

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 520-N • IN 520 • IN 530-N • IN 530

- 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

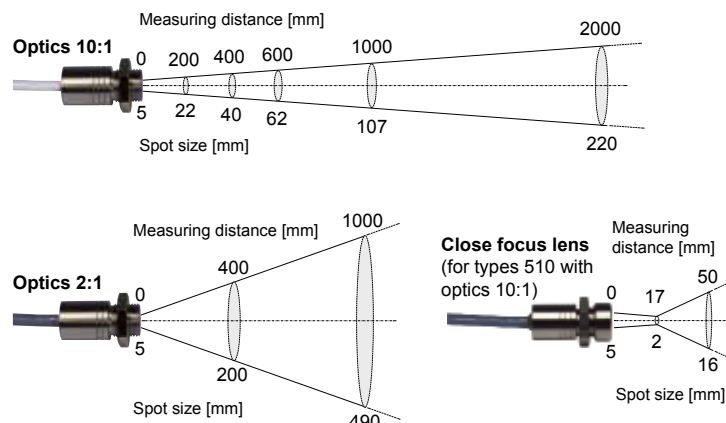


The pyrometers IN 510-N, IN 510, IN 520-N, IN 520, IN 530-N and IN 530 are digital pyrometers for non-contact temperature measurement of non-metallic or coated metallic objects.

The versions IN 510, IN 520, 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, IN 520-N, and IN 530-N do not have display and keyboard, they will be parametrized via interface.

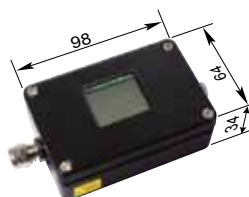
All pyrometers are equipped with a stainless steel miniature sensor head, the field of view is 10:1 or 2:1, they can be used in ambient temperatures up to 85°C or 180°C without cooling dependent on the type.

Optics

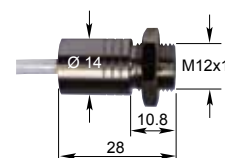


Dimensions

Converter:



Sensor head:



Technical Data

Temperature range:	-40 ... 700°C	Temperature display (only IN 510 / 530):	LCD, 4 digit, 3 values per second, display illumination permanent
Sub range:	Adjustable; min. range 51°C; ex works preadjusted to 0 ... 500°C	Resolution:	1/10°C (1/10°F, 1°F >1000°F measur. temp.)
Spectral range:	8 ... 14 µm	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, τ ₉₀ =1 s; T _{amb.} =15...30°C)
Optics:	10:1 or 2:1	Repeatability:	0.5% of reading in °C or 0.5°C *)
Power supply:	10 ... 30 V DC, ripple < 0.5 V, current consumption max. 60 mA	Max. ambient temp. converter:	0 ... 65 °C (storage temperature: -20 ... 70 °C)
Analog output:	Linear current (0/4 ... 20 mA), voltage (0 ... 5 V) or thermocouple (type J or K)	Max. ambient temp. sensor head:	types 510: 0 ... 85°C types 520: 0 ... 180°C types 530: 0 ... 180°C (short-time 210°C) (storage temp.: -20 ... 85°C / 180°C)
Output for sensor head temperature:	10 mV/°C	Relative humidity:	10 ... 95%, non condensing
Load:	Max. 700 Ω at 24 V power supply (for current output) (500 Ω / 20 V)	Protection class:	IP65 (converter, sensor head 10:1, IN 520 and IN 530-sensor head 2:1) IP20 (IN 510-sensor head 2:1)
Output impedance:	100 Ω (for thermocouple or voltage output)	Weight:	320 g
Relays contact:	Isolated relays contact, 50 V DC, 0.2A; temperature and hysteresis adjustable	Housing:	Aluminium (converter) stainless steel (sensor head)
Digital interface:	switchable RS232/RS485	*) The larger value is valid. The sensor head must be in constant ambient temperature for at least 15 min.	
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 τ ₉₀ :	180 ms; switchable: 0.5 s; 1 s; 2 s; 5 s; 10 s or 30 s		

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 520-N	Optics 2:1	(180°C head)	3 874 180	3 874 190
	Optics 10:1		3 874 280	3 874 290
IN 520	Optics 2:1	(180°C head)	3 874 380	3 874 390
	Optics 10:1		3 874 480	3 874 490
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)

3 835 340 90° mirror (only for sensor head 10:1)

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

3 852 290 DIN-rail-power supply NG DC; 100 ... 240 V AC, 50 ... 60 Hz => 24 V DC, 1 A

3 852 440 Protocol converter RS485 <-> Profibus DP (max. 1 instr.)

3 852 460 Protocol converter RS485 <-> Profibus-DP (max. 32 instruments)

LumaSense Technologies

Temperature and Gas Sensing Solutions

Americas and Australia
Sales & Service
Santa Clara, CA
Ph: +1 800 631 0176
Fax: +1 408 727 1677

Europe, Middle East, Africa
Sales & Service
Frankfurt, Germany
Ph: +49 69 97373 0
Fax: +49 69 97373 167

India
Sales & Support Center
Mumbai, India
Ph: +91 22 67419203
Fax: +91 22 67419201

China
Sales & Support Center
Shanghai, China
Ph: +86 133 1182 7766
Fax: +86 21 5039 8096

info@lumasenseinc.com

LumaSense Technologies, Inc., reserves the right to change the information in this publication at any time.

SARLIN

SARLIN OY AB • PL 750, 00101 Helsinki
Käyntiosoite: Kaivoxselantie 3-5, 01610 Vantaa
Vaihde 010 550 4000 • Fax 010 550 4201
info@sarlin.com • www.sarlin.com

www.lumasenseinc.com

©2011 LumaSense Technologies. All rights reserved.
IN500Series_Datasheet-EN - Rev. 10/25/2011