eurotron
"Excellence in measurements"

IRtec Rayomatic 14 Mk2

Compact with Remote Control Display Infrared Temperature Sensor

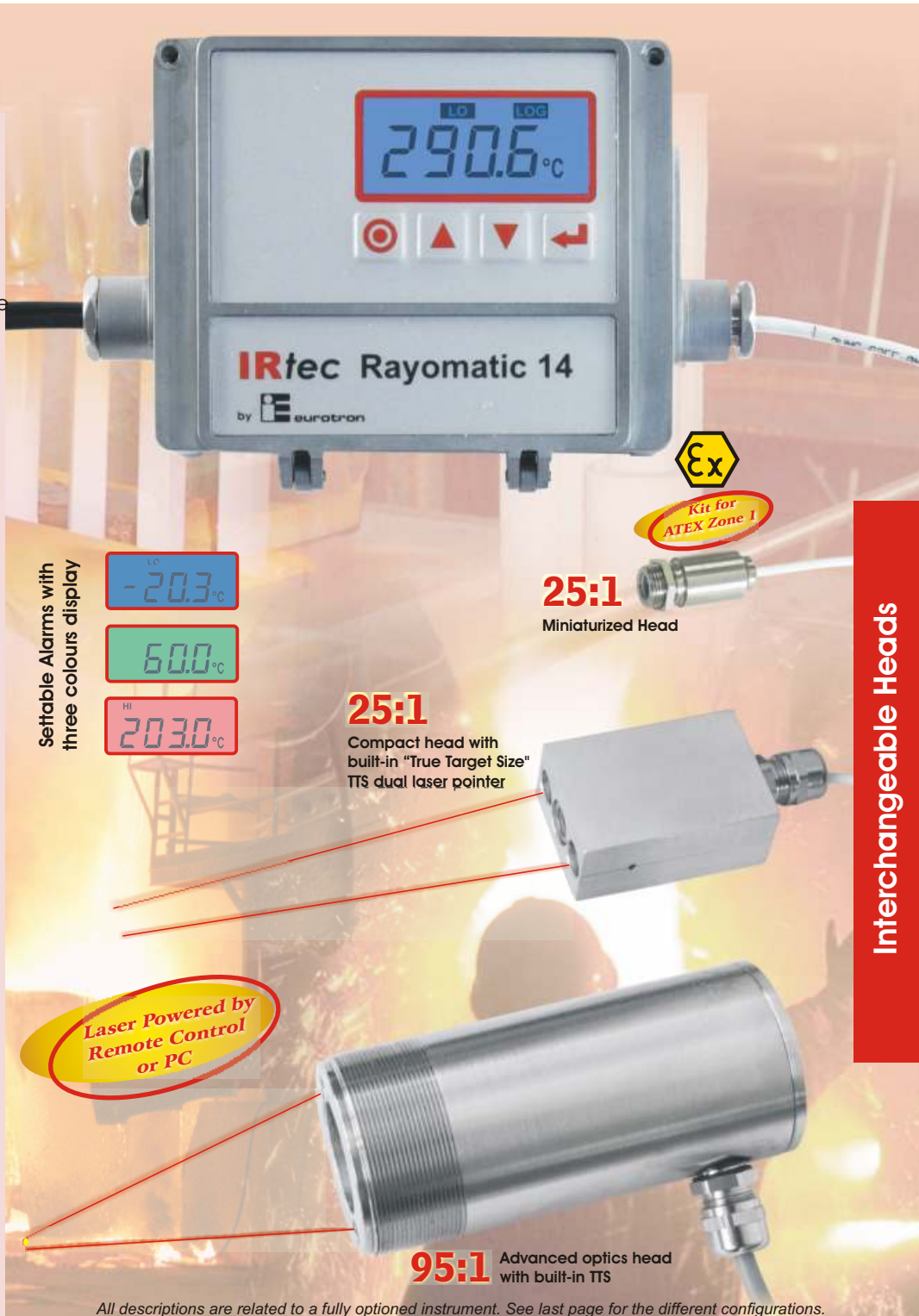
INFRARED THERMOMETERS

- Miniaturized Head M12x1
- IP65 Metal Case with Tilting Panel and SNAP-IN Fixing
- Ambient Working Head Temperature up to 180°C without Cooling
- Temperature Range up to 1000°C
- Up to 95:1 Optics
- Close Focus Lens 0.6mm Target
- Large LCD Display with 3 Colours Backlit for Easy Alarm Status ID
- Configurable Output mV, V, mA, Tc J/K or Relais Output
- Adjustable Emissivity, Response Time and Signal Processing with Built-In Programming Keys
- Easy Parameters Selection with Menu
- HS - High Speed Version 9 ms
- Password Protection on Setup
- "Black Box" Module for Events Recording with Real Time Clock
- Interface IRS232, RS485, USB, PROFIBUS with IRSetup Software
- Built-in Dual Relay Output Board

