

**Low-cost IR thermometer
for medical devices:
smart, safe and
easy for
–40 to 1030 °C**

Features:

- Temperature range: –40 °C to 1030 °C
- Pluggable for simple changing to service purposes
- Response time: 25 ms
- Optical Resolution 15:1
- Green LED alarm indication, aiming support, selfdiagnostic or temperature code indication
- Usable up to 80 °C ambient temperature without cooling
- Several outputs: 0–10 V or 0–5 V free scalable, alarmoutput or digital output
- USB programming interface, direct serial 9.6 kBaud interface
- Power supply: 5–30 V DC



General specifications

Environmental rating	IP 63
Ambient temperature	–20 °C ... 80 °C
Storage temperature	–40 °C ... 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, alarm with adjustable voltage levels
Output / alarm	0–30 V/ 50 mA (open collector)
3-state alarm output	Adjustable 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	5 cmmit ESTO-Binder 4 pol. miniature cable plug series 712
Power supply	5–30 V DC
Current draw	4 mA (without LED)/ 10 mA

Measurement specifications

Temperature range (scalable via software)	–40 °C ... 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 temp. 23 ±5 °C)	±1.5 % or ±1.5 °C ¹⁾
Repeatability (at ambient temp. 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 (einstellbar bis 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
Software	optris® Compact Connect

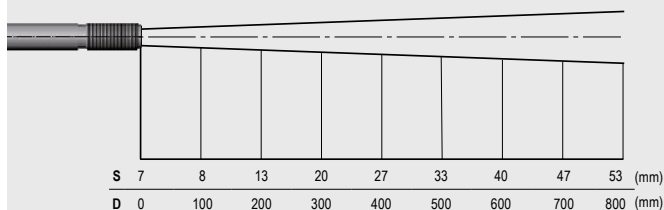
¹⁾ Object temperature >0 °C; whichever is greater

²⁾ At time constant 100 ms and T_{obj} 25 °C

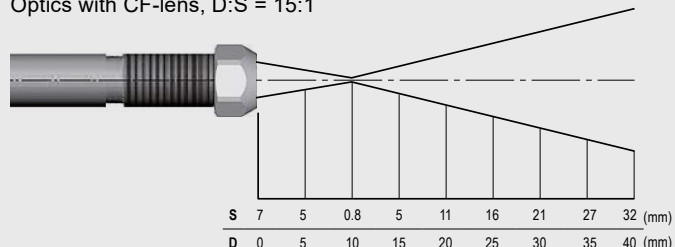
³⁾ For ambient temperatures <18 °C and >28 °C; whichever is greater

Optical Specifications

Optics, D:S = 15:1

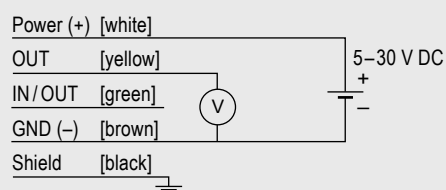


Optics with CF-lens, D:S = 15:1

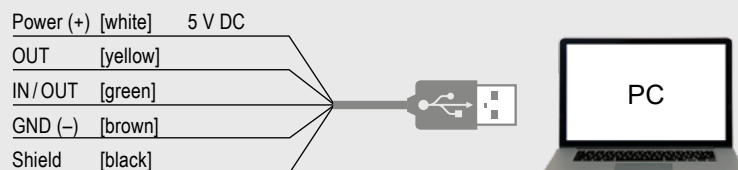


Connections

Connection analog
with open collector
alarm output

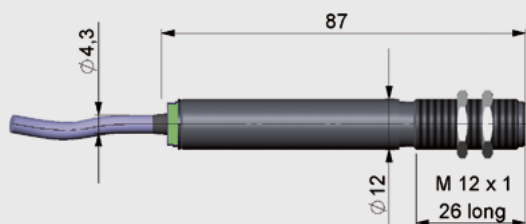


Connection digital
with USB adapter
cable

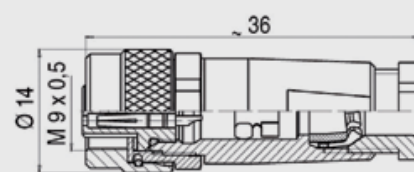


Dimensions

Dimensions optris® CS

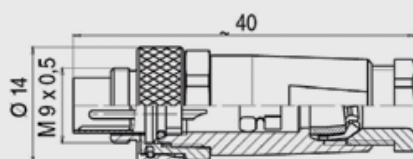


Cable box onto equipment side

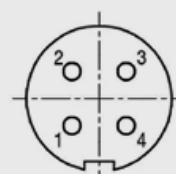


ESTO-Binder
Series 712 / 99-0410-1004

Cable plug at CSmed (included in delivery)



ESTO-Binder
Series 712 / 99-0409-1004



pole chart contact side
1 green 2 brown
3 white 4 yellow