IR*tec* Rayomatic 60

eurotron
"Excellence in Measurements"

Fiber Optic Infrared Thermometer

INFRARED THERMOMETERS

- **2-wire, 4-20 mA Transmitter**
- **Temperature Range from 300 to 2000°C**
- **Smart Microcontroller Technology**
- **Bi-directional RS232 Simulltaneous**
- **Windows™ Software for Remote Setup and Datalogging**
- **Integrated Averaging, Peak-Picker and Track&Hold**
- **Operative Temperature up to 200°C**
- **Built-in Red or Green Laser Pinpointing**

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

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Fiber Optic Thermometer

General

Fibre optic **IRtec Rayomatic 60** infrared thermometers are designed for non contact temperature measurements.
Two series are available with different spectral band: ***series 100*** in 0.9 μm and ***series 160*** in 1.6 μm.

Measuring System
Each **IRtec 60** thermometer consists of three separate and interchangeable parts:

- Single lens optical adapter (head) to collect the IR radiation:
- Flexible fiber optic cable steel coated to transmit the IR radiation from the “head” to the electronic module;
- Microprocessor electronic module to convert the IR radiation in electric signal. The thermometer can be ordered for different measuring ranges as specified in ordering instruction table A.
- Optic fiber IR thermometers are the ideal solution when:
- The ambient operative temperature is very high (up to 200 °C);
- The target is not easily accessible.

Optical head
Five different interchangeable optical adapters are available for differents target/distance vision cones.

Flexible fiber optic
You can choose between different fiber optic cable lengths. The fiber is protected by a flexible steel band for environment applications up to 200°C.

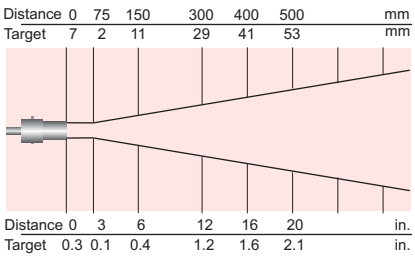
Fast lock connectors
The optic head can be connected and disconnected from the process using a special fast connection system. It allows the quick installing and maintenance of the measuring system.

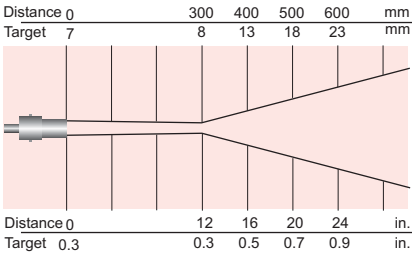
Electronic module
The electronic module contains a detector, processing electronics, and Bell202 serial comunication interface. The Bell202 interface consist of a modem to modulate the digital communication over the 4-20 mA 2-wire current loop. This feature allows you to change the thermometer setting connecting a PC on the signal current loop using an RS232 converter.
You can chose between two different emissivity adjustmets configuration: manual (from a selector switch on the back panel) or digital (from the serial communication interface).

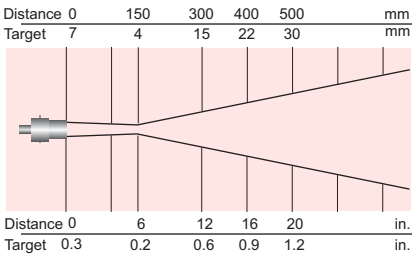
Laser pinpointing system
An optional laser is installed into the electronic module and the spot is projected by the optical head for target allignment. The laser can be switched on and off from remote location.

