

CUTTING EDGE 3D SENSORS FOR **ACCURATE INSPECTION AND PRECISE MEASUREMENT**

ECCOX

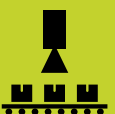
3D INSPECTION SENSOR



EXTRAORDINARY SPEED
UP TO 40 KHZ



EXCEPTIONAL RESOLUTION
4096 3D POINTS



INLINE METROLOGY
HIGH ACCURACY AND REPEATABILITY



COMPACT DESIGN
SMALLEST IN ITS CLASS

SmartRay 

Certainty in metrology

KEY SPECIFICATIONS

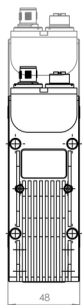
Model	ECCO X 012	ECCO X 025	ECCO X 050
Field of view (near mid far)	11 12 13 mm	22 25 28 mm	42 50 58 mm
Typical measurement range (MR)	6 mm	20 mm	40 mm
Clearance distance (CD)	17.5 mm	50 mm	71 mm
Stand-off distance	30.5 mm	64 mm	91 mm
Typical vertical resolution	0.4 – 0.6 μm	0.9 – 1.4 μm	1.9 – 3.6 μm
Typical lateral resolution	2.7 – 3.2 μm	5.4 – 7.1 μm	10 – 14 μm
Z-linearity	0.006%	0.005%	0.004%
Z-repeatability	0.06 μm	0.2 μm	0.4 μm
Triangulation angle (α) <small>(lens laser angle Measured at the center of field of view)</small>	47.5°	37.5°	31.9°
Laser wavelength	450 nm (brilliant blue laser)		
Part number	3.004.135	3.002.131 3.004.131	3.004.136
Laser class	3R	2 3R	3R
Weight	800 g	742 g	762 g
Maximum points / 3D profile	4096		
Typical scan rate ¹	Up to 40 kHz		
Typical 3D point rate ¹	Up to 163 million points/ sec		
Interface	Gigabit Ethernet (1 Gbit/sec)		
Inputs	2x inputs (10–24 VDC) Quadrature encoder (AB channel, RS-422 standard)		
Outputs	2 x outputs, 24 VDC (max. 20 mA)		
Supported triggers	START trigger on Input 1, DATA trigger on Quadrature Encoder input (max. 1 MHz), or on Input 2 (max. 5 kHz)		
Input voltage power	24 VDC, \pm 15% 10 W		
EMC test	EMC: EN 61000, EN IEC 61326-1, EN IEC 61326-2-2		
Electrical safety	EN 61010-1		
Vibration test	IEC TR 60721-4-3:2003 (3M4); IEC 60068-2-6, 5-200Hz		
Shock test	IEC TR 60721-4-3:2003 (3M4); IEC 60068-2-27		
Laser safety inputs	24 VDC \pm 15%		
Enclosure rating ²	IP67		
Air humidity	Max. 90%, non-condensing		
Temperature operation storage	0–40 °C –20–70 °C		
Compatible accessories	Power I/O encoder cable: 6.320.OXX; 6.322.OXX; 6.327.OXX Ethernet cable: 6.303.OXX; 6.308.OXX; 6.328.OXX		

¹ Scan rate and point rate depend on the configured field of view, measurement range, and exposure time. The typical scan rate can be further boosted by binning.

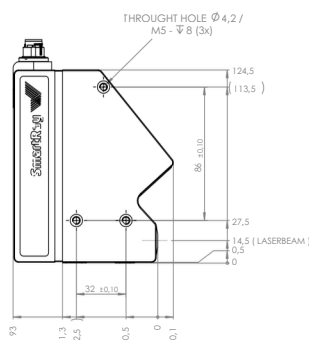
² IP67 protection requires the use of original SmartRay cables and is valid only when the sensor is properly connected.

Note: Typical values may vary by up to 5% due to tolerances.

