eurotron

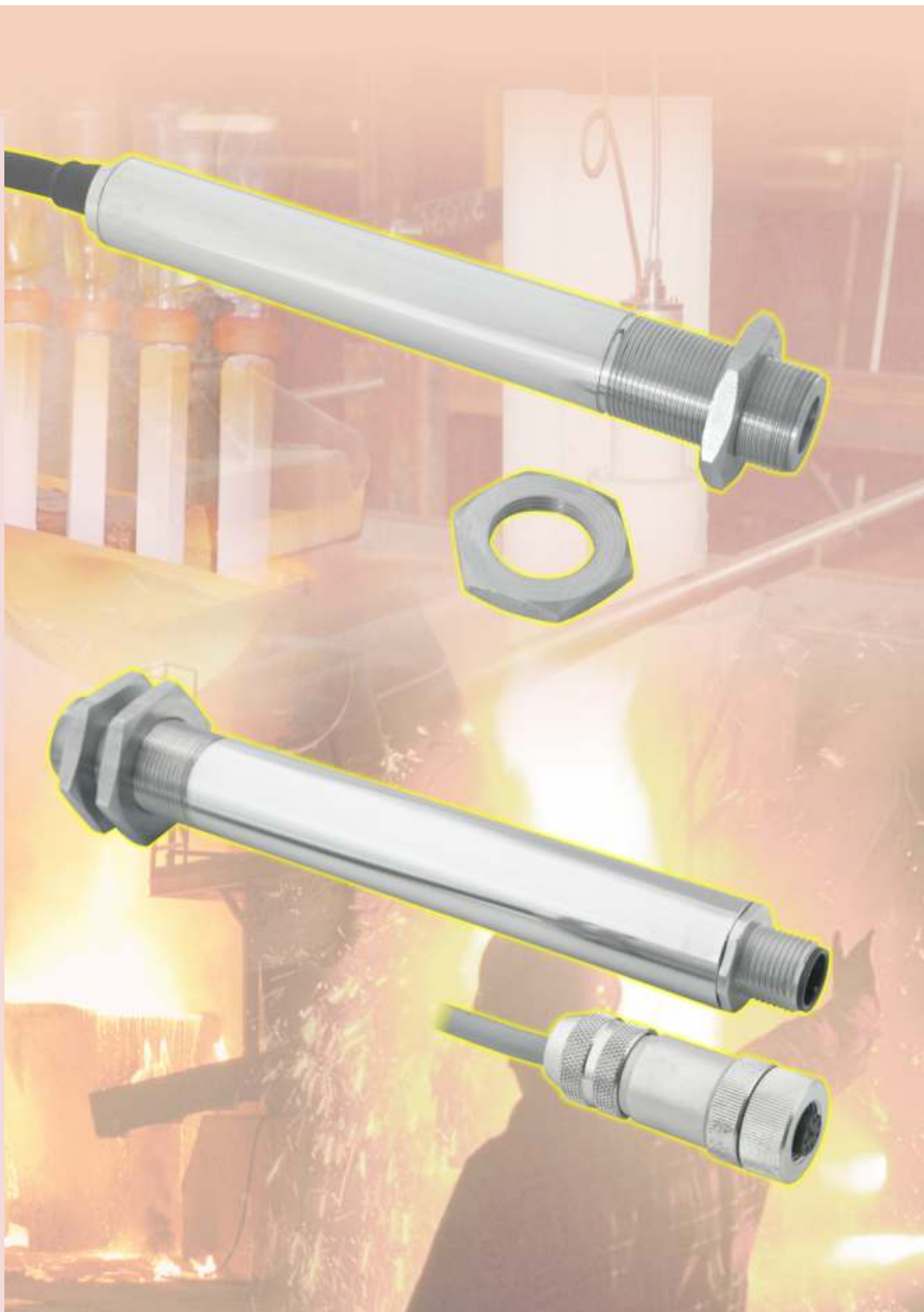
"Excellence in measurements"

IRtec Rayomatic 10

Compact Digital Infrared Temperature Transmitter

INFRARED THERMOMETERS

- 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 and 8-14 mm
- 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



Eurotron Instruments ISO 9001 Certified Quality System

CE

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IRtec Rayomatic 10
Compact Digital Infrared Temperature Transmitter

Introduction

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.

