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

IN 510-N • IN 510 • IN 530-N • IN 530

CE

- 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

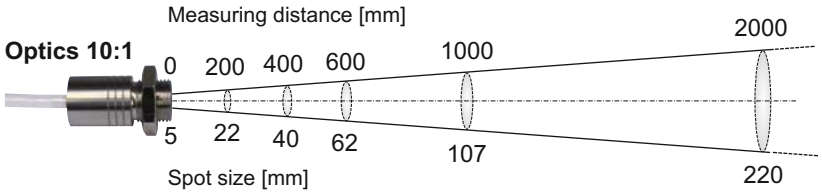
IN 510-N

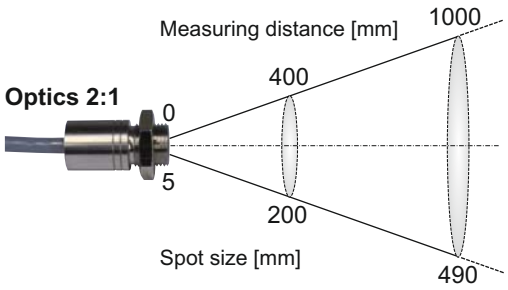
IN 530

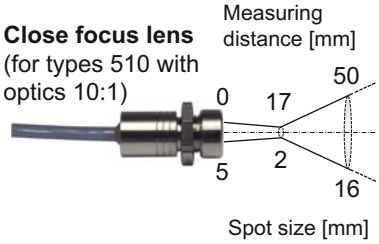
The parometers **IN 510-N**, **IN 510**, **IN 530-N** and **IN 530** are digital pyrometers for non-contact temperature measurement of non-metallic or coated metallic objects.

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

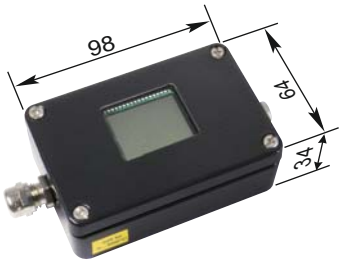
Temperature range:	-40 ... 700°C
Sub range:	Adjustable; min. range 51°C; ex works preadjusted to 0 ... 500°C
Spectral range:	8 ... 14 µm
Optics:	10:1 or 2:1
Power supply:	10 ... 30 V DC, ripple < 0.5 V, current consumption max. 60 mA
Analog output:	Linear current (0/4 ... 20 mA), voltage (0 ... 5 V) 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:	⅒°C (⅒°F, 1°F >1000°F measur. temp.)

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

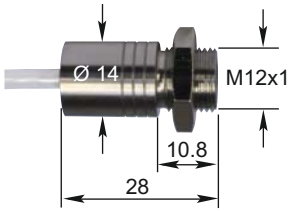
Measurement uncertainty: (ε=1, t_{90}=1 s; $T_{amb.}$=15...30°C)	0 ...700°C: 0.8% of reading in °C or 1°C *) 0 ... -20°C: 2°C; -20 ... -40°C: 3°C T_K: 0.03%/°C or 0.05°C/°C (25°C) With thermocouple output: min. 2.5°C
Repeatability:	0.5% of reading in °C or 0.5°C *)
Max. ambient temp. converter:	0 ... 65 °C (storage temperature: -20 ... 70 °C)
Max. ambient temp. sensor head:	**types 510:** 0 ... 85°C **types 530:** 0 ... 180°C (short-time 210°C) (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:



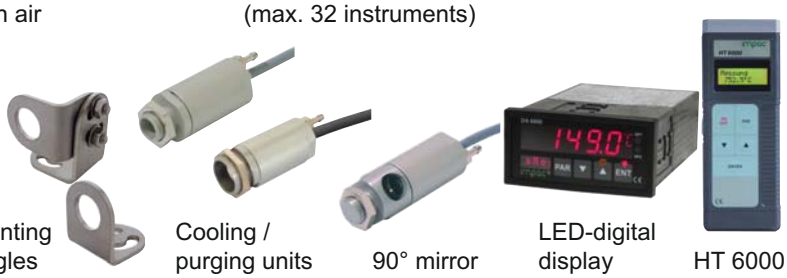
Reference numbers

Pyrometers:

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

Accessories:

3 821 010	Connection cable (10 wire) 2 m, with additional digital cable (1 m) and *InfraWin* 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)
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)
3 835 420	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)



mounting angles | Cooling / purging units | 90° mirror | LED-digital display | HT 6000

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