



IRtec Rayomatic 10



Compact Digital Infrared Temperature Transmitter

Bulletin 02-05.2 E



Smart microcontroller technology

Temperature range up to 1600°C

Two wire 4/20 mA linear current loop

Different optics and ranges available

Spectral response: 1, 1.6, 5.1, 7.9 and 8-14 μm

IP65 (NEMA-4) stainless steel housing

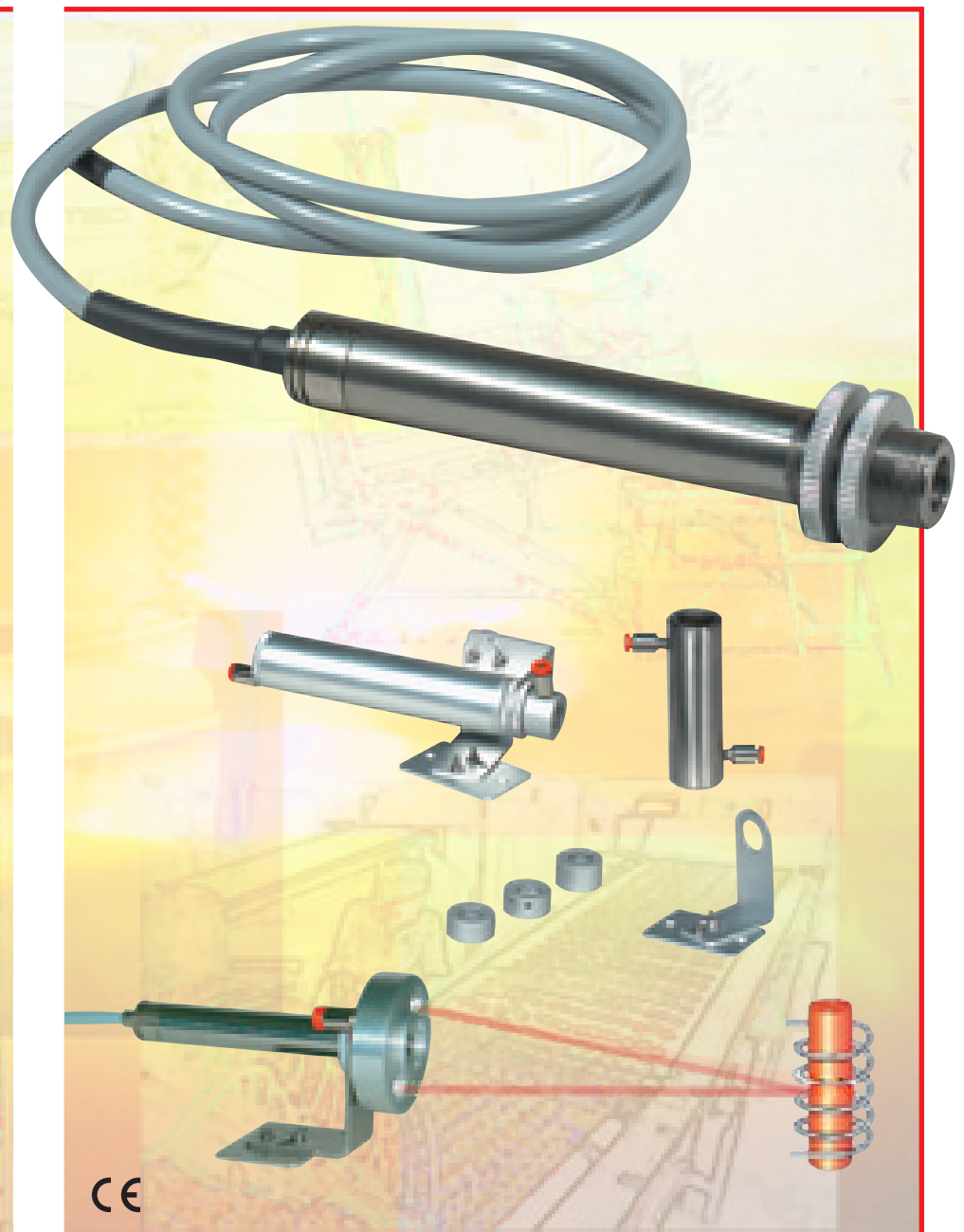
M18x1 threaded x 120mm long

Adjustable emissivity, response time, peak picker and measuring range

RS232 adapter and Windows™ software

Dual laser pinpointing with integrated air purge

High contrast GREEN laser



All descriptions are related to a fully optioned instrument. See last page for the different configurations.



