



# Sound Examiner Sound Level Meters

SE-400 Series



**TSI® Quest® Sound Examiner Sound Level Meters SE-400 are engineered to accurately measure noise levels in highly variable environments.**

These meters compute average sound pressure level ( $L_{EQ}/L_{AVG}$ ) over the run time, helping you to more accurately assess occupational and environmental noise levels. All models are ready to use with no set-up required.

## Features and Benefits

- Intuitive interface allows for out-of-box use with little to no training
- User selectable data logging intervals for download and analysis with TSI® Quest® Detection Management Software (sold separately)
- Averaging functionality allows for easy measurement in variable environments
- Choose from models with Class/Type 1 or Class/Type 2 microphones, dependent on your application
- SE-401 and SE-402-R models include removable preamp
- Meets applicable industry standards
- Useful tool as part of a Hearing Conservation Program; be confident that data collected is accurate

# Accurate and Intuitive Analysis

Models For Many Applications



## Choice of Microphones

- User can specify microphone type (Class/Type I or Class/Type II) based on application.
- Select Type II for general duty; Type I accuracy for legal metrology

## Removable preamp\*

- Preamp can be easily removed to enable interference-free low-level monitoring, especially for remote use.

## Aerodynamic shape

- Minimizes disturbance to sound fields being measured, assuring accurate readings.

## Onboard data logging

- Allows user to capture maximum, minimum and peak values for thorough analysis.
- Can be used with TSI® Quest® Detection Management Software DMS to manage compliance with hearing conservation programs.

## Conformance to standards

- Meets IEC 61672-1 (2002) and ANSI S1.43-1997 (R2007) standards and is CE certified.



# Choose the Model That Best Meets Your Needs

|                                         | Sound Examiner SE-401 | Sound Examiner SE-402 | Sound Examiner SE-402-R |
|-----------------------------------------|-----------------------|-----------------------|-------------------------|
| Product No.                             | SE-401                | SE-402                | SE-402-R                |
| DMS Compatible                          | ▪                     | ▪                     | ▪                       |
| Data Logging                            | ▪                     | ▪                     | ▪                       |
| External AC/DC Output                   | ▪                     | ▪                     | ▪                       |
| Class/Type 2 Accuracy                   |                       | ▪                     | ▪                       |
| Class/Type 1 Accuracy                   | ▪                     |                       |                         |
| Remote Capability with Removable Preamp | ▪                     |                       | ▪                       |
| Intrinsic Safety Approval               |                       |                       |                         |

## Detection Management Software

Designed for dosimetry, sound level measurements, heat stress assessments and environmental monitoring, this advanced software helps safety and occupational professionals:

- Configure instrumentation and save pre-configured setups
- Retrieve, download, share, and save instrument data
- Create charts, tables, and reports to intuitively interpret your measurements
- Export and share recorded results



The software integrates with TSI® Quest® Detection Solutions data logging instruments and will help you improve both operating efficiency.

## Specifications

# Sound Examiner Sound Level Meters

Model SE-400

### Measurements

|                              |                                                                                              |
|------------------------------|----------------------------------------------------------------------------------------------|
| Parameters                   | SPL, $L_{Max}$ , $L_{Min}$ , $L_{Pk}$ (peak),<br>$L_{EQ}$ / $L_{AVG}$ , $L_E$ , Elapsed Time |
| Peak and Frequency Weighting | A, C, Z                                                                                      |
| Response Time                | Fast and Slow                                                                                |
| Ranges                       | 110 dBA total dynamic measurement range.<br>Overall range 30 – 140 dBA (single range)        |
| Max Peak Level               | 143 dBA (sampled peak)                                                                       |
| Exchange Rates               | 3, 4, 5 dBA                                                                                  |
| Status Indicators            | Run, Stop, Battery Status, OL (overload), UR (under-range), Run-Time, Locked Status          |

### Physical

|                 |                                                                                                                                    |
|-----------------|------------------------------------------------------------------------------------------------------------------------------------|
| Size            | 11.2" (L) x 2.8" (W) x 1.3" (D) /<br>28.4 cm (L) x 7.1 cm (W) x 3.3 cm (D)<br>(with preamp and microphone)                         |
| Weight          | SE-401 model: 12.9 oz / 367.5 g<br>(with preamp and microphone)<br>SE-402 model: 13.4 oz / 380.5 g<br>(with preamp and microphone) |
| Housing         | ABS Polycarbonate IP65.<br>(Enclosure rated to IP65. Microphone and external connectors not IP rated.)                             |
| Tripod Mount    | Standard photographic mount on backside accepts 1/4" – 20 screw threads                                                            |
| Drop Protection | Minimum 2 meters onto concrete, 2 times on each face. Acceptable microphone damage.                                                |

### Environmental

|                       |                                                    |
|-----------------------|----------------------------------------------------|
| Operating Temperature | 14°F to 122°F (-10°C to 50°C)                      |
| Humidity              | 0 to 90% RH, non-condensing                        |
| Storage Temperature   | -4°F to 140°F (-20°C to 60°C)                      |
| Atmospheric Pressure  | Operating: 80 to 110 kPa<br>Storage: 50 to 150 kPa |
| Response Time (t90)   | < 40s @ 20°C ambient                               |

### Power / Electrical Characteristics

|                      |                                                                                                                                                                    |
|----------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Battery              | Lithium Polymer: 2500 mAHr for standard models / 1500 mAHr for IS models, rechargeable<br>Run-Time: 18 hours minimum (excluding the backlight) for standard models |
| Battery Life         | 3 years or 500 cycles (service replaceable)                                                                                                                        |
| Battery Charge       | USB charger is provided with instrument.<br>Battery charge time: 8 hours (approx.)                                                                                 |
| Internal Memory      | 2MB (34 days at 1-minute logging)                                                                                                                                  |
| Communications       | USB Interface                                                                                                                                                      |
| Standard Microphones | Class/Type 1 Precision QE4936 microphone<br>Class/Type 2 General QE7052 microphone                                                                                 |
| Preamplifier         | Preamp directly accepts 1/2" (13.2 mm) microphone                                                                                                                  |
| Remote Cable         | Drives up to 50 ft (15 m) of cable with negligible signal loss (not available on IS)                                                                               |

### Ports and Connections

|               |                                                                                     |
|---------------|-------------------------------------------------------------------------------------|
| AC/DC Output  | 3.5 mm stereo (tip – AC, center ring – DC, ring – Gnd); not applicable to IS models |
| I/O Connector | RS-232 (I/O connector not applicable to IS models)                                  |
| USB           | Conforms to USB 2.0, mini-USB connector                                             |

### Conformance to Standards

|                         |                                                              |
|-------------------------|--------------------------------------------------------------|
| IEC 61672-1 (2002)      | Electroacoustics, Sound Level Meters, Part 1: Specifications |
| ANSI S1.43-1997 (R2007) | 41 - 104° F (5 - 40° C)                                      |
| ANSI S1.4-1983 (R2006)  | Specifications for Sound Level Meters                        |
| CE Mark                 | Self Certified                                               |

Specifications are subject to change without notice.

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