Eurotron Instruments ISO 9001 Certified Quality System

CE

www.eurotron.com



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

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IRtec Rayomatic 14 Mk2
IR Compact Transmitter

Introduction

As the infrared sensor Eurotron **IRtec Rayomatic 14** consists of two pieces (miniature sensing head with separate electronics) it can be easily installed in a variety of applications, especially if industrial environment requires space-saving installation. The stainless steel sensing head as well as the teflon-coated cable are standard equipment for ambient temperatures up to 180 °C. The labelling of each sensing head with the according calibrating code allows the exchange of head or electronic box without additional calibration. The electronic board of the **IRtec Rayomatic 14** is mounted inside a rugged die casting box. Various analogue outputs (0/4...20 mA, 0...10 V, J-type or K-type thermocouple) and optional digital interfaces (USB, Rs232, RS485) are available. Easily accessible programming keys and a back-lit LCD display permits a Smart Panel-Operation to set and adjust essential parameters on-site.

Advanced Functions

The post processing supplies some functions to process data after the basic temperature calculation.

Averaging:

In the Averaging mode a plain arithmetic algorithm will be performed to smoothen the signal. The Avg. time is the time constant. This function can be combined with all other post processing functions.

Peak & Valley Hold:

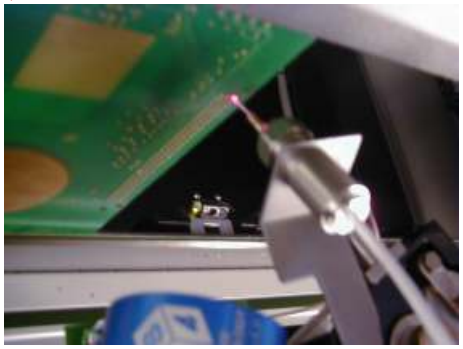
In the Peak/Valley hold mode the **IRtec** unit is waiting for descending/ascending signals. If the signal descends/ascends the algorithm maintains the previous signal peak/valley for the specified hold time.

Advanced Peak/Valley Hold:

In the mode Advanced Peak/Valley Hold mode the **IRtec** unit waits for local peak/valley values. The signal must drop below the Threshold value to detect the next peak/valley (which must be ≥threshold). Furthermore, the Hysteresis causes to only accept a new peak/valley, if the signal descends/ascends by the value of the hysteresis.

Applications

Electronics



Rubber

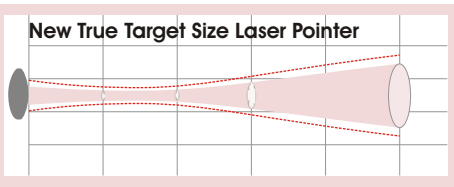
Automation

Plastic

Laser Pinpointing

TTS - True Target Size

A dual laser pointer define at different distances the true target dimension. This unique and innovative system goes over the limits of the old crossed laser pointer based system. TTS guarantees the measuring of the true area diameter along all the optical path.



Remote Laser Pinpointing

By connecting the laser to the programming unit, the operator can remotely switch the laser on or off for easy thermometer sighting.

Adjustable Emissivity

The emissivity of the measured surface can be set in value or choosed from a typical preset materials table.

