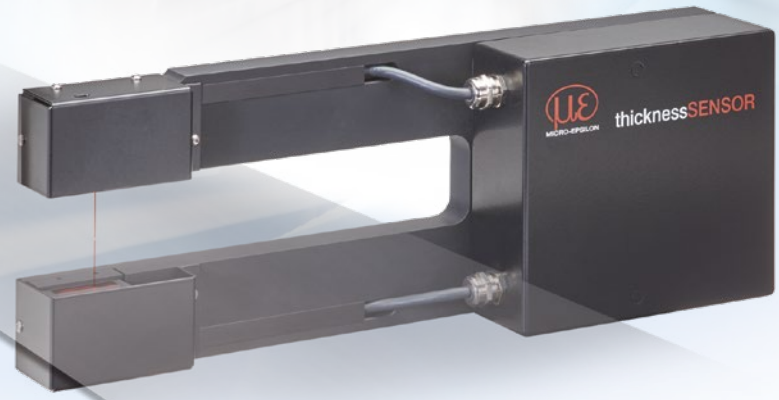
MICRO-EPSILON

More Precision

thicknessSENSOR // The sensor for precise thickness measurements

The sensor for precise thickness measurements
thicknessSENSOR

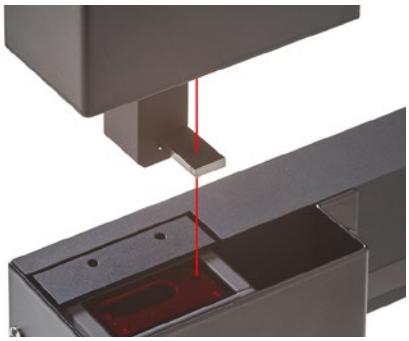
- Immediately ready for use due to perfectly harmonized components
- Easy integration and operation
- Precise measurement results with high dynamics
- Non-contact and wear-free measurement
- Compact system



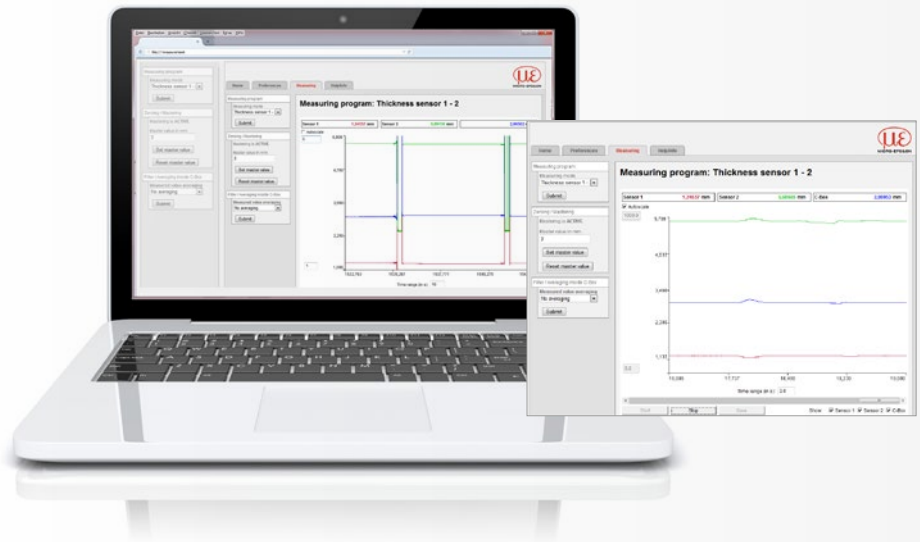
The new thicknessSENSOR is a sensor system for precise thickness measurement of strip and plate material. This fully assembled system comprises a stable frame where two laser triangulation sensors with small laser line are fixed that detect the thickness of various materials according to the difference principle. The evaluation unit integrated into the frame calculates the thickness values and outputs these via different interfaces.

Compact design and high precision

The thicknessSENSOR enables turnkey thickness measurement along with an unmatched price/performance ratio. Due to its extremely compact design, this sensor system can also be integrated in a confined installation space. Several models with different measuring ranges and widths enable the detection of various object geometries.The integrated laser sensors are perfectly adjusted to each other in terms of their mounting conditions, therefore providing high measurement accuracy.



