

SONO-VARIO LD

Cylindrical Moisture Probe for Bulk Materials with medium Density like Grain, Pellets, Sewage Sludge, Powder and many other Materials



With innovative special function for air flow control in fluid bed dryers


HighTech and lightspeed for accurate and reliable moisture measurement of materials, with following features:

- Precise measurements due to disc-shaped radar scans with a representative measurement field.
- Exchangeable sensor head with wear-resistant steel/ceramic window.
- Up to 15 different material calibration curves are directly stored inside the probe.
- Analogue output for air flow control of fluid bed dryer.
- Intelligent pre-processing inside the probe with smooth mean value accumulation and adjustable filters.
- No necessity for expensive evaluating devices which many other probes require.
- For installation in hopper, conveyor belt, screw conveyor, fluid bed dryer and others.
- High reliability due to most modern radar technology.

SONO probes are not microwave probes! They are outstanding by new and innovative features:

<http://imko.de/en/support/publications> „Comparison SONO-Microwave“

Technical Data SONO-VARIO LD

SENSOR DESIGN	MOUNTING
Casing: High Grade Steel V2A 1.4301 The probe head surface consists of stainless steel with abrasion-resistant special ceramic.	Sensor Dimensions: 108 x 71mm (Diameter x Length)
MEASUREMENT RANGE MOISTURE	MEASUREMENT RANGE: CONDUCTIVITY/TEMPERATURE/STANDARD-DEVIATION
The sensor measures from 0% up to the point of material saturation. Measurement ranges up to 100% moisture are possible with a material specific calibration. The moisture value is output to analogue channel 1.	The probe provides on analogue channel 2 optionally: A) Radar-based conductivity (EC-TRIME resp. Radar-based-Conductivity) of 0...10dS/m, B) Material temperature measured at the probe's surface. Measurement range: 0°C ...70°C, C) Standard deviation for control purposes.
MEASUREMENT FIELD EXPANSION	MEASUREMENT DATA-PREPROCESSING
Approximately 50 - 100 mm, depending on material and moisture.	Five different measurement modes, with continual or floating average value, Kalman filter algorithms and further powerful control features.
POWER SUPPLY	AMBIENT CONDITIONS
+7V to max. +24V DC 1.5 W max.	0 - 70°C
SIGNAL OUTPUT	CONNECTOR PLUG
2 x Analog outputs 0(4)...20mA Output 1: moisture in % variably adjustable. Output 2: optionally conductivity/temperature/standard deviation.	The sensor is equipped with a robust 10-pole MIL flange connector. Readymade connection cables with MIL connectors are available in cable lengths of 4m, 10m, or 25 meter.
COMMUNICATION	CALIBRATION
A RS485 interface enables network operation of the probe, whereby a data bus protocol for the connection of several SONO probes to the RS485 is implemented by default. The connection of the probe to industrial busses such as Profibus, Ethernet, etc. is possible via optional external modules (available upon request).	The probe is delivered with a suitable calibration curve. A maximum of 15 different calibrations can be stored inside the probe. For special materials, variable calibrations with polynomials up to the 5 th order are possible. A zero point correction can be performed easily with the SONO-CONFIG software or the display module SONO-VIEW.
OPTIONALLY AVAILABLE:	SONO-VIEW
	Stand-alone moisture display and configuration for advanced process control with TRIME and SONO probes. Up to 4 probes can be connected via serial interface for displaying the measured values, setting of operation mode, calibration curves and other functions.