FLUKE.

Process
Instruments

MP Linescanner Series

Highlights

- Real-time thermal imaging, scan speed up to 300 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)
- I/O module support for up to 10 sectors/zones (PC independent)
- Internal Line Laser for accurate alignment
- Rugged, waterproof IP65 enclosure
- Air purge keeps window free of dirt and condensation
- Built-in water cooling for ambient up to 180 °C (356 °F)
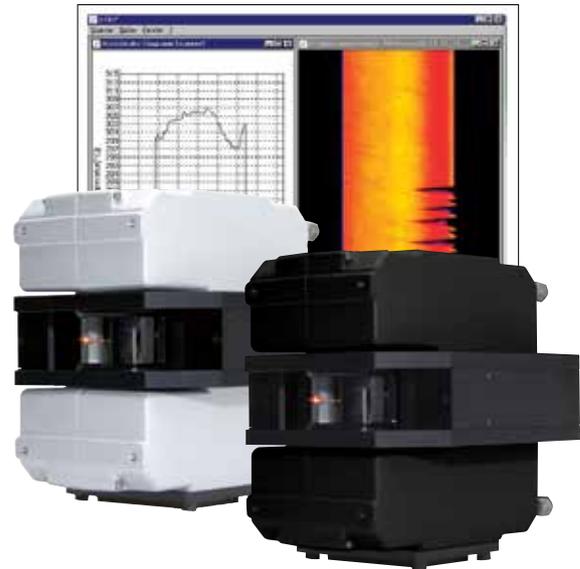
Electrical Specifications

Analog Outputs	3 user-configurable 0/4 – 20 mA, current outputs, collectively isolated, maximum load 500 Ω
Alarm Output	Relay, contacts 30 V, 1 A
Inputs	Laser switching, emissivity setting, background radiation compensation
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)
Operation Temperature without water cooling with water cooling with internal heater	0 °C to 50 °C (32 °F to 122 °F) max. 180 °C (356 °F) min. –40 °C (–40 °F)
Internal Operation Temperature Laser	0 °C to 60 °C (32 °F to 140 °F) Automatic switch off at < 5 °C (41 °F) or > 50 °C (122 °F)
Storage Temperature	–25 °C to 65 °C (–13 °F 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 max. water pressure max. air pressure	Standard 15 bar (218 psi) 3 bar (44 psi)
Weight	7 kg (15 lb), incl. air purge

Measurement Specifications

	MP150 / RAYTMP150	MP300
Optical Scan Rate	max. 150 Hz	max. 300 Hz
Field of View	90°	
Focus	1.52 m (4.9 ft) 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	256 per scan line up to 300 Hz 512 per scan line up to 160 Hz 1024 per scan line up to 80 Hz
Signal Processing	Max, Min, AVG, Peak/Valley Hold, Alarm setpoints; further signal processing function configurable through software	

Models

Model Number	Lines per Second	Temperature Range[3]	Spectral Response	Accuracy[2]	Repeatability[2]	Hot Spot Detection[4]	Measurement Resolution[5]
MP1501ML	150 Hz	600 to 1500 °C (1112 to 2732 °F)	1 µm	± 0.5 % or ± 3 °C (6 °F)[1]	± 2 °C (4 °F)	600:1	200:1
MP3001ML	300 Hz	650 to 1500 °C (1202 to 2732 °F)					
MP1501MH	150 Hz	700 to 1800 °C (1292 to 3272 °F)	1 µm	± 0.5 % or ± 3 °C (6 °F)[1]	± 2 °C (4 °F)	600:1	200:1
MP3001MH	300 Hz						
MP1502M	150 Hz	350 to 1500 °C (662 to 2732 °F)	1.6 µm	± 0.5 % or ± 3 °C (6 °F)[1]	± 2 °C (4 °F)	600:1	200:1
MP3002M	300 Hz	400 to 1500 °C (752 to 2732 °F)					
MP1503M	150 Hz	200 to 1500 °C (392 to 2732 °F)	2.4 µm	± 0.5 % or ± 3 °C (6 °F)[1]	± 2 °C (4 °F)	600:1	200:1
MP3003M	300 Hz	250 to 1500 °C (482 to 2732 °F)					
RAYTMP150MT	150 Hz	100 to 800 °C (212 to 1472 °F)	3.9 µm	± 0.5 % or ± 3 °C (6 °F)[1]	± 1 °C (2 °F)	510:1	170:1
RAYTMP150G5	150 Hz	100 to 950 °C (212 to 1742 °F)	5 µm	± 0.5 % or ± 3 °C (6 °F)[1]	± 1 °C (2 °F)	510:1	170:1
RAYTMP150P30	150 Hz	30 to 250 °C (86 to 482 °F)	3.43 µm	± 3 °C (6 °F)	± 1 °C (2 °F)	100:1	33:1
RAYTMP150P31	150 Hz	100 to 350 °C (212 to 662 °F)	3.43 µm	± 3 °C (6 °F)	± 1 °C (2 °F)	225:1	75:1
RAYTMP150LT	150 Hz	20 to 350 °C (68 to 662 °F)	3 – 5 µm	± 2 °C (4 °F)	± 1 °C (2 °F)	510:1	170:1
RAYTMP150HR	150 Hz	100 to 650 °C (212 to 1202 °F)	3.5 – 4 µm	± 0.5 % or ± 3 °C (6 °F)[1]	± 1 °C (2 °F)	510:1	170:1

