

Hydronix

**Digital Microwave Moisture Sensor
for Bins, Silos
and Conveyors**

Hydro-Probe



CONCRETE • AGGREGATES • ASPHALT

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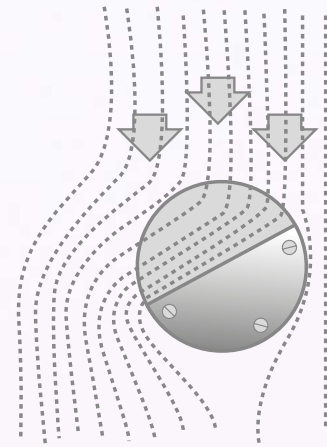
The Hydro-Probe is a rugged, microwave moisture measurement sensor designed to be installed in bins, silos and conveyors in process control environments.

Measuring at 25 times per second and with on-board functionality such as signal processing and averaging, the Hydro-Probe accurately measures the moisture content of material as it flows over the ceramic faceplate. Remote configuration, calibration, diagnostics and firmware upgrades are simple using Hydronix Hydro-Com software. The linear output allows direct integration with any control system using industry standard interfaces.



Angle of Sensor

Ensures continuous flow over the sensor

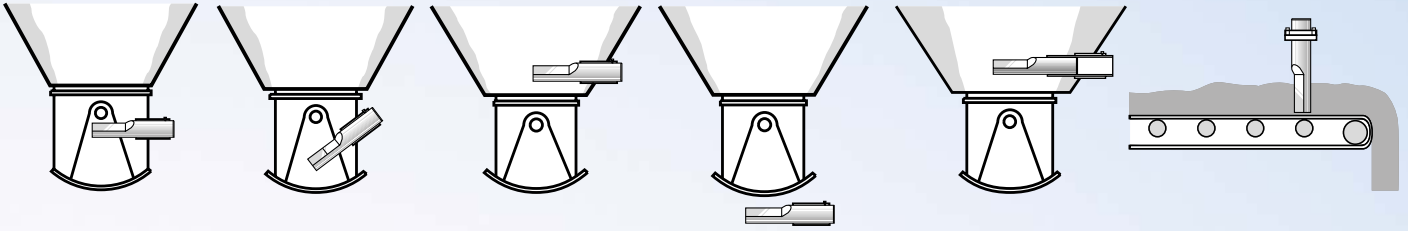


Features

- Digital technology provides precise linear moisture measurement with 25 readings per second.
- Advanced Digital Signal Processing provides a clear signal with rapid response.
- Fully temperature compensated measurement.
- Two analogue outputs, digital RS485 communications and configurable digital inputs/output, alarms.
- Remote communication with Hydro-Com software allows configuration of all sensor parameters.
- Consistent performance with no need for recalibration except for use with different materials.
- Calibration data points stored within the sensor for improved quality control.
- Stand alone or simple integration into a new or existing automation system.
- The Averaging Mode provides a continuous “average” moisture over a batch.
- Averaging, “Bin Empty” and “High Moisture” Alarms and Signal Processing are performed internally by the sensor.

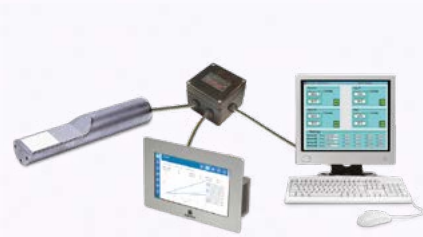
Typical Installation

The Hydro-Probe offers a choice of installation options to suit all bin types and conveyor applications. This ensures that the sensor measures the most representative sample of material.



Connectivity

Up to 16 sensors may be daisy chained to connect directly to a control system via the RS485 serial communications link.



Hydro-View Connection

The Hydro-Probe can be connected to a Hydro-View to provide a continuous moisture display. It also enables the sensor to be easily calibrated if calibration facilities are not available on a PC or control system.



Direct Connection to Control System

The analogue or serial interface integrates easily with a moisture control system.



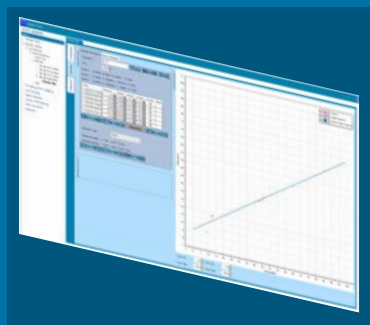
Direct Connection to PC

The RS485 serial interface provides a direct connection to an operator interface or a PC.



DISPLAY AND CONTROL OPTIONS

Hydronix has a range of display and control options.



CONFIGURE AND CALIBRATE

Easily configure & calibrate the sensor using Hydro-Com Software.