IRtec Rayomatic 10 Compact Digital Infrared Temperature Transmitter

Software

Ordering Code

Eurotron **IRtec Rayomatic 10** family of non-contact smart temperature transmitters represents the ideal solution when high performance and advanced functionality are required in a limited space.

The **IRtec Rayomatic 10** is designed for an easy integration into a standard 2-wire 4/20 mA current loop system.

Report of Calibration

IRtec Rayomatic is delivered, on request, with a traceable Report of Calibration stating the nominal, the actual values and the deviation errors.

Available Models

The **IRtec Rayomatic 10** line of IR thermometers includes instrument with different measuring ranges and spectral band to solve most typical process applications.

The smart electronics is enclosed in a rugged IP65 (NEMA-4) stainless steel housing, and the sensor can operate in ambient temperatures up to 60°C without cooling.

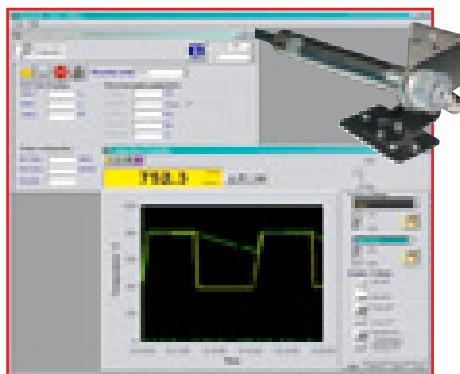
The table below shows the available models and the relevant specifications.

An RS232 optional adapter allows PC connection.

A setup software (BB260145) allow the changes of the most important instrument parameters: emissivity, response time, measuring span, average, peak-picker, decay, etc.

The **LogMan** data logger software Can store measurements with programmable time intervals.

Graphic trend is shown on real time. Data can be printed and saved on hard-disk with Excel™ file format.



Cat. 1150 - A - B - C - D - E - F

Each thermometer includes: two mounting nuts, 1m of shielded cable, and instruction manual.

Table A - B Model

See table below

Table C Signal Output
1 2 wire linear 4-20mA

Table D Options
0 None
1 RS232 PC adapter cable + Setup Windows software

Table E Electrical connection
1 1m long shielded cable (PVC max 105°C)
2 8m long shielded cable (PVC max 105°C)
3 1m long high temperature shielded cable (max 200°C)
4 8m long high temperature shielded cable (max 200°C)
9 length on request

Table F Calibration Certificate
0 None
1 NIST / EA traceable with data

BB530202 RS232 adapter cable for PC
BB260195 Rayomatic 10 Setup software
BB260196 Rayomatic 10 LogMan software
EE280440 Dual red laser pinpointing with integrated air purge

