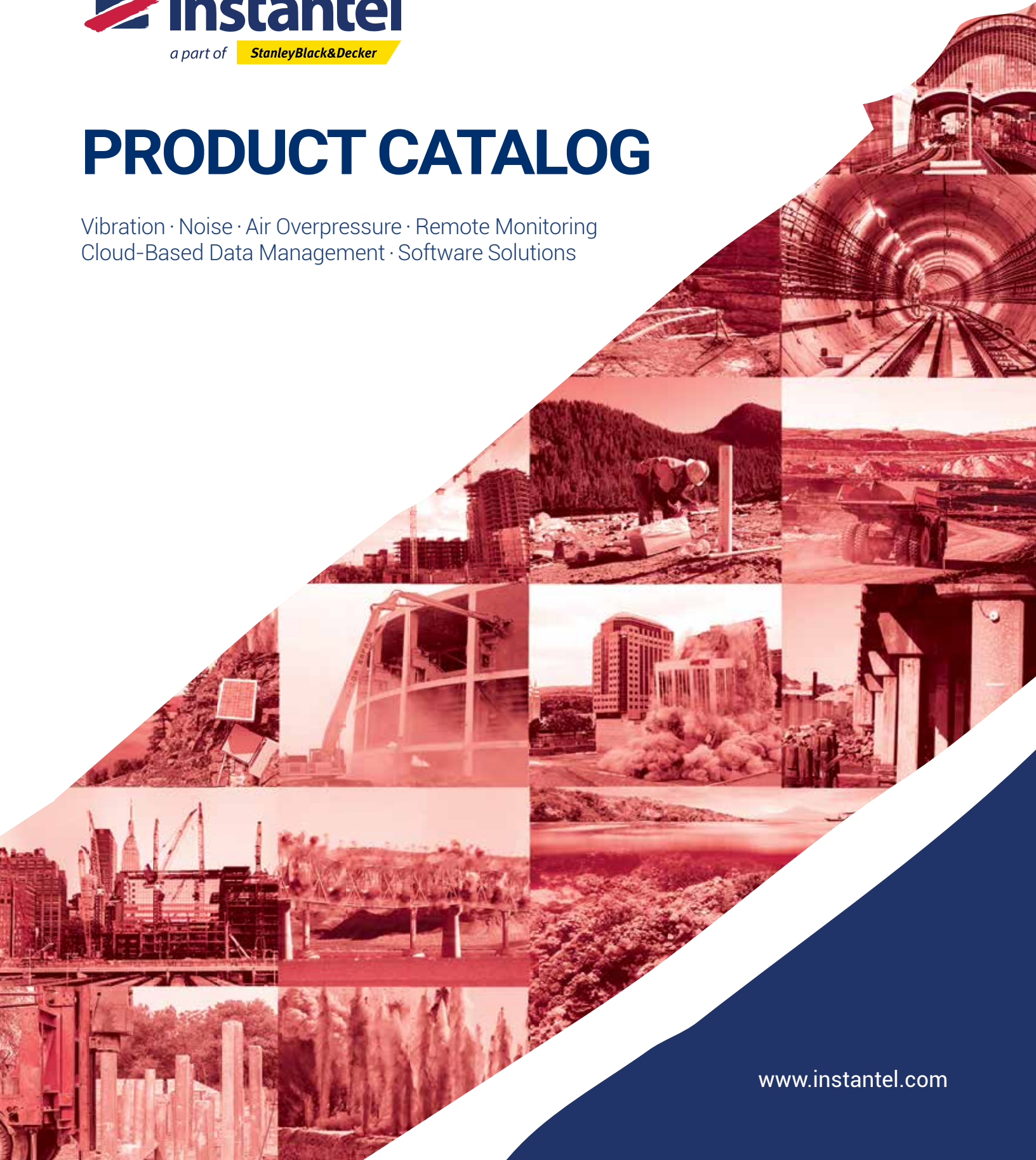![Instantel — a part of Stanley Black&Decker]

PRODUCT CATALOG

Vibration · Noise · Air Overpressure · Remote Monitoring
Cloud-Based Data Management · Software Solutions

Contents

About Instantel

For over 35 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 customers' 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.

We are proud of our position as an industry leader, with total committed to improvement through innovation. We understand that our customers face challenging environments daily and that they need their data quickly and reliably to ensure the success of their projects. We specialize in providing our customers with the tools they need to get their jobs done safely and within regulations. Our flexible product portfolio allows our customers to select the monitoring solution that best meets their needs - whether deep in the earth, above ground or underwater.

What We Do

We design, manufacture, calibrate and service all our products. We thrive on creating industry firsts, and at Instantel we've created a lot of them. (See following page)

Our dedicated Product Development team strives to keep us at the forefront of innovation, while working with our customers to improve our current product lines. We design software solutions that fully integrate with our units, making data collection smooth and easy. For us, ease-of-use is a way of thinking, designed into each and every Instantel product.

At Instantel, we don't just deliver industry leading products, we also deliver world-class service. Our knowledgeable Technical Support team is dedicated to providing our customers with practical expertise and advice. Our customers often face difficult installations and we are here to help them find the right solution.

We drive quality in every service we deliver and never take shortcuts. We calibrate at every frequency on the spectrum, not just a subset. When your units are calibrated by Instantel, you can guarantee that your event data is accurate. Our Service and Calibration team is committed to low turnaround times, keeping units where they are needed – in the field.

Our Services

Calibration

We recommend that your equipment returns to Instantel annually for 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. Once completed, a calibration certificate is issued specifying conformity to international standards such as the ISEE and DIN.

Service@instantel.com
1-800-267-9111

Service

Whether your unit is sent for repairs, upgrades or callibration, we pride ourselves in our quality workmanship and never take shortcuts. With Instantel, you can guarantee that your event data is accurate. Our Service, Repairs and Calibration team is committed to low turnaround times, keeping units where they are needed – in the field.

Service@instantel.com
1-800-267-9111

Support

Instantel is dedicated to providing the highest quality of service through knowledgeable and responsive technical support. Get support by phone, email or Skype. Browse our website's frequently asked questions (FAQs) section or open a ticket to have your unit repaired.

Support@instantel.com
1-613-592-4642

A History of Industry Firsts from Instantel

Compact Seismograph

Touch Screen Interface

ACH Auto Call Home

Histogram-Combo™ Mode

Web Reporting

Compliance Reporting

In-field Printer

Online Tutorials

Our Products

With our solid fleet of Micromate and Minimate Pro products you will always have the right solution for your most demanding projects. Access post-monitoring data analysis and reporting from your local computer using THOR software or over our cloud-based Vision platform. Instantel offers complete hardware and software systems for all your monitoring needs!

Micromate System Overview

Applications

Vibrations

- Civil Projects
- Dynamic Compaction
- Pile Driving
- Blasting
- Demolition
- Underground Mines
- Vibration Dose Value (VDV)
- Remote Access
- Oil & Gas
- Tunnels / Subways
- Quarries
- Construction

Vibration Monitoring

- Sound Level Microphone
- Linear Microphone
- ISEE
- DIN
- Swedish Blasting
- Swedish Pile Driving
- Borehole Geophone (ISEE, DIN)

Vibrations

Instantel

Mic

January 01, 2020 09:37:58
Ready To Monito

Sensor Check · Setup · Charging Status
Start Monitor · Cancel

GEOPHONE   AUXILIARY   MICROPHONE

Micromate®

- ▶ Monitoring Data
- ▶ Via Cellular
- ▶ Via USB
- ▶ Via Direct Connection

How a Micromate Monitoring Unit Connects Using THOR and Vision Software Systems

Vision (Cloud Software)

Record Mode Options

Waveform

Histogram

Internet

Mobile

Tablet

Laptop

Data Output

Data Transmission Options

Via Cellular Modem

Via USB

Via Direct Connection

THOR

The Micromate's geophone and microphone sensors capture every relevant vibration from a host of industrial applications. Using Waveform, Histogram or a combination of the two modes, the Micromate gathers event data and then transmits the data to a computer or mobile device via a direct connection, USB, or via a cellular modem over the internet.

Micromate®

Seamlessly record vibration, sound/noise, or air overpressure with just one monitoring unit. The Micromate was custom engineered with a rugged and reliable design to withstand harsh conditions, including water-resistance. Experience zero dead-time that includes 10 to 15 days of uninterrupted monitoring with the provided internal battery. The Micromate's 15 MB of memory can store up to 1,000 events, upgradeable to 4,000 events with the extended 60 MB memory option.

The Micromate is light and portable. It is small enough to fit in the palm of your hand and features a high resolution color touch-screen display with a QWERTY key pad. It features a built-in USB port so you can easily connect a USB flash drive to transfer events or even update the unit's firmware – quickly, easily and all in the field without the need of a computer.

The Micromate comes with three channels for a triaxial geophone and one channel for an air overpressure or sound level microphone. Each base unit is coupled with a geophone and configured to meet one of the following industry standards:

- International Society of Explosives Engineers (ISEE-2017) . . . . Base Unit P/N: 721A2501
- Deutsches Institut für Normung (DIN 45669-1) . . . . Base Unit P/N: 721A2601
- Swedish Blasting (SS4604866) . . . . Base Unit P/N: 721A3601
- Swedish Pile Driving (SS025211) . . . . Base Unit P/N: 721A3801

Micromate Specifications Sheet Available Online

Geophones

Micromate ISEE Triaxial Geophone

2-250 Hz geophone calibrated to the ISEE-2017 standard.
Select the geophone's cable length:
Cable length 2 m (6.5 ft) . . . . P/N: 721A2901
Cable length 5 m (16.4 ft) . . . . P/N: 721A2902
Includes Triaxial Geophone Mounting Spikes, see page 23.
Note: Must be calibrated to a Micromate Base Unit . . . . P/N: 721A2501

Micromate DIN Triaxial Geophone

1-315 Hz geophone calibrated to the DIN 45669-1 standard.
Select the geophone's cable length:
Cable length 2 m (6.5 ft) . . . . P/N: 721A3301
Cable length 5 m (16.4 ft). . . . . P/N: 721A3302
Includes Triaxial Geophone Mounting Spikes, see page 23.
Note: Must be calibrated to a Micromate Base Unit . . . . P/N: 721A2601

Micromate Swedish Blasting Geophone

5-300 Hz geophone. Calibrated to the SS4604866:2011 standard.
Select the geophone's cable length:
Cable length 2 m (6.5 ft) . . . . P/N: 721A3501
Cable length 5 m (16.4 ft). . . . . P/N: 721A3502
Includes Triaxial Geophone Mounting Spikes, see page 23.
Note: Must be calibrated to a Micromate Base Unit . . . . P/N: 721A3601

Micromate Swedish Pile Driving Geophone

2-150 Hz geophone. Calibrated to the SS025211 standard.
Select the geophone's cable length:
Cable length 2 m (6.5 ft) . . . . P/N: 721A3701
Cable length 5 m (16.4 ft) . . . . P/N: 721A3702
Includes Triaxial Geophone Mounting Spikes, see page 23.
Note: Must be calibrated to a Micromate Base Unit . . . . P/N: 721A3801

Borehole Geophone
Micromate Triaxial Borehole Geophone

64 mm (2.5 in) borehole geophone. Select the Borehole's cable length:
Cable length 30 m (100 ft) . . . . P/N: 721A2401
Cable length 75 m (250 ft) . . . . P/N: 721A2402
Calibrated to the same standard as the Micromate Base Unit, see page 8.
Note: Requires a 76 mm (3 in) minimum diameter borehole for installation.