NETWORKING

The Hydro-Hub is a central point to connect a Hydronix sensor network of up to 16 sensors with multiple systems simultaneously.

Technical Information

Construction

Body: Stainless Steel
Faceplate: Ceramic

Fixing

The sensor must be placed in the flow of material.

Bins and Silos: Install in the neck of a bin or underneath the gate. Standard and Extension Mounting Sleeves are available to suit different bin widths.

Conveyors: Secure in the flow of material.

Operating Temperature

0-60° C. The sensor will not measure ice.

Penetration of Field

Approximately 75-100mm dependent upon material.

Refresh Rate

25 times per second.

Moisture Range

The sensor will measure up to saturation of material.

Analogue Outputs

Two configurable 4-20mA or 0-20mA current loop source available for moisture and temperature. May also be converted to 0-10V DC.

Digital Inputs/Output

Two configurable digital signals available for averaging and alarm functions.

Digital (Serial) Communication

Modbus.

Opto-Isolated RS485 2-wire port.

RS232, Ethernet and USB interfaces available.

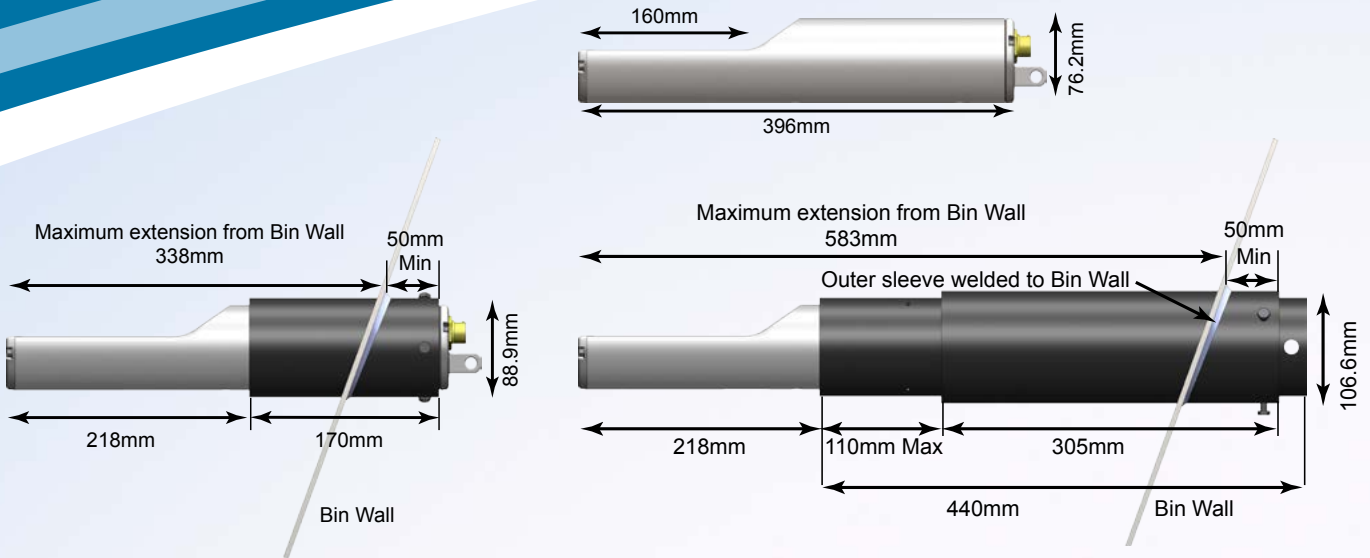
Programming details to access sensor values and parameters are available on request.

Extension Cable

Six twisted pairs, 22AWG, 0.35mm² conductors. Screen braid with 65% minimum coverage plus aluminium/polyester foil. Maximum cable run of 100m.

Power Supply

+15V to +30V DC, 4W.



| Part Number | Description |
|-------------|---|
| HP-04 | Hydro Probe-IV |
| 0025 | Standard Mounting Sleeve |
| 0026 | Extension Mounting Sleeve |
| 0024X | Flanged Mounting Sleeve (for vertical mounting) |
| 0023 | Clamp Ring for use with Flanged Mounting Sleeve |
| 0975A | 4m Sensor Cable with military specification sensor connector |
| 0975AT | 4m Sensor Cable with terminator connector |
| 0067 | Terminal Box (IP66, 10 Terminals) |
| 0116 | 24VDC Power Supply 30 watt for up to 4 Sensors |
| 0049A | RS232-485 Adapter DIN rail mounting |
| 0049B | RS232-RS485 Converter, 9 pin D-type to Terminal Block |
| SIMxx | USB Sensor Interface Module including cables and power supply |
| EAK-01 | Ethernet Adapter Kit |
| EPK-01 | Ethernet Power Kit |
| P4EW | 4 Year extended warranty option |