Software

BB260195
IR SETUP - Configuration Software

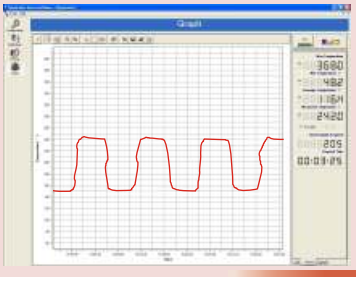
Compatible with WIN 95/98/2000/XP, the IRSetup software package provides for:

- easy sensor setup and remote controlling via USB or RS232 interface
- adjustment of signal processing functions
- programming of the 4-20mA signal output

BB260196
LogMan - Datalogging Software

Compatible with WIN 98/2000/XP, the LogMan software package provides for:

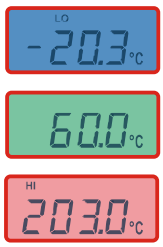
- automatic data logging for analysis and documentation
- grafic display of temperature trends



Dimensions

Programmable Alarms

High and Low level alarm can be set from the instrument or from PC. The alarm condition is displayed by the backlite color of the display (blue, green, and red) and the optional Relay output board.



RS232, RS485, USB or PROFIBUS

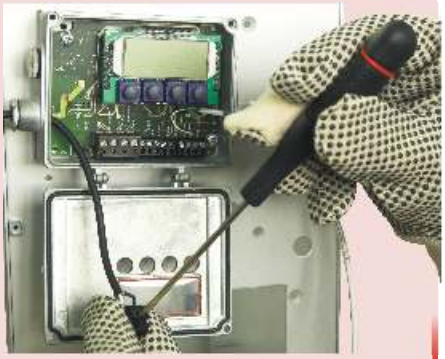
The optional communication facility allows to connect the instrument directly to a Personal Computer for settings and remote controlling. The most common industrial standards are available to include the instrument in the control system.

Event Log

The optional Event/Data Logging board, can store up to xxxx measure or anomalous events (alarm status, overheating, etc.) complete with data and time.
Data can be read from the instrument or downloaded to the PC.