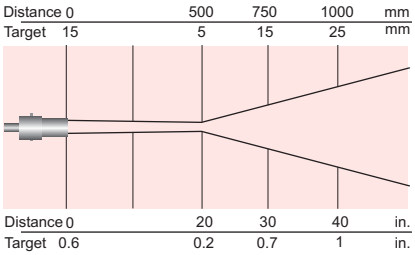
Optics

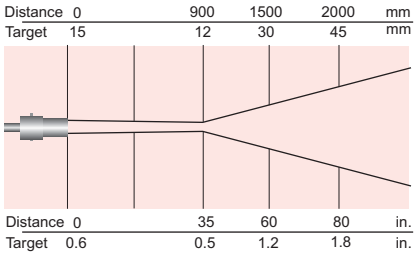
Target size calculated @ 95% of energy







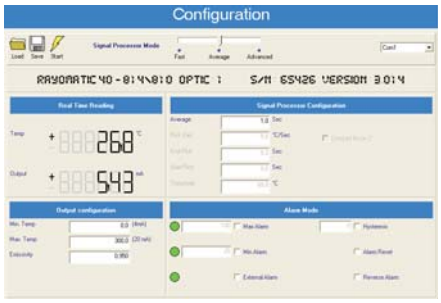




Software

Bell202/RS232 serial adapter
IRtec Rayomatic temperature transmitters have an integrated Bell202 communication module. This protocol allows to superimpose the digital serial communication over the process 2-wire current loop.
The Eurotron Bell202 to RS232 adapter and software, allows you to set, to program and to test the transmitter using a standard Personal Computer.
The adapter allows you 3 different operations:

- 24Vdc current loop power supply
- Bell202/RS232 protocol converter
- Bell202/RS232 protocol converter + 24Vdc current loop power supply



Setup & LogMan Software
The IRtec Rayomatic thermometers use the Eurotron "smart" technologies. The instruments have both analogue (4-20 mA) and digital outputs.
The optional RS232 adapter and the Setup Windows™ software allow you the remote thermometer settings. Remote settings includes: E-slope, Emissivity, Response time, and Temperature span. Also advanced internal functions can be programmed as Peak, Valley, Peak-Picker, Average, Track&Hold, Alarms, etc.

The **LogMan** data logger software is developed by Eurotron to graph the temperature versus time and to log data to disk in Excel™ format.

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Specifications

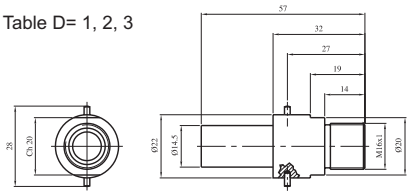
Accuracy: ±(0.5% of rdg. + 1°C)
Repeatability: ±0.25% of rdg.
Spectral Band:
Series 100: 0.9 µm (Silicon detector)
Series 160: 1.6 µm (InGaAs detector)
Response Time:
adjustable by PC from 28ms to 10s
Reference temperature:
from +15 to +35°C
Emissivity:
adjustable from 0.30 to 1.00 in 0.01 steps
Digital communication:
Bell 202 superimposed on 2-wire current loop - Rs232 with optional adapter
Output signal:
4/20 mA 2-wire current loop - max load 700 Ω
Environmental rating: IP65 (NEMA-4)
Power supply: from 12 to 32 Vdc
Temperature stability :
<0.05% of rdg./°C for temperature exceeding the reference band
Working temperature:
Optical head: 200°C max
Optic fiber: 200°C max
Electronic module: from -20 to +60°C
Storage temperature: from -30 to +70°C
Dimensions:
Electronic module:
Φ 45x200 mm - Threaded M44x1.5
Optical head:
Φ 16x52 mm - Fast Lock
Φ 30x94 mm - Threaded M30x1
Weight : 0.8 kg (electronic module)

Ordering Code

Cat. 1110 - A - B - C - D - E - F - G

Table A	**Range**	
100-1	da +600 a +1600°C	
100-2	da +800 a +2000°C	
160-1	da +300 a +1300°C	
Table B	**Electronic module output**	
2	4-20mA linear	
Table C	**Optic Fiber length**	
2	3,5 mt	
3	6 mt	
4	8 mt	
9	special lenght	
Table D	**Target / Distance**	
1	2mm OD at 75mm (fast-lock)	
2	4mm OD at 150mm (fast-lock)	
3	8mm OD at 300mm (fast-lock)	
4	5mm OD at 500mm (threaded)	
5	12mm OD at 900mm (threaded)	
9	Special	
Table E	**Options**	
0	None	
1	Red Laser pinpointing (650 nm)	
2	Green Laser pinpointing (532 nm)	
Table F	**Electrical connection**	
1	2 meters long shielded cable	
2	8 meters long shielded cable	
Table G	**Report of Calibration**	
1	Eurotron certificate	

