

TR Scan

OPTICAL TECHNICAL DATA



OPTIC CCMP1

Optical sensor	CL1		CL2		CL3		CL4		CL5		CL6			
Measuring range	130 µm		400 µm		1400 µm		4000 µm		12000 µm		24000 µm			
Working distance	3.3 mm		11 mm		12.7 mm		16.4 mm		29 mm		19.6 mm			
Resolution	8 nm		22 nm		60 nm		130 nm		400 nm		780 nm			
Maximum angle	+/-42.5°		+/-28°		+/-25°		+/-21°		+/-14°		+/-8.5°			
MG	MG210	MG140	MG210	MG140	MG70	MG140	MG70	MG35	MG20	MG35	MG20	MG35	MG20	
Spot diameter in µm	1.9	2.8	2.3	3.4	6.9	4	8	8	14	14	25.5	16	28	
Lateral resolution	0.9	1.4	1.2	1.7	3.5	2	4	4	7	7	12.3	8	14	
Photometric efficiency Hz	5.8	13	5.5	11.5	46	14	56	30	76	40	100	19.2	48	
Min Ra meas. 3)	< 0.1 µm		< 0.1 µm		< 0.8 µm		NA		NA		NA		NA	



OPTIC CCMP2

Optical sensor	CL100 µm	CL300 µm	CL350 µm	CL400 µm	CL600 µm	CL1000 µm
Measuring range	100 µm	300 µm	350 µm	400 µm	600 µm	1000 µm
Working distance 1)	1.4 mm	4.5 mm	8.4 mm	15.3 mm	6.5 mm	19.1 mm
Resolution	3 nm	10 nm	12 nm	14 nm	20 nm	35 nm
Maximum angle 2)	+/-45°	+/-30°	+/-20°	+/-45°	+/-30°	+/- 45°
Lateral resolution	1.8 µm	2.5 µm	2.5 µm	2 µm	2 µm	1.8 µm
Numerical aperture	0.7	0.7	0.7	0.7	0.7	0.26
Spot size	3.5 µm	5 µm	5 µm	4 µm	4 µm	3.5 µm
Min Ra meas. 3)	< 80 nm	< 80 nm	< 0.1 µm	< 0.1 µm	< 0.1 µm	< 0.1 µm
Optical sensor	CL2 mm	CL3 mm	CL6 mm	CL10 mm	CL25 mm	
Measuring range	2 mm	3 mm	6 mm	10 mm	25 mm	
Working distance 1)	61 mm	22.5 mm	35 mm	70 mm	76.5 mm	
Resolution	70 nm	100 nm	200 nm	300 nm	800 nm	
Maximum angle 2)	+/-15°	+/-30°	+/-25°	+/- 20°	+/- 15°	
Lateral resolution	6 µm	6 µm	8 µm	12 µm	12 µm	
Numerical aperture	0.26	0.5	0.43	0.33	0.26	
Spot size	12.5 µm	12 µm	16 µm	24 µm	25 µm	
Min Ra meas. 3)	NA	NA	NA	NA	NA	

1) Base of the sensor is in the centre of the measuring range

2) Accuracy decreases within the limits of the refraction index $n = 1.5$



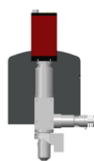
LINE CCML1

Specifications	CCM-L1 0.2mm	CCM-L1 1mm	CCM-L1 4mm
Vertical measuring range	200 µm	0.95 mm	3.9 mm
Line width	0.96 mm ± 0.01 mm	1.91 mm ± 0.01 mm	4.78 mm ± 0.02 mm
Lateral range	5 µm	10 µm	25 µm
Working distance	5.3 mm ± 0.2 mm	18.5 mm ± 0.2 mm	41 mm ± 0.2 mm
Spot size	2 µm	4 µm	10 µm
Lateral resolution	1 µm	2 µm	5 µm
Axial resolution	20 nm	80 nm	320 nm
Accuracy ²⁾	± 80 nm	± 300 nm	± 1.2 µm
Numerical aperture	0.7	0.55	0.33
Maximum measurement angle	90° +/- 44°	90° +/- 33°	90° +/- 20°
Range of thickness measurements	20 µm - 280 µm	75 µm - 1.35 mm	300 µm - 5.5 mm
Min Ra meas. ³⁾	< 0.1 µm	< 0.8 µm	NA



DHM

Specifications	DHMS1	DHMS2	DHMS3
Z resolution	0.1 nm	0.1 nm	0.1 nm
Lateral resolution (X/Y)	0.5 µm	0.6 µm	0.6 µm
Vertical measuring range ¹⁾	3 µm	7 µm	7 µm
Measuring range X/Y	~250 µm x ~250 µm	~330 µm x ~330 µm	~330 µm x ~330 µm
Optical zoom	10x	7x	7x
Lambda 1 wavelength	~850 nm	~760 nm	~760 nm
Lambda 2 wavelength	~665 nm	~665 nm	~665 nm
Working distance	~6 mm	~6 mm	~6 mm
Specimen reflectiveness	< 1% to 100 %	< 1% to 100 %	< 1% to 100 %
Min Ra meas. ³⁾	< 5 nm	< 5 nm	< 5 nm



WLI

Specifications	WLI 2.5x	WLI 5x	WLI 10x	WLI 20x	WLI 50x	WLI 100x
Resolution	0.1 nm	0.1 nm	0.1 nm	0.1 nm	0.1 nm	0.1 nm
Lateral resolution (X/Y)	4.81 µm	4.81 µm	1.2 µm	0.9 µm	0.66 µm	0.52 µm
Measuring range	400 µm	400 µm	400 µm	400 µm	400 µm	400 µm
Measuring range X/Y	~4536 µm x ~3447 µm	~2268 µm x ~1723 µm	~1134 µm x ~861 µm	~567 µm x ~430 µm	~226 µm x ~172 µm	~113 µm x ~86 µm
Optical zoom	2.5x	5x	10x	20x	50x	50x
Working distance	~10.3 mm	~9.3 mm	~7.4 mm	~4.7 mm	~3.4 mm	~3.4 mm
Min Ra meas. ³⁾	NA	NA	< 80 nm	< 20 nm	< 5 nm	< 5 nm

3) Measurement carried out perpendicularly on a sinusoidal symmetrical metallic surface

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