Instruction Sheet Available Online 🖳

Microphones

Micromate Linear Microphone   P/N: 721A0201

Measures air overpressure on a linear scale.
Calibrated to the ISEE-2017 standard.
Includes a 2 m (6.5 ft) cable and Microphone Stand Assembly, see page 23.

Micromate Sound Level Microphone   P/N: 721A2301

Class 1 sound/noise microphone.
Calibrated to the IEC 61672-1: 2013 standard.
Includes a 2 m (6.5 ft) cable and a Microphone Stand Assembly, see page 23.

Instruction Sheet Available Online 🖳

Accessories

Triaxial Geophone Leveling Plate   P/N: 714A1801

Includes leveling plate, feet and an integrated spirit level.
For use with Micromate, Minimate Pro, Minimate Plus and Minimate Blaster external geophones.
Note: Geophone not included.

Micromate Power Adaptor   P/N: 370-000024-000

Mini USB power supply for use with Micromate monitoring units in North America.
Input 100 - 240V AC. Output 5V DC, 1A.

Micromate Universal Charger   P/N: 721A1201

Power adaptor for use with Micromate monitoring units internationally.
Input 110-240V AC 50/60Hz, Output 5V DC, 1A.

Triaxial Geophone Wall Mounts

Used to mount a triaxial geophone to a wall or other vertical surface. Includes bolts, aluminum mounting block, and mounting instructions. (Geophone not included)
Triaxial Geophone Wall Mount Kit . . . . P/N: 718A0101

Optional Triaxial Geophone Modification for Wall Mounting . . . . . . P/N: 721A3001
Note: This optional upgrade must be performed by the manufacturer and modifies a Micromate Triaxial Geophone to a wall mount orientation.

Micromate Portable Field Printer   P/N: 721A4301

Battery operated printer that includes a USB cable. Lightweight and easily transported for printing hard copies of event reports in the field.
Note: This printer has custom firmware specifically for the Micromate and must be purchased through Instantel to ensure compatibility.
Micromate Printer Paper (contains 5 rolls) . . . . P/N: TP5000-80-25C

Instruction Sheet Available Online

Micromate Remote Alarm Controller   P/N: 721A0901

Self-contained controller complete with 2 m (6.5 ft) cable and high power auxiliary drive capability for external sirens and other alarms.

Note: Requires the factory installed, Auxiliary Port option, see Micromate Upgrades below.

Instruction Sheet Available Online

Micromate Protective Boot and Cover   P/N: 721A0301

Protective rubber boot with a clear plastic cover that can hinge on either end. Provides protection from water, dust and impact from foreign objects. Various mounting options exist for diverse installation requirements.

Instruction Sheet Available Online

Micromate Carrying Case   P/N: 721A3101

Soft carrying case used to store and carry the Micromate base units and accessories. Foam insert included.

Upgrades
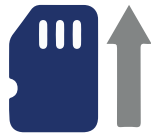
Micromate Extended Memory   P/N: 721A1101

Increases the internal non-volatile memory in the Micromate monitoring unit from 15 MB to 60 MB. This optional upgrade increases the storage capacity from 1,000 events to 4,000 events.
Note: Must be configured by the manufacturer.

Micromate Extended Battery Life   P/N: 71A1301

Extends the battery life of the Micromate monitoring unit from 10 days to 15 days.
Note: Must be configured by the manufacturer.

Micromate Auxiliary Port   P/N: 721A0101

For use with a remote alarm or an external trigger cable.
Note: Must be configured by the manufacturer.

Cables

Micromate External Trigger Cable
P/N: 721A1401

Includes a 2 m (6.5 ft) cable used to remotely trigger a Micromate monitoring unit.

Note: Requires the factory installed Auxiliary Port option, see Micromate Upgrades on page 12.

Instruction Sheet Available Online

Micromate Custom Extension Cable Kit
P/N: 721A3201

Kit for splicing custom length extension cables for Micromate geophones, borehole geophones and microphones in the field. Includes two 2 m (6.5 ft) over-molded cables. One cable has a male connector and the other cable has a female connector on one end. The other end of each cable has no connector.

Micromate 10 m (33 ft) Extension Cable
P/N: 721A0803

For use with Micromate geophones, borehole geophones and microphones. Includes the connectors.

Micromate 30 m (100 ft) Extension Cable
P/N: 721A0801

For use with Micromate geophones, borehole geophones and microphones. Includes the connectors.

Micromate 75 m (250 ft) Extension Cable
P/N: 721A0802

For use with Micromate geophones, borehole geophones and microphones. Includes the connectors.

Micromate USB to RS-232 Cable
P/N: 721A1001

Includes a 1.8 m (6 ft) cable used for connecting a Micromate monitoring unit to a cellular modem.

Minimate Pro System Overview

Applications

Vibrations

- Civil Projects
- Research
- Dynamic Compaction
- Oil & Gas
- Remote Access
- Pile Driving
- Vibration Dose Value (VDV)
- Under Water
- Blasting
- Construction
- Tunnels / Subways
- Demolition
- Quarries
- Underground Mines

Vibrations

Vibration Monitoring

- Sound Level Microphone
- Linear Microphone
- High Pressure Microphone
- Hydrophone
- ISEE
- DIN
- High Frequency
- Borehole Geophone (ISEE, DIN, HF)
- Accelerometer

Minimate Pro™

2020/01/01 11:34:12   fact
Ready to Monitor
Vibration: No Sensor Detected
Pressure: No Sensor Detected
              ↓View Data Files

On/Off   Setup   Sensor Check   Start Monitor

Minimate Pro™

► Monitoring Data
► Via Cellular
► Via Direct Connection

How a Minimate Pro Monitoring Unit Connects
Using THOR and Vision Software Systems

The Minimate Pro4 (4 channel) and Minimate Pro6 (6 channel) geophone and microphone sensors, along with the advanced sensors *(High Frequency Triaxial Geophone, High Frequency Triaxial Borehole Geophone, High Pressure Microphone, 0.5g-50g-500g Accelerometers)* capture all relevant vibrations (up to 65,536 S/s) from a host of industrial applications. Using Waveform, Histogram or a combination of the two modes, the Minimate Pro captures event data and then transmits the data to a computer or mobile device via a direct connection or via a cellular modem over the internet.

Minimate Pro™

Experience a unique set of advanced monitoring capabilities when it comes to recording vibration, sound/noise, or air overpressure. Designed to weather the most extreme conditions, the Minimate Pro can handle anything you can throw at it. The Minimate Pro features a rugged cast aluminum case with a waterproof rating of IP67, making it easy to monitor in wet conditions.

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. An arsenal of advanced sensors enhance its monitoring capabilities, recording up to 65,536 samples per second on all channels.

Choose between the four channel Minimate Pro4 and the six channel Minimate Pro6 base units and configure it to one of the following industry standards: International Society of Explosives Engineers (ISEE-2017) or Deutsches Institut für Normung (DIN 45669-1).

Minimate Pro4 Base Unit with 64 MB onboard memory . . . . P/N: 720A2301
Minimate Pro6 Base Unit with 64 MB onboard memory. . . . . P/N: 720A2401

Minimate Pro4 Specifications Sheet Available Online
Minimate Pro6 Specifications Sheet Available Online

Geophones

Minimate Pro4/Pro6 ISEE Triaxial Geophone

2-250 Hz geophone calibrated to the ISEE-2017 standard.
Select the geophone's cables length:
Cable length 2 m (6.5 ft) . . . . P/N: 720A2001
Cable length 8 m (26 ft) . . . . P/N: 720A2004
Includes mounting spikes, see page 23.

Minimate Pro4/Pro6 DIN Triaxial Geophone

1-315 Hz geophone calibrated to the DIN 45669-1 standard.
Select the geophone's cable length:
Cable length 2 m (6.5 ft). . . . . P/N: 720A2002
Cable length 8 m (26 ft). . . . . P/N: 720A2005
Includes mounting spikes, see page 23.

Minimate Pro4/Pro6 Vibration Dose Value (VDV) Triaxial Geophone

1-80 Hz geophone calibrated to the DIN 45669-1 standard.
Select the geophone's cables length:
Cable length 2 m (6.5 ft) . . . . P/N: 720A2003
Cable length 8 m (26 ft) . . . . P/N: 720A2006
Includes mounting spikes, see page 23.
Note: The VDV functionality requires THOR Advanced software, see page 27.

Minimate Pro4/Pro6 High Frequency Triaxial Geophone

30-1000 Hz geophone.
For near-field monitoring with a range up to 2540 mm/s (100 in/s).
Includes a 2 m (6.5 ft) cable . . . . P/N: 720A4701
Includes mounting spikes, see page 23.
Note: Requires THOR Advanced software, see page 27.

Borehole Geophones

Minimate Pro4/Pro6 ISEE Triaxial Borehole Geophone

2-250 Hz geophone calibrated to the ISEE-2017 standard . . . . . P/N: 720 A5601
64 mm (2.5 in) borehole geophone with 30 m (100 ft) cable.
Note: Requires a 76 mm (3 in) minimum diameter borehole for installation.

Instruction Sheet Available Online

Minimate Pro4/Pro6 DIN Triaxial Borehole Geophone

1-315 Hz geophone calibrated to the DIN 45669-1 standard . . . . P/N: 720A5701
64 mm (2.5 in) borehole geophone with 30 m (100 ft) cable.
Note: Requires a 76 mm (3 in) minimum diameter borehole for installation.

Instruction Sheet Available Online

Minimate Pro4/Pro6 Triaxial Borehole Geophone High Frequency

30-1000 Hz geophone for near-field monitoring . . . . P/N: 720A5801
64 mm (2.5 in) borehole geophone with 30 m (100 ft) cable.
Note: Requires a 76 mm (3 in) minimum diameter borehole for installation.
Note: Requires THOR Advanced software, see page 27.

