



## LASE 2000D-11x Series

2D Laser scanner



The mid-range laser scanners from the LASE 2000D-11x Series are contactless two-dimensional distance measuring systems especially built for harsh industrial environments and numerous outdoor purposes.

The scanner detects the surroundings on a single level and measures in two-dimensional radial coordinates. If a laser beam is reflected from a target object, the position of the object is given by its distance and angle. The scan is made in an angular range of 190° and the scan range of the LASE 2000D-11x Series has a maximum of 80 m on light natural surfaces and a maximum of 40 m on dark natural surfaces.

The new designed Multi-echo technology leads laser measurements to be independent from any weather condition and assures more reliable measurement results. Multi-echo technology also provides an ideal solution for applications with high dynamic objects under bad weather conditions as well as in barely visible environments such as tunnels or mines. In addition to all mentioned benefits the new technology offers improved measurement accuracies, too.

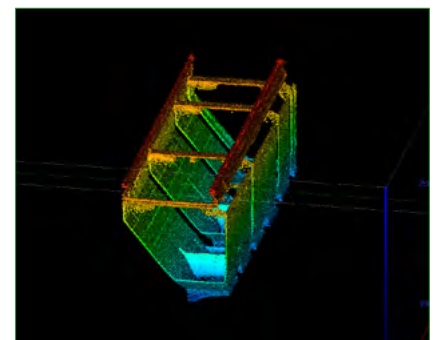
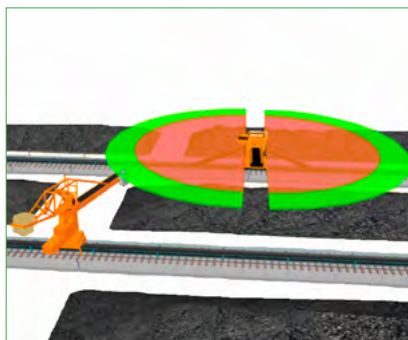
The LASE 2000D-11x Series is suitable for a huge variety of industries and applications such as:

- Measurement of dimensions, profiles or levels of objects and environments
- Object positioning
- Container recognition/measurement in ports
- Support of crane open-loop controls by goods detection
- Object protection
- Bulk material measurement at heaps, piles, bunkers or trucks

### Features and Benefits:

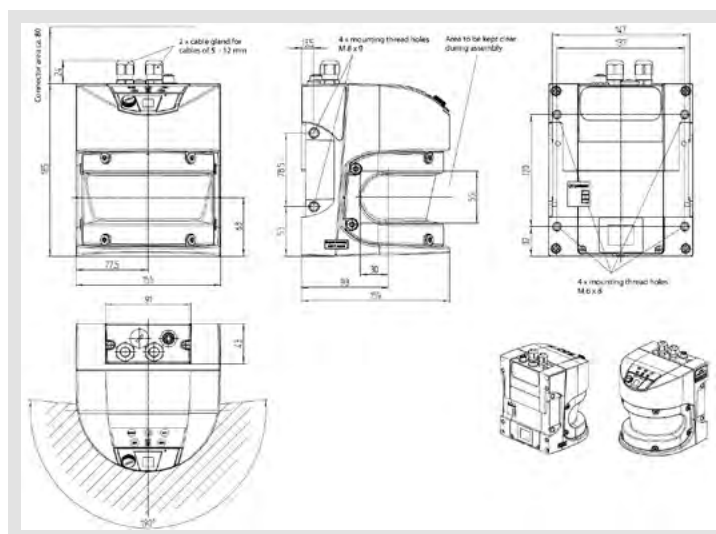
- Contactless 2D profile measurement
- Outstanding performance in raw environments
- Range of up to 40 m on dark natural targets
- Range of up to 80 m on natural targets
- Reliable Multi-echo technology
- High accuracy, high resolution and fast measuring rate
- Synchronisation of multiple scanners possible
- Several interfaces: Ethernet TCP/IP, RS 232/422, USB
- 4 switching inputs, 6 switching outputs
- LED function display
- User-friendly software
- Rugged construction type to IP 67
- Low power consumption

### Typical applications



## Technical data

Model	LASE 2000D-118	LASE 2000D-119
<b>DISTANCE MEASUREMENT</b>		
Measurement range [ <sup>1,2</sup> ]	max. 80 m 0,7 ... > 26 m	1 ... > 40 m at 10 % target reflectivity
System error	± 25 mm (1 m ... 10 m) ± 35 mm (10 m ... 20 m)	± 25 mm (1 m ... 10 m) ± 35 (10 m ... 20 m) ± 50 (20 m ... 30 m)
Statistical error	± 7 mm (1 m ... 10 m) ± 9 mm (10 m ... 20m)	± 6 mm (1 m ... 10 m) ± 8 mm (10 m ... 20 m) ± 14 mm (20 m ... 30 m)
Beam divergency	4,7 mrad	11,9 mrad
Light source	laser diode with rotating scanner head	infrared
Visual displays	5 x LED	additional 7-segment display
Laser safety class	class 1	EN/IEC 60825-1; eyesafe
<b>SCAN AND PROFILE MEASUREMENT</b>		
Usable scan angle	190°	
Angular step width	0,167° / 0,025° / 0,333° / 0,5° / 0,667° / 1°	choosable
Scan frequency	25 Hz / 35 Hz / 50 Hz / 75 Hz / 100 Hz	
<b>INTERFACES</b>		
Ethernet	10/100 Mbit/s	TCP/IP, OPC
Data format	8 data bits, 1 stop bit	no parity, fixed output format
RS-422	9,6 ... 500 kBaud	switchable, max. 15 m
USB	max. 500 kBaud	reduced data rate
<b>ELECTRICAL &amp; MECHANICAL</b>		
Power connections	2 x M12 4-pin plus 2 x M 12	12-pin plug-in connector
Power supply	DC 19,2 ... 28,8 V (ripple ± 5 %)	to IEC 364-4-41 [VDE 0100 part 410]
Power consumption	22 W	typical
Protection class	IP 67	to DIN 60529
Enclosure	aluminium die-cast	
Safety class	class 3	
Diemensions	160 x 155 x 185 mm	
Weight	approx. 3,7 kg	
<b>ENVIRONMENT DATA</b>		
Temperature range	operation: -30° C ... +50° C storage: -30° C ... +70° C	temperatures > 50° C on request
Vibration resistance	EN 60068-2-6 [1995-04]	
Shock resistance	EN 60068-2-27 [1993-03], EN 60068-2-29 [1993-04]	
Ambient light safety	70.000 lx	
<b>OPTIONS</b>		
Internal heater	55 W	typical



## Contact

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