optris® CS

The easy entry into multiple sensor installations
Smart, safe and easy for -40 to 1030°C

FEATURES

- Temperature range: -40 to 1030°C
- Response time: 25 ms
- Optical Resolution 15:1
- Green LED alarm indication, aiming support, self-diagnostic or temperature code indication
- Usable up to 80°C ambient temperature without cooling
- Scalable analog output: 0 - 10 V or 0 - 5 V + alarm output or digital output
- USB programming interface, direct serial 9.6 kBaud interface
- Power supply: 5 - 30 VDC

General Specifications

Environmental rating	IP63
Ambient temperature	-20 - 80°C
Storage temperature	-20 - 85°C
Relative humidity	10 - 95%, non condensing
Vibration	IEC 68-2-6: 3 G, 11 - 200 Hz
	any axis
Shock	IEC 68-2-27: 50 G, 11 ms
	any axis
Weight	58 g

Electrical Specifications

Output / analog	0 - 5 V or 0 - 10 V free scalable or alarm with adjustable voltage levels
Output / alarm	0 - 30 V / 50 mA (open collector)
3-state alarm output	adustable threshold values and voltage level for: no alarm, pre-alarm, alarm
Output / digital	uni, bidirectional, 9.6 kBaud, 0/3 V digital level / USB optional
Input (0 - 10 V)	programmable functional input for external emissivity setting/ ambient temperature adjustment, triggered signal output or peak-hold function
LED functions	alarm indication, automatic aiming support, self diagnostic, temperature indication (via temp. code)
Cable length	1 m (standard), 3 m, 8 m, 15 m
Power supply	5 - 30 VDC
Current draw	4 mA (without LED) / 10 mA

Measurement Specifications

|	
Temperature range (scalable via software)	-40 - 1030°C
Spectral range	8 - 14 µm
Optical resolution (90% energy)	15:1
CF-lens (optional)	0.8 mm @ 10 mm
System accuracy (at ambient temperature 23 ±5°C)	±1.5% or ±1.5°C[1]
Repeatability (at ambient temperature 23 ±5°C)	±0.75% or ±0.75°C[1]
Temperature coefficient	±0.05 K/K or ±0.05 %/K[3]
NETD	0.1 K[2]
Response time (90%)	25 ms (adjustable up to 999 s)
Emissivity/Gain (adjustable via 0 - 10 V DC input or software)	0.100 - 1.100
Transmissivity (adjustable via software)	0.100 - 1.100
Signal processing (parameter adjustable via software)	peak hold, valley hold, average; extended hold function with threshold and hysteresis

[1] object temperature > 0°C; whichever is greater

[2] at time constant 100 ms and T_{obj} 25°C

[3] for ambient temperatures <18°C and >28°C; whichever is greater

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Optical Specifications

S 7   8   13   20   27   33   40   47   53 (mm)
D 0   100   200   300   400   500   600   700   800 (mm)

15:1 optics

S 7   5   **0,8**   5   11   16   21   27   32 (mm)
D 0   5   **10**   15   20   25   30   35   40 (mm)
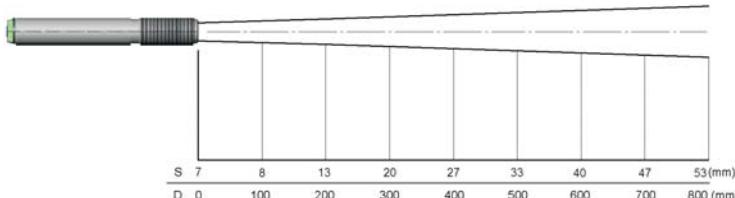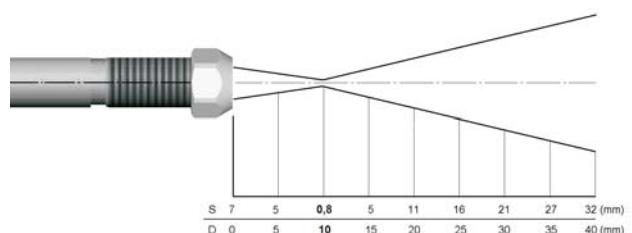
15:1 optics with CF-lens

Connections

Power (+) [white]
OUT [yellow]
IN/ OUT [green] — V
GND (–) [brown] — 0-30 V DC/ 50 mA
Shield [black]
5-30 VDC +/–
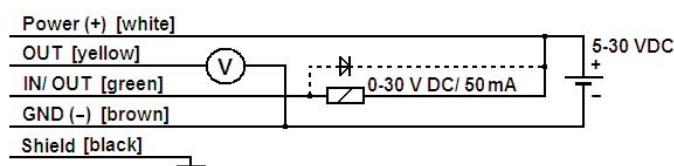
Connection analog with open collector alarm output

Power (+) [white]   5V DC
OUT [yellow]
IN/ OUT [green]
GND (–) [brown]
Shield [black] — USB — PC
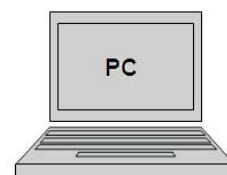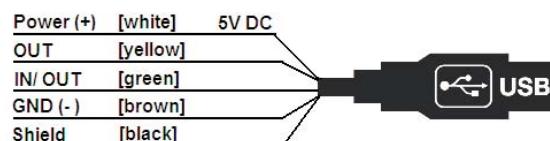
Connection digital with USB adapter cable

Dimensions / Accessories

Ø 4,3   87   Ø 12   M 12 x 1 26 long

Dimensions CS

20   24   Ø12,2   30   20   3,20   R 7   14

Mounting bracket, fixed

12,50   M 12x1   5   M 4   30,5   21   7   10   20   28
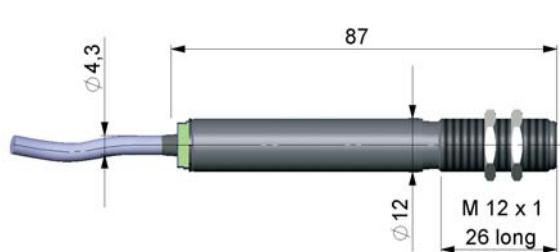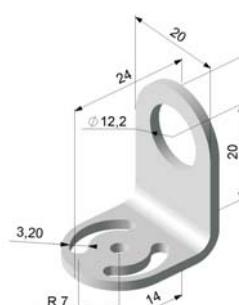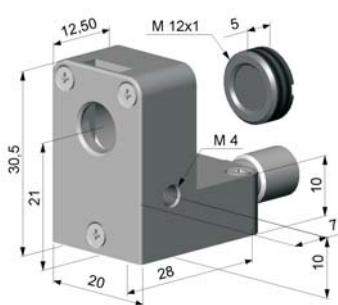
Air purge collar, optional with integrated CF-lens

SW 14   M 12x1   2,5   9

CF-lens

Compact Connect Software
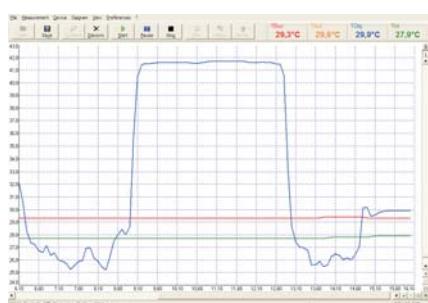
- Software for easy sensor setup and remote controlling, supports multi tasking
- Graphic display for temperature trends and automatic data logging for analysis and documentation with 1 ms response time
- Adjustment of signal processing functions and programming of outputs and functional inputs of the sensor
- The software Compact Connect allows to customize the sensor to application needs of the user