

Laser Distance Measuring Device

Precise – Robust – Reflectorless – Fast:

- Measures distances with millimeter accuracy.
- Precisely defines positions.
- Detects movements.

The LMC-X-0040—X is an opto-electronic distance measuring module for industrial applications. The module operates on the basis of non-contact comparative phase measurement with amplitude modulation. The Laser diode (cw operation) has a divergence of 0.6 mrad for measurement with pinpoint accuracy. The Sensor measures at approx. 1GHz and the max. measuring output is 10Hz for the LMC-X-0040-1 and 50Hz for the LMC-X-0040-2 and LMC-X-0040-3. The measured result is available on the RS 232 / RS 422 data interface. A digital switching output, an analog 4 to 20mA output and optional Profibus DP Slave output is also available. Sensor alignment is easily achieved with the help of the red pilot laser. The measuring range on most natural surfaces is between 0.2 to 35m, and up to 150m depending on the target surface reflectivity coefficient (concrete = 30%, white paper = 90%). Special plastic reflectors with a very high reflectivity coefficient of 2000% are also available.

Features:

- Laser class 2 for eye safe operation
- No reflector required for measurement
- Millimeter accuracy on most surfaces
- Easy installation and commissioning
- Allows field bus integration (Profibus).
- Meets IP 65 protection class for industrial use
- Also available in explosion-proof version

EEx Laser

PTB03 ATEX 1051 II 2G EEx d IIC T6 II 2D IP66 T80°C

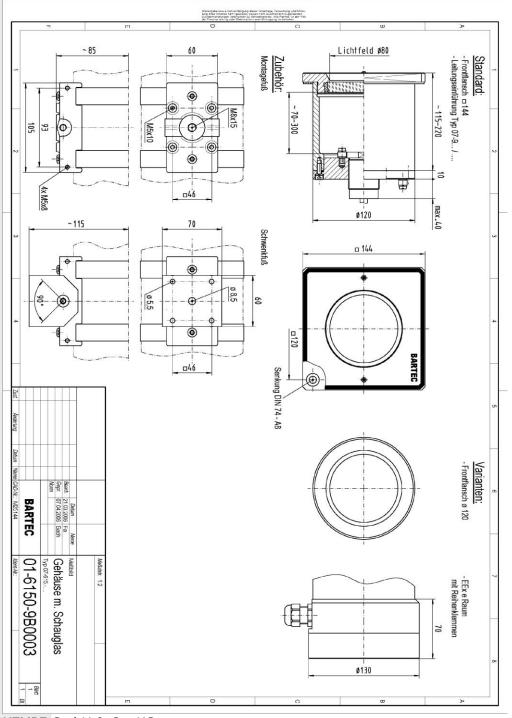


Technical Data

Measuring range:*1	0.2 to 35 m on white and most natural surfaces. Up to 150 m possible
Measuring accuracy:*2	± 2 mm (0.2 - 35 m) ± 3 mm (0.2 - 150 m)
Measuring resolution:	Dependant on scale factor 1 mm @ SF 1 (standard) 0.001 mm @ SF 1000
Repeatability	entire measuring range $\leq \pm 0.5 \text{ mm}$
Measuring rate: *1	Max. 10Hz - LMC-J-0040-1 Max. 50Hz - LMC-J-0040-2 In DT mode 0.16 -6 s (typ 5 Hz)
Connector:	Cable open
Laser divergence:	0.6 mrad
Laser classification:	≤ 1 mW per IEC 825-1, laser class 2 (red light)
Interface:	RS 232 / RS 422 , baud rate 9600, format 8n1, selection of measuring functions, scaling, measuring time, output of measured values, inner temperature, error codes, single measurement mode.
Switching output:	Programmable switching threshold and hysteresis, "high-side-switch" with 0.5 A load capacity.
Analog output:	programmable distance range limits, 4 mA to 20 mA
Operating temperature:	-10 °C to +60 °C
Supply voltage:	10 to 30 VDC <1.5 W (without IAlarm)
Phys. dimensions:	340 x 144 x 144 mm (L x W x H)
Weight:	Aprox. 6 kg
Protection class:	IP 65
Options:	Profibus interface, Heating
*1	dependent on target reflectivity, stray light influences and atmospheric conditions
*2	statistical spread 95%







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