



## IRTEC P

Portable multipurpose infrared thermometers with TTS laser pointer

IRtec P infrared thermometers are a series of ergonomically designed high performance portable instruments, with a short response time (< 150 ms), a large LCD high resolution screen with automatic backlight and a rugged grip for easy handling.

The emissivity can be manually adjusted or through a keyboard from 0.10 to 1.00.

## Description

IRtec P infrared thermometers are a series of ergonomically designed high performance portable instruments, with a short response time (< 150 ms), a large LCD high resolution screen with automatic backlight and a rugged grip for easy handling.

The emissivity can be manually adjusted or through a keyboard from 0.10 to 1.00.

Measuring unstable values is possible by programming the digital filter. In addition, the operator can activate measurement of minimum and maximum values to identify hot spots, Tmax-Tmin operations and ambient temperature compensation. The screen displays the current temperature measured and measurement mode.

## Alarms

High and low alarms can be programmed and activated to identify hot spots during rapid scans or to monitor temperature over a long period of time. Alarms trigger an audible warning as well as a visual indication on the LCD screen.

## Laser pointing system

An integrated dual laser pointer shows the actual size of the target (True Target Size, TTS) at different distances. This unique and innovative system overtakes the traditional dual crossed laser pointer and guarantees the identification of the real target surface area regardless of the optics.

## Data storage

IRtec P series have an internal memory for up to 500 values tagged with real-time clock. Measurements can be downloaded to computer through USB. The data may be displayed as a list or graphically using IRLogman software as an option.

## Thermocouple auxiliary input

In order to extend their operative capabilities, the instruments are also equipped with an auxiliary input for thermocouples type K and S. When used with a reference thermocouple, this feature can be used for automatic emissivity adjustment.

The optical system of IRtec P infrared thermometers consists in a high quality lens that brings

the infrared energy to the detector, a filter and a field stop, which defines the visual cone and the minimum target size. The detector is placed at the focal point of the optical system. No focusing operations are required.

## Key-points of IRtec P range of infrared thermometers:

- Wide temperature range: -30 to 2000°C
- Several spectral responses available to cover a large number of applications: 8-14  $\mu\text{m}$ , 1.6  $\mu\text{m}$ , 0.9  $\mu\text{m}$
- Short response time: < 150 ms
- Dual red laser pointer with True Target Size system
- Adjustable emissivity: 0.10 to 1.00

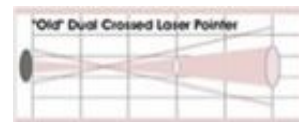
## TTS dual spot laser - True Target Size

Every model of IRtec P series is equipped in standard with a **TTS dual spot laser, True Target Size**. This dual laser pointer system shows the true size of the target being measured at different distances, which prevents from measuring temperature outside of the target.

This unique and innovative system goes beyond the limits of the former crossed laser pointer based system. TTS dual laser guarantees the correct area diameter is being measured all along the optical path.



**TTS vs traditional crossed pointer**



## How to shoot a target correctly

The infrared thermometer is well positioned to measure Target 1 temperature because the two laser points are on the target, i.e. make a smaller diameter than the target.

For Target 2, placed at 3000 mm, the thermometer has a measurement spot of 82 mm. One laser point reaches Target 2 but the second one does not. It means the thermometer measures not only Target 2 temperature but also its surroundings which has a strong influence on the accuracy of the measurement.

