IRtec Rayomatic TC

Compact infrared thermometer with optional dual outputs

IRtec Rayomatic TC is a range of high quality, low cost, compact sensors which measure the temperature of inaccessible or moving objects and materials.
They measure temperatures from -20°C to 500°C, accurately and consistently, 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.
The new output option n°5 has an extremely low 3.2 mA current consumption, so it is ideal for maximum battery life in battery-powered applications.

INFRARED THERMOMETERS

- Range from -20°C to 500°C
- 8 to 14 µm
- 2-wire 4-20 mA / 4-wire voltage / 4-wire Tc J; K or T outputs
- Built-in temperature sensor for 4-wire models
- Emissivity fixed at 0.95
- 2:1, 15:1, 30:1 and CF optics
- Stainless steel housing
- IP65 rating
- Optional air/water cooled housing, air purge collar, laser sighting tool, dual laser sighting bracket, mounting brackets…

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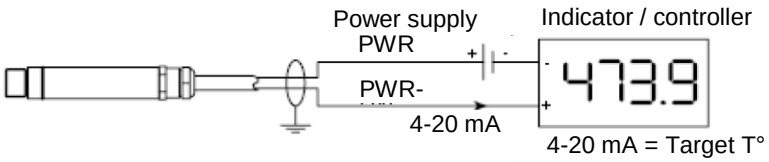
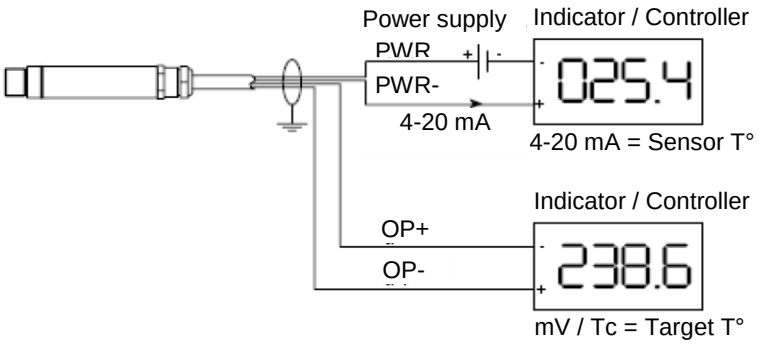
Output connections

- 2-wire model (Option 0)



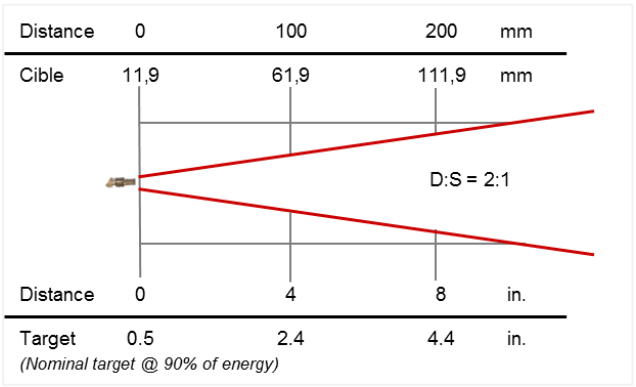
- 4-wire models (Options 1 to 5)

