

## Miniature 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.

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.

INFRARED  
THERMOMETERS



- ▶ Range from 100°C to 2000°C
- ▶ 2.0 to 2.6  $\mu\text{m}$
- ▶ Miniature sensing head & configurable electronics module
- ▶ Adjustable emissivity
- ▶ Optional touch screen for temperature indication and configuration
- ▶ Optional datalogging to MicroSD on touch screen models
- ▶ Sensing head 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
- ▶ IP65 rating
- ▶ Optional air/water cooled housing, air purge collar, laser sighting tool, dual laser sighting bracket, mounting brackets...



CE

### AOIP SAS

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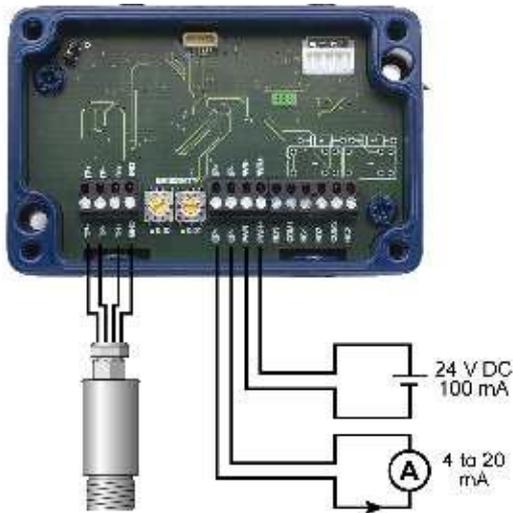
Tel: +33 (0)169 028 900 – Fax: +33 (0)169 020 599

Email: [export@aoip.com](mailto:export@aoip.com)

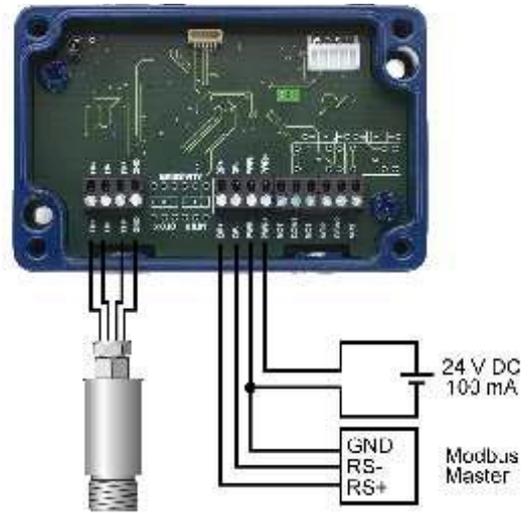
[www.aoip.com](http://www.aoip.com)

## Connections

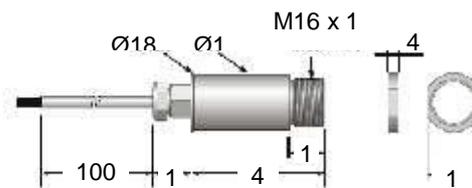
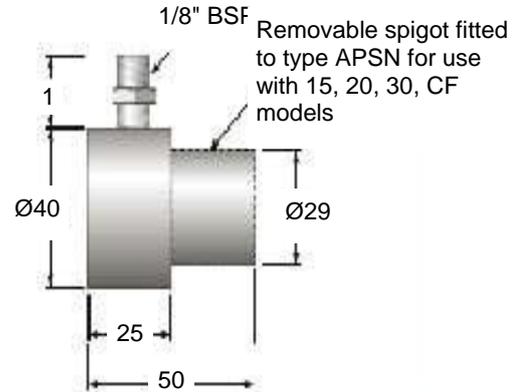
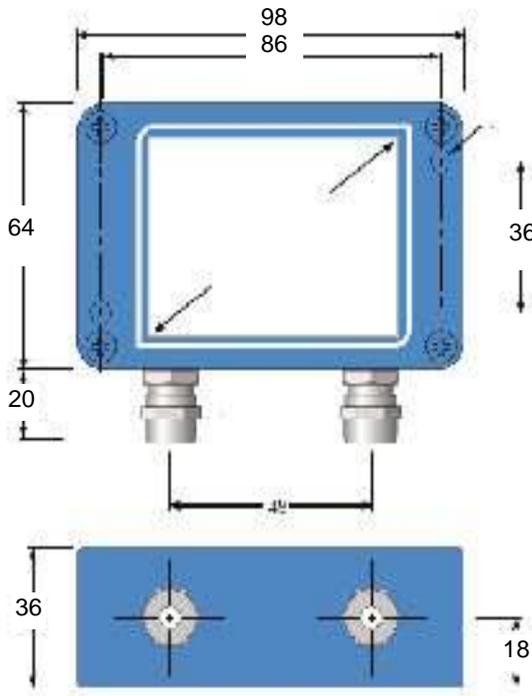
- CB and CRT models



