



## Rayomatic TC

8-14  $\mu\text{m}$  compact infrared sensor  
with dual target  $T^\circ$  & internal  $T^\circ$   
outputs

IRtec Rayomatic TC is a high quality, low cost, compact infrared sensor which measures the temperature of inaccessible or moving objects and materials.

The temperature of targets from -20°C to 500°C is accurately and consistently measured, with an outstanding response time of 240 ms.

- 8 to 14  $\mu\text{m}$
- 2-wire 4-20 mA / 4-wire voltage / 4-wire Tc J, K or T outputs / 4-wire voltage low consumption
- Built-in temperature sensor for 4-wire models
- Emissivity fixed at 0.95
- 2:1, 15:1, 30:1 and CF optics
- IP65 stainless steel housing

## Description

IRtec Rayomatic TC is a high quality, low cost, compact infrared sensor which measures the temperature of inaccessible or moving objects and materials. The temperature of targets from -20°C to 500°C is accurately and consistently measured, with an outstanding response time of 240 ms.

Two-wire models transmit the target temperature as a 4-20 mA output and offer a simple solution for most non-contact temperature measurement applications.

Four-wire models transmit the target temperature as a 0-50 mV or thermocouple output (type J, K or T) plus the internal sensor temperature as a 4-20 mA output. This 2nd output can be used to ensure that the sensor is being operated within the correct ambient temperature limits and prevent damage caused by overheating or overcooling. It can also be used to give an approximate indication of the air temperature surrounding the sensor.

The new 4-wire model with 0-50 mV output has an extremely low 3.2 mA current consumption, so it is ideal for maximum battery life in battery-powered applications.

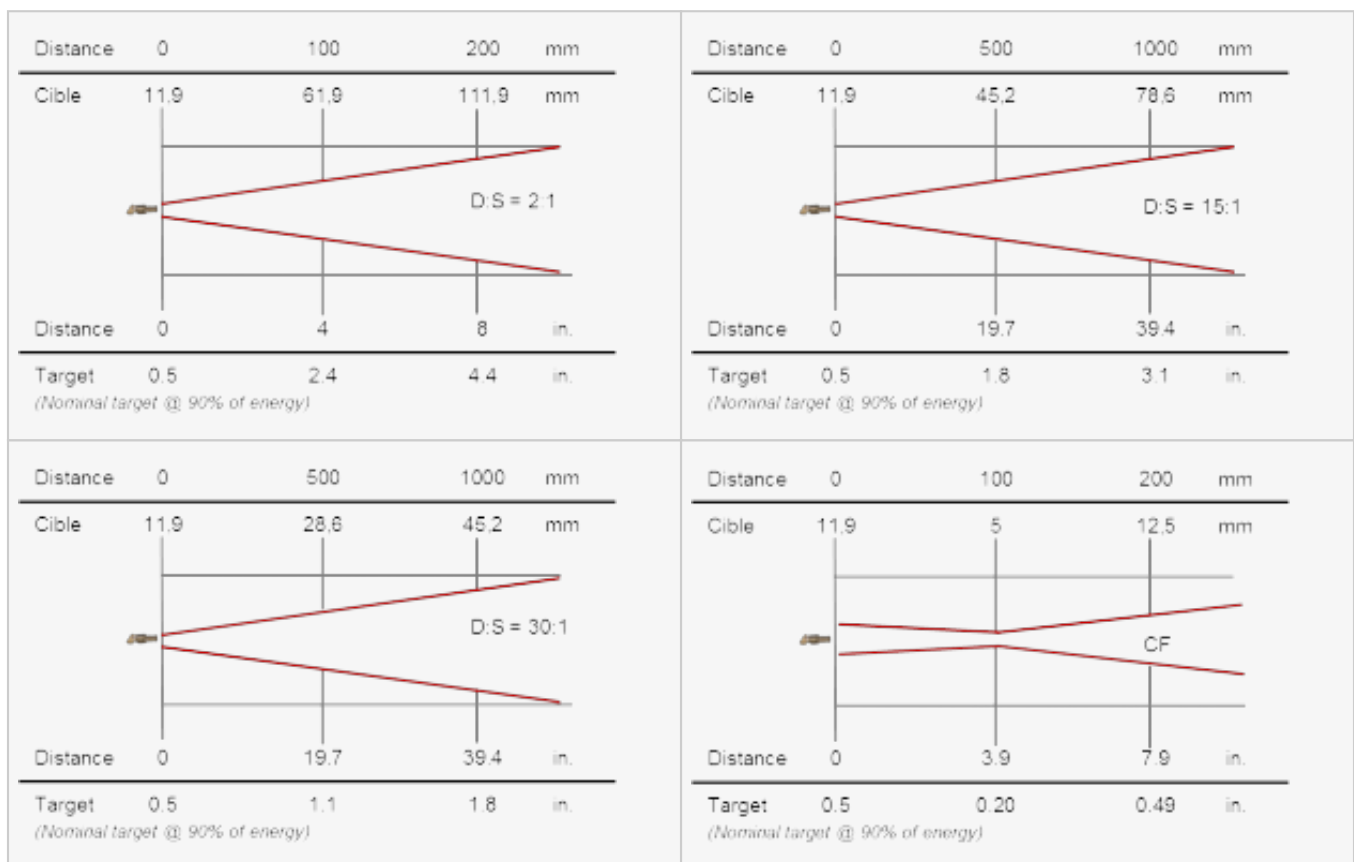
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# Specifications

