NDC TECHNOLOGIES
a spectris company

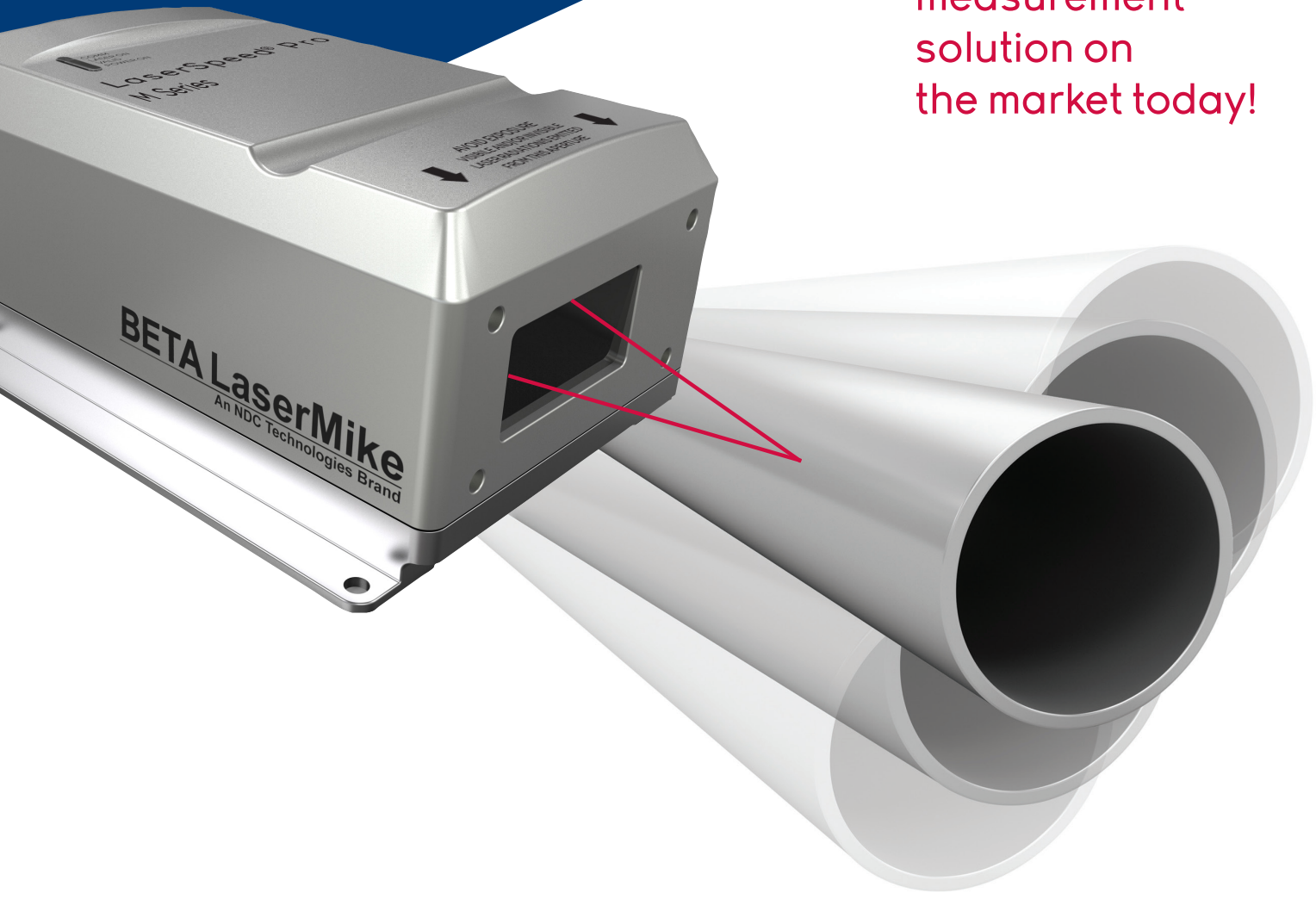
NEW REVOLUTIONARY!

