



## 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.

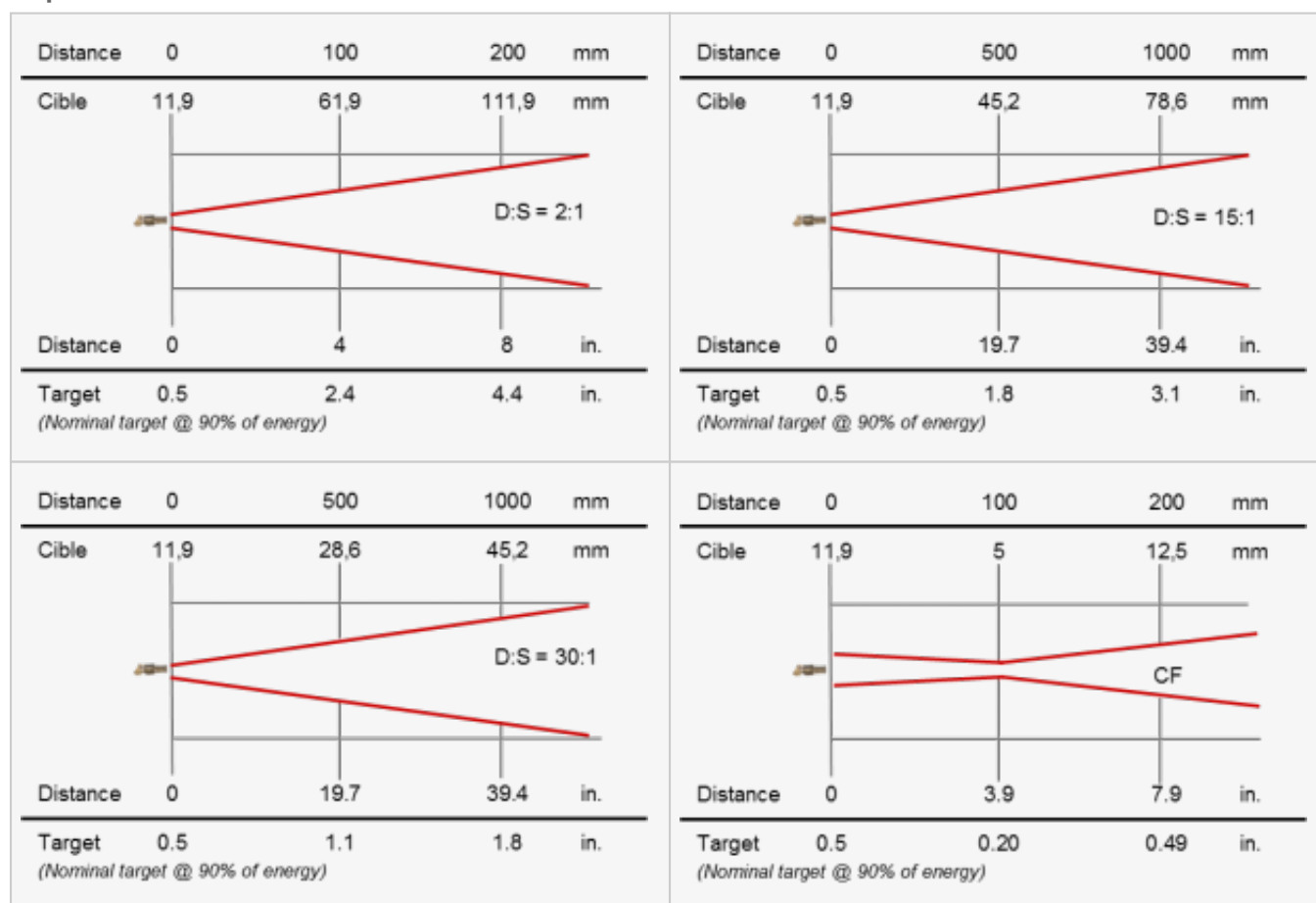
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# Specifications

## Temperature measurement

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

## Optics



## Further features

|         |                                                                       |
|---------|-----------------------------------------------------------------------|
| Outputs | 2 wires, 4-20 mA<br>4 wires, 0-50 mV (target T°), 4-20 mA (sensor T°) |
|---------|-----------------------------------------------------------------------|

|  |                                                                                                                                                                                                     |
|--|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|  | 4 wires, Tc T (target T°), 4-20 mA (sensor T°)<br>4 wires, Tc J (target T°), 4-20 mA (sensor T°)<br>4 wires, Tc K (target T°), 4-20 mA (sensor T°)<br>4 wires, 0-50 mV (target T°), low consumption |
|--|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

## General specifications

|                  |                                                                 |
|------------------|-----------------------------------------------------------------|
| Size L x l x h   | Electronic module: Ø 18 x 103 mm<br>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                                                |
| 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 µm 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<br>extension                  | Extended cable for uncooled RAYOMATIC TC sensor, option 0 - 1 m, up to 29 m                            |
| PCCEV<br>extension                 | Extended cable for uncooled RAYOMATIC TC sensor, option 1 - 1 m, up to 29 m                            |
| PCCET<br>extension                 | Extended cable for uncooled RAYOMATIC TC sensor, option 2 - 1 m, up to 29 m                            |
| PCCEJK<br>29 m extension           | Extended cable for uncooled RAYOMATIC TC sensor, option 3 and 4 - 1 m, up to 29 m extension            |
| PCCEHT<br>m, up to 29 m extension  | Extended cable, high temperature, for cooled RAYOMATIC TC sensor, option 0 - 1 m, up to 29 m extension |
| PCCEHTJ<br>m, up to 29 m extension | Extended cable, high temperature, for cooled RAYOMATIC TC sensor, option 3 - 1 m, up to 29 m extension |
| PCCEHTK<br>m, up to 29 m extension | 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                                                                         |