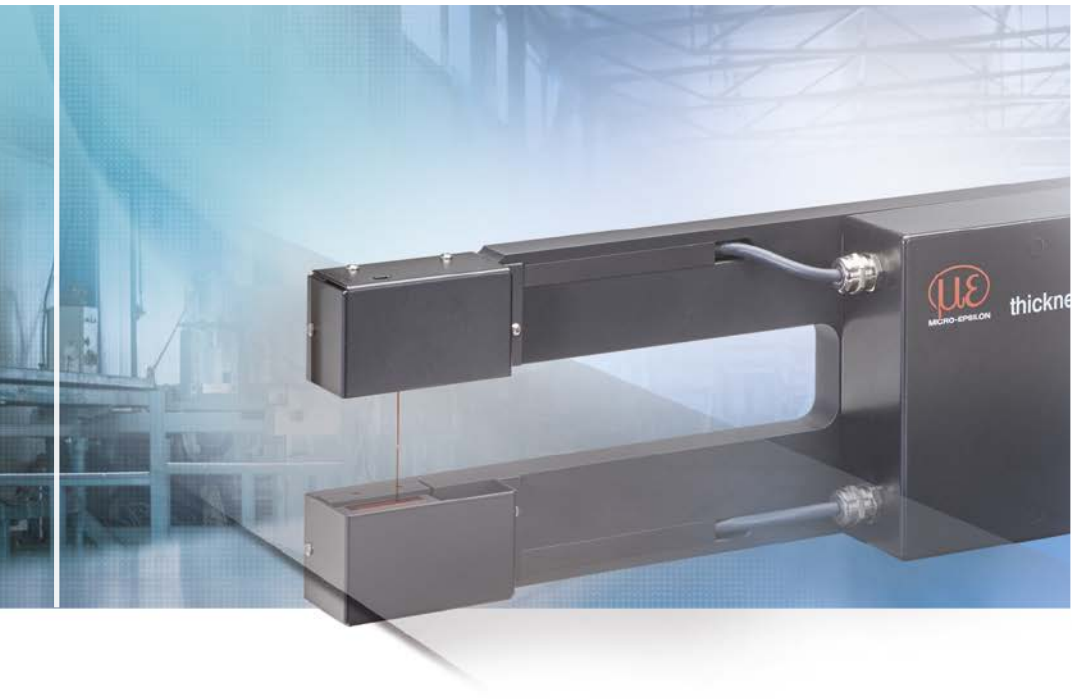
MICRO-EPSILON

# More Precision

## thicknessSENSOR // The sensor for precise thickness measurements




- *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 on which two laser triangulation sensors 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**

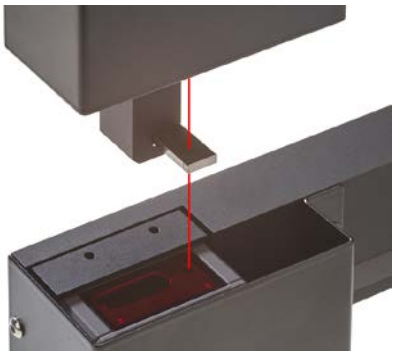
The thicknessSENSOR enables turnkey thickness measurement along with an unmatched price/performance ratio. Due to its extremely compact design, this sensor system can also be integrated in a confined installation space. Several models with different measuring ranges and widths enable the detection of various object geometries.

The integrated laser sensors are perfectly adjusted to each other in terms of their mounting conditions, therefore providing high measurement accuracy.

