

Non-Contact Infrared Temperature

IR-Compact



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1. Features

IR-Compact 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 -60 °C to maximum 380°C in the distance of 8:1 D:S (Distance to Spot)

Emissivity is 0.10 ~ 0.99 adjustable.

IR-Compact can monitor the temperature in real time in site through its infrared sensor part and signal processing module.

● Applications



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

2. Ordering information

Code Number IR-compact-□-□-□

Model	Description
IR-COMPACT	
Code A	Temperature Range
1	-60~380°C
2	0~350°C
Z	Other
Code B	Output
N	4~20mA
Code C	Cable Length
1	3m Cable
Z	Other

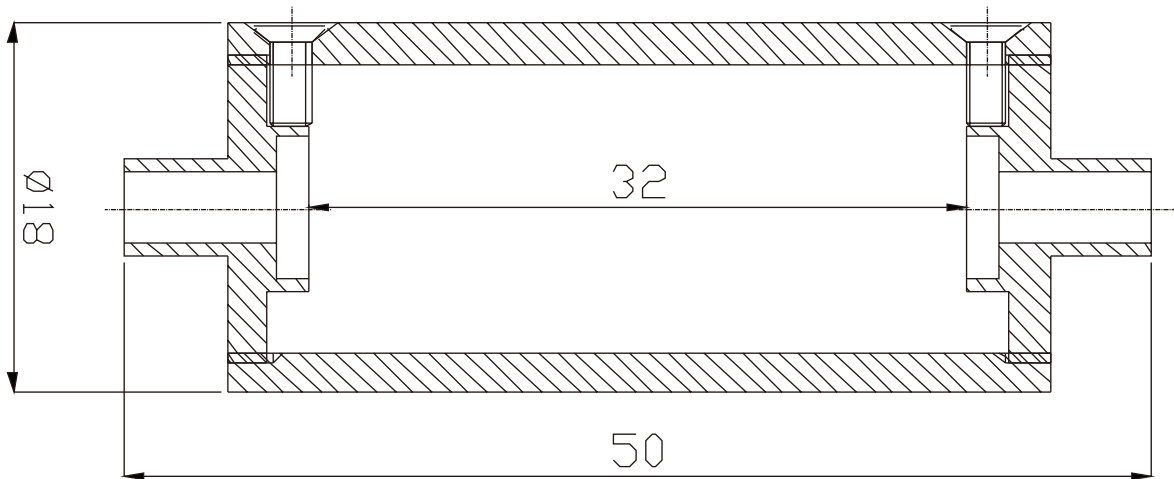
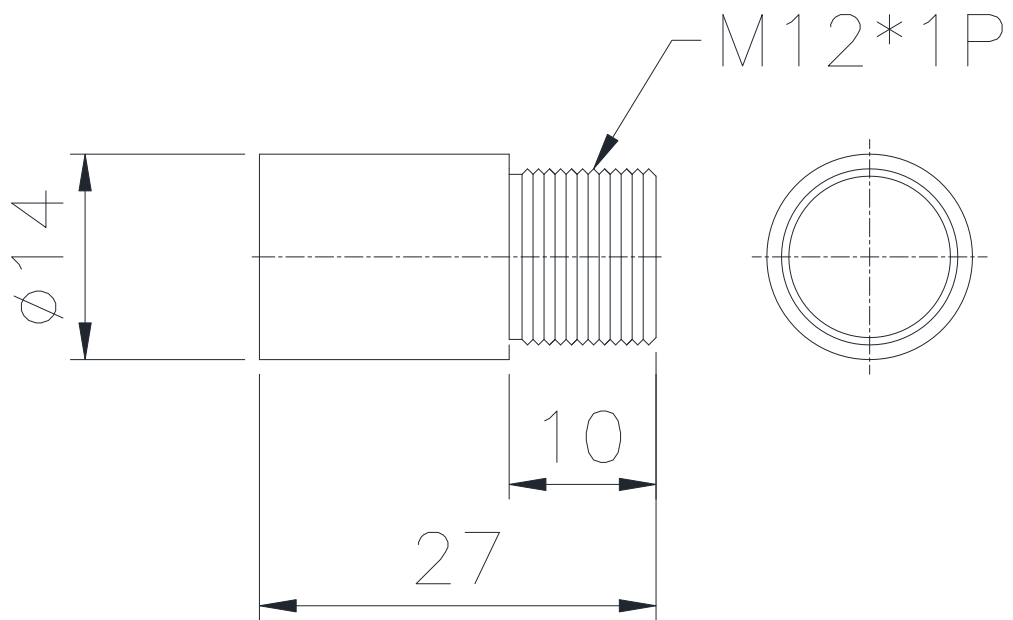
3. Accessories

