Industries

Aeronautics

Automotive

Plastics

Energy

Micromechanics

Glass

Medicine

Packaging

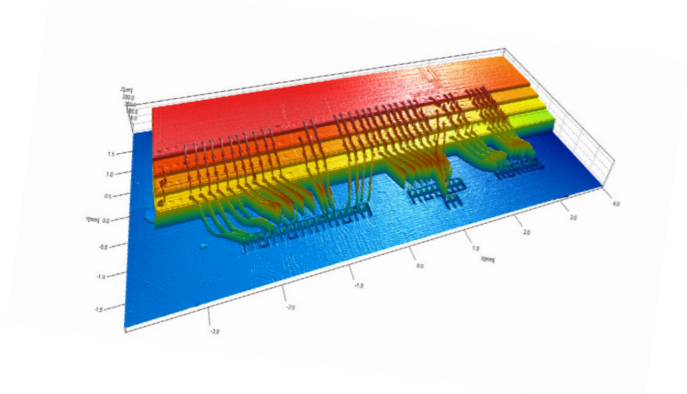Semiconductor

Optics

AND MANY OTHERS...
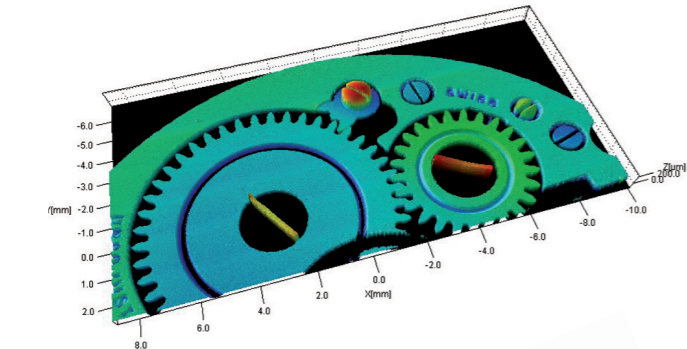
CHRocodile CLS C

PRELIMINARY!

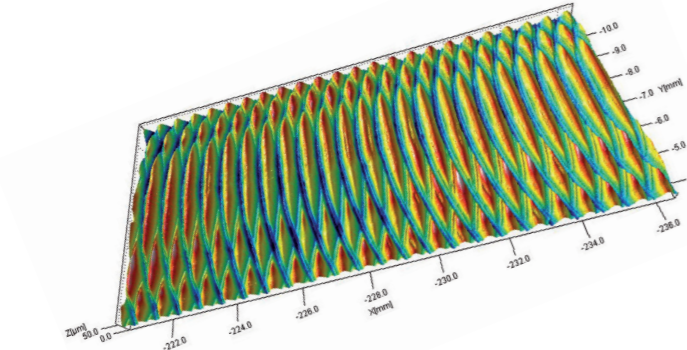| APPLICATIONS (SCAN AREA)	EXAMPLE	TIME SCANNING / NUMBER OF POINTS
Inspection of wire bonding (8 mm x 3.82 mm)		0.20 s 305,600 points in 2 passes
Flatness measurement on watch movement (22.2 mm x 10.5 mm)		4.7 s 1,793,546 points in 5 passes
Roughness measurement on metal (15.9 mm x 7.4 mm)		3.17 s 1,118,472 points in 5 passes

THICKNESS   DISTANCE   TOPOGRAPHY

PRECITEC THE SMART WAY TO MEASURE

CHRocodile CLS C, the PRECITEC chromatic confocal line sensor offers an incredibly fast 3D measurement of 384,000 points per second with nanometric scale resolution. Thanks to its robust and highly integrated design, CHRocodile CLS Compact is perfectly suited for easy integration into inspection machines in the production line, including harsh industrial environments. An outstanding dynamic range and an excellent signal to noise ratio make the CHRocodile CLS C the best measuring tool for all materials – including polished and highly tilted surfaces. With its unrivaled performance/price ratio, CHRocodile CLS C is the best choice for ultrafast 3D inspection.

