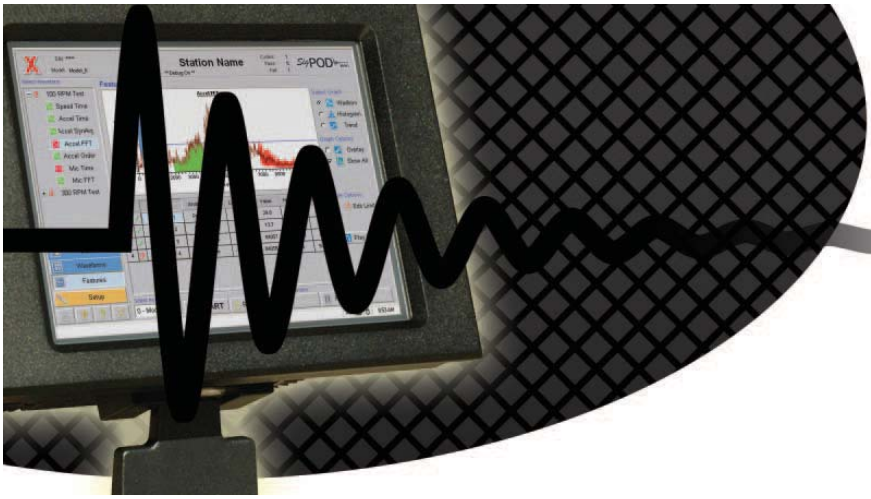


SCIEMETRIC®

SigPOD™ NVH

Sound and Vibration Analyzer

Sciemetric's SigPOD™ NVH is a manufacturing-ready noise and vibration monitoring system designed specifically for quality control in the manufacturing environment. It is the easiest to use, most comprehensive and highest reliability NVH monitoring system available. With fewer false failures, SigPOD™ NVH enables manufacturers to increase yield and improve product quality.

Confirm 'On Spec' Quality

Replace human subjectivity with scientific, auditable and traceable measurement. Many NVH tests rely on subjective assessment, such as an operator listening to the part and making a pass/fail judgment, with no proof of quality being available. SigPOD NVH does real-time analysis of the manufacturing process using Process Signature Verification (PSV) technology, measuring many points of data to arrive at a fact-based decision on part quality.

Unparalleled Ease of Use

Easy Configurable Setup

The setup is menu driven by a wizard that guides the user through the setup process. All parameters can be configured through the touch screen. The wizard helps set up the SigPOD NVH Monitoring System for your specific test needs in a matter of minutes.

Industry-leading User Interface

SigPOD NVH software has an intuitive, operator-friendly graphical user interface that is menu-driven through a large color touch-screen display. The display vividly shows live results and presents trends on historical results. During each test cycle the full test waveform is shown along with a grid showing test parameters.

Improve Yield

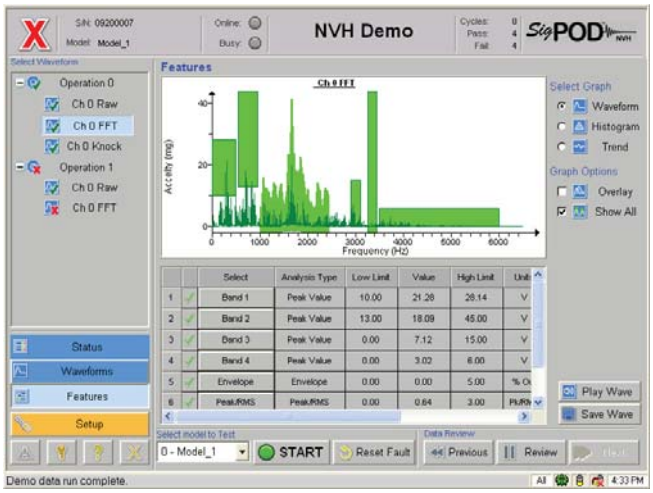
By replacing subjective human assessment, SigPOD NVH delivers visibility and control over the position of the pass/fail line. It arms manufacturers with the ability to effect and measure change such as yield improvements to meet their goals.

Advanced Limit Management

A monitoring system is only as good as the limits that have been set. If they are too wide, you run the risk of shipping faulty product. If they are too stringent yield is compromised. The limit management functions of SigPOD NVH lead to better limit setting and fewer false rejects. The Auto-learn function "suggests" optimal statistically derived limits. Users can visualize results of proposed limit changes and predict the pass/fail rate before deployment.

Designed for Manufacturing

There are many solutions for NVH testing in lab environments. SigPOD NVH is designed specifically for process monitoring on the manufacturing floor. From its compact NEMA 12 packaging to its superior processing speeds, SigPOD NVH provides the best defect detection in a solution made to meet the rigorous demands of the production line.



The SigPOD shows a graphic signature of the component noise or vibration, which makes setup and operator interaction intuitive.

