

# Minimate Blaster™

## Blast Vibration and Overpressure Monitor

### Range of Applications:

- Blast-monitoring for compliance
- Compliant to ISEE Standard
- Compliant to optional DIN 45669-1 Standard

The **Instantel® Minimate Blaster™** vibration and overpressure monitor has the features you need for reliable blast monitoring in a simple and economical package.

### Simple

The monitor incorporates an eight-key tactile keypad and on-board LCD, with a clearly structured, menu-driven interface - giving you complete control for quick and easy setup and operation. In addition, the **Instantel® AutoRecord™** record stop mode automatically sets the record length based on vibration and overpressure activity, helping ensure that you record the entire event. It also comes with an integrated monitoring log, for compliance with many local and regional regulatory standards.

### Flexible

Producing professional reports is easy. Print directly from the **Minimate Blaster** monitor to one of many compatible printers, or transfer events directly to an **Instantel Blastmate III™** monitor and print using the integrated on-board printer. Events can also be easily downloaded to a computer via a standard RS-232 interface using the included **Instantel Blastware® Compliance Module** software. From there, you have all the tools to generate full-page event reports and frequency analysis.

### Reliable

A vibration monitor is a necessity, so it had better work – always. That's why so many blasters trust **Instantel** reliability. With standard features like zero-dead-time while recording, 300-event memory, and a battery that has the capacity for 210 hours of continuous monitoring, the **Minimate Blaster** monitoring system gives you confidence that you will get the record every time.



### Key Features

- Small, rugged package for portability and easy setup.
- Easy-to-use keypad with intuitive menu-driven operation.
- Rechargeable gel cell battery allows continuous monitoring for up to 210 hours.
- Non-volatile memory with storage capacity for up to 300 events.
- Sample rates from 1,024 to 4,096 S/s.
- Integral monitor log records time and duration of monitoring jobs.
- **AutoRecord** record stop mode allows the monitor to continue recording as long as activity cycles above the trigger level.
- Continuous monitoring means zero dead time, even while the unit is processing.
- Fully compliant with the International Society of Explosives Engineers (ISEE) Performance Specifications for Blasting Seismographs.
- Compliant with optional DIN 45669-1 Standard

# Minimate Blaster™

## General Specifications

## Minimate Blaster

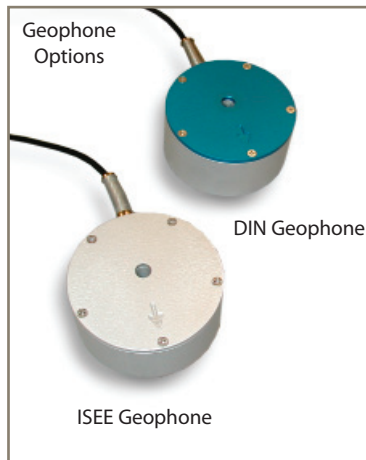
Channels	Microphone and Triaxial Geophone (ISEE or optional DIN 45669-1)
Vibration Monitoring	
Range	Up to 254 mm/s (10 in/s)
Resolution	0.127 mm/s (0.005 in/s) or 0.0159 mm/s (0.000625 in/s) with built-in preamp
Accuracy (ISEE / DIN)	+/- 5% or 0.5 mm/s (0.02 in/s), whichever is larger, between 4 and 125 Hz / DIN 45669-1 standard
Transducer Density	2.13 g/cc (133 lbs/ft <sup>3</sup> )
Frequency Range (ISEE / DIN)	2 to 250 Hz, within zero to -3 dB of an ideal flat response / 1 to 315 Hz
Maximum Cable Length (ISEE / DIN)	75 m (250 ft) / 1,000 m (3,280 ft)
Air Overpressure Monitoring	
Weighting Scale	Linear
Range	88 to 148 dB (500 Pa (0.072 PSI) Peak)
Resolution	0.25 Pa (0.0000363 PSI)
Accuracy	+/- 10% or +/- 1 dB, whichever is larger, between 4 and 125 Hz
Frequency Range	2 to 250 Hz between -3 dB roll off points

