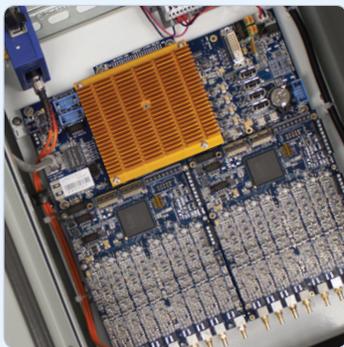


## PRODUCT DATA SHEET

### Sensor Highway III



#### DESCRIPTION

The Sensor Highway III (SH-III) system has been developed for continuous outdoor, Acoustic Emission (AE), Structural Health Monitoring (SHM) and Sensor Fusion applications.

The SH-III has been designed for monitoring applications in outdoor environments, without the use of costly heaters, air conditioners or fans. 32 channels of AE are built within its small, weatherproof outdoor enclosure, with sealed inputs, protected from the environment including heat, cold, rain, hail, snow, and lightning. 8 AE channels per module, with a maximum of 4-modules provide 32 channels of full AE signal processing including waveform processing and the full data set of AE time based, hit based, and frequency based feature extraction and digital signal processing.

#### FEATURES

- Direct On-Board Terminal Block connections and DIN rail mounts for other external sensor inputs
- Parametric Input Connections for other analog sensors
- Solid State Weather Station option with over 20 weather parameters to AEwin
- Multiple units can be connected and synched to system clocks for large, location groups.
- Various communication interfaces available for digital parametrics
- Various options for data/network communications including Ethernet, Wireless, & Cellular Modem
- Uses AEwin software for remote data collection, alarm detection and email alarm notification
- Optional Battery backup. Keeps system running during short power loss
- Remote Boot, built-in. Provides remote access to reset or reboot

#### OPERATING SPECIFICATIONS

##### Dynamic

Enclosure Size: .....18" x 12" x 7" for 8-16 channels,  
 20" x 16" x 7" for 17-32 channels  
 Weight: ..... < 20 lbs. with enclosure for 8-16 ch,  
 < 30 lbs. with enclosure for 17-32 ch  
 Operating Temp: ..... -22°-149°F (-30° to + 70° C)  
 Storage Temp: ..... -40°-167°F (-40° to + 85° C)

##### Power Requirements

Power Requirements: .....85-260 VAC or 9-28 VDC,  
 surge protected  
 Power Consumption: ..... 12W system + 0.25W/channel

##### Analog Channels

# of AE Channels: .....8 per module, up to 4  
 modules or 32 channels  
 Bandwidth: ..... 1 kHz – 400 kHz  
 ADC: ..... 18 bit, 2 MSPS  
 Sensor Power: ..... 5V phantom power

##### Digital

Waveform Buffer: ..... 2k FIFO & 8k Circular Buffer  
 DSP: ..... 4 million gate FPGA  
 Digital I/O: .....8 inputs & 8 outputs/module

##### Communication

Network: ..... 1 Gigabit Ethernet  
 USB: ..... 3 USB 2.0, 1 USB 3.0  
 Serial: ..... One RS-232, One RS-485

##### Parametrics

Single ended inputs: ..... 100kSPS, 0-10V input, qty: 8  
 Tachometer input: ..... 2 Digital Tach inputs with time marks  
 Thermocouple input: ..... 1 Type J thermocouple

##### Com Express CPU

Processor: ..... 1.6 GHz Atom N2600, Hyperthreading  
 Memory: ..... 4 Gbyte DDR3  
 Storage: ..... Internal 8 GB SSD, Internal 64 GB SSD



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