

Micromate®

The Industry's #1 Selling Vibration Monitor!

With over 38 years of expertise, InstanTel has set the industry standard with our vibration, air-overpressure and sound monitoring units. The Micromate is used worldwide enforcing our reputation as a global leader of tough, rugged and reliable products.

Key Features

- Fits in the palm of your hand.
- Histogram-Combo mode captures full-waveform events in parallel to Histogram recording.
- Versatile USB Port for USB memory sticks, field printer, and modem.
- Large, easy-to-read, color touch-screen display.
- Can store over 1,000 events (4,000 with optional memory).
- Trigger multiple units within 1 sample of each other.
- Synchronizes Class 1 noise monitoring or air-overpressure and vibration data on the same monitoring unit.
- Internal battery lasting up to 15 days.
- Uninterrupted monitoring with zero dead-time between events.

Range of Applications

- | | | |
|----------------|------------------------|---------------|
| • Construction | • Compaction | • Sound/Noise |
| • Blasting | • Heavy Transportation | • Structural |
| • Demolitions | • Environmental | • Bridges |
| • Pile Driving | • Tunnels and Subways | |

Monitor Remote Locations

- Integrates seamlessly into InstanTel's THOR/Vision Event Management Software.
- Auto Call Home relays any InstanTel unit's data to you via THOR/Vision.
- Schedule diagnostics, monitoring or Auto Call Home using the Scheduler tool in THOR.

Sensor Options

- | | | |
|------------------------------|---------------------------------|--------------------------|
| • ISEE Triaxial Geophone | • Swedish Pile Driving Geophone | • ISEE Linear Microphone |
| • DIN Triaxial Geophone | • Swedish Blasting Geophone | • Sound Level Microphone |
| • Triaxial Borehole Geophone | | |

Enhance Your Data Analysis Using InstanTel's THOR Advanced Software

- Reduce vibrations efficiently using the Signature Hole Analysis feature.
- Calculate the structural response based on a comparison of two waveforms recorded inside and simultaneously outside a structure.
- Calculate the effects of vibrations (Vibration Dose Value, VDV) with our Human Exposure Reports feature.

THOR Includes the Following Compliance Standards and Graphs

- | | | |
|--|--|---|
| • Australia 2187.2-1993 | • Function de Ponderation | • QLD APP Standard |
| • Brazilian Standard NBR 9653/2005 | • GFEE + Ministère Environnement | • NZS/ISO 2631-2:1989 Combined curves |
| • British Standard 7385 | • Harmoniska Svängningar | • Recommendation GFEE/GFEE* |
| • BS 6472:1992 (Curves 8,16,20,32,60,90,128) | • Indian CMRI, DGMS India (A) & (B) | • Swiss SN 640 312a (Mining/Pile Driving/Traffic) |
| • Criterio Prevencion (Une 22.381) | • Indonesian SNI 7571:2010 | • Toronto 514-2008 |
| • Czech and Slovak Standard | • ISEE Seismograph Specification -2017 | • Turkey Mining & Quarry |
| • DIN 4150 | • New Zealand 4403:1976 | • USBM R18507 And OSMRE |
| • DIN 45669-1 (2010) | • NOM-026-SESH-2007 | |



Protective Boot

ISEE Geophone with a Linear Microphone or Sound Level Microphone



Available Sensors

General Specifications

Micromate Channels Geophone

- Range
- Response Standard
- Resolution
- Frequency Range
- Accuracy

- Phase Response

- Transducer Density
- Maximum Cable Length

Microphone and Triaxial Geophone (ISEE or DIN)
ISEE
Up to 254 mm/s (10 in/s)
ISEE Seismograph Specification (2017)
0.00788 mm/s (0.00031 in/s)
2 to 250 Hz
From 2 to 4 Hz and 125 to 250 Hz: +5% to -3 dB of an ideal flat response, from 4 to 125 Hz: $\pm 5\%$ or ± 0.5 mm/s (0.02 in/s) whichever is larger.
Phase shift from 2.5 to 250 Hz <10% of maximum absolute value of 2 superimposed harmonic vibrations.
2.2 g/cc (137 lbs/ft³)
1,000 m (3,280 ft)

DIN
Up to 254 mm/s (10 in/s)
DIN 45669-1
0.00788 mm/s (0.00031 in/s)
1 to 315 Hz
DIN: 45669-1 standard