OPTICAL PROBE	CLS 0.2	CLS 0.5	CLS 1	CLS 2	CLS 2.3	CLS 4
Measuring range	200 µm	500 µm	950 µm	2000 µm	2300 µm	3900 µm
Line length	0.96 mm ± 0.01 mm	1.43 mm ± 0,02 mm	1.91 mm ± 0.02 mm	8.3 mm ± 0.1 mm	1.53 mm ± 0.02 mm	4.78 mm ± 0.04
Pitch	5 µm ± 0.05 µm	7.5 µm ± 0.08 µm	10 µm ± 0.1 µm	43.5 µm ± 0.5 µm	8 µm ± 0.08 µm	25 µm ± 0.25 µm
Working distance[1]	5.3 mm ± 0.4 mm	12 mm ± 0.4 mm	18.5 mm ± 0.5 mm	27.5 mm ± 0.5 mm	15.6 mm ± 0.5 mm	36.4 mm ± 0.6 mm
Spot diameter	2 µm	3 µm	4 µm	17 µm	3.2 µm	10 µm
Lateral resolution	1 µm	1.5 µm	2 µm	8.5 µm	1.6 µm	5 µm
Axial resolution	20 nm	50 nm	80 nm	250 nm	200 nm	320 nm
Linearity [2]	± 80 nm	± 200 nm	± 300 nm	± 1 µm	± 780 nm	± 1.2 µm
Numerical aperture	0.7	0.61	0.55	0.2	0.55	0.33
Measurement angle to surface[3]	90°+/-44°	90°+/- 38°	90°+/-33°	90°+/-11°	90°+/-33°	90°+/-20°
Thickness measuring range[4]	20 µm - 280 µm	40 µm - 700 µm	75 µm - 1.35 mm	280 µm - 2800 µm	200 µm - 3.1 mm	300 µm - 5.5 mm
Photometric efficiency [5]	7	10	14	50	2	22
Dimension Length Diameter	70.4 mm 37 mm	75 mm 52 mm	93.3 mm 54 mm	84 mm 55 mm	99 mm 54 mm	120 mm 58 mm
Weight	190 g	240 g	430 g	200 g	390 g	510 g
Order number	5007993	5009885	5007895	5009888	5009128	5007896

[1] Bottom of optical probe to middle of measuring range | [2] Perpendicular measurement on mirror at 20° C | [3] Decreasing accuracy on the limits | [4] Refractive index n = 1.5 |
[5] Estimated average signal intensity in % obtained on uncoated glass at 2 kHz, LED 100 %, in the center of the measuring range

EFFICIENT

- High-speed
- Non-contact
- Precise

USER FRIENDLY

- Maintainance-free
- Easy to integrate
- Robust

VERSATILE

- Instantaneous profile measurement
- Inline inspection
- Interchangeable optical probes
- Distance and Thickness

HIGH-SPEED
2,000 profiles/s,
sampling 384,000 points/s

SENSOR	CHRocodile CLS C
application	distance, thickness
lines / second	100 - 2000, optionally 6000 [1]
number of points / line	192
measuring range	depends on optical probe
synchronization with external devices	trigger input, synchronizing output, 5 encoder inputs
interface	Ethernet, service ports: RS-422, USB
transfer rate	100 Mbit (Ethernet), 9600 - 921600 Baud (RS-422), 921600 Baud (USB: virtual comport)
light source	LED
operating temperature	+5°C up to +50°C
storage temperature	-20°C up to +70°C
dimension without probe (w x h x d)	200 mm x 106 mm x 112 mm
weight	2.1 kg
supply voltage	24 +/- 10% V DC (with separate power supply 100 - 240 V AC / 50 Hz - 60 Hz)
rated power	40 W
protection class	IP 50 (DIN 40050/ IEC 144)
note	SDK available .NET Framework 4 and higher compatible

[1] with reduction of measuring range

Dimensional drawings

configuration

112 mm

200 mm

External interface

112 mm

106 mm

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. Therefore all information is non-binding and technical data, measurements as well as features are not guaranteed by infor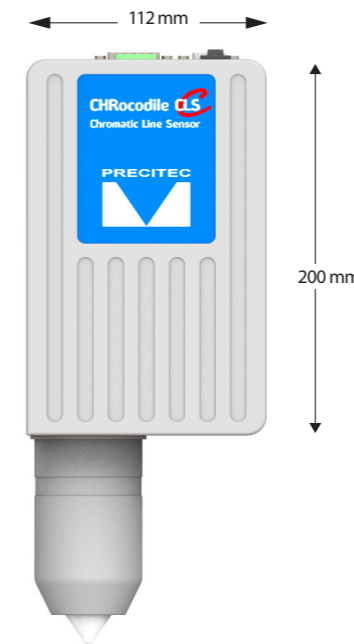mation in this product information.   JUN2018