

μ Speed[®]

non-contact
speed & length
measurement



μ Speed[®] sets standards – μ Speed[®] sets standards – μ Speed[®] sets standards

μSpeed® SETS STANDARDS

in highly accurate, non-contact speed and length measurement

Being capable to measure speed and length with a typical accuracy better +/-0.05% (1σ; length>5m), μSpeed is the ideal gauge for replacing contact tachometers which tend to measurement errors caused by slippage, chatter or vibration, dirt build-up and day to day wear problems. The most compact and easy to handle in class μSpeed uses proven laser doppler technology. Thus it has no moving parts, is maintenance free and permanently calibrated, resulting in significant time and money savings.

RANGE OF APPLICATIONS

μSpeed works at almost any moving objects, such as web, coils, tubes, rods, sheets, plates,... and is well suited for a wide range of applications, including continuous online control, cut-to-length control and differential speed measurement of:

- Textile, non-woven and leather
- Steel, aluminium, metal
- Wire, cable and fibre
- Plastic, film, foil and tape
- Paper and corrugated products
- Rubber and synthetic materials
- Wood, glass, ceramics

BENEFITS

- Direct replacement for tachometers
- Non-contact measurement
- Non-marking, no slippage
- Independent of mat., surface, colour
- High accuracy and repeatability
- No parametrization necessary
- Permanently calibrated
- Control functions included
- Memory functions included
- Certified by PTB (national metrology institution Braunschweig, Germany)
- Compact package; easy to handle
- Usable as portable calibration tool

► Specifications are subject to change without notice

SPECIFICATIONS

Speed Range

μSpeed-S1 .. S60
0 ... 3600 m/min

Typical Accuracy

+/- 0,05 % (2σ; L>10m/3σ; L>20m)

Standoff Distance

120 mm +/- 5 mm (+/- 20 mm)
240 mm +/- 10 mm (+/- 40 mm)
500 mm +/- 20 mm (+/- 80 mm)

Interfaces

1x RS 232 unidirectional (printer)
1x RS 232 bidirectional (PC-COM)
I²C-Bus (spec. applications)

Outputs

analog 0...4 V (programmable)
pulse 0.01 ... 10.000 per meter
open collector 2x pre selection
(pre-/end contact) , 1x alarm

Degree of Protection

Sensor head IP 65
Processing unit IP 44

Dimensions (L x W x H)

Sensor head 150x100x40mm
Processing unit 180x144x96mm

Laser Diode

25 mW, 780 nm (Class 3B)

Voltage

110-230 VAC / 50-60 Hz

Units of Measure (Selectable)

m, km, inch, ft

Optional Accessories

- Configuration- & Monitoring and PPS-compatible software
- Forward and reverse measurement by IMP module
- ²/Lowest speed measurement by IMP module
- Isolated quadrature pulse outputs
- Module for short piece measur.
- Longterm memory (50000 files)
- Differential speed measurement
- Certified PTB version
- Customer specific adoptions



Figure 1: Cut-to-length control

μSpeed provides length measurement for a precise cutting of web material. The material surface stays untouched, thus slippage, day to day wear problems and measurement traces are avoided.

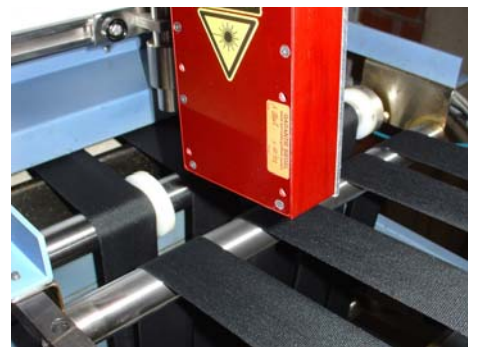


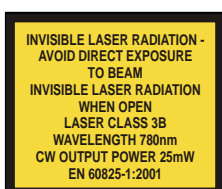
Figure 2: Resulting length

Highly reliable measurement of textile belts to deliver as much material as required and as little as possible without waste.



Bild 3: Differential Speed

Feed rate optimization at an inspection machine for highly elastic textiles by means of diff. speed measurement.



This unit is a class IIIB 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 controller
- Laser indicator light on controller and laser
- Delayed laser startup-laser indicator light on prior to laser radiation
- Laser beam blocking device
- Interlock capability for remote shut-off

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