

MI-N 510 · MI-N 520

Small, compact, digital and highly precise

Digital infrared pyrometers for non-contact temperature measurement from -40 to 700°C with miniature sensor head

- ◆ 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 relay contact
- ◆ Selectable analog output
- ◆ Setting of parameters via keyboard or interface

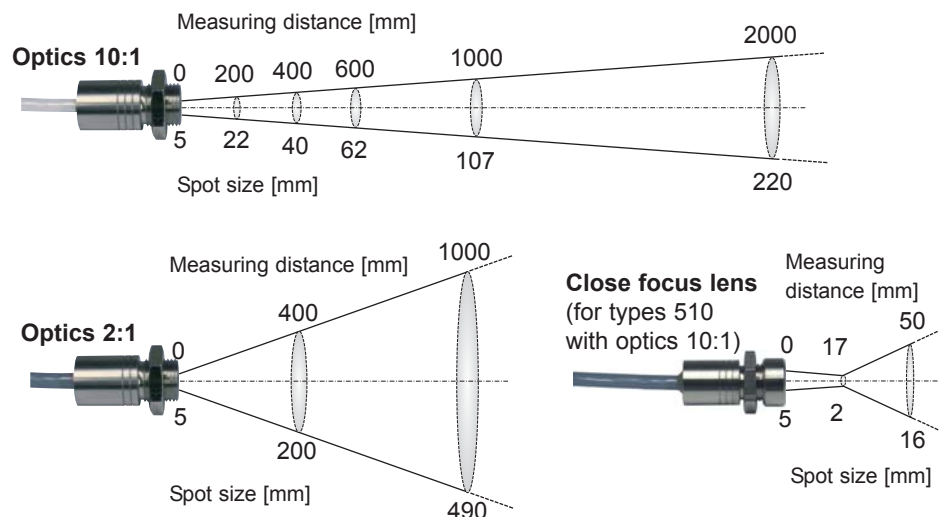
MI-N 510



MI-N 520



INFRADUCER® MI-N 510 and MI-N520 are digital pyrometers for non-contact temperature measurement of non-metallic or coated metallic objects. The versions MI-N 510 and MI-N 520 are equipped with an illuminated LCD display which shows the actual temperature reading. All available parameters can be set via the integrated keyboard. The types MI-N510-N and MI-N 520-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 .

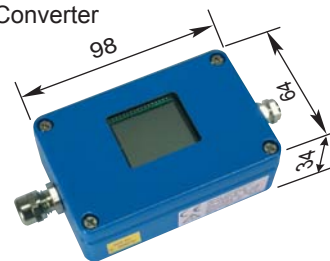


Technical Data

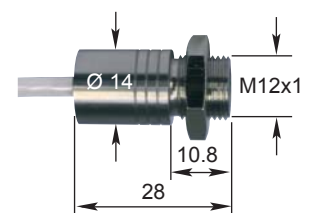
Temperature range:	-40 ... 700°C
Sub range:	Adjustable; min. range 51°C; ex works preadjusted to 0 ... 500°C
Spectral range:	8 ... 14 µm
Optics:	10:1 or 2:1
Power supply:	10 ... 30 V DC, ripple < 0.5 V, current consumption max. 60 mA
Analog output:	Linear current (4/0 ... 20 mA), voltage (0 ... 5 V) 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)
Relais contact:	Isolated relais 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. / Min. 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 MI-N 510 / 520):	LCD, 4 digit, 3 values per second, display illumination permanent
Resolution:	1/10°C (1/10°F, 1°F >1000°F meas. temp.)

Uncertainty:	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 oder 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:	0 ... 85°C (MI-N510, MI-N510-N) 0 ... 180°C (MI-N520, MI-N520-N) (storage temp.: -20...85°C / 180°C)
Relative humidity:	10 ... 95%, non condensing
Enclosure rating:	IP65 (converter, sensor head 10:1), IP20 (sensor head 2:1)
Weight:	320 g
Housing:	Aluminium (converter), stainless steel (sensor head)

Dimensions:
Converter



Sensorhead:



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

Reference numbers for instruments and accessories

Pyrometer	3 m cable	15 m cable		
MIN 510 optics 2:1 (85°C head)	5 874 360	5 874 370	3 835 410	Air purge (for sensor head 2:1)
MIN 510 optics 10:1 (85°C head)	5 874 460	5 874 470	3 834 250	Fixed mounting angle (for air purge with sensor head 2:1)
MIN 520 optics 10:1 (180°C head)	5 874 480	5 874 490	3 834 260	Adjustable mounting angle (for air purge with sensor head 2:1)
MIN510-N optics 10:1 (85°C head)	5 874 260	5 874 270	3 835 350	Cooling / purging unit 0.75 m for sensor head 10:1 (0 ... 200°C for types 510)
MIN520-N optics 10:1 (180°C head)	5 874 280	5 874 290	3 835 360	Cooling / purging unit 2.5 m for sensor head 10:1 (0 ... 200°C for types 510)
MIN510-N optics 2:1 (85°C head)	5 874 160	5 874 170	3 835 420	Cooling / purging unit 0.75 m for sensor head 2:1 (0 ... 200°C for types 510)
Accessories				
3 821 010	Connection cable (10 wire) 2 m, with additional digital cable (1 m) and <i>InfraWin</i> analysing software		3 835 430	Cooling / purging unit 2.5 m for sensor head 2:1 (0 ... 200°C for types 510)
3 821 020	Connecting cable 2 m for power supply and thermocouple output (compensating cable)		3 835 340	90° mirror (only for sensor head 10:1)
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)		18712-1	Power supply (100-240 V AC ⇒ 24 V DC at 420 mA)
3 834 370	Fixed mounting angle (for sensor head or air purge with sensor head 10:1)		17219-1	LED-digital display M60TDS: with two limit switches
3 834 380	Adjustable mounting angle (for sensor head or air purge with sensor head 10:1)		5 890 530	MI-DA 6000 with RS485 interface
3 835 330	Air purge (for sensor head 10:1)		3 826 500	MI-HT 6000: portable battery driven indicator and instrument for pyrometer parameter setting
			5 852 440	Protocol converter RS485 ⇒ Profibus DP (max. 1 instr.)
			5 852 460	Protocol converter RS485 ⇒ Profibus-DP (max. 32 instruments)

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