

X Non-contact thermometry best done with **INFRASENSOR®** pyrometers



IN 510-N · IN 510 IN 530-N · IN 530

Small, compact, digital and highly precise

Digital pyrometers with miniature sensor head for non-contact temperature measurement of non-metallic surfaces between -40 to 700°C

- ◆ Sensor head and cable usable in ambient temperature up to 85 or 180°C without cooling
- ◆ Sensor head exchangeable without recalibration
- ◆ Close focus lens for small objects
- ◆ Switchable digital interface RS232 / RS485
- ◆ Isolated relays contact
- ◆ Selectable analog output
- ◆ Setting of parameters via keyboard or interface

IN 510-N



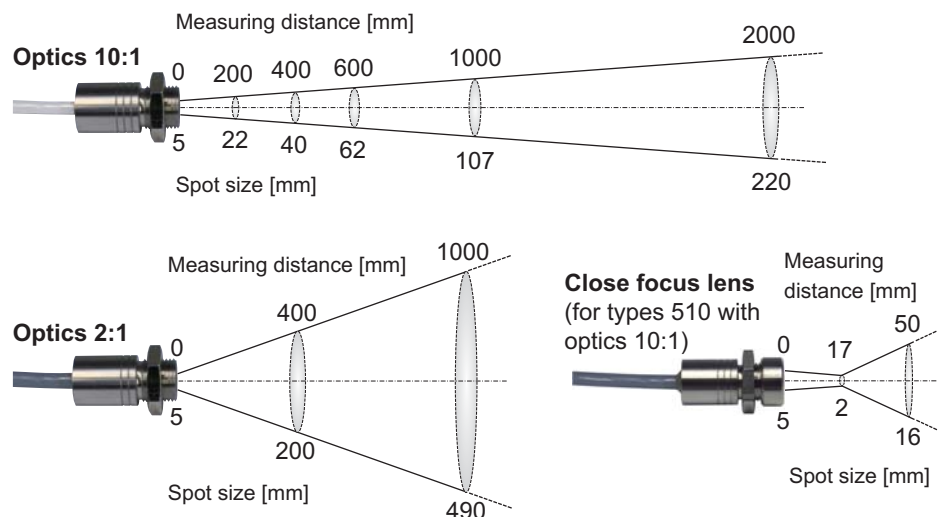
IN 530



INFRASENSOR® IN 510-N, IN 510, IN 530-N and IN 530 are digital pyrometers for non-contact temperature measurement of non-metallic or coated metallic objects.

The versions **IN 510** and **IN 530** are equipped with an illuminated LC display which shows the actual temperature reading. All available parameters can be set via the integrated keyboard. The types **IN 510-N** and **IN 530-N** do not have display and keyboard, they will be parametrized via interface.

All pyrometers are equipped with a stainless steel miniature sensor head, the field of view is 10:1 or 2:1, they can be used in ambient temperatures up to 85°C or 180°C without cooling dependent on the type.



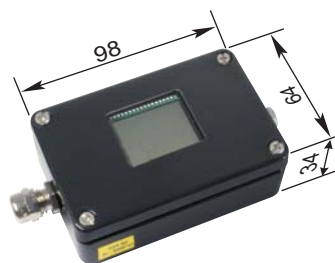
Technical Data

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|--|--|
| Temperature range: | -40 ... 700°C |
| Sub range: | Adjustable; min. range 51°C; ex works preadjusted to 0 ... 500°C |
| Spectral range: | 8 ... 14 µm |
| Optics: | 10:1 or 2:1 |
| Power supply: | 10 ... 30 V DC, ripple < 0.5 V, current consumption max. 60 mA |
| Analog output: | Linear current (0/4 ... 20 mA), voltage (0 ... 5 V) or thermocouple (type J or K) |
| Output for sensor head temperature: | 10 mV/°C |
| Load: | Max. 700 Ω at 24 V power supply (for current output) (500 Ω / 20 V) |
| Output impedance: | 100 Ω (for thermocouple or voltage output) |
| Relays contact: | Isolated relays contact; 50 V DC; 0.2 A; temperature and hysteresis adjustable |
| Digital interface: | switchable RS232 / RS485 |
| Emissivity ε: | 10 ... 120% adjustable in steps of 0.1% |
| Max. / minimum value storage: | Clear time: OFF; 0.1 s; 0.25 s; 0.5 s; 1 s; 5 s; 25 s; extern; auto |
| Response time t ₉₀ : | 180 ms; switchable: 0.5 s; 1 s; 2 s; 5 s; 10 s or 30 s |
| Temperature display (only IN 510 / 530): | LCD, 4 digit, 3 values per second, display illumination permanent |
| Resolution: | 1/10 °C (1/10 °F, 1 °F > 1000 °F measur. temp.) |