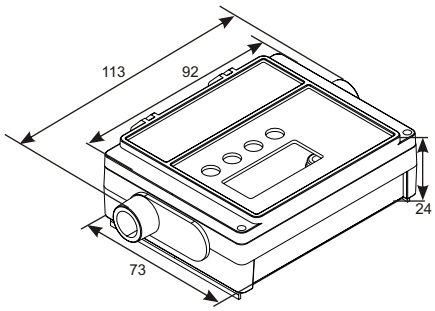
Fast Installation and Maintenance

SNAP-IN Fixing for Fast Mounting

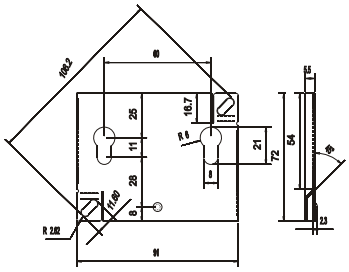


Tilting Panel for Easy Connection

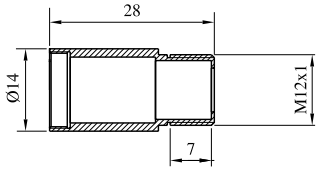
Electronics Housing



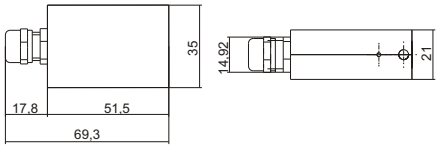
Electronics support



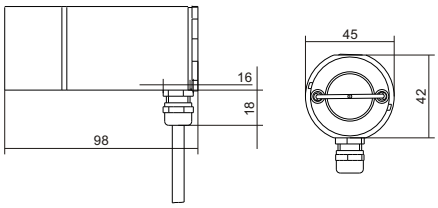
Sensing Head



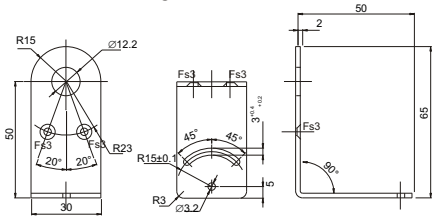
25:1 Optic



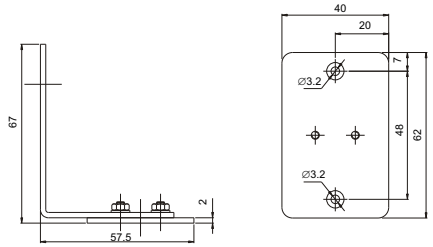
95:1 Optic



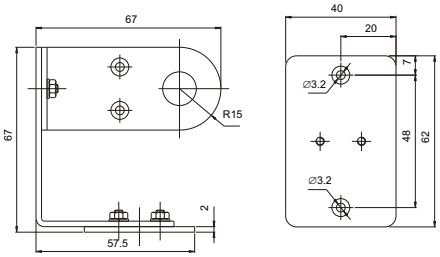
EE290147
fixed mounting bracket



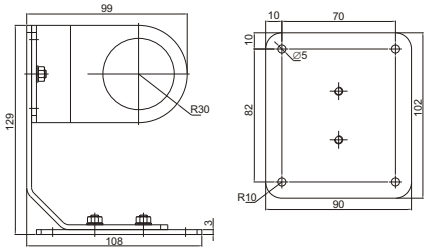
EE290149
2D adjustable mounting bracket



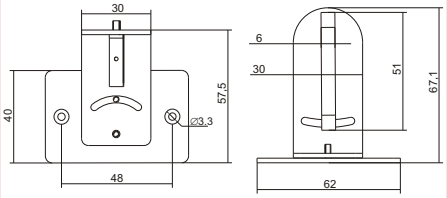
EE290150
3D adjustable mounting bracket



3D adjustable mounting bracket
for 95:1 sesing head

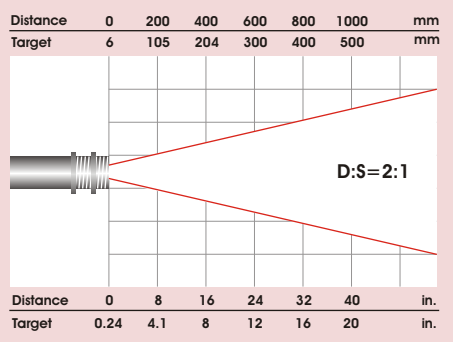


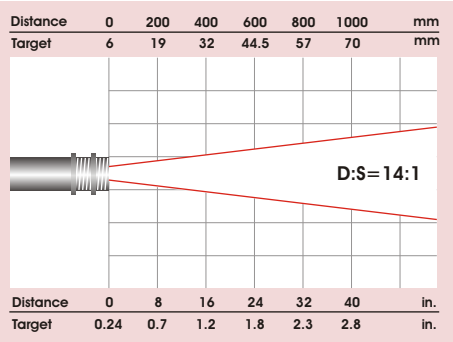
3D mounting bracket
for 25:1 sensing head

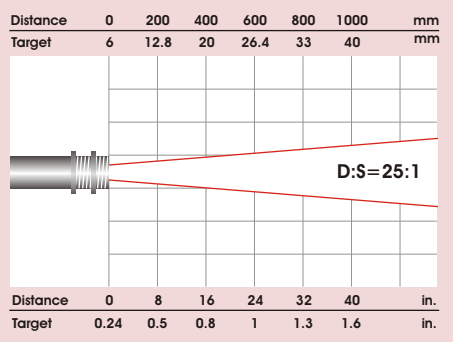


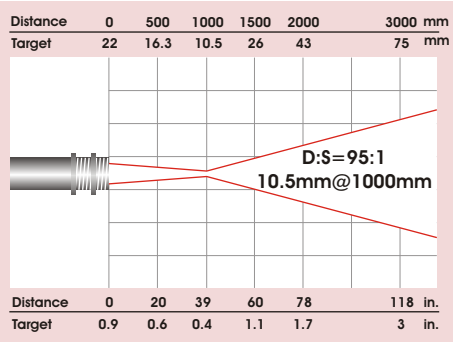
IRtec Rayomatic 14 Mk2
IR Compact Transmitter

Optics
Spot size calculted at 90% of energy









EE360158 - Close Focus lens

The optional CF-lens allows the measurement of small objects. The minimum spot size depends on the used sensing head:

