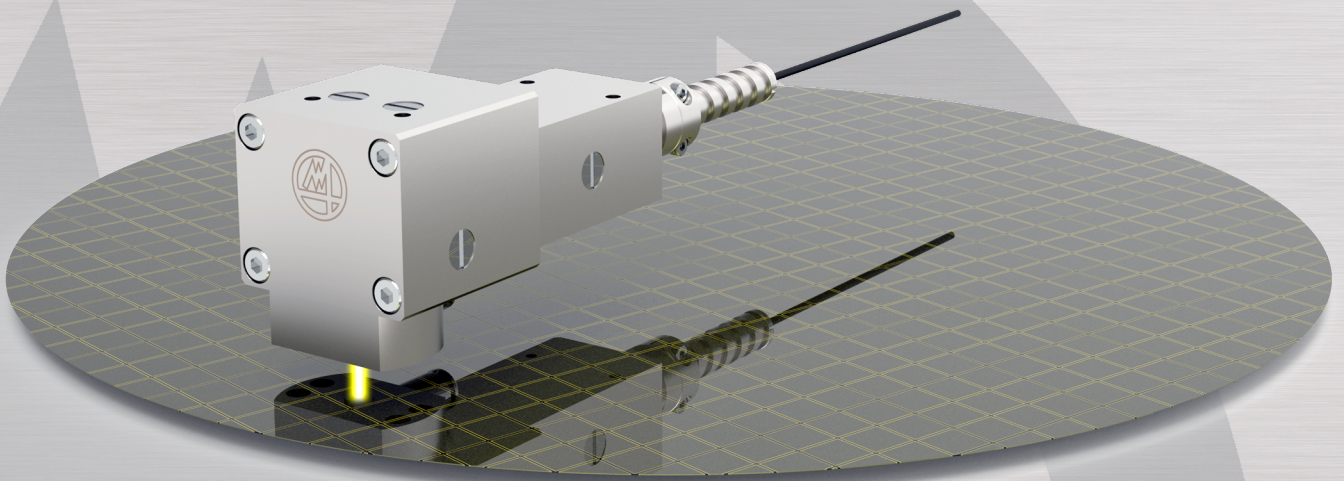


NCG

MARPOSS INTERFEROMETRIC GAUGE



MARPOSS

Description

Marposs NCG gauge is a gauge to measure thickness based on interferometric technology: light waves, which are reflected at the layer boundaries of different surfaces of the object being measured, are brought to interference and the layer thickness is then calculated. The gauge has been designed to control the thickness of parts of different materials such as for instance silicon, doped silicon, SiC, Sapphire, GaN, Glass, GaAs, SOI, plastic and so on. Thanks to the infrared light source is possible to measure non-transparent materials too.

Our gauges are designed to improve and maintain machine cycle times, quality of the final product and to control the process before, during or after key operation steps.

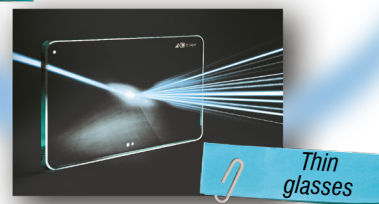
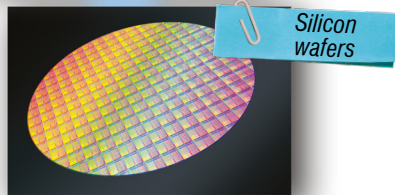
Marposs NCG is a high-speed elaboration gauge that can be connected to any machine for accurate and fast part thickness control. It could be used on a fixture or inside a machine, in dry or wet environments within the limits specified in the technical data.

