TF Infrared Temperature Converter

ADTEK

Description

TF series, infrared temperature converters provide non-cotact measurement to caculate the surface temperature of the objects by measuring the energy of infrared light. So It is convenient to measure the surface temperature of especially moving objects.

Its stainless case with integrated design combining sensors, optical system, and electronic circuits. It is easy to install by connecting the screw with other devices, and TF can be used in a wide range of industries.

Feature

- Non-contact measurement; safe and durable
- Integrated design; easy to install; quick response time
- Fast double screw installation
- Durable stainless case

Applications

- Temperature monitoring
- Chemical industry
- Metal products manufacturing
- Plastic products manufacturing
- Maintenance

Ordering Information

TF — Range — Output — Power

CODE	Range
101	0~100℃
201	0~200℃
401	0~400℃
601	0~600℃
A00	0~1000℃
C00	0~1200℃
N351	-50~300℃
N651	-50~600℃

CODE	Output
D	4~20mA(2-wire）

CODE	Power
DL	10~24Vdc

Technical Specification

Input

Measuring range: 0~100 ℃、0~200 ℃、0~400 ℃、0~600 ℃、0~1000℃、0~1200℃、-50~300℃、-50~600℃

Spectral range: 8 ~ 14 μm

Optical resolution: 20:1

Emissivity: 0.95(fixed)

Accuracy: ±1% or ±1.5℃

Response time: 150 mS (95%)

Output

Analogue output：4~20mA

Load capacity: ≦ 600Ω

Environmental Conditions

Operating temp: 0~60 ℃

Humidity rating: 10~95%, Non-condensing

Power Supply

Power supply: 10~24Vdc

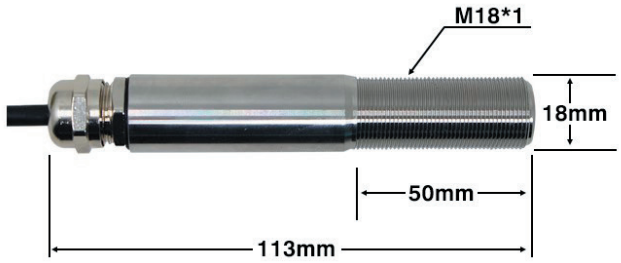
Power consumption : 1.2W Max.

Mechanical Characteristics

Dimensions: 113mm (L) x 18mm (Φ)

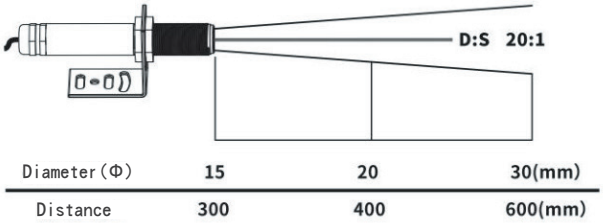
Case materia: Stainless

Dimensions



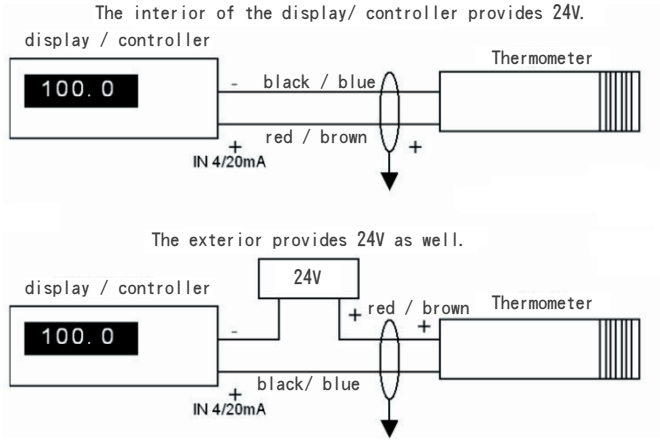
Installation

M18 screw at the front of the converter can be installed directly, or it will be easier if installing with the stands. Please make sure that the lighting is clear enough before adjusting the object and the converter.



Output Connection

There are 2 ways to connect the display or the controller for 4~20mA output (2-wire).



Caculation

For instance, if setting tange: 0~600, output: 4~20mA, output signal: 12mA, and it has to be caculated based on 16mA, it will be 600/16mA=37.5℃ , which means 1mA stands for 37.5℃ , measuring value, 12mA-4mA=8mA, 8mA*37.5/mA=300.
300+（0）=300℃ , so it is 300℃ .

Principle & Notice

Principle

Every object emits infrared radiation, and the energy will vary depends on the temperature. In general, the wavelength the converters measures is in the range of 8μm~14μm.

TF is a kind of electro-optical sensor. it can convert the infrared radiation it senses to be an output signal with the amplifier.

The dimension of the object & the distance

The dimension of the object and the optical feature of the infrared temperature converter will determine the maximum distance bwteen the object and the converter. To avoid the measurement error, please place the object at the workplace where many converters gather around. Also, the measuring point should be smaller than the object, or equal to the object dimension.

Lens clean

Please keep the lens of the converter clean because the fog dust may damage the lens. It is recommended to use lens papers with alcohol to clean.

Electromagnetic Interference (EMI)

To avoid electromagnetic interference (EMI), please keep the converter away from electromagnetic field such as motors, and high-voltage power cables. It is recommended to go with metal tubes if necessary.