

## SENSORS

### POINT SENSORS - CONFOCAL WHITE LIGHT

The P-CHR sensors are high end confocal sensors, based on the principal of chromatic aberration. They offer maximum accuracy and high speed. Highlights in this sensor series are measurement heads with a high numeric aperture.

MODEL	RESOLUTION		MEASUREMENT RANGE		WORKING DISTANCE		SPOT SIZE	
P-CHR-100	0.003 µm	0.12 µinch	100 µm	3.9 mils	1.9 mm	0.07 inch	3.5 µm	0.14 mils
P-CHR-300	0.01 µm	0.39 µinch	300 µm	11.8 mils	4.5 mm	0.18 inch	5 µm	0.2 mils
P-CHR-350	0.012 µm	0.47 µinch	350 µm	13.8 mils	8 mm	0.31 inch	5 µm	0.2 mils
P-CHR-400	0.014 µm	0.55 µinch	400 µm	15.7 mils	15.3 mm	0.60 inch	4 µm	0.16 mils
P-CHR-600	0.02 µm	0.79 µinch	600 µm	23.6 mils	6.5 mm	0.26 inch	4 µm	0.16 mils
P-CHR-1000	0.035 µm	1.38 µinch	1000 µm	39.4 mils	20.8 mm	0.82 inch	3.5 µm	0.14 mils
P-CHR-2000	0.07 µm	2.76 µinch	2000 µm	78.7 mils	61 mm	2.40 inch	12.5 µm	0.50 mils
P-CHR-2000	0.07 µm	2.76 µinch	2000 µm	78.7 mils	13.5 mm	0.53 inch	12 µm	0.47 mils
P-CHR-3000	0.10 µm	3.94 µinch	3000 µm	118 mils	22.5 mm	0.89 inch	12 µm	0.47 mils
P-CHR-6000	0.20 µm	7.87 µinch	6000 µm	236 mils	36 mm	1.42 inch	16 µm	0.63 mils
P-CHR-8000	0.28 µm	11.02 µinch	8000 µm	315 mils	36.3 mm	1.43 inch	30 µm	1.18 mils
P-CHR-10000	0.30 µm	11.80 µinch	10 mm	0.39 inch	70 mm	2.76 inch	24 µm	0.94 mils
P-CHR-12000	0.40 µm	15.75 µinch	12 mm	0.47 inch	54 mm	2.12 inch	30 µm	1.18 mils
P-CHR-15000	0.50 µm	19.69 µinch	15 mm	0.59 inch	57 mm	2.24 inch	20 µm	0.79 mils
P-CHR-25000	0.80 µm	31.50 µinch	25 mm	0.98 inch	80 mm	3.15 inch	25 µm	0.98 mils

### POINT SENSORS - LASER CONFOCAL AND LASER TRIANGULATION

The confocal laser sensor uses a blue laser source and is ideally for measuring solar cells. The DSR-500 is ideal for measuring thick-film on a variety of substrates.

MODEL	RESOLUTION		MEASUREMENT RANGE		WORKING DISTANCE		SPOT SIZE	
LT-9510	0.01 µm	0.39 µinch	200 µm	7.9 mils	2 mm	0.08 inch	0.9 µm	0.04 mils
DRS-500	0.125 µm	4.92 µinch	500 µm	19.7 mils	17 mm	0.67 inch	16 µm	0.63 mils

### POINT SENSORS - INTERFEROMETER FOR THICKNESS MEASUREMENT

A white light interferometer measures the thickness of transparent materials and films. Various infrared interferometers are available for measuring wafer thickness as well as glue and epoxy films.

MODEL	RESOLUTION		MEASUREMENT RANGE		WORKING DISTANCE		SPOT SIZE	
INT-180 (WL)	0.01 µm	0.39 µinch	3 µm - 180 µm	0.12 mils - 7.09 mils	9.5 mm	0.37 inch	10 µm	0.4 mils
IT-500 (IR)	0.14 µm	5.51 µinch	37 µm - 4700 µm	1.46 mils - 185.0 mils	39.7 mm	1.56 inch	13 µm	0.5 mils
IT-500 RW (IR)	0.17 µm	6.69 µinch	45 µm - 5600 µm	1.77 mils - 220.5 mils	39.7 mm	1.56 inch	13 µm	0.5 mils
IT-1000 (IR)	0.25 µm	9.84 µinch	64 µm - 8200 µm	2.52 mils - 322.8 mils	39.7 mm	1.56 inch	13 µm	0.5 mils
IT-1000 RW (IR)	0.22 µm	8.66 µinch	57 µm - 7300 µm	2.24 mils - 287.4 mils	39.7 mm	1.56 inch	13 µm	0.5 mils
IT 18-3000 (IR)	0.09 µm	3.54 µinch	18 µm - 3000 µm	0.71 mils - 118.1 mils	39.7 mm	1.56 inch	13 µm	0.5 mils
IT 150-15000	0.45 µm	17.72 µinch	150 µm - 15000 µm	5.91 mils - 590.6 mils	39.7 mm	1.56 inch	13 µm	0.5 mils
IT TW (IR)	0.01 µm	0.39 µinch	4 µm - 300 µm	0.16 mils - 11.81 mils	39.7 mm	1.56 inch	13 µm	0.5 mils
IT DW (IR)	0.06 µm	2.36 µinch	15 µm - 2000 µm	0.59 mils - 78.74 mils	39.7 mm	1.56 inch	13 µm	0.5 mils