Operating Principle and Construction

Non-contact temperature measurement is based on the physical principle that all objects have a natural electromagnetic radiation which changes in dependence of their temperature. The intensity of the radiated energy and its characteristic wavelength considerably depend on the objects' temperature.
Infrared measurement systems like Rayomatic 12 use special lenses for collecting, focussing and filtering this radiation. An infrared (IR) detector in the ray path then generates from this the respective electrical signal that is linearized and processed in the microprocessor-controlled electronics downstream in the circuit to achieve analog and digital output variables.

Signal Processing

The instrument includes signal processing features including: Emissivity, Peak-Picker, Valley-Picker, Peak Hold, Valley Hold and Averaging all of which are adjustable on the PC using the IRSetup software.

Report of Calibration

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

RS232/USB & Software

Optional RS232/USB PC adapter and setup software allow to configure most important parameters: emissivity, response time, measuring range, average, peak-picker, decay, peak, valley.

Applications

The **IRtec** Rayomatic 10 can be used in multiple locations to detect hot spots on moving material. The sensor is suited for plastics, rubber, wood, paper, textile, glass and ceramic, paint, varnish, asphalt, and food applications.

Paper

Paint

Plastic/Rubber

Electronic Soldering

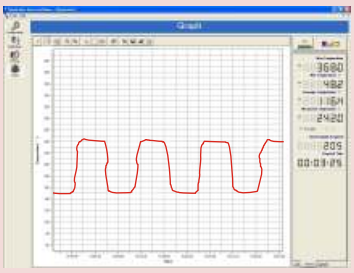
Software

IR SETUP - Configuration Software

Compatible with WIN 95/98/2000/XP, the IRSetup software package provides for:
- easy sensor setup and remote controlling via USB or RS232 interface
- adjustment of signal processing functions
- programming of the 4-20mA signal

LogMan - Datalogging Software

Compatible with WIN 98/2000/XP, the LogMan software package provides for:
- automatic data logging for analysis and documentation
- grafic display of temperature trends



BB530221
USB adapter for PC

BB530202
RS232 adapter for PC

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)

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)*

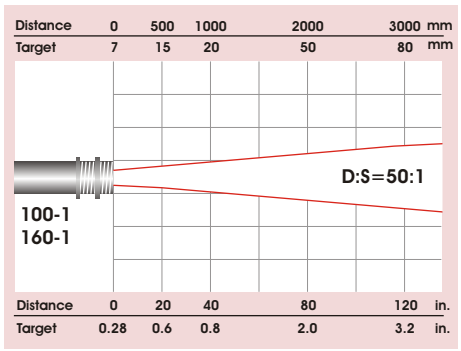
Power supply:
nominal 24 Vdc ±10%
(from 4 to 20 mA loop power supply)

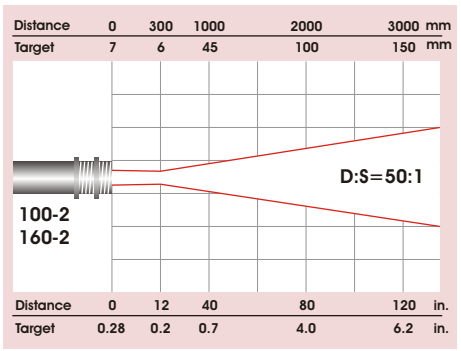
Storage temperature:
from -30°C to +70°C (-22 to 158°F)

