



Industrial Seismology, Inc.

Mini-Seis III Specifications

General

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| Channels | Four, three seismic channels and one acoustic channel standard. Support for other sensor types is available. |
| Seismic | |
| Range | Standard 260 mm/s (10.24 in/s). Other ranges may be customized at the factory. |
| Resolution | 0.008 mm/s (0.0003 in/s) depending on the range. |
| Frequency Range (ISEE) | 2 to 250 Hz at 1024 sample rate as per ISEE Seismograph Performance Specifications for Blasting Seismographs 2017 Edition. The upper frequency limit is 1/4 the sample rate. |
| Frequency Range (DIN) | From 1 to 315 Hz. |
| Accuracy (ISEE) | Conforms with ISEE Performance Specifications for Blasting Seismographs 2017 Edition. |
| Accuracy (DIN) | DIN 45669-1 Standard. |
| Transducer Density | Approximately 2.01 g/cc (125 lb/ft ³) |
| Accelerometers | Optional accelerometers allow the transducer to be oriented in any direction without leveling. |
| Acoustic | |
| Weighting | Linear overpressure or Type 2 A weighting if appropriate hardware is present. |
| Linear Range | 512 Pa or 5.12 Mb. |
| Linear Resolution | 0.0156 Pa (0.000156 Mb) depending on range. |
| Linear Frequency Range | 2 to 250 Hz at 1024 sample rate as per ISEE Seismograph Performance Specifications for Blasting Seismographs 2017 Edition. The upper frequency limit is 1/4 the sample rate. |
| Linear Accuracy | Conforms with ISEE Performance Specifications for Blasting Seismographs 2017 Edition. |
| A Weighting Range | 50 to 120 dBA. |
| A Weighting Resolution | 0.1 dBA. |
| Timer | Allows an instrument to be active only during selected times on a daily basis. |
| Communication | USB or serial. Serial baud rates from 1200 to 230400. |
| Internal Data Storage | Over 500 MB memory. |
| Storage Capacity | Up to 2048 waveform and histogram records of any duration. |
| External Data Storage | Write to USB thumb drive. |
| System Log | The system log tracks on/off times, changes to setup parameters and internal system operation. |
| Operating Modes | Waveform, histogram, histogram/waveform and manual. |
| Data Reporting | The seismograph can automatically report both waveform and histogram events without needing to deactivate the current operating mode. |
| Data Retrieval | Data can be downloaded without requiring deactivation of the current operating mode. |

Waveform Modes

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| Waveform | Standard mode used for blast monitoring and discrete transient event monitoring. |
| Manual | Trigger from the keypad or an external switch. |
| Simultaneous Triggering | Using a combination of manual and triggered modes, multiple units can be connected in serial for simultaneous triggering. |
| Sample Rate | 1024, 2048, 4096 or 16384 samples per second per channel (requires latest firmware). |
| Duration | 1 to 120 seconds at 1024, 2048 or 4096. 1 to 7 seconds at 16384 (requires latest firmware). |
| Pre-Trigger | 1 second at 1024 sample rate. The pre-trigger decreases proportional to the sample rate. |
| Minimum Trigger Level | |
| Seismic | 0.127 mm/s (0.005 in/s) depending on range. |
| Linear Acoustic | 88 dBL depending on range. |
| Downtime Between Events | None for sample rates less than 16384. |
| Dynamic Sensor Test | A dynamic sensor test is performed at the end of every event in waveform mode. This |



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test will appear in the pre-trigger of continuous events.

Histogram Modes

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| Histogram | Standard mode for recording discrete measurements from continuous and semi-continuous sources. |
| Histogram/Waveform | A waveform is recorded while the histogram is running when one of the trigger thresholds is met or exceeded. |
| Sample Period | 1, 10, 20, 30, 40, 50 or 60 seconds. |
| Data Stored | Channel peaks, their frequencies and the vector sum. |
| Histogram Interval | The histogram interval determines how long a histogram will run before deactivating and starting a new histogram. From 1 to 12 hours or 0 which starts a new histogram at midnight. |
| Histogram Storage | The internal memory is sufficient to store over a year of histogram data using a 60 second period. |

Reporting

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| General | Reporting requires an approved remote access device capable of port forwarding serial data by TCP. The reporting can be provided by the White Reporting Service™ or handled by the user with the White AutoReceive™ software. |
| Waveform Mode | With reporting activated, after a recording, the seismograph will output a string of characters consisting of the unit serial number and other information. |
| Histogram Mode | With reporting activated, after a histogram is made inactive, the seismograph will output a string of characters consisting of the unit serial number and other information. |

Physical

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| Size | Approximately 15 cm. x 11.5 cm. x 9 cm. (6 in. x 4.5 in. x 3.5 in.). |
| Weight | Approximately 1.6 Kg. (3.5 lbs.) without accessories. |
| Battery | Internal 6.0 volt rechargeable. |
| Display | The high contrast graphics display facilitates the instrument's setup. It also allows the operator to view operating parameters and summary data. |
| Keypad | The alphanumeric keypad can be used to supply comments and setup data. |
| Clock | A 24 hour clock maintains the date and time to the second, even if the primary power fails. |
| Operating Time | With a fully charged battery the unit will operate from 7 to 10 days at 1024 samples per second. Longer times may be obtained using the timer mode or external power from a solar panel or deep cycle battery. |
| Charging | An internal charging circuit allows charging with the supplied plug-in wall mount charger or available 10 to 15 volt DC supply. Power supplies for international use are available. |
| Operating Temperature | 0 to 130 degrees F (-18 to 54 degrees C). |