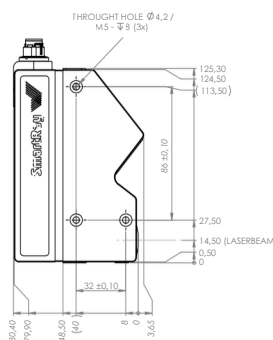
BACK



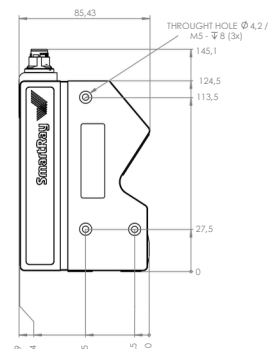
ECCO X 012 SIDE



ECCO X 025 SIDE



ECCO X 50 SIDE



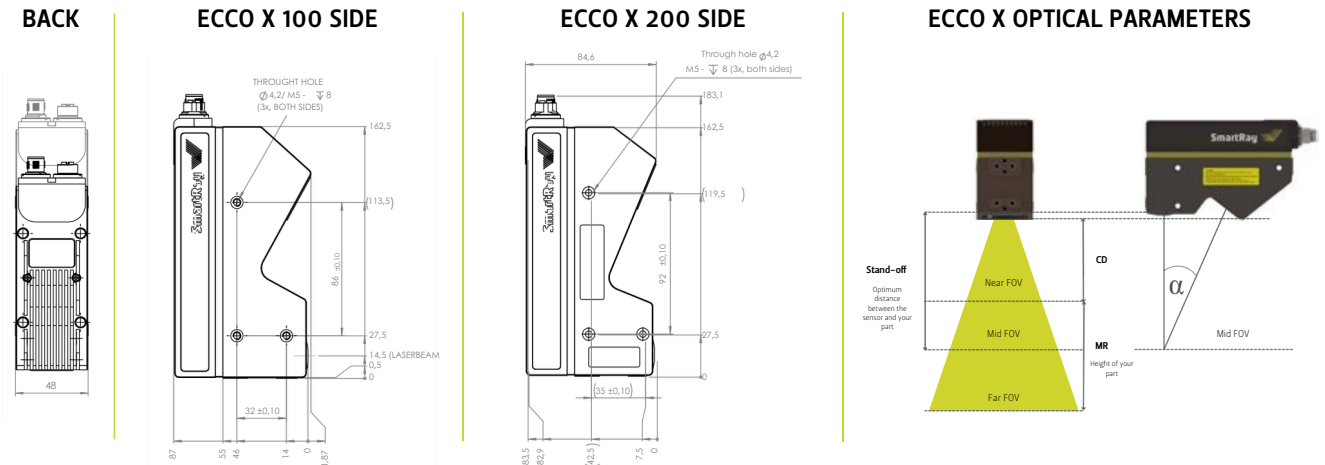
KEY SPECIFICATIONS

Model	ECCO X 100	ECCO X 200
Field of view (near mid far)	79 100 121 mm	118 200 282 mm
Typical measurement range (MR)	100 mm	300 mm
Clearance distance (CD)	138 mm	171 mm
Stand-off distance	191 mm	322 mm
Typical vertical resolution	4 – 9.5 μm	6.7 – 37.4 μm
Typical lateral resolution	19 – 30 μm	30 – 70 μm
Z-linearity	0.0023%	0.0017%
Z-repeatability	0.5 μm	1.1 μm
Triangulation angle (α) <small>(lens laser angle Measured at the center of field of view)</small>	27.5°	18.1°
Laser wavelength	450 nm (brilliant blue laser) 660 nm (red)	660 nm (red)
Part number	3.002.132 3.004.132 3.002.133 3.004.133	3.002.143 3.004.143
Laser class	2 3R	
Weight	850 g	793 g
Maximum points / 3D profile	4096	
Typical scan rate ¹	Up to 40 kHz	
Typical 3D point rate ¹	Up to 163 million points/ sec	
Interface	Gigabit Ethernet (1 Gbit/sec)	
Inputs	2x inputs (10–24 VDC) Quadrature encoder (AB channel, RS-422 standard)	
Outputs	2 x outputs, 24 VDC (max. 20 mA)	
Supported triggers:	START trigger on Input 1, DATA trigger on Quadrature Encoder input (max. 1 MHz), or on Input 2 (max. 5 kHz)	
Input voltage power	24 VDC, $\pm 15\%$ 10 W	
EMC test	EMC: EN 61000, EN IEC 61326-1, EN IEC 61326-2-2	
Electrical safety	EN 61010-1	
Vibration test	IEC TR 60721-4-3:2003 (3M4); IEC 60068-2-6, 5-200Hz	
Shock test	IEC TR 60721-4-3:2003 (3M4); IEC 60068-2-27	
Laser safety inputs	24 VDC $\pm 15\%$	
Enclosure rating ²	IP67	
Air humidity	Max. 90%, non-condensing	
Temperature operation storage	0–40 °C –20–70 °C	
Compatible accessories	Power I/O encoder cable: 6.320.OXX; 6.322.OXX; 6.327.OXX Ethernet cable: 6.303.OXX; 6.308.OXX; 6.328.OXX	

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FOR MORE INFORMATION, PLEASE CONTACT US:

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