



## RAYOMATIC 60

Fiber optic process infrared thermometer up to 2000°C

IRtec RAYOMATIC 60 is a fibre optic infrared thermometer for high temperatures up to 2000°C. Three models are available to meet most industrial high temperature applications where the ambient operation temperature is very high and the target not easily accessible.

It is equipped with a miniature optical head and separate electronics connected by a flexible fibre optic cable. The sensing head and the optic fiber resist ambient temperatures up to 200°C.

## Description

IRtec RAYOMATIC 60 is a fibre optic infrared thermometer for high temperatures up to 2000°C. Three models are available to meet most industrial high temperature applications where the ambient operation temperature is very high and the target not easily accessible.

It is equipped with a miniature optical head and separate electronics connected by a flexible fibre optic cable. The sensing head and the optic fiber resist ambient temperatures up to 200°C.

The emissivity can be adjusted from 0.30 to 1.00 either manually through a selector switch on the back panel of the electronics or digitally through the serial communication interface.

Five different interchangeable optical adapters are available to provide different target/distance vision cones. The sensing head can be connected and disconnected from the process using a fast connection system. It allows rapid installation and maintenance of the measuring system.

An optional built-in laser can be added to the electronic module and the spot is projected by the optical head for target alignment. The laser can be remotely activated or deactivated.

The instrument includes signal processing features: Emissivity, peak-picker, valley-picker, peak hold, valley hold and averaging. All of them are adjustable using IRSetup PC software.

### Key features of RAYOMATIC 60:

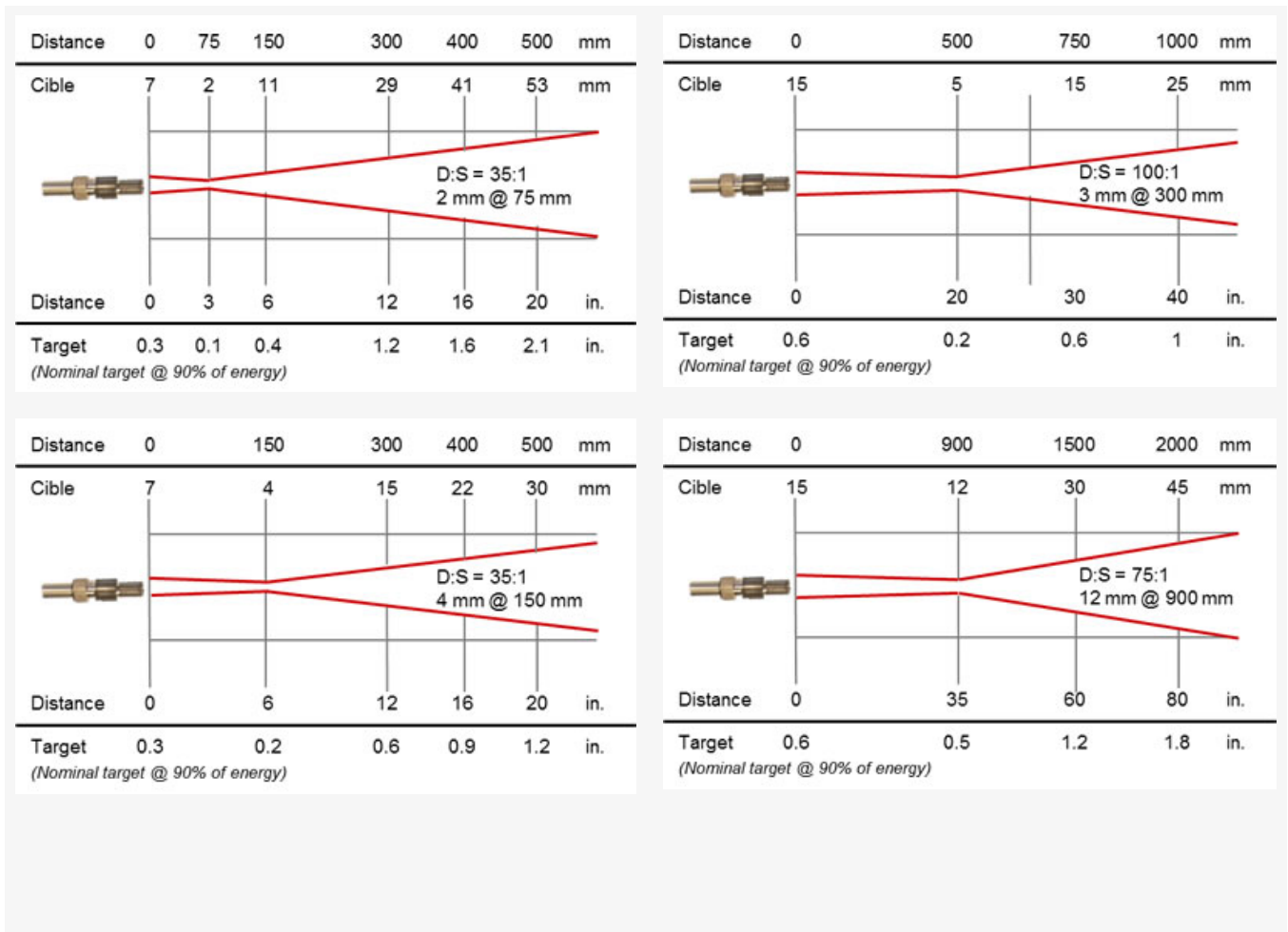
- Optical heads resist ambient temperatures up to 200°C
- Emissivity adjustable by PC or manually
- Advanced signal processing: Emissivity, peak-picker, valley-picker, peak hold, valley hold and averaging
- Optional laser pointing system

