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PROSIS thickness sensor

Infrared measurement and control solution
for single and multilayer gauging applications

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PROSIS thickness sensor

Producers of plastic films, extrusion coatings, blown films, and nonwovens can get accurate thickness and moisture data, improve product quality, and precisely control raw material use with an easily-calibrated infrared gauge. Whether you need a coating thickness gauge, paint thickness gauge, or film thickness gauge, the Thermo Scientific™ PROSIS™ Infrared Process Analysis Thickness Sensor uses the full spectral response of the near infrared range to analyze materials on the line, providing precise, multi-component thickness data that improves production quality and reduces waste.

Infrared measurement and control solution

For single and multilayer gauging applications

The PROSIS thickness sensor is one of the most innovative measurement solutions within the range of Thermo Scientific web gauging products.

Building off a legacy that started in the 1940s as Tracer Labs to products brought to the market under the LFE, Aeonix, Eberline, Radiometrie, Eurotherm and EGS brands, over 10,000 Thermo Scientific measurement and control solutions have been shipped throughout the world. Each solution provides material savings and increased line utilization over a vast array of applications.

Located in Erlangen, Germany with sales and service resources located throughout the world, we have a complete suite of product and services to support the customers' gauging measurement and control requirements. Whether it is extending the life of a legacy platform, meeting traditional web and metals gauging needs, or adapting our building blocks to address a new application, we are your gauging partner.

Applications

- Paint coatings
- Coil coatings
- Roll coating
- Biaxial extrusion
- Cast film
- Extrusion coating
- Sheet extrusion
- Stretch and shrink film
- Optical film
- AC film
- Non-woven
- Cavitated films
- Separator film

The PROSIS thickness sensor is available in both transmission and reflectance modes. The measurement is based on the absorption of light by the materials to determine the resulting thicknesses. Each material exhibits a unique light absorption characteristic and emits a signature waveform (spectra) as light passes

through it. As material thicknesses change, the spectra will change throughout the infrared wavelength spectrum. Because of this, the PROSIS thickness sensor is uniquely designed to inspect the entire infrared spectrum to accurately measure thicknesses of both single layer and multilayer products. This technique enables the PROSIS thickness sensor to discriminate between different components even if they exhibit very similar IR absorption characteristics, whereas it is almost impossible for competing filter wheel IR sensors with limited resolution to sense the critical differences. Coupled with state of the art electronics and intuitive, easy to use software, the PROSIS thickness sensor provides the best measurement performance and highest resolution in the industry. It also features a robust design with no moving parts for durability and long life.

