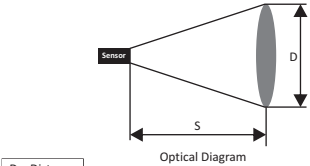


Optical Specifications

Standard Focus (in mm)								
SF 15	15:1	6.5	11.5	14	18	23.5	29.5	35.5
Distance		0	100	200	300	400	500	600

Close Focus (when using the screwable CF lens, in mm)								
CF 15	15:1	6.5	3.7	0.8	4.4	8.1	11.8	15.4
Distance		0	5	10	15	20	25	30

 = smallest spot size / focal point (mm)
The ratio D:S (example 15:1, see table) describes the ratio Distance (distance from the front edge of the sensor to the measuring object) to Spot size (measurement spot size)



D = Distance
S = Spot size

Quick Guide

Initial Operation

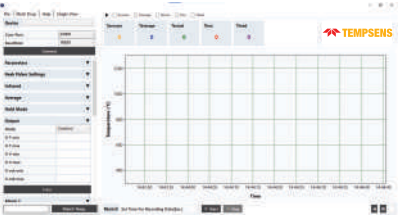
InfraSoft by Tempsens is a piece of software that you can use to apply settings to the sensor and to view and document measurement data.

- ▶ Connect the sensor to a PC/Notebook via the USB interface by using the optionally available USB adapter 1 from Tempsens.

The supply voltage is supplied via the USB interface.

- ▶ Start the InfraSoft Software

Select the correct Comport and click the Connect button.



Communication

Communication between the Tempsens pyrometer and the software is implemented via a cable connected between the pyrometer and the PC serial port. This enables the acquisition and recording of data, as well as the transfer of commands from the software application to the Tempsens pyrometer. Communication can be done by selecting correct COM Port. Then click on CONNECT Button

Functional principle

The sensors are non-contact infrared temperature measurement sensors. They measure the infrared radiation emitted by objects and calculate the surface temperature based on this.

Unpacking, included in delivery

- 1 Sensor
- 1 Mounting nut
- 1 Blue protective cap
- 1 Setup guide

Warnings

Connect the power supply and the display/output device according to the safety regulations for electrical equipment.
> Risk of injury, damage to or destruction of the sensor

Avoid shocks and impacts to the sensor.
> Damage to or destruction of the sensor

The supply voltage must not exceed the specified limits
> Damage to or destruction of the sensor

Protect the sensor cable against damage.
> Destruction of the sensor, failure of the measuring device

Never fold the sensor cable and do not bend it in tight radii. The minimum bending radius is 40 mm (static). Dynamic movement is not permitted.
> Damage to the sensor cable, failure of the measuring device

Avoid exposure of sensor (both optics and housing) to cleaning agents that contain solvents.
> Damage to or destruction of the sensor

Avoid abrupt changes in ambient temperature.
> Inaccurate or incorrect measurements



Thermal and Cable Solutions

EDGE MICRO
Non-contact Infrared Pyrometers

QUICK GUIDE

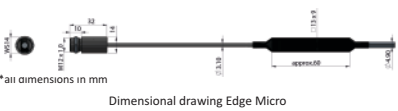


Mechanical installation

The sensors have a metric M12x1-thread and can be attached to available mounting equipment either directly via this sensor thread or by means of the nuts included. Various mounting brackets and fixtures are available as accessories.

→ **Notice:** Avoid rough mechanical force on the sensor.

► Destruction of the sensor



Electrical Installations

→ Use a power supply unit with a stabilized output voltage of 5 ... 30 VDC, which supplies a minimum current of 50 mA. Residual ripple should be no more than 200 mV. Power the sensor either via USB or externally with a power supply unit, but not at the same time to prevent damage to a connected USB device.

→ The shield of the sensor must be grounded, as the shield and GND are separated.

Pin assignment

Color	Signal	Description
Red	V _{cc}	Power supply
Green	V _{out}	Analog output Voltage
Black	GND	Ground
Yellow	Tx	Digital interface Output
Orange	Rx	Digital interface Input
Brown	OC	Open-collector output
Shield		Black cable with larger cross-section

Note: To obtain stable temperature measurements, the shield wire should be connected to the GND wire.