Benefits

- Assure a part production within the target tolerance
- Optimize the cycle time
- Assure and maintain a constant and controlled productivity
- Compensate any production drift
- Track production history

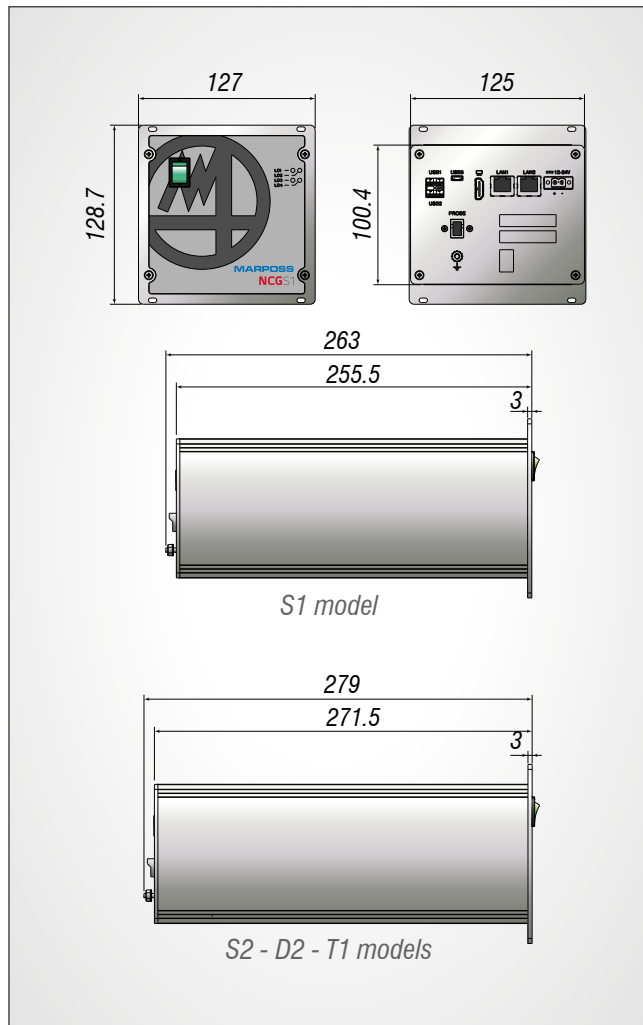
Typical applications

- Different type of silicon, sapphire wafers thickness measurement
- In-process control on back-grinding and lapping machines
- Thin and thick layers detection
- Tape thickness control



NCG unit

NCG interferometric gauges have been designed to be flexible and easy to use. Every single unit can be connected in a network of sensors controlled by a machine. Dedicated elaborations are available to measure both very reflective, rough or opaque parts. Thanks to its improved electronics it is possible in run time to execute measure and store hours of continuous data that can then be used for a post-process elaboration, quality control and machine performance evaluation.



