



Laser scanners  
LMS4xx / LMS400 / Indoor / Short Range

LMS400-2000



**Model Name** > [LMS400-2000](#)  
**Part No.** > [1041725](#)



#### At a glance

- The Level Control feature, which is integrated into the sensor, features a gap-free scanning surface that can detect objects in containers, without any impairment from a shadow. Smaller objects, regardless of color, are detected at any place in the container.
- Large dynamic measurement range of 0.7 m to 3 m
- High ambient light immunity
- Rugged design
- High angular resolution
- Ideal for vision applications on pallets

#### Your benefits

- The integrated Level Control feature replaces a number of sensors and drastically reduces the effort required for wiring and programming
- Reliable detection at high conveyor speeds
- Neither shading nor artificial lighting is necessary
- Simple, flexible installation at positions beyond the robot collision area
- High accuracy detection and positioning measurements in real-time provide rapid data capture



#### Features

Field of application:	Indoor
Version:	Short Range
Reading field:	Front
Light source:	Visible red light (650 nm)
Laser class:	2, in standby mode laser class 1 according to IEC60825-1:2007
Field of view:	70 °
Scanning frequency:	270 Hz ... 500 Hz
Angular resolution:	0.1° ... 1.0°
Operating range:	0.7 m ... 3 m
Max. range with 10 % reflectivity:	3 m

#### Performance

Response time:	≥ 2 ms
Detectable object shape:	Almost any
Systematic error <sup>1)</sup> :	± 4 mm

Statistical error <sup>2)</sup> :	± 10 mm ± 3 mm
Integrated application:	Level Control

<sup>1) 2)</sup> Typical value; actual value depends on environmental conditions.

### Interfaces

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Serial (RS-232, RS-422):	✓
Function (Serial (RS-232, RS-422)):	Host, AUX
Ethernet:	✓
Function (Ethernet):	Host
Data transmission rate (Ethernet):	10 Mbit, half-duplex
Protocol (Ethernet):	TCP/IP
CAN bus:	-
PROFIBUS DP:	-
PROFINET:	-
DeviceNet:	-
Switching inputs:	4
Switching outputs:	5 (4 x PNP/analog 1 x 4 mA ... 20 mA)
Optical indicators:	6 LEDs

### Mechanics/electronics

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Operating voltage:	≤ 24 V DC ± 15 %
Power consumption:	25 W
Housing:	Die-cast aluminum
Housing color:	Light blue (RAL 5012)
Enclosure rating:	IP 20 (DIN 40 050) <sup>1)</sup>
Weight:	2.3 kg
Dimensions:	179 mm x 107 mm x 130 mm

<sup>1)</sup> With plug cover IP 65

### Ambient data

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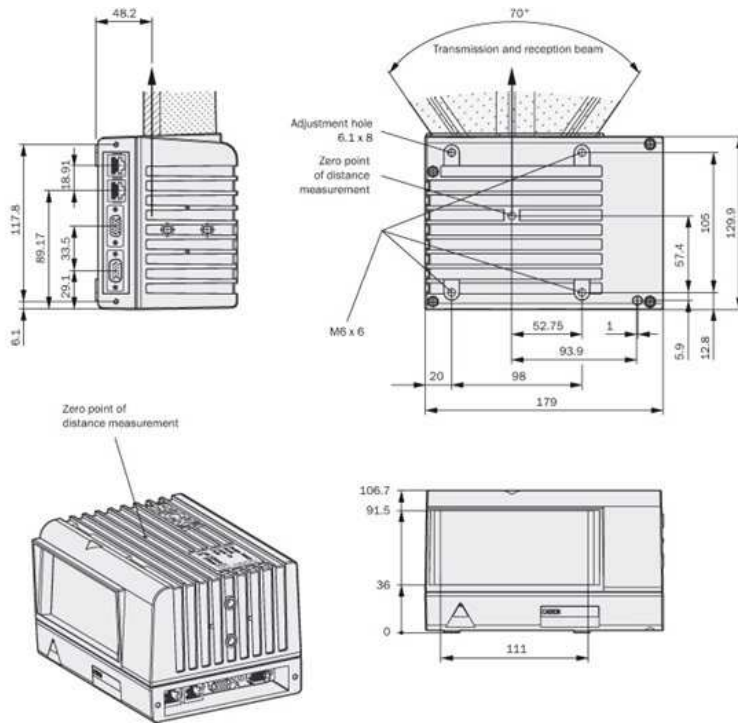
Object remission:	4.5 % ... 100 %
Electromagnetic compatibility (EMC):	EN 61000G6G2:2001/EN 61000G6G4:2001
Vibration resistance:	EN 60068G2G6, G27, G29, G64
Shock resistance:	EN 60068G2G6, G27, G29, G64
Ambient operating temperature:	0 °C ... +40 °C
Storage temperature:	-20 °C ... +70 °C

### General notes

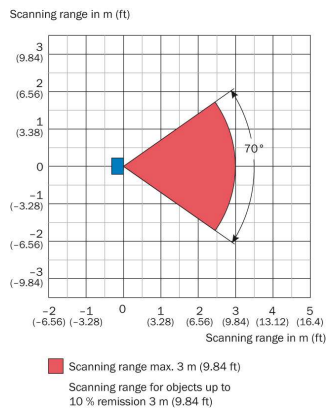
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Selectable region of interest (ROI):	From 50 mm x 3,000 mm to 1,000 mm x 1,750 mm
Number of columns:	Up to 50 equidistant or 30 freely positionable
Minimum column width:	50 mm
Minimum detectable object:	30 mm x 30 mm
Smallest height threshold above the container floor:	20 mm
Switching threshold output:	Telegram, switch outputs or analog output
Output of height values in the columns:	Analog output, Telegram
Note on use:	Not suitable for personnel protection

## Dimensional drawing



## Operating range diagram



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