## Waveform Recording

Record Modes	Manual and Continuous
Seismic Trigger	0.125 to 254 mm/s (0.005 to 10 in/s)
Acoustic Triggers	100 to 148 dB
Sample Rate	1,024 S/s to 4,096 S/s per channel (independent of record time)
Record Stop Mode	Fixed record time, <b>Instantel® AutoRecord™</b> record stop mode
Record Time	1 to 20 seconds (programmable in one-second steps) plus 0.25 second pre-trigger
<b>AutoRecord</b> Time	Auto window programmable from 1 to 9 seconds, plus a 0.25 second pre-trigger. Event is recorded until activity remains below trigger level for duration of auto window, or until available memory is filled. Recording uninterrupted by event processing - no dead time
Cycle Time	
Storage Capacity	
Full Waveform Events	300 one-second events at 1,024 S/s sample rate
Event Summaries	1,750

## Physical Specifications

Dimensions	81 x 91 x 160 mm (3.2 x 3.6 x 6.3 in)
Weight (monitor and sensors)	2.6 kg (5.7 lbs)
Battery	Rechargeable 6 V sealed gel cell - capacity for 210 hours of continuous monitoring
User Interface	8-key keypad with domed tactile keys
Display	4-line x 20-character, high contrast, backlit LCD with on-line help
PC Interface	RS-232
Auxillary Inputs and Outputs	External Trigger, Remote Alarm, coordinate download from GPS
Environmental	
LCD Operating Temperature	-10 to 50°C (14 to 122°F)
Electronics Operating Temperature	-20 to 60°C (-4 to 140°F)
Remote Communications	Compatible with Telephone, GSM, Cellular, RF, Satellite and Short-haul modems.
Additional Features	Monitor start/stop timer



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716B0001 Rev 08 - Product Specifications are Subject to Change

The World's Most Trusted Vibration Monitors

# Minimate Plus™

## Advanced Vibration and Overpressure Monitor

### Range of Applications:

- Blast-monitoring for compliance
- Near-field blast analysis
- Pile driving
- Construction activity
- Demolition activity
- Heavy Transportation
- Bridge monitoring
- Structural analysis
- Underwater blast monitoring
- 4 or 8 channel data acquisition
- Remote monitoring - Auto Call Home™
- Structural monitoring - Flex™

When we asked what you wanted in a vibration monitor, you said “Everything.” So, we designed the **InstanTel® Minimate Plus™** vibration and overpressure monitor. Ever since, it has become a favourite of contractors, consultants, engineers and blasters, because it offers unrivalled features and versatility in a rugged and easy-to-use package.

### Versatile

Use the **Minimate Plus** monitor with an **InstanTel Standard Triaxial Geophone** (ISEE or DIN version) and an overpressure microphone (Linear or A Weight) to provide a rugged, reliable compliance monitoring system. Add the **InstanTel 8-Channel** option and a single monitor may be used with two triaxial geophones and two microphones.

For more demanding monitoring applications, the **InstanTel Blastware® Advanced Module** software provides the capability to monitor a broad selection of vibration and overpressure sensors, as well as sensors for structural and environmental measurements. Monitor vibration, ambient environmental conditions, and the movement of structural cracks, all at the same time, all using the same **Minimate Plus** monitor.

### Intelligent

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 **Blastware** software automatically distributes files or summary information to multiple e-mail or text messaging addresses.

### Easy to use

Even with all of these features, the **Minimate Plus** system is still easy for anyone to use. A high-contrast LCD, eight-key tactile keypad, coupled with simple menu-driven operations, provides complete control and confidence.

**Minimate Plus** - everything you need and more.



### Key Features

- **InstanTel Histogram Combo™** mode allows capture of full waveform records while recording in histogram mode.
- **Auto Call Home** feature automates remote monitoring applications.
- Sample rates from 1,024 to 4,096 S/s, per channel with up to 65,000 S/s available on a single channel.
- Available **InstanTel 8-channel** option allows for two standard geophones and two microphones to be operated from one **Minimate Plus** monitor.
- Non-volatile memory with standard 300-event storage capacity (optional 1,500-event capacity).
- Records waveform events up to 100 seconds long with standard setup, or up to 500 seconds with advanced setup.
- Continuous monitoring means zero dead time, even while the unit is processing.
- Any channel can be matched to a wide variety of sensors - geophones, accelerometers, or hydrophones.