**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.



**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.

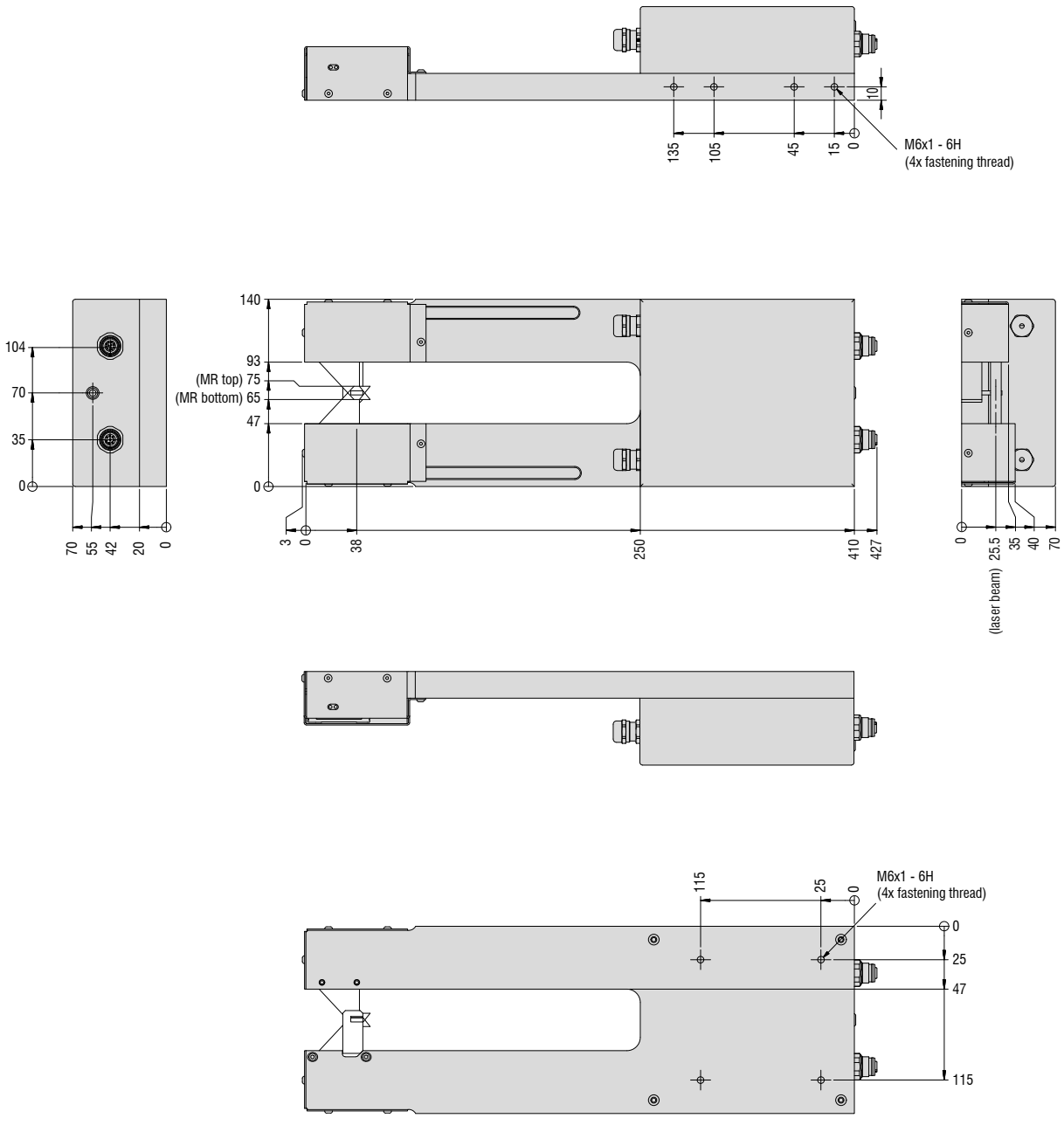
| Model | thicknessSENSOR 10/200 | thicknessSENSOR 10/400 | thicknessSENSOR 25/200 | thicknessSENSOR 25/400 |
|---|---|---|---|---|
| Measuring range | 10 mm | 10 mm | 25 mm | 25 mm |
| Working gap | 46 mm | 46 mm | 71 mm | 71 mm |
| Measuring width | 200 mm | 400 mm | 200 mm | 400 mm |
| Linearity (combined)* | ± 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 | 10,000 lx | | | |
| Light spot diameter max. | 140 x 160 µm (± 10%) | 140 x 160 µm (± 10%) | 390 x 500 µm (± 10%) | 390 x 500 µm (± 10%) |
| 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 | 3.5 kg | 4.5 kg |
| Displays – Sensor | 3x color LEDs for power and status | | | |
| Displays – Controller | Power i.o. | | | |
| Operation – Web interface | Selectable averages / data reduction / setup management / limit values | | | |
| Power supply | 11 ... 30 VDC, 24 V P< 5W | | | |
| Electronics | integrated signal processor, signal processing unit | | | |
| Electromagnetic compatibility (EMC) | EN 61 000-6-3 / DIN EN 61326-1 (Class B)<br>EN 61 000-6-2 / DIN EN 61326-1 | | | |

