Product Information Sheet

BETA TRANSMISSION SENSOR

FOR THE MEASUREMENT OF THICKNESS IN:

- Converted Products
- Extruded Film & Sheet
- Calendered Products
- Paper
- Aluminum Foil
- Textiles & Nonwovens

An innovative sensor for highly accurate on-line measurement of product thickness or basis weight. Features include an ultra-high efficiency detection system and minimized activity sources.

For Scanning On-line Thickness Measurement of Continuous Web Products

BETA TRANSMISSION SENSOR

The Model 300 family of beta transmission sensors is designed for on-line thickness or weight measurement of continuous web products. The sensors include a range of minimized activity sources, each selected for a specific web measurement application.

A revolutionary feature is a proprietary ultra-high efficiency detection system which provides the highest precision ever offered by an on-line nuclear gauge. This unique detector is coupled to an exceptionally stable pre-amplifier and digital converter, both resident in the detector head. This design insures a noise-immune and drift-free digital output to a host computer. The gauge also utilizes an advanced Digital Signal Processor (DSP) to deliver fully linearized, useable product data directly at the sensor level. Fast sensor response time and high speed data processing enable fine resolution at maximum scanning speed.

These technical breakthroughs permit the use of reduced activity sources, an increasing requirement for industrial gauging worldwide. This translates into minimum radioactivity in a compact head design and facilitates global acceptance by nuclear regulatory authorities.

All of these unique features combine to enable the Model 300 to outperform all competitive beta sensors.

Features and Benefits

- Highest measurement precision
- Steak resolution to 1/32″
- 5 millisecond response time
- Wide passline/flutter tolerance
- Ultra-high efficiency detector
- Minimized activity sources
- Proprietary noise-immune signal processing
- Compact, rugged and easily maintained

Product Information Sheet: Beta Transmission Sensor

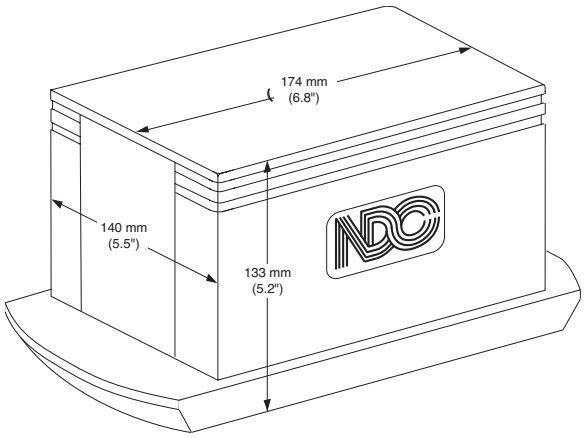
Specifications

Measurement Footprint: Model 302: 0.3 x 2 in (8 x 50mm) Model 301: 1.2 in (30mm) dia
Streak Resolution: 1/32 in (1mm) streak resolution at a scanning speed of 5 in/s (7.7m/min)
Passline Tolerance: ±0.125 in (±3mm)
Time Constant: Analog = 5ms
Operating Temperature: 32-140°F (0-60°C)
Shutter: Mechanical, Fail-Safe
Dust Covers: Easily removed for replacement, repair or cleaning

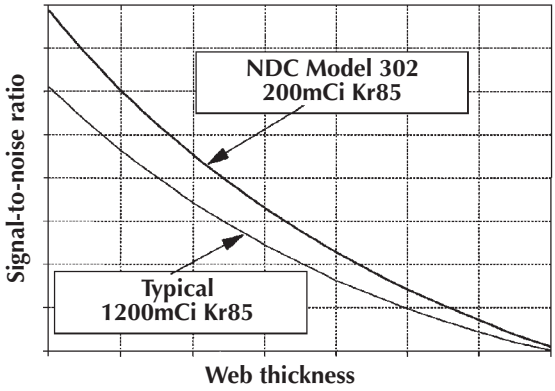
Construction: 0.200 in (5mm) Cast aluminum housing with Stainless Steel Allen Head fasteners; Exposed surfaces are polyester powder coated. Sealed Quick Connect Electrical Connector; IP64 (DIN 40050) Rating

Model	302	301
Isotope	Krypton-85	Strontium-90
Activity	200mCi (7.4GBq)	10mCi (0.37GBq)
Energy (Emax)	0.687 Mev	2.283 Mev
Half-Life	10.7 Years	29 years
Measurement Range (SG=1)	0.0006-0.047 in (15-1200g/m2)	0.004-0.215 in (100-5500g/m2)
Repeatability (2σ,1s)*	±0.2% or 0.2g/m2 (the greater)	±0.3% or 1.5g/m2 (the greater)

*The repeatability specifications reflect the weighted mean of all possible sources of dynamic error, including the maximum allowable sensor X, Y and Z-Axis misalignment, passline/flutter variation, temperature change, etc. Measurement tests to confirm the above are encouraged.



Source/Detector Housing



Comparison of Krypton 85 Beta Gauges

NDC Infrared Engineering is represented in over 60 countries worldwide

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ISO9001:2000

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