Fast calibration on site
For calibration purposes, each measurement system includes a reference target which is fixed in the measuring gap using a magnet. This enables the user to quickly teach in the reference value.



Unique ease of use

The thicknessSENSOR is operated using an intuitive web interface. The settings for the measurement task can be quickly selected using predefined presets. Different configuration and set up possibilities enable the user to easily adapt the sensor e.g. to dynamic measurements and different materials.

Up to eight user-specific sensor settings can be stored and exported in the setup management. The signal peak selection and a freely adjustable signal averaging enable the experienced user to optimize the measurement task.

Model		thicknessSENSOR 10/200	thicknessSENSOR 10/400	thicknessSENSOR 25/200	thicknessSENSOR 25/400
Measuring range		10 mm	10 mm	25 mm	25 mm
Working gap		46 mm	46 mm	71 mm	71 mm
Measuring width		200 mm	400 mm	200 mm	400 mm
Linearity (combined)		±10 µm	±10 µm	±40 µm	±40 µm
Measuring rate		0,25 kHz / 0,5 kHz / 1 kHz / 2 kHz / 4 kHz			
Light source		semiconductor laser <1 mW, 670 nm (red)			
Permissible ambient light		20.000 lx			
Light spot diameter (±10 %) [1]		65 x 680 µm		80 x 970 µm	
Protection class		IP65			
Laser safety class		Class 2 according to DIN EN 60825-1 : 2008-05			
Temperature stability		± 0.03 % FSO/°C			
Operating temperature		0 °C... +50 °C (non-condensing)			
Storage temperature		-20 °C ... +70 °C (non-condensing)			
Control inputs/outputs		1 x trigger in / 1 x master / 2 x switching outputs			
Measurement value output		0 … 5 V, 0 … 10 V, ± 5 V, ± 10 V, 4 … 20 mA			
		Ethernet			
Vibration		2 g / 20 ... 500 Hz (according to IEC 60068-2-6)			
Shock		15 g / 6 ms / 3 axes (according to IEC 60068-2-29)			
Weight		3.3 kg	4.3 kg	3.3 kg	4.3 kg
Displays	Sensor	3x color LEDs for power and status			
	Controller	Power i.o.			
Operation	Web interface	Selectable averages / data reduction / setup management / limit values			
Power supply		11 … 30 VDC, 24 V P< 5 W			
Electronics		integrated signal processor, signal processing unit			
Electromagnetic compatibility (EMC)		EN 61 000-6-3 / DIN EN 61326-1 (Class B) EN 61 000-6-2 / DIN EN 61326-1			

FSO = Full Scale Output
The specified data apply to a white, diffuse reflecting surface (Micro-Epsilon reference ceramic for ILD sensors)
[1] Light spot diameter with line-shaped laser determined based on the emulated 90/10 knife-edge method