LASERSPEED® PRO M SERIES

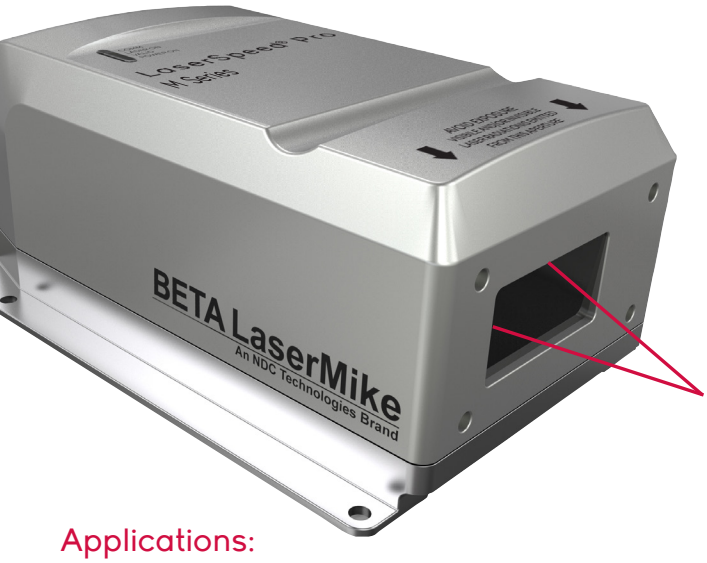
NON-CONTACT LENGTH & SPEED GAUGE FOR BOUNCING, UNGUIDED MOVING PRODUCTS

PATENT PENDING

No comparable measurement solution on the market today!



LaserSpeed Pro M Series – Solving Industry's Critical Measurement Challenge



Applications:

Use LaserSpeed Pro M Series in critical measurement applications such as hot and cold:

- Bare conductor wire
- Insulated primary wire
- Cable
- Steel / Copper wire draw lines
- Metal rod / bar*
- Small pipe / tube / hose
- Metal and non-metallic cord
- And other hard-to-measure cylindrical products

***Examples of metal bar/rod applications:** reducing/sizing mills, non-twist rolling mills, prediction of tension, speed monitoring in mass flow automatic gauge control and cut-to-length measurement in torch/saw/shear operations.

Revolutionary LDV Gauge Provides Most Reliable Length & Speed Measurements

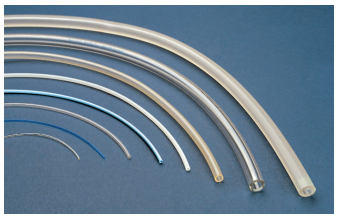
Unlike anything on the marketplace today, NDC's new patent-pending LaserSpeed Pro M Series non-contact gauge uses a revolutionary Laser Doppler Velocimetry (LDV) optical technique to provide reliable, robust length and speed measurements of small, bouncing and unguided cylindrical moving products. From bare conductor wire. . .to small plastic tubing. . .to hot metal cylindrical rods, the LaserSpeed M Series gauge enables manufacturers to effectively control product speed and process functions in the most challenging production applications.

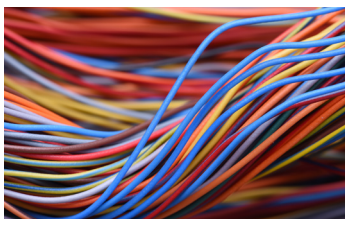
Issues with Bouncing, Moving Product?

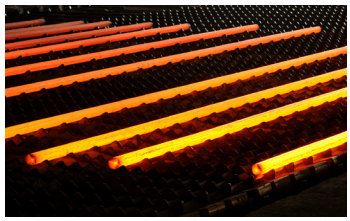
LDV has been a long-proven method for accurately measuring the length and speed of products. But many applications involving the production of **long, continuous cylindrical products** pose measurement challenges. Products that cannot be well-guided, move off-axis and move out of the measurement range make it difficult for traditional LDV-based gauges to keep the laser on the product's surface. This results in hard-to-obtain and unreliable length and speed measurements. Cylindrical products that are small and/or have a severe curvature compound this measurement issue.

The Cost of Unreliability

These measurement issues can dramatically affect the ability to control product speed, achieve accurate cut-to-length requirements and other critical process functions. Moreover, unreliable measurements can cost your organization a significant amount of money due to product give-away, waste resulting from scrap, loss in productivity, process downtime and other conditions.





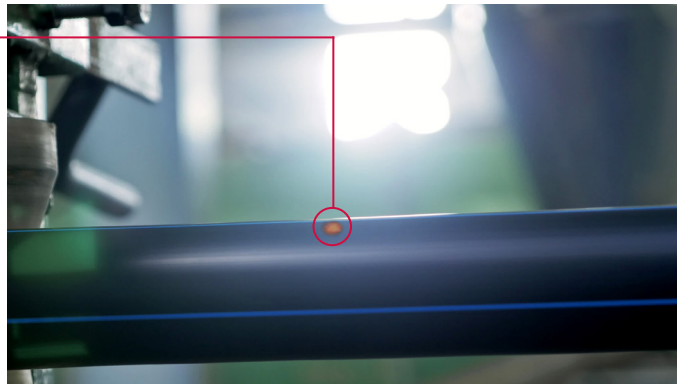


There is No Comparable Measurement Solution on the Market Today

- Delivers unparalleled performance on hard-to-measure, round moving products regardless of size, curvature, material type, color or texture
- Permanently calibrated and no moving parts for lowest cost of ownership
- Easily integrates into the process with the widest range of connectivity options: ModBus TCP, Ethernet/IP and Profinet IO, as well as fieldbus support for Profibus DP
- LaserSpeed Pro Webserver enables direct connection to gauge via IP address for diagnostics, data storage, trending, LaserTrak gauge setup and operation tools, and more
- 2-year product warranty on all components / 3-year warranty on advanced ultra-stable laser diode that provides the industry's longest lifespan

