



SDM ECO BROCHURE

Introducing **the new industry standard** for slurry density measurements

SLURRY DENSITY METER ECO

Introduction

Rhosonics has launched the 3rd generation of the Slurry Density Meter, the SDM ECO. The SDM ECO incorporates over 1,000 installations and almost 20 years of on-site experience. The SDM ECO serves as guard of your process and is powered by safe non-nuclear technology, it is contributing to a new era of mining, where safety, sustainability, and operational excellence come first.

Features and benefits

Reliability: The SDM ECO uses ultrasonics, which is a trusted and field-proven technology to measure the slurry density, even under the highest density levels and with abrasive conditions.

Eco-friendliness: No radioactive materials, resulting in lower cost of ownership, reducing resources and time spent on nuclear safety compliance.

Adaptability: The modular design and a range of fittings make the instrument applicable for various installations, in horizontal or vertical pipes, half-filled pipes, launders, or tanks.

Ease-of-use: Instrument control is done through a standard 7" touchscreen display, laptop, via optional Wi-Fi, or from anywhere when access is given to the server.

Measuring method

The SDM ECO uses the acoustic impedance to calculate the slurry density. This parameter refers to the reflection of ultrasonic energy that occurs at the interface between the sensor and a slurry or liquid.

How does it work?

Formula: **ZI = PI x CI**

ZI = Acoustic impedance

PI = Density of the liquid

CI = Speed of sound

SDMs measure real-time acoustic impedance in water-based slurries, enabling accurate density calculation as the speed of sound remains constant (water). The formulas used for precise density calculations are Rhosonics' Intellectual Property.

Installation

Each process integration system features a fitting equipped with a receiving flange. Installing the SDM ECO involves sliding the sensor into the fitting, followed by mounting the mounting flange onto the receiving flange of the fitting.



Process integrator type	Pipe diameter/material
Spool-piece	1-20" HDPE, CS, 316, 904
Weld-o-let	OD > 3" - WT 5-22 mm / 316
Wafer	4-60" / UHPE
Clamp-in	OD > 4" / stainless steel

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SLURRY DENSITY METER ECO

Datasheet

GENERAL	Part-number	SDM ECO
	Method	Acoustic impedance (Power Interface Echo) and Temperature
	Readings	Density in kg/m ³ ; Temperature in °C
TRANSMITTER	Power supply	Via power over Ethernet POE
	Cable glands	1x M20x1.5, 1x M25x1.5 split cable gland for ethernet
	Ambient temperature	-5 °C to +50 °C (23 °F to 122 °F)
	Humidity	< 95% at 40 °C (noncondensing)
	Protection rating	IP68, NEMA 6P
	Weight	Approx. 1.5 kg
	Materials	Coated Aluminum housing
	Dimensions	212 x 170 x 218 (L x W x H in mm) / 212 x 170 x 348 including sensor
SENSOR	Method	Ultrasonics
	Process pressure	1 to 16 bar @ 110 °C 40 bar @ 20 °C (Contact us for detailed information)
	Process temp. Range	0 °C to +150 °C (32 °F to 302 °F)
	Rod material	SS316L
	Wet-parts (sensor tip)	Ceramics, Duplex 2205
	Sensor surface radius	0 mm (flat)
	Dimensions	Ø 27 mm x 146 mm length
	Weight	± 1 kg
HMI	Power supply	18...32 VDC, (~17W to 20W-peak)
	Analog Output	2x 4-20 mA
	Digital Output	1x Modbus RS485, 1x ethernet
	Data logging	Continuous, retrievable via USB stick
	Data logging storage capacity	6 GB
	Cable glands	3x M20x1.5, 1x M25x1.5 split cable gland for ethernet
	Ambient temperature	-5 °C to +50 °C (23 °F to 122 °F)
	Humidity	< 95% at 40 °C (noncondensing)
	Protection rating	IP65, NEMA 4
	Display	7" touchscreen
	Operation	6 Push buttons
	Materials	Stainless Steel 316 housing
	Weight	Approx. 3 kg
Dimensions	300 x 300 x 150 (L x W x H in mm)	

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