Hydronix

Engineering Note: EN0061 Configuration options for different firmware versions

Summary: Whilst most sensor configuration parameters are the same there are several exceptions depending on the sensor/firmware version in use

Products affected: All Sensors

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1. Introduction

This document describes the differences between different possible sensor configurations. Whilst most parameters are accessible in all sensors there are a few exceptions.

2. Hardware Differences

Table 1 shows the hardware differences in each of the sensors

Firmware Number	Product	Can Define Product Type	Version	2nd Digital I/O	2nd Analogue Output	Temp Sensors
HS0029	HP02 V1	No	Any	No	No	Internal External
HS0045	HM05 V1	No	< 1.5	No	No	Internal External
HS0045	HM05 V1	No	> 1.5	No	No	Internal External
HS0046	HP02 V2	No	< 1.26	Yes	No	Internal External
HS0046	HP02 V2	No	> 1.26	Yes	No	Internal External
HS0047	HM05 HM06	No	< 1.26	Yes	No	Internal External
HS0047	HM05 HM06	No	> 1.26	Yes	No	Internal External
HS0063	HPORB V1	No	2.00< < 2.14	Yes	Yes	Electronics Resonator Material
HS0063	HPORB V1	No	>= 2.14	Yes	Yes	Electronics Resonator Material
HS0070	HT01	No	> 2.00	Yes	Yes	Electronics Resonator Material

Table 1 – Sensor Hardware differences

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3. Firmware differences

The following table describes differences in the sensor firmware configuration for different products

Firmware Number	Product	Can Define Product Type	Version	Valid Range	Any Filter Time	AutoCal	Temp Offsets	Frequency Coefficient	Amplitude Coefficients
HS0029	HP02 V1	No	Any	Only on Moisture	No	No	None	Internal	None
HS0045	HM05 V1	No	< 1.5	No	No	No	None	Internal	None
HS0045	HM05 V1	No	> 1.5	No	Yes	No	None	Internal	None
HS0046	HP02 V2	No	< 1.26	Yes	No	No		Internal	
HS0046	HP02 V2	No	> 1.26	Yes	Yes	No	None	Internal	None
HS0047	HM05 HM06	No	< 1.26	Yes	No	No	None	Internal	None
HS0047	HM05 HM06	No	> 1.26	Yes	Yes	No	None	Internal	None
HS0063	HPORB V1	No	2.00< < 2.14	Yes	Yes	Yes	Electronics Resonator Material	Electronics Resonator Material	None
HS0063	HPORB V1	No	>= 2.14	Yes	Yes	Yes	Electronics Resonator Material	Electronics Resonator Material	None
HS0070	HT01	No	> 2.00	Yes	Yes	No	Electronics Resonator Material	Electronics Resonator Material	None

Table 2 – Firmware Differences

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3. HS0077 Firmware differences

The HS0077 board set encompassing Hydro-Trac II Hydro-Probe SE II, Hydro-Probe Orbiter II, Hydro-Mix VII and Hydro-Lab has all of the differences mentioned in section 1 and 2 and in addition the following parameters can be set

Firmware Number	Product	Can Define Product Type	Version	Orbiter Arm Type	US 2 Output	New Modes	DSP Filter	Temp Offsets	Frequency Coefficient	Amplitude Coefficients	Digital In set to Start Vibrator/ averaging	Digital I/O Vibrator Control	Measurement Time
HS0077	HPORB2	Yes	> 1.00	Yes	Yes	Yes	Yes	Electronics Resonator Material	Electronics Resonator Material	Electronics Resonator Material	No	No	No
HS0077	HT02	Yes	> 1.00	No	Yes	Yes	Yes	Electronics Resonator Material	Electronics Resonator Material	Electronics Resonator Material	No	No	No
HS0077	HM07	Yes	> 1.00	No	Yes	Yes	Yes	Electronics Resonator Material	Electronics Resonator Material	Electronics Resonator Material	No	No	No
HS0077	HL01	Yes	> 1.00	No	Yes	Yes	Yes	Electronics Resonator Material	Electronics Resonator Material	Electronics Resonator Material	Yes	Yes	Yes

Table 3 – Firmware Differences in HS0077

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