

ZF 210C Fixed Infrared Sensors Operating Instructions

- Small and robust infrared temperature sensor
- ☆2-wire installation
 - ☆Linear current output
 - ☆Easy installation and connection

Specifications :

Spectral range : 8 ~14 μm
Distance:Spot Size = 12 : 1 (measuring distance / spot size)
Output Temperature range: 0°C ~400°C(0.04mA/°C)/ 32°F~752°F(0.022mA/°F)
Analog output: 4~20mA ; linear to temperature
Loop impedance: Max. 700 Ohms@24VDC; Min. 100 Ohms recommended
Emissivity: Fixed at 0.95
Response time: 300 ms
Accuracy: 2.0% of temperature reading or 2.0°C/3.6 °F, whichever is greater
Repeatability: 1% of measured value or 1°C/ 1.8°F , whichever is greater
Warm up time: 10 minutes
Connection cable: 1 m length, PVC
Power supply: Isolated Power 24 V DC (12VDC~24VDC) @20 mA, Ripple< 2.5%
Ambient temperature: 0°C ~ 70°C/32°F ~158°F
Storage temperature:- 30°C ~ 85°C/22°F ~185°F
Housing: Stainless Steel Tube
Mounting Nut : M22
Dimensions/ Weight: L= 91 mm x φ=22 mm / 158 g
Enclosure rating: IP65 (according DIN 40 050)
Vibration: IEC68-2-27 (MIL STD 810D), any axis, 11 to 200 Hz, 3G
Shock: IEC68-2-27 (MIL STD 810D), any axis, 11 ms, 50G

Current Loop Output & Target Temperature:

The following table shows the relationship for the Current Loop Output with the Target Temperature. The different Current Loop Output is corresponding to the relevant target temperature.

Table 1: Current Loop Output & Target Temperature

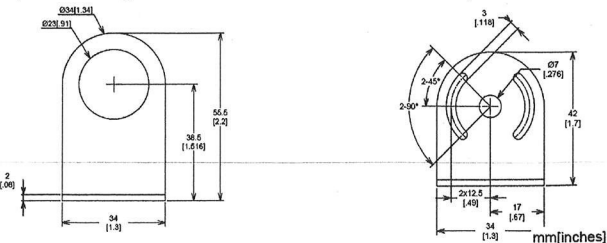
Code	Current Loop Output [mA]	Target Temp [°C /°F]
1	4.00	0.0°C/ 32°F
2	8.00	100°C/ 212°F
3	12.00	200°C/ 392°F
4	16.00	300°C/ 572°F
5	20.00	400°C/ 752°F

Installation Instruction:

The installation process contains two parts:

1. Bracket installation
2. Sensor parts assembly

Step 1: Fixed Mounting Bracket



Step 2: Adjustable Mounting Bracket

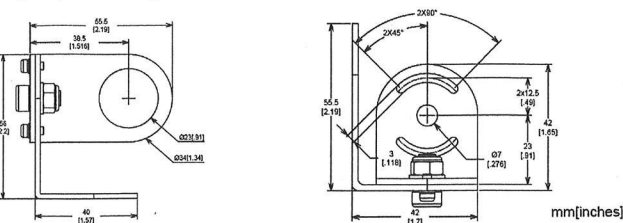


Figure 2: The Adjustable Mounting Bracket

Step 3: The sensor parts assembly

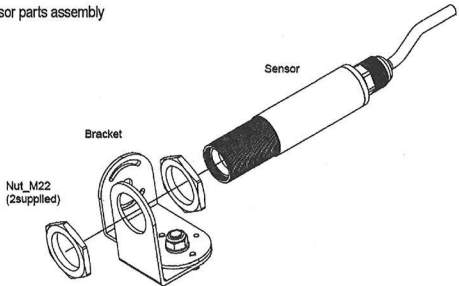


Figure 3: The Sensor Parts Assembly

FOV & Dimension & Power Inlet instruction:

● FOV (Field of View)

This diagram shows the measurement range of the sensor. The Distance: Spot Size is 12:1. The Spot Size should not be larger than the target if you wish to measure the temperature. You can choose the any target based on your optional under this principle.

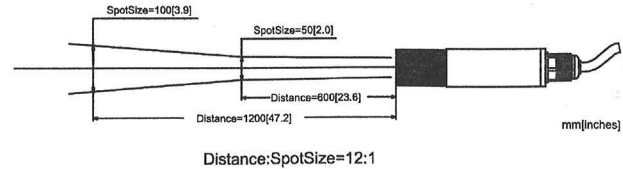


Figure 4: The FOV indication

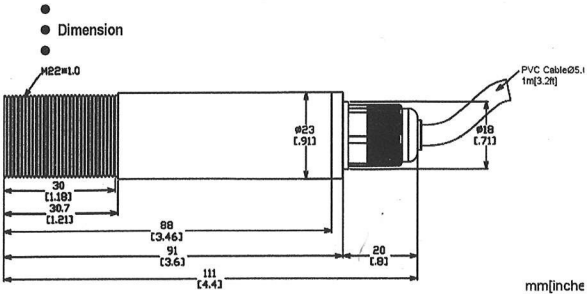


Figure 5: The Detailed Dimension

● Wire connection

The following diagram and table show the proper wiring connections. Each wire is numbered w number and the relative color. Please follow the function guide when you connect the wire.

Warning: Please pay the special attention to the wire connection for the Green (V+) and Yellow (V-). The false wire connection will directly lead to the damage to the FI Infrared Sensors.

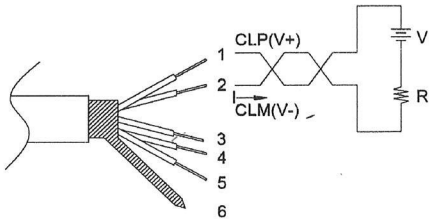


Figure 6: Wiring Configuration

Table 2: Wire Color & Connection Indication

Wire No	Wire Color	Label	Function
1	Green	CLP	Current Loop plus(V+)
2	Yellow	CLM	Current Loop minus(V-)
3	Red	-	Only factory use
4	Black	-	Only factory use
5	White	-	Only factory use
6	Bare	-	Shield Ground

(Specifications are subject to change without notice.)