Features and benefits

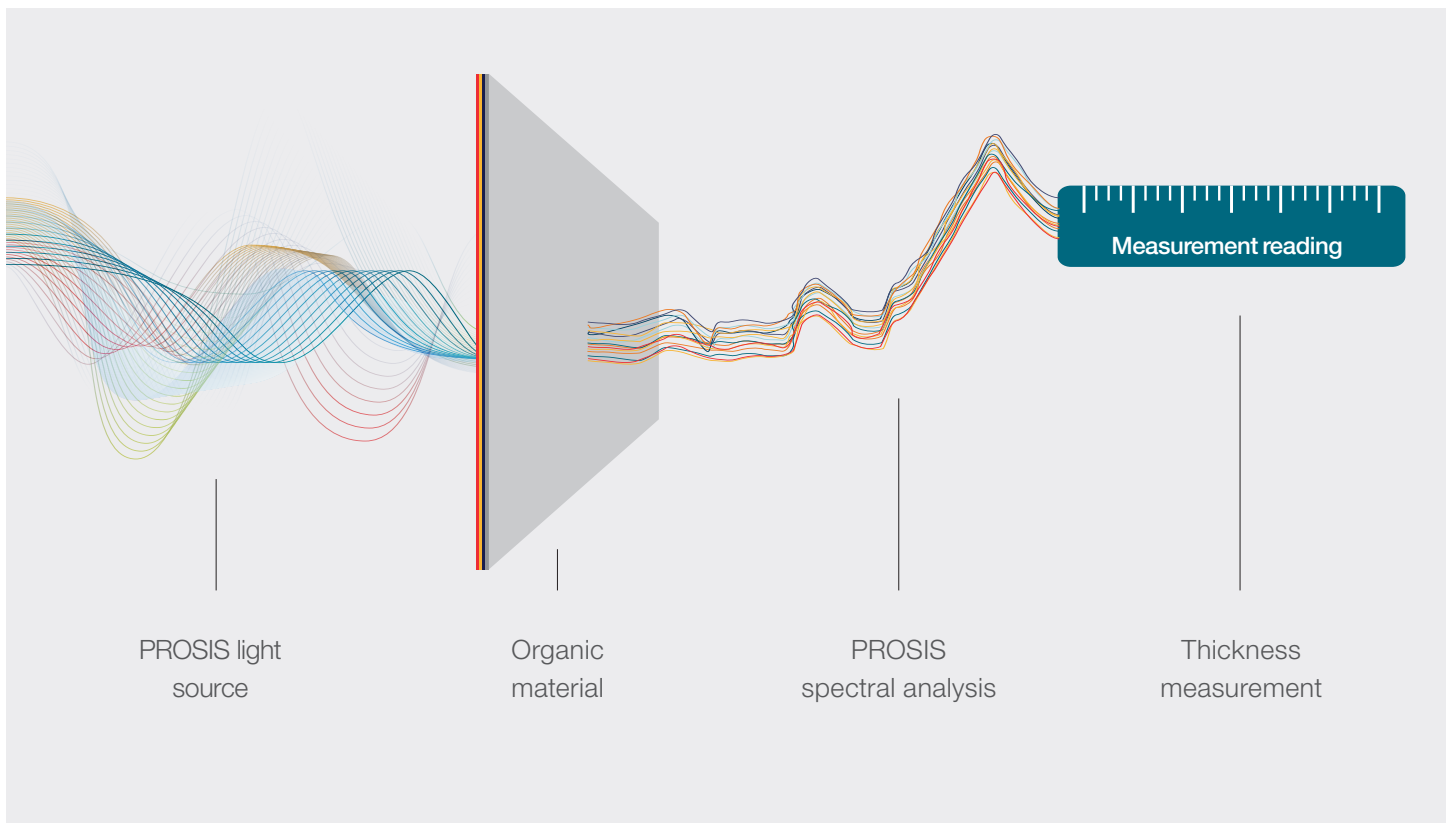
Applications

- Easy to use and calibrate
- Low cost of ownership
- Exceptional performance for both single and multilayer product structure
- Ideal for multilayer coating on board
- Completely safe solution
- Complete spectrum infra-red detector for best measurement

- State-of-the-art high speed electronics
- Zero moving parts for durability and long life
- Temperature stabled sensor compatible with ambient temp of up to 55°C without external cooling and higher productivity

Benefits

- Best measurement performance
- Raw material savings
- Improved product quality
- Increased yield while reducing scrap
- Low cost of ownership

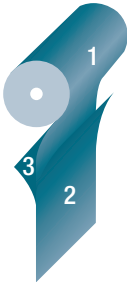



Applications

Typical applications for PROSIS IR transmission sensor

Optical grade film – triacetate cellulose (TAC) film	Multilayer extrusion coating / lamination	Monolayer film – cast film, biax film	Nonwoven – spunbond, spunlace, spunlaid, airlaid
Typical measurement: Best measurement of TAC Film in both wet and dry stages for highest optical quality	PET PE PA Typical measurement: 1. PET layer 2. PE layer 3. PA layer 4. Total	CPE CPP BOPP BOPET BOPS BOPA Typical measurement: Excellent total film measurement	For personal hygiene, medical, geotextiles purposes Typical measurement: 1. Fibers (PE or PP) 2. Moisture content 3. Binder (Latex) 4. SAP/SAF 5. Total basis weight

Typical applications for reflection PROSIS IR transmission sensor

Tandem extrusion coating*	Aseptic packaging*
1. Board 2. Top PE 3. Bottom PE	1. Printed raw board 2. Outer polyethylen coating 3. Middle polyethylene coating 4. Aluminum foil 5. Inner tie layer 6. Inner polyethylene coating
 Typical measurement: 1. PET layer 2. PE layer 3. PA layer 4. Total	 Typical measurement: 1. Total structure weight including aluminum foil & printed raw board using beta sensor Dual Reflection PROSIS IR Measurements: 2. Outer PE coating in presence of print 3. Inner tie layer (Surlyn or Primcore) 4. Inner PE coating

* Using dual reflection PROSIS IR thickness & beta sensor

Support you can depend on

Thermo Scientific products are supported by our extensive network of qualified application engineers who will work closely with you to understand and evaluate your specific production parameters. Our experts will help you choose the right instruments for your application, then keep them performing to spec.

Product maintenance

Our comprehensive service offering is based on corrective and preventative maintenance that reduces downtime and also helps you improve your process. We offer multiple levels of support agreements, with varying degrees of access and response, including:

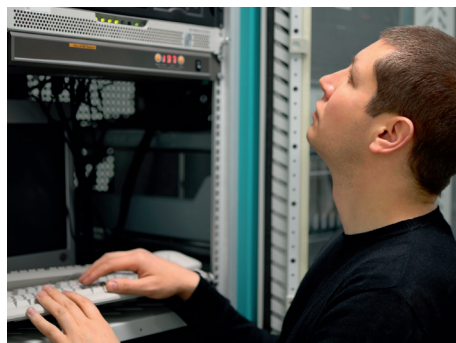
- System commissioning
- System calibration
- Preventative maintenance
- On-site repair
- Depot repair

Some options feature complete cost predictability, with all travel, labor, spare parts, and consumables included.