- BB and BRT models



## Dimensions

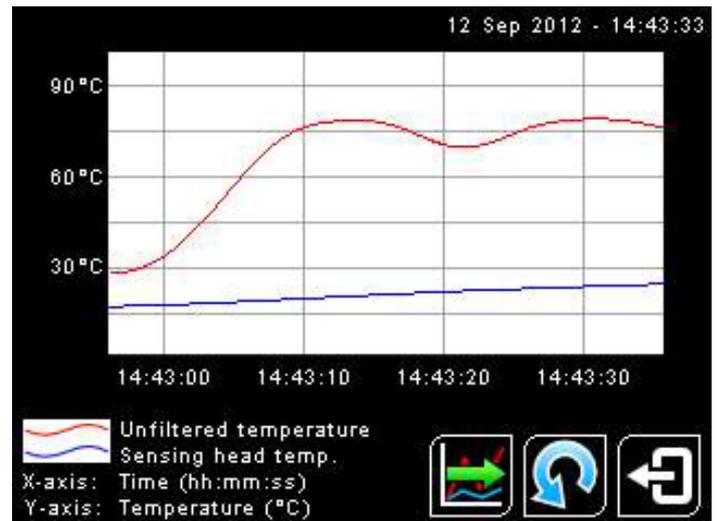


## Touch screen

The optional backlit touch screen interface (2.83" resistive touch TFT 320x240 pixels) mounted in the lid of the electronics module provides a large, bright display of the measured temperature, as well as options for full configuration of the sensor.

The graph view shows the history of the measured temperature.

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.



## Datalogging

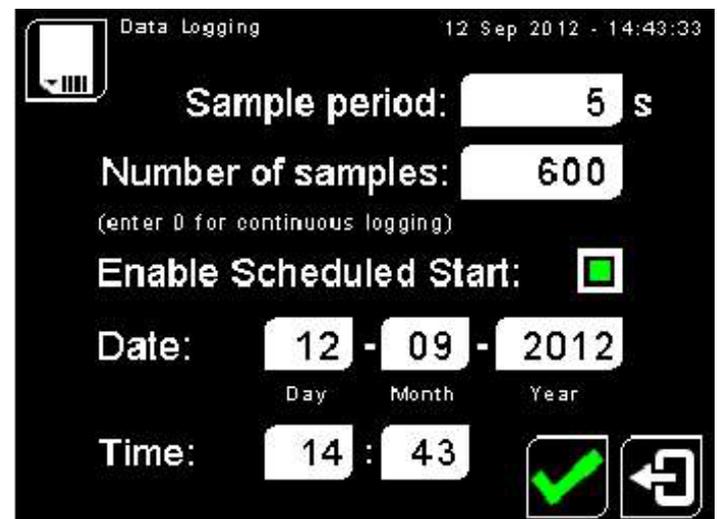
The Rayomatic 16 2.2 can be used as a standalone data logger.

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.

