

# Hydronix

## Hydro-Probe BX

Digital Microwave Sensor for  
Measuring Moisture or Dissolved Solids



**SUGAR PRODUCTION  
POWDERED DRINKS · LIQUIDS**

# Hydro-Probe BX

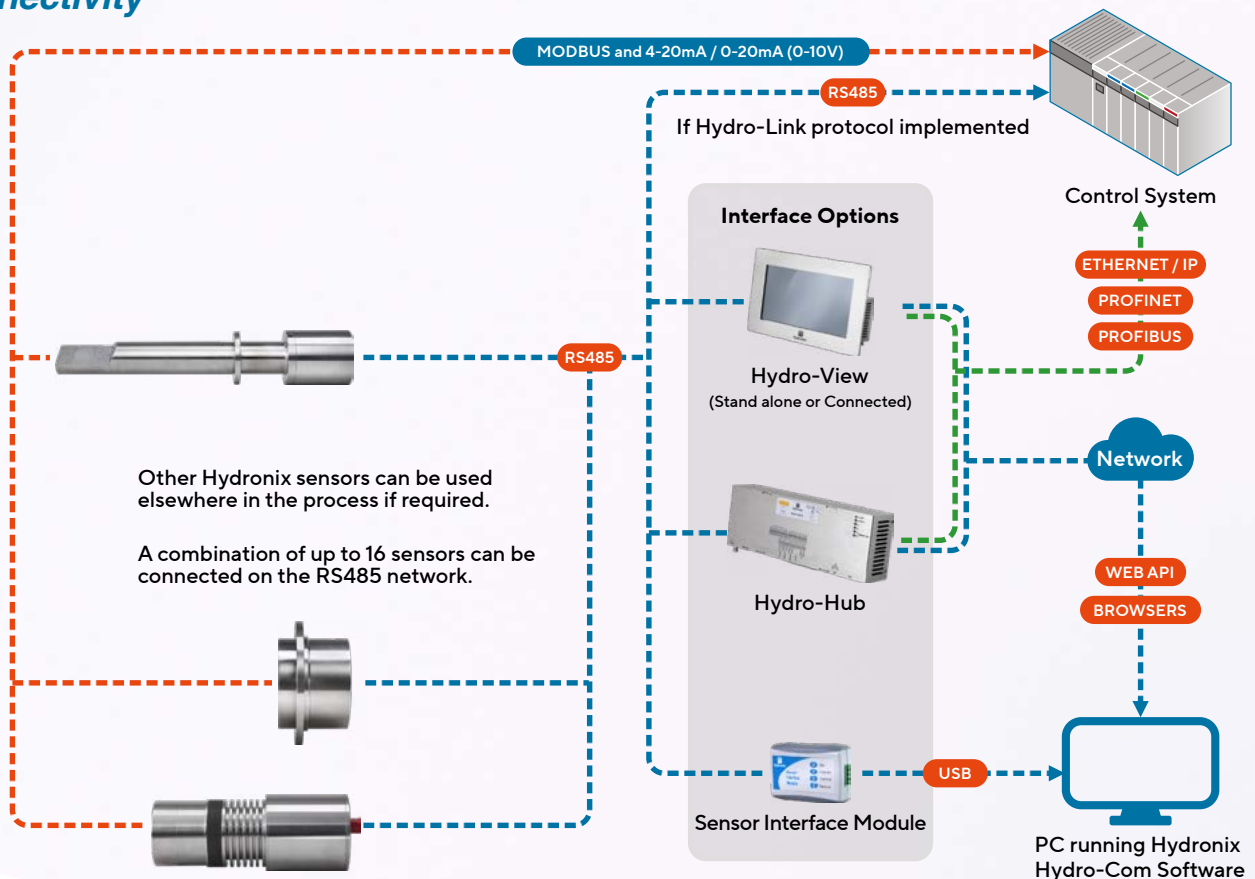
## Microwave sensor for moisture or dissolved solids

The Hydro-Probe BX is a high temperature microwave sensor designed for use in liquids such as concentrates, solutions or any process where the level of moisture or dissolved solids requires measurement.

### Features

- Designed for installation in a pressurised environment
- Digital technology provides precise linear moisture measurement
- Advanced Digital Signal Processing provides a clear signal with rapid response
- Averaging and signal smoothing functions
- Configurable digital inputs / output
- Configurable alarms
- Fast response to changing conditions with 25 measurements per second
- Consistent performance with no need for recalibration except for use with different materials
- Stand alone or simple integration into a new or existing automation system
- Self-cleaning option

### Connectivity



## Typical Applications

Hydronix sensors can be used in many industries that require in-line measurement of moisture or dissolved solids in real-time.

This allows control systems to achieve process targets with highly repeatable precision.



### Reducing Liquids

The concentration of a liquid in an evaporation process can be measured to enable intermediate product to be output correctly to subsequent process stages.

