

RAYOMATIC 16 2.2

Miniature 2.2 µm 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 µm
- 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	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. 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. Readings are time and date stamped using the sensor’s internal clock.
Alarms	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.

General specifications

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

Touch screen	Resistive touch TFT 2.83", 320x240 px
Power supply	24 VDC, 100 mA max
Loop impedance	900 Ω 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.