optris® MS Serie
TECHNICAL DATA

optris infrared thermometers

Smart infrared thermometers with USB interface and high precision optics

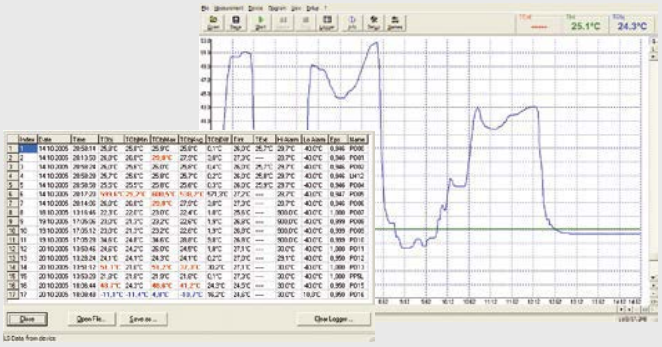
Features:

- Temperature ranges from –32 °C to 760 °C
- Precision optics for accurate noncontact temperature measurement
- Fast 0.3 second scanning of cold and hot spots
- Exact measurement of objects as small as 13 mm in any distance less than 140 mm
- Optical resolutions up to 40:1
- Laser sighting with narrow beam aiming for accurate readings
- EAdjustable acoustic HIGH-/LOW-alarm with changing backlight colors
- USB interface, thermocouple input type K, optris® Connect Report software
- Extremely lightweight

Wide temperature ranges of –32 to 760 °C, laser aiming and optical resolutions of up to 40:1 allow technicians to carry out accurate noncontact surface measurements for electrical and mechanical maintenance, HVAC checks, automotive testing and other applications, anywhere that temperature is a factor.

The optris® MS thermometers enable you to measure objects as small as 13 mm. Just spot the object, press the trigger and the infrared thermometers will show the temperature in an instant. Functions like MAX and MIN temperature results are shown in the display right away.

optris® MS Plus: OFFSET and HOLD make measurements smart. Object emissivities can be adjusted even after the measurement was taken.
optris® MS Pro: Data Logger and OptrisConnect Report software support data storage, data processing and reporting on PC.



Applications

Mechanical maintenance

Observe temperatures of motors and drives, bearings and valves. Gather temperature data of heating and ventilation components. Check furnace performance and steam distribution systems.

Electrical maintenance

Infrared thermometers are proven time saving tools for predictive maintenance of electrical systems. Check out temperature problems safely with connectors, fuses, electric motors, motor windings, insulations, electrical wiring and electrical cabinets before damages occur.

Automotive testing

Check temperatures of engines and catalytic converters, scan ignition system problems, analyse cooling system restrictions, diagnose air conditioning systems, check tyres and brakes with uneven braking.

Optris GmbH · Ferdinand-Buisson-Str. 14 · 13127 Berlin · Germany
Phone: +49 (0)30 500 197-0 · Fax: +49 (0)30 500 197-10 · E-mail: sales@optris.com · www.optris.com

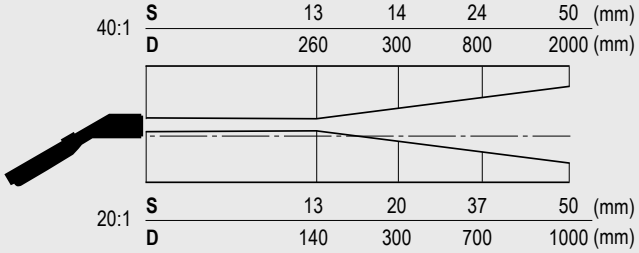
optris® MS Serie

Technical data

Base Model	MS	MSPlus	MSPro
Type	LT	LT	LT
Temperature ranges	–32 °C ... 420 °C	–32 °C ... 530 °C	–32 °C ... 760 °C
System accuracy (at T_{Amb} = 23 ±5 °C)	±1 % or ±1 °C (20 ... 420 °C) ±1.5 °C (19.9 ... 0 °C) ±2.5 °C (–0.1 ... 20 °C) ±3 °C (–20.1 ... 32 °C)	±1 % or ±1 °C (20 ... 530 °C) ±1.5 °C (19.9 ... 0 °C) ±2.5 °C (–0.1 ... –20 °C) ±3 °C (–20.1 ... –32 °C)	±1 % or ±1 °C (20 ... 760 °C) ±1.5 °C (19.9 ... 0 °C) ±2.5 °C (–0,1 ... –20 °C) ±3 °C (–20.1 ... –32 °C)
Repeatability	±0.5 % or ±0.7 °C (20 ... 420 °C)	±0.5 % or ±0.7 °C (20 ... 530 °C)	±0.75 % or ±0.75 °C (20 ... 760 °C)
Optical resolution (D:S)	20:1, 13 mm spot size (D <140 mm)	20:1, 13 mm spot size (D <140 mm)	40:1, 13 mm spot size (D <260 mm)
Resolution (display)	0.2 °C (0.5 °F)	0.1 °C (0.1 °F)	0.1 °C (0.1 °F)
Response time (95 %)	300 ms	300 ms	300 ms
Ambient temperature	0 °C ... 50 °C	0 °C ... 50 °C	0 °C ... 50 °C
Storage temperature	–20 °C ... 60 °C without battery	–20 °C ... 60 °C without battery	–20 °C ... 60 °C without battery
Spectral range	8 – 14 µm	8 – 14 µm	8 – 14 µm
Emissivity	fixed: 0.95	0.100 – 1.100 adjustable	0.100 – 1.100 adjustable
Configurations	Min / Max / Hold / °C / ° F	Min / Max / Hold / °C / ° F / Offset	Min / Max / Hold / °C / ° F / Offset
Alarm functions	–	Visual LCD alarmcolors and acoustic HIGH-/LOW-alarm	Visual LCD alarmcolors and acoustic HIGH-/LOW-alarm
PC Interface, Software, Thermocouple Input	USB interface	USB interface, optris® Connect report software	USB interface, optris® Connect report software, thermocouple element type K
Laser	<1 mW laser class IIa, laser beam with 9 mm offset	<1 mW laser class IIa, laser beam with 9 mm offset	<1 mW laser class IIa, laser beam with 9 mm offset
Weight / dimensions	150 g, 190 x 38 x 45 mm	150 g, 190 x 38 x 45 mm	180 g; 190 x 38 x 45 mm
Battery	9 V alkaline battery	9 V alkaline battery	9 V alkaline battery
Battery life	40 hours with laser and backlight off, 20 hours with laser and backlight on 50 %	40 hours with laser and backlight off, 20 hours with laser and backlight on 50 %	40 hours with laser and backlight off, 20 hours with laser and backlight on 50 %
Relative humidity	10 – 95 % RH non condensing, at <30 °C ambient temperature	10 – 95 % RH non condensing, at <30 °C ambient temperature	10 – 95 % RH non condensing, at <30 °C ambient temperature
Scope of Supply	9 V alkaline battery, operators manual	9 V alkaline battery, operators manual, wrist strap, pouch, protection boot, adapter for photo tripod, USB interface cable, optris® Connect Report software	9 V alkaline battery, operators manual, wrist strap, pouch, protection boot, adapter for photo tripod, USB interface cable, optris® Connect Report software, thermo-couple insertion probe type K

Optics and Display

Distance-to-Spot-Ratio (D:S)



Display (MS)

A Displaybeleuchtung
B Battery symbol
C Laser symbol
D MAX or MIN value
E Current temperature
F HOLD function
G Emissivity