Depending on the sensor variant ordered, the voltage or current output of the sensors is preconfigured. The user can change the output type via the optionally available USB converter, see chapter Optional Accessories in the operating instructions, and the InfraSoft software.

Voltage output

The sensor has a voltage output at the V_{out} connection. The shield of the sensor is separated from the GND connection.

► The output impedance must be $\geq 10 \text{ k}\Omega$. It is necessary that the shield is connected to ground or GND.



Pin assignment voltage output

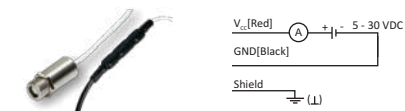
→ **Notice:** Avoid a residual ripple of $> 200 \text{ mV}$ on the power supply unit used.

► Damage to or destruction of the controller

Current Output as Two-Wire Sensor

The sensor has a two-wire current output. The two wires are responsible for both the supply and the transmission of the measurement signal. The shield of the sensor is separated from the GND connection.

► The maximum loop impedance is 1000 Ω .

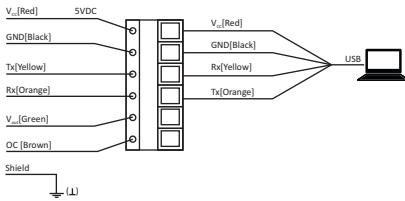


Pin assignment current output as two-wire sensor

Digital output

Use the optionally available TTL to USB Converter for digital communication see chapter Optional Accessories in the operating instructions, and the InfraSoft software.

► Connect the wire of the USB adapter indicated below to the wire of the same color of the connection cable using a terminal block.

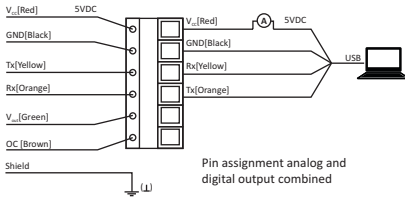


Pin assignment voltage output

Combination of Analog Output and Digital Output

The sensors can communicate digitally and be used as an analog device (current or voltage) at the same time. In this case, power is supplied via the USB interface (5 V).

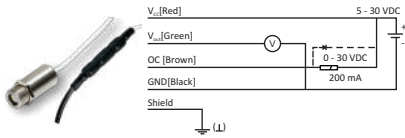
The sensor can communicate in parallel in all operating modes (current and voltage output). The analog measurement signal can then accessed either at the analog voltage output or in the supply voltage (current output as 2-wire sensor).



Pin assignment analog and digital output combined

Open-collector output

The open-collector output is an additional alarm output on the sensor and can control an external relay, for example. In this case, the normal analog output is available at the same time.



Terminal assignment open-collector output

If a relay is used, a freewheeling or protective diode must be installed.

► Damage to the output

ABOUT US

Tempsens Instruments (India) Limited

Tempsens Instruments (India) Limited is a part of Pyrotech Group which was established by four technocrats in 1976 at Udaipur, with their first product as Thermocouples and RTDs. Today 'Tempsens' is one of the largest manufacturers of Temperature Sensors in India.

Tempsens Instruments (India) Limited U #II was started in 2009 to produce cables with high standard of manufacturing process conforming to national & international specifications. We manufacturer wide range of cables for Temperature sensors and Instrumentation in various insulations as PTFE, FEP/PFA, Kapton, Silicon, Fiber Glass, Ceramic Fiber, Refrasil/Nextel, PVC etc. in variety of configurations. These cables are available in temperature range -60°C to 1200°C.

All our products are manufactured under strict ISO-9001 quality management system. We also provide Calibration Certificates with all cables. We stock most types of cables which enable us for fast delivery of goods. Our engineering staff are capable to custom design solutions for all applications for customers.

We are dedicated to provide the highest quality products that meet our customer's specifications for various applications.

We continuously focus on improving our manufacturing processes and competitiveness in the industry



www.tempsens.com

TEMPSENS INSTRUMENTS (INDIA) LIMITED
(Formerly known as Tempsens Instruments (I) Private Limited)



B-188, B-189, B-169 (Part), B-188A & F-188(E),
Road No 5, Mewar Industrial Area, Madri,
Udaipur, Rajasthan, India, PIN – 313003
Ph.:+91-9116554600,
Email: info@tempsens.com