TABLE A-B	CWL	φ Target / Distance**	Range*	D:S	Accuracy***	Repeatability
100 - 1	0.9μm	20mm @ 1000mm	600 to 1600°C (1100 to 2900°F)	50:1	±0.5% rdg or ±1°C	±0.25% rdg or 0.5°C
100 - 2	0.9μm	6mm @ 300mm	600 to 1600°C (1100 to 2900°F)	50:1	±0.5% rdg or ±1°C	±0.25% rdg or 0.5°C
100 - 3	0.9μm	3mm @ 150mm	600 to 1600°C (1100 to 2900°F)	50:1	±0.5% rdg or ±1°C	±0.25% rdg or 0.5°C
160 - 1	1.6μm	20mm @ 1000mm	300 to 1300°C (600 to 2400°F)	50:1	±0.5% rdg or ±1°C	±0.25% rdg or 0.5°C
160 - 2	1.6μm	6mm @ 300mm	300 to 1300°C (600 to 2400°F)	50:1	±0.5% rdg or ±1°C	±0.25% rdg or 0.5°C
160 - 3	1.6μm	3mm @ 150mm	300 to 1300°C (600 to 2400°F)	50:1	±0.5% rdg or ±1°C	±0.25% rdg or 0.5°C
814 - 1	8-14μm	40mm @ 1000mm	0 to 600°C (32 to 1100°F)	25:1	±1% rdg or ±1°C	±0.5% rdg or 0.5°C
814 - 2	8-14μm	12mm @ 300mm	0 to 600°C (32 to 1100°F)	25:1	±1% rdg or ±1°C	±0.5% rdg or 0.5°C
814 - 3	8-14μm	6mm @ 150mm	0 to 600°C (32 to 1100°F)	25:1	±1% rdg or ±1°C	±0.5% rdg or 0.5°C
814 - 4	8-14μm	80mm @ 1000mm	0 to 600°C (32 to 1100°F)	12:1	±1% rdg or ±1°C	±0.5% rdg or 0.5°C
814 - 5	8-14μm	50mm @ 1000mm	0 to 600°C (32 to 1100°F)	20:1	±1% rdg or ±1°C	±0.5% rdg or 0.5°C
814 - 6	8-14μm	15mm @ 300mm	0 to 600°C (32 to 1100°F)	20:1	±1% rdg or ±1°C	±0.5% rdg or 0.5°C
814 - 7	8-14μm	8mm @ 150mm	0 to 600°C (32 to 1100°F)	20:1	±1% rdg or ±1°C	±0.5% rdg or 0.5°C
510 - 1	5.1μm	50mm @ 1000mm	150 to 750°C (300 to 1400°F)	20:1	±1% rdg or ±1°C	±0.5% rdg or 0.5°C
790 - 1	7.9μm	50mm @ 1000mm	50 to 300°C (150 to 600°F)	20:1	±1% rdg or ±2°C	±0.5% rdg or 1.5°C
810 - 1	8-14μm	80mm @ 1000mm	0 to 500°C (32 to 900°F)	12:1	±1% rdg or ±2°C	±0.5% rdg or 1°C

* The temperature range can be programmed with configuration software to a minimum 200°C span.

** Target measured @ 95% of energy

*** Relative accuracy data are stated for operative conditions +23°C ±5°C and emissivity = 1



IRtec Rayomatic 10 Compact Digital Infrared Temperature Transmitter

Specifications

Output current: 2-wire 4 to 20 mA

Response time:

100 - 160 Models: 50 ms (t95)

814 - 510 Models: 150 ms (t95)

810 Model: 250 ms (t95)

790 Model: 1 s (t95)

Emissivity: adjustable from 0.10 to 1.00 (factory pre-set to 0.95)

Working temperature:

from -10 to +60 °C (14 to 140°F)

from 10 to 95 % RH non condensing

Environmental rating: IP65 (NEMA-4)

Temperature drift: ±0.02% rdg/°C for temperatures exceeding the band +23°C ±5°C

Signal processing: °C/°F, Peak, Valley, emissivity, range, Average, Peak-Picker (configurable from PC)

Power supply:

nominal 24 Vdc ±10% (from 4 to 20 mA loop power supply)

Storage temperature:

from -30°C to +70°C (-22 to 158°F)

Dimensions and weight:

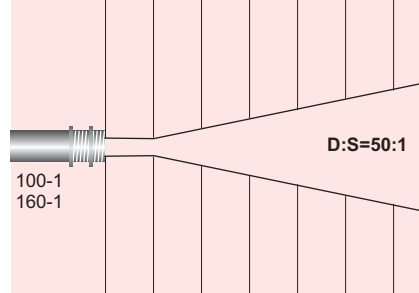
φ 18 mm (M18x1) x 120 mm (φ 0.71" x 4.72")

100 g nett (0.22 lb)

