

## LMC-L-XXXX-XXX Series LMC-LB-XXXX-XXX Series

### Laser Doppler Sensors for Length and Speed Measuring

#### **Benefits**

- 0 Speed (only LMC-LB Series)
- Automatic Direction Detection (only LMC-LB Series)
- Accuracy: Better than 0.05%
- Repeatability: Better than 0.02%
- >1ms Material/Object Detection
- Non-Contact: No Slippage, No Marking, Any Color
- No Moving Parts: No Wear
- Industrial Design for Harsh Factory Environments
- Easy Integration: Modern Communications
- Easy to Use: Bright Clear Displays
- Reduce Downtime: Continual Use Reliability
- Excellent Value: Low Cost of Ownership



#### **High accuracy & non contact**

The LMC- L Series directly replaces traditional, high maintenance, problematic contact wheel and roller type devices with accurate "state-of-the-art" laser Doppler technology.

#### **Most modern and fastest sensor available**

Extremely easy to install, integrate and use. Production processes relating to wire, cable, web products, woven's, non-woven's, paper, plastic film, tapes, building material, flooring materials and labelling are all well suited for Doppler measuring technology.

Accurate speed and length measurement reduces scrap, increases uptime and improves material yield through elimination of product "Give Away" or "Short Length" claims.



### Interfaces

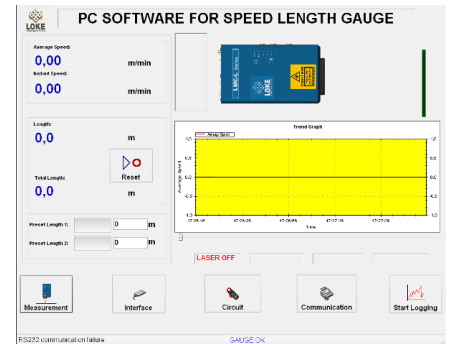
Integration has never been easier. Select from Standard Communications or choose from a wide range of factory fitted Optional Communications to meet your needs. Connect to your existing indicator / display devices, PLC or PC.

- Standard Interfaces: EtherNet TCP/IP, CANBUS, RS232/422/485,
- Optional Interfaces: Quadrature Pulse, SSI, ProfiBus, EtherNet IP, DeviceNet, ModBus, Analog

### Software

Our included setup software helps to simplify installation, communication and setup.

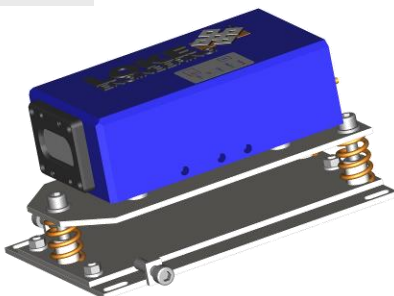
Free adjustable log files for additional information or debugging can be stored and/or exported to Excel.



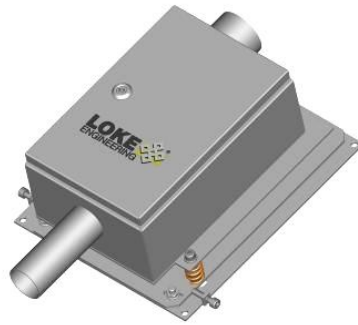
### Options:

Many options are available for application customization

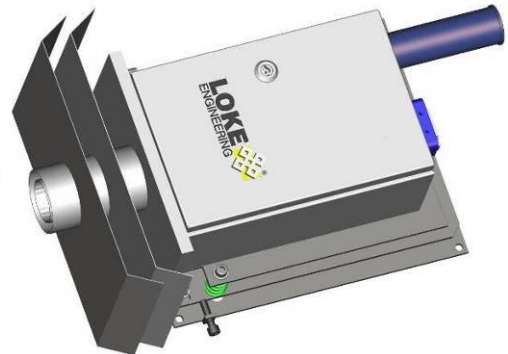
### For Example



Standard bracket



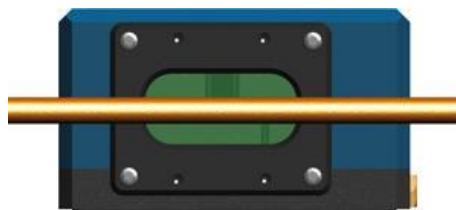
Air flush housing



Special housing for extreme hot environments



Exchange window with air purge



Infrared filter for measuring at hot objects

Connection box with buffered power supply, laser warning lamp, status and error lamp, laser shutter switch and emergency switch with key.

