

Infrared Sensors



OPTICAL SENSORS

- Efficient
- Versatile
- User-friendly

The proven CHROcodile sensors now welcome the next generation of measuring instruments. CHROcodile2 offers an unrivaled measurement rate of up to 70,000 readings per second.

With their high dynamic range, all CHROcodile sensors are optimized for performance and precision in production and laboratory settings.

Operating with both the chromatic confocal and interferometric principles, in the visible and infrared spectral range, they have been tried and tested throughout numerous industries. CHROcodile sensors are currently implemented for various types of quality control in measuring systems and inspection machines worldwide.



SENSOR	CHROcodile 2 IT 500 1000 500 RW 1000 RW	CHROcodile IT 18 - 3000	CHROcodile DW	CHROcodile IT TW	CHROcodile IT DTW	CHROcodile K	CHROcodile IT 150 - 15000	IT 500 1000 500 RW 1000 RW	CHROcodile MI5
application	thickness, distance		thickness, distance	thickness, distance	thickness	thickness	thickness, distance	thickness, distance	thickness, distance
measurements / second	32 - 70000		32 - 4000						
interferometric measuring range ¹⁾	2 IT 500: 35 µm - 4000 µm; 2 IT 1000: 44 µm - 7300 µm; 2 IT 500 RW: 45 µm - 5000 µm; 2 IT 1000 RW: 57 µm - 7300 µm	18 µm - 3000 µm	15 µm - 2000 µm	4 µm - 300 µm	4 µm - 200 µm	15 µm - 500 µm	150 µm - 15000 µm	IT 500: 37 µm - 4700 µm; IT 1000: 64 µm - 8200 µm; IT 500 RW: 45 µm - 5600 µm; IT 1000 RW: 57 µm - 7300 µm	depends on module
pitch error ²⁾	< 10 ⁻³					< 10 ⁻²	< 10 ⁻³		
linearity error ²⁾	< 3.3 x 10 ⁻⁴ x upper measuring range limit					< 6.6 x 10 ⁻⁴ x upper measuring range limit	< 3.3 x 10 ⁻⁴ x upper measuring range limit		
resolution	3 x 10 ⁻⁶ x measuring range; higher resolution upon request								
reproducibility	10 ⁻⁴ x upper measuring range limit					2 x 10 ⁻⁴ x upper measuring range limit	10 ⁻⁴ x upper measuring range limit		
number of measuring channels	1	1	1	1	1	1	1	1	1 to 5
synchronization with external devices									
trigger input	1	1	1	1	1	1	1	1	per channel
synchronizing output	1	1	1	1	1	1	1	1	1
encoder inputs	5	3	3	3	-	3	3	3	3
interface									
USB	-	●	●	●	●	●	●	●	●
RS-232	-	●	●	●	●	○	●	●	●
RS-422	●	○	○	○	-	●	○	○	○
2 x analog (-10 V up to +10 V, 16 Bit)	●	-	-	-	-	-	-	-	-
2 x analog (0 V up to 10 V, 16 Bit)	-	●	●	●	●	●	●	●	●
LVDT	●	○	○	○	-	-	○	○	○
Ethernet	●	-	-	-	-	-	-	-	-
transfer rate									
RS-232 (9600 - 921600 Baud)	-	●	●	●	●	○	●	●	●
RS-422 (9600 - 921600 Baud)	●	○	○	○	-	●	○	○	○
USB: virtual comport (921600 Baud)	-	●	●	●	●	●	●	●	●
Ethernet (100 Mbit)	●	-	-	-	-	-	-	-	-
light source									
Halogen lamp	-	-	-	●	2	-	-	-	-
SLD	●	●	●	-	-	●	●	●	●
optical fiber ³⁾ 2 m - 40 m	single mode fiber			multi mode fiber		single mode fiber			
fiber connection	E 2000								
operating temperature	+5°C up to +50°C								
dimension									
width	220 mm	260 mm	260 mm	260 mm	235 mm	260 mm	260 mm	260 mm	19"
height	110 mm	115 mm	115 mm	115 mm	100 mm	115 mm	115 mm	115 mm	3 RU
depth	125 mm	310 mm	310 mm	310 mm	235 mm	310 mm	310 mm	310 mm	306 mm
weight	2 kg	5 kg	5 kg	5 kg	3.6 kg	5 kg	5 kg	5 kg	13 kg
supply voltage	16 - 30 V DC (with separate power supply 90 - 264 V AC)	85 -264 V AC / 47 - 63 Hz			24 V DC	85 -264 V AC / 47 - 63 Hz			
rated power	20 W	15 W	15 W	140 W	150 W	15 W	15 W	15 W	16 W (+ 8 W per added channel)
note	high speed measurements, automatic light control	wide measuring range, automatic light control	optimized for thickness measurements on highly doped wafers, automatic light control	optimized for thickness measurements on thin wafers	continuous operation during lamp change	optimized for thickness measurement of plastic products, automatic light control	wide measuring range, automatic light control	special sensor for rough wafer (IT RW), automatic light control	modular multi channel system, available in different measuring ranges, special version for rough wafers, automatic light control
order number	5007391 (2 IT 500) 5007546 (2 IT 1000) 5007389 (2 IT 500 RW) 5007547 (2 IT 1000 RW)	5005107	5005153	5005051	5008484	5007379	5005162	5001286 (IT 500) 5001289 (IT 1000) 5005054 (IT 500 RW) 5005053 (IT 1000 RW)	depends on module

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 information in this product information. Mar 2016

¹⁾ optical length | ²⁾ measuring accuracy = linearity error + (pitch error x measuring value) | ³⁾ metal cover up to 15 m also available
● available | ○ optional | - not available