PRODUCT **SENSORS**

## AREA SENSORS - 3D WHITE LIGHT INTERFEROMETER

The 3D white light interferometers are available with 3 measurement ranges: 100 µm, 250 µm and 400 µm.

OBJECTIVE	Z-RESOLUTION		XY RESOLUTION		FIELD OF VIEW		WORKING DISTANCE	
2.5X	1 nm	0.039 µinch	9.24 µm	0.36 mils	7.12 mm x 5.34 mm	0.28 inch x 0.21 inch	10.3 mm	0.41 inch
5X	1 nm	0.039 µinch	4.62 µm	0.18 mils	3.56 mm x 2.67 mm	0.14 inch x 0.11 inch	9.3 mm	0.37 inch
10X	1 nm	0.039 µinch	2.31 µm	0.09 mils	1.78 mm x 1.34 mm	0.07 inch x 0.05 inch	7.4 mm	0.29 inch
20X	0.1 nm	0.0039 µinch	1.16 µm	0.05 mils	0.89 mm x 0.66 mm	0.04 inch x 0.03 inch	4.7 mm	0.18 inch
50X	0.1 nm	0.0039 µinch	0.46 µm	18.1 µinch	0.36 mm x 0.27 mm	14.1 mils x 10.6 mils	3.4 mm	0.13 inch
100X	0.1 nm	0.0039 µinch	0.23 µm	9.06 µinch	0.18 mm x 0.13 mm	7.09 mils x 5.27 mils	2.0 mm	0.08 inch

## AREA SENSORS - 3D CONFOCAL MICROSCOPE

The 3D confocal microscope 400 µm uses a rotation Nipkow Disk and offers 400 µm range.

OBJECTIVE	Z-RESOLUTION		XY RESOLUTION		FIELD OF VIEW		WORKING DISTANCE	
20X	3 nm	0.12 µinch	1.16µm	45.7 µinch	0.89 mm x 0.66 mm	0.04 inch x 0.03 inch	1.0 mm	0.04 inch
50X	2 nm	0.08 µinch	0.46 µm	18.1 µinch	0.36 mm x 0.27 mm	14.2 mils x 10.6 mils	1.0 mm	0.04 inch
100X	1 nm	0.039 µinch	0.23 µm	9.06 µinch	0.18 mm x 0.13 mm	7.09 mils x 5.12 mils	1.0 mm	0.04 inch

## LINE SENSORS - CONFOCAL WHITE LIGHT

The confocal line sensor scans even large samples with unmatched speed (384,000 data points/sec.).

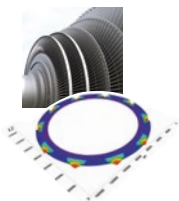
There are three different line widths available.

MODEL	RESOLUTION		MEASUREMENT RANGE		WORKING DISTANCE		SPOT SIZE	
L-CHR-200	0.02 µm	0.0008 mils	200 µm	7.87 mils	5.3 mm	0.21 inch	2 µm	0.08 mils
L-CHR-1000	0.08 µm	0.0032 mils	950 µm	37.4 mils	18.5 mm	0.73 inch	4 µm	0.16 mils
L-CHR-4000	0.32 µm	0.0128 mils	3900 µm	153 mils	41 mm	1.61 mils	10 µm	0.39 mils

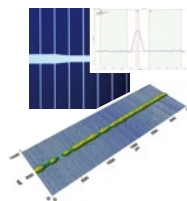
Each model has 192 points/line

MODEL	POINT PITCH		LINE WIDTH	
L-CHR-200	5 µm	0.20 mils	0.96 mm	0.04 inch
L-CHR-1000	10 µm	0.39 mils	1.91 mm	0.08 inch
L-CHR-4000	25 µm	0.98 mils	4.78 mm	0.19 mils

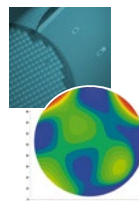
3D scan on a large gasket  
Chromatic white light sensor  
CHR-600



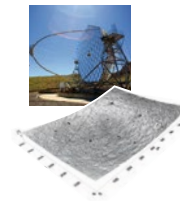
3D scan on a solar cell  
Confocal laser sensor LT-9510



Wafer Thickness Map  
Infrared interferometer IT-DW



Roughness of a mirror surface  
3D white light interferometer



Surface of a gold coated  
3D confocal microscope

