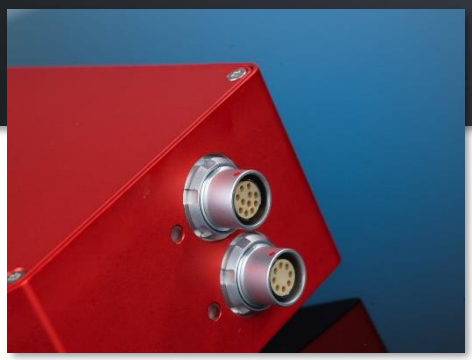
ELAG



Light section sensor HLS

OPTIMESS® 2D

measure the difference.

swissmade

Light section sensor HLS

The new OPTIMESS 2D light section sensor enables high-precision measurement of surfaces and profiles. Even the most difficult conditions are no problem with this tool. No matter whether in ice cold or with great shocks, this sensor feels at home in harsh environments. Even the most difficult surfaces, such as reflective rails or deep black tires, are processed by the OPTIMESS HLS without any problems. The large range of measuring fields is special, too - it works up to 2 meters line length.

Features

- Measuring ranges from 100mm to 2500mm distance
- Line length from 80mm to 2200mm
- 2048 measuring points per profile
- Extremely resistant
- Waterproof (IP67)
- Wide temperature range from -20°C to 50°C
- Scan rates up to 12'000 Hz
- Insensitive to sunlight

Applications

Wherever high reliability with high measurement quality is required, the OPTIMESS 2D HLS is used.
Typical applications are:

- Railways
  - Rail measurement
  - Contact wire measurement
  - Trackbed
  - Wheel profile
  - Wheel roundness
- Road measurement
  - 3D surface profile, longitudinal waviness
  - surface roughness
- Industry

Interface

The sensor itself is connected via two robust Fischer ® connectors, which comply with the IP67 standard even when unplugged. One connector is used for data transmission via Gigabit Ethernet. The other connector provides power supply as well as various trigger inputs and outputs. For customer integration, an API for common environments such as .NET, C, LabVIEW and Delphi is provided.

Options

Various optional components are available. For example, aprotective housing with:

- Pneumatic slider for protection when not in use
- Heater for very low temperatures
- Blow-out function to keep the panes clean

But also small connection boxes with DIN-rail mounting for easy wiring.
In addition, special solutions are already feasible for small quantities. Customer-specific measuring ranges or other types of housings can be made to your specific needs.
An IMU can also be integrated to compensate for sensor movements.
Software options are also available, such as an algorithm for calculating the rail head position.

Measuring ranges

Different measuring field sizes are available. The **basic types** are listed below.
In general, a smaller range must be selected between the start and the end of the measuring field.
For example, with the basic Type 4025: measuring field from 350-450mm.

Basic types	2025	3025	3016	4025	4016	6025	6016	8025	20012	
Measuring field start	160	240	210	300	300	450	400	600	1800	mm
Measuring field end	240	360	390	500	600	750	1000	1100	2500	mm
Line length start	92	130	175	145	220	210	330	260	1580	mm
Line length end	120	175	275	235	400	330	700	460	1960	mm
Line resolution	45-60	65-85	85-135	71-115	110-200	105-165	165-350	130-230	800-1000	µm
Standard deviation	*8*	10	20-25		30-40	*60*	120	90	600	µm
Length	250	300							450	mm
Width	140								124	mm
Thickness	60									mm
Weight	2.2	2.5							3	kg

Specifications

OPTIMESS 2D HLS OMS 166xx		
Ambient conditions	Humidity	5% - 95%, non-condensing
	Protection rating	IP67 (even when unplugged)
	Ambient light	more than 100'000 Lux (sunlight)
	Vibration	10-100Hz, 2mm
	Shock	15G / 6ms, EN 60068
	temperature range	-20°C to 50°C (optionally extendable to -40°C)
Standards	EMC	EN 61000-6-2, EN61000-6-4, EN 50121-3-2
	Environment, security	EN 50155
	Approvals	CE
Laser	Class	2, 3R, 3B
	Wavelength	450nm (standard), 660nm, 405nm
Connections	Supply voltage	10 - 32 V DC
	Power	6-10 W
	Interface	Ethernet 100/1000BASE-T

ELAG Elektronik AG has been developing and supplying measuring systems worldwide since 1983, setting the highest quality standards.
From laser sensors to complete ready-to-use measuring systems, including sensors, mechanics and user software, everything is developed and manufactured in-house at ELAG Elektronik AG by a powerful, innovative team of engineers. This means that you, as our customer, can benefit from sophisticated sensors and seamlessly integrated measuring systems, where we can guarantee highly precise results and simple operation.
We consciously want to be close to you. We are convinced that short communication channels are decisive in ensuring that your requirements are implemented by us in consistent high quality.
This also includes that we accompany you competently, from the sales consultation, commissioning up to the maintenance of your devices.

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