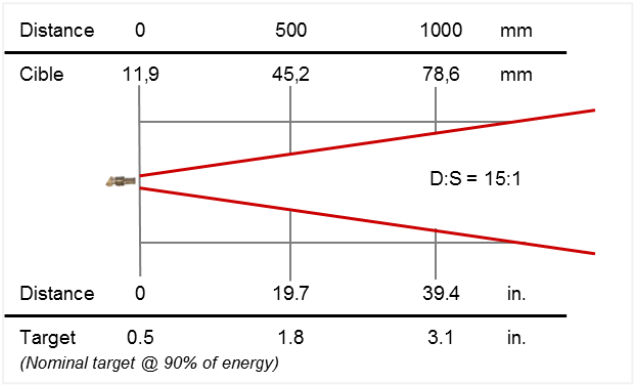


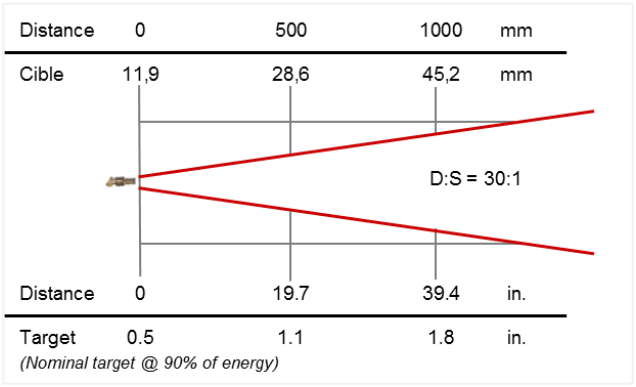
Technical specifications

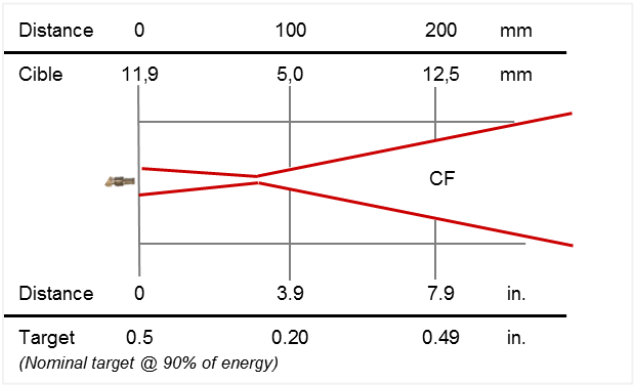
Range	LT: -20 to 100°C MT: 0 to 250°C HT: 0 to 500°C
Optics	2:1, 15:1, 30:1, CF
Outputs	See table C
Accuracy	±1% RDG or 1°C
Repeatability	±0.5% RDG or 0.5°C
Emissivity	Fixed at 0.95
Response time	240 ms (90%)
Spectral band	8 – 14 µm
Supply voltage	24 VDC (Max 28 VDC)
Sensor voltage	Min 6 VDC
Loop impedance	900 Ω Max (4-20 mA OUT)
Output impedance	56 Ω (mV / Tc OUT)
Construction	Stainless steel
Size	Ø 18 x 103 mm
Thread mounting	M16 x 1 mm
Weight with cable	95 g
Cable length	1 m in standard (further in option)
Environmental rating	IP65
Working temperature	0 to 70°C
Relative humidity	95% non-condensing

Optics









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Accessories

FBS Fixed mounting bracket
ABS Adjustable mounting bracket

LSTS Laser sighting tool

DLSBFS Dual laser sighting bracket, fixed
DLSBAS Dual laser sighting bracket, adjustable
DLSBCE Extended cable - 1 m

APSW Air purge collar (2:1)
APSN Air purge collar (15:1, 30:1, CF)

WJ Air / Water cooled jacket + air purge collar

Ordering instructions

TC-AA-BB-C-DD-E/MAN
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 - 100°C
MT	0 - 250°C
HT	0 - 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	4 wires, 0-50 mV (target T°), low current consumption, for battery-powered applications
Table DD	Accessories
NO	None
WJ	Air / Water cooled jacket and air purge collar
Table E	Calibration certificate
0	None
1	Factory traceable calibration certificate with data

PWS Protective plastic window in stainless steel holder

Extended cable, sensor without WJ option, up to 29 m extension
PCCE For option 0 - 1 m
PCCEV For option 1 and 5 - 1 m
PCCET For option 2 - 1 m
PCCEJK For option 3 and 4 - 1 m

Extended cable, sensor with WJ option, up to 29 m extension
PCCEHT For option 0 - Prix pour 1 m
PCCEHTJ High temperature, for option 3 - 1 m
PCCEHTK High temperature, for option 4 - 1 m