



LASE 2000D-22x Series

2D Laser scanner



The laser scanners from the LASE 2000D-22x Series are contactless two-dimensional distance measuring systems especially built for industrial environments and outdoor purposes.

2D profiles of the surrounding are scanned by a pulsed IR laser beam which is transmitted via a rotating mirror head. The 2D contour data of the scanned surroundings, which are figured in constant raw data, combine distance and angle values as delivered output by the scanner interface. The sensors transmit extremely short multiple light pulses, measures the running time of these pulses to the object and back and then computes the distance. The measuring data will be sent over Ethernet in real time.

Innovative beam forming optics allow accurate object profiling and highest measurement accuracy. The scanners are able to scan moving objects by fast scan rates of up to 40 Hz in high dynamic applications as well as scanning static objects with an accuracy of up to 3 mm [average of several scans].

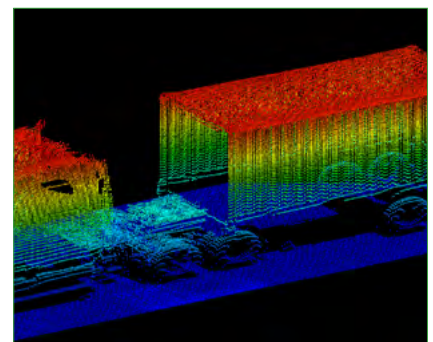
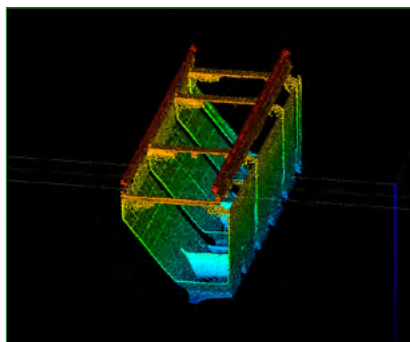
The LASE 2000D-22x Series is suitable for a huge variety of industries and applications such as:

- 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 in heaps, bunkers, trucks etc.

Features and Benefits:

- Contactless distance measurement
- Range: up to 95 m on dark surfaces [10% remission]
up to 300 m on white surfaces
- Selectable measurement modes:
 - Scanrate: 40 Hz
 - Spot raster: 0,023° in „Fine“-Mode [interlaced]
- Accuracy: ≤ 3 mm
- High accuracy, high resolution and high measuring rate
- Innovative beam forming optics minimises measurement spot size
- Red laser marker to align laser scanner
- Interfaces: Ethernet: UDP 100 Mbit/s
Serial: RS-232 115 kBaud
- Measuring beam: Laser class 1 / 1 M
- Integrated heating

Features



Technical Data

Model	LASE 2000D-224	LASE 2000D-226	LASE 2000D-227
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DISTANCE MEASUREMENT

Distance range	0,6 ... 170 m	2,5 ... 250 m	2,9 ... 300 m	White, 100% target reflectivity
	0,6 ... 47 m	1,8 ... 80 m	2,1 ... 95 m	Black, 10 % target reflectivity
Accuracy	4 mm		5 mm	Repeatability 1 sigma (strong signal)
	15 mm			Repeatability 1 sigma (weak signal)
	≤ 3 mm	≤ 4 mm		Systematic error
Laser spot size	12 x 16 mm			At sensor window
	24 x 24 mm	24 x 64 mm	24 x 80 mm	Focused at 45 m At 40 m range
Divergence	0,3 mrad			Vertical / perpendicular
	0,7 mrad	1,33 mrad	1,67 mrad	Horizontal
Resolution	1 mm			
Laser pulse rate	40 kHz			
Laser class	1	1 M		Scanner; to EN 60825-1; 94, 96, 01
	2			Marker

INTERFACES

Ethernet	100 Mbits/s	Real time data output
RS 232	115 kBaud	Configuration and FW updates

ELECTRICAL & MECHANICAL

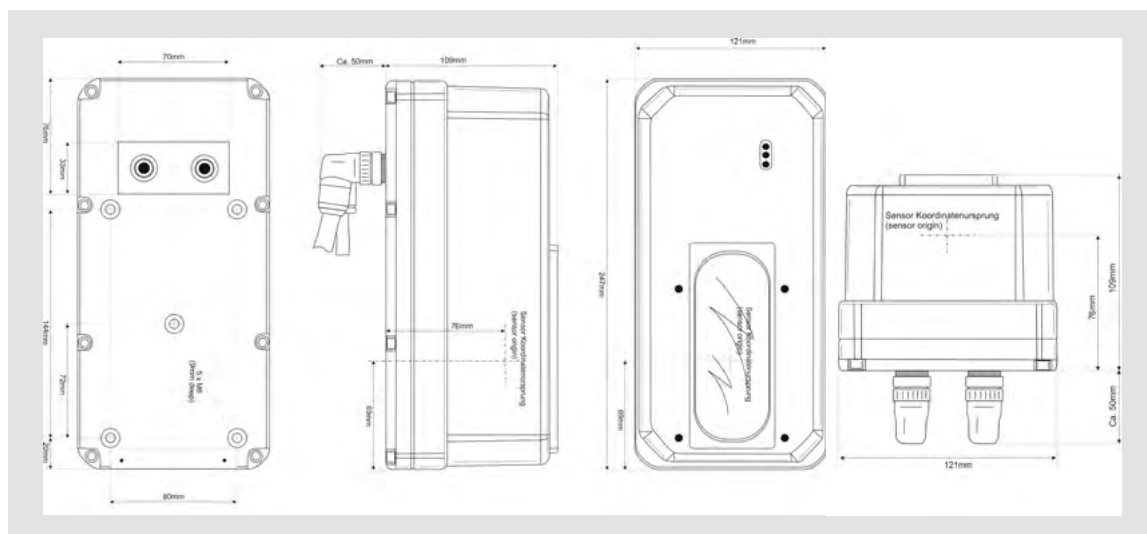
Power transfer	24 VDC or POE 15 W max.	Power over Ethernet with injector
Supply voltage direct	DC Input 24 V ± 5 V	
Power consumption	7 W	Without heater
Startup time	> 30 s	
Protection class	IP 67	
Enclosure	Aluminium die-cast	Sea air resistant
Dimension	247 x 121 x 109 mm	
Weight	2,6 kg	

ENVIRONMENT DATA

Operating temperature	-30°C ... +50°C	Temperatures > 50°C on request
Storage temperature	-30°C ... +80°C	

SCAN VALUES & PROFILE MEASUREMENT

Scan angle	1 to 90°	Adjustable
Step width	0,09	Normal mode
	0,023	Fine mode
	0,18	Fast mode
	1000	Normal mode [at 90°]
Measurement points (per scan)	4000	Fine mode [at 90°, 4 scans / 5Hz]
	500	Fast mode [at 90°, 40 Hz]
	20 / 40 Hz	



Contact

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