

# 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 500m.

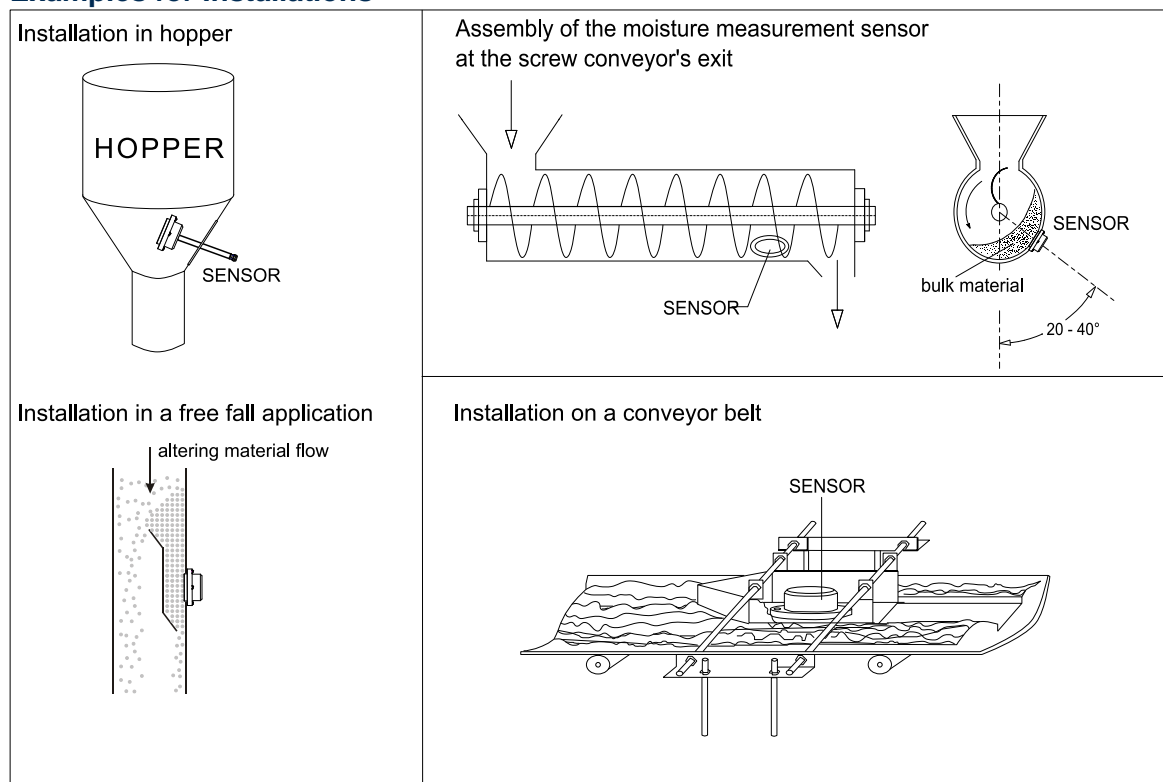
The system supervising itself has automatic temperature compensation and ageing drift. The device is working by an analog output for the measured values and can be used automatically by the two digital inputs or the RS485-interface.

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, lense 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

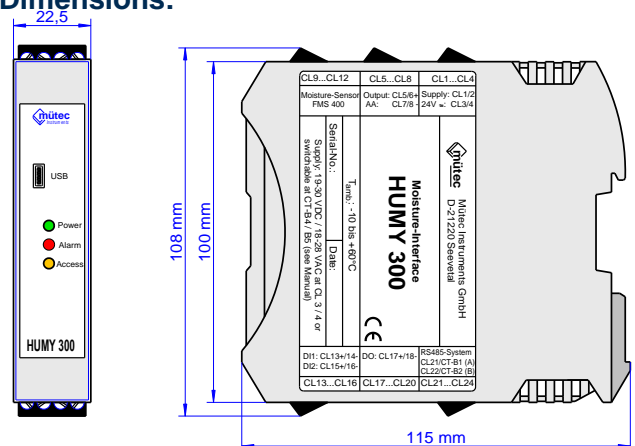


Coal

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 Rx/D, Tx/D, OV; RS 485
Software:	Hu-Config (included)
Power supply:	24 V AC/DC

Technical Data	
Moisture Measuring Probe	
FMS 410 K:	Measuring surface POM
FMS 410 C:	Measuring surface ceramic
FMS 410 T:	Measuring surface PTFE
FMS 410 S:	Measuring surface ceramic (inner cup made by PTFE)
Housing:	Stainl. steel 1.4301 or 1.4307
Weight:	Approx. 1.300 g
Protection class:	IP 67 according to EN 60529
Connection cable:	Shielded 4-wires cable, 0.25 up to 0.75 mm <sup>2</sup>
Cable length	max. 500 m with 0.75 mm <sup>2</sup>
Process-temperature:	-10° to 90° C (depending on surface type) Max. 160°C with cooling
Storage temperature:	-10° to 80° C
Power consumption:	approx. 0.5 Watt
Signal:	RS 485
Pressure resistance:	Up to 6 bar (10 bar short-term)

### Dimensions:



### Sensor:

