



Competence in Solids

SWR
engineering

Online moisture measurement for solids



"Supplying intelligent measuring systems for industry since 1994"

Development

+

Production

+

Sales

+

Commissioning

+

After-Sales

- For measuring capillary and surface humidity
- Independent of material colour
- Accuracy 0.1 %
- Areas of use:
Screw conveyors, conveyor belts
chutes, tanks . . .
- Easy installation
- Gas explosion zone 1,
dust explosion zone 20,
120 °C, 10 bar
- Signal output
4 ... 20 mA



System features

Area of use

M-Sens 2 was developed specifically for permanent material humidity measurements of solids in continuous processes. M-Sens 2 is used for online humidity measurements

- In dusts, powders, granulates, wood chips and other bulk goods.
- In various installation positions.

Simple installation in all processes and straightforward calibration make the M-Sens 2 an everyday process improver.

As the entire sensor is wear-resistant and watertight it is very reliable and will provide a long service life. The sensor's measuring window is protected by a mixed ceramic screen which has a good load capacity in terms of wear and pressure.

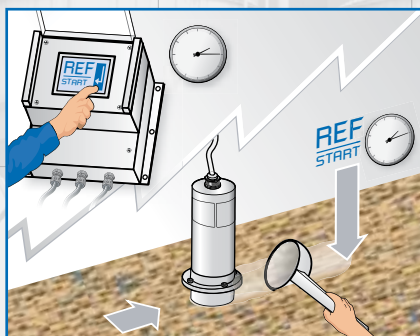
Function

The M-Sens 2 sensor uses precise high frequency measurement and digitises the measurement values immediately to ensure high resolution.

Since the surface and capillary humidity of a material has a major influence on its dielectric constant, the humidity can be found accurately by recording the electromagnetic fields.

Fluctuations caused by temperature are automatically compensated by the sensor.

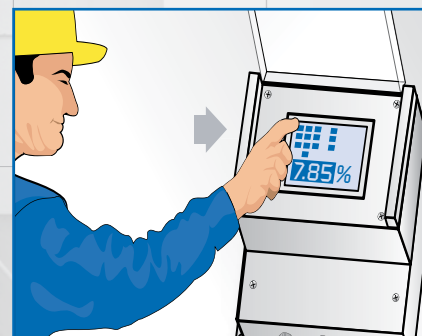
The system can easily be calibrated by the user. The calibration process takes place when the sensor is installed by entering the reference moisture content and pressing a button.



Remove the material sample

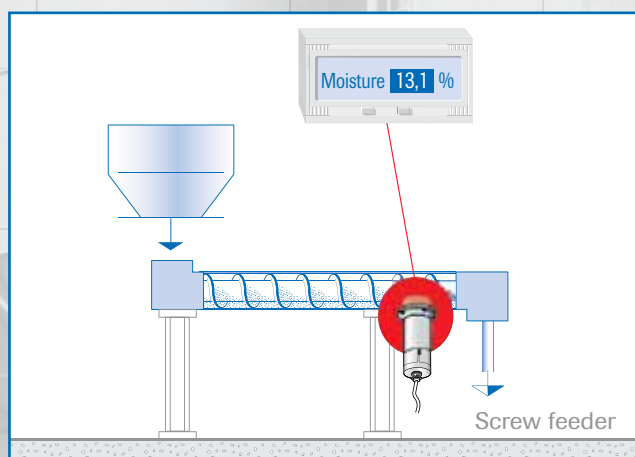
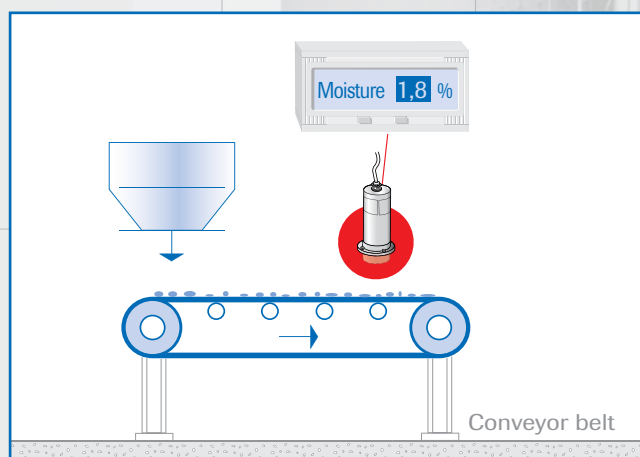
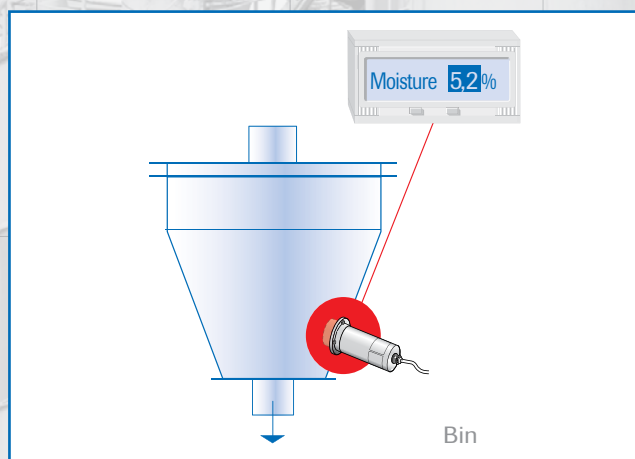
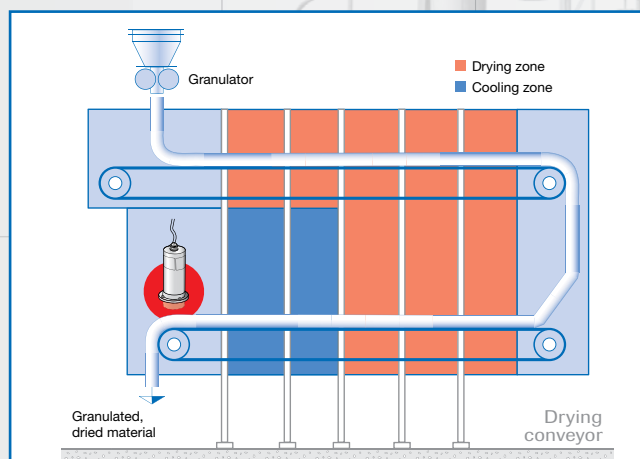
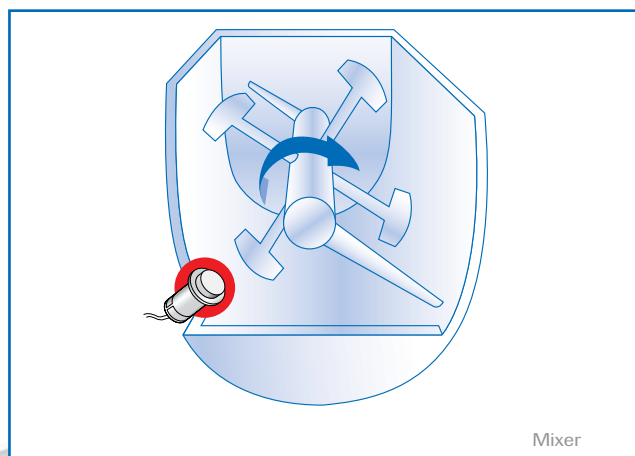


