

Laser distance sensor

OPTIMESS S1 CCD



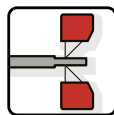
- High measuring rate
- High accuracy
- Digital processing of measured values
- Analog output or CAN bus

The opto-electronic sensor OPTIMESS S1 is a device for non-contact distance measurement. This sensor distinguishes itself by a great independence of the measurement accuracy on different material surfaces and from the ambient light.

The OPTIMESS S1 works according to the triangulation principle. The laser spot projected by a laser diode via an optical system is represented at an angle on a linescan image sensor by a receiving optical system. The processor integrated in the sensor processes the optical distance information and outputs them as an analog value or via the CAN bus.



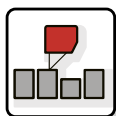
Dynamic contour measurement



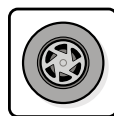
Thickness measurement



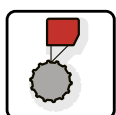
Steel industry, industrial automation



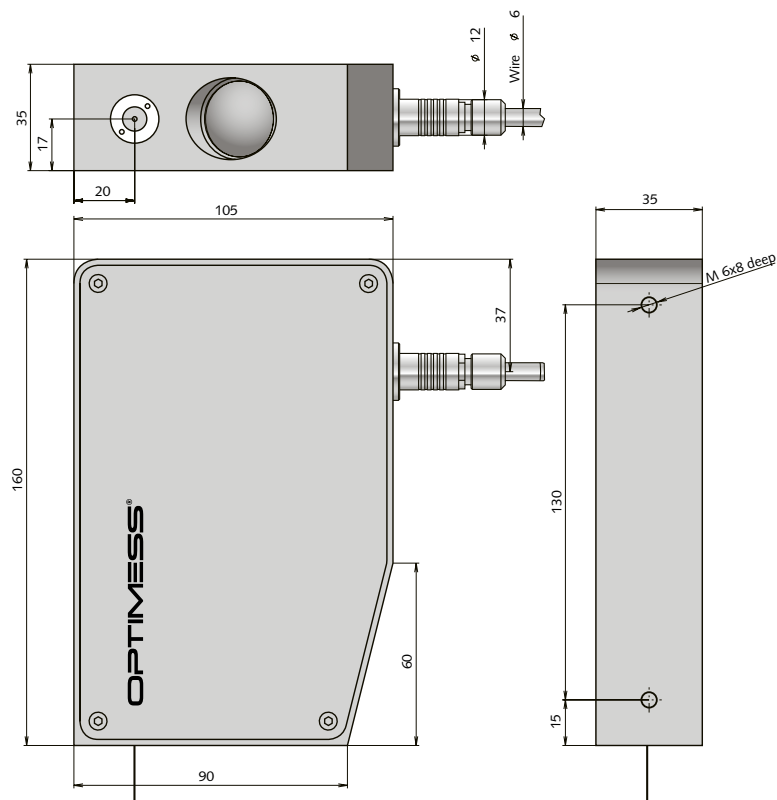
Distance measurement, position control



Rubber and tire industry



Profile measurement



Technical data

| | OMS 5008 | OMS 5020 | OMS 5040 | OMS 5080 | OMS 5120 | OMS 5200 |
|--------------------------|---|----------|----------|----------|----------|----------|
| Measuring range [mm] [3] | 8 | 20 | 40 | 80 | 120 | 200 |
| Stand off [mm] [3] | 50 | 100 | 150 | 200 | 300 | 400 |
| Resolution [mm] [1] | 0.002 | 0.005 | 0.010 | 0.020 | 0.030 | 0.050 |
| Linearity | ≤ ± 0.06% FSO | | | | | |
| Reproductibility | ≤ ± 0.03% FSO | | | | | |
| Bandwidth [2] | 20 kHz max. | | | | | |
| Filter [2] | Digital averaging | | | | | |
| Measuring rate | 20 kHz max. | | | | | |
| Light source | Laser diode | | | | | |
| Spot diameter [2] | 0.05–5 mm | | | | | |
| Wave-length [2] | 660–780 nm | | | | | |
| Laser safety class [2] | 2 / 3R / 3B | | | | | |
| Photo detector | CMOS Linear image sensor | | | | | |
| Supply voltage | ± 15 V / 120 mA, ± 5% or 12–30 V / 120 mA [4] | | | | | |
| Output [2] | ± 5 V / ± 10 V / 0–5 V / 0–10 V / 0–20 mA / 4–20 mA / CAN - Bus | | | | | |
| Operating temperature | -20°C bis 50°C (no condensation) | | | | | |
| Dimensions | 105 x 160 x 35 mm | | | | | |
| Weight | approx. 750 g | | | | | |
| Protection class | IP 54 | | | | | |

[1] Standard settings with filter 200Hz [2] Factory-set depending on the application [3] Other types upon request
 [4] only unipolar output and CAN Bus