

LMC-L/LB-xxxx-xxx

Laser Doppler Measuring Systems

1 Specification

2 Technical data

Type of unit	Opto-electronic systems for industrial applications for the measurement of velocities, lengths and profiles
Measuring method	Laser Doppler Interferometry
Functions & fields of application	• Precise laser Doppler measurement directly on the material (metals, plastics, paper, textiles etc.) • Replacement for rotary encoders • Measurement of continuous processes in running production • Speed measurement, control and synchronisation • Cut-to-length measurement • Single part measurement • Part length control • Measurement of elongation and reduction • Saw and shear control • Winding length measurement • Inkjet printer control • Measuring wheel rotary encoder calibration
Special features	1) Optimal replacement for conventional impellers with rotary encoders, avoiding their negative characteristics such as slippage, high repair costs and intensive maintenance costs 2) Robust design for harsh and rugged industrial conditions 3) Absolute measurement accuracy better than 0.05 % 4) Repeatability better than 0.02 %
Advantages	• 0-speed (LMC-LB series only) • Automatic direction detection (LMC-LB series only) • Contactless measuring: no slip, no material marks • No moving parts, no wear • Easy integration via all current interfaces • Easy set-up and operation via display or PC • Permanent calibration with UKAS certificate • Cost reduction thanks to maintenance-free operation • Highly accurate speed and length measurement to reduce scrap, increase machine service life and avoid over- or underlengths



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	LMC-L/LB-0150-025	LMC-L/LB-0300-060	LMC-L/LB-0600-060	LMC-L/LB-1200-120
Minimum speed	0.1 m/min (L model) 0 m/min (LB model)	0.2 m/min (L model) 0 m/min (LB model)	0.2 m/min (L model) 0 m/min (LB model)	0.4 m/min (L model) 0 m/min (LB model)
Maximum speed	2500 m/min	5000 m/min	5000 m/min	10000 m/min
Measuring field depth	25 mm	60 mm	60 mm	120 mm
Measuring distance	150 mm	300 mm	600 mm	1200 mm
Accuracy	Better than 0.05%			
Repeatability	Better than 0.02%			
Max. acceleration	> 500 ms ²			
Measuring frequency	25000/s			
Update time	0.04 ms			
Measurement field Ø	4 mm			
Wavelength	620 – 690 nm			
Laser class	3B, according to EN60825-1:2001			
Laser power	< 20 mW			
Speed units	m/min, ft/min, yds/min			
Length units	m, ft, inch, yd			
Data interfaces/ Protocols	Standard: RS232, RS422, RS485 (Profibus) eProfiBUS, Ethernet IP, DeviceNET, ModBUS, CANBUS, SSI and WiFi			
Digital in- and outputs	4 inputs: 2 x fixed, 2 x programmable 3 outputs (relays), programmable			
Analogue output	0 – 10 VDC, programmable for speed or measuring rate			
Pulse outputs	3 opto-isolated differential outputs, freely programmable 5 V to 24 V, maximum pulse frequency 1 MHz			
Operating temperature	0 – 45 °C (with water cooling up to 100 °C)			
Supply voltage	15 – 25 VDC; 20 W			
Dimensions	230 x 130 x 75 mm (LxWxH)			
Weight	3 kg			
Protection class	IP 67			