# Specifications

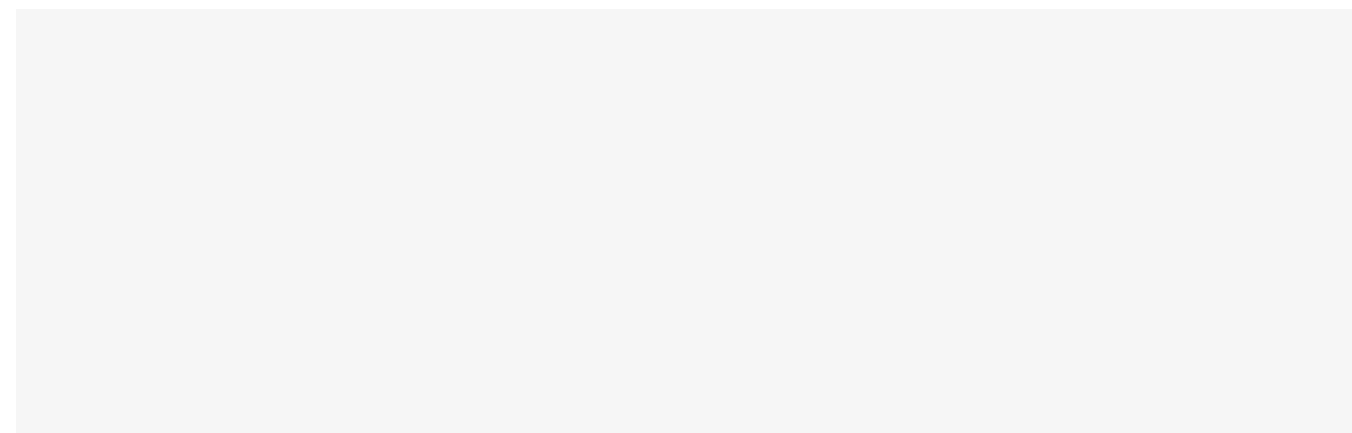
## Infrared temperature measurement

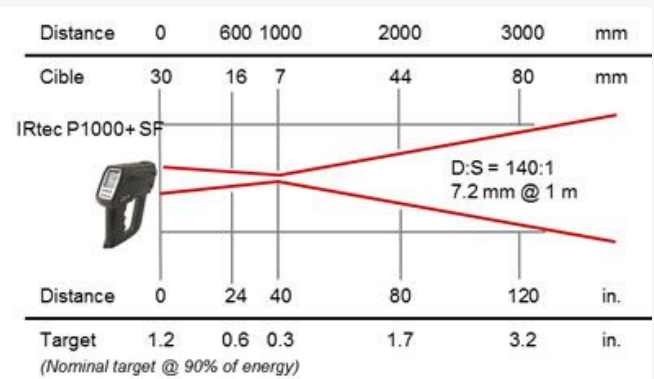
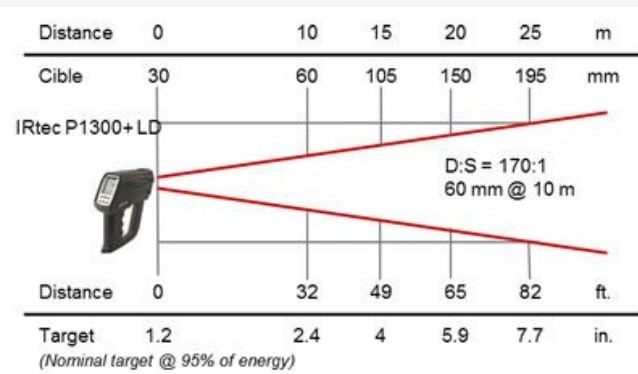
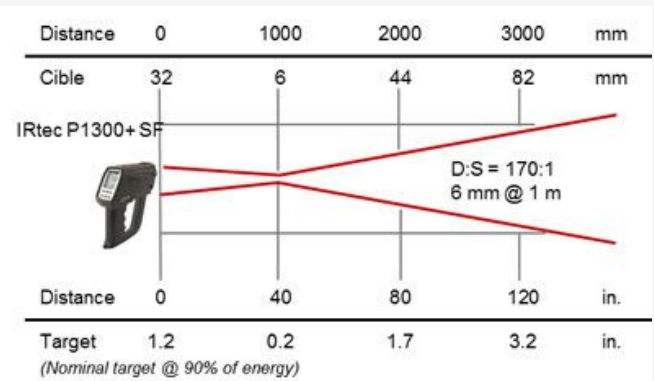
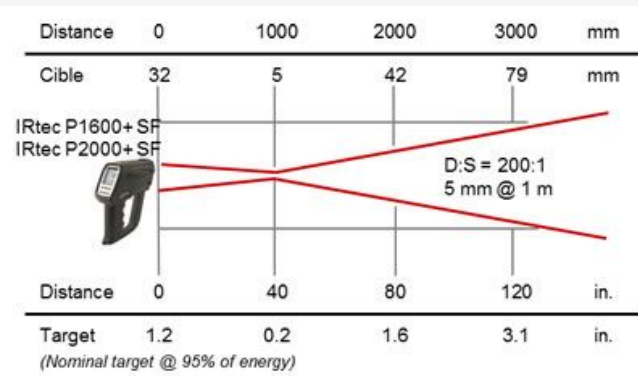
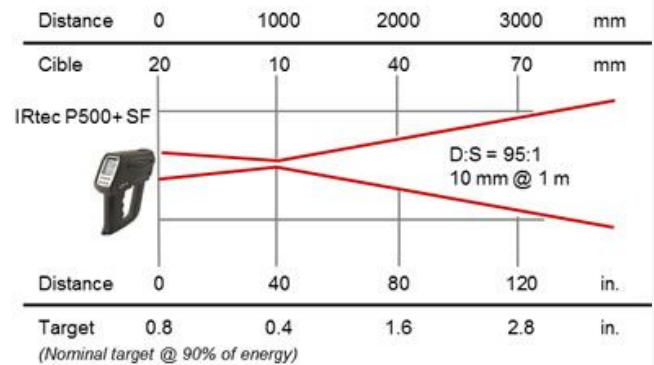
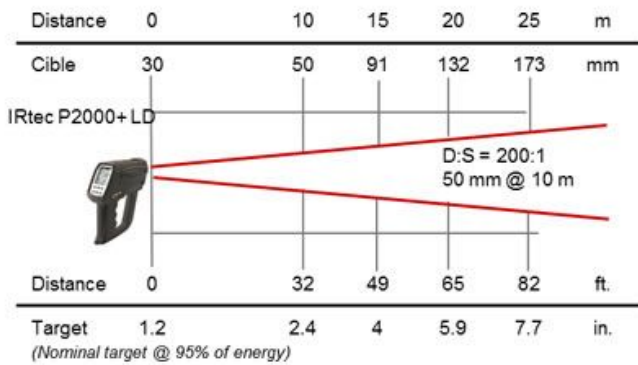
	<b>IRtec P500+</b>	<b>IRtec P1000+</b>	<b>IRtec P1300+</b>	<b>IRtec P1600+</b>	<b>IRtec P2000+</b>
Temperature range	-30 to 1000°C	-30 to 1200°C	200 to 1300°C	600 to 1600°C	500 to 2000°C
Spectral response	8-14 μm	8-14 μm	1.6 μm	0.9 μm	0.9 μm
Emissivity	Adjustable from 0.10 to 1.00				
Accuracy	±0.75% RDG or 0.75°C		±0.25% RDG		
Stability	±0.01% FS/°C outside operating range of 23°C ±5°C				
Repeatability	±0.5% RDG or 0.5°C		±0.1% RDG		
Diameter @ distance	SF 10 mm @ 1 m	SF 7.2 mm @ 1 m	SF 6 mm @ 1 m	SF 5 mm @ 1 m	SF 5 mm @ 1 m
	TF 10 mm @ 600 mm	LD 72 mm @ 10 m	LD 60 mm @ 10 m		LD 50 mm @ 10 m
D:S (Optics)	SF 95:1 TF 60:1	140:1	170:1	200:1	200:1
>Sampling time	< 150 ms				

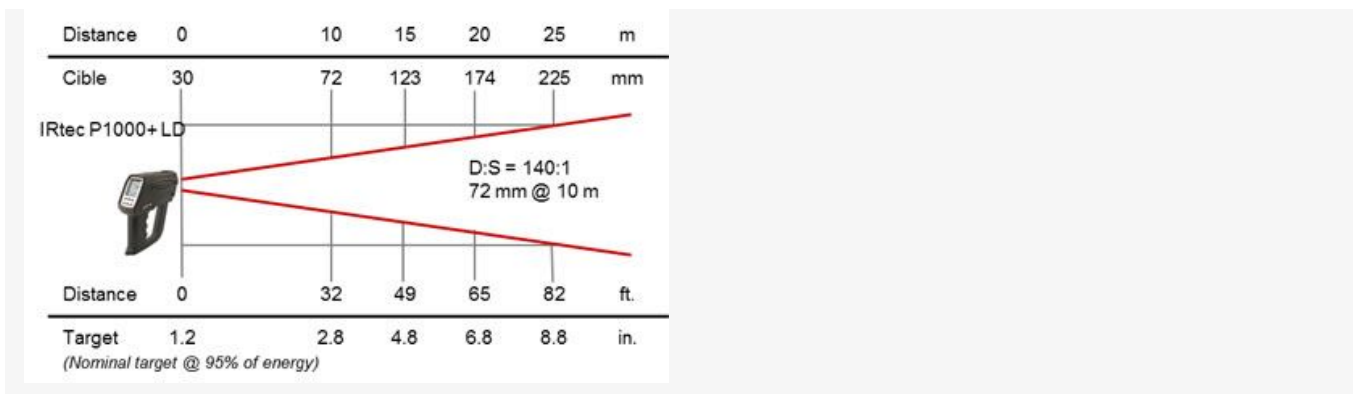
## Contact temperature measurement by thermocouples

	Thermocouple type K	Thermocouple type S
Range	From -100°C to +1370°C	From 0°C to +1760°C
Accuracy	± (0.05% RDG + 0.4°C)	± (0.05% RDG + 0.4°C)
Resolution	0.1°C	0.1°C

## Optics







## Further features

Calculation functions	Average, max, min, diff, ambient temperature compensation
Laser	Dual TTS or parallel

## General specifications

Size	200 x 180 x 80 mm
Weight	Net 0.8 kg - Gross 1.5 kg
Display	High contrast custom LCD with automatic backlight
Display resolution	1°C / °F / K
Power supply	100, 115, 230 V ±10% (50/60 Hz)
Battery	Rechargeable Li-ION Battery life: > 20 h (without backlight) Charging time: 6 h at 90% (instrument switched off)
Communication interface	USB serial port, infrared port
Data storage	500 input data structured by Tag (max. 20 Tag)

## Environmental specifications

	IRtec P500+	IRtec P1000+	IRtec P1300+	IRtec P1600+	IRtec P2000+
Operating range	From -10°C to +60°C				
Storage conditions	From -10°C to +60°C		From -30°C to +60°C		

# Models and accessories

## Instruments:

**Ordering code structure: 119x - A - B - C - D / X**

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

**1190                    IRtec P500+: -30°C to 1000°C**

Standard delivery includes:

- Base unit with internal memory, alarms and vinyl case
- Tc K/S auxiliary input
- IR printer port
- USB cable
- Rechargeable batteries + charger
- Certificate of calibration
- Instruction manual

### **Table A - Optics Laser**

SF                    95:1 Standard focus TTS dual red laser

### **Table B - Power supply**

USA                    Li-ION / 120 V - USA plug

UK                    Li-ION / 240 V - UK plug

EUR                    Li-ION / 230 V - European plug

JAP                    Li-ION / 100 V - USA / Japan plug

### **Table C - Accessories**

NO                    None

### **Table D - Calibration report**

EC                    Factory traceable calibration report

### **Table X - Personal settings**

ENG                    English instruction manual

FRA                    French instruction manual

**1194                    IRtec P1000+ Mk2: -30°C to 1200°C**

Standard delivery includes:

- Base unit with internal memory, alarms and vinyl case
- Tc K/S auxiliary input
- IR printer port
- USB cable
- Rechargeable batteries + charger
- Certificate of calibration
- Instruction manual

**Table A - Optic Laser**

SF	140:1 Standard focusTTS dual red laser
LD	Long Distance focusTTS dual red laser

**Table B - Power supply**

USA	Li-ION / 120 V - USA plug
UK	Li-ION / 240 V - UK plug
EUR	Li-ION / 230 V - European plug
JAP	Li-ION / 100 V - USA / Japan plug

**Table C - Accessories**

NO	None
TELE	2x Sighting telescope

**Table D - Calibration report**

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

ENG	English instruction manual
FRA	French instruction manual

**1195 IRtec P1300+ Mk2: 200°C to 1300°C**

Standard delivery includes:

- Base unit with internal memory, alarms and vinyl case
- Tc K/S auxiliary input
- IR printer port
- USB cable
- Rechargeable batteries + charger
- Certificate of calibration
- Instruction manual

**Table A - Optic Laser**

SF	170:1 Standard focusTTS dual red laser
LD	Long Distance focusTTS dual red laser

**Table B - Power supply**

USA	Li-ION / 120 V - USA plug
UK	Li-ION / 240 V - UK plug
EUR	Li-ION / 230 V - European plug
JAP	Li-ION / 100 V - USA / Japan plug

**Table C - Accessories**

NO	None
TELE	2x Sighting telescope
RED	1x Sighting Red Point

**Table D - Calibration report**

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

ENG	English instruction manual
FRA	French instruction manual

**1196 IRtec P1600+ Mk2: 600°C to 1600°C**

Standard delivery includes:

- Base unit with internal memory, alarms and vinyl case
- Tc K/S auxiliary input
- IR printer port
- USB cable
- Rechargeable batteries + charger
- Certificate of calibration
- Instruction manual

**Table A - Optic Laser**

SF	200:1 Standard focus TTS dual red laser
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**Table B - Power supply**

USA	Li-ION / 120 V - USA plug
UK	Li-ION / 240 V - UK plug
EUR	Li-ION / 230 V - European plug
JAP	Li-ION / 100 V - USA / Japan plug

**Table C - Accessories**

NO	None
TELE	2x Sighting telescope

RED 1x Sighting Red Point

**Table D - Calibration report**

EC Factory traceable calibration report

**Table X - Personal settings**

ENG English instruction manual

FRA French instruction manual

**1198 IRtec P2000+ Mk2: 500°C to 2000°C**

Standard delivery includes:

- Base unit with internal memory, alarms and vinyl case
- Tc K/S auxiliary input
- IR printer port
- USB cable
- Rechargeable batteries + charger
- Certificate of calibration
- Instruction manual

**Table A - Optic Laser**

SF 200:1 Standard focus - TTS dual red laser

LD Long Distance focus - TTS dual red laser

**Table B - Power supply**

USA Li-ION / 120 V - USA plug

UK Li-ION / 240 V - UK plug

EUR Li-ION / 230 V - European plug

JAP Li-ION / 100 V - USA / Japan plug

**Table C - Accessories**

NO None

TELE 2x Sighting telescope

RED 1x Sighting Red Point

**Table D - Calibration report**

EC Factory traceable calibration report

**Table X - Personal settings**

ENG English instruction manual

FRA French instruction manual

## Accessories:

BB260115	IRLogman software for Windows 98/2000/XP
EE300055	Sighting telescope system
EE300056	Red-point system
EE300301	Close Focus lens for P1300, P1600, P2000
EE420395	European plug
EE420396	USA plug
EE625034	Li-ION battery Charger w/o line plug
EE700476	USB cable
EE880028	Vinyl carrying case
F2137100	TC K/S contact probe

## Packing information:

Size	200 x 180 x 80 mm
Weight (gross)	1.5 kg