Hydro-Mix VII

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Flush mount, digital, microwave moisture sensor

The Hydro-Mix VII is a rugged, microwave moisture measurement sensor designed to be installed flush with the floor of a mixer, chute or conveyor in process control environments.

Reading at 25 times per second and combined with on-board functionality such as signal processing, smoothing and averaging, the Hydro-Mix VII accurately measures the moisture content of material as it passes 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.
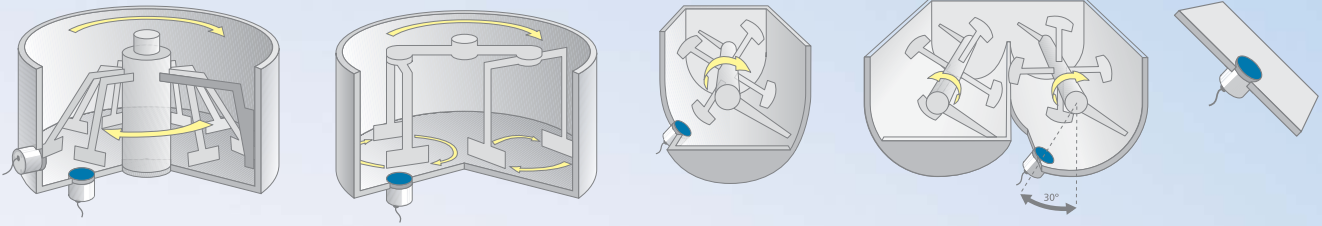
Features

- Digital technology provides precise linear moisture measurement.

- Advanced Digital Signal Processing provides a clear signal with rapid response.

- Choice of measurement modes for optimising sensor performance in a variety of applications and material types.

- Fully temperature compensated measurement.

- Two analogue outputs, digital RS485 communications and configurable digital input/outputs.

- Fast response to changing conditions with 25 measurements per second

- Remote communication with Hydro-Com software allows configuration of all sensor parameters including selection of sensor outputs, graphic traces of outputs, calibration of sensor readings and firmware upgrades.

- Consistent performance with no need for recalibration except for use with different materials.

- Tough and reliable with proven track record.

- Easily replaced ceramic faceplate and protection ring.

Ceramic Replacement Kit

Typical Installation

All types of static pan, horizontal shaft and ribbon mixer. Also suitable for installation in screw conveyors, chutes and other flush mount applications. For rotating pan mixers the Hydro-Probe Orbiter Sensor is recommended.

Connectivity

Direct Connection to PC

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

Direct Connection to Control System

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

Hydro-Control Connection

Provides a complete system to control moisture in a mixing application

Networking

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

USB Interface

Easy communication with sensor using USB sensor interface module for sensor diagnostics, configuration and firmware upgrades.

Technical Information

Construction

Body: Stainless Steel

Faceplate: Ceramic

Protection Ring: Hardened Steel

Fixing

The sensor requires a 127mm (5") hole to be cut. A Fixing Plate is welded around the hole and the sensor is secured to the Fixing Plate using the Adjustable Clamp Ring.

The clamp ring allows easy installation, extraction and adjustment of the sensor.

Moisture Range

The sensor will measure up to saturation of material.

Penetration of Field

Approximately 75-100mm dependant upon material.

Refresh Rate

25 times per second

Operating Temperature

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

Backward Compatibility

The Hydro-Mix VII is backwardly compatible with earlier Hydro-Mix sensors.

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 Input/Outputs

2 configurable digital signals

Digital (Serial) Communication

Opto-Isolated RS485 2-wire port. RS232 converter, Ethernet and USB interfaces available.
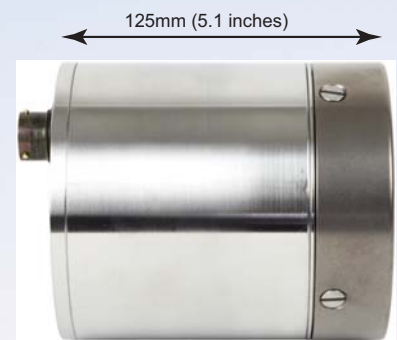
Programming details to access sensor values and parameters are available on request.

Extension Cable

Six twisted pairs, 22AWG, 0.35mm^2 conductors. Screen braid with 65% minimum coverage plus aluminium/polyester foil. Maximum cable run of 100m

Power Supply

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

108mm (4.25 inches)

125mm (5.1 inches)

Part Number	Description
HM07T	Hydro-Mix VII - Standard mode with linear output for digital or analogue connection.
HM07C	Hydro-Mix VII - Compatible mode.
0033	Adjustable Clamp Ring (provided with sensor)
09XX	Ceramic Replacement Kit - various options available
0021	Fixing Plate for welding to mixer (required)
0035	Blanking Plate to cover hole when the sensor is removed.
0975	4m Sensor Cable with military specification sensor connector
0116	Power Supply 30 Watt for up to 4 sensors
0049A	RS232-485 Converter - DIN rail mounting
0049B	RS232-485 Converter - 9 pin D-type to terminal block
SIM01-A	USB Sensor Interface Module including cables and power supply
EAK01	Ethernet Adapter Kit
EPK01	Ethernet Power Kit
M7EW	4 Year extended warranty option

Hydronix