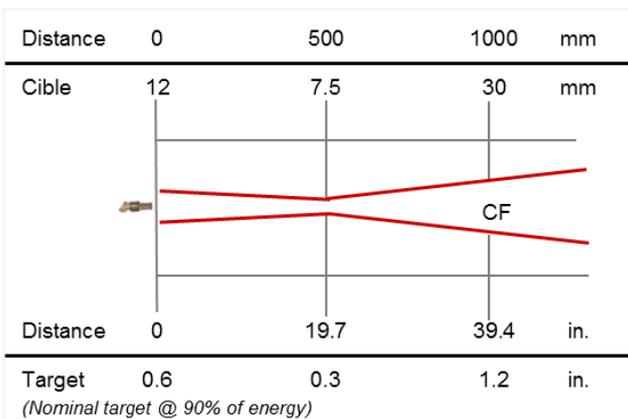
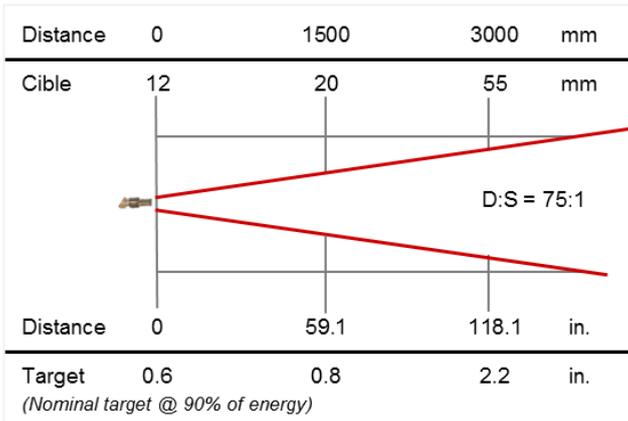
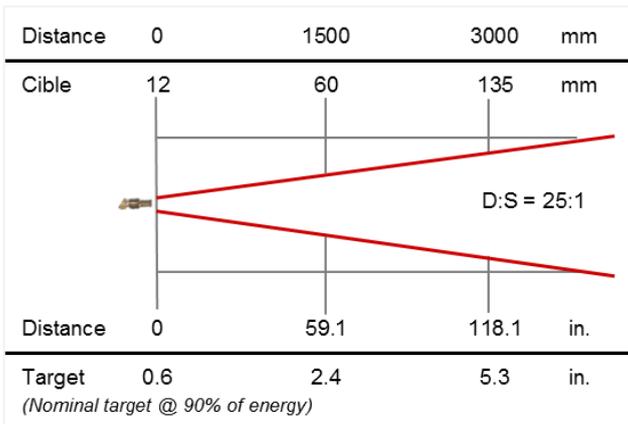
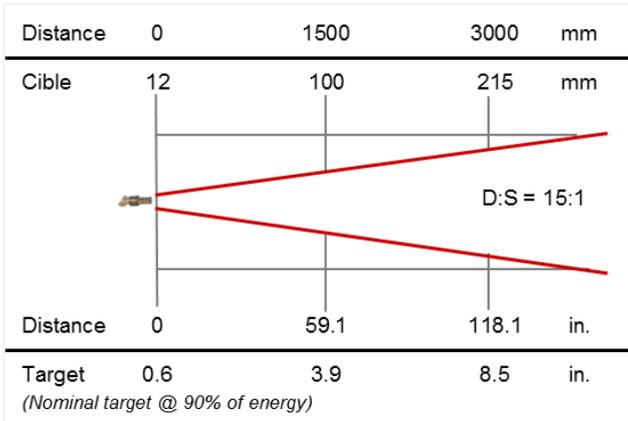
With a 2 GB card, the user can store 28.4 million readings.

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.



## Optics



## Technical specifications

<b>Range</b>	PT: 100°C – 400°C MT: 250°C – 1000°C HT: 450°C – 2000°C
<b>Optics</b>	15:1, 25:1, 75:1, CF
<b>Outputs</b>	4-20 mA, RS485 Modbus & relays (24 V DC, 1 A, 500 VDC insulation)
<b>Accuracy</b>	±1% RDG or 2°C
<b>Repeatability</b>	±0.5% RDG or 0.5°C
<b>Emissivity</b>	0.10 to 1.00
<b>Response time</b>	240 ms (90%)
<b>Spectral band</b>	2.0 – 2.6 μm
<b>Supply voltage</b>	24 VDC
<b>Current draw</b>	100 mA max
<b>Loop impedance</b>	900 Ω Max
<b>Display</b>	Resistive touch TFT 2.83", 320x240 px
<b>Sensing head</b>	IP65 stainless steel
<b>Electronics module</b>	Die-cast aluminium
<b>Dimensions</b>	Head: Ø 18 x 45 mm Electronics: 98 x 64 x 36 mm
<b>Thread mounting</b>	M16 x 1 mm
<b>Weight</b>	390 g
<b>Cable length</b>	1 m (between head and electronics module), up to 30 m
<b>Working temperature</b>	0 to 70°C (sensing head) 0 to 60°C (electronics, touch screen)
<b>Relative humidity</b>	95% non-condensing EN61326-1:2006, IEC 61000-4-2, IEC 61000-4-3, IEC 61000-4-4, IEC 61000-4-5, IEC 61000-4-6, EN55022A; EN55022B, RoHS
<b>Compliance</b>	

## Accessories



FBS Fixed mounting bracket  
ABS Adjustable mounting bracket



LSTS Laser sighting tool



DLSBFS Dual laser sighting bracket, fixed  
DLSBAS Dual laser sighting bracket, adjustable  
DLSBCE Extended cable - 1 m



APSN Air purge colla

## Ordering instructions

### 16-2.2-AA-BB-CCC-D/MAN

Delivered in standard with instruction manual in English

Table AA	Optics – Distance to target
15	Optics 15:1, 100 mm @ 1500 mm (PTmodel 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

**Extended sensing head cable**, up to 29 m extension  
PM2.2CE For all models – 1 m

MSD 2 GB MicroSD card with SD card adapter  
DigiMax 180 6-channel touch screen hub for BB, BRT & NET models

MBC Change of MODBUS address in factory