

Engineering Note: EN0027 Sensor Parameter Default Values

Summary: Sensor Parameter Default Values

Products affected: Hydro-Probe II, Hydro-Mix V, Hydro-Mix VI

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This note lists the factory default parameter values for the Hydro-Probe II, the Hydro-Mix V and VI sensors. The calibration parameters listed are general values for the Hydro-Probe II when measuring in sands and fine aggregates (< 10mm). These can be expected to give moisture measurements correct to $\pm 0.5\%$. These defaults correspond to the following pair of calibration points:

14 unscaled = 0% moisture; 49 unscaled = 10% moisture

Engineering Note EN0028 provides further information regarding the default calibration settings for the Hydro-Probe II.

The first table (below) applies only to Hydro-Probe II, Hydro-Mix V and VI sensors that have the following firmware versions.

HM05, HM06, HS0047 - Version 1.25 or later.

HP02, HS0046 - Version 1.25 or later.

NOTE: HP02's manufactured after serial number 57987 will have their temperature coefficients calculated individually during production and will be unique to each sensor, do not change these.

Parameter	HP02		HM05/HM06	
	Standard	Compatibility	Standard	Compatibility
Calibration parameters				
A	0	0	0	0
B	0.2857	0.2857	0.2857	0.2857
C	-4.0000	-4.0000	-4.0000	-4.0000
SSD	0	0	0	0
Avg Hold Delay	0.5 s	0 s	0 s	0 s
Filtering Time	1.0 s	1.0 s	7.5 s	7.5 s
Slew Rate +	Light	Unused	Light	Light
Slew Rate -	Light	Unused	Light	Light
Autotrack	0	0	0	0
Autotrack time	0	0	0	0
Output Type	0 – 20mA (10V)	Compatibility	0 – 20mA (10V)	Compatibility
Output Variable	Filtered Unscaled	Filtered Unscaled	Filtered Unscaled	Filtered Unscaled
Digital Input	Avg./ Hold	Unused	Moisture/Temp	Unused
Temp. Coeff.	0.015	0.015	0.016	0.016

The second table (below) applies only to HP02 and HM05 sensors that have earlier firmware versions or different firmware versions.

Parameter	HP02		HM05	
	Standard	Compatibility	Standard	Compatibility
Calibration parameters				
A	0	0	0	0
B	0.2857	0.2857	0.2857	0.2857
C	-4.0000	-4.0000	-4.0000	-4.0000
SSD	0	0	0	0
Avg Hold Delay	0.5 s	0 s	0 s	0 s
Filtering Time	1.0 s	1.0 s	5.0 s	5.0 s
Slew Rate +	Light	Unused	Medium	Medium
Slew Rate -	Light	Unused	Heavy	Heavy
Autotrack	0	0	0	0
Autotrack time	0	0	0	0
Output Type	0 – 20mA (10V)	Compatibility	0 – 20mA (10V)	Compatibility
Output Variable	Filtered Unscaled	Filtered Unscaled	Filtered Unscaled	Filtered Unscaled
Digital Input	Avg./ Hold	Unused	Moisture/Temp	Unused
Temp. Coeff.	0.05	0.05	0.01	0.01