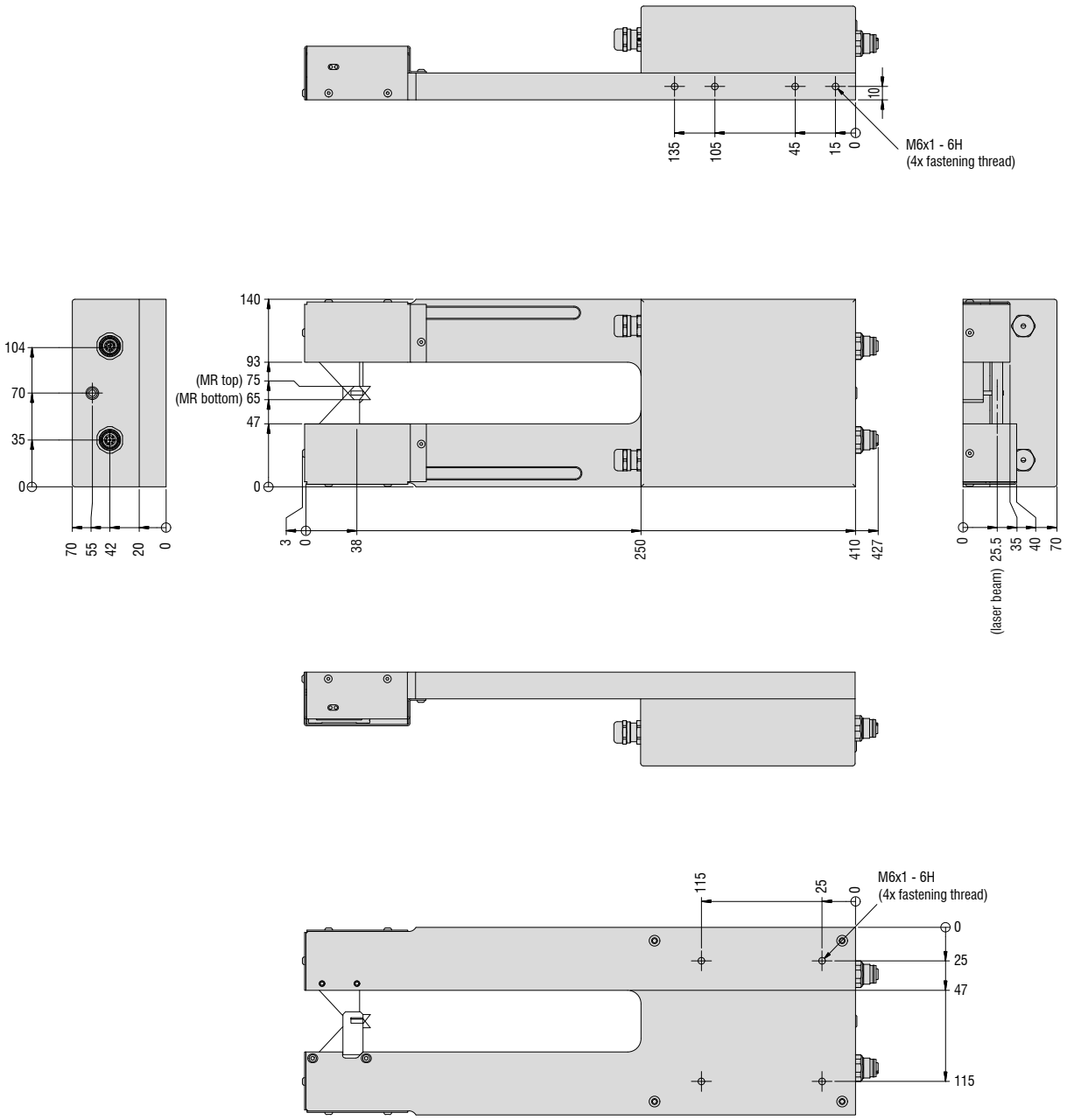
Accessories:

SCR3000A-2	Ethernet interface cable, 2 m
SCR3000A-5	Ethernet interface cable, 5 m
SCR3000A-10	Ethernet interface cable, 10 m
SCR3000A-25	Ethernet interface cable, 25 m
SCR3000A-35	Ethernet interface cable, 35 m