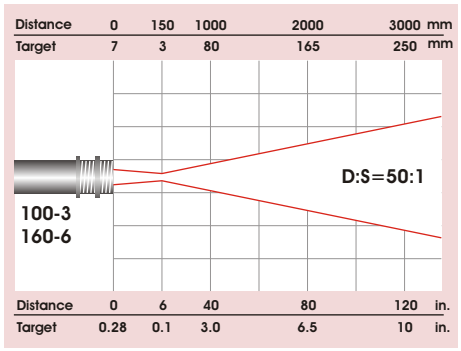
Dimensions and weight:
f 18 mm (M18x1) x 120 mm (f 0.71" x 4.72")
100 g nett (0.22 lb)

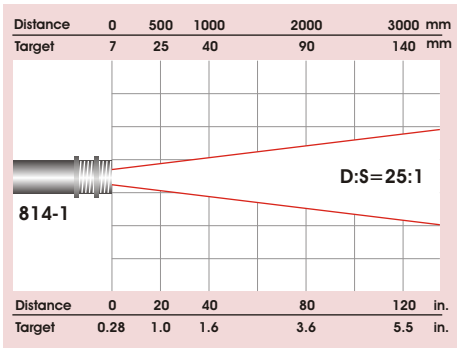
Optical resolution

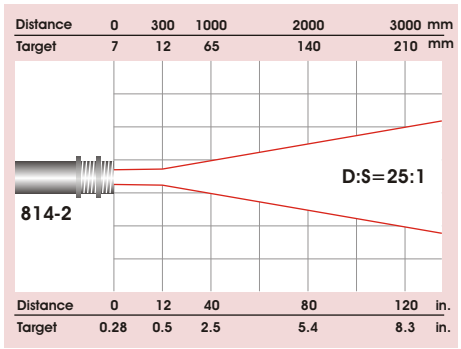
Nominal target @ 95% of energy

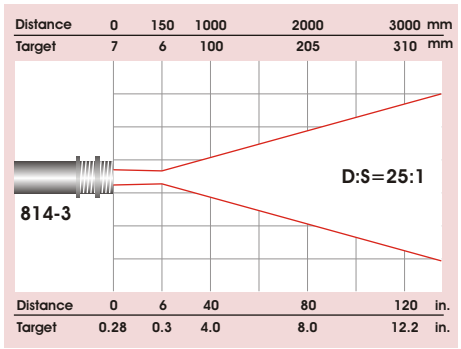


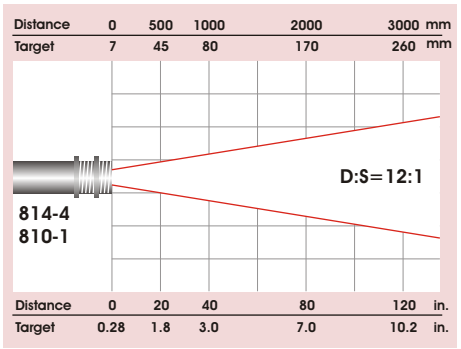


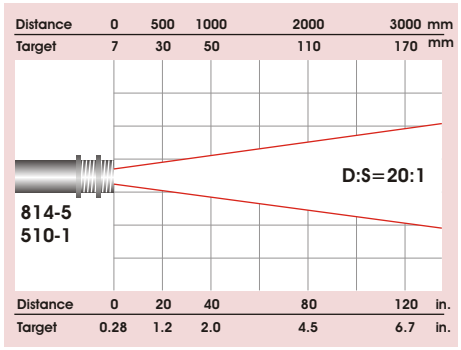


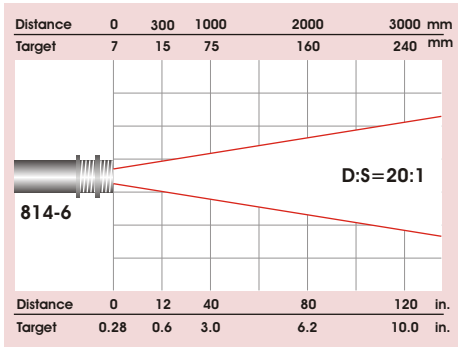


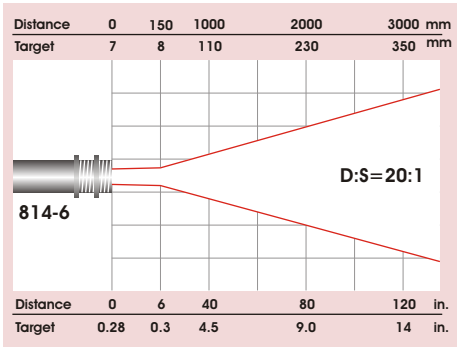




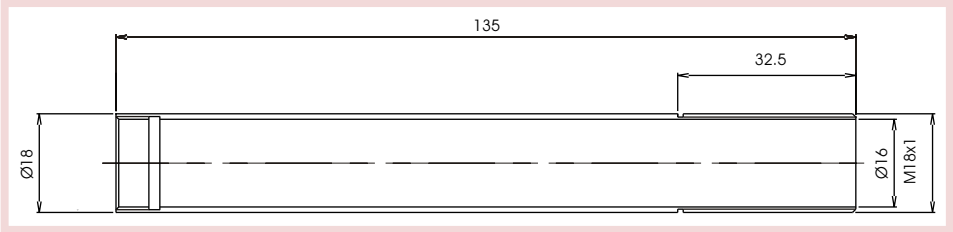






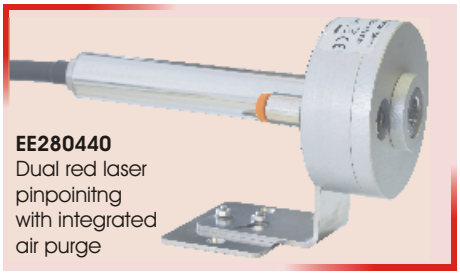


Body scheme



EE290115
Standard air purge device

EE290106
90° adjustable mounting adapter



EE280440
Dual red laser pinpoinitng with integrated air purge

Accessories

EE290109	Air cooling jacket with air purge system
EE290108	Water cooling jacket
EE290106	90° adjustable mounting adapter
EE290110	2 axis adjustable mounting adapter
EE290114	3 axis adjustable mounting adapter
EE290115	Standard air purge device
EE290105	Radial air purge device (do not cool the target)
EE290104	Laminar flow air purge device (severe applications)
EE280440	Dual red laser pinpointing with integrated air purge
BB530202	RS232 adapter cable for PC
BB530207	RS232/USB adapter for PC
BB260195	Rayomatic 10 Setup software
BB260196	Rayomatic 10 LogMan software

Ordering Code

Code **Model**

1150 **IR*tec* Rayomatic 10**, two mounting nuts, 1 mt of shielded cable and instruction manual.

Table A-B	CWL	f Target / Distance**	Range*	D:S	Accuracy***	Repeatability
100 - 1	0.9mm	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	0.9mm	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	0.9mm	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	1.6mm	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	1.6mm	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	1.6mm	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	8-14mm	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	8-14mm	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	8-14mm	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	8-14mm	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	8-14mm	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	8-14mm	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	8-14mm	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	5.1mm	50mm @ 1000mm	150 to 750°C (300 to 1400°F)	20:1	±1% rdg or ±1°C	±0.5% rdg or 0.5°C
810 - 1	8-14mm	80mm @ 1000mm	0 to 500°C (32 to 900°F)	12:1	±1% rdg or ±2°C	±0.5% rdg or 1°C

Table C **Signal Output**

1 — 2 wire linear 4-20 mA

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)
C — 8 pin connector
9 — length on request

Table F **Calibration Certificate**

0 — None
1 — NIST / EA traceable with data

1150 - 100-1 - 1 - 1 - 2 - 1 *Typical ordering code*

* 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

Specifications may change without notice

Thank you for reading this data sheet.

For pricing or for further information, please contact us at our UK Office, using the details below.

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