

HUMY 300

Continuous inline moisture measuring system for bulk materials



HUMY 300
Moisture
measurement

MF 3000
Mass flow
measurement

FS 510M
Microwave
Mass flow
monitoring

FS 600E
Electrostatic
Mass flow
monitoring

FS 700E
Triboelectric
Mass flow
monitoring

LC 510M
Level
monitoring

Application and Function

The moisture in solids is an important parameter which strongly influences the quality of the product and can increase the economic efficiency of a production fundamentally. HUMY 300 is in many processes successfully in use, e.g. for sugar, tobacco, grain, malt, flour, coal, sand, wood shavings, dried food, fertilizer, powder, pigments and plastic granules.

As installation places conveyor belts, screw conveyors, silos, funnels are particularly suitable. The inline moisture measurement is also possible in batch processes.


At the measuring the relative permittivity and the high-frequency recession of the solid is measured in the high-frequency range.

The measurement procedure makes a short and simple calibration as well as a high precision better than 0.1% possible. The measuring probe transmits the data digitally. This makes the measurement assignment disturbance insensitive and allows a distance of the sensor to the end judging unity up to 1000m.

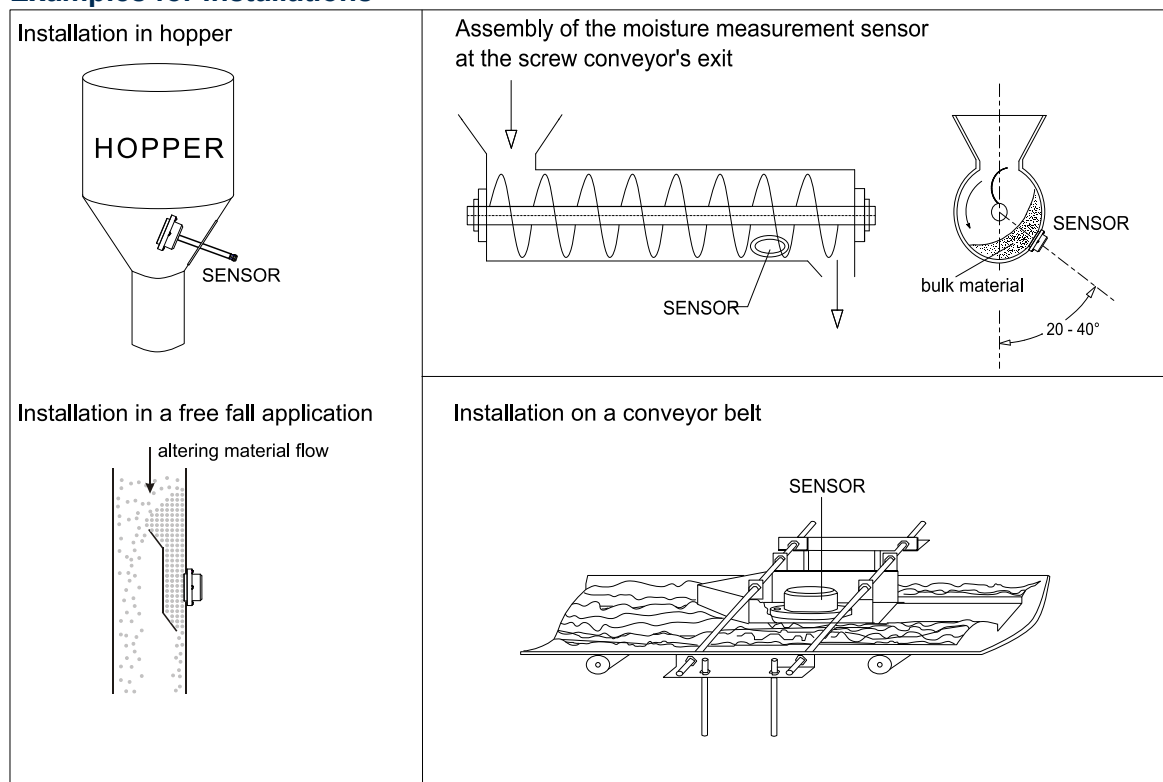
The system supervising itself has automatic temperature compensation and ageing drift. The device is working by an analog output for the measured values and can be used automatically by the two digital inputs or the RS485-interface.

The calibration will be done by the included software. For product or process changes different product parameters can be stored.

