

# Micromate®

## Vibration and Air Overpressure Monitor for Regulatory Compliance

### Range of Applications:

- Blast monitoring for compliance
- Near field monitoring
- Pile driving
- Compaction
- Construction activity
- Dynamic compaction monitoring
- Demolition activity
- Heavy transportation
- Environmental monitoring
- Tunnel and subway monitoring
- Bridge monitoring
- Structural monitoring and analysis
- Remote access monitoring

### Monitoring Redefined

With **Micromate**, InstanTel has redefined industry standards for functionality and ease of use. **Micromate** provides reliable regulatory compliance monitoring with an ISEE or DIN Triaxial Geophone and ISEE Linear Microphone. Small enough to fit in your hand, **Micromate** is the first monitor in the industry to provide a touch screen interface. Support of USB 2.0 allows use of memory sticks and approved external devices such as USB hubs, modems, printers and GPS (sold separately). Ruggedness and reliability, cornerstone attributes of InstanTel products, are designed in.

### Communications

**Micromate** supports USB 2.0 on both the host and device ports, operating up to 12 MB/s. External memory sticks, and InstanTel compatible printer, modem and a host of optional USB peripherals (sold separately) are supported. Supported peripherals are automatically identified when connected, and associated commands and functions are made available (in much the same manner that you are accustomed to with your laptop and computer). **Micromate** supports InstanTel's **AutoCall Home™** feature; when an event occurs the event is immediately captured and is automatically transmitted to your computer (there is no need to prompt the unit to transmit data).

### Easy to Use

With the use of a color touch screen and icon based user interface, InstanTel sets a new industry standard for efficiency and ease of use. A key pad compliments the user interface. Whether you prefer touch screens, key pads, or a combination of both, you'll find the **Micromate** intuitive to use and easy to learn. A full display touch screen keyboard makes entry of data and notes convenient and easy. Of course, the unit can be interfaced to a laptop or computer as well. Connectors are color coded for easy identification and installation.

### Saving Events

Events and unit settings are saved in a reliable on-board, non-volatile memory with ample storage capacity for most applications and up to 1,000 events (with additional optional memory capacity available). Data can be transferred for off-unit storage or off-unit data manipulation to a computer

or laptop via the convenient USB interface or via use of a compatible modem. Data retrieval can be as simple as copying events to an external USB memory stick (no laptop or computer is required).

### Rugged and Reliable

Simply put, the **Micromate** is built to last. It's built to be reliable, every day and all day – for years! The base unit comes with a fully sealed top panel, non-corrosive industrial grade connectors and fully sealed electronics. The base unit housing and connectors provide a water resistant seal. The custom molded housings for the geophone and base unit are made of superior impact polycarbonate. An optional protective "boot" complete with faceplate provides the highest level of durability and ruggedness available in InstanTel's product line.

### Key Features

- USB 2.0 with Host and Device support
- USB support for memory sticks, and InstanTel compatible field printer, modem and GPS devices (sold separately)
- Large, high resolution, color graphics touch screen. Easy to read and navigate menu structure
- Context Sensitive Icons: Icons are only shown if they are relevant to what you are doing
- Short Cut Icons: Fast, one touch access to the most commonly used features
- Context Sensitive Help at your fingertips
- Integrated Keypad: Large 10-key interface with dedicated function keys
- Supports InstanTel's **Auto Call Home** for remote automated data reporting/transmission
- Monitor Scheduler: Assign different setup files, scheduled self checks, scheduled Auto Call Home times and when to start and stop monitoring
- Small enough to be hand-held
- Rugged and reliable: Field rugged and durable design with a fully sealed top panel, non-corrosive connectors, and sealed electronics to enhance water resistance
- Optional protective boot and faceplate
- Storage capacity for 1,000 events (additional capacity optional)
- Printer for immediate in-field printing of reports (sold separately)
- 10 day battery life (standard), 15 days (optional)



# Micromate®

## General Specifications

Channels	Microphone and Triaxial Geophone (ISEE or DIN)
Vibration Monitoring	
Range	Up to 254 mm/s (10 in/s)
Response Standard	ISEE 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	2.0 g/cc (127 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)	1000 m (3280 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 (2.2662x10 <sup>-6</sup> psi)
Linear Accuracy	+/- 10% or +/- 1dB, whichever is larger, between 4 and 125 Hz
Linear Frequency Response	2 to 250 Hz between -3 dB roll off points
Maximum Cable Length (ISEE)	500 m (1640 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	1,024, 2,048, 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 90 seconds (programmable in one-second steps) plus a pre-trigger at 0.25, 0.50, 0.75, or 1.0 second
<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 - zero dead time
Storage Capacity	
Full Waveform Events	1,000, 1 second events at 2,048 S/s sample rate (memory upgrade optional)

## Histogram Recording

Record Modes	Histogram and <b>InstanTel Histogram Combo™</b> (monitor captures triggered waveforms while recording in Histogram mode)
Recording Interval	2 to 30 seconds in 1 second increments, and 30 seconds to 30 minutes in 30 second increments
Histogram Storage Capacity	Approximately 220,000 intervals. Examples: 5 days at 2 second intervals, or 150 days at 1 minute
Histogram Combo Storage Capacity	Example: 30 Days of Histogram recording at 1 minute intervals, and over 900 1 second waveform events

## Physical Specifications

Dimensions	101.6 x 135.1 x 44.5 mm (4.15 x 5.32 x 1.75 in)
Weight	0.5 kg (1.1 lbs)
Battery	10 day rechargeable lithium ion (optional 15 day battery upgrade available)
User Interface	10 domed tactile keys, colour touch screen, and full display keyboard with dedicated icons for common functions
Display	QVGA, 320 x 240 color touch screen
Printer (sold separately)	Precision high-resolution
PC Interface	USB
Auxiliary Inputs and Outputs (Optional)	External trigger, Remote alarm
Environmental	
LCD Operating Temperature	-10 to 55°C (14 to 131°F)
Operating Temperature Supporting USB Sensors	-40 to 45°C (-40 to 113°F)
Operating Temperature Without USB Sensors	-40 to 55°C (-40 to 131°F)*
Remote Communications	Compatible with these supported modems; Sierra Wireless™ Airlink® Raven Series X, XT, GX400, or LS300
Electrical Standard	CE Class B - The Micromate has been tested and passed IEC (CB scheme test report available) 61010-1

\*NOTE: LCD screen saver must be enabled and set to a maximum time out of 2 minutes.

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980-721001-000 Rev 09 - Product Specifications are Subject to Change

The World's Most Trusted Vibration Monitors