Linescanner Series

MP150

Datasheet



Highlights

- Real-time thermal imaging, scan speed up to 150 Hz
- Up to 1024 measurement points per line
- Wide choice of spectral and temperature ranges
- High-quality brushless motor (MTBF 40,000 h)
- Built-in Ethernet TCP/IP communications
- PC independent alarm output
- PC independent 4-20 mA interfaces (3 outputs)
- Internal Line Laser for accurate alignment
- Rugged, waterproof IP65 (NEMA 4) enclosure
- Air purge keeps window free of dirt and condensation
- Water cooling for ambient up to 180°C (356°F)

Models

Model Number	Spectral Response	Temperature Range[3]	Accuracy[2]	Repeatability[2]	Hot Spot Detection[4]	Measurement Resolution[5]
RAYTMP150LT	3 – 5 µm	20 to 350°C	± 2°C (4°F)	± 1°C (2°F)	510:1	170:1
RAYTMP150MT	3.9 µm	100 to 800°C	± 0.5% or ± 3°C (6°F)[1]	± 1°C (2°F)	510:1	170:1
RAYTMP150HR	3.5 – 4 µm	100 to 650°C	± 0.5% or ± 3°C (6°F)[1]	± 1°C (2°F)	510:1	170:1
RAYTMP150G5	5 µm	100 to 950°C	± 0.5% or ± 3°C (6°F)[1]	± 1°C (2°F)	510:1	170:1
RAYTMP150P30	3.43 µm	30 to 250°C	± 3°C (6°F)	± 1°C (2°F)	100:1	33:1
RAYTMP150P31	3.43 µm	100 to 350°C	± 3°C (6°F)	± 1°C (2°F)	225:1	75:1
RAYTMP1501M	1 µm	600 to 1200°C[6]	± 0.5% or ± 3°C[1]	± 2°C (4°F)	600:1	200:1
RAYTMP1502M	1.6 µm	400 to 950°C	± 0.5% or ± 3°C[1]	± 2°C (4°F)	600:1	200:1

[1] whichever is greater
[2] for the whole temperature range
[3] temperature limits: 0°C and 3000°C (32°F and 5432°F)
[4] optical resolution for 50% energy, slit response at 20 Hz scan rate, per pixel at focus distance
[5] optical resolution for 90% energy, slit response at 20 Hz scan rate, per pixel at focus distance
[6] For measuring temperatures up to 3000°C (5432°F), please ask the manufacturer.

Measurement Specifications

Optical Scan Rate	20 to 150 Hz
Field of View	90°
Focus	1.52 m standard. custom focuses available
Emissivity	0.1 … 1.0 digitally adjustable
Samples	256 per scan line up to 150 Hz 512 per scan line up to 80 Hz 1024 per scan line up to 40 Hz (option)
Signal Processing	Max, Min, AVG, Peak/Valley Hold, Alarm setpoints

Electrical Specifications

Analog Outputs	3 user-configurable 0/4 – 20 mA, current outputs, collectively isolated, max. resistance 500 Ω
Alarm Output	relay, contacts 30 V, 1 A
Inputs	trigger, laser switching
Ethernet Communication	TCP/IP protocol 10/100 Mbit/s
Serial Communication	RS485 full duplex, non-addressable
Power	24 VDC ±25 %, 1 A
Warm-Up Time	30 min.

General Specifications

Environmental Rating	IP65 (IEC 60529) / NEMA 4
Ambient Operation Temperature	
without water cooling	0 to 50°C (32 to 122°F)
with water cooling	max. 180°C (356°F)
with internal heater	min. -40°C (-40°F)
Internal Operation Temperature Laser	0 to 60°C (32 to 140°F) automatic switch off at < 5°C (41°F) or > 50°C (122°F)
Storage Temperature	-25 to 65°C (-13 to 149°F)
Relative Humidity	10 … 90%, non-condensing
Shock	IEC 60068-2-27, 3 axes, operating: 5 g at 11 ms, 15 g at 6 ms
Vibration	IEC 60068-2-6, 3 axes, 10 to 150 Hz, operating 2 g above 20 Hz
Scan Motor	MTBF: 40,000 h
Water Cooling, Air Purge	standard
max. water pressure	15 bar (218 psi)
max. air pressure	3 bar (44 psi)
Weight	7 kg (15 lb), incl. air purge