Name	Shape	Usage	Remark
Fixing nut		Sensor fixing nut	Basic accessory
Mounting bracket		Sensor mouning bracket	Basic accessory

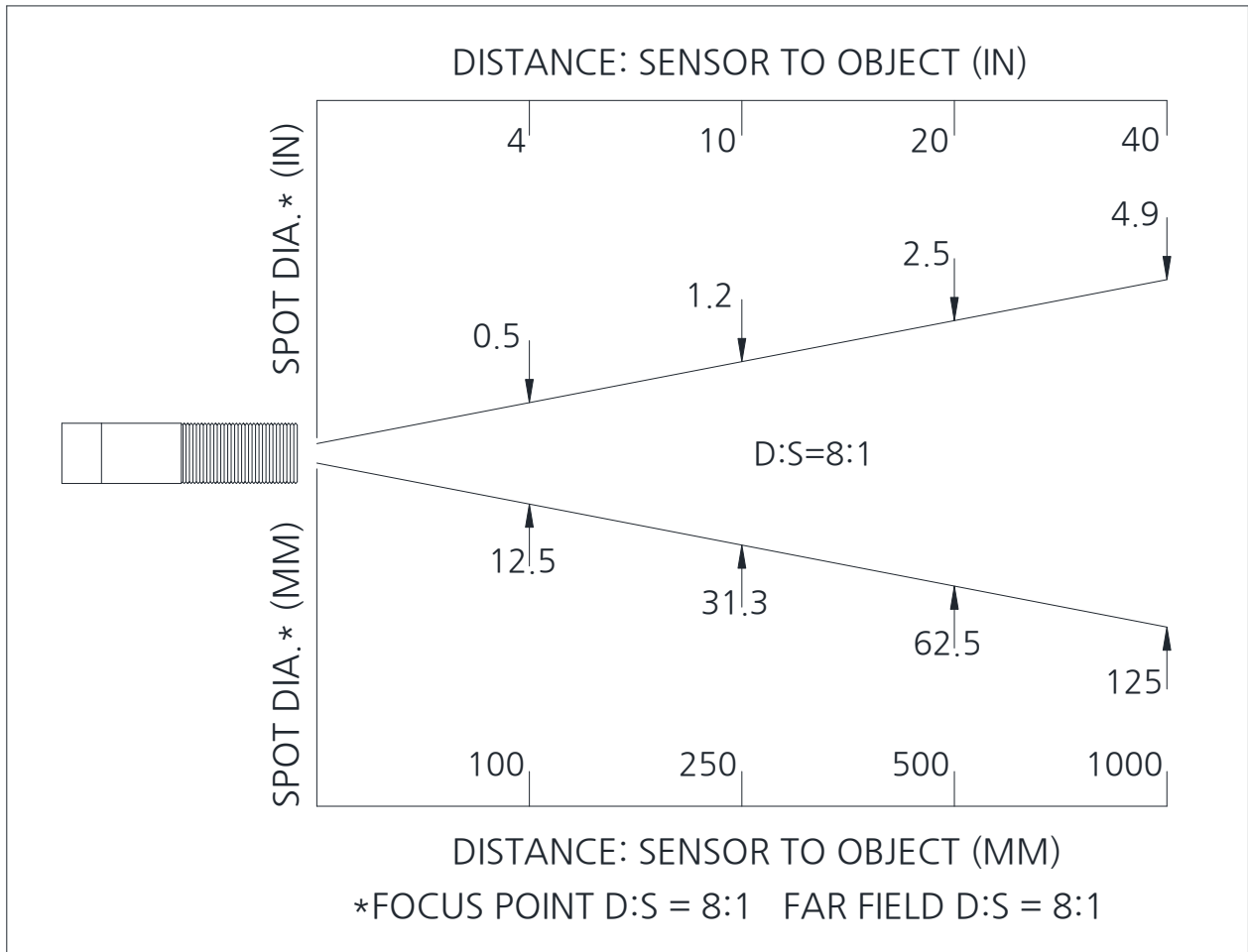
4. Specification

Segment	IR-Compact
Range	-60~380℃
Sensor Type	Thermopile
Accuracy	±1%/F.S or 1℃
Repeatability	±1% of reading
Field of View (D:S)	8:1
Wavelength Range	8~14 μ m
Response Time	Within 100msec
Emissivity	0.10 ~ 0.99
Analog Output	4~20mA
Power	DC 12~30V (Max 100mA)
Operating Temperature	0~80℃
Resolvable Temperature	0.1℃
Relative Humidity	5~90%
Storage Temperature	-30~85℃
International Protection	IP65, NEMA 4
Output Signal	RS-485
External Material	SUS
Cable Length	3m, Other