Instruction Sheet Available Online

Microphones

Minimate Pro4/Pro6 Linear Microphone
P/N: 720A1801

Measures air overpressure on a linear scale.
Calibrated to the ISEE-2017 standard.
Includes a 2 m (6.5 ft) cable, microphone stand (P/N: 720A6001) and windscreen (P/N: 1712).

Minimate Pro4/Pro6 Sound Level Microphone
P/N: 720A5101

Class 1 sound/noise microphone.
Calibrated to the IEC 61672-1: 2013 standard.
Includes a 2 m (6.5 ft) cable, a microphone stand (P/N: 720A6001) and windscreen (P/N: 410-720001-000).

Instruction Sheet Available Online

Minimate Pro4/Pro6 High Pressure Microphone
P/N: 720A4801

Measures air overpressure in close proximity or confined blasting situations.
Includes a 2 m (6.5 ft) cable, microphone stand (P/N: 720A6001) and windscreen (P/N: 1712).
Note: Requires THOR Advanced software, see page 27.

Instruction Sheet Available Online

Hydrophone

Minimate Pro4/Pro6 Hydrophone
P/N: 720A5001

8 - 500 Hz geophone. Measures overpressure in water.
Includes a 60 m (200 ft) cable.

Note: Requires THOR Advanced software, see page 27.

Instruction Sheet Available Online

Accelerometers

0.5 g Accelerometer
P/N: 714A7101

0.5 - 500 Hz. Measures low frequencies and accelerations for sensitive applications.
Package includes one Cable For 0.5 g Accelerometers (P/N: R6-2-J5A-6).
Requires either:
 - Uniaxial Accelerometer Adaptor Cable, see page 22 . . . . P/N: 720A4901
 - Triaxial Accelerometer Adaptor Cable, see page 22 . . . . . . P/N: 720A5201
Note: Requires THOR Advanced software, see page 27.

Instruction Sheet Available Online

500 g Accelerometer

P/N: 720A6401

1 - 3000 Hz. Measures accelerations of up to 500 g for near-field blasting applications. Package includes one Cable For 50 g & 500 g Accelerometers (P/N: 002C10). Requires either:
 - Uniaxial Accelerometer Adaptor Cable, see page 22 . . . . . P/N: 720A4901
 - Triaxial Accelerometer Adaptor Cable, see page 22 . . . . . . P/N: 720A5201
Note: Requires THOR Advanced software, see page 27.

Instruction Sheet Available Online

50 g Accelerometer

P/N: 720A6301

1 - 3000 Hz. Measures accelerations up to 50 g for near-field blasting applications. Package includes one Cable For 50 g & 500 g Accelerometers (P/N: 002C10). Requires either:
 - Uniaxial Accelerometer Adaptor Cable, see page 22 . . . . . . P/N: 720A4901
 - Triaxial Accelerometer Adaptor Cable, see page 22 . . . . . . P/N: 720A5201
Note: Requires THOR Advanced software, see page 27.

Instruction Sheet Available Online

Accessories

Accelerometer Triaxial Mounting Block (50 g & 500 g)

Used to mount up to three uniaxial accelerometers to measure   P/N: 080B11
in a triaxial configuration.
For use with 50 g (P/N: 72002701), or 500 g (P/N: 72002401) accelerometers.

Accelerometer Triaxial Mounting Block (0.5 g)

P/N: 400-000289-000

Used to mount up to three uniaxial accelerometers to measure
in a triaxial configuration.
For use with 0.5 g (P/N: 714A7101) accelerometers.

Triaxial Geophone Leveling Plate

P/N: 714A1801

Includes leveling plate, feet and integrated spirit level.
For use with Micromate, Minimate Pro, Minimate Plus, Blastmate III and Minimate Blaster external geophones.
Note: Geophone not included.

Triaxial Geophone Wall Mounts

Used to mount a triaxial geophone to a wall or other vertical surface. Includes bolts, aluminum mounting block, and mounting instructions. (Geophone not included)
Triaxial Geophone Wall Mount Kit . . . . P/N: 718A0101

Optional Triaxial Geophone Modification for Wall Mounting . . . . . P/N: 720A6601
Note: This optional upgrade must be performed by the manufacturer and modifies a Minimate Pro Triaxial Geophone to a wall mount orientation.

Remote Alarm Controller
P/N: 720A3901

A self-contained controller complete with 5 m (16.3 ft) cable and a high power auxiliary drive capability used for external sirens and other alarms.

Instruction Sheet Available Online

Splitter Box
P/N: 720A5501

Used to connect up to three uniaxial sensors on a Minimate Pro monitoring unit, complete with 2 m (6.5 ft) cable.

Instruction Sheet Available Online

USB Serial Adaptor Kit
P/N: 714A7001

Converts an RS-232 to a USB 2.0 connector.
For use with a serial cable to download event data from a Minimate Pro, Minimate Plus, Blastmate III or Minimate Blaster to a PC.

Carrying Case
P/N: 720A6501

Soft carrying case used to store and carry the Minimate Pro base units and accessories. Foam insert included.

Universal Charger
P/N: 712A5301

Power adaptor for use with Minimate Pro monitoring units internationally. Input 110-240V AC 50/60Hz. Output 12V DC, 1.67A.

Power Adaptor
P/N: 370-000002-000

Power adaptor for use with Minimate Pro monitoring units in North America. Input 110V AC. Output 12V DC, 1A.

Cables

30 m (100 ft) Extension Cable   P/N: 720A3301

Includes a 30 m (100 ft) shielded coaxial cable for use with Minimate Pro geophones, borehole geophones and microphones. Includes connectors.

75 m (250 ft) Extension Cable   P/N: 720A3302

Includes a 75 m (250 ft) shielded coaxial cable for use with Minimate Pro geophones, borehole geophones and microphones. Includes connectors.

Null Modem Cable   P/N: 720A3401

Includes a DB-9M 2 m (6.5 ft) cable.
For use when connecting a cellular modem to a Minimate Pro monitoring unit.
Note: One null modem cable is required for each monitoring unit.

Serial Cable   P/N: 720A3101

Includes a 1.7 m (5.7 ft) RS-232 cable for connecting a Minimate Pro monitoring unit to a PC.
Note: Requires a PC with a 9-pin serial connector or USB Serial Adaptor Kit, (P/N: 714A7001) see page 20.

Ethernet Cable   P/N: 720A4101

Includes a 1.5 m (4.9 ft) RJ-45 high speed network download cable.
Tranfers events and setup files to a PC over a network connection for faster download speeds.

Custom Cable Connector Assembly   P/N: 720A3305

Base price for custom length extension cable connectors and assembly.
Must be purchased with a specified Custom Length Extension Cable.

Custom Length Extension Cable   P/N: 301-000034-000

Custom length extension cable for Minimate Pro monitoring units (ordered by the m/ft).
Note: Must be purchased with Custom Cable Connector Assembly (P/N: 720A3305).

Remote Alarm/RS-232 Splitter Cable   P/N: 720A4001

46 cm (18 in) cable for use when both a Remote Alarm Controller and a modem must be connected to a Minimate Pro monitoring unit at the same time.

Make/Break Trigger Cable   P/N: 720A3501

Includes a 2 m (6.5 ft) cable.
Starts recording an event when either the wires make or break the contact.
Can be used with an operator's button or to correspond with a blast detonation.
Package includes connectors and instructions.

Instruction Sheet Available Online

Uniaxial Accelerometer Adapter Cable   P/N: 720A4901

Includes a 2 m (6.5 ft) cable that provides power from a Minimate Pro monitoring unit to operate an accelerometer, see page 18.

Instruction Sheet Available Online

Triaxial Accelerometer Adapter Cable   P/N: 720A5201

Includes a 2 m (6.5 ft) cable that provides power from a Minimate Pro monitoring unit to operate up to three accelerometers in a uniaxial configuration, see page 18.

Instruction Sheet Available Online

Upgrades
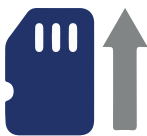
Extended Memory   P/N: 720A5901

Increases the internal non-volatile memory in the Minimate Pro unit from 64 MB to 240 MB. This optional upgrade increases the storage capacity from 8,000 events to 32,000 events.
Note: Must be configured by the manufacturer.

GPS Upgrade   P/N: 720A6601

Adds GPS capability to the Minimate Pro. Allows the unit to synchronize the recorded event data's time within 100 microseconds.
Note: Requires a factory installed GPS port that must be configured by the manufacturer.

Replacement Parts
For Micromate and Minimate Pro

Triaxial Geophone Mounting Spikes
P/N: 1100241

Includes three geophone spikes each 76 mm (3 in) long for use with Instantel triaxial geophones.

Microphone Stand Assembly

Microphone Stand Assembly, total height 81.3 cm (32 in). . . . . P/N: 720A6001
Microphone Stand Extension Rod . . . . P/N: 400-720020-000
Extends the Microphone Stand Assembly an additional 28 cm (11 in).
For use with Linear Microphones, Sound Level Microphones and High Pressure Microphones. (Micromate P/N: 721A0201, 721A2301, Minimate Pro4/Pro6 P/N: 720A1801, 720A5101, 720A4801, Series III P/N: 714A9801, 714A2001 or 714A5501)

Microphone Windscreens

Sound Level Microphone Windscreen . . . . P/N: 410-720001-000
Foam cover for use with Minimate Pro Sound Level Microphone (P/N: 720A5101) or the Micromate Sound Level Microphone (P/N: 721A2301).

Linear Microphone Windscreen . . . . P/N: 1712
Foam cover for use with the following Linear Microphone assemblies: (Micromate P/N: 721A0201, Minimate Pro4/Pro6 P/N: 720A1801, 720A4801, Series III P/N: 714A9801, 714A2001 or 714A5501).

Vision
The Future of Events

Vision is Instantel's cloud-based data hosting solution to store, report and analyze event data recorded with an Instantel monitoring unit. Hosted on Instantel's secure servers, Vision gives you and your stakeholders instant access to all of your project information. Vision gives you a powerful array of tools to simplify your everyday tasks and to keep project managers, contractors, site owners, and other stakeholders informed.

Accessibility
• Event data is uploaded as it is collected, so you can work with and share it immediately from any device, 24/7!

Visual Data
• View your events with ease as they are automatically sorted into their assigned projects.
• Get valuable insight from the dashboard, such as which units triggered alarms/warnings along with their respective channels: transverse, vertical or longitudinal.
• Pinpoint the exact position of your on-site monitoring units using Google street view and satellite maps. They can also be placed on an uploaded 2D or 3D image.

