



Quad Plus®



Beta Transmission Sensor

Model 1010104

On-Line Thickness or Basis Weight Measurement

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www.quadplus.com

(815) 724-2323

BETA Transmission Sensor



Applications

- ✓ Converted Products
- ✓ Extruded film and sheet
- ✓ Calendered products
- ✓ Textiles and nonwovens

Features

- ✓ High precision measurement
- ✓ Streak resolution 1mm
- ✓ Fast 10 millisecond response time
- ✓ Wide pass line and flutter compensation function
- ✓ High-efficiency detector
- ✓ Proprietary noise-immune signal processing

Quad Plus's Model 1010104 beta transmission sensor is designed for on-line thickness or weight measurement of continuous web products. Each beta sensor is matched to a specific web product application to provide optimum measurement performance and results. The measurement is based on the absorption of beta particles emitted either from a Kr-85 or Sr-90 source (depending on the application) by the web to determine the resulting basis weight of the web.

Detector Design

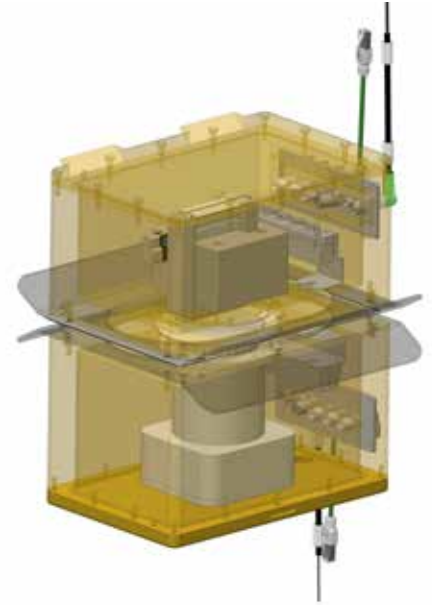
A key feature of Quad Plus's beta gauges is an efficient detection system that delivers high measurement sensitivity and superior nuclear statistics. The ion chamber is constructed with a specially welded thin window that is filled with an inert gas at a high pressure and lower ionization potential resulting in a highly efficient detector. Its fast 10 millisecond signal response produces optimized streak resolution measurement performance (1mm), high speed data processing and maximum scanning speeds.

Digital Signal Processing

An advanced Digital Signal Processor resides in the detector head for maximum noise immunity. The design insures accurate, drift-free digital measurement performance. Our detector design connects directly to our controller via EtherCAT. This digital signal is immune to noise and inference inherent with analog signals. This signal is collected and processed by our gauge controller.

Technical Specifications

Measurement Footprint:	20mm (Sr-90), 10mm (Kr-85)
Streak Resolution:	1mm at 130mm/sec
Pass Line Tolerance:	Full sensor gap
Time Constant:	10ms (Analog and Digital Combined)
Operating Temperature:	32–220°F (0-104°C)
Shutter:	Pneumatic with spring return failsafe.
Construction:	Machined Aluminum housing with Stainless Steel Allen Head fasteners. All surfaces are powder coated. Source holder is machined out of Stainless Steel for maximum shielding.
Options:	Pressurized with air for keeping out dust and other contaminants, and moist environments.



Isotope	Krypton 85	Strontium 90
Activity	200mCi (7.4GBq)	50mCi (1.85GBq)
Half-life	10.7 years	29 years
Range	6-1250g/m ²	100-6000g/m ²
Repeatability	+/-0.1%, Or +/-0.1g/m ²	+/- 0.2% or 0.4g/m ²

Product Maintenance

We base our service offering on corrective and preventative maintenance that reduces downtime and helps you improve the process.

At Quad Plus, our support agreements offer

- ✓ System calibrations
- ✓ Preventative maintenance
- ✓ On-site repair

Complete package options are available with all travel and labor included.

Education and Training

Our training, included with the sale of each system, helps you increase productivity by optimizing the use of your instruments and expanding the skills of your operators.

Training topics covered:

- ✓ Basic Operation
- ✓ Calibration
- ✓ Routine Maintenance
- ✓ Troubleshooting



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Additional Offerings

Quad Plus can also assist in the removal and disposal of old nuclear sources.

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