5. Dimension



6. Optical field of view (D:S 8:1)



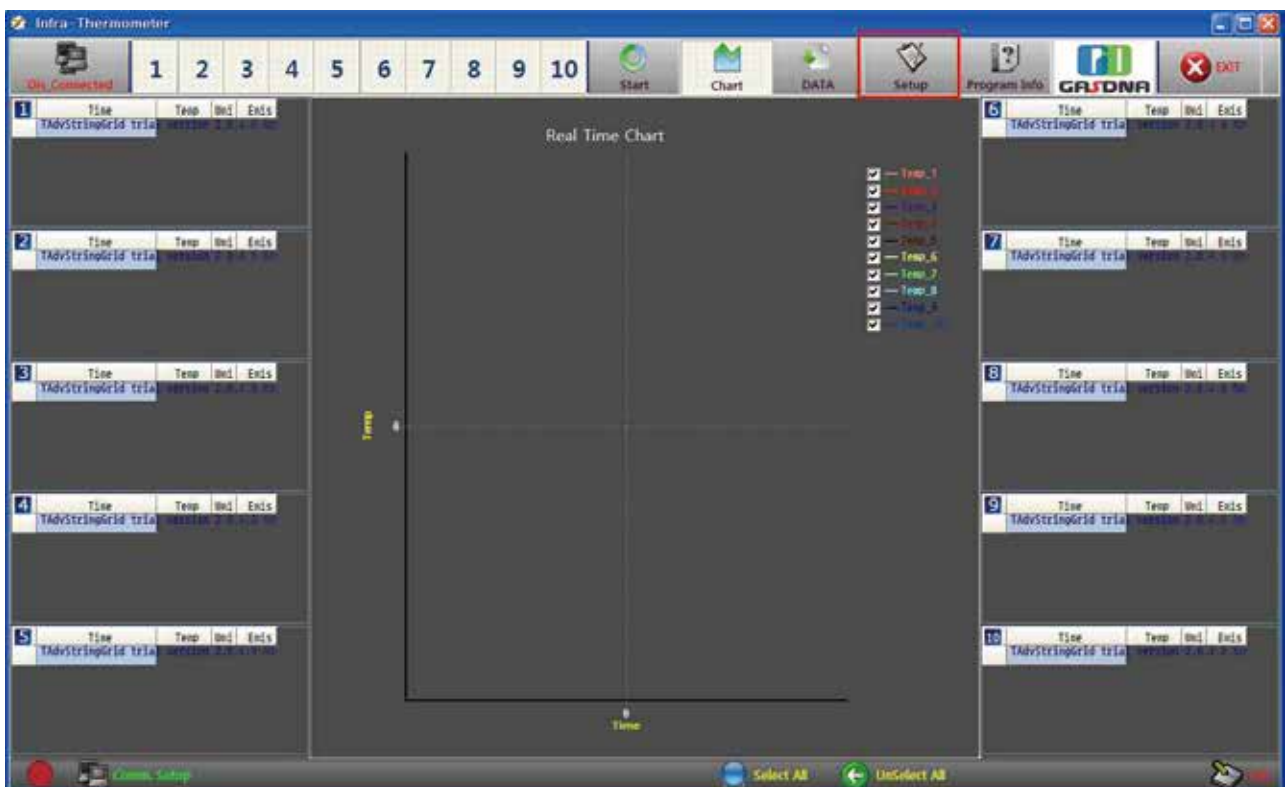
7. Option

			
485 To RS232 converter	Up and down adjustable Bracket	Indicator (Model No. DI-20)	2 Inch Led Display

8. Wiring

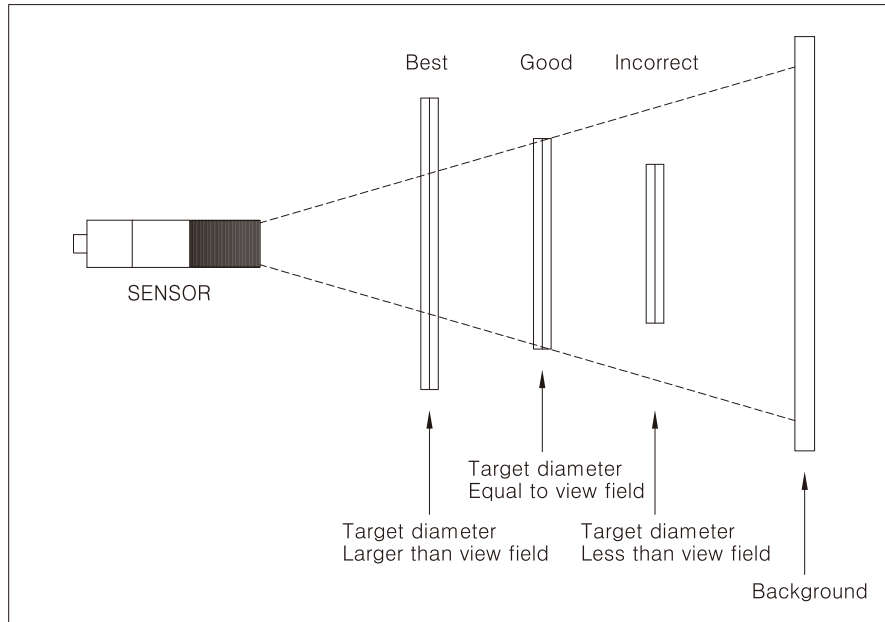
No.	Cable color	Usage
1	BLACK	Power 24V DC(+)
2	RED	Power 0V (-)
3	YELLOW	mA(current) Analog output
4	GREEN	TX+
5	WHITE	TX-

