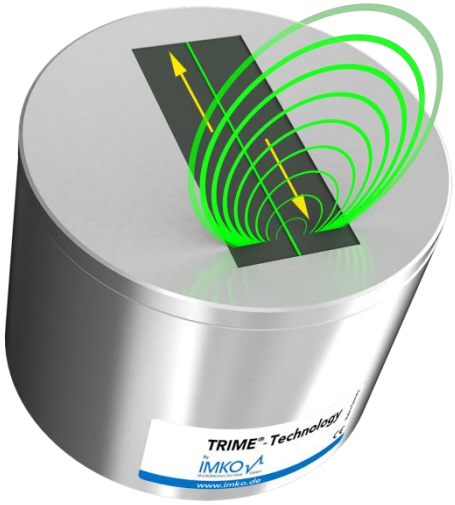
SONO-VARIO Xtrem

Cylindrical Moisture Probe for abrasive and high conductive Materials like Foundry Sand, Ore, Slag, Coal, Gravel and many other Materials



HighTech and lightspeed for accurate and reliable moisture measurement of bulk 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.**
- **Auto-correction function: the probe recalibrates themselves in the event of abrasion at the probe head.**
- **Up to 15 different material calibration curves are directly stored inside the probe.**
- **Intelligent pre-processing inside the probe with smooth mean value accumulation and powerful adjustable filters.**
- **No necessity for expensive evaluating devices which many other probes require.**
- **For installation in conveyor belt, hopper, screw conveyor 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“

IMKO MICROMODULTECHNIK GMBH

Technical Data SONO-VARIO Xtrem

SENSOR DESIGN	MOUNTING
Casing: High Grade Steel V2A 1.4301 The changeable probe head consists of hardened steel with abrasion-resistant special ceramic. Deliverable is also a head of carbide hard metal.	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 30 - 80mm, 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 5th order are possible. A zero point correction can be performed easily with the SONO-CONFIG software or the 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.

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