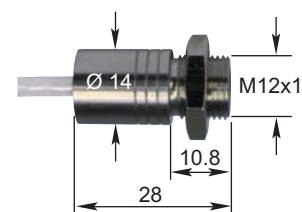
| | |
|---------------------------------|--|
| Measurement uncertainty: | 0 ... 700°C: 0.8% of reading in °C or 1°C *) 0 ... -20°C: 2°C; -20 ... -40°C: 3°C (ε=1, t ₉₀ =1 s; T _{amb.} =15...30°C) |
| Repeatability: | 0.5% of reading in °C or 0.5°C *) |
| Max. ambient temp. converter: | 0 ... 65 °C (storage temperature: -20 ... 70 °C) |
| Max. ambient temp. sensor head: | 0 ... 85°C (types 510) 0 ... 180°C (short-time 210°C) (types 530) (storage temp.: -20 ... 85°C / 180°C) |
| Relative humidity: | 10 ... 95%, non condensing |
| Protection class: | IP65 (converter, sensor head 10:1, IN 530-sensor head 2:1) IP20 (IN 510-sensor head 2:1) |
| Weight: | 320 g |
| Housing: | Aluminium (converter) stainless steel (sensor head) |

Dimensions:

Converter:



Sensor head:



*) The larger value is valid. The sensor head must be in constant ambient temperature for at least 15 min.

Reference numbers

Pyrometers:

| | | 3 m cable | 15 m cable |
|----------|--------------------------|-----------|------------|
| IN 510-N | optics 2:1 (85°C head) | 3 874 160 | 3 874 170 |
| IN 510-N | optics 10:1 (85°C head) | 3 874 260 | 3 874 270 |
| IN 510 | optics 2:1 (85°C head) | 3 874 360 | 3 874 370 |
| IN 510 | optics 10:1 (85°C head) | 3 874 460 | 3 874 470 |
| IN 530-N | optics 2:1 (180°C head) | 3 874 500 | 3 874 510 |
| IN 530-N | optics 10:1 (180°C head) | 3 874 520 | 3 874 530 |
| IN 530 | optics 2:1 (180°C head) | 3 874 550 | 3 874 560 |
| IN 530 | optics 10:1 (180°C head) | 3 874 570 | 3 874 580 |

Accessories:

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|-----------|---|
| 3 821 010 | Connection cable (10 wire) 2 m, with additional digital cable (1 m) and <i>InfraWin</i> analysing software |
| 3 821 020 | Connecting cable 2 m for power supply and thermocouple output (compensating cable) |
| 3 848 790 | Close focus lens (only for 10:1 optics, max. 85°C ambient temperature, not in combination with air purge, cooling / purging unit or 90° mirror) |
| 3 834 370 | Fixed mounting angle (for sensor head or air purge with sensor head 10:1) |
| 3 834 380 | Adjustable mounting angle (for sensor head or air purge with sensor head 10:1) |

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|-----------|--|
| 3 835 330 | Air purge (for sensor head 10:1) |
| 3 835 410 | Air purge (for sensor head 2:1) |
| 3 834 250 | Fixed mounting angle (for air purge with sensor head 2:1) |
| 3 834 260 | Adjustable mounting angle (for air purge with sensor head 2:1) |
| 3 835 350 | Cooling / purging unit 0.75 m for sensor head 10:1 (0 ... 200°C for types 510) |
| 3 835 360 | Cooling / purging unit 2.5 m for sensor head 10:1 (0 ... 200°C for types 510) |
| 3 835 420 | Cooling / purging unit 0.75 m for sensor head 2:1 (0 ... 200°C for types 510) |
| 3 835 430 | Cooling / purging unit 2.5 m for sensor head 2:1 (0 ... 200°C for types 510) |
| 3 835 340 | 90° mirror (only for sensor head 10:1) |
| 3 890 600 | DIN-rail-power supply (230 V AC ⇒ 24 V DC) |
| 3 890 560 | DA 6000-N: LED-digital display with possibility for pyrometer parameter setting; RS232 interface |
| 3 890 570 | DA 6000-N with RS485 interface |
| 3 826 500 | HT 6000: portable battery driven indicator and instrument for pyrometer parameter setting |
| 3 852 440 | Protocol converter RS485 ⇔ Profibus DP (max. 1 instr.) |
| 3 852 460 | Protocol converter RS485 ⇔ Profibus-DP (max. 32 instruments) |



IMPAC Infrared GmbH

Temperature Measurement

Kleyerstr. 90
D-60326 Frankfurt/Main

Phone: +49 (0)69 / 9 73 73 - 0
Fax: +49 (0)69 / 9 73 73 - 167

E-mail: info@impacinfrared.com
Internet: www.impacinfrared.com



Specifications are subject to change without notice