How it Works

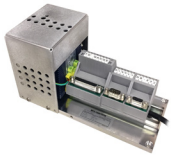
The LaserSpeed Pro M Series gauge is engineered with a proprietary optical engine not found in any other measurement system. It uses a special LDV beam method to project a unique laser pattern on the surface of the moving product. As small, bouncing and unguided cylindrical products move through an optimized measurement range, the LaserSpeed Pro M Series gauge reliably measures the length and speed with the highest repeatable accuracy.



Accessories

Airwipe and Quick-Change Window

Designed for dirty environments, the airwipe and quick change window help to ensure minimal downtime for window cleaning.



Breakout Box/Power Supply

Provides easy access to all gauge inputs and outputs. Also provides power to the LaserSpeed Pro.

Environmental Housing

Provides heavy-duty, double-sealed protection against hot and humid environments.

Accessory Case

A convenient case to hold the LaserSpeed Pro and all accessories safe and secure.

DP700 Display NEW!

Displays LaserSpeed Pro length, velocity, quality factor and gauge status, and lets you configure gauge and process settings. Includes Ethernet/IP and Modbus TCP for Allen Bradly controls.

Adjustable Mounting Bracket

Enables you to adjust or tilt the gauge in three axes to achieve the desired measurement angle for your unique application.

	-403	-406	-410
Standoff Distance	300 mm (12 in.)	600 mm (24 in.)	1000 mm (39.4 in.)
Speed Range	0.4 to 4000 m/min (1.3 to 13100 ft/min)	0.8 to 8000 m/min (2.6 to 26200 ft/min)	1.0 to 12000 m/min (3.2 to 39400 ft/min)
Accuracy	<±0.05% of reading	<±0.07% of reading	Depth of Field <25 mm: <±0.10% of reading Depth of Field >25 mm: <±0.15% of reading
Repeatability	±0.02%	±0.02%	±0.02%
Measurement Depth of Field	20 mm (0.8 in.)	30 mm (1.2 in.)	40 mm (1.6 in.)
Measurement Height (Y axis)	20 mm (0.8 in.)	20 mm (0.8 in.)	20 mm (0.8 in.)

LS Pro 8500-4 M Series

Measurement Rate	LS Pro 8500: <50,000/s
Starting/ Ending Length Correction	Yes
Serial I/O Data Available Baud Rate	• RS-232 / RS-422 • Speed, Length • Quality Factor, Status • 460K, 230K, 115K, 57.6K, 38.4K, 19.2K, 9.6K, 4.8K
Status via Serial I/O or Ethernet	• Laser at Temperature • Laser Interlock • Shutter Position • Valid Measurements • Material Present • System Ready
Quadrature Pulse Output 1 Output 2	• Opto isolated • Scaleable pulse amplitude (5-24V) • Selectable pulses/unit • 250 KHz max pulse rate • RS-422 Drivers • Selectable pulses/unit • 5 MHz max pulse rate
Index pulse output	Yes/programmable
Gauge Power	24VDC (±4 VDC) @ 1.5 Amp, 50 mV ripple max
Gauge Size	203 x 159 x 97.5 mm (8.0 x 6.25 x 3.84 in.)
Gauge Weight	3.3 kg (7.2 lbs)
Temperature Range*	5 to 45°C (41 to 113°F)
Output Rate	1 to 2000 ms in 1 ms increments
Spot Size	3 x 20 mm

Acceleration Rate	<500 m/s²
User Isolated Voltage	5 to 24 VDC (300mA)
Relative Humidity	Non-condensing
Units of measure	Selectable
Speed	m/min, m/s, ft/min, ft/s, in/min, mm/sec, yards/in, yards/sec
Length	mm, m, ft, in, yards
Fieldbus Connectivity	Ethernet (ModBus TCP, Ethernet/IP, Profinet IO); Profibus DP
Product Warranty	2 years
Laser Diode Warranty	3 years
Cooling* Air Water	• Pressure: Less than 70 kPa (< 10 PSI) • Flow Rate: 50 l/min (2 SCFM) Typical • 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)
Analog Output	0-2V Velocity or quality factor
Ethernet	10/100 Base-T (M12)
Multiple Simultaneous Host Connections	Proprietary & industry standard protocols

*Gauge can be cooled with air, water or encased in a protective housing (E or X).

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Document #: P-BROC-SCAN-LS Pro M Series-EN-2019OCT10
Date of Issue: October 2019

Making Light Work