

Digital Microwave Moisture Sensor for Bins, Silos and Conveyors

# **Hydro-Probe**



THE ORIGINAL – THE LEADER – THE BEST

## Hydro-Probe

## Digital microwave moisture sensor for bins, silos and conveyors

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.

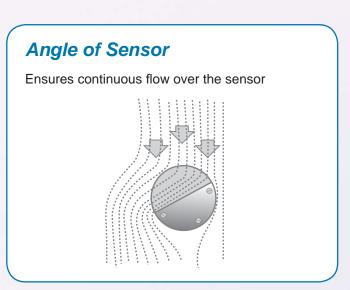




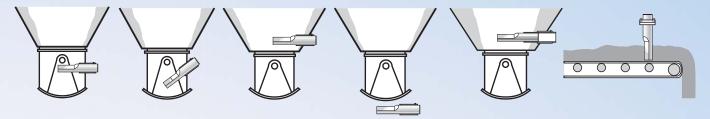


## **Features**

- Digital technology provides precise linear moisture measurement with 25 readings per second.
- Advanced Digital Signal Processing provides a clear signal with rapid response.
- · Fully temperate 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

#### **Digital Connection**

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





## **Direct Connection to Control System or PC**

The analogue or RS485 serial interface integrates easily with a control system or PC.

### **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.



## Networking

Network up to 16 sensors using one standard Ethernet connection with the Ethernet Adapter Kit. Power over Ethernet option also available.



## **USB** Interface

Easily communicate with the sensor using a USB Sensor Interface Module for sensor diagnostics, configuration and firmware upgrades.



## **Technical Information**

#### Construction

**Body: Stainless Steel** Faceplate: Ceramic

#### **Fixina**

The sensor must be placed in the flow of

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

#### Digital Inputs/Output

2 configurable digital signals available for averaging and alarm functions.

#### Digital (Serial) Communication

Opto-Isolated RS485 2-wire port.

RS232, Ethernet and USB interfaces available.

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

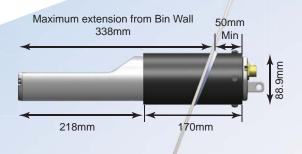
#### **Extension Cable**

Six twisted pairs, 22AWG, 0.35mm<sup>2</sup> conductors. Screen braid with 65% minimum coverage plus aluminium/polyester foil. Maximum cable run of

#### **Power Supply**

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





Bin Wall

**Part Number** 

HP04

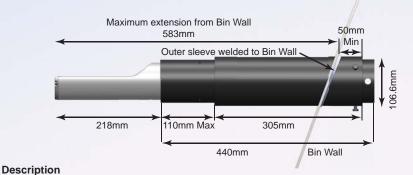
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Hydro-Probe Digital Microwave Moisture Sensor

Flanged Mounting Sleeve (for vertical mounting)

Clamp Ring for use with Flanged Mounting Sleeve

4m Sensor Cable with military specification sensor connector

Standard Mounting Sleeve **Extension Mounting Sleeve** 

Terminal Boy (IP66, 10 Terminals)

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	0007	Terrimai Bex (ii ee, te terrimais)
Head Office - United Kingdom:	0116	24VDC Power Supply 30 watt for up to 4 Sensors
Tel: +44 (0)1483 468900 Fax: +44 (0)1483 468919	0049A	RS232-485 Adapter DIN rail mounting

Email: enquiries@hydronix.com 0049B RS232-RS485 Converter, 9 pin D-type to Terminal Block

Central Europe & Southern Africa: SIM01-A USB Sensor Interface Module including cables and power supply Tel: + 49 2563 4858

France: EAK01 Ethernet Adapter Kit Tel: + 33 652 04 89 04 EPK01 **Ethernet Power Kit** Americas, Spain & Portugal:

Tel: 888-887-4884 (toll free) P4EW 4 Year extended warranty option or +1 231-439-5000

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