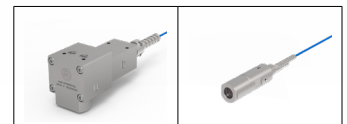
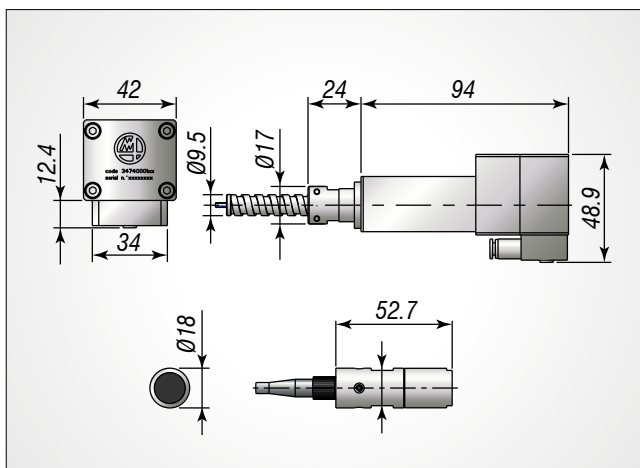
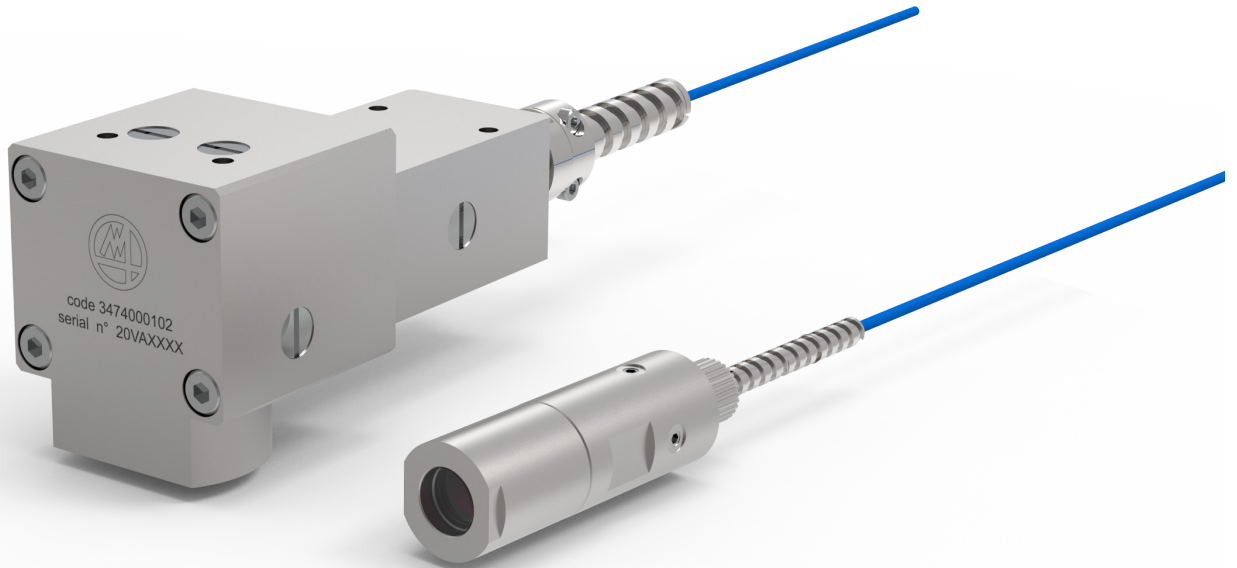
MEASURING PRINCIPLES	Interferometric
MEASURE TYPE	Thickness, distance
LIGHT SOURCE	SLED
MEASUREMENT RANGE*	S1 = 37 ÷ 1850 μm S2 = 74 ÷ 3700 μm T1 = 15 ÷ 850 μm D2 = 60 ÷ 3000 μm
ACCURACY	$\leq 1 \mu\text{m}$
AXIAL RESOLUTION	30 nm
CHANNELS	1
INTERFACES	Ethernet (10/100 Mbit) RS232 / RS422 as option
NETWORK CONNECTION	Yes
POWER SUPPLY	12 ÷ 24 Vdc (+20%/-15%)
POWER CONSUMPTION	30 W
PROTECTION DEGREE Standard IEC 60529	IP40
WEIGHT	2,8 Kg
DIMENSIONS [mm]	127 (w) x 129 (h) x 255,5 (d)

The above performances has been tested in static measurement. The measure performance is granted in the range of 15 ÷ 35 °C

** = range at refractive index $n=1$. To obtain the measure range for other materials, divide the range for the refractive index of that material. The measure range could be limited in case of rough surfaces with $R_a > 0.1$.*

Optical probes

Marposs optical probes are designed to get the best performances in both very clean and harsh environment. Probes can be used even in presence of water or other aggressive substances too. Every single component has been tested to be reliable in case of vibrations, heat and humidity. Mechanical layout can be customized according to Customer requirements and can be used to measure both part thickness and distance.



MEASURE TYPE*	Thickness	
WORKING DISTANCE (WD)**	1.6, 10, 100 mm	
SPOT DIAMETER	18 ÷ 30 µm	
LATERAL RESOLUTION	9 ÷ 15 µm	
ANGLE TO SURFACE	90° ± 2°	
OPTICAL FIBER LENGTH	3 / 4 m	
OPTICAL FIBER BENDING RADIUS	30 mm	
SHIELDED FIBER	option	
PROTECTION DEGREE	IP68	IP40
WEIGHT <i>without cable</i>	915 g	80 g

* = Distance measurement version is also available

** = 1.6 mm focus distance is for IP68 optical pen (this probe can be used in presence of DI water)



www.marposs.com

For a full list of address locations, please consult the Marposs official website

D6106200G0 - Edition 04/2023 - Specifications are subject to modifications
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