

LASE 2000D-23x SERIES

The LASE 2000D-23x Series is suitable for a huge variety of industries and applications such as:

- » Measurement of dimensions, profiles and objects
- » Collision prevention
- » Container measurement in ports
- » Object protection
- » Bulk material in heaps, bunkers, trucks etc.
- » Volume measurement

THE SENSOR

Laser scanners of the LASE 2000D-23x Series are contactless two-dimensional distance and profile measuring sensors especially built for industrial environments and outdoor measurement applications.

The LASE 2000D-23x sensors scan 2D profiles of objects or machines with a pulsed IR laser beam which is transmitted from the sensor via a rotating mirror head. The sensors transmit extremely short multiple light pulses. The time measurement of these pulses sends to an object and back to the scanner results in the object's distance to the scanner. Furthermore, each sensor scan also includes raw data and combined distance and angle values. All provided and measured data result in a 2D profile. The measured data will be sent over Ethernet in real-time. Innovative beam forming optics allow accurate object profiling and the highest measurement accuracy. The scanners can scan moving objects at fast scan rates of up to 60 Hz in high dynamic applications and scan static objects with an accuracy of up to 5 mm (average of several scans).



SELECTABLE MEASUREMENT MODES:

- » Scanrate: 60 Hz or 30 Hz
- » Spot raster: 0,0225° in „interlaced“-mode
- » Spot raster: 0,09° in „normal“-mode

THE FEATURES

- ✓ Contactless distance measurement
- ✓ Range: 45 m up to 120 m on dark surfaces (10% remission)
- ✓ 150 m up to 400 m on white surfaces (depending on sensor)
- ✓ Red laser marker to align laser scanner
- ✓ Interfaces: Ethernet: UDP 100 Mbit/s

THE BENEFITS

- ✓ High accuracy, high resolution and high measuring rate
- ✓ Accuracy: ≤ 5 mm
- ✓ Innovative beam forming optics to minimises measurement spot size
- ✓ Integrated heating
- ✓ Measuring beam: Laser class 1

TECHNICAL DATA: LASE 2000D-23x SERIES

LASE 2000D	-234	-236	-237	-238	INFO
DISTANCE MEASUREMENT					
Distance Range	0.8 ... 150 m	1.8 ... 250 m	2.5 ... 300 m	2.7 ... 400 m	White, 100% reflectivity
	0.8 ... 45 m	1.8 ... 80 m	2.5 ... 95 m	2.7 ... 120 m	10% target reflectivity
Accuracy	5 mm			6 mm	Repeatability 1 σ at strong signal
	20 mm				Repeatability 1 σ at weak signal
	≤ 5 mm				Systematic error
Laser spot size	12 x 18 mm			12 x 19 mm	at Sensor window
	15 x 24 mm	15 x 55 mm	15 x 68 mm	15 x 102 mm	at 40 m range
Divergence	0.5 mrad			0.6 mrad	Vertical
	0.7 mrad	1.33 mrad	1.67 mrad	2.5 mrad	Horizontal
Resolution	1 mm				
Laser pulse rate	Up to 60 kHz				
Laser class	1				EN/IEC 60825-1:2014
INTERFACES					
Ethernet	TCP/UDP 100 Mbits/s				Real time data output
RS232	115 kBaud				Configuration and FW updates
ELECTRICAL & MECHANICAL					
Voltage	24 VDC or PoE 15 W max				PoE with Injector
Voltage - direct	DC Input 24 V ± 5 V				
Power consumption	8 W				without heater
Startup time	30 s				
Protection class	IP 67				
Enclosure	Aluminium				seawater resistant
Dimension	247 mm x 121 mm x 109 mm				
Weight	2.8 kg				
ENVIRONMENT DATA					
Operating temperature range	-30°C ... +50°C				Temperatures > 50°C on request
Storage temperature range	-30°C ... +70°C				
SCAN & PROFILE MEASUREMENT					
Scan angle	1 to 90°				Adjustable
Step Width	0.18°				Fast-Mode
	0.09°				Normal-Mode
	0.045°				Fine-Mode
	0.0225°				Interlaced-Mode
Measuring points (per scan)	500				Fast-Mode (at 90°)
	1000				Normal-Mode (at 90°)
	2000				Fine-Mode (at 90°)
	1000 (4000 per profile)				Interlaced-Mode (at 90°)
Scan Rate	15 / 30 / 60 Hz				

Scope of delivery: sensor, operating instruction, configuration software

