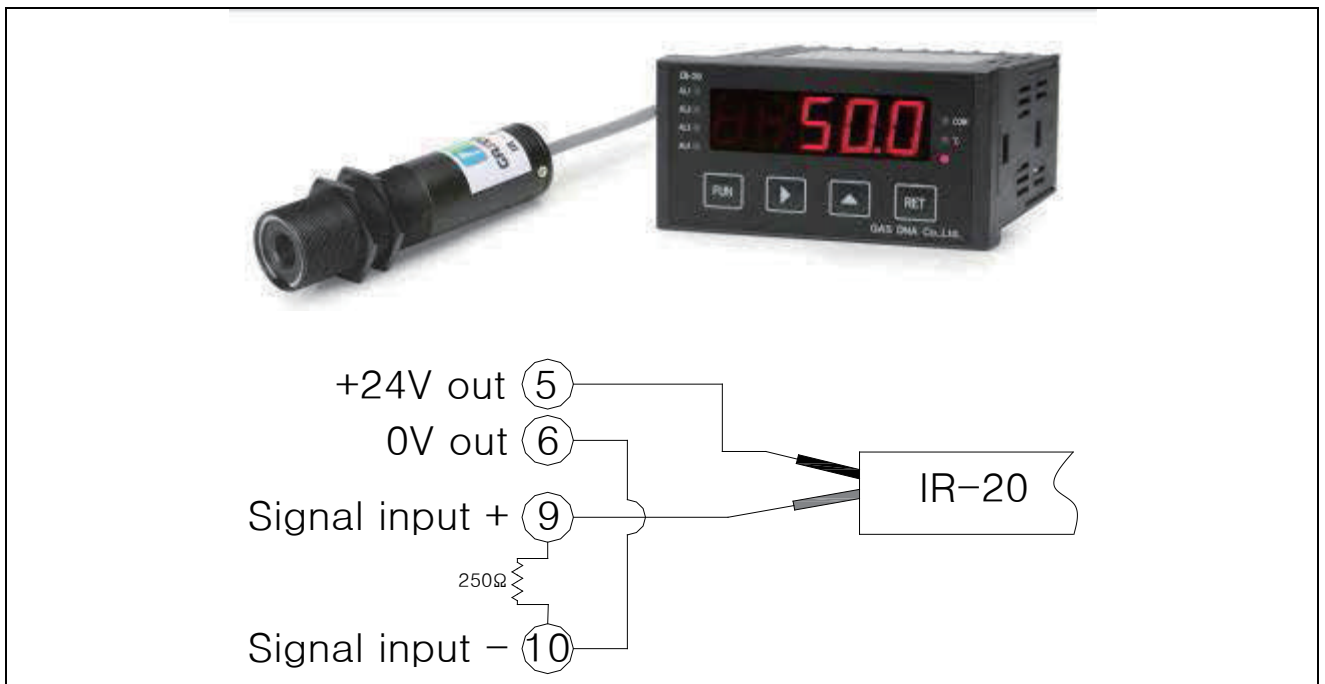
No.	Wire color	Usage
1	Red	Power 24VDC(+)
2	Black	Power signal input(4−20mA) +

No.	Wire color	Usage
1	Red	Power 24VDC(+)
2	Black	Power VDC(−)
3	White	Power signal input (1~5V)+

8. Option

Name	Picture
Air-purge	
Up and down adjustable Bracket	
Indicator (Model No. DI-20)	
2 Inch LED Display	

9. Installation

☐ Please make sure the target area is larger than the field of view.

Best   Good   Incorrect

SENSOR

Target diameter
Equal to view field

Target diameter
Larger than view field
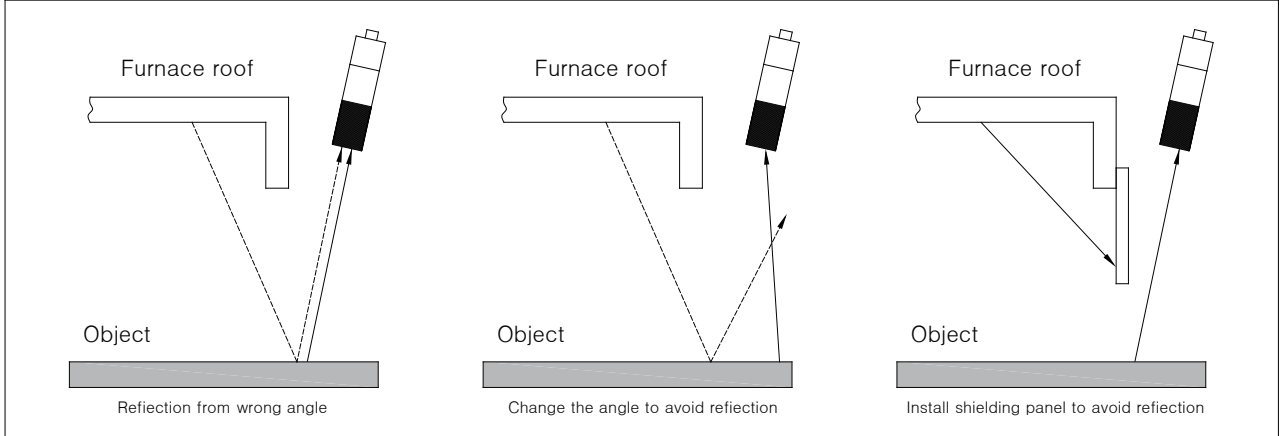
Target diameter
Less than view field

