



innovative infrared technology

**Professional
infrared thermometers
for industrial applications**

optris® LS LT

Infrared thermometer with crosshair laser sighting - the alternative to thermal imagers



FEATURES

- The new performance standard of infrared thermometers with spot sizes as small as 1 mm
- Patented crosshair laser sighting marks the actual spot size at any distance
- Temperature range from -35 °C to 900 °C
- Switchable Optics with resolution 75:1
- Thermocouple input
- USB interface and graphic software with oscilloscope function
- Multi function flip display

General specifications

Ambient temperature	-20 °C to 50 °C
Storage temperature	-30 °C to 65 °C
Relative humidity	10 to 95 % (non condensing)
Weight	420 g
Interface, data output	USB
Measurement spot marking	standard focus (SF): patented crosshair laser (crosshair size = IR spot size@ any distance) close focus (CF): two point laser (laser dot size = IR spot size@ focus distance)
Alarm functions	audible and visible HIGH/LOW alarm
Display	LC flip display (horizontal and vertical viewing directions controlled by position sensor)
Standard accessories	USB cable and software, t/c type K insertion probe, carrying case, padded pouch, wrist strap, batteries
Tripod mount	1/4-20 UNC
Software	OptrisConnect oscilloscope software with 20 readings per second
Display LCD backlight	green and alarm colors (red, blue)
Emissivity/Gain	0.100 ... 1.100; adjustable
Minimum spot size	1 mm

Measurement specifications

Temperature range	-35 °C to 900 °C (-30 °F to 1650 °F)
Spectral response	8 - 14 µm
Optics (D:S)	75:1
Accuracy (at T _{Amb} 23 ± 5 °C)	±0,75 % (100 to 900 °C) ±0,75 °C (20 to 99,9 °C) ±1,5 °C (-20 to 19,9 °C) ±2,5 °C (-35 to -20,1 °C)
Repeatability	±0.5 °C or ±0.5 % of reading ¹⁾
Response time	150 ms (95 % signal)
Temperature coefficient	0.05 K/K or ±0.05 %/K ¹⁾ (below 20 °C and above 30 °C ambient temperature)
Vibration/Shock	IEC 60068-2-27 (25 g and 50 g) IEC 60068-2-6 (sinus shaped) IEC 60068-2-64 (broadband noise)
Temperature range t/c probe input	-35 °C to 900 °C (-30 °F to 1650 °F)
Accuracy t/c probe input	±0,75 °C or ±1 % of reading ¹⁾
Configurations	MAX/MIN/HOLD/DIF/AVG/°C/°F
Data memory	100 measurement protocols with time stamps, customizable 4 digit location and material names
Power	2 x AA Alkaline Batterien or USB
Battery life time	5 h with laser on and 50% backlight use 10 h with laser on and w/o backlight 25 h w/o laser and backlight
Temperature resolution	0,1 °C

¹⁾ whichever is greater



Fig. 1

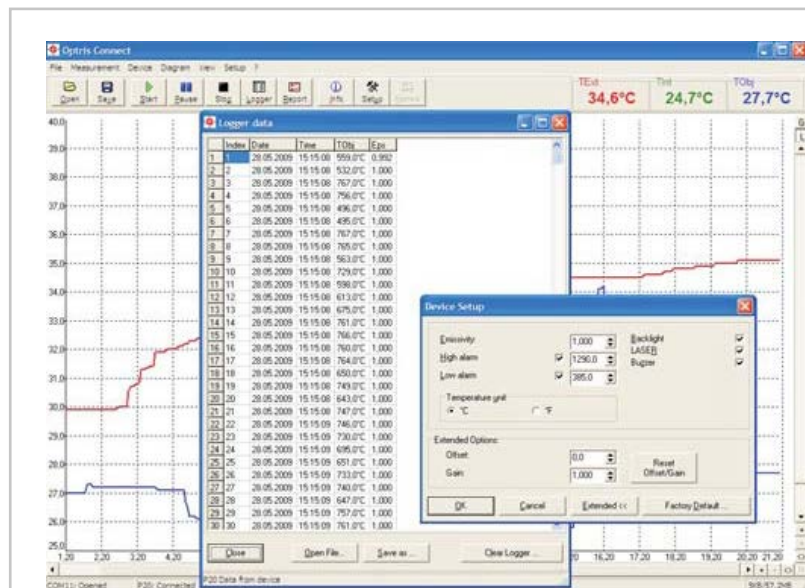


Fig. 2

Fig. 1 Temperature measurement on small SMD components of assembled circuit boards

Fig. 2 Quick detection of hot spots in electrical switchgear

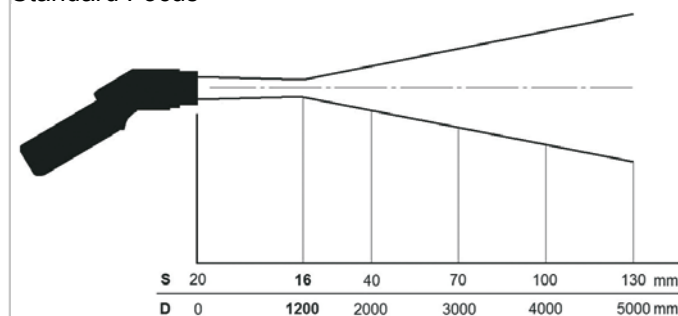
Optris Connect - Report Software



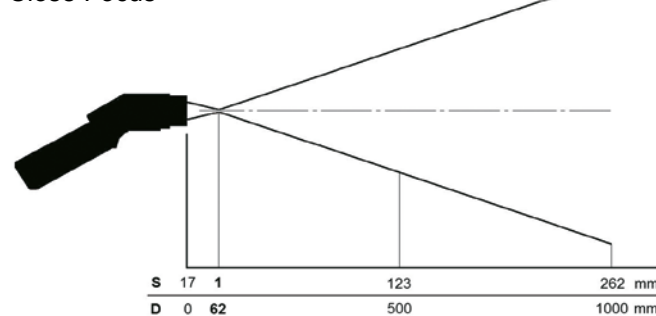
- Setup of parameters
- Download of logger data
- Display and record of temperature trends
- Image based report function
- Runs on Windows XP, Windows Vista, Windows 7 and Windows 8-Tablet PCs
- Software included in scope of supply

