

Minimate Pro4™

Series IV – Advanced Vibration and Overpressure Monitors

Range of Applications:

- **Minimate Pro4™**
 - 4-Channel data acquisition
- Blast-monitoring for compliance
- Multi-point monitoring
- Remote monitoring - Auto Call Home™
- Near-field blast analysis
- Pile driving
- Construction activity
- Demolition activity
- Structural monitoring
- Underwater monitoring
- Heavy Transportation

The **Instantel® Minimate Pro4™** vibration and overpressure monitors are built on the success of the **Minimate® Series III** monitoring systems.

The **Minimate Pro4** offers 64MBs of memory, improved ruggedness, including a metal case and connectors, and water resistance.

For reliable compliance monitoring, connect an ISEE or DIN Triaxial Geophone and an ISEE Linear Microphone.

Versatile

Each compliance sensors calibration date, serial number, and sample rate specification are determined by the Sensor Check feature of the unit and stored in the setup file. The sensor type, calibration date and serial number are also recorded on the Event Report.

For those challenging monitoring applications, such as tunneling, the **Series IV** units include EMI shielding and built-in noise and anti-aliasing filters; both the sensor and auxiliary channels are isolated.

With the optional **Instantel® Blastware® Advanced Module** perform VDV monitoring, Signature Hole Analysis, and real time display of Histogram data using the Ethernet® interface.

Intelligent

View Peak Vibration and Zero Crossing Frequencies immediately after each Event occurs. Toggle between Peak Vibration and Peak Overpressure with a simple push of a button. Data highlights including Operator, Trigger, Duration, and Maximum Vibration and Overpressure are also available for review, right on the monitors display.

For remote installations, the **Instantel® Auto Call Home™** feature will automatically transfer event files from field to office as they are recorded using a variety of wired or wireless modems. From there, the **Blastware Mail** feature of the **Instantel Blastware** software automatically distributes files or summary information to multiple e-mail or text messaging addresses.



The **Auto Call Home** feature can also be used in conjunction with an optional service, **Instantel® InstaLink™**, leveraging the Internet to automate the process of transferring vibration data directly from an Instantel vibration monitor to a secure, password-protected web site for viewing by approved stakeholders.

Easy to use

Even with all of these features, the **Minimate Pro4** system is still easy for anyone to use. A high-contrast LCD and ten-key tactile keypad drives simple menu operations, while graphic icons indicate battery and memory levels at a glance.

Key Features

- Dedicated function keys and intuitive menu-driven operation enable quick and easy setup.
- Sample rates from 512 to 65 KHz S/s per channel, independent of record times.
- Continuous monitoring means zero dead time between Events, even while the unit is processing.
- **Instantel Histogram Combo™** mode allows capturing thousands of full waveform records while simultaneously recording in histogram mode.
- **Auto Call Home** feature automates remote monitoring applications.
- Non-volatile memory with standard 8000-plus event storage capacity.
- Records full waveform events over two hours long.
- Match any channel with a variety of sensors; geophones, accelerometers, hydrophones and a dedicated microphone channel.



Minimate Pro4™

General Specifications

Minimate Pro4

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|-----------------------------------|--|
| Minimate Pro4 Channels | Channels 1-3, ISEE (or DIN) Triaxial Geophone, and Channel 4, ISEE Linear Microphone |
| Vibration Monitoring | |
| Range | Up to 254 mm/s (10 in/s) |
| Response Standard | ISEE Seismograph Specification or DIN 45669-1 |
| Resolution | 0.00788 mm/s (0.00031 in/s) |
| Accuracy (ISEE / DIN) | +/- 5% or 0.5 mm/s (0.02 in/s), whichever is larger, between 4 and 125 Hz / DIN 45669-1 standard |
| Transducer Density | 2.13 g/cc (133 lbs/ft ³) |
| Frequency Range (ISEE / DIN) | 2 to 250 Hz, within zero to -3 dB of an ideal flat response / 1 to 315 Hz or 1 to 80 Hz |
| Maximum Cable Length (ISEE / DIN) | 75 m (250 ft) / 1,000 m (3,280 ft) |
| Air Overpressure Monitoring | |
| Weighting Scales | ISEE Linear Microphone |
| Response Standard | ISEE Seismograph Specification |
| Linear Range | 88 to 148 dB (500 Pa [0.072 psi] Peak) |
| Linear Resolution | 0.0155 pa (2.2662×10 ⁻⁶ psi) |
| Linear Accuracy | +/- 10% or +/- 1 dB, whichever is larger, between 4 and 125 Hz |
| Linear Frequency Response | 2 to 250 Hz between -3 dB roll off points |
| Cable Length | 75 m (250 ft) |

