

3M Personal Safety Division

3M™ Sound Examiner Sound Level Meters SE-400

Detection

Protection

Validation



Intuitive Measurement

For Challenging Environments

Certified.

- Red models have Intrinsic Safety approvals

User Friendly.

- Intuitive interface allows for out-of-box use with little to no training
- User selectable data logging intervals for download and analysis with 3M™ Detection Management Software (sold separately)
- Averaging functionality allows for easy measurement in variable environments

Versatile.

- Printing capability with optional digital printer* provides hard copy documentation in the field
- 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*

Accurate.

- Meets applicable industry standards
- Useful tool as part of a Hearing Conservation Program; be confident that data collected is accurate

*Available on non-Intrinsically Safe models only.



SE-401, SE-402 and SE-402-R non-Intrinsically Safe Models

SE-401-IS and SE-402-IS Intrinsically Safe Models

To learn more about 3M Detection Solutions products, see www.3M.com/Detection.

The power to protect your world.™

Accurate and Intuitive Analysis

Models for many applications



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 3M™ 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.

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.



SoundPatrol portable digital printing (optional)*

- Enables hard-copy documentation of measurement results in the field.
- Facilitates noise ordinance enforcement and on-the-spot citation issuance.

* Does not apply to Intrinsically Safe models.



3M Detection Solutions: Brilliantly Intuitive

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
3M ID	70071607959	70071607942	70071622164	70071607934	70071607967
DMS Compatible	•	•	•	•	•
Data Logging	•	•	•	•	•
External AC/DC output	•	•	•		
Serial printing for SoundPatrol feature	•	•	•		
Class/Type 2 Accuracy		•	•		•
Class/Type 1 Accuracy	•			•	
Remote capability with removable preamp	•		•		
Intrinsic Safety Approvals				•	•

3M™ Detection Management Software DMS

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

Configure.

- Configure instrumentation and save pre-configured setups

Analyze.

- Retrieve, download, share, and save instrument data
- Create charts, tables, and panels to intuitively interpret your measurements

Report.

- Generate insightful charts and reports
- Export and share recorded results

The software integrates with 3M™ Detection Solutions data logging instruments and will help you improve both operating efficiency and reporting in acoustics, heat stress, and environmental monitoring.



Product No.	Description	3M ID
DMS	Detection Management Software	70071608213

Specifications

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:	-10°C to 50°C (14°F to 122°F)
Humidity:	0 to 90% RH, non-condensing
Storage Temperature:	-20°C to 60°C (-4°F to 140°F)
Atmospheric Pressure:	Operating: 80 to 110 kPa; Storage: 50 to 150 kPa

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:	<ul style="list-style-type: none"> 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 15 m (50 ft) 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):	American National Standards: Specifications for Integrating Averaging Sound Level Meters
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):	UL 913, Ed.7, 2011-09-23; CSA C22.2 No. 157-92, (R2013); EN 60079-0 (2009); EN 60079-11 (2012); EN 60079-26 (2007); IEC 60079-0 Ed.5 (2007); IEC 60079-11 Ed. 6: (2012); IEC 60079-26 Ed. 2: (2009), CE mark ₀₅₃₉
Certificate Number:	IECEx UL 13.0006X, Class I, Division 1, Groups C and D; Exi is defined as Intrinsically Safe (for use in potentially explosive atmospheres)
Hazardous Locations Class:	ⓧ II 1 G Ex ia IIB T4 (DEMKO 13 ATEX 1210031X); Ambient temperature range: -20°C to +50°C

All specifications subject to change.



Personal Safety Division

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70-0716-2505-0 01.2014