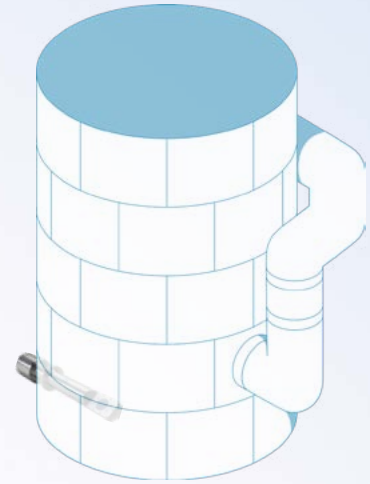


### Sugar Production

The sensor can measure Degrees Brix during sugar refining processes where the sugar is still in the liquor stages.

## Typical Installations

The Hydro-Probe BX can be mounted into a vacuum pan, pipeline or vessel.



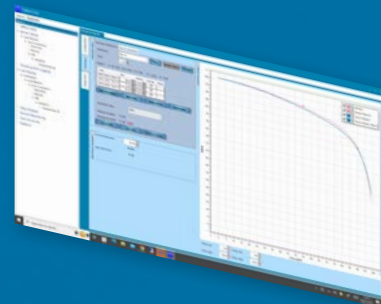
## Self Cleaning

The Hydro-Probe BX-SC features an internal pipe allowing water to be flushed over the ceramic faceplate to remove built-up material. This can be connected to the plant water system using standard 6mm fittings.



### 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.

# Technical Information

## Construction

Body: 316 Stainless Steel.  
Faceplate: Ceramic.  
O-Rings: EPDM.  
HPBX-SC01 pipe fittings: 6mm

## Fixing

The sensor must be placed in the flow of material and is attached to the vessel using the bolted flange.

## Measurement Range

Moisture: 0-100%, material dependant.

Brix: >50° Bx.

## Penetration of Field

Approximately 75-100mm, material dependant.

## Operating Temperature

Materials Section: 0 to 120°C.

Electronics Section: 0 to 60°C.

The sensor will not measure ice.

## Refresh Rate

25 times per second.

## Connectivity: Native to sensor

Two Analogue Outputs 4-20mA / 0-20mA (0-10V) current loop source available for Unscaled, moisture, Brix or material temperature.  
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.

## Environmental

Pressure: Full vacuum to 5 Bar gauge.  
Electronics Section Protection: IP67.  
Cleaning system: 1 to 2 Bar, 80°C max, filtered water.

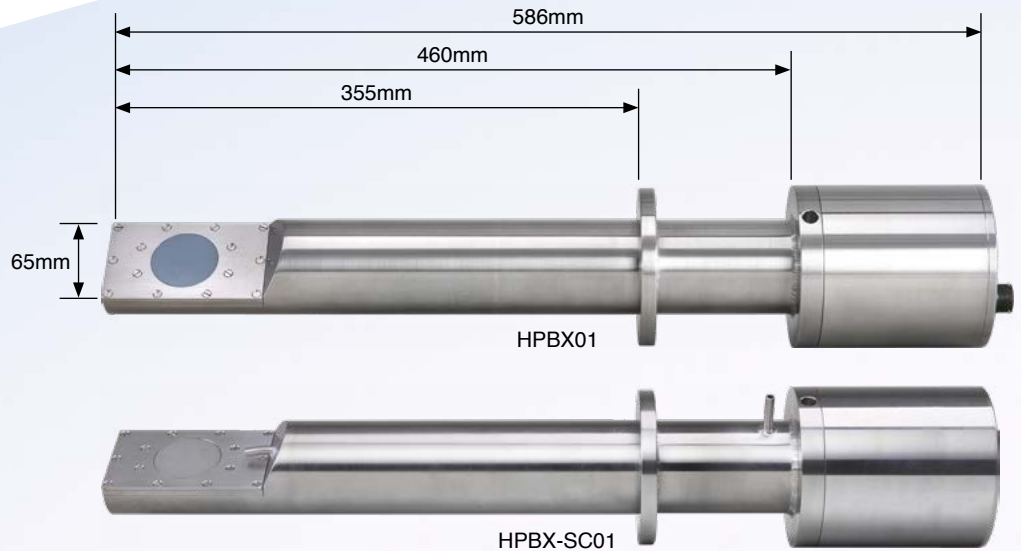
## Extension Cable

Up to six twisted pairs, 22AWG, 0.35mm<sup>2</sup> conductors. Screen braid with 65% minimum coverage plus aluminium/polyester foil.

100m maximum cable.

## Power Supply

+15V to +30V DC, 200mA max operating, 1 Amp startup.



# Hydronix

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[hydronix.com](http://hydronix.com)

| Part Number | Description   |
|-------------|---|
| HPBX01      | Hydro-Probe BX  |
| HPBX-SC01   | Hydro-Probe BX with self-cleaning system                        |
| 3010        | Mounting Boss   |
| 3020        | PTFE Gasket for mounting flange                                 |
| 3150        | SC Cleaning System connection kit 6mm – ¼" BSP                  |
| 0975A       | 4m Sensor Cable   |
| 0975AT      | Sensor cable with network termination (4, 10, 25 and 50 meters) |
| BXEW        | 4 Year extended warranty option                                 |