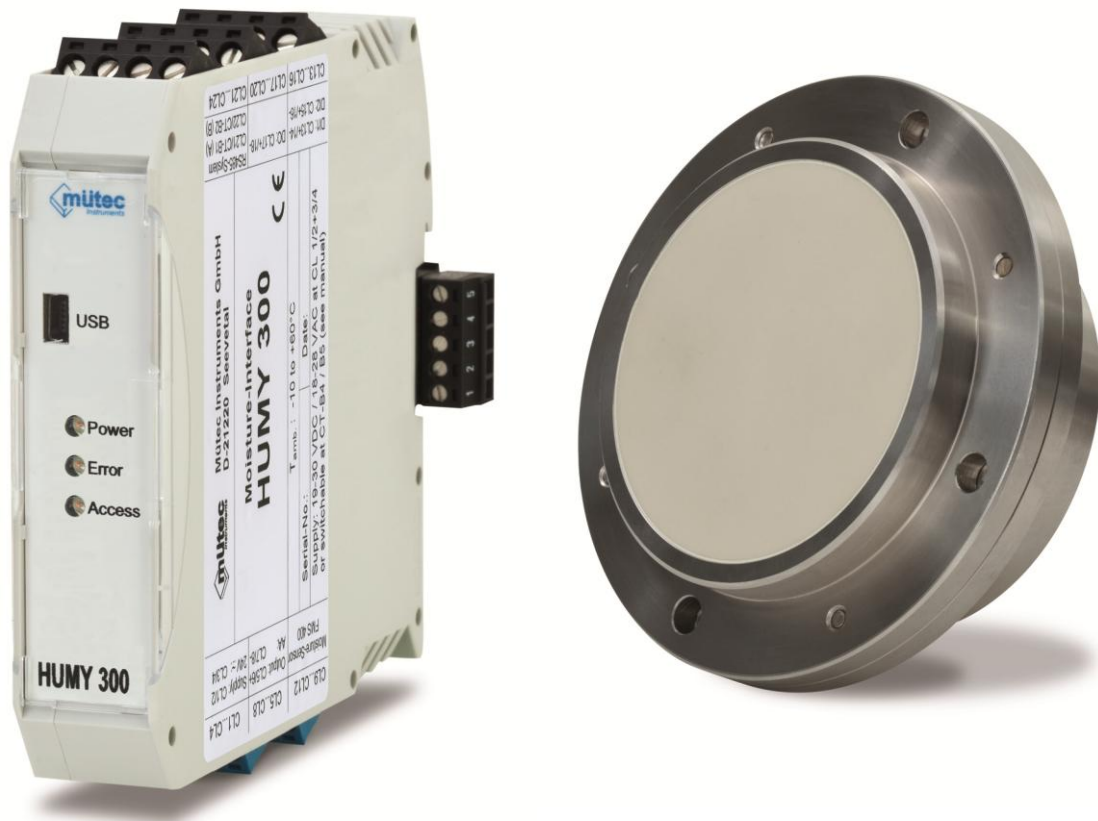


# HUMY 300

Moisture measuring system for bulk materials



Fast and precise online-measurement

**HUMY 300**  
Moisture  
measurement

**MF 3000**  
Mass flow  
measurement

**FlowSwitch Series**  
Mass flow  
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 among others at sugar, tobacco, grain, malt, flour, coal, sand, wood shavings, dried food, fertilizer, powder, pigments, plastic granules. As installation places conveyor belts, screw conveyors, silos, funnels are particularly suitable. The In-Line 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