Event Reporting
• Highlight sections of an event report with annotations and zoomed-in areas of interest.
• Download event reports using Vision's flexible reporting tools.
• Upload photos, documents or other reports into an album to show stakeholders the progress of each project.

Quarry Feature
• Quarry Vision provides advanced reporting features designed specifically for quarry blasting operations. Many of these features are only available from Instantel.

User Management
• Define stakeholder's access levels, from site administrator to read-only.

Compliance
• Select your regulatory compliance from 20 international standards or create your own.

WatchDog
• Send automatic notifications when monitoring units have not called home as expected. These appear in Vision as a bulldog icon.

Please contact Sales@instantel.com to schedule an online demo.
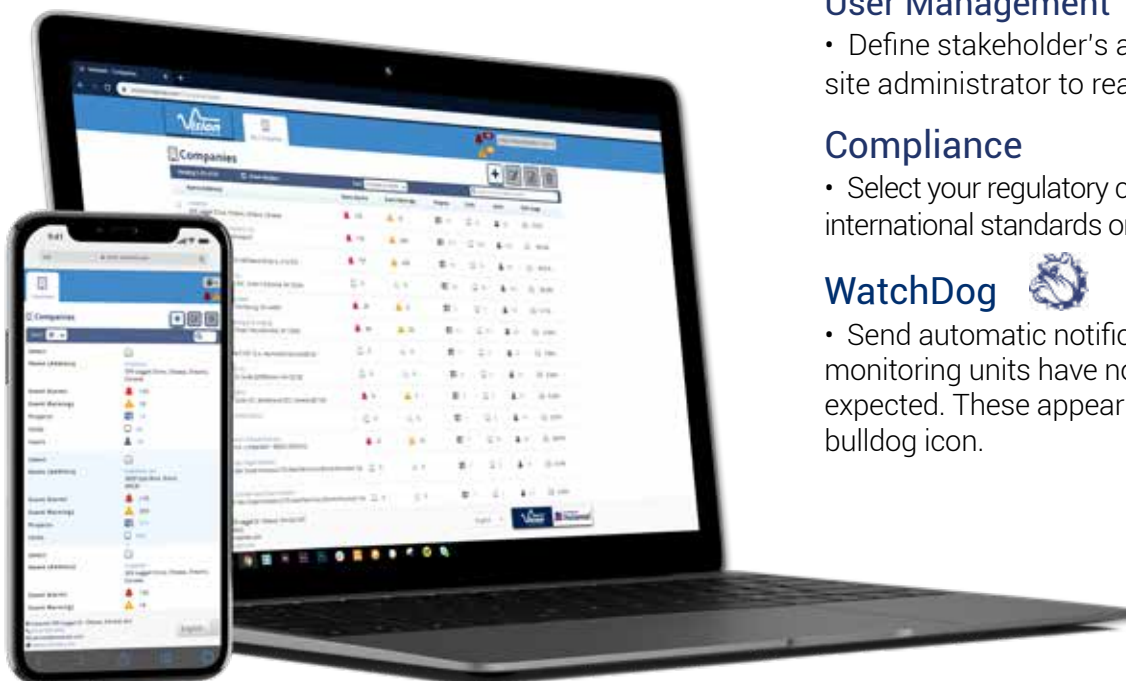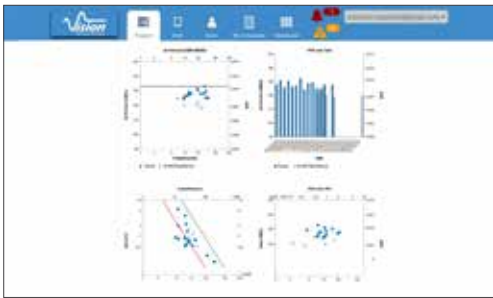
Instantel | 24

Vision Interface
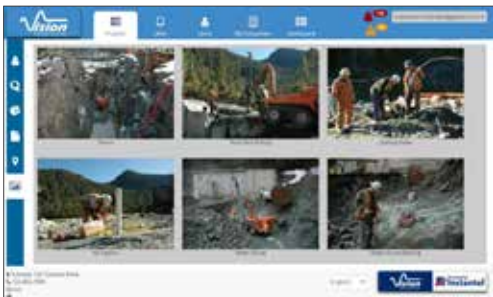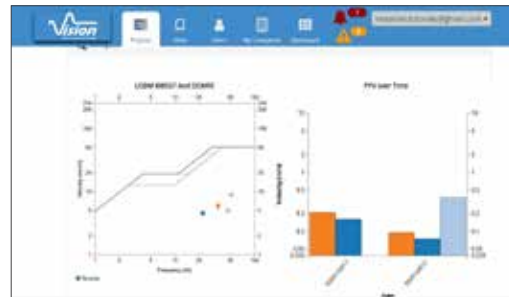

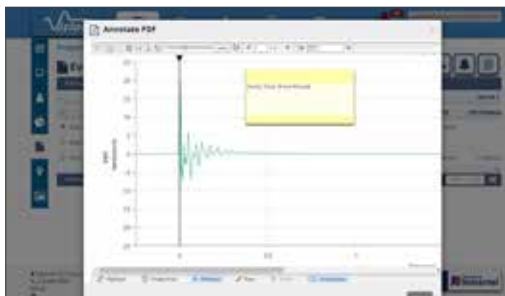Access Data 24/7

View Events with Ease

View Events with Ease

Locate Units on Maps

Upload Project Photos

Configure Compliance Graphs

Annotate Reports

Set WatchDog Alerts

THOR ™

THOR is Instantel's software platform to store and manage event data on a local computer. With THOR you can view data in the form of waveform charts, histogram bar-graphs and perform various analytic calculations to better understand your event data. THOR let's you configure custom settings to manage your fleet of monitoring units and quickly update onboard parameters to adapt to specific monitoring requirements.

Manage Connected Units Without Stepping Foot On Site

Units can be connected to THOR remotely using wireless modems, when an event takes place, they send their data using THOR's Auto Call Home service. This feature allows you to have a full view of your fleet's monitoring status in near real-time.

## Organize Event Data and How You See It

THOR will automatically filter events into preconfigured projects so that you can sort events by site, contract or customer. Use THOR's customizable email groups to send automatic notifications and inform stakeholders when it counts.

Interactive and Customizable Event Reporting

THOR lets you quickly and easily identify trends in your event data and provides easy exporting of event reports into PDF format.

THOR Includes the Following Compliance Standards and Graphs

- Australia 2187.2 - 1993
- Brazilian Standard NBR 9653 - 2005
- British Standard 7385
- BS 6472 - 1992 (Curves 8, 16, 20, 32, 60, 90, 128)
- Criterio Prevencion (Une 22.381)
- Czech and Slovak Standard
- DIN 4150
- DIN 45669-1 - 2010
- Function de Ponderation
- GFEE + Ministère Environnement
- Harmoniska Svangningar
- Indian CMRI, DGMS India (A) & (B)
- Indonesian SNI 7571 - 2010
- ISEE Seismograph Specification - 2017
- New Zealand 4403 - 1976
- NOM-026-SESH - 2007
- NZS/ISO 2631-2:1989 Combined curves
- QLD APP Standard
- Recommendation GFEE/GFEE*
- Swiss SN 640 312a (Mining/Pile Driving/Traffic)
- Toronto 514 - 2008
- Turkey Mining & Quarry
- USBM RI8507 And OSMRE
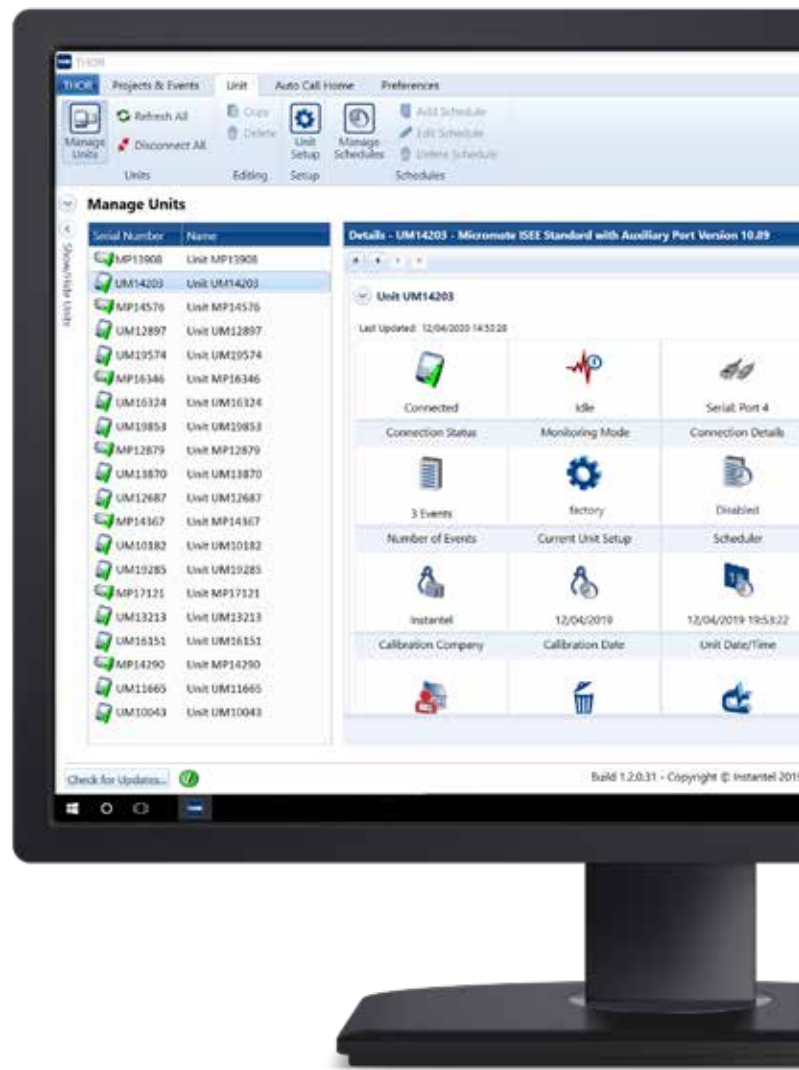
THOR resources available online:
- Tutorial videos on how to setup your devices - ▶ YouTube
- Download your free copy of THOR at www.instantel.com

THOR™
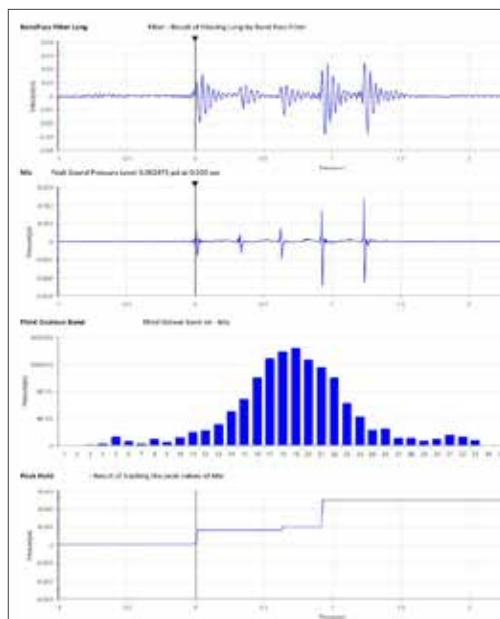## Advanced
Event Management Software

P/N: 72300201

With THOR's Advanced license you can transform event data without altering the original event file. Convert waveform data between velocity, acceleration and displacement. Data can be filtered, truncated, frequency weighted, displayed in third octave bands and more. Playback sound clips or perform signature hole analysis.

