

ISOTOPE TRANSMISSION SENSOR

Measuring Method

Isotope transmission measurement is a contact-free measuring method, measuring the basis weight (g/m^2). It uses the fact that all radiation is decreased when passing through materials.

General Configuration

In a shielded container, there is a radioactive isotope as radiation source. To protect the operator, the source container should only permit radiation emission in a low radiation angle in the direction of the object to be measured. This radiation is recorded by the detector behind the material to be measured. The detector signal is proportional to the intensity of the radiation passing through the measured object and thus is a function of the basis weight. A subsequent evaluation unit processes the signal so that it can be used for indication, registration and control of the production processes.

Measuring Ranges and Application

Depending on the radiation source used and the application, measuring ranges of 10 to $5.000\text{g}/\text{m}^2$ and a measuring accuracy of up to $0.05\text{ g}/\text{m}^2$, as well as a repeatability of up to $0.01\text{ g}/\text{m}^2$ are possible.



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TECHNICAL DATA

Parameters	
Dimensions	see simplified drawing
Weight	17,5 kg
Assembly	with electronics insert
Processing of Measured Values	Integrated micro controller (customer-specific software possible)
Interfaces	- Profibus for measured value output - RS 232 for service and parameterization - optional: analog output 0-10 V for the measuring signal
Protection type	IP64 (optional: explosion protected version)
Operational temperature	uncooled up to 50°C cooled up to 70°C
Temperature recording	4xPt 1000 (optional)
Cover foil replacement	with quick clamp device

Isotop	Range	Accuracy
Prometium 147	10 to 80 g/m ²	0,05 g/m ² or 0,5%
Krypton 85	50 to 1200 g/m ²	0,3 g/m ² or 0,5%
Strontium90	300 to 5000 g/m ²	5 g/m ² or 0,5%

Additional Options

- Two-range design for extended measuring range
- Pass line error compensation
- Temperature compensation
- Measuring gap conditioning
- Air cooling
- Blow-off device against contamination
- Material lead-in support
- Full enclosure

We are happy to help!

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