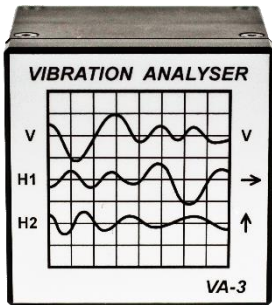


WaveCatcher Quick Guide

How to Connect WaveCatcher Sensors

Overview

Herzan offers a variety of sensors for the WaveCatcher site survey tool, with options to customize sensors as well. The following steps highlight how to correctly connect and setup the standard sensors available for the WaveCatcher.



VA-3 Vibration Sensor



PCB Vibration Sensor



PCB Acoustic Microphone



Bartington EMI Sensor

Noise Measured	Sensor Model Number	Sensor Manufacturer	Sensitivity (Volts/EU)	Frequency Range	# of Axes	Measurement Type (measured units)	Measurement Range	ICP Sensor (Yes/No)
Vibration Noise	VA-3	Table Stable Ltd.	10,000	2 – 1,000 Hz	3	Velocity (m/s)	10 ⁻⁷ – 10 ⁻³ m/s	No
	393B31	PCB Inc.	10 (MFG Target)	0 – 300 Hz	1	Acceleration (g's)	0.5g pk	Yes
Acoustic Noise	130E20	PCB Inc.	40 (MFG Target)	20 – 20,000 Hz	N/A	Omni-directional (pascal)	N/A	Yes
EMI Noise	MAG649	Bartington	3	0 – 1,000 Hz	3	AC OR DC Fields (G: Gauss)	+/- 100 μT	No

NOTE: 1) Not all sensors will be included in your WaveCatcher kit. Please refer to your quotation to determine which sensor(s) are included. 2) Sensors listing a MFG Target (Manufacturer's Target) for their sensitivity means each sensor's sensitivity varies, with the target sensitivity being what is listed.



Connecting Sensors to the WaveCatcher

Setup the WaveCatcher hardware prior to connecting the sensors by following the steps outlined in the *How to Setup the WaveCatcher Hardware* Quick Guide. Each sensor is unique in how it connects to the WaveCatcher Analog-to-Digital Converter (ADC), which is outlined below:

VA-3 (Triple Axis Vibration Sensor):

Step 1: Disconnect the ADC's custom sensor cable and connect the VA-3 sensor directly to the ADC's D Sub input.

NOTE: the VA-3 measures all three axes simultaneously and should be placed securely on a flat surface for accuracy.



Figure 1: VA-3 Connected to the WaveCatcher ADC

393B31 (Single Axis Vibration Sensor)

Step 1: Connect the sensor connection cable to the top of the sensor.

Step 2: Connect the sensor connection cable to the ADC by inserting the BNC output of the sensor connection cable to the BNC input of the ADC.

Step 3: Use the provided V-Block to orient the sensor in the desired measurement direction, noting the default position of the sensor (placed on its base, without a V-block) is the vertical measurement direction.

NOTE: Use Input 1 when performing measurements.



Figure 2: PCB Single Axis Vibration Sensor Connected to the WaveCatcher ADC



130F20 (Acoustic Microphone)

Step 1: Connect the acoustic microphone directly to the BNC input of the ADC.

NOTE: The acoustic microphone is omnidirectional and should be pointed towards the desired measurement location. Use Input 1 when performing measurements.



Figure 3: PCB Acoustic Microphone Connected to WaveCatcher ADC

MAG-649 (Triple-Axis EMI Sensor)

Step 1: Connect the MAG-649 sensor to its power supply by using the provided sensor connection cable.

Step 2: Power on the MAG-649 power supply to provide power to the MAG-649 sensor.

Step 3: Connect the three BNC cables of the ADC (Custom Sensor Cable) to the BNC connectors of the MAG-649 power supply.

Step 4: To perform a DC measurement: have the "Balanced/Unbalanced" button on the MAG-649 power supply pressed inwards and the "DC/AC Coupling" button pressed inwards.

Step 5: To perform an AC measurement: have the "Balanced/Unbalanced" button on the MAG-649 power supply pressed inwards and the "DC/AC Coupling" button pressed outwards.

NOTE: the MAG-649 power supply should be fully charged and disconnected from power when performing a measurement.



Figure 4: Bartington EMI Sensor Connected to the WaveCatcher ADC

Other: Consult with Herzan regarding the connection/operation of non-standard sensors.