Create a customized set of operations when analyzing events and benefit from THOR's high-resolution event reports that you can customize with your company logo.
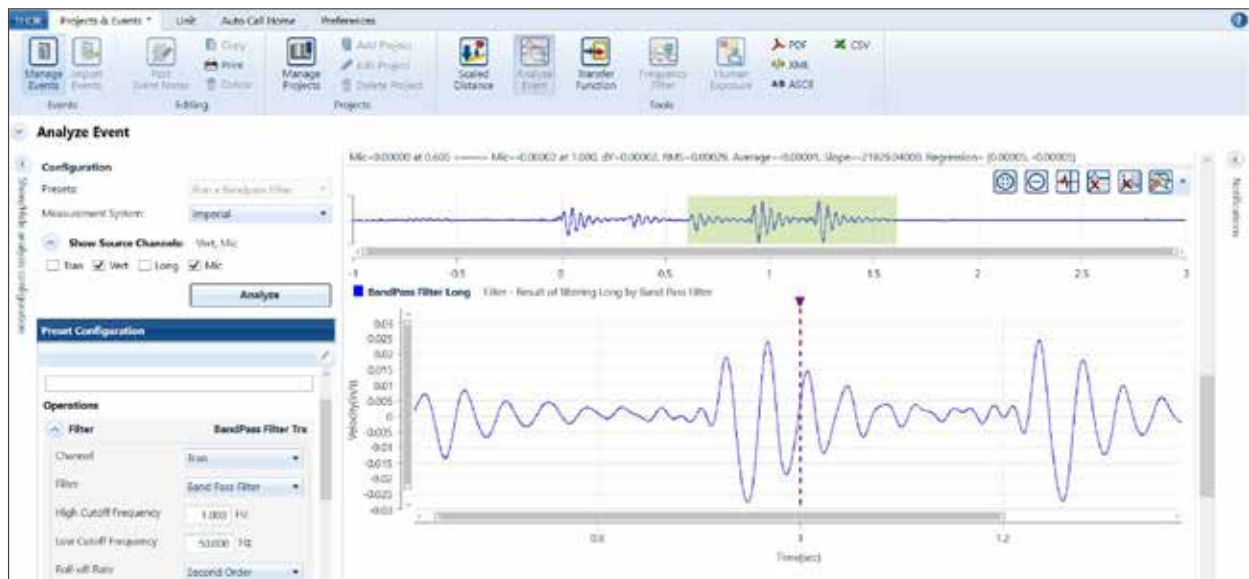
Perform Advanced Functions on Your Waveforms

Detailed Data Analysis

Advanced Sensors

With THOR Advanced you also benefit from specialized sensors and enhanced performance of standard sensors with sample rates up to 65,536 samples per second.

- Hydrophone (8 - 500 Hz)
- High-Frequency Geophone (30 - 1,000 Hz)
- High-Frequency Borehole (30 - 1,000 Hz)
- High-Pressure Microphone (up to 10 psi)
- Accelerometers: - 0.5 g (0.5 - 500 Hz)
                    - 50 g (1 - 3,000 Hz)
                    - 500 g (1 - 3,000 Hz)

THOR resources available online:
- THOR Specifications Sheet
- THOR Advanced Specifications Sheet

Waveform Compliance Report

Instantel®

Your Custom Logo Here

Waveform Trigger Source	Vert at February 5, 2020 13:00:03	**Serial Number**	UM12345
Trigger Level(s)	Geo 0.0300 in/s,Mic 0.01029 psi	**Model Number**	Micromate ISEE 10.89
Pre-Trigger/Record Time	0.25 sec/5.0 sec (Fixed)	**Battery Level**	4.2 volts
Sample Rate	4096 sps	**Unit Calibration**	Jan 1, 2020 by Instantel
Setup File Name	Springs.mmb	**Event File Name**	UM12345_20200205130003.IDFW
Operator	Operator	**USB Sensor Support**	Disabled

Notes

Location	Highway 101		
Client	Construction		
Company	Quarry		
General Notes			

GPS Location		**Latitude**	**Longitude**
Source Location		45 20.525 N	75 54.445 W
Sensor Location		45 20.503 N	75 54.318 W
Distance		529.9 ft	
Scaled Distance		26.0 (529.9 ft, 416.0 lb)	

Extended Notes

Post Event Notes

| **Geophone**	**Tran**	**Vert**	**Long**
Peak Particle Velocity	1.0150 in/s	0.3882 in/s	0.5198 in/s
Peak Particle Velocity (Ponderated)	0.6587 in/s	0.1898 in/s	0.3709 in/s
Peak Particle Velocity	0.1295 dB	8.2190 dB	5.6838 dB
Zero Crossing Frequency	48.8 Hz	85.3 Hz	45.5 Hz
Time (Relative to Trigger)	0.269 sec	0.103 sec	0.309 sec
Peak Acceleration	0.796 g	0.504 g	0.556 g
Peak Displacement	0.003 in	0.001 in	0.002 in
Sensor Check	✅ Passed	✅ Passed	✅ Passed
Frequency	7.1 Hz	7.3 Hz	7.3 Hz
Overswing Ratio	4.9	4.5	4.5
Peak Vector Sum	1.0186 in/s at 0.269 sec		

ISEE Linear Microphone		
Peak Sound Pressure Level	0.002331 psi	
Peak Sound Pressure Level	118.1 dB(L)	
Time (Relative to Trigger)	0.890 sec	
Zero Crossing Frequency	5.7 Hz	
Sensor Check	✅ Passed	
Frequency	19.7 Hz	
Test Amplitude	1510 mv	

USBM RI8507 And OSMRE
Velocity versus Frequency (Zero Crossing)

+ Tran   x Vert   ø Long
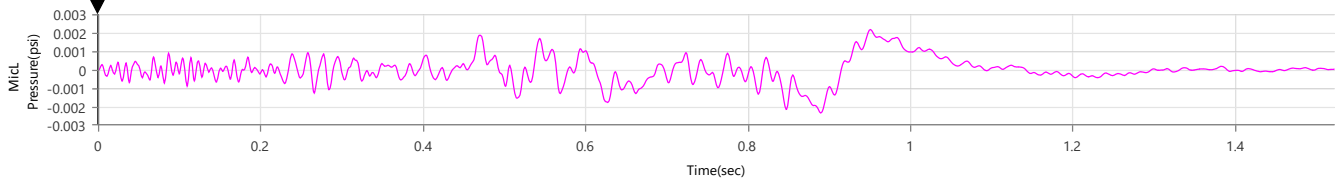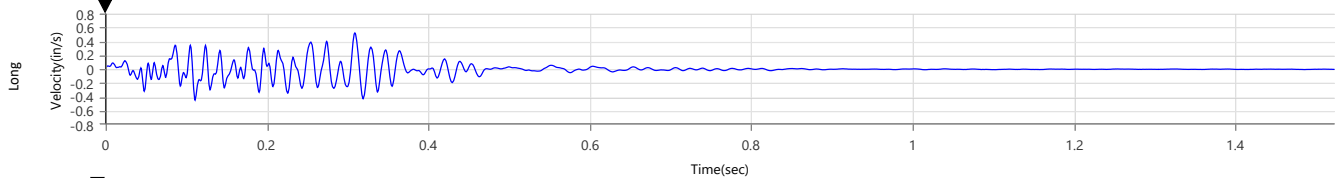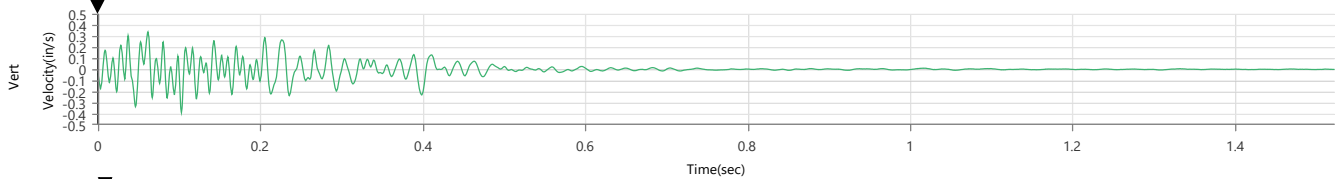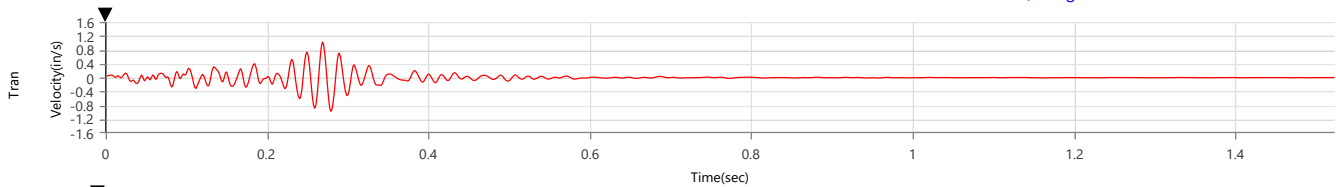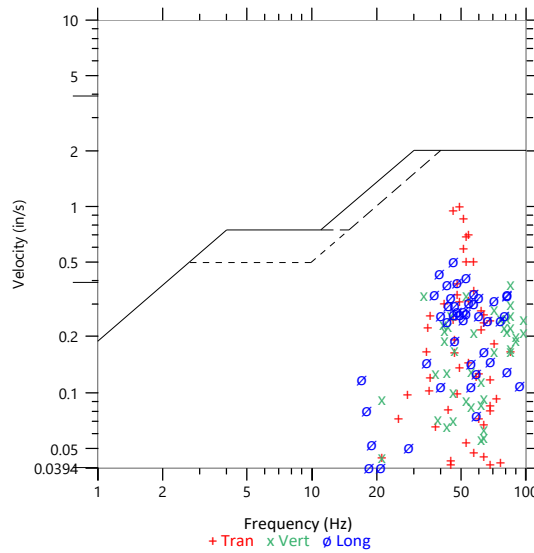
Histogram Compliance Report