[1] Whichever is greater
[2] For the whole ambient operating 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

Model Identification Charts

The model number represents the specifications for a specific linescanner.

Example: Model **MP300-1ML-0-0-0-1-0** describes a MP300 linescanner with 1ML spectral range; 7.5 m (25 ft) Ethernet cable with M12 plug and RJ45 connector; Ethernet TCP/IP protocol; 512 data points per scan line and air purge. A certificate is not included.

MP300/MP150 Variants:

M P 3 0 0	—	1 M L	—	0	—	0	—	0	—	1	—	0
Series		Frequency		Spectral Range		Connector		Protocol		Data Points		Air Purge		Certificate

Series Frequency Spectral Range Connector Protocol Data Points Air Purge Certificate

RAYTMP150 Variants:

R A Y T M P 1 5 0	—	L T	—	R	—	0

Raytek Series with max. 150 lines per Second (Hz) Spectral Range Connector Data Points

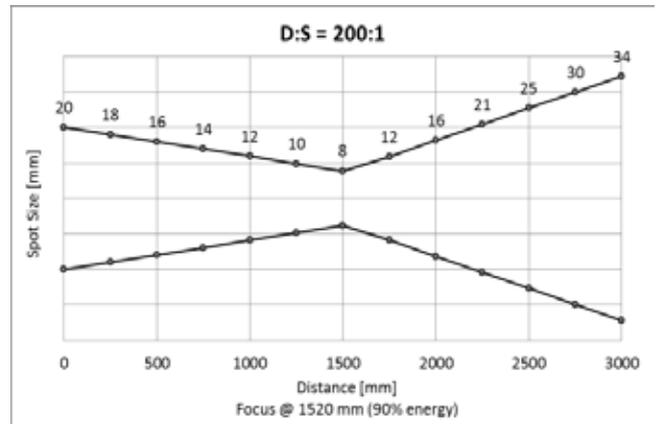| Frequency (MP300/150)	Spectral Range MP300/150	Spectral Range RAYTMP150	Connector MP300/150	Connector RAYTMP150	Protocol (MP300/150)	Data Points all Models	Air Purge (MP300/150)	Certificate (MP300/150)
150 = 150 Hz **300** = 300 Hz	1ML 1MH 2M 3M	LT MT G5 P30 P31 HR	**0** = M12 plug 7.5 m (25 ft) cable with RJ45	**R**	**0** = Ethernet TCP/IP	**0** = 512 **1** = 1024	**0** = No **1** = Yes	**0** = No **1** = Yes