# Minimate Plus™

## General Specifications

## Minimate Plus

Channels	Microphone and Triaxial Geophone or 4 independent user-configurable channels (two Microphones and two Triaxial Geophones or 8 independent channels with optional 8-channel upgrade)
Vibration Monitoring (with Standard Triaxial Geophone)	
Range	Up to 254 mm/s (10 in/s)
Resolution	0.127 mm/s (0.005 in/s) or 0.0159 mm/s (0.000625 in/s) with built-in preamp
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 <sup>3</sup> )
Frequency Range (ISEE / DIN)	2 to 250 Hz, within zero to -3 dB of an ideal flat response / 1 to 315 Hz
Maximum Cable Length (ISEE / DIN)	75 m (250 ft) / 1,000 m (3,280 ft)
Air Overpressure Monitoring	
Weighting Scales	Linear or A-weight
Linear Range	88 to 148 dB (500 Pa (0.072 PSI) Peak)
Linear Resolution	0.25 Pa (0.0000363 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
A-weight Range	50 to 110 dBA
A-weight Resolution	0.1 dBA

## Waveform Recording

Record Modes	Manual, Single-shot, Continuous
Seismic Trigger	0.125 to 254 mm/s (0.005 to 10 in/s)
Acoustic Triggers	
Linear	100 to 148 dB
A-weight	55 to 110 dBA
Sample Rate	1,024 to 4,096 S/s per channel (independent of record time), up to 65,536 S/s in single-channel mode with advanced software (max 8,192 S/s per channel for 8 channels)
Record Stop Mode	Fixed record time, <b>InstanTel® AutoRecord™</b> record stop mode
Record Time	1 to 100 seconds (programmable in one-second steps) or 500 seconds plus 0.25 seconds pre-trigger
<b>AutoRecord</b> Time	Auto window programmable from 1 to 9 seconds, plus a 0.25 second pre-trigger. Event is recorded until activity remains below trigger level for duration of auto window, or until available memory is filled. Recording uninterrupted by event processing - no dead time
Cycle Time	
Storage Capacity	
Full Waveform Events	300 one-second events at 1,024 S/s sample rate (1,500 event capacity with optional memory upgrade)
Event Summaries	1,750 (8,750 event capacity with optional memory upgrade)

## Histogram Recording

Record Modes	Histogram and <b>InstanTel Histogram Combo™</b> (monitor captures triggered waveforms while recording in Histogram mode)
Recording Interval	2, 5 or 15 seconds; 1, 5 or 15 minutes
Storage Capacity	46,656 intervals - 3 days at 5-second intervals or 486 days at 15-minute intervals (with memory upgrade - 15 days at 5-second intervals or 540 days at 15-minute intervals)

## Physical Specifications

Dimensions	81 x 91 x 160 mm (3.2 x 3.6 x 6.3 in)
Weight	1.4 kg (3 lbs)
Battery	Rechargeable 6 V sealed gel cell - capacity for 210 hours of continuous monitoring
User Interface	8-key keypad with domed tactile keys
Display	4-line x 20-character, high-contrast, backlit LCD
PC Interface	RS-232
Auxillary Inputs and Outputs	External Trigger, Remote Alarm, coordinate download from GPS
Environmental	
LCD Operating Temperature	-10 to 50°C (14 to 122°F)
Electronics Operating Temperature	-20 to 60°C (-4 to 140°F)
Remote Communications	Compatible with Telephone, GSM, Cellular, RF, Satellite, Short-haul modems and Ethernet® device servers. Automatically transfers events when they occur through the <b>InstanTel Auto Call Home™</b> feature.
Additional Features	Monitor start/stop timer

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The World's Most Trusted Vibration Monitors

# 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

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 <sup>3</sup> )
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 <sup>-6</sup> 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	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, <b>InstanTel® AutoRecord™</b> record stop mode
Record Time	1 to 999 seconds (programmable in one-second steps) plus a 0.25 seconds pre-trigger
<b>AutoRecord</b> 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 <b>InstanTel Histogram Combo™</b> (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
<b>Histogram Combo</b> 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 – 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 <b>InstanTel Auto Call Home™</b> feature.
Additional Features	Monitor start/stop timer
Electrical Standards	Optional <b>InstaLink</b> to leverage the Internet for automated processing of vibration data directly from an <b>InstanTel</b> 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 <b>InstanTel</b> for more information.

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The World's Most Trusted Vibration Monitors

# Minimate Pro6™

## Series IV – Advanced Vibration and Overpressure Monitors

### Range of Applications:

- **Minimate Pro6**  
6-Channel data acquisition
- Blast-monitoring for compliance
- Multi-point monitoring
- Remote monitoring - Auto Call Home™
- Blast analysis
- Near and Far-field blast analysis
- Pile driving
- Construction activity
- Demolition activity
- Structural monitoring
- Underwater monitoring
- Heavy Transportation

The **Instantel® Minimate Pro6™** vibration and overpressure monitors are built on the success of the **Minimate® Series III** monitoring systems.

