**HumiCore™ Ultra**

Moisture Measurement System

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### 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 controller** to provide local operator interface, data logging function, temperature readings, alarm outputs and more.

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### PRINCIPLE OF OPERATION

The **HumiCore™ Ultra** in-line moisture measuring system for process monitoring guarantees trouble-free measurement of the internal product moisture of solids and emulsions. The **HumiCore™ Ultra** moisture sensor circuitry principle is centered around an electrical high frequency field. The **HumiCore Ultra** is based on technology that has been developed and proven by µtec 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 controller. Given the sensor output, the controller 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 Ultra** sensor can provide a high precision measurement (0.1% to 0.3% typical).

A complete **HumiCore Ultra** system consists of the controller and the moisture sensor. The controller provides graphic user interface with softkeys and a clearly arranged display of the measured, alarm and MIN/MAX values, combined with easy editing and parameterization for simple operation. In addition, up to 24 different product parameters can be stored in the controller to accommodate product or process changes.

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### 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.

For more detailed information, please contact a Monitor representative or visit Monitor’s website at http://www.monitorotech.com/moisture-measure.shtml

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### OPTIONS

- 115 VAC / 24 VAC/DC -or- 230 VAC / 24 VAC/DC
- Select from polyacetal or ceramic process face.
- Variety of sled plates to fit specific application needs.

Controller style options include:
- Controller, 19" Rack Mount
- Controller, Desktop
- Controller, Field Enclosure
- Mini Controller, 19" Rack Mount

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

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**Practical Tip**

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

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**Level Blog** - http://monitortech.typepad.com
**ORDERING INFORMATION**

HumiCore™ Ultra Moisture Measurement System

<table>
<thead>
<tr>
<th>Select</th>
<th>Base System</th>
<th>HumiCore™ Ultra Moisture Measurement System</th>
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**ACCESSORIES:**

<table>
<thead>
<tr>
<th>Part #</th>
<th>Description</th>
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<tbody>
<tr>
<td>19-3402</td>
<td>Welding Flange, Direct Sensor Mount</td>
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<tr>
<td>19-3410</td>
<td>Heat Sink, For Cooling, Direct Sensor Mount</td>
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<tr>
<td>19-8001</td>
<td>Heating Ring</td>
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<tr>
<td>R0514-18001</td>
<td>Cable, 4-Wire, Shielded, 18 AWG</td>
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<tr>
<td>19-3424</td>
<td>Sled, Plate Over Belt, 2 pt, Light Duty, 400 mm</td>
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<tr>
<td>19-3434</td>
<td>Sled, Plate Over Belt, 4 pt, Light Duty, 400 mm</td>
</tr>
<tr>
<td>19-3445</td>
<td>Sled, Ship Adaption Plate Over Belt, Heavy Duty</td>
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</tbody>
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Note:

1 Cable is not included. Must be ordered separately.

Information on this sheet is subject to change without notice.

**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 controller
- Interconnection: 4 wires, shielded, 3280 ft (1000m) max

**Controller**
- Moisture Range: 0.0 – 0.1% min, 0 – 90% max)
- RH non-condensing
- Response time: Approximately 1 second
- Averaging time: 0 – 999 seconds
- Power supply: 115 VAC / 24 VAC/DC or 230 VAC / 24 VAC/DC
- Outputs: ¼ VGA-LC Display, relay, analog, RS-485
- Controller dimensions: 9.3” x 5.2” x 13” (236 x 132 x 330mm)

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