Table D= 1, 2, 3



Fast Lock Optical Head

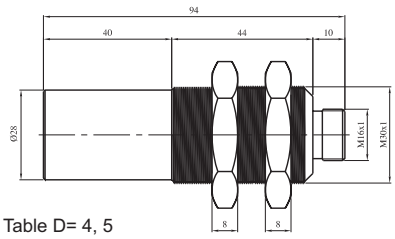
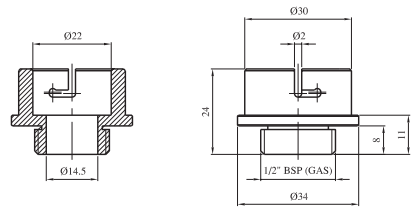
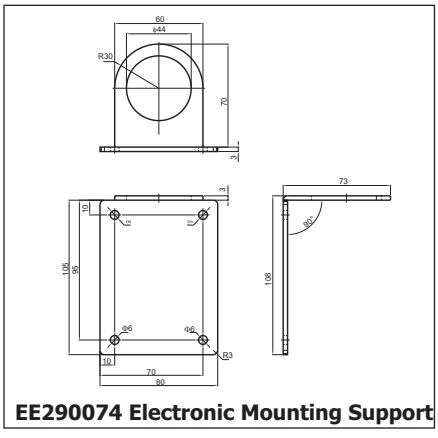


