

LS9000 MID

Smart compact design provides high accuracy at an affordable price

A breakthrough in electro-optics design enables Beta LaserMike's LaserSpeed® Series gauges to produce highly accurate, non-contact speed and length measurements, including zero speed and automatic direction detection. To accomplish this, the LS9000 Series gauges use an enhanced version of autocorrelation and an Acusto-Optical modulator. Coupled with a DataPro controller, the LaserSpeed will meet the requirements of the MID (Measuring Instrument Directive) certification. Approval by NWML is in process.

The Measuring Instruments Directive (MID) was agreed in April 2004 and covers a number of measuring instrument types, including gas and electricity meters, petrol pumps and automatic weighing instruments. The primary aim of the Directive is to create a single market in measuring instruments for the benefit of manufacturers and, ultimately, consumers across Europe

LaserSpeed gauges have no moving parts, use 100% solid-state digital technology, and are permanently calibrated-resulting in significant time and money savings. With accuracy better than $\pm 0.125\%$, LaserSpeed gauges are ideal replacements for contact tachometers which are prone to measurement errors caused by slippage, dirt build-up, and day-to-day wear problems.

Benefits

- High accuracy and repeatability
- Direct replacement for tachometers
- No moving parts to wear out
- Permanently calibrated
- Low cost of ownership
- Zero speed and reverse measurement
- Non-contact length and speed measurement
- No slippage
- Non-marking
- Not affected by material surface or color

Accessories



Airwipe and Quick-Change Window

Designed for a dirtier environment, the airwipe and quick change window help to ensure minimal downtime for cleaning.



Guide Rollers/Height Stand

Various styles and configurations of guide rollers and height stands to help position the LaserSpeed and keep the product in the gauge's measurement area.

2004/22/EG standard

EU Library that describe the directive
<http://tinyurl.com/2eu9km>

LaserSpeed®

Non-Contact Length & Speed Measurement System



Range of Applications

LaserSpeed gauges are well suited for a range of applications, including, but not limited to, measuring length and speed of:

- Wire, cable and optical cable
- Rubber tube and hose
- Paper and corrugated products
- Plastic pipe and tube
- Web products
- Plastic films and tapes
- Non-woven products
- Building materials



BETA LaserMike

LS9000-3XX MID	-303	-306
Standoff Distance	300 mm (12 in.)	600 mm (24 in.)
Speed Range	0..±2000 m/min (0..±6,560 ft/min)	0..±2000 m/min (0..±6,560 ft/min)
Measurement Depth of Field	35 mm (1.4 in.)	50 mm (2 in.)

LS9000-3 MID (Continuous Length/Speed Measurement)

Accuracy	+/-0.125% of reading	Controller Power	- 120/240 @ 4 Amp (including Gauge)
Repeatability	+/-0.02%	Spot Size	- 3 x 5 mm - 1.75 x 5 mm L Version
Measurement Rate	>20000/s	Gauge Size	203 X 159 X95.2 mm (8.0 X 6.3X 3.75 in.)
Acceleration Rate	>500 m/s ²	Gauge Weight	3.4 kg (7.5 lbs)
Serial I/O (Gauge) Data Available	- RS-232 - Speed, Length - Quality Factor, Status	Ambient Temperature	5 to 40°C (41 to 104°F) Cooling/heating is required for temperatures outside this range
Baud Rate	- 115K	Cooling	Fittings 1/8 in. NPT
Status via Serial I/O (Gauge)	- Laser at Temperature - Laser On - Shutter Open - Valid Measurements	Air	- Pressure: Less than 70 kPa (< 10 PSI) - Flow Rate: 50 l/min (2 SCFM) Typical
Serial I/O (Controller) Data Available	- RS-232 ,Ethernet - Length, Length Report - USB Printer port	Water	- Pressure: Less than 207 kPa (< 30 PSI) - Flow Rate: 1.0 to 3.8 l/min (0.26 to 1 gpm) 1.5 l/m (0.4 gpm) Typical - Coolant Temp: 5 to 45°C (41 to 113°F)
Serial Baud Rate	- 1200, 2400, 4800, 9600, 19.2K	Relative Humidity	Non-condensing 65%
Status via Serial I/O (Controller)	- Length - Date - Time	Degree of Protection	IP67 (Gauge) IP54 (Controller)
		Output Rate	32 ms
		Units of Measure	- m/min

Inputs

Input	Description	Details
1	End of Reel Report	Prints the Date, Time & current length to the USB printer port
2	Transmit Length	Outputs the Date, Time & current length over RS-232
3	Transmit Length Report	Outputs the Date, Time, Machine Number, Product Number & current length over RS-232
4	Transmit Stored Data	Transmit the stored flash memory data (last 90 days) over the EtherNet port
5	Length Reset	Resets the current length

Outputs

Control Output Type	Length Measurement Mode			
	Relay 1	Relay 2	Relay 3	Relay 4
Relay Closure	Preset Length Reached	-Preset Length Approach	Quality Factor Warning	Quality Factor Reject

Specifications are subject to change without notice.

This unit is a class 3B laser product and Complies with EN60825-1:2001. Complies with 21 CFR 1040.10 and 1040.11 except for deviations pursuant to Laser Notice No. 50, dated July 26, 2001.



The following safety features required to comply with the Bureau of Radiological Health Class IIIB laser requirements are included:

- Key-operated power switch on optional controller
- Laser indicator light on supply and laser
- Delayed laser startup-laser indicator light on prior to laser radiation
- Laser beam blocking device
- Interlock capability for remote shut-off

BETA LaserMike

Beta LaserMike USA	Beta LaserMike Europe	Beta LaserMike Asia
8001 Technology Blvd. Dayton, OH 45424 USA Ph: +1 937 233 9935 Fax: +1 937 233 7284	Stirling Road Cressex Business Park High Wycombe, Bucks HP12 3RT United Kingdom Ph: +44 1494 89 4400 Fax: +44 1494 89 4401	Unit 101, 102 & 201 XinAn Plaza, Building 13, No. 99 TianZhou Rd. Shanghai 200233, China Ph: +86 21 6113 3688 Fax: +86 21 6113 3616

Visit our website at: www.betalasermike.com

© Copyright 2008 Beta LaserMike. All rights reserved. 2/08 Printed in the USA.