Microphones

- Weighting Scales
- Response Standard
- Range
- Resolution
- Frequency Range
- Accuracy

- Maximum Cable Length

ISEE Linear Microphone
ISEE Linear Microphone
ISEE Seismograph Specification (2017)
Up to 500 Pa (0.0725 psi) [148 dB]
0.0156 Pa (2.2662x10⁻⁶ psi)
2 to 250 Hz
2 Hz: -3 dB \pm 1 dB, 3 Hz: -1 dB \pm 1 dB, from 4 Hz to 125 Hz: \pm 1 dB, 200 Hz: +1 dB to -3 dB, 250 Hz: +1 dB to -4 dB
75 m (250 ft)

2.2 g/cc (137 lbs/ft³)
1,000 m (3,280 ft)
Sound Level Microphone
A-Weight or C-Weight
Fast (125s) or Slow (1s)
30 to 140 dB (A or C)
0.05 dB (Display limit 0.1 dB)
Up to 20 kHz
IEC 61672 Class 1
75 m (250 ft)

Waveform Recording

- Record Modes**
- Seismic Trigger**
- Linear Acoustic Trigger**
- Sound Level Microphone Trigger**
- Sample Rate**
- Record Stop Mode**
- Record Time**
- Auto Record Time**

Waveform, Waveform Manual
0.13 to 254 mm/s (0.005 to 10 in/s)
2.0 to 500 Pa (0.00029 to 0.0725 psi) [100 to 148 dB]
33 to 140 dB (A or C)
1,024 / 2,048 / 4,096 S/s per channel (independent of record time)
Fixed record time, AutoRecord™ (see Auto Record Time below)
1-90 seconds (programmable in one-second steps) plus a pre-trigger at 0.25, 0.50, 0.75, or 1.0 second
Event is recorded until activity remains below trigger level for duration of auto window, or until available memory is full.

Cycle Time Recording uninterrupted by event processing, monitoring, or communication - zero dead time between events.
Waveform Storage Capacity 1,000 1-second events at 2,048 S/s (memory upgrade optional up to 4,000 1-second events at 2,048 S/s)

Histogram Recording

- Record Modes**
- Recording Interval**
- Histogram Storage Capacity**
- Histogram Combo Storage Capacity**

Histogram and Histogram-Combo™ (unit captures triggered waveforms while recording in Histogram mode)
2 to 30 seconds (1-second increments), and 30 seconds to 30 minutes (30-second increments)
222,000 intervals (Examples: 5 days at 2-second intervals, 150 days at 1-minute intervals)
30 days of Histogram recording at 1-minute intervals, and over 900 1-second waveform events

Physical Specifications

- Dimensions**
- Unit Weight**
- Battery**
- User Interface**
- Display**
- PC Interface**
- Auxiliary Inputs and Outputs**
- Environmental**

101.6 x 135.1 x 44.5 mm (4.15 x 5.32 x 1.75 in)
0.5 kg (1.1 lbs)
10 day rechargeable lithium ion (optional 15 day battery upgrade available)
10 domed tactile keys, colour touch screen, with display keyboard and dedicated shortcuts for common functions
QVGA, 320 x 240 color touch screen
USB
External Trigger and Remote Alarm (factory installed option)
-10 to 55 °C (14 to 131 °F)
-40 to 45 °C (-40 to 113 °F)
-40 to 55 °C (-40 to 131 °F) (LCD screen saver enabled and set to a maximum time-out of 2 minutes (Without USB sensors).

Remote Communications

Supported modems: Sierra Wireless™ Airlink® RV-50, GX-400, LS-300. Automatically transfers events when they occur through the Auto Call Home feature, monitor start/stop timer.

Optional Features

- Printer
- GPS
- Vision (Cloud-based software)

Precision high-resolution
Synchronize time and download coordinates
Provides stakeholders with secure, encrypted, access to event data, and allows instant sharing for time-sensitive projects.
CE Class B - The Micromate has been tested and passed IEC 61010-1:2010 (CB scheme test report available).

Electrical Standards

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

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

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

© 2020 Instantel, a member of Stanley Black & Decker, Inc.
All rights reserved. Design, features, and specifications are subject to change without notice.

StanleyBlack&Decker