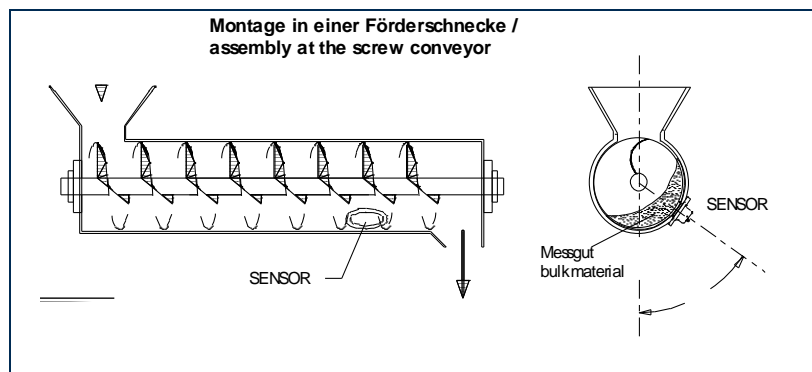
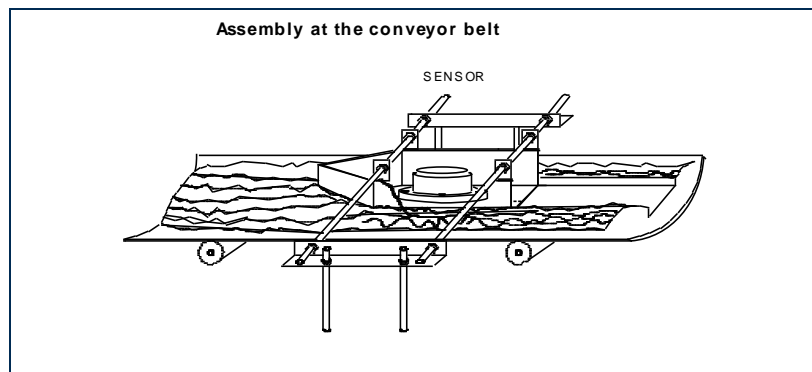
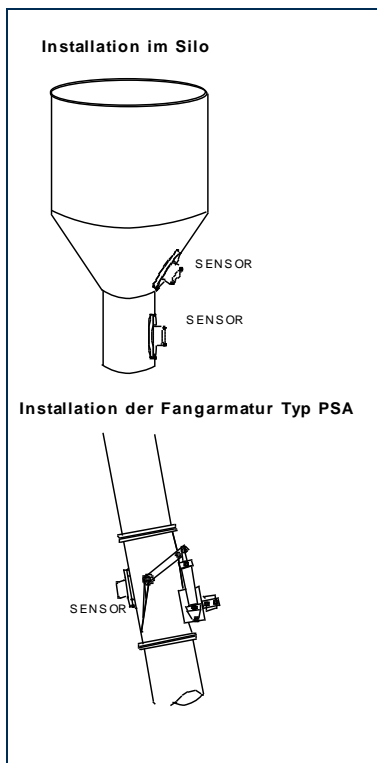
procedure makes a short and simple calibration as well as a high precision of up to 0.1% possible. The measuring probe transmits the data digitally. This makes the measurement assignment disturbance insensitive and allows a distance of the sensor to the end judging unity up to 1000 m. The system supervising 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 economical installation
- ◆ Fast and simple calibration
- ◆ Optional ATEX-Version for Zone 20 und Zone 2



## 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 items

Grain, strength, flour, malt, hop  
Soya, rape seed, corn, lenses rice, pasta, beans  
Sugar beets, beet mash, beet escalopes  
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



Wood chips



Animal feed



Sensor in a screw conveyor



Grain



Cereals



Pommes Frites

### Technical Data Measuring 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:	max. 0,02 % in accordance to material to be measured
Weight:	250 g
Perm. temperature:	-10° till + 60°C
Storage Temperature:	-10° till + 60°C
Perm. humidity while operation:	10% till 95% (without condensation)
Digital resolution:	20 Bit for 0-85,0% 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
Measuring range moisture:	Min. 0,000 - 0,100%, max. 0,0 - 90%, with 1,-2- or 3 digits behind the point
Measuring range temperature:	Span min.: 0-5° C Span max.: 0-120° C
Handling:	Via Software Hu-Config
Averaging time:	0-999 sec.
Memory:	User-memory for storage of parameters of 24 different products.
Relay output:	Nominally opened and nominally closed contact for each Min- and 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. measuring value of product temperature, 0/4-20 mA, max. load 500 Ω.
Digital output:	2x galvanic isolated, 24 V open-drain (max. 50mA)
Digital input:	2x galvanic isolated, active signals (8-36 V)
Interface:	USB-Interface for Hu-Config; RS 232 with connection for RxD, TxD, OV and RS 485
Software:	Hu-Config (included)
Power supply:	24 V AC/DC

### Technical Data Moisture Sensor

FMS 400 K:	Measuring surface PTFE
FMS 400 C:	Measuring surface ceramic
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 <sup>2</sup>
Cable length:	max. 1000 m with 0,75 mm <sup>2</sup>
Process-temperature:	-10° till 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 (normal working range) Short-term 10 bar

### Dimensions