9. Communication specification and Software



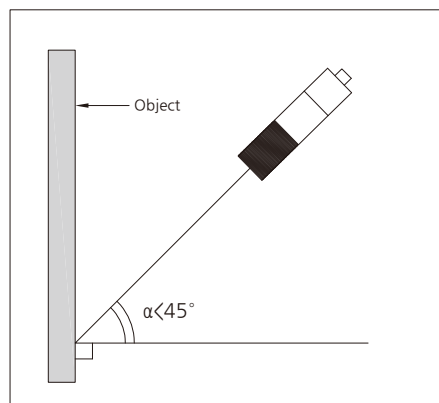
10. Installation

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



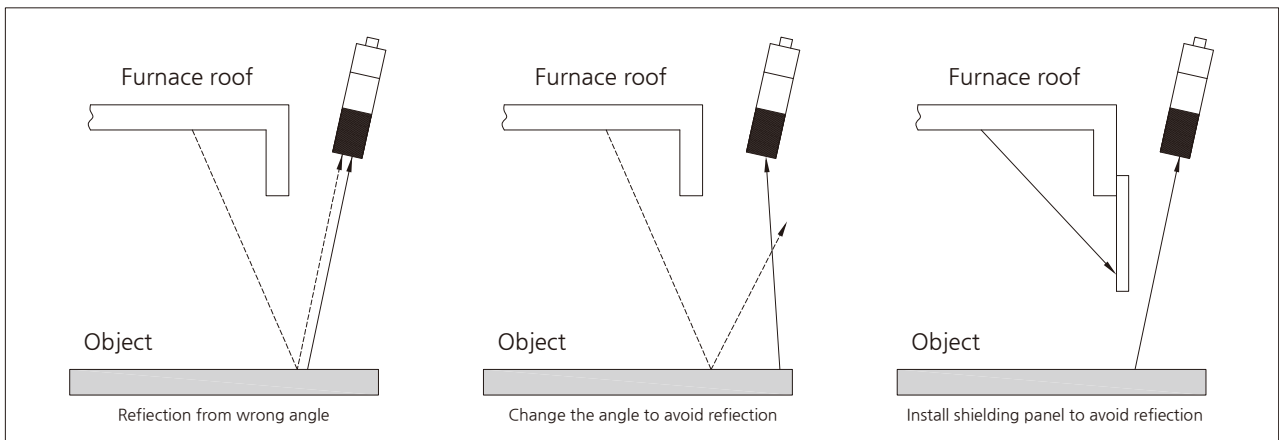
- The spot size is decided by the distance from the sensor to the target.
- Please refer to the 'section 5. Optical field of view' and make sure your target area is larger than the field of view.