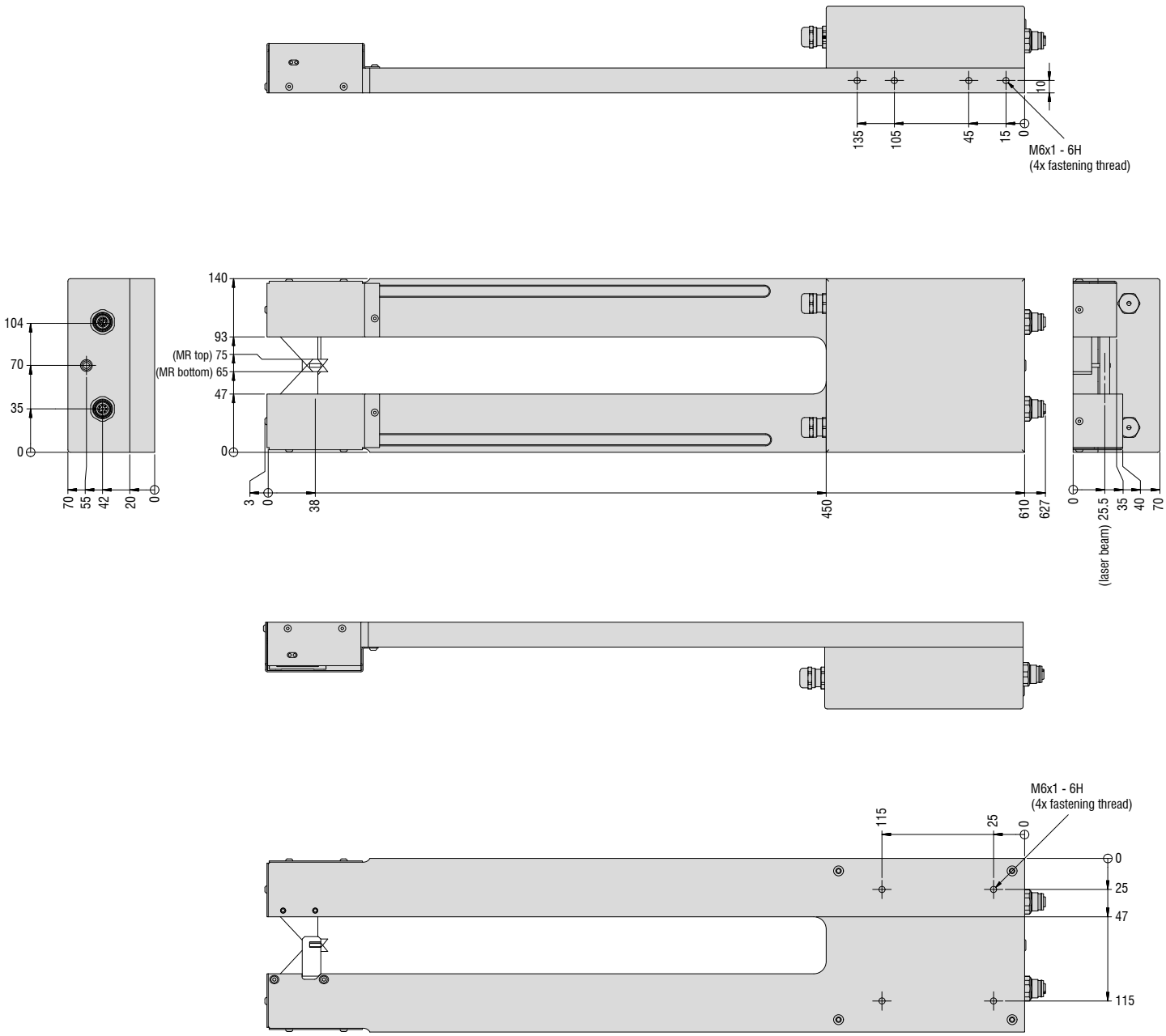
PCR3000-2	multifunction cable, 2 m
PCR3000-5	multifunction cable, 5 m
PCR3000-10	multifunction cable, 10 m
PCR3000-25	multifunction cable, 25 m
PCR3000-35	multifunction cable, 35 m