Instantel

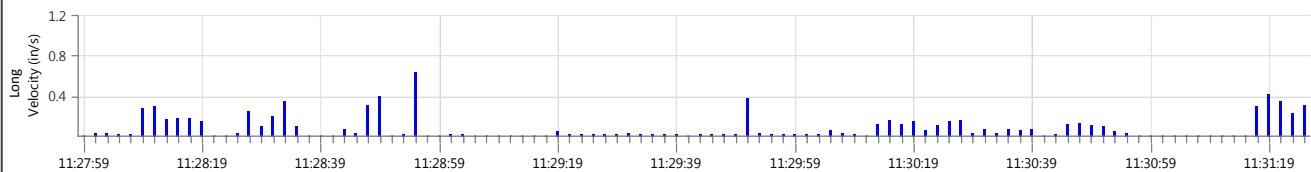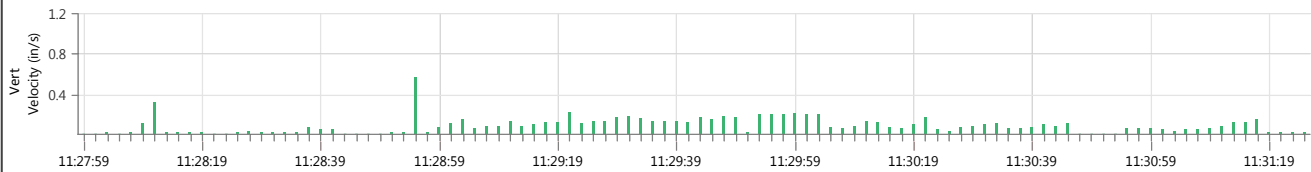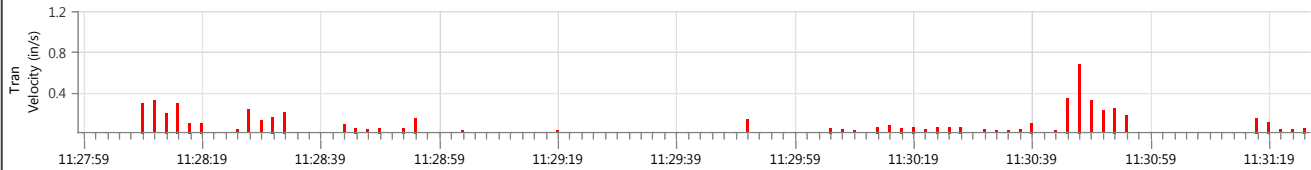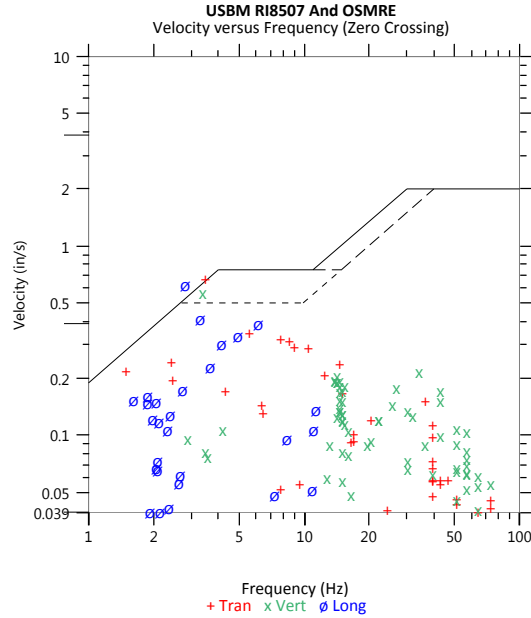|		
Start	Jan 10, 2020 11:27:57	
Finish	Jan 10, 2020 11:31:24	
Number Of Intervals/Interval	103.50/2 sec	
Sample Rate	1024 sps	
Operator/Setup File Name	Instantel.nsb	

Serial Number/Model Number	MP12345/Minimate Pro6 10.73
Battery Level	4.2 volts
Unit Calibration	Jan 1, 2020 by Instantel
Geophone Calibration 1	SE12345, Jan 1, 2020 by Instantel
Microphone Calibration 2	SA12345, Jan 1, 2020 by Instantel
Event File Name	MP12345_20202020112757.IDFH

Notes
Location: Subway Station
Client: Construction
User Name: Giuseppe Arcimboldo
General: Transit Project
GPS Coordinates: N12 34 56.7, W12 34 56.7

Post Event Notes   Histogram Report

ISEE Triaxial Geophone	**Tran**	**Vert**	**Long**
Peak Particle Velocity	0.680 in/s	0.574 in/s	0.632 in/s
Zero Crossing Frequency	3.5 Hz	3.4 Hz	2.8 Hz
Date	Jan 1,2020	Jan 1,2020	Jan 1,2020
Time	11:30:47	11:28:53	11:28:53
Sensor Check	✅ Passed	✅ Passed	✅ Passed
Frequency	7.4 Hz	7.6 Hz	7.3 Hz
Overswing Ratio	3.3	3.0	3.5

Peak Vector Sum   0.845 in/s at January 10, 2020   11:28:53

Sound Level Microphone	**A-Weight**	**Fast**		
LMax	54.7 dB(A)			
Time of Peak	January 10, 2020	11:31:18		
	LMin	**L10**	**L90**	**Leq**
Sound (dB(A))	32.8	47	35	43.4
Sensor Check	✅ Passed			
MicA Test Amplitude	466 mv			

USBM RI8507 And OSMRE
Velocity versus Frequency (Zero Crossing)

+ Tran   x Vert   ø Long
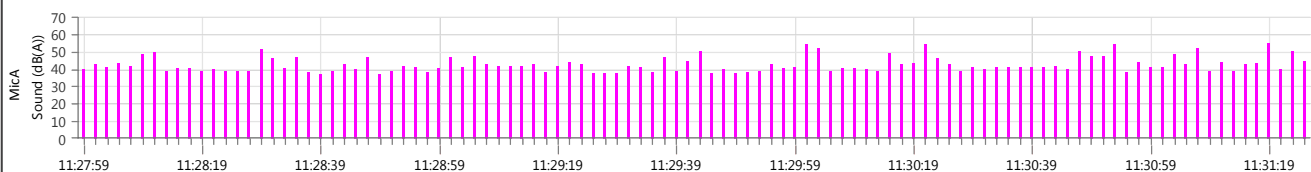
Series III Parts - Blastmate III, Minimate Plus, Minimate Blaster

Parts subject to availability

PART NO	ACCESSORIES
714A9701	Series III, ISEE-2011, Triaxial Geophone: 2-250 Hz. Includes a 2 m (6.5 ft) cable and mounting spikes (P/N: 1100241).
718A3301	Series III, DIN 45669-1 Class 1, Triaxial Geophone: 1-315 Hz. Includes a 2 m (6.5 ft) cable and mounting spikes (P/N: 1100241).
714A9801	Series III, Linear Microphone ISEE-2011: Measures air overpressure on a linear scale. Includes a 2 m (6.5 ft) cable and microphone stand (P/N: 720A6001).
714A2001	Series III, A-Weight Microphone: Measures sound pressure levels on an A-weight scale with an impulse response. Includes 1.7 m (5.6 ft) cable and a microphone stand assembly (P/N: 720A6001).

PART NO	BOREHOLE GEOPHONES
714A8501	Series III, ISEE-2011, Triaxial Borehole Geophone: 2-250 Hz, 64 mm (2.5 in) borehole geophone with 30 m (100 ft) cable. Requires a 76 mm (3 in) minimum diameter borehole for installation.
718A4501	Series III, DIN 45669-1 Class 1, Triaxial Borehole Geophone: 1-315 Hz, 64 mm (2.5 in) borehole geophone with 30 m (100 ft) cable. Requires a 76 mm (3 in) minimum diameter borehole for installation.
718A4601	Series III, High Frequency Triaxial Borehole Geophone: 30-1,000 Hz borehole geophone for near-field monitoring. 64 mm (2.5 in) with 30 m (100 ft) cable. Requires a 76 mm (3 in) minimum diameter borehole for installation. Note: Requires Blastware Advanced Module software.

PART NO	ADVANCED SOFTWARE
714A4501	Blastware Advanced Module: Event management, reporting and advanced analysis software. Note: Requires Microsoft® 8, 7, 2000, XP or Vista operating system. One Blastware Advanced module per PC.

PART NO	ADVANCED SENSORS (Requires Blastware Advanced Module software)
714A9101	Series III, High Frequency Geophone: 30-1,000 Hz geophone with 30 m (100 ft) cable for near-field monitoring, with a range up to 2,540 mm/s (100 in/s).
714A5501	Series III, High Pressure Microphone: Measures air overpressure from close in or confined blasting activities. Includes a 1.7 m (5.6 ft) cable and Microphone Stand (P/N: 720A6001).
718A4401	Series III, Hydrophone: Measures overpressure in water. Includes a 60 m (200 ft) cable.
714A8301	Series III, 100X Gain Triaxial Geophone: 2-250 Hz geophone with a 1.7 m (5.6 ft) cable. Measures ultra low vibrations for background and specialty applications. Maximum range is 2.54 mm/s (0.1 in/s).
714A8302	Series III, 10X Gain Triaxial Geophone: 2-250 Hz geophone with a 1.7 m (5.6 ft) cable. Measures ultra low vibrations for background and specialty applications. Maximum range is 25.4 mm/s (1.0 in/s).
714A7101	0.5 g Accelerometer: 0.5-500 Hz, measures low frequencies and accelerations for sensitive applications. May be used with a Triaxial Mounting Block (400-000289-000) or a Quad Splitter Cable (P/N: 714A3201). Note: Requires a Uniaxial Accelerometer Adaptor Cable (P/N: 714A5301) and Blastware Advanced Module software.
720A6301	50 g Accelerometer: 1-3,000 Hz, measures accelerations of up to 50 g for near-field blasting applications. May be used with a Triaxial Mounting Block (080B11) or a Quad Splitter Cable (P/N: 714A3201). Note: Requires a Uniaxial Accelerometer Adaptor Cable (P/N: 714A5301) and Blastware Advanced Module software.
720A6401	500 g Accelerometer: 1-3,000 Hz, measures accelerations of up to 500 g for near-field blasting applications. May be used with a Trixial Mounting Block (080B11) or a Quad Splitter Cable (P/N: 714A3201). Requires a Uniaxial Accelerometer Adaptor Cable (P/N: 714A5301) and Blastware Advanced Module software.

