



## RAYOMATIC 16 2.2

Miniature 2.2  $\mu\text{m}$  process infrared thermometer for demanding applications with optional touch screen

IRtec Rayomatic 16 2.2 Series is a range of miniature non-contact infrared temperature sensors with separate electronics modules measuring from 100°C to 2000°C.

- 2.0 to 2.6  $\mu\text{m}$
- Miniature sensing head and configurable electronics module
- Optional touch screen for temperature indication and configuration
- Optional datalogging to MicroSD
- Sensing head cable resistant to interference from movement
- 4-20 mA, RS485 Modbus or 24 V alarm relay outputs in option
- MIN / MAX / AVG values, peak / valley hold

## Description

IRtec Rayomatic 16 2.2 Series is a range of miniature non-contact infrared temperature sensors with separate electronics modules measuring from 100°C to 2000°C.

All models have an adjustable emissivity setting and are ideal recommended for demanding industrial applications where the target temperature is very high, or where the target surface has a low emissivity, for example many types of metal: steel industry, food industry, paper...

The optional touch screen interface provides temperature indication, alarms, sensor configuration and data logging to MicroSD Card. The low-noise cable is resistant to interference from movement, so it is ideal for mounting on moving objects such as robot arms.

A choice of optics are available to measure small or large targets at short or long distances, and there is a choice of 4-20 mA, RS485 Modbus and alarm relay outputs.

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# Specifications

## Infrared temperature measurement

Model	PT	MT	HT
Temperature range	100°C to 400°C	250°C to 1000°C	450°C to 2000°C
Spectral response	2.0 - 2.6 µm		
Emissivity	Adjustable from 0.10 to 1.00		
Accuracy	±1% RDG or 2°C		
Repeatability	±0.5% RDG or 0.5°C		
Response time	240 ms (90%)		

## Optics


## Further features

Datalogging	<p>Rayomatic 16 2.2 models -CRT and -BRT include a MicroSD card slot for data logging, which can be configured via the touch screen interface. The user can select the sample rate and the number of samples to be taken and schedule the data logging to start at a certain time.</p> <p>With a 2 GB card, the user can store 28.4 million readings. Data is stored on the MicroSD card in .csv format and can be viewed and edited easily using spreadsheet software.</p> <p>Readings are time and date stamped using the sensor's internal clock.</p>
Alarms	<p>In alarm conditions, the display changes colour to provide an immediate and obvious alarm indication. Alarm modes and levels can be configured via the touch screen.</p>

## General specifications

Size L x l x h	<p>Electronic module: 98 x 64 x 36 mm</p> <p>Sensing head: Ø 18 x 45 mm</p> <p>Thread mounting: M16 x 1 mm</p>
Weight	390 g with cable
Materials	<p>Head: IP65 stainless steel</p> <p>Electronic module: Die-cast aluminium</p>

Touch screen	Resistive touch TFT 2.83", 320x240 px
Power supply	24 VDC, 100 mA max
Loop impedance	900 $\Omega$ Max

## Environmental specifications

Reference conditions	Sensing head: 0°C to +70°C (RH: 95% non-condensing) Electronics, touch screen: 0°C to +60°C (RH: 95% non-condensing)
Environmental rating	IP65

# Models and accessories

## Instrument:

**Ordering code structure: 16-2.2-AA-BB-CCC-D/MAN**

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

### **16-2.2      Rayomatic 16**

Delivered in standard with:

- Instruction manual in English

#### **Table AA      Optics - Distance to target**

15	Optics 15:1, 100 mm @ 1500 mm (PT model only)
25	Optics 25:1, 60 mm @ 1500 mm
75	Optics 75:1, 20 mm @ 1500 mm
CF	Close focus lens, 7.5 mm @ 500 mm

#### **Table BB      Temperature range**

PT	100°C - 400°C (15:1 optics only)
MT	250°C - 1000°C
HT	450°C -2000°C

#### **Table CCC    Outputs**

CB	4-20 mA output, no screen
CRT	CB option + 2 alarm relay outputs, with touchscreen
BB	RS485 Modbus output, no screen
BRT	BB option + 2 alarm relay outputs, with touchscreen

#### **Table D      Calibration certificate**

0	None
1	Factory traceable calibration certificate with data

## Accessories:

Digimax 180    6-channel touch screen hub for -BB, -BRT and NET models

MSD            2GB MicroSD Card with SD Card adapter (-BRT and -CRT models) for storage and transfer of logged data

FBS            Fixed mounting bracket for compact sensors

ABS            Adjustable mounting bracket for compact sensors

APSN	Air purge collar
LSTS	Laser sighting tool for compact sensors
DLSBFS	Dual laser sighting bracket, fixed, for compact sensors
DLSBAS	Dual laser sighting bracket, adjustable, for compact sensors
DLSBCE	Extended cable for Dual Laser Sighting Bracket - 1 m
PM2.2CE	Extended sensing head cable, 1 m, up to 29 m extension
CALCERT A	Calibration certificate
CALCERT B	Re-calibration and certificate
MBAC	Change of Modbus address in factory (Sensors are supplied with Modbus address 1 as standard). Please specify the required Modbus address for each sensor at the time of ordering.