The **Minimate Pro6** offers 64MBs of memory, improved ruggedness, including a metal case and connectors, and water resistance.

Connect two standard ISEE or DIN Triaxial Geophones to monitor vibration sources from two different locations, or connect one ISEE or DIN Triaxial Geophone and an ISEE Linear Microphone when air overpressure is data is required.

### 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 Pro6** 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 7100-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 Pro6™

## General Specifications

## Minimate Pro6

Minimate Pro6 Channels	Channels 1-3, ISEE (or DIN) Triaxial Geophone, and Channels 4-6, a second ISEE (or DIN) Triaxial Geophone, or an 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 <sup>3</sup> )
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	0.0156 pa (2.2662×10 <sup>-6</sup> 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 (10 dB to 148 dB)
Sample Rate	512, 1,024, 2,048, 4,096, 8192, 16,384, 32,768, 65,536 S/s per channel (independent of record time)
Record Stop Mode	Fixed record time, <b>Instantel® AutoRecord™</b> record stop mode
Record Time	1 to 999 seconds (programmable in one-second steps) plus a 0.25 seconds pre-trigger
<b>AutoRecord</b> 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 Pro6 Storage Capacity	64 MBs
Full Waveform Events	7100-plus 1 second events at 1,024 S/s sample rate with two geophones

## Histogram Recording

Record Modes	Histogram and Instantel <b>Histogram Combo™</b> (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	512,000 intervals, examples: 11.9 days at 2 second intervals, or 355 days at 1 minute
<b>Histogram Combo</b> Storage Capacity	Example: 30 days of Histogram recording at 1 minute intervals, and over 6500 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.
Auxiliary 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	IP67 – 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 <b>Instantel Auto Call Home™</b> feature.
Additional Features	Monitor start/stop timer
Electrical Standards	Optional <b>InstaLink</b> to leverage the Internet for automated processing of vibration data directly from an <b>Instantel</b> 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 <b>Instantel</b> for more information.

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The World's Most Trusted Vibration Monitors

# Blastmate III™

## Full-Featured, Advanced Vibration and Overpressure Monitor

### Range of Applications:

- Blast-monitoring for compliance
- Near-field blast analysis
- Pile driving
- Construction activity
- Demolition activity
- Heavy transportation
- Bridge monitoring
- Structural analysis
- Underwater blast monitoring
- 4 or 8 channel data acquisition
- Remote monitoring - Auto Call Home™

Consultants, engineers and contractors the world over recognize the **Instantel® Blastmate III™** vibration and overpressure monitor as the most versatile and most reliable full featured monitor available. It provides all of the industry-leading features of the **Instantel Minimate Plus™** monitor, conveniently packaged with a full keyboard and a high-resolution printer. This allows you to setup, add notes and print complete event reports in the field, without a computer.

### Versatile

With standard features like the **Instantel Histogram Combo™** monitoring mode, zero dead-time between events, and flexible sample rates up to 65,536 S/s, the **Blastmate III** system provides you with control and confidence to monitor reliably in any situation. For added versatility, you have the option to add 4 more channels and extra memory, providing two complete standard monitors in a single package.

For more demanding monitoring applications, the **Instantel Blastware® Advanced Module** software provides the capability to monitor a broad selection of vibration and overpressure sensors, as well as sensors for related structural and environmental measurements. Monitor vibration, ambient environmental conditions, and the movement of structural cracks, all at the same time, all using the same **Blastmate III** monitor.

### Easy to use

The features and versatility of the **Blastmate III** monitor set it apart, but the fact that it is also easy to use makes it truly revolutionary. The dedicated single use function keys, backlit LCD and simple menu-driven operation make setup and operation quick and easy, even for inexperienced personnel.

### Tough

The **Blastmate III** monitor has been built to survive, with a fully sealed top panel, non-corrosive industrial grade connectors and sealed electronics, all packed in a rugged, water-resistant case.

