Minimate Pro4™

Series IV – Advanced Vibration and Overpressure Monitors

Range of Applications:

- **Minimate Pro4™**
  4-Channel data acquisition
- Blast-monitoring for compliance
- Pile driving
- Construction activity
- Demolition activity
- Remote monitoring - Auto Call Home™

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 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.

External trigger options include the ability to connect up to six monitors and use them as primary/secondary triggers. This allows accurate measurement of the vibration travel and arrival times.

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 4,096 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.

Instantel

Minimate Pro4™

General Specifications	Minimate Pro4
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

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	512m 1,024, 2,048, and 4,096 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

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

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 – submerse 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. Monitor start/stop timer
Additional Features	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.
Electrical Standards	CE Class B (IEC 61000-4-2 to IEC 4-6 and IEC 4-11, 1994 - 1996) Contact **Instantel** for more information.

Corporate Office:
309 Legget Drive,
Ottawa, Ontario K2K 3A3
Canada

US Office:
808 Commerce Park Drive,
Ogdensburg, New York 13669
USA

Toll Free: (800) 267 9111
Telephone: (613) 592 4642
Facsimile: (613) 592 4296
Email: sales@instantel.com

STANLEY

720B0001 Rev 03 - Product Specifications are Subject to Change

Instantel

The World's Most Trusted Vibration Monitors