

Model List

Model	Field of View	Output Signal	Temperature Range of Target
TIR-12NA	12°	4 mA to 20 mA DC	0 °C to 60 °C
TIR-12WA			-20 °C to 150 °C
TIR-12NV		1 V to 5 V DC	0 °C to 60 °C
TIR-12WV			-20 °C to 150 °C
TIR-35NA	35°	4 mA to 20 mA DC	0 °C to 60 °C
TIR-35WA			-20 °C to 150 °C
TIR-35NV		1 V to 5 V DC	0 °C to 60 °C
TIR-35WV			-20 °C to 150 °C

Application

- Food temperature control
- Temperature control for painting
- Temperature control for resin molding
- Temperature control in factories
- Temperature control in asphalt

Features

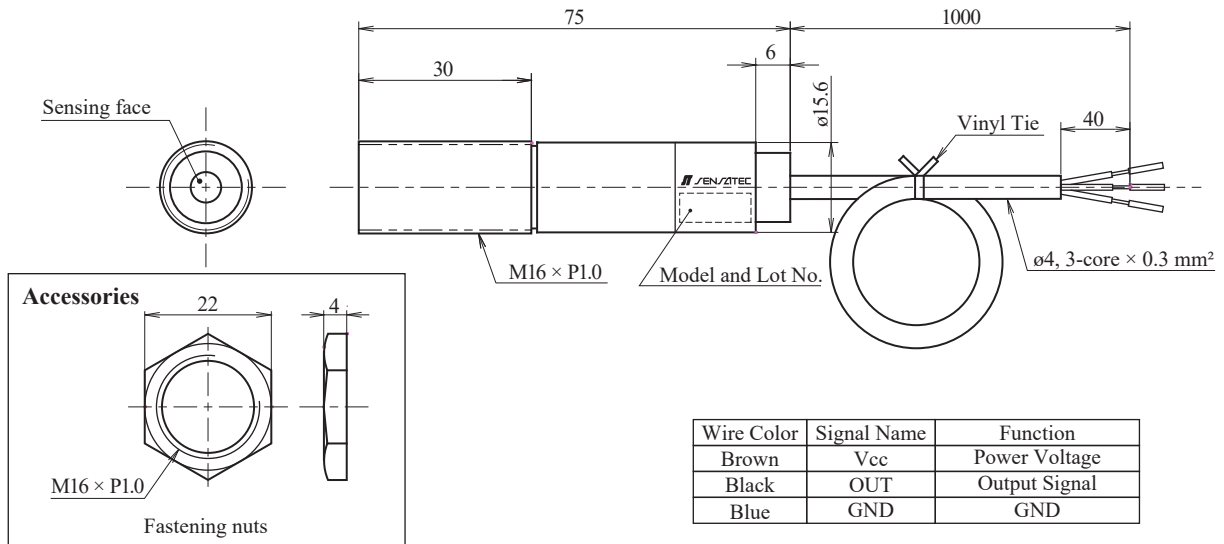
- Low-price non-contact temperature sensor with high-accuracy.
- Non-contact temperature measurement ensures hygienic use.
- Regardless of distance, non-contact temperature measurement enables instantaneous measurement.
- Outputs of 4 mA to 20 mA DC as well as 1 V to 5 V DC are available signals for instrumentation.
- Rugged enclosure ensures reliable use in environments exposed to water droplets and dust particles.