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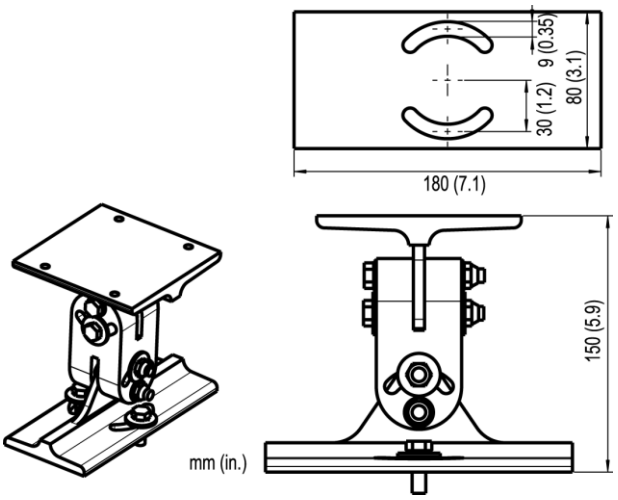
Accessories

XXXTMP50ACRMB	Adjustable mounting base
XXXSYSPS	Power supply, 240 VAC / 24 VDC, 1.3 A
XXXHSFIKIT	Fiber Optic Converter Kit
XXXTMP50THERM	Thermostat for linescanner

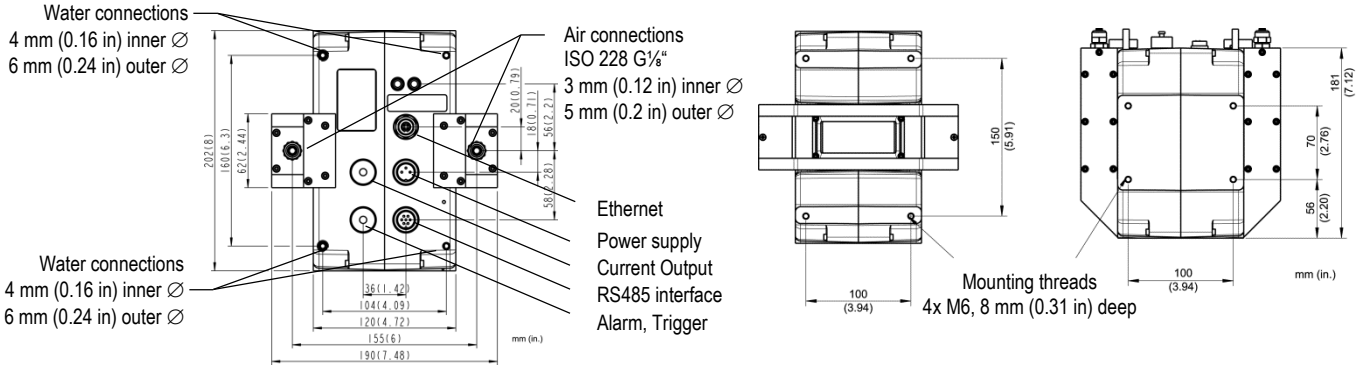
Options

…1	1024 samples per scan line
XXXTMP150CERT	ISO Calibration Certificate, based on national standards (e.g. DAkkS)
...02	linescanner without air purge

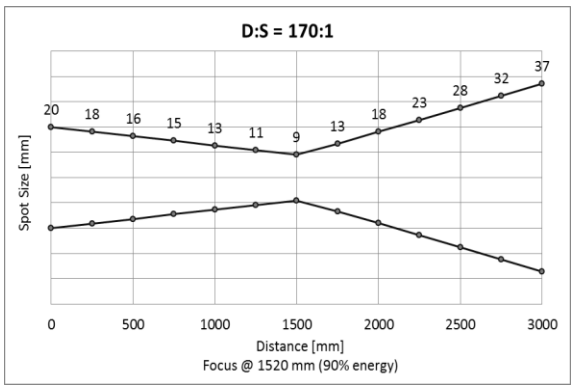
Adjustable Mounting Base

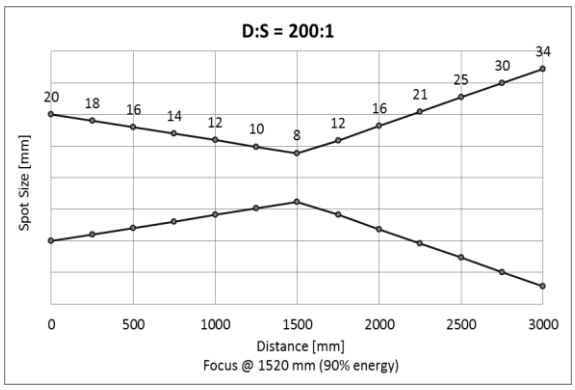


Mountings and Fittings



Optical Specifications





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