Instrument Performance Management

Thermo Scientific™ Instrument Performance Management (IPM) Software helps to maintain production uptime and reduce the occurrence of unplanned maintenance. The cloud-based service platform actively monitors the health, status and performance of gauging systems to intelligently identify critical issues

in near real-time. Notifications are automatically sent to our Technical Support Team for immediate troubleshooting and intervention. With advanced diagnostic capabilities, IPM Software enables you to conduct root cause analysis, and quickly restore production. It also allows easy access to historical data and insights on operating costs plus a return-on-investment of service contract costs, supporting our predictive service capabilities and providing an easy and convenient way of working.



Education and training

We offer multiple training options to help you increase productivity by optimizing the use of your instruments and expanding the skills of your operators. Our range of courses covers:

- Basic operation
- Calibration
- Routine maintenance
- Troubleshooting
- Certification

We will also work with you to develop a custom program that meets your

specific training objectives, often incorporating your own operating procedures.

Professional services

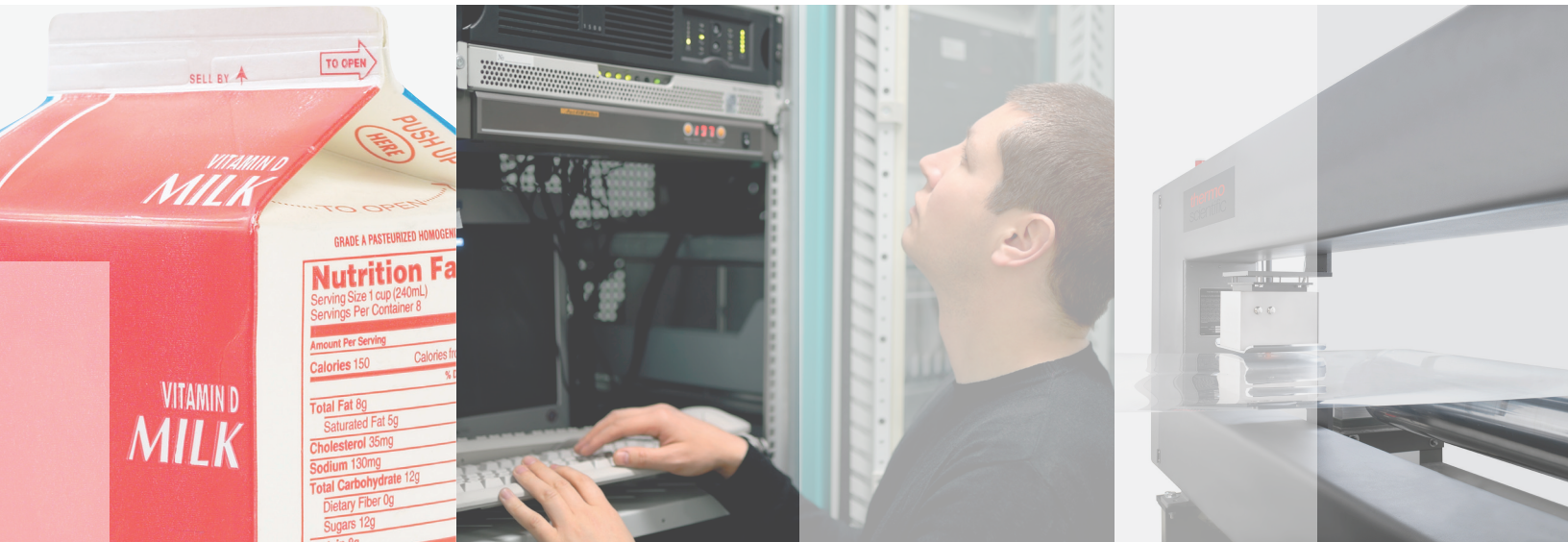
Our certified engineers are available to review your process, perform benefit analysis and recommend improvements to help you meet your best-practice goals. We will develop an implementation plan that integrates all Thermo Scientific systems, as well as third-party components including:

- System layout and connectivity
- Software implementation, configuration and support
- Site modifications

You can rely on us to manage the entire installation and start-up if you choose, including serving as a liaison with licensing agencies where necessary.

Parts and upgrades

Our spare parts are designed specifically for your Thermo Scientific system, and we make it easy for you to secure high-quality, low-cost replacements by maintaining offices around the world that respond quickly to your phone or online requests. You can also extend the lifetime of your older instruments with our add-on system enhancement and retrofit packages, which adapt your instruments for new uses and eliminate the time and cost to retrain operators on new equipment.



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Thermo Fisher Scientific,
Erlangen, Germany is ISO Certified.

Learn more at thermofisher.com/gauging
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