SigPOD™ NVH

Specifications

SigPOD™ NVH Configurations

Feature	SigPOD NVH I	SigPOD NVH II
Analog Channels	2	4
Encoder Channels	0	1
Knock Algorithm	✗	✓
Order Tracking	✗	✓
Speed Triggering	✗	✓

Options

Display	VGA port or optional 10.4" integrated touch screen display
Mounting	Optional DIN rail, Desk, Machine & Panel mount
PLC Interfaces	Optional Profibus, DeviceNet and Interbus

System

System Solid State Memory	1 GB*
Data Storage	40 GB* hard disk
Ethernet	10/100 Base-TX
USB (1.1)	2 Ports
RS232 Serial Port	1
External Monitor	SVGA Connector

General

Chassis Dimensions	
SigPOD only	7.5 x 9.66 x 4.2 in (191 x 241 x 107 mm), H x W x D
SigPOD with optional TFT screen	8.3 x 11.5 x 6.0 in (211 x 292 x 152 mm), H x W x D
Chassis Weight	
SigPOD only	5 lbs (2.3 kg)
SigPOD with TFT Screen	11 lbs (5 kg)
SigPOD with Desk Mount	17 lbs (7.7 kg) including TFT screen
Operating Humidity	8 to 90% relative, non-condensing
Operating Temperature	5 to 40 °C
Environmental	NEMA 12 (IP52) with NEMA Hood
Paint Finish	Black baked powder

CE

Power

Supply Voltage	18 to 36 VDC
Power Consumption	48 W maximum, 30 W typical

Analog Inputs

Number of Channels	2 (SigPOD NVH 1 & II) or 4 (SigPOD NVH II)
Input Ranges	±10 V, ±2 V, ±100 mV, ±33 mV
Input Accuracy	0.015 % of full scale for 10 V, 0.04% ±33 mV Range ±0.02% for 2 V and 0.1 V,
Resolution	16 bit A/D, ±32,768 counts
Maximum A/D Sample Rate	Up to 60 kHz per channel
Input Impedance	10 MΩ
Input filter	20 kHz 6 pole and 1 kHz 4 pole software selectable
Input Bandwidth	20 kHz maximum 3 dB down (16 kHz ±33 mV Range)
Internal Calibration	Auto-zero
Overload Protection	28 V without damage

Analog Connection

Shunt Calibration	Relay contacts per channel
Excitation Voltage	10 VDC ±0.02%
Maximum Current	100 mA per channel
Excitation Noise	100 µV max
Short Circuit Protection	Continuous
Excitation Remote Sense	Separate input per channel

Optional Model 101 ICP® Conditioner

Voltage Supply	22 VDC ±1 VDC
Current Supply	4 mA ±1 mA
Frequency Response	0.1 Hz to 20 kHz
Connection Type	BNC
Mounting	Connects to the SigPOD analog channel; one is required per channel
Connection Indicator	LED on side of unit, Yellow for open circuit, Red for short circuit, Green for good connection

Encoder Inputs (SigPOD NVH II Only)

Number of Channels	1
Sensors	Rotary encoders or N Pulse/Rotation TTL
Input Voltage	5 V TTL or OC (Open Collector)
Signal Type	Quadrature input or single phase pulses
Index Input	Can optionally zero the counter
Frequency	2 MHz maximum pulse rate TTL 50 kHz maximum pulse rate open collector (internal pull-up)
Counter	32-bit (±2 x 10^9 counts)
Input Protection	+24 V or -18 V without damage
Sensor Power	+5 VDC @ 150 mA, current limited

Digital Inputs

Number of Channels	8 with common return line
Polarity	Bidirectional
Isolation Voltage	120 VAC or DC (Optically isolated)
Input Current	2.5 mA maximum
Input for low state	8 VDC maximum
Input for high state	16 VDC minimum
Maximum Input Voltage	±60 VDC

Digital Outputs

Number of Channels	8 with common return line
Polarity	Bidirectional
Isolation Voltage	120 VAC or DC (Optically isolated)
Switching Capability	±1 A @ ±60 VAC peak or DC
Contact Resistance	>100 MΩ off; <0.5 Ω on

Data Collection

Triggers	Analog Input, Digital Input/PLC Handshaking, Speed (SigPOD NVH II only)
Trigger Parameters	Threshold Level, Rising or Falling Edge, Pre or Post Trigger Offsets, Hold Off, Timeout; Deadband
Maximum Data Points	100,000 per channel

Processing

Analog Input	Band pass filtering, Time Domain, FFT, Synchronous Average, Order FFT (SigPOD NVH II only), Knock Algorithm (NVH II only), Running RMS
Encoder Input	Dynamic conversion to speed (SigPOD NVH II)

FFT Processing

Number of Lines	200, 400, 800, 1600, 3200 and 6400
Window Types	Hanning, Hamming, Flat Top, Rectangular
Averaging	Mean, Peak Hold and None
Block Overlap	0 to 90%

Configuration

Number of Models	16
Number of Operations	4 per Model (i.e., 100 RPM Test, 300 RPM Test ...)
Number of Analysis	10 per Processed Waveform (10 for Time Domain, 10 for FFT, etc.), up to 10 waveforms per operation, up to 20 waveforms total per model

* The exact processor type and speed, memory supplied and other technical specifications are subject to change without prior notice.

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