Table D= 4, 5

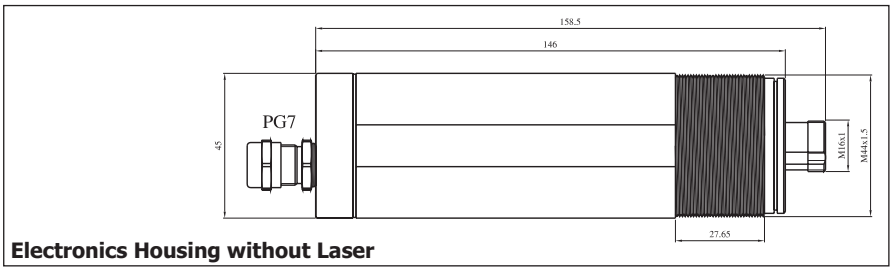
Threaded Optical Head



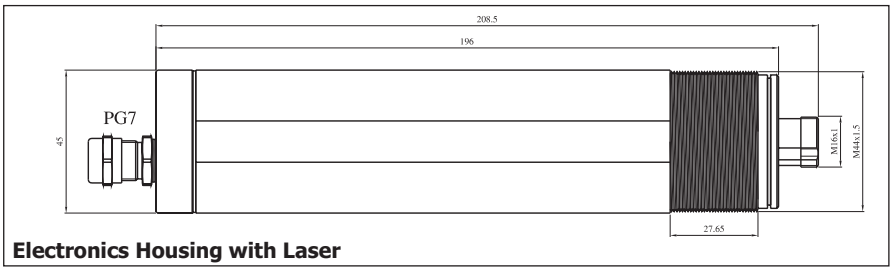
Fast Lock to ½"BSPM Head Adapter



EE290074 Electronic Mounting Support



Electronics Housing without Laser



Electronics Housing with Laser

INFRARED THERMOMETERS

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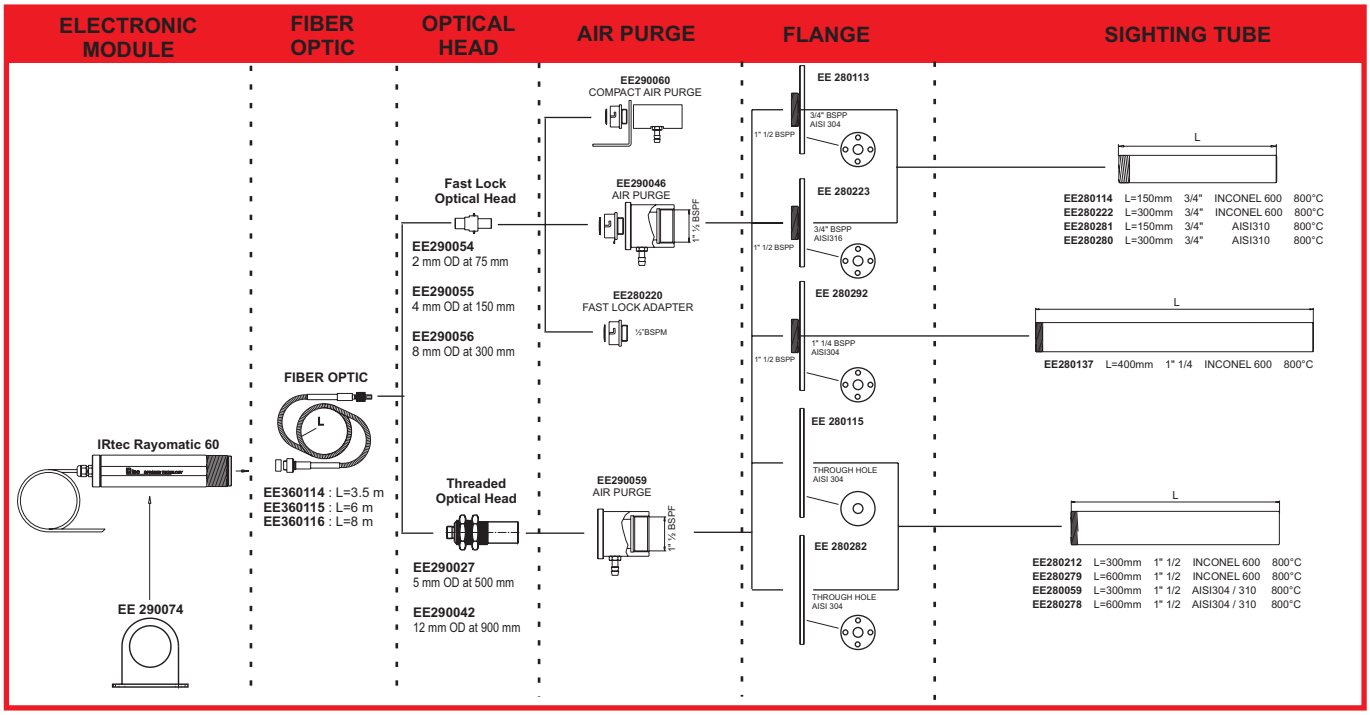
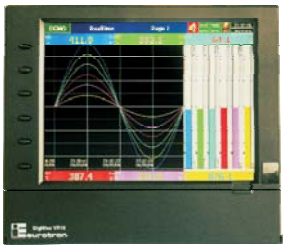
Accessories



DigiMax II - Standard Indicator 1/8 DIN

- 48x96 mm, 4 digits, 15mm wide, green LEDs
- Programmable universal input (Tc, RTD, mV, 4-20 mA)
- 18Vdc for transmitter P.S.
- Up to 4 alarms with relays
- 4/20 mA analog output
- RS485 serial interface

DigiMax VR18 - Videographic Recorder



- Programmable universal input (Tc, RTD, mV, 4-20 mA)
- 18Vdc board for transmitter P.S.
- Up to 18 analogue inputs
- Ethernet, RS232, RS485 serial interface

DigiMax III - Compact Indicator 1/32 DIN

- 48x24 mm, 4 digits, 10mm wide, green LEDs
- Programmable universal input (Tc, RTD, mV, 4-20mA)
- 18Vdc for transmitter P.S.
- Alarm with relay
- 4/20 mA analog output
- RS485 serial interface
- PID output

Accessories

BB530200	BELL202/RS232 adapter cable for PC
BB260195	Rayomatic 60 **Setup** software
BB260196	Rayomatic 60 **LogMan** software
BB530207	USB Cable (requires the adapter **BB530200**)
4820	Single 24Vdc rail mounting power supply
4822	Dual 24Vdc rail mounting power supply

Specifications may change without notice.

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