Product family overview

OC Sharp

Chromatic confocal measuring technology offers maximum precision

SICK
Sensor Intelligence.

Technical data overview

Resolution	0.018 µm ... 5.5 µm, 15 bit
Response time	≥ 0.5 ms
Analog output	0 V ... 10 V
Serial	✓, RS-232, RS-422
USB	✓
Enclosure rating	IP20
Ambient temperature, operation	+5 °C ... +50 °C

Product description

The OC Sharp is a highly precise optical distance sensor based on chromatic confocal measuring technology. This measuring technology allows for precise measurements to the nearest nanometer on a wide range of materials, from pitch black to transparent materials. It is also possible to measure the thickness of materials and films. The measuring technology features a passive sensor head without electronic components. This ensures measurements are not affected by interference (e.g., EMC).

At a glance

- Many measuring lengths from 600 µm up to 12 mm
- Chromatic confocal sensor technology for the highest reliability and precision
- High measuring frequency of up to 4,000 Hz
- Reliably measures a wide range of materials and colors
- Measures the thickness of transparent materials using just one sensor head (chromatic confocal for thicknesses from 30 µm and interferometric for thicknesses from 3 µm)
- Very small light spot is able to measure minuscule objects
- Easy-to-use programming with OC Sharp software

Your benefits

- Thanks to its non-contact operation and measuring speeds of up to 4,000 Hz, this sensor optimizes the production process and ensures top quality
- Reliable measurement results, regardless of object material and brightness, ensure maximum availability
- Cost-effective solution for measuring the thickness of transparent materials, as only one sensor head is necessary
- Thanks to its small light spot, this sensor can deliver precise measurements of very small objects and cavities (e. g., VIA) which are currently not possible with laser triangulation sensors or tactile systems
- Non-contact, wear-free, and calibration-free measuring technology means low maintenance costs
- Using OC Sharp software makes configuring the sensor easy and saves time and money

Fields of application

- Inspection of parts, e.g., manufacture of engines and gearboxes in the automotive industry, or machine tool industry
- Measuring fill levels, e.g., when measuring test tube doses in the pharmaceutical industry
- Quality inspection of tools in the machine tool industry
- Inspection of wafers in the electronics and solar industry
- Inline thickness measurement of transparent material and coatings, e.g. foils
- Measuring glass thickness, e.g., in the production of glass or smart phones

Ordering information

Other models and accessories ➜ www.sick.com/OC_Sharp

Communication interface	Housing material	Measuring range	Type of analog output	Connection type	Typ. light spot size (distance)	Type	Part no.
–	–	–	–	–	–	SOC-1A100103K	6054506
						SOC-1A100203K	6054507
						SOC-1A100303K	6054508
						SOC-1A100403K	6054509
						SOC-1A200103K	6054510
						SOC-1A200203K	6054511
						SOC-1A200303K	6054512
						SOC-1A200403K	6054513
						SOC-1A200503K	6054514
						SOC-1A200603K	6054515
	Metal	21 mm ... 24 mm	–	Optical fiber connector [1]	Ø 12 µm	OC1-C1225A030P1	6053132
		24 mm ... 30 mm	–	Optical fiber connector [1]	Ø 40 µm	OC1-I1270A000P1	6053134
		48 mm ... 60 mm	–	Optical fiber connector [1]	Ø 30 µm	OC1-C1540A120P1	6053133
		6.2 mm ... 6.8 mm	–	Optical fiber connector [1]	Ø 4 µm	OC1-C1065A006P1	6053131
Serial, USB	Plastic	–	Voltage output	Connection port, fiber optic, Serial interface RS232/RS422, Sub-D9-port, Port for external light source, USB port, Encoder-Input, Sub-D15-conector, Multi-port connector interface, Jack for main power supply via external power supply unit [1]	–	AOCA-1U01	6053130

[1] Only to be used with SICK fibre optics cable.

SICK AT A GLANCE

SICK is one of the leading manufacturers of intelligent sensors and sensor solutions for industrial applications. A unique range of products and services creates the perfect basis for controlling processes securely and efficiently, protecting individuals from accidents and preventing damage to the environment.

We have extensive experience in a wide range of industries and understand their processes and requirements. With intelligent sensors, we can deliver exactly what our customers need. In application centers in Europe, Asia and North America, system solutions are tested and optimized in accordance with customer specifications. All this makes us a reliable supplier and development partner.

Comprehensive services complete our offering: SICK LifeTime Services provide support throughout the machine life cycle and ensure safety and productivity.

For us, that is "Sensor Intelligence."

WORLDWIDE PRESENCE:

Contacts and other locations –www.sick.com

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