

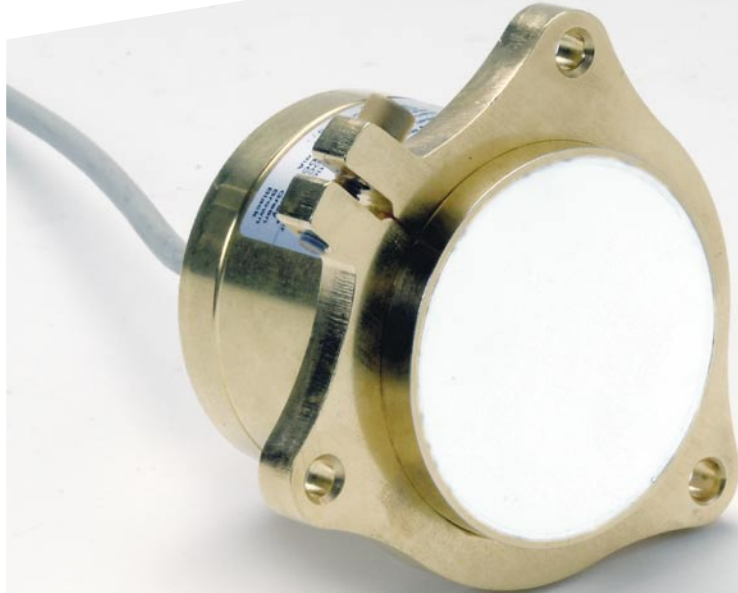
Sensor type MMS 0

Data sheet

On-line moisture sensor type MMS 0... for steady measurement of bulk goods and other kinds of aggregates

Qualities:

- measurement of moisture in bulk goods
- variable installation depth of the sensor till 60 mm
- extreme fast measuring times (on-line)
- easy adjustment
- signal output of moisture content 0/4 - 20 mA or 0/2 - 10 VDC analog
- measuring range free adjustable
- universal for most applications
- custom made solutions on demand
- self-cleaning by material flow



Description:

The moisture sensors are developed for the toughest applications and for industrial use.

They are developed after experiences from the practice for permanent use, they function according the principle of HFC-FFM principle (High Frequency Capacitive + Field Frequency Modulation) and without a lot of difficulties anywhere - also additional - to be paced in the process.

By using de norm signal output the sensor can be connected to every SPS or controller without additional software .

The output signal (material moisture content) can be used for recipe corrections, continue measuring, dryer control, blow control and a lot more applications.

Almost every bulk material till a corn size of circa 12 mm can be measured - like f.i. sand, minerals, cereals, granulates, quartz sand, ore, sludge etc.

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Moisture measurement

technical data • order key

Operation power	24 VDC (9-30 VDC)
Operation current	max. 60 mA at 24 VDC 120 mA at 12 VDC
Power consumption	max. 2,5 VA
Signal output (galvanically separated)	voltage 0/2-10 VDC (Standard) current 0-20 mA or 4-20 mA (optional)
Measuring-/penetration depth	till circa. 145 mm (kern- and surface moisture)
Frequency	27 MHz
Max. signal output values	U: 0-13 VDC at R=10 kOhm I: 0-24 mA at R=500 Ohm I: 4-24 mA at R=500 Ohm
Measuring range	free adjustable (0-20% standard for sand)
Max. installation depth	till wall thickness of 60 mm
Ambient temperature	0-60°C at r.m. DIN40040 r.m. < 95% (optional 80°C)
Material temperature	> 4°C (measurement on ice not possible)
Storage temperature	-25°C - 90°C at r.m. DIN 40040, r.m. < 95%
Accuracy / reproducibility	0,1% of the measuring range (lab values)
Protection (continual) against Temperature protection	wrongly connected, short circuit, overvoltage electronics fully moulded
Connection cable	3 m (standard) 5 x 0.21 shielded
Housing	SS 316 polished
Protection class	IP 67
Measuring surface	zirkoniumoxideceramic
Options	<ul style="list-style-type: none"> integrated PT 100 temperature sensing device for 2 or 4 wired switch wear-out signal in the sensor (5VDC High-signal)



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MMS-				
				Options: (can be added in a row, e.g. 123) 0 no option 1 PT 100 built-in the sensor head under the measuring surface 2 wear out protection probe (high signal, turns to low if activated) 3 80°C (176°F) ambient operation temperature
				Moisture signal output: 0 0/2-10 VDC voltage output 1 0-20 mA current output 2 4-20 mA current output
				Measuring surface: 0 wear resistant thermoplastic 1 ceramic surface, 9000 Brinell hardness 2 Teflon 3 rubber (for impact protection such as in a gravel silo)
				Type of sensor: 0 universal depth adjustable sensor 1 silo sensor (with adjustable carrier arm, to put in the material stream in a silo) 2 mixer sensor for heavy duty applications in a mixer 3 high temperature sensor for material up to 200°C at the measuring head

Example: MMS-1-1-2-12 Silo sensor with ceramic surface, 4-20 mA current output, incorporated Pt 100 and wear out protection probe



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