

LMC-J-0310-x

Laser-based distance measuring system

1 Specification

2 Technical data

Type of unit

Opto-electronic distance measuring module for industrial applications

Measuring method

Laser pulse time-of-flight measurement

Functions & fields of application

- Fast and accurate distance measurement on any backscattering target surface
- Exact position determination
- Proximity detection and warning
- For very long measuring distances and harsh industrial conditions

Special features

- 1) Compact module for fast and delay-free measurements
- 2) Short measuring times
- 3) Measurement of distances up to more than 3000 m (on reflector)
resp. up to 400 m (on diffuse reflecting surfaces)
- 4) Integrated aiming laser for easy pinpoint alignment
- 5) Special adjustment device for long-distance alignment optionally available

Advantages

- Compact design
- Extremely wide measuring range
- Measuring frequencies up to 2000 Hz
- On special request also available with divergence 10 mrad as well as measuring rate 10 kHz
- Dust and splash water protection according to IP 67



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Values apply to all units of the 0310-x series, unless otherwise noted	
Measuring range *1	0.5 to 3000 m (with reflector) 0.5 to 400 m (without reflector)
Measuring rate	Standard: 1000 Hz; Special version: 2000 Hz
Measuring accuracy *2	± 20 mm (@ 100 Hz)
Repeatability	± 60 mm (@ 2000 Hz)
Resolution	1 mm
Connection type	12-pin flange connector (Binder 723); Profibus-IN /-OUT (M12, B-coded)
Laser divergence	1.7 mrad
Laser class	1 (EN 60825-1:2014)
Laser power	≤ 25 µW
Wavelength	λ = 905 nm
Pilot laser	Class 2, ≤ 1mW
Data interfaces	RS 232 or RS 422; optionally ProfiBus/SSI (RS 485)
Switching outputs	2 x "high side", up to 0.2 A
Analogue output	4 – 20 mA
Trigger	1 input/output up to 30 VDC; programmable trigger edge and delay
T (°C) Operating range	- 40 °C to + 60 °C (heating as standard)
T (°C) Object surface	-
Supply voltage	10 – 30 VDC
Power consumption	< 5W (with heater 11.5 W) @ 24 V
Housing material	Aluminium
Dimensions	136 x 57 x 104 mm (L x W x H)
Weight	approx.0.8 kg
Protection class	IP 67
EMC	EN 61326-1
MTTF	30,000 h

*1 Dependent on reflectivity, stray light influences and atmospheric conditions

*2 Statistical scatter 95%