

# Minimate Pro™

Advanced Vibration, Air Overpressure and Sound Monitoring at Your Fingertips.



# Minimate Pro™

Experience a unique set of advanced monitoring capabilities when it comes to recording vibration, sound/noise level, or air overpressure. Designed to weather the most extreme conditions, the Minimate Pro can handle anything you can throw at it.

For those challenging applications, such as tunneling, the Minimate Pro includes EMI shielding and built-in noise and anti-aliasing filters to reduce noise and electrical interference.

The Minimate Pro allows you to never miss an event with its zero dead time. Enjoy up to 10 days of uninterrupted monitoring with the provided internal battery and 64 MB of memory that can store up to 8,000 events, upgradeable to 32,000 events with the extended 240 MB memory option.

The Minimate Pro also boasts advanced recording and reporting features. Its arsenal of advanced sensors enhance its monitoring capabilities, allowing you to record up to 65,536 samples per second on all channels.



A waterproof rating of IP67 makes it easy to monitor even in wet conditions.



(Minimate Pro6 Model Shown)

## A full range of applications

- Construction
- Near/Far Blast Analysis
- Vibration Dose Value (VDV)
- Underwater Monitoring
- Demolitions
- Heavy Transportation
- Sound Monitoring
- Research/Education
- Pile Driving

## Minimate Pro Optional Features



Synchronize time with factory-installed GPS.



Our cloud-based software provides stakeholders with secure, encrypted access to event data, and allows instant sharing for time-sensitive projects.

## Optional sensors and accessories to accommodate every requirement.



ISEE Triaxial Geophone (2-250 Hz)



DIN Triaxial Geophone (1-80 Hz or 1-315 Hz)



Borehole Geophone ISEE (2-250 Hz) DIN (1-315 Hz)



High Frequency Triaxial Geophone (30-1000 Hz)



Borehole Geophone ISEE (2-250 Hz) DIN (1-315 Hz)



High Pressure Microphone (5-1000 Hz)



Hydrophone (8-500 Hz)



Linear Microphone (2-250 Hz)



Sound Level Microphone (10-20 Hz Class 1)

### Accelerometers



(Left to Right)  
0.5g (0.5-500 Hz)  
50g (1-3000 Hz)  
500g (1-3000 Hz)

# The most rugged and reliable monitoring units in the industry.

## Record and store events and data easily with uninterrupted monitoring and zero dead time between events.

### Waveform Recording

Use this mode to record multiple events with no dead time between events, for example when recording blasting activity.

### Histogram Recording

Use this mode to record over a long-term period, such as when you are monitoring pile driving operations.

### Histogram-Combo

Use this mode to monitor activities that induce repetitive vibrations (Ex.: pile driving, dynamic compaction), and monitor triggered waveforms (Ex.: blasting).

### 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 to 500 Pa (0.00029 to 0.0725 psi) [100 to 148 dB]
Sound Level Microphone Trigger	33 to 140 dB (A or C)
Sample Rate (per channel)	512, 1,024, 2,048, 4,096 S/s per channel (independent of record time) Advanced license: 8,192, 16,384, 32,768, 65,536 S/s
Record Stop Mode	Fixed record time, AutoRecord™ (see Auto Record time below)
Record Time	1-9,000 seconds (1-30 seconds, then 30-second increments up to 9,000 seconds) plus a 0.25 second pre-trigger
Auto Record Time	Event is recorded until activity remains below trigger level for duration of auto window, or until available memory is full.
Cycle Time	Recording interrupted by event processing, monitoring, or communication - no dead time below 65 KHz.
Storage Capacity	64 MBs; Optional 240 MBs
Full Waveform Events	
<i>Minimate Pro4:</i>	8,000 1-second events at 1,024 S/s sample rate (32,000 with extended memory)
<i>Minimate Pro6:</i>	7,100+ 1-second events at 1,024 S/s sample rate with two geophones (28,000 with extended memory)

### Histogram Recording

Record Modes	Histogram and Histogram-Combo (unit captures triggered waveforms while recording in Histogram mode)
Recording Interval	2 to 30 seconds (1-second increments), and 30 seconds to 60 minutes (30-second increments)
Storage Capacity	
Histogram <i>Minimate Pro4:</i>	800,000 Intervals (18.5 days at 2-second intervals, >2 years at 1.5 minute intervals)
Histogram <i>Minimate Pro6:</i>	512,000 intervals (~12 days at 2-second intervals, ~1 year at 1-minute intervals with 2 geophones)
Histogram-Combo <i>Minimate Pro4:</i>	30 days of Histogram recording at 1-minute intervals, and over 7,500 1-second waveform events at 1,024 S/s
Histogram-Combo <i>Minimate Pro6:</i>	30 days of Histogram recording at 1-minute intervals, and over 6,500 1-second waveform events at 1,024 S/s

