PRODUCT OVERVIEW

8412 Soil moisture sensor

POSSIBLE APPLICATIONS

- Irrigation control in agriculture
- Water movement analysis in hydrology
- Soil profile analysis in geology

Smart sensors for soil moisture measurement

The Senseca soil moisture sensor reliably measures volumetric water content (VWC) and soil temperature, providing a solid data basis for informed decisions in agriculture, hydrology, and geology. Thanks to its capacitive measuring principle with two electrodes, the sensor enables fast, precise, and soil-friendly measurements directly in the field. Whether for controllable irrigation, analysis of water movements in the soil, or investigation of soil profiles, the soil moisture sensor helps you make your processes more efficient and data-driven.

(Photo, instructions, and technical content © Senseca)

- Reliable VWC database for optimized irrigation and targeted resource use
- Easy integration into your infrastructure thanks to MODBUS communication
- Robust and quick to install for field use

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Professional Line	8412
Ident-No.	00.08412.205030 (Senseca ID No. HD3910.1.5)
Measuring ranges	VWC: 0…60% VWC Temperature: -40...+60 °C
Accuracy	VWC: (@ 23 °C) ± 3% between 0 and 50% VWC (standard mineral soil, EC < 5 mS/cm) Temperature: ± 0.5 °C
Resolution	VWC: 0.1% Temperature: 0.1°C
Long-term stability	Temperature: 0.1 °C/year
Output	RS-485 (Modbus RTU)
Areas of application	Temperature: -40…+60 °C
Supply	5…30 VDC
Power consumption	2 mA average / 15 mA peak at 12 VDC
Measuring principle	VWC: Capacitive Temperature sensor: NTC 10 kΩ @ 25 °C
Protection class	IP67
Weight	Approx. 150 g (including 5 m cable)
Material	Handle: PP Electrodes: Copper on glass epoxy carrier, thickness 2 mm
Cable	4-pin, open cable ends, length 5 m

As of November 15, 2026