- Please locate the sensor vertical against the target.

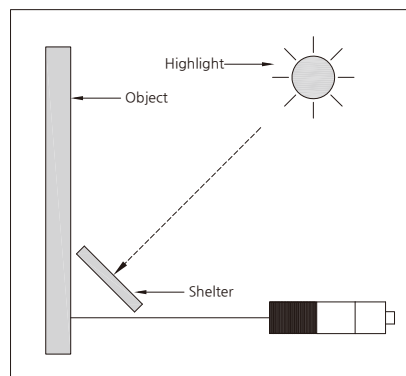


- It is the best for you to install the sensor vertical against the target area or object. If it is not available, the sensor should be more than 45° against the target area. Otherwise, it can affect the measuring accuracy.

- Please avoid the heat reflection from other high temperature materials



- Please avoid highlight.



- Please avoid electronic noise.

Please avoid the high frequency or high voltage area such as motor, pump, power line, and so on.

11. Emissivity Table

: Appendix A - Emissivity Table Metals

	Material	Typical Emissivity
Aluminium	Non oxidized	0.02-0.1
	Polished	0.02-0.1
	Roughened	0.1-0.3
	Oxidized	0.2-0.4
Brass	Polished	0.01-0.05
	Roughened	0.3
	Oxidized	0.5
Copper	Polished	0.03
	Roughened	0.05-0.1
	Oxidized	0.4-0.8
Chrome		0.02-0.2
Gold		0.01-0.1
Haynes	Alloy	0.3-0.8
Inconel	Electro polished	0.15
	Sandblast	0.3-0.6
	Oxidized	0.7-0.95
Iron	Non oxidized	0.05-0.2
	Rusted	0.5-0.7
	Oxidized	0.5-0.9
	Forged, blunt	0.9
Iron, casted	Non oxidized	0.2
	Oxidized	0.6-0.95
Lead	Polished	0.05-0.1
	Roughened	0.4
	Oxidized	0.2-0.6
Magnesium		0.02-0.1
Mercury		0.05-0.15
Molybdenum	Non oxidized	0.1
	Oxidized	0.2-0.6
Monel (Ni-Cu)		0.1-0.14
Nickel	Electrolytic	0.05-0.15
	Oxidized	0.2-0.5
Platinum	Black	0.9
Silver		0.02
Steel	Polished plate	0.1
	Rustless	0.1-0.8
	Heavy plate	0.4-0.6
	Cold-rolled	0.7-0.9
Tin	Oxidized	0.7-0.9
	Non oxidized	0.05
Titanium	Polished	0.05-0.2
	Oxidized	0.5-0.6
Wolfram	Polished	0.03-0.1
Zinc	Polished	0.02
	Oxidized	0.1

: Appendix B - Emissivity Table Non Metals

Material		Typical Emissivity
Asbestos		0.95
Asphalt		0.95
Basalt		0.7
Carbon	Non oxidized	0.8-0.9
	Graphite	0.7-0.8
Carborundum		0.9
Ceramic		0.95
Concrete		0.95
Glass		0.85
Grit		0.95
Gypsum		0.8-0.95
Ice		.98
Limestone		0.98
Paint	Non alkaline	0.9-0.95
Paper	Any color	0.95
Plastic >50μm	Non transparent	0.95
Rubber		0.95
Sand		0.9
Snow		0.9
Soil		0.9-0.98
Textiles		0.95
Water		0.93
Wood	Natural	0.9-0.95