Optical resolution

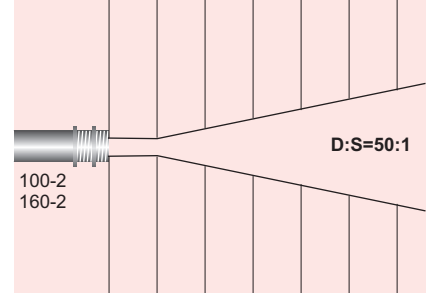
Nominal target @ 95% of energy

Distance	500	1000	2000	3000
Target	15	20	50	80



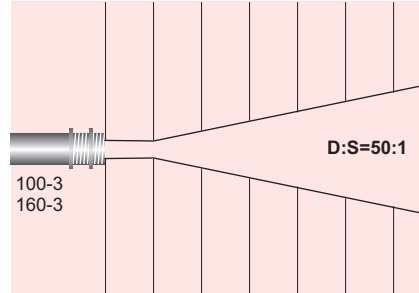
Distance	20	40	80	120
Target	0.6	0.8	2.0	3.2

Distance	300	1000	2000	3000
Target	6	45	100	150



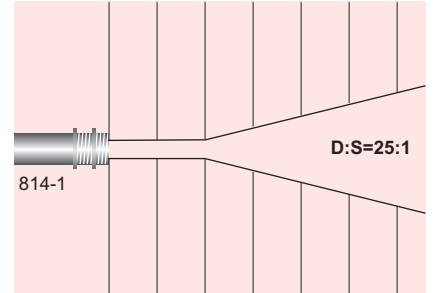
Distance	12	40	80	120
Target	0.2	0.7	4.0	6.0

Distance	150	1000	2000	3000
Target	3	80	165	250



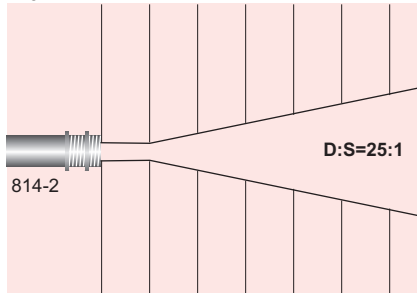
Distance	6	40	80	120
Target	0.1	3.0	6.5	10

Distance	500	1000	2000	3000
Target	25	40	90	140



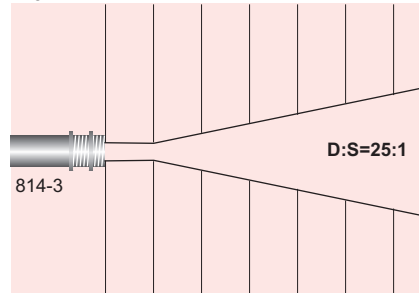
Distance	20	40	80	120
Target	1.0	1.6	3.6	5.5

Distance	300	1000	2000	3000
Target	12	65	140	210



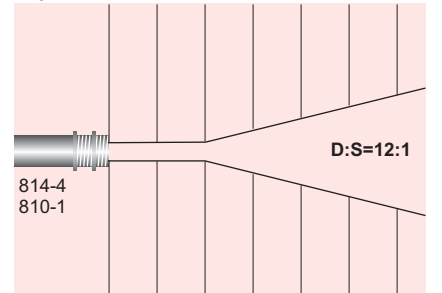
Distance	12	40	80	120
Target	0.5	2.5	5.4	8.3

Distance	150	1000	2000	3000
Target	6	100	205	310



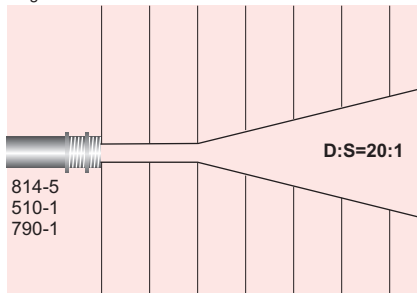
Distance	6	40	80	120
Target	0.3	4.0	8.0	12.2

Distance	500	1000	2000	3000
Target	45	80	170	260



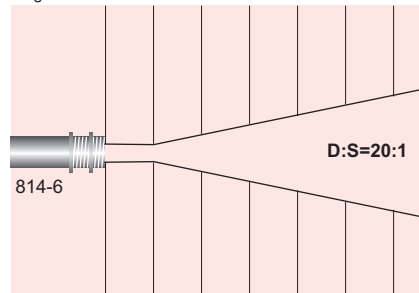
Distance	20	40	80	120
Target	1.8	3.0	7.0	10.2