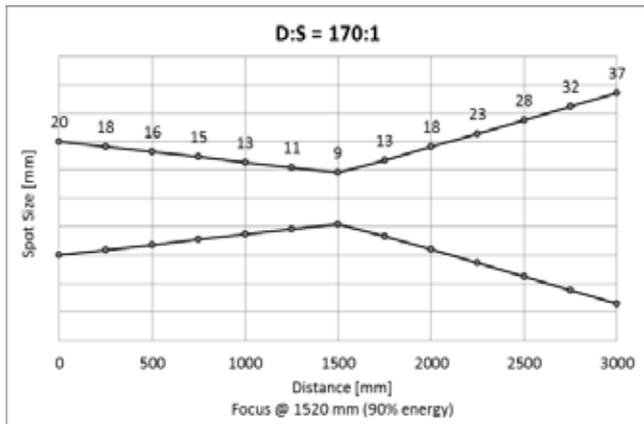## RAYTMP150 Options

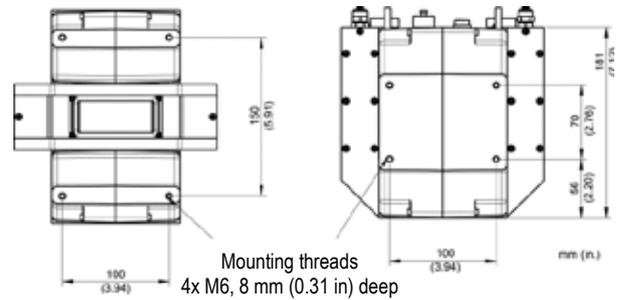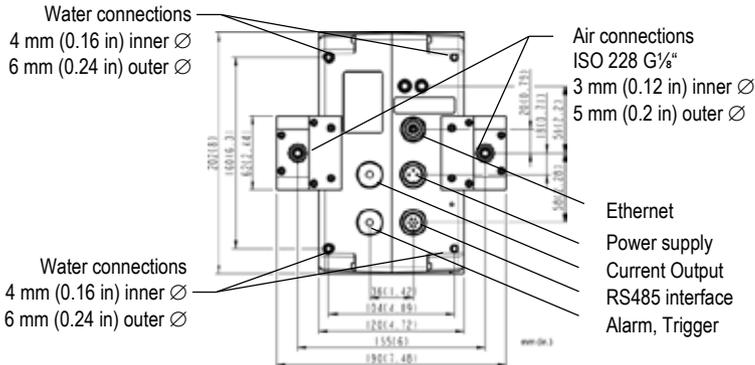| MPCERT-0	No Certificate
MPCERT-1	Manufacturer's Calibration Certificate (based on NIST/DAkkS certified probes)

Accessories

- Adjustable mounting base **(A-MP-RMB)**
- Power supply, 240 VAC/24 VDC, 1.3 A **(A-PS-DIN-24V)**
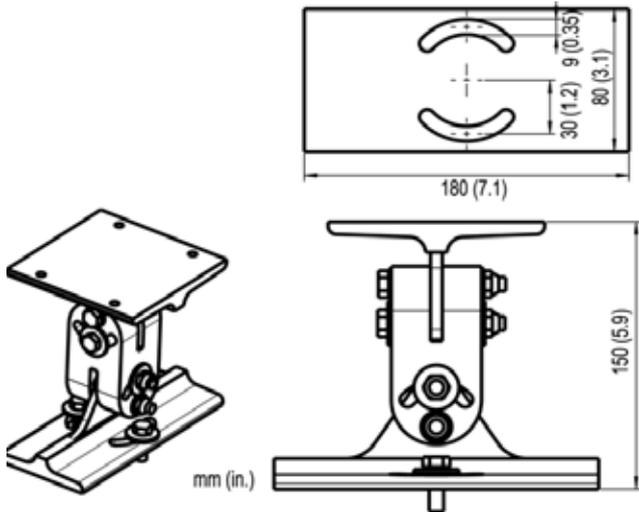- Thermostat for linescanner **(A-MP-THERM)**

Optical Specifications

D:S = 170:1
Spot Size [mm] vs Distance [mm]
Focus @ 1520 mm (90% energy)

D:S = 200:1
Spot Size [mm] vs Distance [mm]
Focus @ 1520 mm (90% energy)

Mountings and Fittings

Water connections
4 mm (0.16 in) inner ⌀
6 mm (0.24 in) outer ⌀

Air connections
ISO 228 G⅛"
3 mm (0.12 in) inner ⌀
5 mm (0.2 in) outer ⌀

Ethernet
Power supply
Current Output
RS485 interface
Alarm, Trigger

Water connections
4 mm (0.16 in) inner ⌀
6 mm (0.24 in) outer ⌀

Mounting threads
4x M6, 8 mm (0.31 in) deep

Adjustable Mounting Base

Spotsize Calculator App

The Fluke Process Instruments Guarantee

The MP Linescanners are supported by a 2 year warranty. With a network of trained representatives and agents in over one hundred countries and offices located in the U.S., Germany and China, we provide local service and support.

Fluke Process Instruments

www.flukeprocessinstruments.com