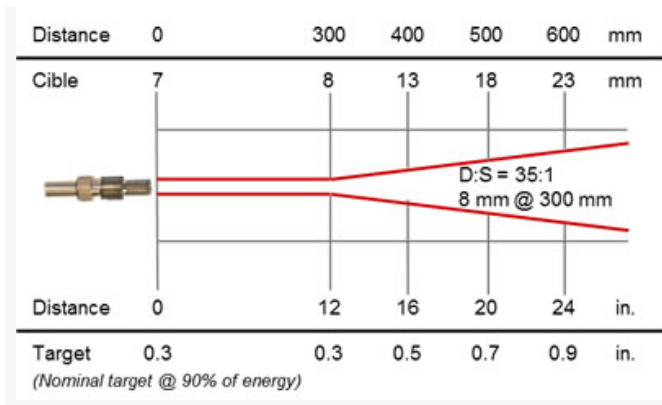
# Specifications

## Infrared temperature measurement

Models	100-1	100-2	160-1
Temperature range	600 to 1600°C	800 to 2000°C	300 to 1300°C
Spectral response	0.9 μm	0.9 μm	1.6 μm
Emissivity	Adjustable from 0.30 to 1.00 in 0.01 steps		
Accuracy	±0.5% RDG + 1°C		
Stability	< 0.05% RDG/°C beyond nominal range		
Repeatability	±0.25 % RDG		
Response time	Adjustable by PC from 28 ms to 10 s		
Ambient working temperature	Optical head and optic fiber: 200°C max Electronic module: From -20 to 60°C		

## Optics





## Further features

Calculation functions	Average, max, min, diff, ambient temperature compensation
Laser	Red pointing laser
Digital communication	Superimposed digital signal to 4-20 mA
Output	4-20 mA 2-wire current loop - max load 700 W

## General specifications

Size	Electronic module: 45 mm diameter x 200 mm - Threaded M44x1.5 Optical head: 16 x 52 mm - Fast Lock 30 x 94 mm - Threaded M30x1
Weight of electronic module	0.8 kg
Display resolution	1°C / °F / K
Power supply	12 to 32 VDC
Interfaces	RS 232

## Environmental specifications

Reference conditions	From 15°C to +35°C
Storage conditions	From -30°C to +70°C
IP protection	IP 65

# Models and accessories

## Instruments:

**Ordering code structure: 1110 - A - B - C - D - E - F - G / X**

*Please select the required options from tables A, B... below to define the right device reference.*

### **1110 IRtec RAYOMATIC 60**

Delivered in standard with:

- User manual
- Factory traceable calibration report

#### **Table A - Range - Optics**

100-1	+600 to +1600°C (1100 to 2900°F)
100-2	+800 to +2000°C (1470 to 3630°F)
160-1	+300 to +1300°C (570 to 2370°F)

#### **Table B - Output signal**

2	Linear 4-20 mA with smart digital communication
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#### **Table C - Optic fibre length**

1	1 m
2	3.5 m
3	6 m
4	8 m
9	Special length upon request

#### **Table D - Target / Distance**

1	f 2 mm at 75 mm - fast lock
2	f 4 mm at 150 mm - fast lock
3	f 8 mm at 300 mm - fast lock
4	f 5 mm at 500 mm - threaded
5	f 12 mm at 900 mm - threaded
9	Special optics upon request

#### **Table E - Options**

0	None
1	Red laser built-in pointer

**Table F - 4-20 mA connection cable**

1	2 m long shielded cable
2	8 m long shielded cable
9	Special length upon request

**Table G - Calibration report**

1	Factory traceable calibration report
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**Table X - Personal settings**

ENG	English instruction manual
FRA	French instruction manual

## Accessories:

### Air Purge and Miscellaneous

EE290011	Compact purge air device for screw type optics
EE290012	Air purge device for screw type optic
EE280315	DN100 1" 1/2 adapter flange for EE290075 M44x1.5 + Window holder
EE290046	Air purge as EE290012 for fast lock fibre optics
EE290049	Monoblock fibre optic fast lock + air purge
EE290052	Fast lock adaptor for screw type optic head w.f.
EE290059	Air purge dev. for fibre optic head f=500/900 M30
EE290060	Air purge as EE290011 device for fast lock optics

### Flange

EE280115	AISI304 - from 1" 1/2 to 1" 1/2 flange without holes
EE280223	AISI304 - from 1" 1/2 to 3/4" flange
EE280282	AISI304 - from 1" 1/2 to 1" 1/2 flange BSPP
EE280292	AISI304 - from 1" 1/2 to 1" 1/4 flange
EE280277	Flange adaptor ZK/TK

### Sighting Tube

EE280059	AISI304 1" 1/2 L=450 mm sighting tube
EE280278	AISI304 1" 1/2 L=600 mm 1" 1/2 sighting tube
EE280280	AISI304 L=300 mm 3/4" sighting tube

EE280281      AISI304 L=150 mm 3/4" sighting tube

### Other accessories

BB260195      IRsetup configuration software  
BB530200      Bell202 / RS 232 adapter + 24 Vdc P.S.  
EE280121      AISI 310 SG tube adapter  
EE280219      Quick connection adaptor for screw type optic  
EE280224      Flanged disk for quick connection system  
EE280487      Electronics mounting support  
EE290073      Optic head mounting support  
BB260196      Configuration + data logging software IRLogMan

### Packing information:

#### Size

Electronics      45 mm diameter x 200 mm

Fast lock optical head    16 x 52 mm

Threaded optical head    30 x 94 mm

Weight electronic module      0.8 kg