Distance	500	1000	2000	3000
Target	30	50	110	170



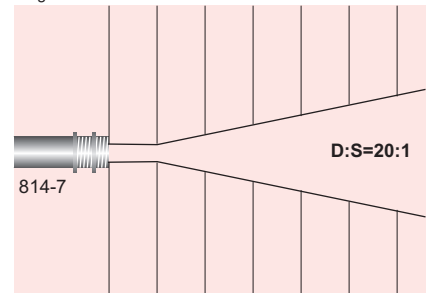
Distance	20	40	80	120
Target	1.2	2.0	4.5	6.7

Distance	300	1000	2000	3000
Target	15	75	160	240



Distance	12	40	80	120
Target	0.6	3.0	6.2	10.0

Distance	150	1000	2000	3000
Target	8	110	230	350



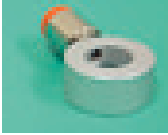
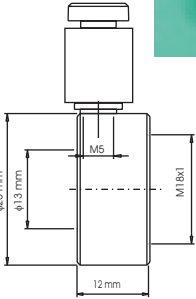
Distance	6	40	80	120
Target	0.3	4.5	9.0	14.0




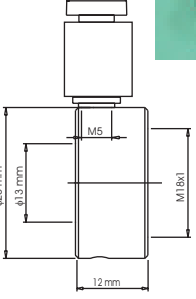
IRtec Rayomatic 10 Accessories

Accessories for cooling and air purging

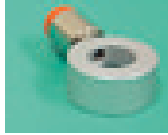
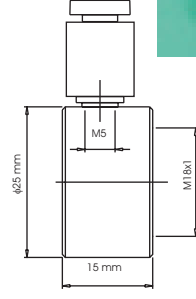
EE290115
Standard air purge device


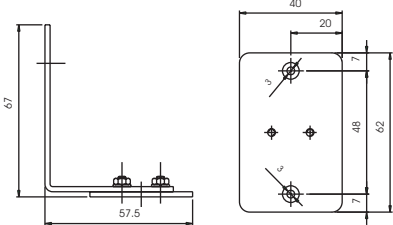
EE290105
Radial air purge device
(do not cool the target)


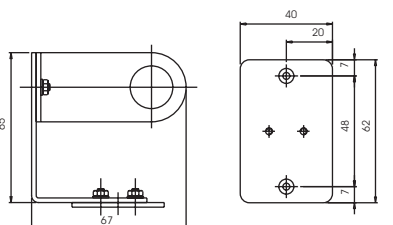
EE290104
Laminar flow air purge device
(severe applications)


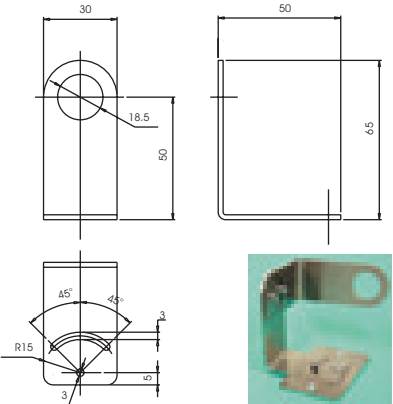
EE290106 - 90° adjustable mounting adapter


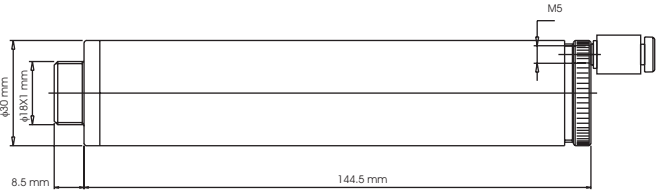
EE290110 - 2 axis adjustable mounting adapter

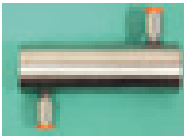
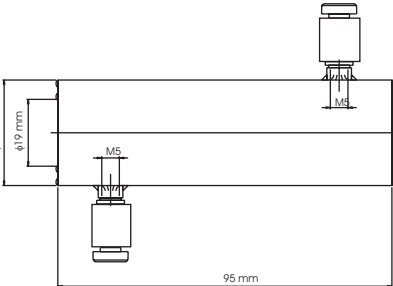
EE290114 - 3 axis adjustable mounting adapter

EE290109 - Air cooling jacket with air purge system

EE290108
Water cooling jacket

Specifications may change without notice.