Determine the moisture in a laboratory



Assignment of the found moisture values to the sensor signal

Possible installations for your process





Moisture measurement of wood flour

Customer: Wooden pellet manufacturer (Germany)

Product: Wood flour

Installation location: Screw conveyor

Material humidity: 8 - 12 %

Customer benefits:

- Better use of production capacity
- If material with too high moisture content is blown into the silo, it may accumulate and become impossible to remove mechanically. In this case the silo has to be emptied using shovels.

Moisture measurement of titanium oxide

Customer: Chemical manufacturer (Germany)

Product: Titanium oxide

Installation location: In a screw conveyor

Material humidity: 10 - 30 %

Customer benefits:

- Improve the quality of the end product
- Save energy by more efficient drier control





Moisture measurement of sand

- Customer:** Asphalt manufacturer (Germany)
- Product:** Sand
- Installation location:** With a slide on the conveyor belt
- Material humidity:** 3 - 5 %
- Customer benefits:**
- Quality assurance during the manufacturing process

Moisture measurement of alfalfa

- Customer:** Animal feed manufacturer (France)
- Product:** Alfalfa
- Installation location:** Downstream of the cooling system in a trough chain conveyor
- Material humidity:** 8 - 15 %
- Customer benefits:**
- Control the cooling system





Moisture measurement of wood chips

Customer: Lime plant (Germany)

Product: Wood chips

Installation location: Below the silo
(with integral mixer)

Humidity content: Approx. 8 %

Customer benefits:

- Enhancement of the combustion process - the lower the material moisture, the better the calorific value of the wood chips
- The customer uses the moisture value to determine how much wood chip fuel he must feed into the furnace to achieve optimum efficiency

Moisture measurement of potato powder

Customer: Animal feed manufacturer (France)

Product: Potato powder

Installation location: On a chute

Material humidity: 8 - 9 %

Customer benefits:

- Permanent assurance of the required material moisture for the manufacturing process with no loss of time as happened with the previous laboratory method





Moisture measurement of cement

Customer: Cement plant (Germany)

Product: Cement

Installation location: In a screw conveyor

Material humidity content: 5 - 8 %

Customer benefits:

- Check for controlling the dryer
- Quality assurance for the manufacturing process



Moisture measurement of coal powder

Customer: Steelworks (Brazil)

Product: Coal powder

Installation location: In a screw conveyor

Material humidity content: Approx. 2 %

Customer benefits:

- Control coal consumption (if the coal's moisture is too high the firing capacity is lower)
- Helps to find the perfect volume of coal for the best possible firing process
- The online measurement enables the efficient of the furnace to be improved.

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To

Fax response

From

Company name

Contact

Street

Postcode, town

Phone

Fax

Email

Yes,
I am interested in
☐ **M-Sens 2**

☐ **Please send me more information**

☐ **Please call me on**

☐ **I would like a visit from SWR.**
We would like to arrange an appointment.



M-Sens 2 Application overview