Dimensions
thicknessSENSOR

thicknessSENSOR 10/200

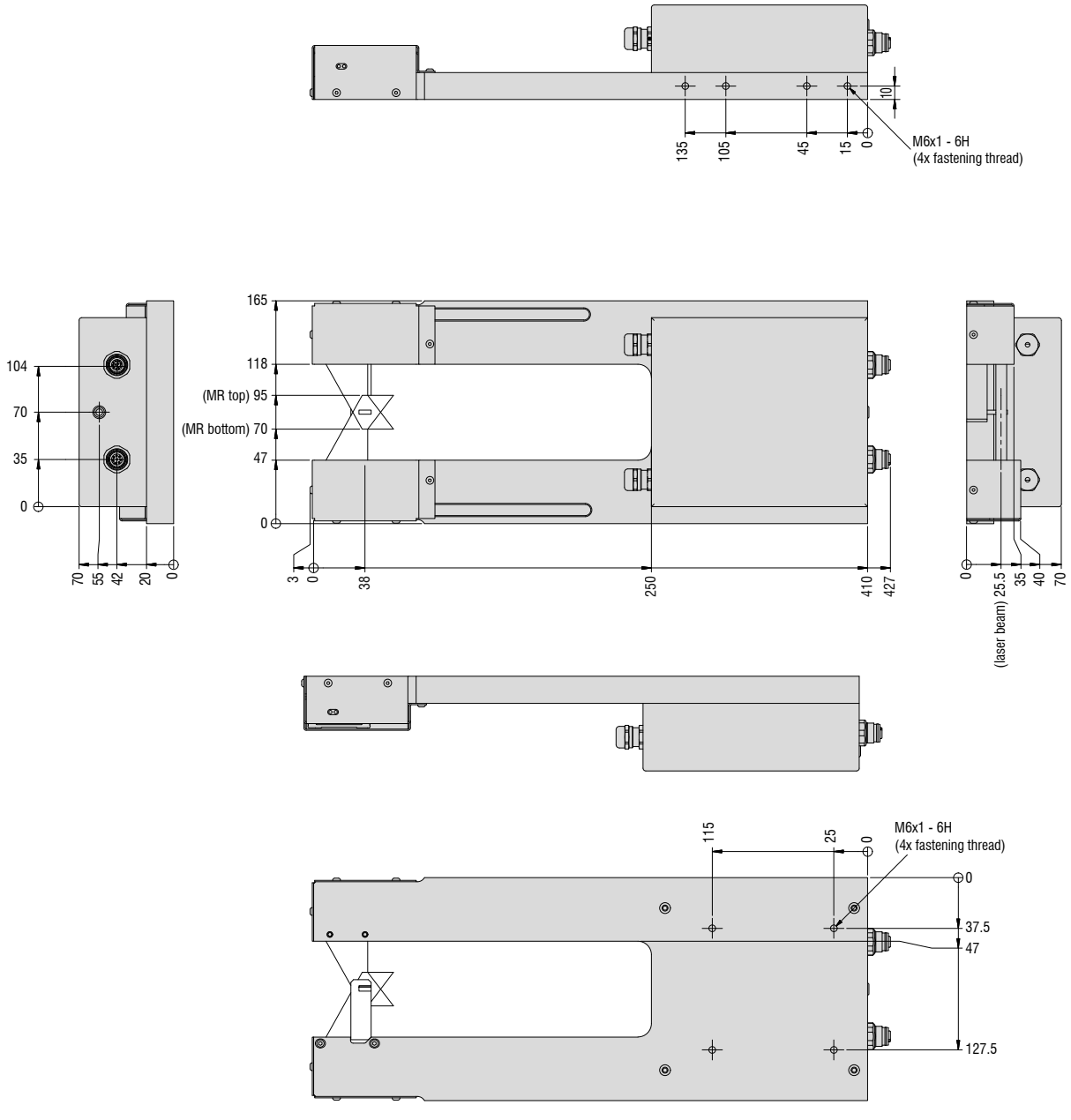


thicknessSENSOR 10/400

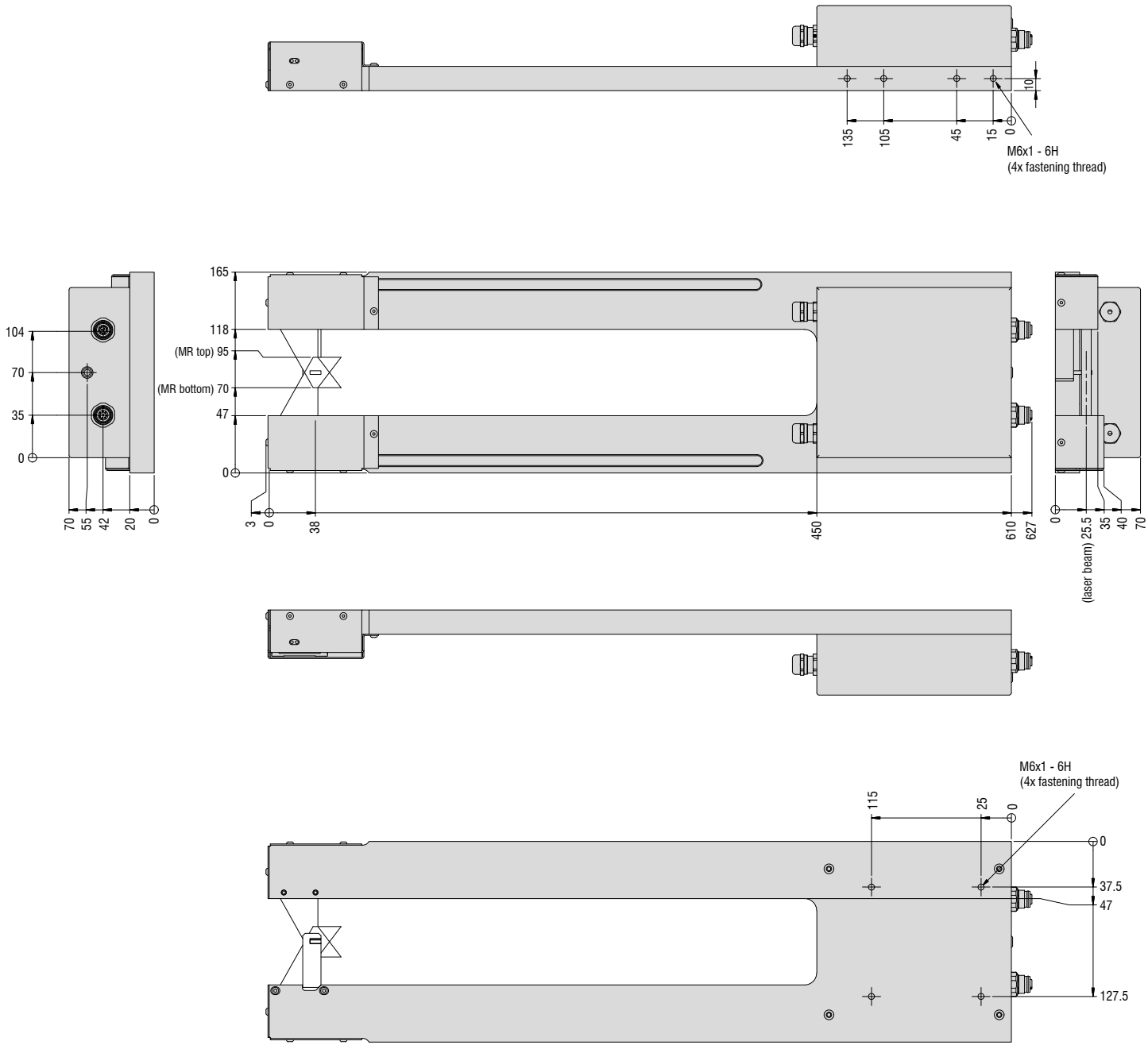


Dimensions
thicknessSENSOR

thicknessSENSOR 25/200



thicknessSENSOR 25/400

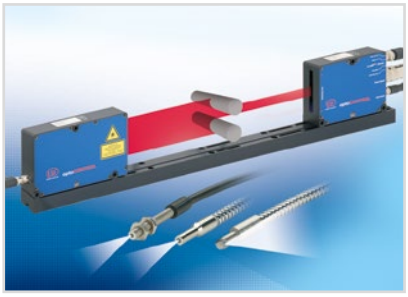


Sensors and Systems from Micro-Epsilon

Sensors and systems for displacement, distance and position

Sensors and measurement devices for non-contact temperature measurement

Measuring and inspection systems for metal strips, plastics and rubber



Optical micrometers and fiber optics, measuring and test amplifiers

Color recognition sensors, LED analyzers and inline color spectrometers

3D measurement technology for dimensional testing and surface inspection

Modifications reserved / Y9766580-B052043GKE

MICRO-EPSILON

MICRO-EPSILON USA
8120 Brownleigh Dr. · Raleigh, NC 27617 / USA
Phone +1/919/787-9707 · Fax +1/919/787-9706
me-usa@micro-epsilon.com · **www.micro-epsilon.com**