



Monadnock Non-Wovens, LLC, Mount Pocono, PA

PROTON's IntelliSENS® provides accurate, reliable speed measurement with a fast return on investment

"PROTON's IntelliSENS speed and length sensors were easy to install and integrate. Their accurate measurement means they have not needed any recalibration and have eliminated length-related product losses and customer claims. They literally paid for themselves in weeks!"
Mr. Paul Stehlik, Engineering & Facilities Manager, Monadnock Non-Wovens, LLC

Monadnock Non-Wovens

Monadnock Non-Wovens LLC (MNW) is a manufacturer of meltblown synthetic media roll goods for a wide variety of technical applications. Founded in 1998, MNW has the unique distinction of a management team with extensive experience in meltblown and specialty non-wovens technology. In addition to meltblown, MNW offers its customers the value-added processes of charge enhancement, laminating, and calendering. Its products can be enhanced with unique additives, colors, resins and treatments to create customized, high performance value-added properties.

MNW provides solutions and product innovations that meet or exceed the technical specifications often demanded by its customers. MNW solutions evolve from strong client partnerships that benefit from a fully equipped development laboratory for new products and materials. MNW works directly with its customers to manufacture materials with product consistency, high quality, superior performance and excellent value for money.

MNW's solutions include:

- Air Filtration – HVAC; Vacuum Cleaner Bag; Dust Filtration
- Liquid Filtration – Water Purification; Aggressive Liquids
- Health and Safety – Face Mask; Anti-Allergen Media
- Automotive
- Appliances
- Consumer - Special Applications
- Sorbent - Fine Fiber



PROTON's IntelliSENS SL
Laser Speed and Length
Measurement Sensor



IntelliSENS speed and length
sensor measuring on-line at
Monadnock

Results

- Eliminated speed sensor recalibration
- No surface damage as experienced with contact measurement
- Consistent weight and thickness quality
- Reduced conversion slab-off
- Reduced product give-away
- Eliminated customer complaints for short length rolls



IntelliSENS speed and length sensor installed on Monadnock's non-woven lines



Monadnock's non-woven web forming process

Monadnock Chooses PROTON

MNW's products represented a unique series of challenges for accurate speed and length measurement on its multiple nonwoven lines and calendering operations.

First, because contacting sensors require a flat surface for effective operation, accurate speed and length measurement was not easily possible due to the uneven surface structure of MNW's products. Second, these products are extensible in nature, so any change in the on-line draw, directly affects both the final basis weight and thickness qualities of the product. Third, MNW wanted to eliminate surface damage or impression caused by their contacting mechanical sensors. Finally, MNW wanted to help reduce length losses through its conversion processes and eliminate either product give away or short delivery to its customers.

Following market research, MNW chose PROTON's IntelliSENS SL non-contacting speed and length sensors to help solve its measurement challenges for its multiple lines and calender.

PROTON's Doppler measurement technique provides extremely accurate measurement performance (better than 0.05%), irrespective of the products surface structure, with no maintenance compared to conventional contacting wheel/roller systems. MNW quickly recognized the potential value of this measurement in terms of quality, accuracy, maintenance and return on investment; while at an affordable price.

The IntelliSENS SL sensors were all installed before the reel windup on all of MNW's lines replacing their contacting sensors. They have operated reliably for over ten years, surviving in harsh industrial environments without needing any maintenance or recalibration. MNW's sensors are using industry-standard Bluetooth communications for their PROTON sensors and are interfaced to the plants Modbus units.

Results

MNW have benefited from accurate speed and length measurement in a number of process, quality and productivity areas.

First, MNW's manufacturing operations comprise of a number of discrete processes where the product is transferred from the base machines through converting operations (such as occasional calendering) with each step adding value. Now, with accurate length measurement, the rolls can now be made to a desired length to avoid "slab-off" losses along the way.

Second, customers expect to receive exactly what they pay for in terms of length delivery. MNW's previous conventional speed and length transducers suffered from lack of accuracy due to the product's surface structure. Because PROTON's IntelliSENS SL sensor simply measures the speed and length of the moving sheet, it is immune to the surface structure and also eliminates contact damage.

Finally and most importantly, PROTON's IntelliSENS sensors guarantees that MNW's customers receive an accurate length product made to the correct basis weight and thickness quality specifications. In summary, MNW are delighted with the performance of their IntelliSENS SL sensors, in particular their:

- Reliability
- Low maintenance
- Absolute accuracy
- Low cost of ownership
- Ease of process interface
- Highly competitive purchase price

The IntelliSENS SL can be found on the PROTON products website by following this link: <http://www.protonproducts.com/products/sl-series/sl-series/>

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