Background
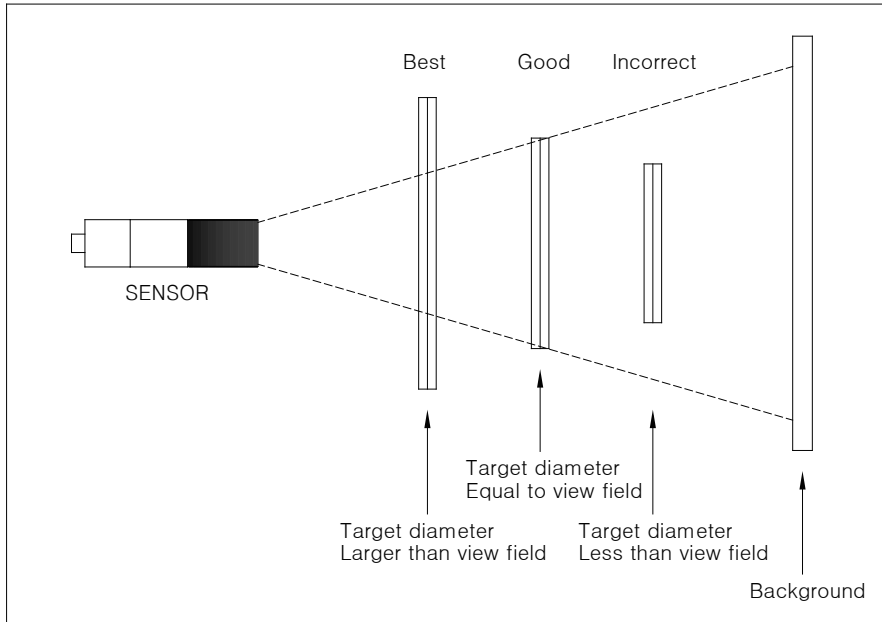
The spot size is decided by the distance from the sensor to the target.
Please refer to the 'section 5. Optical field of view' and make sure your target area is larger than the field of view.

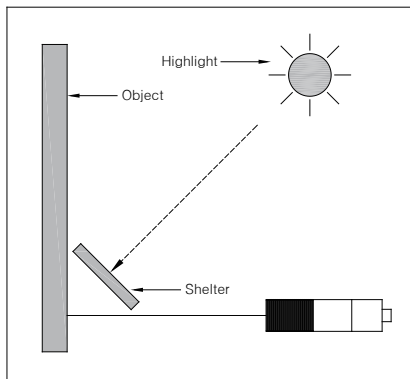☐ Please locate the sensor vertical against the target area.

It is the best for you to install the sensor vertical against the target area or object. If it is not available, the sensor should be more than 45°against the target area. Otherwise, it can affect the measuring accuracy.

Object

α<45˚
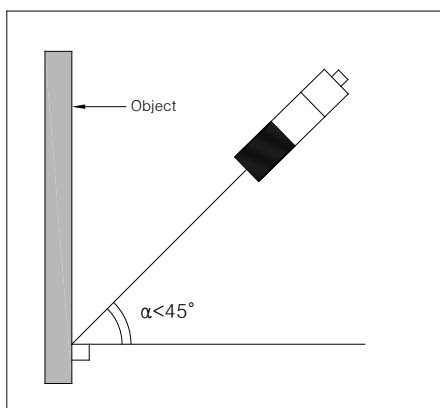
☐ Please avoid the heat reflection from other high temperature objects

Furnace roof	Furnace roof	Furnace roof
Object	Object	Object
Reflection from wrong angle	Change the angle to avoid reflection	Install shielding panel to avoid reflection

☐ Please avoid highlight.

Highlight

Object

Shelter

☐ Please avoid electronic noise.
Please avoid the origins of high frequency and high voltage.
(Ex. Motor, Pump, high tension power line, and etc.)