Rating / Performance

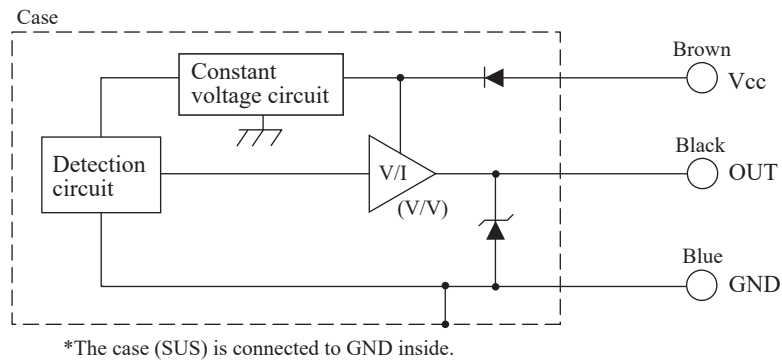
Model	TIR-12*A	TIR-12*V	TIR-35*A	TIR-35*V
Detection Sensor	Thermopile			
Wavelength	2.5 to 14 um		5.5 to 14 um	
Object Temperature Range	-20 °C to 150 °C			
Temperature Accuracy	-20 °C to 0 °C : ± 2 °C , Ta = 25 °C 0 °C to 60 °C : ± 1 °C , Ta = 25 °C 60 °C to 150 °C : ± 2.5 °C , Ta = 25 °C			
Emissivity	0.95 fixed			
Field of View	12 ° FOV		35 ° FOV	
Response Time	150 ms			
Power Voltage	12 V to 24 V DC (Operating voltage range : 10 V to 30 V DC)			
Power Consumption	450 mW max.		450 mW max.	
Current Consumption		7 mA DC max.		7 mA DC max.
Output Signal	4 mA to 20 mA DC	1 V to 5 V DC	4 mA to 20 mA DC	1 V to 5 V DC
Load Resistance	300 Ω max.	100 kΩ min.	300 Ω max.	100 kΩ min.
Ambient Temperature Range	-10 to 70 °C (Storage: -20 to 70 °C)(Without dew condensation or freezing)			
Humidity Range	35 to 85% RH or less (Storage: 90 % RH or less)(Without dew condensation)			
Vibration Resistance	Durability: 10 to 55 Hz, Double amplitude : 1.5 mm in X-, Y-, and Z-direction, each 2 hours (Device not powered)			
Shock Resistance	Durability : 500 m/s ² (Approx. 50G) in X-, Y-, and Z-direction, each 3 times (Device not powered)			
Ingress Protection	IP65			
Case Material	Case : SUS, Cable lead-out portion : PC			
Cable	ø4, 3-core round cord of 0.3 mm ² and 1 m in length (Oil and heat resistant)			
Weight	Approx. 80 g (Without accessories)			
Accessories	Hexagonal nuts SUS × 2 pcs			

Model Designation	<p>TIR - 12 N A</p>	<p>A : Current output (4 mA to 20 mA) V : Voltage output (1 V to 5 V DC) N : 0 to 60 °C W : -20 °C to 150 °C 12 : 12 ° 35 : 35 °</p>
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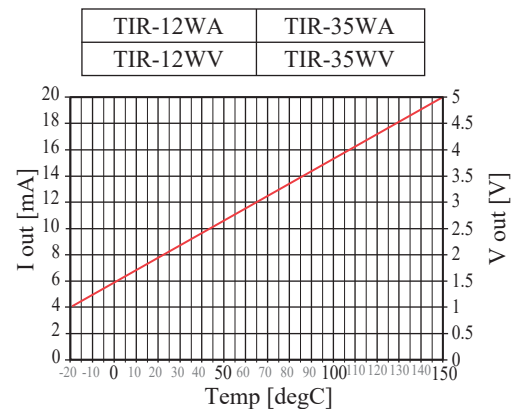
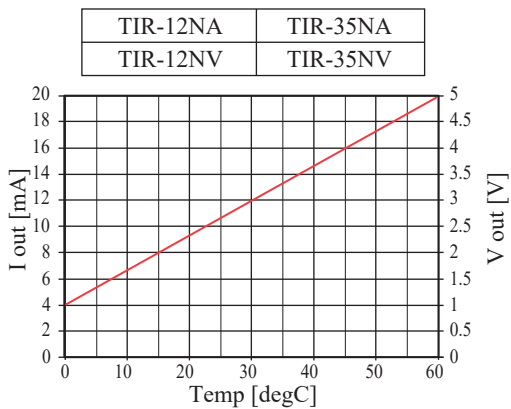
Dimensions



Output Circuit



Characteristics Graph (Typical Example)



Usage Precautions

1. The size of the measurement target needs to be larger than the field of view of the sensor. If the target size is less than the field of view, correct measurement cannot be performed because peripherals areas will also be measured as part of the target.
2. If heaters, incandescent light bulbs, sunlight, etc. are reflected on the surface of the object to be measured and their infrared rays are added, the correct measurement temperature cannot be obtained.
3. If sensing face is contaminated with dirt, water or dust or scratches, correct measurement of temperature may not be possible.
4. Avoid contact with the measurement target.
5. For other details, refer to the general precautions on the use of infrared temperature sensors.

*For a detailed specification of the other, please refer to specifications.