

LMC-J-0270-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

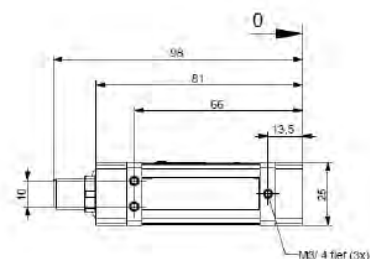
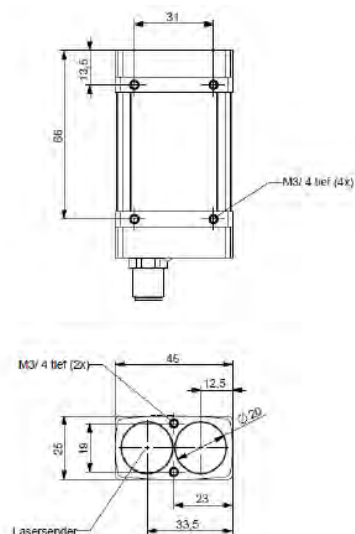
- Distance measurement with variable accuracy
- Exact position determination
- Proximity detection and warning
- Automation

Special features

- 1) Extremely compact module for fast and delay-free measurements
- 2) Shortest measurement times
- 3) Measurement of distance ranges up to more than 270 m (on reflector) or up to 150 m (on natural surfaces) with a measuring rate up to 40 kHz
- 4) The shock and impact-resistant housing allows operation even under extremely harsh industrial conditions.

Advantages

- Compact and lightweight design
- Very large measuring range
- Measuring frequencies up to 40 kHz
- Very low power consumption
- Eye-safe operation
- Dust and splash water protection according to IP 67



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Values apply to all units of the 0270-x series, unless otherwise noted	
Measuring range *1	0.2 to 150 m on natural surfaces (up to 70 m on surfaces with reflectivity $\leq 10\%$); 0.2 to 270 m on reflector
Measuring rate	max. 40000 Hz with binary data output; max. 15000 Hz with decimal data output
Measuring accuracy *2	± 50 mm (@ 15000 Hz)
Repeatability	± 25 mm (@ 15000 Hz)
Resolution	1 mm
Connection type	12-pin flange connector (Binder 723); Profibus-IN /-OUT (M12, B-coded)
Laser divergence	2 x 0.4 mrad
Laser class	1 (EN 60825-1:2014)
Laser power	≤ 25 μ W
Wavelength	$\lambda = 905$ nm
Pilot laser	no
Data interfaces	RS 232 or RS 422
Switching outputs	2 x "high side", up to 0.2 A
Analogue output	4 – 20 mA
Trigger	1 input, start single measurement, programmable trigger edge and delay
T (°C) Operating range	Operation: - 20 °C to + 50 °C; storage: - 40 °C to + 85 °C
T (°C) Object surface	-
Supply voltage	10 – 30 VDC
Power consumption	< 3 W @ 24 V
Housing material	Aluminium
Dimensions	98 x 46 x 25 mm (L x W x H)
Weight	approx. 140 g
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%