All needed sensor interfaces are accessible on terminals



Many more options available

## Technical details

	<b>LMC-LB-150-025</b>	<b>LMC-LB-0300-060</b>	<b>LMC-LB-0600-060</b>	<b>LMC-LB-1200-120</b>
<b>Min. Speed</b>	0 m/min	0 m/min	0 m/min	0 m/min
<b>Max. Speed</b>	2500 m/min	5000 m/min	5000 m/min	10000 m/min
<b>Depth of Field</b>	25 mm	60 mm	60 mm	120 mm
<b>Stand off Distance</b>	150 mm	300 mm	600 mm	1200 mm
<b>Accuracy</b>	Better than 0.05%			
<b>Repeatability</b>	Better than 0.02%			
<b>Acceleration Rate</b>	> 500 ms <sup>2</sup>			
<b>Measurement Rate</b>	250000/sec			
<b>Max. Output Rate</b>	25000/sec			
<b>Update Rate</b>	0.04 ms			
<b>Object Detection</b>	< 1ms			
<b>Spot Size</b>	4 mm			
<b>Speed Units</b>	0/min, ft/min			
<b>Length Units</b>	m, ft, yd			
<b>Serial I/O</b>	Selectable RS232, RS485, RS422: Speed, Length, GR, (Status Indicators)			
<b>EtherNet</b>	Full access via TCP/IP			
<b>4 x Digital Inputs</b>	1 Fixed: Laser Enable 3 Programmable: Length Reset, Display Hold, Length Hold, Speed Hold, Direction, Pause. Max Input 24Vdc			
<b>3 x Relay Outputs</b>	Volt-Free Contact; Select NC or NO; Max. Voltage 50Vdc 0.5AGauge OK, Gauge Measuring, Laser On, Laser at Temp, Shutter Open,(Status Indicators) Preset Length 1, Preset Length 2			
<b>CANBUS</b>	Connects to L Series Products range of displays. Can be used to supply power to gauge head.			
<b>Analog Output</b>	0 - 10VDC Scalable output. Output based either on Speed or Good Readings			
<b>3 x Pulse Outputs</b>	Opto-Isolated differential outputs. Configurable as Quadrature or Index. Default output 5V or user input to 24Vdc max. Max. Pulse Output up to 1Mhz			
<b>Additional Protocols</b>	Profibus, Ethernet IP, DeviceNet, Modbus, and SSI available			
<b>Gauge Power</b>	15 - 25VDC @ 20W			
<b>Gauge Size (L x W x H)</b>	220 x 140 x 90 mm			
<b>Gage Weight</b>	Approx. 3.5 kg			
<b>Temperature Range</b>	0 – 45 °C			
<b>Protection Rating</b>	IP67			



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	<b>LMC-L-150-025</b>	<b>LMC-L-0300-060</b>	<b>LMC-L-0600-060</b>	<b>LMC-L-1200-120</b>
<b>Min. Speed</b>	0,1 m/min	0,2 m/min	0,2 m/min	0,4 m/min
<b>Max. Speed</b>	2500 m/min	5000 m/min	5000 m/min	10000 m/min
<b>Depth of Field</b>	25 mm	60 mm	60 mm	120 mm
<b>Stand off Distance*</b>	150 mm	300 mm	600 mm	1200 mm
<b>Accuracy</b>	Better than 0,05%			
<b>Repeatability</b>	Better than 0,02%			
<b>Acceleration Rate</b>	> 500 ms <sup>2</sup>			
<b>Measurement Rate</b>	250000/sec			
<b>Max. Output Rate</b>	25000/sec			
<b>Update Rate</b>	0,04 ms			
<b>Object Detection</b>	< 1ms			
<b>Spot Size</b>	4 mm			
<b>Speed Units</b>	0/min, ft/min			
<b>Length Units</b>	m, ft, yd			
<b>Serial I/O</b>	Selectable RS232, RS485, RS422: Speed, Length, GR, (Status Indicators)			
<b>EtherNet</b>	Full access via TCP/IP			
<b>4 x Digital Inputs</b>	1 Fixed: Laser Enable 3 Programmable: Length Reset, Display Hold, Length Hold, Speed Hold, Direction, Pause. Max Input 24Vdc			
<b>3 x Relay Outputs</b>	Volt-Free Contact; Select to be NC or NO; Max. Voltage 50Vdc 0.5AGauge OK, Gauge Measuring, Laser On, Laser at Temp, Shutter Open,(Status Indicators) Preset Length 1, Preset Length 2			
<b>CANBUS</b>	Connects to L Series Products range of displays. Can be used to supply power to gauge head.			
<b>Analogue Output</b>	0 - 10Vdc Scale able output. Output based on Speed or on Good Readings			
<b>3 x Pulse Outputs</b>	Opto-Isolated differential outputs. Configurable as Quadrature or Index. Default output 5V or user input to 24Vdc max. Max. Pulse Output up to 1Mhz			
<b>Additional Protocols</b>	ProfiBus, Ethernet IP, DeviceNet, Modbus, and SSI available			
<b>Gauge Power</b>	15 - 25Vdc; 20W			
<b>Gauge Size (L x W x H)</b>	230 x 130 x 80 mm			
<b>Gauge Weight</b>	3,1 kg			
<b>Temperature Range</b>	0 - 45 °C			
<b>Protection Rating</b>	IP67			

*\* Various stand-off and request available*



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