FSO = Full Scale Output
* the specified data apply to a white, diffuse reflecting surface

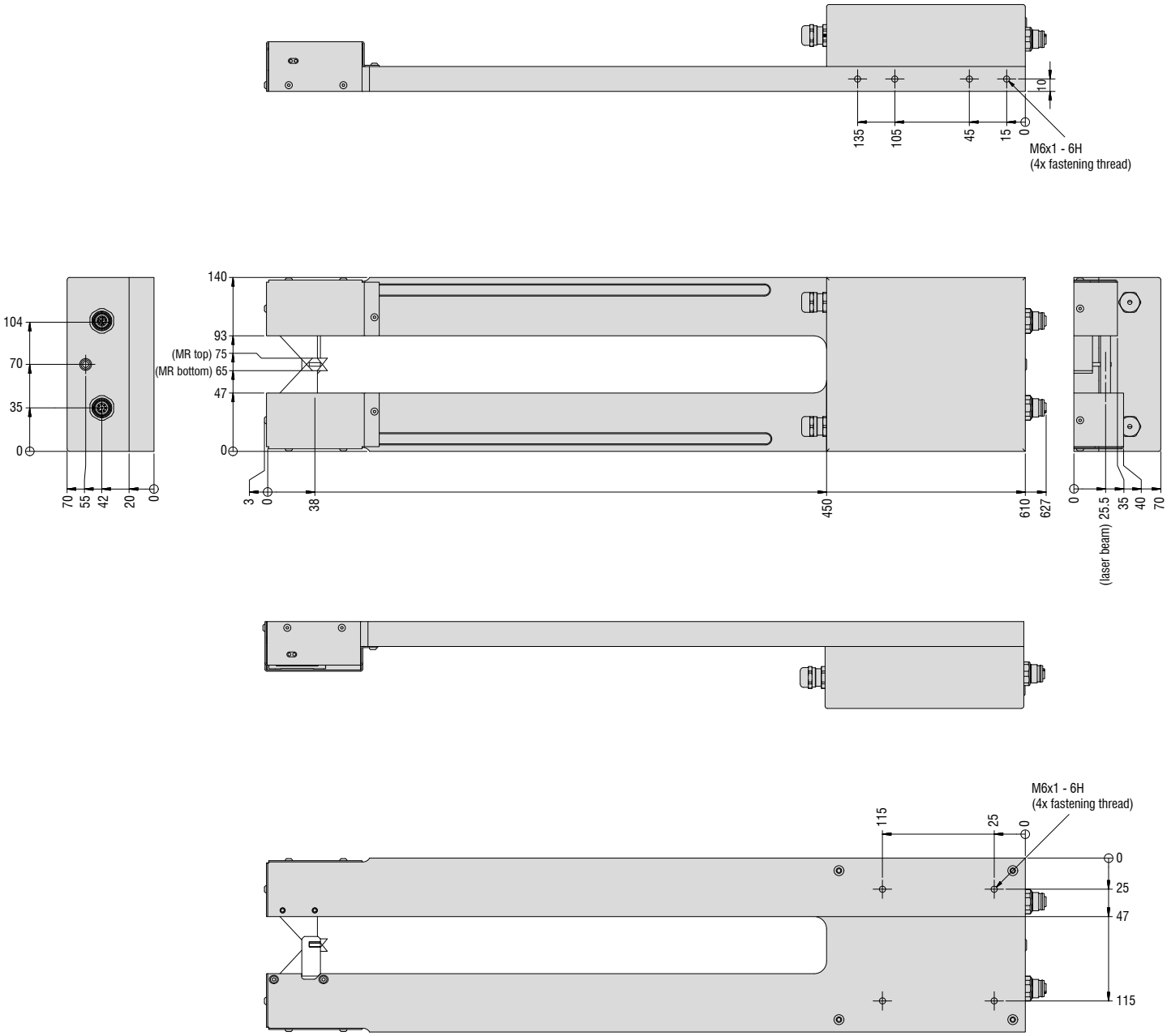
**Accessories:**

| | |
|---|---|
| SCD1420-2/THS | Ethernet interface cable, 2 m |
| SCD1420-5/THS | Ethernet interface cable, 5 m |
| SCD1420-10/THS | Ethernet interface cable, 10 m |
| PC1420-2/THS | multifunction cable, 2 m |
| PC1420-5/THS | multifunction cable, 5 m |
| PC1420-10/THS | multifunction cable, 10 m |