Focus (switchable)

Standard Focus



Close Focus



optris® P20 Series

Infrared thermometers for demanding applications



Features

- Temperature ranges from 0°C to 2000°C
- High optical resolutions up to 300:1
- Precise aiming with laser and scope sighting
- Adjustable emissivity from 0.100 - 1.000
- Different spectral responses for a variety of advanced applications
- MAX/MIN function and audible and visible HIGH-/LOW-alarm
- USB interface, free Optris Connect Software
- Data logger for 2000 measured values

General Specifications

Ambient temperature	0 - 50°C
Storage temperature	-20 to 60°C (no battery)
Relative humidity	10 - 95%, non-condensing
Size	264 x 204 x 60 mm
Weight	1000 g

Electrical Specifications

Output/digital	USB interface
Power	Ni-MH rechargeable battery
Battery lifetime	5 h laser and backlight on 25 h without laser and backlight
AC Adapter	220 VAC, 50/60 Hz

Measurement Specifications

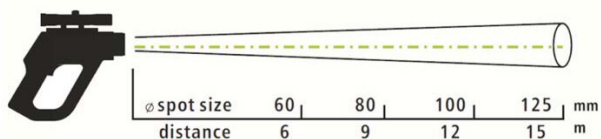
Temperature ranges	0 to 1300°C (P20 LT) 650°C to 1800°C (P20 1M) 385°C to 1600°C (P20 2M) 1000°C to 2000°C (P20 05M)
Spectral range	8 - 14 µm (P20 LT) 1.0 µm (P20 1M) 1.6 µm (P20 2M) 525 nm (P20 05M)
Optical resolution	120:1 (P20 LT) 300:1 (P20 1M/2M) 150:1 (P20 05M)
System accuracy (at T _{amb} = 23 ± 5°C)	±1% or ±2°C (P20 LT) ¹⁾ ±(0,3% of reading +2°C) (1M/2M, 05M)
Repeatability	±0,5% or ±1°C (P20 LT) ¹⁾ ±(0,1% of reading +1°C) (1M/2M, 05M)
Response time	300 ms (P20 LT) 100 ms (1M/2M, 05M)
Emissivity (adjustable)	0.100 - 1.000
Sighting	Double laser class II (<1 mW)
Sighting scope	All models
Signal processing	MAX/MIN, Scan/Hold function
Alarm functions	Audible and visible HIGH/LOW alarm
Data storage	2000 values
LCD backlight	Three color alarm indication
Software	Optris Connect

¹⁾ whichever is greater

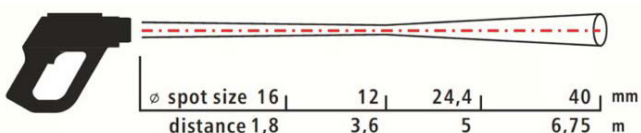
optris® P20 Series

Optical Specifications

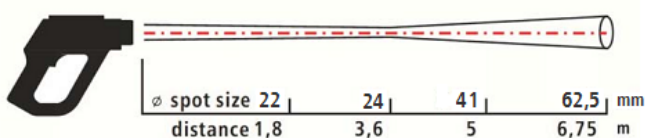
P20 LT D:S = 120:1



P20 1M/2M D:S = 300:1



P20 05M D:S = 150:1

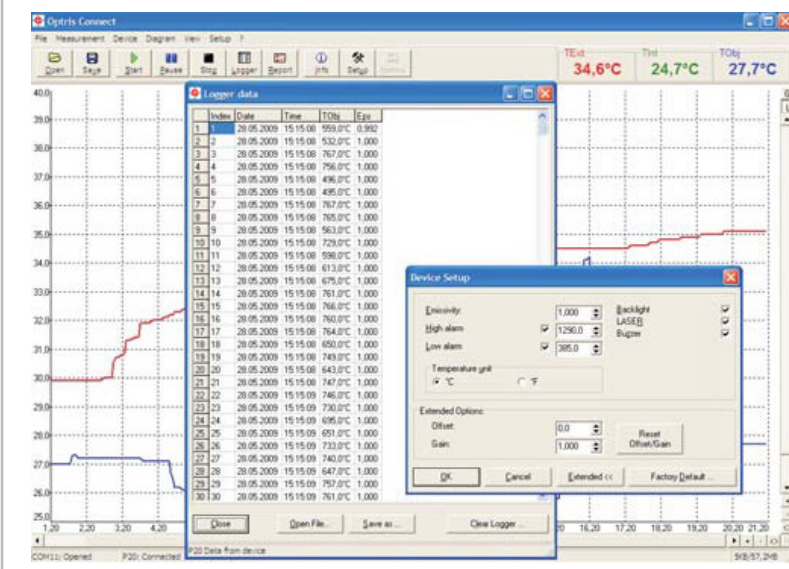


Display



- HIGH-/LOW-alarm (3-coloured display)

optris Connect - Reporting Software



- Setup of parameters
- Download of logger data
- Display and record of temperature trends
- Image based report function
- Runs on Windows 8-tablet PCs
- Software included



Non-contact temperature measurement from a safe distance

Specifications are subject to change without notice.
P20 Series-DS-E2013-09-A