2.5 mm@ 25 mm with 14:1-head
0.6 mm@ 10 mm with 25:1-head

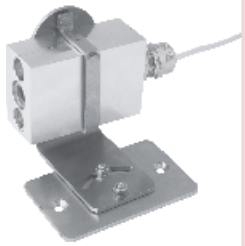
Specifications

Spectral range: 8 to 14 µm
Response time: 150 ms (95 %) - **HS**: 9ms (90%), 3 ms (50%), 20 ms analog output (90%) and 4 ms digital output (50%)
Accuracy: ±1 % or ±1 °C whichever is greater (T> -20 °C; ambient temperature +23 °C ±5 °C)
Repeatability: ±0,5 % or ±0,5 °C whichever is greater
Temperature Coefficient: ±0,05 %/ K or ±0,05 K/ K whichever is greater
Signal processing: peak hold, valley hold, average
Emissivity: 0.100 to 1.100 (manually or digitally adjustable)
Transmissivity: 0.100 to 1.100 (manually or digitally adjustable)
Power supply: 8 VDC to 36 VDC
Current draw: max. 100 mA
Outputs/ analog:
Object temperature: 0 to 20 mA or 4 to 20 mA or 0 to 5 V or 0 to 10 V or thermocouple type J or K
Head temperature: 0 to 5 V or 0 to 10 V; 10 mV/ K or alarm output
Relais: 2 x 60 VDC/AC, 0,4 A; optically isolated (optional module)
Output impedances:
mA max. loop resistance 500 Ω (at 8 -36 VDC),
mV min. 100 KΩ load impedance
Thermocouple 20 Ω
Functional inputs F1 F3; software programmable for the following functions: external emissivity adjustment, ambient temperature compensation, trigger
Digital interface: USB, RS232, RS485 (optional modules)
Environmental rating: IP65 (NEMA-4)
Ambient temperature: *Sensing heads*: -20 to 180 °C (25:1 miniaturized head) / -20 to 120 °C (HS 14:1 and 2:1 heads) / -20 to 85°C (-20 to 50°C with laser on) for 25:1 TTS and 95:1 TTS heads - *Electronic box*: 0 to 65 °C
Storage temperature: *Sensing head*: -40 to 180 °C (120°C for HS, 14:1 and 2:1 heads) / -20 to 85°C (25:1 TTS and 95:1 TTS heads) - *Electronic box*: -40 to 85 °C
Vibration (sensor): IEC 68-2-6: 3G, 11-200 Hz, any axis
Shock (sensor): IEC 68-2-27: 50 G, 11 ms, any axis
Relative humidity: 10 to 95 %, non condensing
Dimensions: *Sensing head*: Ø28 mm x 14 mm (M12x1) / 93,3 mm x 35 mm (25:1 TTS optic) / Ø45 mm x 90 mm (M44 x 1,5) (95:1 TTS optic)- *Electronic box*: 89 mm x 70 mm x 30 mm
Weights: *Sensing head*: 40 g / 100 g (25:1 TTS optic) / 340 g (95:1 TTS optic) - *Electronic box*: 450 g

EE290148
Compact air purge

EE290151
Laminar flow air purge (for severe applications)

25:1 Sensing Head
on the 3D adjustable mounting bracket (standard supplied)



Ordering Code

Code	Model
1158	**IRtec Rayomatic 14**, head mounting nut and instruction manual.

Table A	Optics	Ranges	Accessories
814-1	Miniaturized 2:1	-40 to 600°C	
814-14	Miniaturized 14:1	-40 to 900°C	
814-25	Miniaturized 25:1	-40 to 1000°C	
814-25LS1	25:1 TTS Dual Laser Pointer	-40 to 1000°C	3D mounting bracket
814-25HS	Miniaturized 25:1 HS (9 ms)	-40 to 600°C	
814-25LSHS	25:1 LS HS (9 ms) TTS dual laser	-40 to 600°C	3D mounting bracket
814-95LSHS	95:1 LS HS (9 ms) TTS dual laser	-40 to 600°C	fixed mounting bracket
814-95LS1	95:1TTS Dual Laser Pointer	-40 to 1000°C	fixed mounting bracket
814-95LSCF	Close Focus 0.9mm@85mm	-40 to 1000°C	fixed mounting bracket
814-SP	Special on request		

Table B	Head Cable length
1m	1 mt
3m	3 mt
8m	8 mt
15m	15 mt
Xm	Special length on request

Table C	Options
NO	None
RS232	RS232 interface EE300293 + IRSetup software
RS485	RS485 interface EE300294+ IRSetup software
USB	USB interface EE300295 + IRSetup software
PROFI	Profibus
RELAY	Relais interface EE300296 (2x optically isolated)
LOG	Event/Data Logging EE300297

Table D	Calibration Certificate
NO	None
EC	Eurotron NIST or EA traceable with data

1158 - 814-25 - 3m - LOG - EC *Typical ordering code*

Specifications may change without notice