PART NO	CABLES
714A5301	Series III, Uniaxial Accelerometer Adaptor Cable: 1.7 m (5.6 ft) cable provides power from the Blastmate III or Minimate Plus monitoring unit to operate an accelerometer.
714A3801	Series III, 30 m (100 ft) Extension Cable: For use with Blastmate III, Minimate Plus or Minimate Blaster geophones and microphones. Includes connectors.
714A3802	Series III, 75 m (250 ft) Extension Cable: For use with Blastmate III, Minimate Plus or Minimate Blaster geophones and microphones. Includes connectors.
C0764	Series III, Custom Length Extension Cable: For Minimate Plus, Minimate Blaster and Blastmate III monitoring units (price/ft). Note: Must be purchased with Custom Cable Connector Assembly (P/N: 714A3805).
714A3805	Series III, Custom Cable Connector Assembly: Base price for custom length extension cable connectors and assembly. Note: Must be purchased with a specified length of Extension Cable (P/N: C0764).
718A3701	Series III, Null Modem Cable: DB 9M 1.8 m (5.8 ft) cable for use when connecting a cellular modem to a Blastmate III, Minimate Plus or Minimate Blaster unit. Note: One null modem cable required for each monitoring unit.
716A3401	Blastmate USB to PC Cable: 2.4 m (7.8 ft) USB cable for use when connecting a Blastmate III unit to a computer.

PART NO	ACCESSORIES
712A2301	Blastmate Serial Cable: 2.4 m (7.8 ft) RS-232 cable for connecting a Blastmate III monitoring unit to a PC. Note: Requires a PC with a 9-pin serial connector.
716A1801	Minimate Plus to Blastmate III Cable: 2.4 m (7.8 ft) RS-232 cable for connecting a Minimate Plus monitor to a Blastmate III monitor to upload settings, download data or print in the field.
712A3501	Series III, Remote Alarm/RS-232 Splitter Cable: 25 cm (10 in) cable for use when both a Remote Alarm Controller and a modem must be connected at the same time to either a Blastmate III or Minimate Plus monitoring unit.
714A3201	Series III, Quad Splitter Cable: 23 cm (9 in) cable for use with Blastmate III or Minimate Plus monitoring units to connect up to four uniaxial sensors to a single monitor port.
714A3901	Series III, Triaxial Plus Uniaxial Splitter Cable: 23 cm (9 in) cable for use with Blastmate III or Minimate Plus monitoring units to connect a triaxial geophone and a microphone to a single monitoring port.
080B11	Accelerometer Triaxial Mounting Block: Used to mount 3 uniaxial accelerometers to measure in a triaxial configuration. For use with 50 g or 500 g accelerometers (P/N: 72002701 or 72002401).
400-000289-000	Accelerometer Triaxial Mounting Block: Used to mount three uniaxial accelerometers to measure in a triaxial configuration. For use with 0.5 g Accelerometers (P/N: 714A7101).
721A0902	Series III, Remote Alarm Controller: Self contained controller complete with 1.7 m (5.6 ft) cable and high power auxiliary drive capability for external sirens and other alarms.
712A3901	Series III, Primary/Secondary Trigger: 28 cm (11 in) cable used to trigger one Blastmate III, Minimate Plus or Minimate Blaster from another in a primary or secondary configuration.
677A9601	Series III, Wire Make/Break Trigger Cable: 25 cm (10 in) cable. Package includes connector cable and instructions. Starts the event recording on a Minimate Plus, Minimate Blaster or Blastmate III monitoring unit when either the wires make contact or when the wires separate. Can be used with an operator's button or to correspond with the detonation of a blast.
716A2001	Series III, Universal Breakout Box: Allows Blastmate III, and Minimate Plus units to be compatible with third-party sensor. Includes a 1 m (3.3 ft) cable.
714A7001	USB Serial Adaptor Kit: Converts an RS-232 to a USB 2.0 connector. For use with a serial cable to download event data from an Instantel monitoring unit to a PC.
714A1801	Triaxial Geophone Leveling Plate: Includes leveling feet and integrated spirit level. For use with Micromate, Minimate Pro, Minimate Plus, Blastmate III and Minimate Blaster external geophones.
718A0101	Triaxial Geophone Wall Mount Kit: Used to mount an Instantel Triaxial Geophone to a wall or other vertical surface. Package includes aluminum mounting block, bolts and mounting instructions. For use with Micromate, Minimate Pro, Minimate Plus, Blastmate III and Minimate Blaster external geophones.
PART NO	**REPLACEMENT PARTS**
DV-1250	Series III, Power Adaptor: For use with Blastmate III, Minimate Plus and Minimate Blaster monitoring units in North America. Input 110V AC. Output 12V DC, 0.5A.
1712	Microphone Windscreen: Foam ball for use with Linear Microphone Assemblies (P/N: 721A0201, 720A1801, 720A4801, 714A9801, 714A2001 or 714A5501).
720A6001	Microphone Stand Assembly: Total height measures 25.4 cm (32 in). For use with Linear and Sound Level Microphones (P/N: 721A0201, 721A2301, 720A1801, 720A5101, 720A4801, 714A9801, 714A2001 or 714A5501).
400-720020-000	Microphone Stand Extension Rod: Extends the Microphone Stand Assembly an additional 28 cm (11 in). For use with the Microphone Stand Assembly (P/N: 720A6001).
714A3401	Blastmate Microphone Stand Assembly: For use with Blastmate III Linear Microphones. Total height measures 86 cm (34 in).
TP5000-80-25C	Blastmate Printer Paper: For use with Blastmate III monitoring units. Contains 5 rolls.
71501901	Micromate Carrying Case: Soft carrying case used to store and carry Minimate Plus, Minimate Blaster and Micromate monitoring units and accessories. Foam insert included.
1100241	Triaxial Geophone Spike: Includes three geophone spikes each 76 mm (3 in) long. For use with Instantel Triaxial Geophones or monitors with internal geophones.

Blastmate III

Minimate Plus

Minimate Blaster

Microphone Specifications

	STANDARD OVERPRESSURE LINEAR MICROPHONE			SOUND LEVEL MICROPHONE			HIGH PRESSURE MICROPHONE
	MICROMATE	MINIMATE PRO COMPLIANCE	MINIMATE PRO ADVANCED	MICROMATE	MINIMATE PRO COMPLIANCE	MINIMATE PRO ADVANCED	MINIMATE PRO ADVANCED SENSOR
PART NUMBER	721A0201	720A1801	720A1801	721A2301	720A5101	720A5101	720A4801
RESPONSE STANDARD	ISEE - 2017	ISEE - 2017	N/A	IEC 61672 CLASS 1		N/A	N/A
FREQUENCY WEIGHTING	Linear			A-Weight or C-Weight Response: Fast (125 ms) or Slow (1 s)		A-Weight, C-Weight or Other	Linear
FREQUENCY RANGE	2 - 250 Hz			10 Hz - 20 kHz			5 - 1,000 Hz
AMPLITUDE RANGE	2 - 500 Pa (0.00029-0.0725 psi) [88 to 148 dB]			30 - 140 dB (max 160 dB)			Up to 69 kPa (10 psi) Max Pressure 1,724 kPa (250 psi)
TRIGGER LEVEL	100 - 148 dB	2 - 500 Pa	0.256 - 500 Pa	33 - 140 dB		0.448 -100 Pa (A) 0.01424 - 25 Pa (C)	0.03425 - 69 kPa (0.005 - 10 psi)
SAMPLE RATES	1,024 - 4,096 S/s	1,024 - 4,096 S/s	512 - 65,536 S/s	1,024 - 4,096 S/s	512 -4,096 S/s	512 - 65,536 S/s	512 - 65,536 S/s
RESOLUTION	0.0156 Pa (0.05 dB)	0.0156 Pa (0.05 dB)	0.0156 Pa (0.05 dB)	0.05 dB (Display Limit 0.1 dB)		0.03 Pa (A-Weight) 0.89 mPa (C-Weight)	0.00214 kPa (0.00031 Psi)
CABLE LENGTH	2 m (6.5 ft)			2 m (6.5 ft)			2 m (6.5 ft)
MAXIMUM CABLE LENGTH	75 m (250 ft)			75 m (250 ft)			75 m (250 ft)
SENSITIVITY	N/A	N/A	0.0064452 V/mm/s^2 0.1637080 V/in/s^2	A-Weight/Normal: 0.003800 V/Pa (0.0000005511 V/psi) C-Weight/Sensitive: 0.12000 V/Pa (0.0000174 V/psi)			0.3222605 V/psi (0.0467044 V/kPa)[1]
REQUIRED SOFTWARE	THOR Compliance	THOR Compliance	THOR Advanced	THOR Compliance		THOR Advanced	THOR Advanced

1. See calibration certificate for nominal values.

Micromate Specifications - Sensors

	ISEE GEOPHONE		DIN GEOPHONE		SWB GEOPHONE		SWP GEOPHONE		BOREHOLE GEOPHONES (COUPLED WITH BASE UNITS)	
PART NUMBER	721A2901	721A2902	721A3301	721A3302	721A3501	721A3502	721A3701	721A3702	721A2401	721A2402
RESPONSE STANDARD	ISEE - 2017		DIN 45669-1 CLASS 1		SS4604866 2011 (SWB)		SS025211 (SWP)		• ISEE - 2017 • DIN 45669-1 CLASS 1 • SS4604866 2011 (SWB) • SS025211 (SWP)	
FREQUENCY RANGE	2 - 250 Hz		1 - 315 Hz		5 - 300 Hz		2 - 150 Hz		2 - 250 Hz (ISEE - 2017) 1 - 315 Hz (DIN 45669-1 CLASS 1) 5 - 300 Hz (SS4604866 2011, SWB) 2 - 150 Hz (SS025211, SWP)	
VELOCITY RANGE	Up to 254 mm/s (10 in/s)		Up to 254 mm/s (10 in/s)		1 - 250 mm/s (0.039 - 9.84 in/s)		0.1 - 25 mm/s (0.0039 - 0.98 in/s)		Up to 254 mm/s (All Standards) (10 in/s)	
RESOLUTION	0.00788 mm/s (0.00031 in/s)		0.00788 mm/s (0.00031 in/s)		0.00788 mm/s (0.00031 in/s)		0.000788 mm/s (0.000031 in/s)		0.00788 mm/s (All Standards) (0.00031 in/s)	
SENSOR DENSITY	2.1 g/cc (131 lbs/ft^3)		2.1 g/cc (131 lbs/ft^3)		2.1 g/cc (131 lbs/ft^3)		2.1 g/cc (131 lbs/ft^3)		1.73 g/cc (All Standards) (108 lbs/ft^3)	
CABLE LENGTH	2 m (6.5 ft)	5 m (16.4 ft)	2 m (6.5 ft)	5 m (16.4 ft)	2 m (6.5 ft)	5 m (16.4 ft)	2 m (6.5 ft)	5 m (16.4 ft)	30 m (All Standards) (100 ft)	75 m (All Standards) (250 ft)
MAXIMUM CABLE LENGTH	1,000 m (3,250 ft)		1,000 m (3,250 ft)		1,000 m (3,250 ft)		1,000 m (3,250 ft)		1,000 m (All Standards) (3,280 ft)	
REQUIRED SOFTWARE	THOR Compliance		THOR Compliance		THOR Compliance		THOR Compliance		THOR (All Standards) Compliance	

