MONITOR

Practical solutions... at every level!

HumiCore™ PRO

Moisture Measurement System

Sensor

DIN-Rail Transmitter

FEATURES & ADVANTAGES

- **Automate drying or moisturizing processes** to minimize energy costs and maximize profit.
- **Ensure product quality** through moisture control...Provide optimal moisture content for finished product.
- **Continuous in-line system providing real-time data** eliminates need for frequent laboratory samples.
- **High frequency field technology** for fast, reliable measurements.
- **Measures moisture inside the material core...Not just the surface** to provide precision measurements of typically 0.1% to 0.3%.
- **Compact design** for easy installation that allows for different mounting positions to fit existing processes.
- **Simple calibration and integrated temperature compensation** to accommodate specific material characteristics.
- **Output through a DIN-Rail transmitter** to provide communication with an existing control system.

Practical Tip

Use HumiCore to limit dusty areas by monitoring & controlling material moisture levels to reduce cleaning and/or filtering costs.

PRINCIPLE OF OPERATION

The **HumiCore™ PRO** in-line moisture measuring system for process monitoring guarantees trouble-free measurement of the internal product moisture of solids and emulsions. The **HumiCore™ PRO** moisture sensor circuitry principle is centered around an electrical high frequency field. The **HumiCore PRO** is based on technology that has been developed and proven by **mütec** over several years. With no material present, the ambient air is the dielectric component of the electrical high frequency field. The dielectric constant of air is one. When the process is active, bulk material passing in front of the sensor face displaces the ambient air and becomes the dielectric for the electrical high frequency field. As the dielectric constant increases, it also causes a change in the electrical high frequency field. That change is processed by the electronics, is compensated for temperature, and is sent to the transmitter. Given the sensor output, a control system can now quantify and display the moisture content of the material passing by the sensor face. The area of material influence is typically up to 7.75 inches (200mm) from the sensor surface. Calibration is a short and simple procedure. The **HumiCore PRO** sensor can provide a high precision measurement (0.1% to 0.3% typical).

A complete **HumiCore PRO** system consists of the DIN-Rail transmitter and the moisture sensor. The DIN-Rail transmitter allows for easy integration into an existing control system. Calibration software is provided. In addition, up to 24 different product parameters can be recorded to accommodate product or process changes.

PRACTICAL APPLICATIONS

- Installation locations include: conveyor belts, screw conveyors, silos, funnels, etc.
- Suitable for grain, feed, seed, cereal, flour, sugar, coal, sand, wood shavings, dried food, fertilizer, tobacco, powder, pigments, plastic granules, sand, cement & more.

OPTIONS

- Select from polyacetal or ceramic process face.
- Variety of sled plates to fit specific application needs.
- DIN transmitter style options include:
  - DIN-Rail transmitter with enclosure
  - DIN-Rail transmitter without enclosure

Scan this with a smartphone QR-Code app for more product details.

SPECIFICATIONS

Process Data	
Pressure:	Up to 6 bar
Process temperature:	+14 to +194F (-10 to +90C) +284F (140C) with cooling
Sensor Data	
Measuring surface:	POM or Ceramic
Housing material:	304 SS (1.4307)
Protection class:	IP67
Sensor dimensions:	4.57” dia. x 2.02” H (116mm dia. x 51.5mm)
Accuracy:	0.1 to 0.3% typical
Power:	Via transmitter
Interconnection:	4 wires, shielded, RS-485, 3280 ft (1000m) max
Transmitter Data	
Construction:	DIN-Rail, 22.5 mm
Input power:	24 V AC/DC (Power supply ordered separately)
Power consumption:	Max. 2W (+0.3 – 8.5W for thermocouple)
Ambient temperature:	+14 to +140°F (-10 to +60°C)
Protection class:	IP 30
Output signal:	0/4-20 mA (max. 750 Ohm); 0/2-10 Volt
Interfaces:	RS-232, RS-485

ORDERING INFORMATION

HumiCore™ Pro Moisture Measurement System

Select	Base System
1	HumiCore™ Pro Moisture Measurement System

Select	Operating Voltage
3	24 VAC/DC

Select	Approvals
1	Ordinary Location
2	Hazardous Location, North America (Pending)
3	Hazardous Location, ATEX for Dust

Select	Sensor Process Construction
1	Polyacetal
2	Ceramic

Select	Output Configuration
1	Transmitter, DIN
2	Transmitter, DIN w Encl.

19	–	8	1	X	X	–	X	X	Order Number

ACCESSORIES:

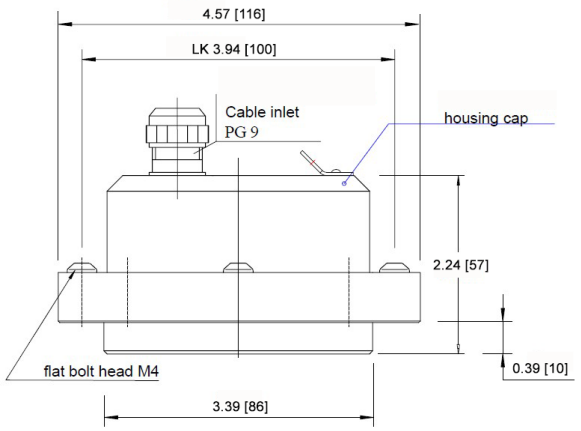
Part #	Description
19-3402	Welding Flange, Direct Sensor Mount
19-3410	Heat Sink, For Cooling, Direct Sensor Mount
19-8001	Heating Ring
R0514-18001	Cable, 4-Wire, Shielded, 18 AWG [1]
19-3424	Sled, Plate Over Belt, 2 pt, Light Duty, 400 mm
19-3434	Sled, Plate Over Belt, 4 pt, Light Duty, 400 mm
19-3445	Sled, Ship Adaption Plate Over Belt, Heavy Duty
17-8021	Power Supply, Universal AC to 24VDC [1]

Note:

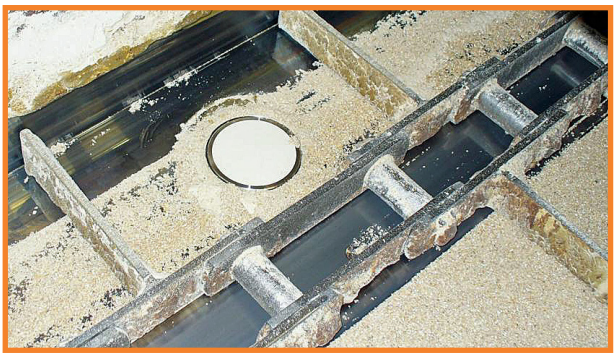
1 Cable or power supply are not included. Must be ordered separately.

MECHANICALS

DIMENSIONS ARE SHOWN IN INCHES WITH MILLIMETER EQUIVALENT IN BRACKETS UNLESS OTHERWISE STATED



Sensor



Measuring moisture of animal feed in conveyor

Measuring moisture of sand

2-Year Limited Warranty

ISO 9001:2008 Certified

Information on this sheet is subject to change without notice