Waveform Recording

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| Record Modes | Waveform, Waveform Manual |
| Seismic Trigger | 0.13 to 254 mm/s (0.005 to 10 in/s) |
| Linear Acoustic Trigger | 2.0 pa to 500 pa (100 dB to 148 dB) |
| Sample Rate | 512, 1,024, 2,048, 4,096, 8192, 16,384, 32,768, 65,536 KHz S/s per channel (independent of record time) |
| Record Stop Mode | Fixed record time, InstanTel® AutoRecord™ record stop mode |
| Record Time | 1 to 999 seconds (programmable in one-second steps) plus a 0.25 seconds pre-trigger |
| AutoRecord Time | Event is recorded until activity remains below trigger level for duration of auto window, or until available memory is filled. |
| Cycle Time | Recording uninterrupted by event processing, monitoring, or communication - no dead time |
| Minimate Pro4 Storage Capacity | 64 MBs |
| Full Waveform Events | 8000-plus 1 second events at 1,024 S/s sample rate |

Histogram Recording

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| Record Modes | Histogram and InstanTel Histogram Combo™ (monitor captures triggered waveforms while recording in Histogram mode) |
| Recording Interval | 1 to 30 seconds at 1 second intervals, and 30 seconds to 60 minutes at 30 second intervals |
| Histogram Storage Capacity | 800,000 intervals. Examples: 18.5 days at 2 second intervals, or 555 days at 1 minute |
| Histogram Combo Storage Capacity | Example: 30 days of Histogram recording at 1 minute intervals, and over 7500 1 second waveform events |

Physical Specifications

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| Dimensions | 25.4(l) x 11.75(w) x 10.80(h) cm (10.00 x 4.63 x 4.25 in); length dimension includes connectors and dust caps |
| Unit Weight | 2.27 kg (5 lbs) |
| Battery | 10 days |
| User Interface | 10 domed tactile with separate keys for common functions |
| Display | 7-line x 32-character, high-contrast, multi-color backlit LCD |
| PC Interface | RS-232 with USB adapter interface or Ethernet® with optional cable |
| Auxillary Inputs and Outputs | External Trigger, Remote Alarm, coordinate download from GPS |
| Environmental | |
| LCD Operating Temperature | -20 to 50 °C (-4 to 122 °F) |
| Electronics Operating Temperature | -40 to 50 °C (-40 to 122 °F) |
| Water Resistance | IPC674 – submerge to 30 cm (1 ft.) for 24 hours |
| Remote Communications | Compatible with Telephone, GSM, Cellular, RF, Satellite, Short-haul modems and Ethernet device servers. Automatically transfers events when they occur through the InstanTel Auto Call Home™ feature. |
| Additional Features | Monitor start/stop timer |
| Electrical Standards | Optional InstaLink to leverage the Internet for automated processing of vibration data directly from an InstanTel vibration monitor to a secure, password-protected web site, to be viewed by approved stakeholders. CE Class B (IEC 61000-4-2 to IEC 4-6 and IEC 4-11, 1994 - 1996) Contact InstanTel for more information. |

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720B0001 Rev 04 - Product Specifications are Subject to Change

The World's Most Trusted Vibration Monitors