Minimate Pro Specifications - Standard Sensors

	ISEE		DIN		DIN/VDV		BOREHOLE ISEE	BOREHOLE DIN
PART NUMBER	720A2001	720A2004	720A2002	720A2005	720A2003	720A2006	720A5601	720A5701
RESPONSE STANDARD	ISEE - 2017		DIN 45669-1 CLASS 1		DIN 45669-1 CLASS 1		ISEE - 2017	DIN 45669-1 CLASS 1
FREQUENCY RANGE	2 - 250 Hz		1 - 315 Hz		1 - 80 Hz		2 - 250 Hz	1 - 315 Hz
VELOCITY RANGE	Up to 254 mm/s (10 in/s)		Up to 254 mm/s (10 in/s)		Up to 254 mm/s (10 in/s)		Up to 254 mm/s (10 in/s)	Up to 254 mm/s (10 in/s)
RESOLUTION	0.00788 mm/s (0.00031 in/s)		0.00788 mm/s (0.00031 in/s)		0.00788 mm/s (0.00031 in/s)		0.00788 mm/s (0.00031 in/s)	0.00788 mm/s (0.00031 in/s)
SENSOR DENSITY	2.3 g/cc (144 lbs/ft³)		2.3 g/cc (144 lbs/ft³)		2.3 g/cc (144 lbs/ft³)		1.73 g/cc (108 lbs/ft³)	1.73 g/cc (108 lbs/ft³)
CABLE LENGTH	2 m (6.5 ft)	8 m (26.2ft)	2 m (6.5 ft)	8 m (26.2 ft)	2 m (6.5 ft)	8 m (26.2 ft)	30 m (100 ft)	30 m (100 ft)
MAXIMUM CABLE LENGTH	75 m (250 ft)		1,000 m (3,250 ft)		1,000 m (3,250 ft)		75 m (250 ft)	1,000 m (3,280 ft)
SENSITIVITY	0.0126874 V/mm/s (0.32226 V/in/s)		0.0126874 V/mm/s (0.32226 V/in/s)		0.0126874 V/mm/s (0.32226 V/in/s)		0.0126874 V/mm/s (0.32226 V/in/s)	0.0126874 V/mm/s (0.32226 V/in/s)
REQUIRED SOFTWARE	THOR Compliance		THOR Compliance		THOR Compliance/ THOR Advanced (VDV)		THOR Compliance	THOR Compliance

Note: All Minimate Pro4/Pro6 Standard Sensors can operate in Advanced mode and benefit from high sample rates (up to 65,536 S/s) when configured with a THOR Advanced license.

Minimate Pro Specifications - Advanced Sensors

	HIGH FREQUENCY GEOPHONE	HIGH FREQUENCY BOREHOLE	HYDROPHONE	0.5 G ACCELEROMETER	50 G ACCELEROMETER	500 G ACCELEROMETER
PART NUMBER	720A4701	720A5801	720A5001	714A7101	720A6301	720A6401
RESPONSE STANDARD	N/A	N/A	N/A	N/A	N/A	N/A
AMPLITUDE RANGE	2540 mm/s (100 in/s)	2540 mm/s (100 in/s)	324 kPa (47 psi)	0.5 g max < 10 g pk	50 g max +/- 10,000 g pk	500 g max +/- 10,000 g pk
FREQUENCY RANGE	30 - 1,000 Hz	30 - 1,000 Hz	8 - 500 Hz	0.5 Hz - 500 Hz (±3dB)	1 Hz - 3 kHz	1 Hz - 3 kHz
RESOLUTION	0.0788 mm/s (0.00310 in/s)	0.0788 mm/s (0.0031in/s)	0.0101 kPa (0.00146 psi)	0.0000155 g	0.00155 g	0.0155 g
TRIGGER LEVELS	1.27 - 2540 mm/s (0.05 - 100 in/s)	1.27 - 2540 mm/s (0.05 - 100 in/s)	0.162 - 324 kPa (0.0234 - 47 psi)	0.00032 g	0.032 g	0.256 g
RECOMMENDED SAMPLE RATE	4,096 S/s	4,096 S/s	65,536 S/s	2,048 S/s	16,384 S/s or greater	16,384 S/s or greater
NATURAL FREQUENCY	30 Hz	30 Hz	14.7 Hz	815 Hz	≥ 22 kHz	≥ 38 kHz
SENSOR DENSITY	2.3 g/cc (144 lbs/ft³)	1.73 g/cc (108 lbs/ft³)	N/A	N/A	N/A	N/A
CABLE LENGTH	2 m (6.5 ft)	30 m (100 ft)	60 m (200 ft)	1.8 m (6 ft) Cable (Part No. R6-2-J5A-6)	3 m (10 ft) Cable (Part No. 002C10)	3 m (10 ft) Cable (Part No. 002C10)
MAXIMUM CABLE LENGTH	1,000 m (3,250 ft)	1000 m (3,250 ft)	Max Operating Depth 46 m (150 ft)	1.8 m (6 ft)	3 m (10 ft)	3 m (10 ft)
MOUNTING THREAD	Connector	Connector	Connector	3/8 - 16 tapped hole	10-32 UNF-2B	10-32 UNF-2B
SENSITIVITY	0.00126874 V/mm/s (0.032226 V/in/s)	0.00126874 V/mm/s (0.032226 V/in/s)	0.0099463 V/kPa (0.068566 V/psi)	6.4451998 V/g	0.064452 V/g	0.0064452 V/g
REQUIRED SOFTWARE	THOR Advanced	THOR Advanced	THOR Advanced	THOR Advanced	THOR Advanced	THOR Advanced

Note: All Minimate Pro4/Pro6 Standard Sensors can operate in Advanced mode and benefit from high sample rates (up to 65,536 S/s) when configured with a THOR Advanced license.

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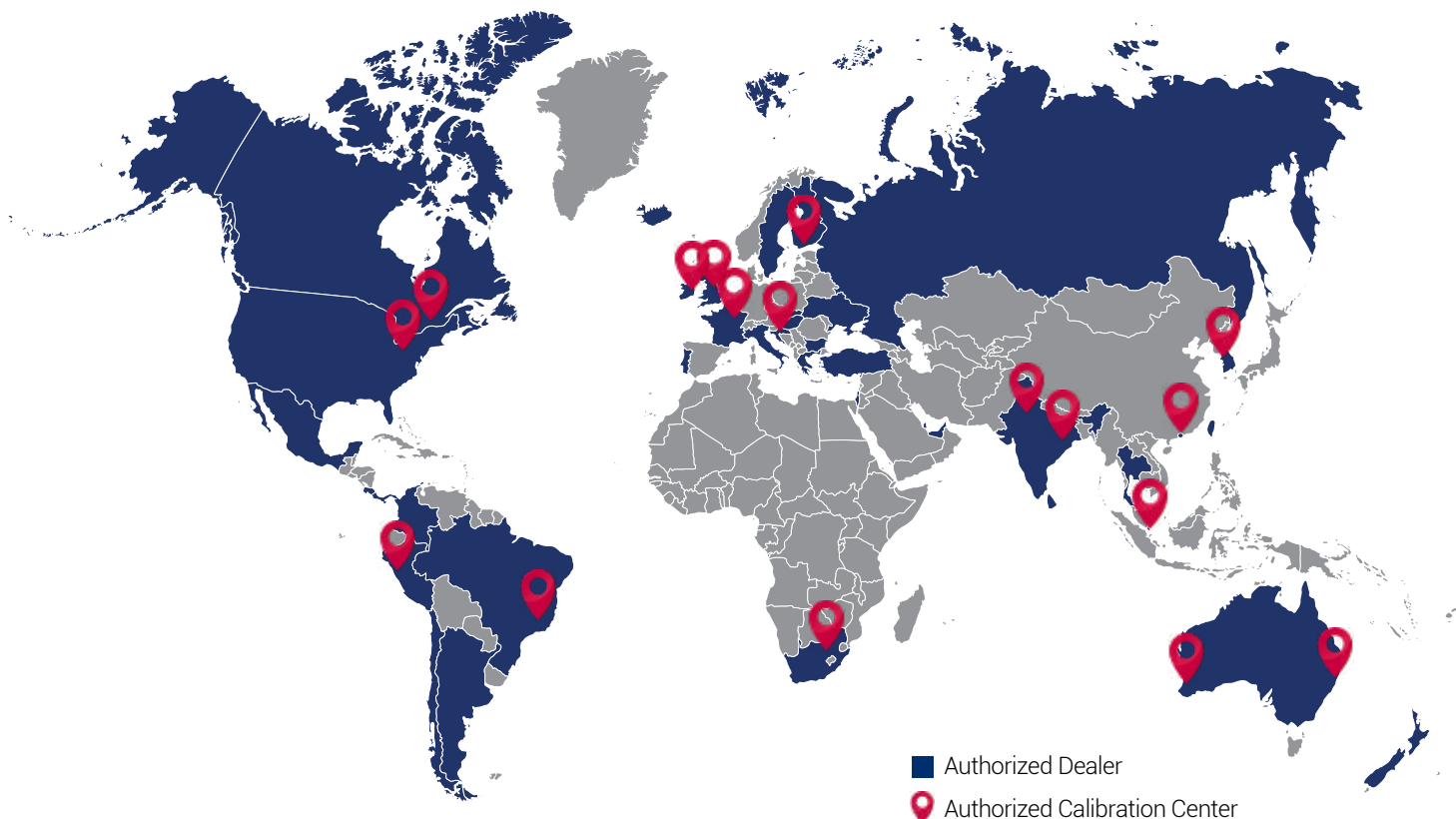
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