## Temperature measurement

Model	LT	MT	HT
Temperature range	-20 to 100°C	0 to 250°C	0 to 500°C
Spectral response	8 - 14 μm		
Emissivity	Fixed at 0.95		
Accuracy	±1% RDG or 1°C		
Repeatability	±0.5% RDG or 0.5°C		
Response time	240 ms (90%)		

## Optics



## Further features

Outputs	2 wires, 4-20 mA
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	4 wires, 0-50 mV (target T°), 4-20 mA (sensor T°) 4 wires, Tc T (target T°), 4-20 mA (sensor T°) 4 wires, Tc J (target T°), 4-20 mA (sensor T°) 4 wires, Tc K (target T°), 4-20 mA (sensor T°) 4 wires, 0-50 mV (target T°), low consumption
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## General specifications

Size L x l x h	Electronic module: Ø 18 x 103 mm Thread mounting: M16 x 1 mm
Weight	95 g with cable
Construction	Stainless steel
Power supply	24 VDC (Max 28 VDC)
Sensor voltage	6 VDC Min
Loop impedance	900 Ω Max (4-20 mA OUT)
Output impedance	56 Ω (mV / Tc OUT)

## Environmental specifications

Reference conditions	0°C to +70°C (95% non-condensing)
Environmental rating	IP65

# Models and accessories

Instrument:

**Ordering code structure: TC-AA-BB-C-DD-E/MAN**

*Please select the required options from tables A, B... below to define the right device reference.*

## **TC Rayomatic TC**

Delivered in standard with:

- Instruction manual in English

### **Table AA Optics - Distance to target**

2	Optics 2:1, 61.9 mm @ 100 mm
15	Optics 15:1, 45.2 mm @ 500 mm
30	Optics 30:1, 28.6 mm @ 500 mm
CF	Close focus lens, 5 mm @ 100 mm

### **Table BB Temperature range**

LT	-20°C to 100°C
MT	0 to 250°C
HT	0 to 500°C (not for 2:1 optics)

### **Table C Output signal**

0	2 wires, 4-20 mA
1	4 wires, 0-50 mV (target T°), 4-20 mA (sensor T°)
2	4 wires, Tc T (target T°), 4-20 mA (sensor T°)
3	4 wires, Tc J (target T°), 4-20 mA (sensor T°)
4	4 wires, Tc K (target T°), 4-20 mA (sensor T°)
5 applications	4 wires, 0-50 mV (target T°), low current consumption, for battery-powered

### **Table DD Accessories**

NO	None
WJ	Air / Water cooled jacket and air purge collar

### **Table E Certificat d'étalonnage**

0	None
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1 Factory traceable calibration certificate with data

## Accessories:

FBS	Fixed mounting bracket for compact sensors
ABS	Adjustable mounting bracket for compact sensors
APSW	Air purge collar for compact 2:1 sensors
APSN	Air purge collar for compact 15:1, 30:1 and close-focus sensors
PWS	Protective plastic window in stainless steel holder (8-14 $\mu$ m model only)
LSTS	Laser sighting tool for compact sensors
DLSBFS	Dual laser sighting bracket, fixed, for compact sensors
DLSBAS	Dual laser sighting bracket, adjustable, for compact sensors
DLSBCE	Extended cable for Dual Laser Sighting Bracket - Price for 1 m
PCCE extension	Extended cable for uncooled RAYOMATIC TC sensor, option 0 - 1 m, up to 29 m
PCCEV extension	Extended cable for uncooled RAYOMATIC TC sensor, option 1 - 1 m, up to 29 m
PC CET extension	Extended cable for uncooled RAYOMATIC TC sensor, option 2 - 1 m, up to 29 m
PCCEJK extension	Extended cable for uncooled RAYOMATIC TC sensor, option 3 and 4 - 1 m, up to 29 m
PCCEHT	Extended cable, high temperature, for cooled RAYOMATIC TC sensor, option 0 - 1 m, up to 29 m extension
PCCEHTJ	Extended cable, high temperature, for cooled RAYOMATIC TC sensor, option 3 - 1 m, up to 29 m extension
PCCEHTK	Extended cable, high temperature, for cooled RAYOMATIC TC sensor, option 4 - 1 m, up to 29 m extension
CALCERT A	Calibration certificate
CALCERT B	Re-calibration and certificate