

# CHROCODILE CLS 2PRO

Quality control through optical inspection

The chromatic confocal line sensor CHRocodile CLS 2Pro offers the best possible combination between line length, angle acceptance and speed. It is highly suitable for applications in consumer electronics and semiconductor industries.

The 3D structure of your sample is determined in a very short time through fast line scanning at up to 36,000 lines per second – ideal for inline applications where cycle time is critical.

The chromatic confocal measurement technology provides data with an extremely high lateral and axial resolution, enables measurement of any kind of material, and functions without shadowing effects – even for complex geometries.

Furthermore, the easily exchangeable optical probes offer a high degree of flexibility in adapting the sensor's specifications to your requirements. You can select a long line of up to 20 mm for fast inspection of large parts or a shorter line with an outstanding numerical aperture for measuring highly angled surfaces.



DISTANCE

THICKNESS

TOPOGRAPHY

## EFFICIENT

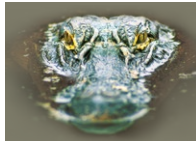
- ▶ High measuring speed
- ▶ Ultra-precise
- ▶ Non-contact

## VERSATILE

- ▶ Maintenance-free
- ▶ Measurement on all surfaces
- ▶ No shadowing effect

## USER-FRIENDLY & SAFE

- ▶ Easy to integrate into production lines
- ▶ Instantaneous inline profile measurement with interchangeable optical probes



## TECHNICAL SPECIFICATIONS OF CHROCODILE CLS 2PRO

Measured value	Distance
Measuring rate [lines per second] (full measuring range)	7,930
Measuring rate [lines per second] (high speed mode, reduced measuring range)	36,000
Number of points per line	1,200
Synchronization with external devices	trigger input, synchronizing output, 5 encoder inputs
Interface	Ethernet, RS-422 <sup>1)</sup>
Light source	Laser diode
Operating temperature	+5°C up to +35°C
Dimensions (w x h x d)	285 mm x 215 mm x 135 mm
Weight	7 kg
Supply voltage	24 V DC ±10%
Rated power	<50 W
Item number	5103971

## TECHNICAL SPECIFICATIONS OF OPTICAL PROBE

	Probe 1.25 mm	Probe 2.5 mm	Probe 3 mm *	Probe 5 mm
Measuring range	1.25 mm	2.5 mm	3 mm	5 mm
Line length	4.5 mm ± 0.1 mm	8 mm ± 0.2 mm	20 mm ± 0.5 mm	11.9 mm ± 0.3 mm
Pitch	3.75 µm ± 0.09 µm	6.67 µm ± 0.17 µm	16.67 µm ± 0.42 µm	9.92 µm ± 0.25 µm
Working distance <sup>2)</sup>	13 mm ± 0.5 mm	21.4 mm ± 0.8 mm	40 mm ± 2 mm	42 mm ± 1.2 mm
Axial resolution	0.1 µm	0.2 µm	0.25 µm	0.4 µm
Static repeatability <sup>3)</sup>	0.05 µm	0.1 µm	0.13 µm	0.2 µm
Linearity <sup>4)</sup>	1 µm	2 µm	2.5 µm	4 µm
Numerical aperture	0.7	0.62	0.26	0.42
Measurement angle to surface <sup>5)</sup>	90° ± 45°	90° ± 38°	90° ± 15°	90° ± 25°
Dimensions Length	l = 145 mm	l = 160 mm		l = 140 mm
Diameter	d = 83 mm	d = 90 mm		d = 83 mm
Weight	1.42 kg	1.42 kg		1.80 kg
Item number	5103994	5103988	5103990	5103992

<sup>1)</sup> Service port | <sup>2)</sup> Bottom of optical probe to middle of measuring range | <sup>3)</sup> Measured on standard step height | <sup>4)</sup> Perpendicular measurement on mirror at 20°C | <sup>5)</sup> Decreasing accuracy for large incident angles | \* coming soon

The given data was generated for a typical application and may be different given other circumstances. Furthermore misprints, changes and/or innovations may lead to differences in the listed measurements, technical data and features. All information is therefore non-binding and technical data, measurements and features are not guaranteed.

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