TSI | QUEST™

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, including those that require intrinsic safety.

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.
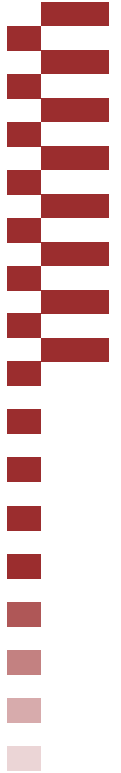
Features and Benefits
- Red models have Intrinsic Safety approvals
- Intuitive interface allows for out-of-box use with little to no training
- User selectable data logging intervals for download and analysis with TSI® Quest Detection Management Software (sold separately)
- Averaging functionality allows 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 conÿdent 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.
- Intrinsic Safety approvals on SE-401-IS and SE-402-IS.

Choose the Model That Best Meets Your Needs

	Sound Examiner SE-401	Sound Examiner SE-402	Sound Examiner SE-402-R	Sound Examiner SE-401-IS	Sound Examiner SE-402-IS
Product No.	SE-401	SE-402	SE-402-R	SE-401 IS	SE-402 IS
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.

Measurements

Parameters	SPL, L_{Max}, L_{Min}, L_{Pk} (peak), 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. 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) / 28.4 cm (L) x 7.1 cm (W) x 3.3 cm (D) (with preamp and microphone)
Weight	SE-401 model: 12.9 oz / 367.5 g (with preamp and microphone) SE-402 model: 13.4 oz / 380.5 g (with preamp and microphone) SE-401-IS model: 14.5 oz / 410 g (with preamp and microphone) SE-402-IS model: 14.5 oz / 410 g (with preamp and microphone)
Housing	ABS Polycarbonate IP65. (Enclosure rated to IP65. Microphone and external connectors not IP rated.)
Tripod Mount	Standard photographic mount on backside accepts ¼″ – 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 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 Run-Time: 18 hours minimum (excluding the backlight) for standard models / 8 hours for IS models
Battery Life	3 years or 500 cycles (service replaceable)
Battery Charge	USB charger is provided with instrument. 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 Class/Type 2 General QE7052 microphone
Preamplifier	Preamp directly accepts ½″ (13.2 mm) microphone
Remote Cable	Drives up to 50 ft (15 m) of cable with negligible signal loss (not available on IS)

Standards

Intrinsic Safety (SE-401 IS and SE-402 IS)	EN60079-11:2012 Part 11, IEC 60079-11 Ed. 6:2012 Part 11 EN60079-0:2013, IEC 60079-0 Ed. 5:2013 IECEx Certificate File #: 13.0006X ATEX Directive 2014/34/EU for use in potential explosive atmospheres certificate number: 1210031x

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
Intrinsic Safety Standards (SE-401 IS and SE-402 IS models)	Contact factory for detailed information

Specifications are subject to change without notice.

Knowledge Beyond Measure.