**Blastmate III** - Reliability and versatility for any monitoring application.



### Key Features

- Fast high-resolution thermal printer for event reports in the field without the need for a computer.
- Full keyboard simplifies entry of job-specific notes and information.
- Dedicated function keys and intuitive menu-driven operation enable quick and easy setup.
- **Histogram Combo** mode allows capture of full waveform records while recording in histogram mode.
- Sample rates from 1,024 to 16,384 S/s per channel - up to 65,536 S/s available on a single channel.
- Available 8-channel option allows for 2 standard triaxial geophones and 2 microphones to be used on a single **Blastmate III** monitor.
- Continuous monitoring means zero dead time, even while the unit is processing.
- Any channel can be matched to a wide variety of sensors - geophones, accelerometers, or hydrophones.

# Blastmate III™

## General Specifications

## Blastmate III

Channels	Microphone and Triaxial Geophone or 4 independent user-configurable channels (two Microphones and two Triaxial Geophones or 8 independent channels with optional 8-channel upgrade)
Vibration Monitoring (with Standard Triaxial Geophone)	
Range	Up to 254 mm/s (10 in/s)
Resolution	0.127 mm/s (0.005 in/s) or 0.0159 mm/s (0.000625 in/s) with built-in preamp
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 <sup>3</sup> )
Frequency Range (ISEE / DIN)	2 to 250 Hz, within zero to -3 dB of an ideal flat response / 1 to 315 Hz
Maximum Cable Length (ISEE / DIN)	75 m (250 ft) / 1,000 m (3,280 ft)
Air Overpressure Monitoring	
Weighting Scales	Linear or A-weight
Linear Range	88 to 148 dB (500 Pa (0.072 PSI) Peak)
Linear Resolution	0.25 Pa (0.0000363 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
A-weight Range	50 to 110 dBA
A-weight Resolution	0.1 dBA

## Waveform Recording

Record Modes	Manual, Single-shot, Continuous
Seismic Trigger	0.125 to 254 mm/s (0.005 to 10 in/s)
Acoustic Triggers	
Linear	100 to 148 dB
A-weight	55 to 110 dBA
Sample Rate	1,024 to 16,384 S/s per channel (independent of record time), up to 65,536 S/s in single-channel mode with advanced software (maximum 8,192 S/s per channel for 8 channels)
Record Stop Mode	Fixed record time, <b>Instantel® AutoRecord™</b> record stop mode
Record Time	1 to 100 seconds (programmable in one-second steps) or 500 seconds plus 0.25 seconds pre-trigger
<b>AutoRecord</b> Time	Auto window programmable from 1 to 9 seconds, plus a 0.25 second pre-trigger. Event is recorded until activity remains below trigger level for duration of auto window, or until available memory is filled. Recording uninterrupted by event processing - No dead time
Cycle Time	
Storage Capacity	
Full Waveform Events	300 one-second events at 1,024 S/s sample rate (1,500 event capacity with optional memory upgrade)
Event Summaries	1,750 (8,750 event capacity with optional memory upgrade)

## Histogram Recording

Record Modes	Histogram and <b>Instantel Histogram Combo™</b> (monitor captures triggered waveforms while recording in Histogram mode)
Recording Interval	2, 5 or 15 seconds; 1, 5 or 15 minutes
Storage Capacity	46,656 intervals - 3 days at 5-second intervals or 102 days at 15 minute intervals (with memory upgrade - 15 days at 5-second intervals or 540 days at 15 minute intervals)

## Physical Specifications

Dimensions	269 x 355 x 165 mm (10.6 x 14.0 x 6.5 in)
Weight	6.4 kg (14 lbs)
Battery	Rechargeable 6 V sealed gel cell - capacity for 30 days of continuous monitoring
User Interface	63 domed tactile keys including full keyboard and dedicated keys for common functions
Display	4-line x 20 character, high contrast, backlit LCD with online help
Printer	High resolution thermal plotter
PC Interface	RS-232
Auxillary Inputs and Outputs	External Trigger, Remote Alarm, coordinate download from GPS
Environmental	
Printer/LCD Operating Temperature	-10 to 50°C (14 to 122°F)
Electronics Operating Temperature	-20 to 60°C (-4 to 140°F)
Remote Communications	Compatible with Telephone, GSM, Cellular, RF, Satellite, Short-haul modems, and Ethernet® device servers. Automatically transfers events when they occur through <b>Instantel Auto Call Home™</b> feature.
Additional Features	Monitor start/stop timer

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714B0053 Rev 07 - Product Specifications are Subject to Change

The World's Most Trusted Vibration Monitors