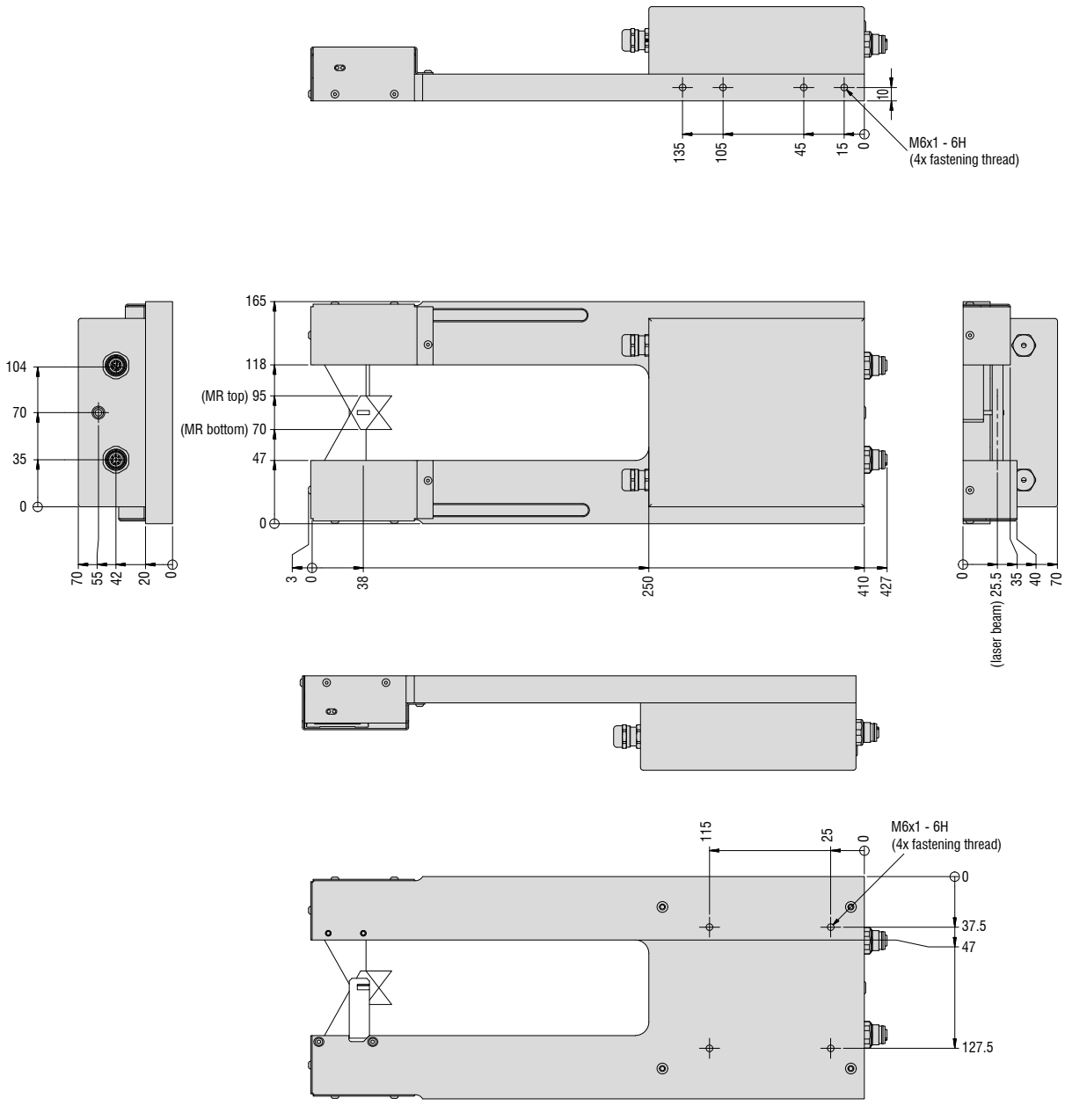
**thicknessSENSOR 10/200**



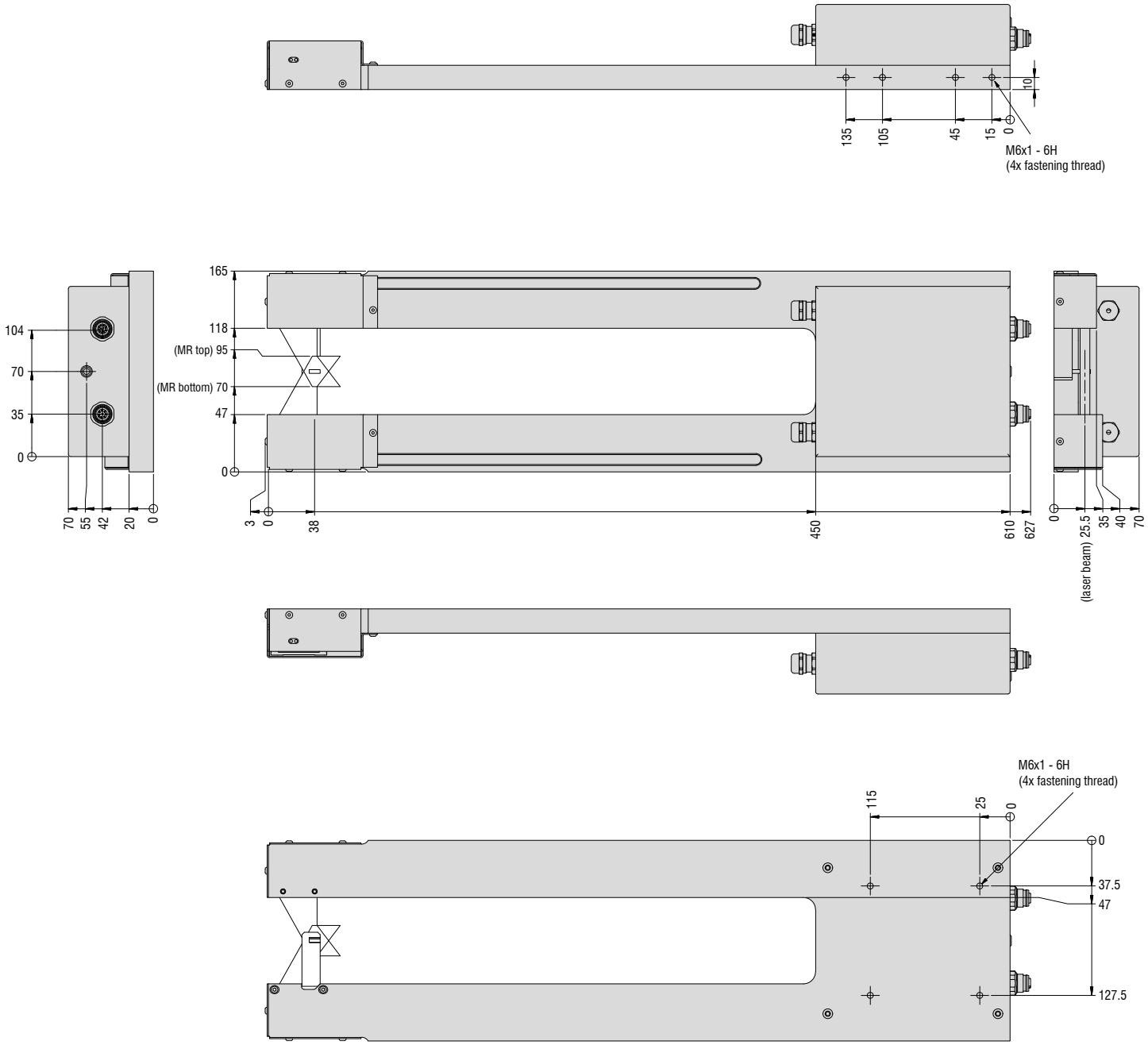
**thicknessSENSOR 10/400**



**thicknessSENSOR 25/200**



**thicknessSENSOR 25/400**



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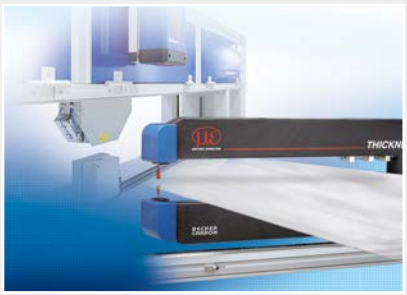

Measurement and inspection systems

Modifications reserved / Y9761580-B041058GKE

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