

Hydronix

Hydro-Probe Orbiter

Digital, Microwave Moisture Sensor for
Rotating Pan Mixers, Static Pan Mixers and Conveyors



CONCRETE • AGGREGATES • ASPHALT

Hydro-Probe Orbiter

Digital microwave moisture sensor for mixers and conveyors

The Hydro-Probe Orbiter is a rugged, digital moisture sensor that measures in fast flowing abrasive materials. Reading at 25 times per second, the arm moves through the material providing a fast and accurate response to changes in moisture.

The sensor comprises of 2 parts - the Head Unit which houses the electronics and a hard wearing Sensing Arm, which can be easily changed, eliminating the need to replace the entire sensor. Remote configuration, calibration, diagnostics and firmware upgrades are simple using Hydronix Hydro-Com software and the linear output allows direct integration with any control system using industry standard interfaces.

Rotating Connector

Rotating unit for mounting the Hydro-Probe Orbiter in static pan mixers. Choice of models available for different mixer types.

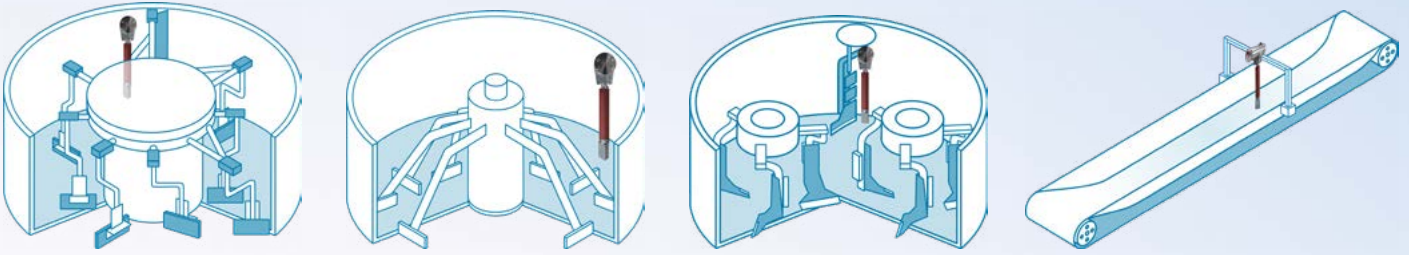


Features

- Digital technology provides precise linear moisture measurement with 25 readings per second
- 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 inputs/output, alarms
- Remote communication with Hydro-Com software allows configuration of all sensor parameters
- Consistent performance with no need to 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
- Choice of arm lengths.

Typical Installation

In a rotating pan mixer or conveyor application, the Hydro-Probe Orbiter can be cabled directly to the control system. In a static pan mixer the sensor cable is routed through the Hydronix Rotating Connector.



Connectivity

Direct Connection to Hydro-View / 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.



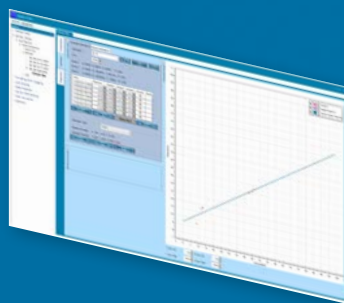
Hydro-Control Connection

Provides a complete system to control moisture in a mixing application.



DISPLAY AND CONTROL

Hydronix has a range of display and control options.



CONFIGURE AND CALIBRATE

Hydro-Com Software, configure and calibrate sensors.



NETWORKING

Hydro-Hub, sensor network connection.

Technical Information

Construction

Body: Stainless Steel (AISI 304).
Sensing Head: Hardened Ceramic.

Fixing

The sensor is designed to be clamped to a vertical 25mm square mild steel bar which is supplied by the customer.

Operating Temperature

Head Unit: 0-60° C.

Sensing Arm: 0-45°C.

(High temperature arm also available)

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.

Connectivity: Native to sensor

Two Analogue Outputs 4-20mA / 0-20mA (0-10V).

Two configurable Digital I/O.

Modbus.

Opto-Isolated RS485 2-wire port.

Connectivity: Through Hydro-Hub/Hydro-View

Ethernet/IP

PROFINET

PROFIBUS

Web API

Connectivity: Other Interfaces

RS232

Ethernet (TCP/IP)

USB

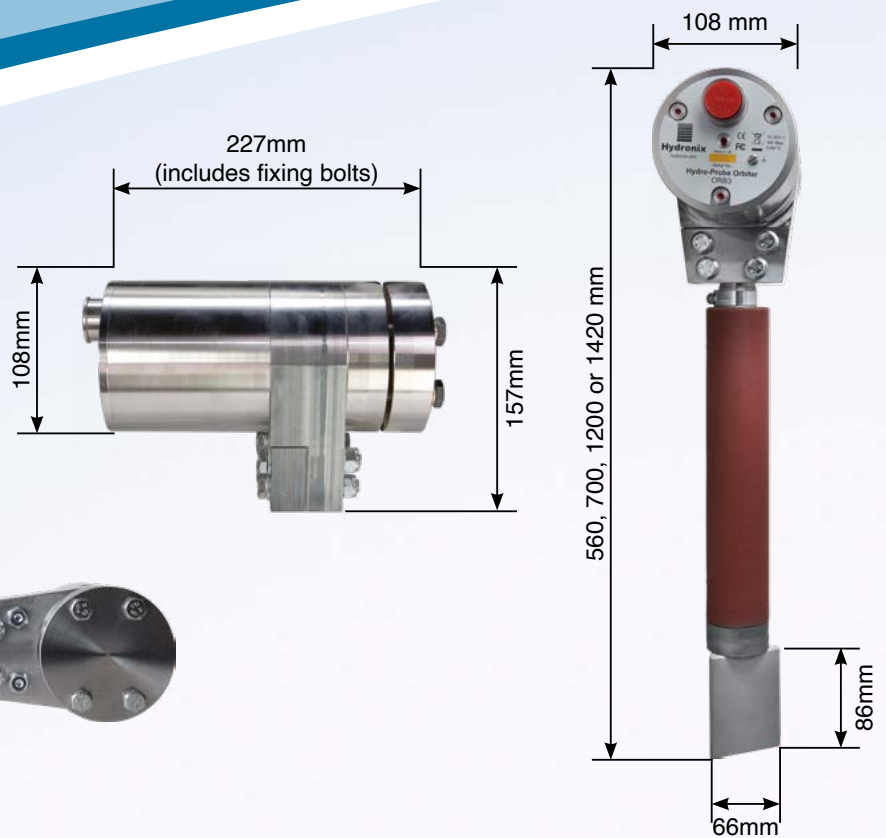
Programming details to access sensor values and parameters are available on request.

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.



Choice of Lengths available



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hydronix.com

Part Number	Description
ORB3	Hydro-Probe Orbiter Head Unit
ORBA2C	Sensing Arm - (0-45°C) various lengths
ORBA1-HT	High Temperature Sensing Arm - (0-100°C) various lengths
ORBR2	Rotating Connectors - Contact Hydronix for details
0580	Sensing Arm Guard
0582	Rear Protection Plate
0584	Ceramic Protection Ring, Pack of 2
0586	Steel Protection Ring, Pack of 5
0975A	4m Sensor Cable
0975AT	Sensor cable with network termination (4, 10, 25 and 50m)
ORB3EW	4 Year extended warranty option