Main Benefits

- ◆ No samples for the laboratory necessary
- ◆ Saving of energy costs
- ◆ Improvement on the product quality
- ◆ Very short amortization time
- ◆ High selective sensitiveness
- ◆ High measuring speed
- ◆ Precision better than 0.1% (under consideration of the product)
- ◆ Easy and economic installation
- ◆ Fast and simple calibration
- ◆ Optional ATEX-Version for zone 20 and zone 0 

Examples for Installations



Application examples of successfully measured products

Chemistry, pharmacy

Powders, granules, tablets, pasta, foils, fertilizer, phosphate, salt, potash, washing-powder, Styrofoam, synthetic material, PVC, acryl, pigments

Food and semi luxury food

Grain, strength, flour, malt, hop, soya, rape seed, corn, lenses rice, pasta, beans, sugar beets, beet mash, beet pulp, confectionery, cereals, snack meal, raw coffee, food means, fish meal, dried food, potato products, -flour, -chips, -flakes, sauce powders, powdered milks, spices, nuts

Building materials:

Sand/gravel quartz powder-sand, bricks (raw material), ceramic (raw material), plaster

Recycling:

Bio-, sludge, compost

Other:

Wood shavings, wood flour, coal, coal dust, tobacco, foundry sand, glass/ceramic

Applications



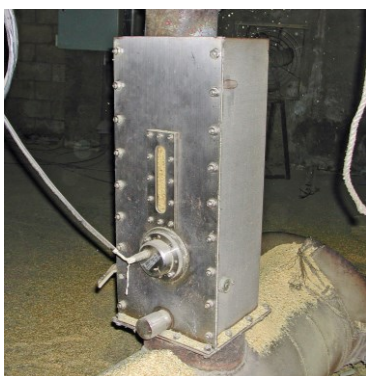
Sand



Animal feed



Mounting in discharge screw
(wood-fired power plant)



Grain



Cereals



Coal

Dimensions:

| Technical Data Evaluation Unit - Humy 300 | |
|----------------------------------------------|------------------------------------------------------------------------------------------------------|
| Housing: | DIN-Rail Mounting |
| Material: | PBT |
| Dimensions: | 22.5 mm x 114.5 mm x 99.0 mm (without clamps) |
| Protection class: | IP20 |
| Accuracy: | Better than 0.1% (depending on product) |
| Weight: | 250 g |
| Perm. temperature | -10° to + 60°C |
| Storage Temperature | -10° to + 60°C |
| Perm. humidity while operation: | 10% to 95% (without condensation) |
| Digital resolution: | 20 Bit for 0 - 85% moisture and 15 - 100% dry substance |
| Measuring range moisture: | Min. 0,000 - 0,100%, max. 0,0 - 90%, with 1-,2- or 3 digits behind the point |
| Handling: | Via Software Hu-Config |
| Averaging: | 0-999 sec. |
| Memory: | User-memory for storage of parameters of 24 different products. |
| Relay output: | Nominally opened and nominally closed contact for max-alarm relay Contact load: 30VDC or 62,5 VAC |
| Analog output: | Measuring value of residual moisture or dehydrated substance 0/4-20 mA, load 500 Ω. |
| Digital input: | 2x galvanic isolated, active signals (8-36 V) |
| Interface: | USB-Interface for Hu-Config; RS 232 with connection for RxD, TxD, OV; RS 485 |
| Software: | Hu-Config (included) |
| Power supply: | 24 V AC/DC |

| Technical Data Moisture Measuring Probe | |
|--------------------------------------------|--------------------------------------------------------|
| FMS 400 K: | Measuring surface POM |
| FMS 400 C: | Measuring surface ceramic |
| FMS 400 T | Measuring surface PTFE |
| Housing: | Stainl. steel 1.4307 |
| Weight: | Approx. 1.050 g |
| Protection class: | IP 67 according to EN 60529 |
| Connection cable: | Shielded 4-wires cable, 0.25 up to 0.5 mm ² |
| Cable length | max. 1000 m with 0.75 mm ² |
| Process-temperature: | -10° to 90° C |
| Storage temperature: | 140°C with cooling |
| Response Time: | Approx. 1 sec |
| Power consumption: | 0.4 Watt |
| Signal: | RS 485 |
| Pressure resistance: | Up to 6 bar |