# Specifications

## General Specifications

Channels	<i>Minimate Pro4 or Pro6:</i> Channels 1-3: ISEE or DIN Triaxial Geophone or various configurations of advanced sensors. <i>Minimate Pro4:</i> Channel 4: ISEE Linear Microphone, Sound Level Microphone, or a single channel advanced sensor. <i>Minimate Pro6:</i> Channel 4-6: a 2nd ISEE/DIN Triaxial Geophone, an ISEE Linear Microphone, Sound Level Microphone, or various configurations of advanced sensors.
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### Geophone:

Range	ISEE / DIN: Up to 254 mm/s (10 in/s)
Response Standard	ISEE: ISEE Seismographic Specification (2017) DIN: DIN 45669-1
Resolution	ISEE / DIN: 0.00788 mm/s (0.00031 in/s)
Frequency Range	ISEE: 2 to 250 Hz      DIN: 1 to 315 Hz or 1 to 80 Hz
Accuracy	ISEE: From 2 to 4 Hz and 125 to 250 Hz: +5% to -3 dB of an ideal flat response, from 4 to 125 Hz; ±5% or ±0.5 mm/s (0.02 in/s) whichever is larger. DIN: DIN 45669-1 standard
Phase Response	ISEE / DIN: Phase shift from 2.5 to 250 Hz <10% of maximum absolute value of 2 superimposed harmonic vibrations.
Transducer Density	ISEE / DIN: 2.2 g/cc (137 lbs/ft <sup>3</sup> )
Maximum Cable Length	ISEE: 75 m (250 ft)    DIN: 1,000 m (3,280 ft)

### ISEE Linear Microphone:

Weighting Scales	ISEE Linear Microphone
Response Standard	ISEE Seismograph Specification (2017)
Range	Up to 500 Pa (0.0725 psi) [148 dB]
Resolution	0.0156 Pa (2.2662x10 <sup>-6</sup> psi)
Frequency Range	2 to 250 Hz
Accuracy	2 Hz: -3 dB ± 1 dB, 3 Hz: -1 dB ± 1 dB, from 4 Hz to 125 Hz: ± 1 dB, 200 Hz: + 1 dB to - 3 dB, 250 Hz: + 1 dB to - 4 dB
Maximum Cable Length	75 m (250 ft)

### Sound Level Microphone:

Weighting Scales	A-Weight or C-Weight
Response Standard	Fast (125 ms) or Slow (1 s)
Range	30 to 140 dB, max 160 dB (A or C)
Resolution	0.05 dB (display limit 0.1 dB)
Frequency Range	Up to 20 kHz
Accuracy	IEC 61672 Class 1
Maximum Cable Length	75 m (250 ft)

## Physical Specifications

Dimensions	254 x 117.5 x 108 mm (10.0 x 4.63 x 4.25 in) (includes connectors and dust caps)
Weight	2.27 kg (5 lbs)
Battery	10 days
User Interface	10 domed tactile keys with separate keys for common functions
Display	7-line x 32-character, high contrast, backlit LCD
Computer Interface	Ethernet® cable for PC to unit connection (supplied), or RS-232 with an optional USB adaptor
Auxiliary Inputs and Outputs	External Trigger and Remote Alarm (factory installed option)
Electrical Standard	CE Class B; the Minimate has been tested and passed IEC 61010-1: (2nd ed. 2001) (CB scheme test report available)
Remote Communications	Supported modems: Sierra Wireless™ Airlink® RV-50, GX-400, LS-300. Automatic event transfer when events occur through the Auto Call Home feature.

## Environmental Specifications

LCD Operating Temperature	-20 to 45 °C (4 to 113 °F)
Electronics Operating Temperature	-40 to 45 °C (40 to 113 °F)
Water Resistance	IP67 - submerge to 300mm (1 ft) for 24 hours

See document 720B0001 (Minimate Pro 4) and 720B0002 (Minimate Pro 6) for complete specifications.

## About InstanTEL

For over 40 years, InstanTEL has been a global leader with best-in-class vibration, noise and air overpressure equipment for quarries, mining, construction, civil, geotechnical and other applications. Our products are around the world, contributing to the success of our customer's projects in over 120 countries. From specialized sensors and recording options, to remote data collection and a cloud-based data hosting solution, InstanTEL continues a history of innovation and industry firsts.

## Our Services



### Calibration

We calibrate at every frequency on the spectrum, not just a subset, so you can be sure it is working in accordance with industry guidelines and specifications.



### Service

Whether your unit is sent in for upgrades, calibration, or repairs, we pride ourselves in our quality workmanship.



### Support

InstanTEL is dedicated to providing the highest quality of service through knowledgeable and responsive technical support. Browse our website's frequently asked questions (FAQ) for fast, easy information.

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### Order Your Minimate Pro:

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Learn more about  
the Minimate Pro.

[www.instanTEL.com](http://www.instanTEL.com)