

Sper Scientific 850015

Sper Scientific 850015 Graphic Display Sound Meter User Manual

Model: 850015

1. INTRODUCTION

This manual provides comprehensive instructions for the operation and maintenance of the Sper Scientific 850015 Graphic Display Sound Meter. This precision instrument is designed for accurate sound level measurements and complies with industry standards ANSI S1.4 Type 2 and IEC 61672-1 Class 2. The device features a clear graphic display, selectable A and C decibel frequency weighting scales, minimum/maximum value tracking, and adjustable fast or slow response times. It also includes AC and DC output capabilities for external recording or analysis.



Figure 1: Sper Scientific 850015 Graphic Display Sound Meter. This image shows the front view of the sound meter, highlighting its display and control buttons.

2. PACKAGE CONTENTS

Upon opening the package, verify that all items listed below are present and in good condition:

- Sper Scientific 850015 Graphic Display Sound Meter
- Windscreen
- 9V Battery
- Instruction Manual (this document)
- Foam-lined Hard Shell Carrying Case



Figure 2: The Sper Scientific 850015 Sound Meter shown within its protective foam-lined hard shell carrying case, alongside the included 9V battery and instruction manual.

3. SETUP AND BATTERY INSTALLATION

The Sper Scientific 850015 comes with a 9V battery included. Follow these steps to install or replace the battery:

1. Locate the battery compartment cover on the back of the device.
2. Slide or unclip the cover to open the compartment.
3. Connect the 9V battery to the battery clip, ensuring correct polarity.
4. Place the battery into the compartment and replace the cover, securing it firmly.
5. Attach the windscreen to the microphone at the top of the meter. This helps reduce wind noise during measurements.

4. OPERATING INSTRUCTIONS

Familiarize yourself with the device's controls and display before operation.



Figure 3: The Sper Scientific 850015 Sound Meter being held, demonstrating its ergonomic design and ease of use.

4.1. Power On/Off

- Press the **Power** button (usually marked with "I" or a power symbol) to turn the meter on.
- Press and hold the **Power** button for a few seconds to turn the meter off.
- The meter features an auto-power-off function to conserve battery life.

4.2. A/C Weighting Selection

- Press the **A/C** button to toggle between A-weighting and C-weighting.
- **A-weighting** (dBA) is commonly used for environmental noise measurements and approximates the human ear's response.
- **C-weighting** (dBC) provides a flatter response, suitable for measuring peak sound levels or noise from machinery.

4.3. Fast/Slow Response Time

- Press the **FAST/SLOW** button to select the desired response time.
- **FAST** response (125 ms) is suitable for capturing rapidly changing noise levels.
- **SLOW** response (1 second) provides an averaged reading for more stable noise sources.

4.4. MIN/MAX Function

- Press the **MIN/MAX** button to activate the minimum/maximum hold function.
- The display will show the highest (MAX) or lowest (MIN) sound level recorded since the function was activated.
- Press the button again to cycle through MAX, MIN, and normal measurement modes.

4.5. AC/DC Output

The meter provides AC and DC output jacks for connecting to external devices such as chart recorders,

data loggers, or sound analysis equipment. Refer to the specifications section for output voltage details.

5. MAINTENANCE AND CALIBRATION

5.1. Cleaning

To ensure optimal performance and longevity, keep the meter clean. Wipe the exterior with a soft, dry cloth. Do not use abrasive cleaners or solvents. Ensure the microphone is free from dust and debris.

5.2. Battery Replacement

When the low battery indicator appears on the display, replace the 9V battery as described in the "Setup and Battery Installation" section. Always dispose of used batteries responsibly.

5.3. Calibration

For applications requiring high accuracy or regulatory compliance, periodic calibration is recommended. The Sper Scientific 850015 can be calibrated in compliance with OSHA standards using an optional Acoustical Calibrator (Model 850016). A N.I.S.T. traceable certificate of calibration is also available from Sper Scientific.

6. TROUBLESHOOTING

If you encounter issues with your Sper Scientific 850015, refer to the following common problems and solutions:

Problem	Possible Cause	Solution
Device does not power on.	Dead or improperly installed battery.	Check battery installation; replace with a fresh 9V battery.
Inaccurate or fluctuating readings.	Microphone obstructed, strong wind, or meter needs calibration.	Ensure windscreen is properly installed and microphone is clear. Avoid strong air currents. Consider calibration if readings remain inconsistent.
Display shows "LO BAT".	Battery is low.	Replace the 9V battery immediately.
No response from buttons.	Device frozen or battery issue.	Remove and reinsert the battery to reset the device. If problem persists, replace battery.

7. SPECIFICATIONS

The following table details the technical specifications for the Sper Scientific 850015 Graphic Display Sound Meter:

Parameter	Value
Measurement Range	30 to 130 dB (A & C scales)
Resolution	0.1 dB

Parameter	Value
Accuracy	±1.4 dB (ref 94 dB @ 1KHz)
Frequency Weighting	A and C
Response Time	Fast (125 ms) / Slow (1 sec)
Output	AC and DC
Auto Power Off	Yes
Low Battery Indicator	Yes
Standards Compliance	ANSI S1.4 Type 2, IEC 61672-1 Class 2
Dimensions	10¼" × 2¼" × 1" (258 × 55 × 25 mm)
Weight	6.5 oz (185 g)
Power Source	1 x 9V battery (included)

Specifications

Range	Resolution	Accuracy
30 to 130 dB	0.1 dB	±1.4 dB (ref 94 dB @ 1 KHz)





Figure 4: A visual representation of key specifications for the Sper Scientific 850015, including range, resolution, and accuracy.

8. WARRANTY AND SUPPORT

For information regarding product warranty, technical support, or service, please contact Sper Scientific directly. Their official website or the contact information provided with your purchase documentation will have the most up-to-date details.

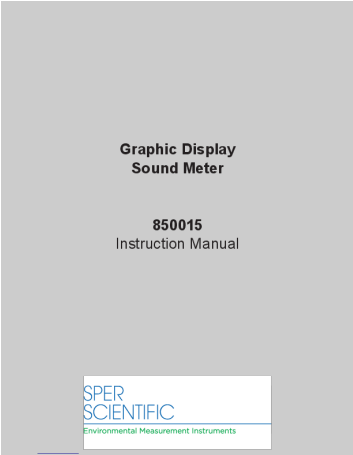
Manufacturer: Sper Scientific

Website: [Sper Scientific Store on Amazon](#) (for general product information)

<p>Digital Type 2 Sound Meter</p> <p>840029</p> <p>Instruction Manual</p> 	<p>Sper Scientific 840029 Digital Type 2 Sound Meter Instruction Manual</p> <p>Instruction manual for the Sper Scientific 840029 Digital Type 2 Sound Meter, covering specifications, operating instructions, calibration, precautions, and warranty information.</p>
<p>Advanced Datalogging Sound Meter</p> <p>850013</p> <p>Instruction Manual</p> 	<p>Sper Scientific 850013 Advanced Datalogging Sound Meter Instruction Manual</p> <p>Instruction manual for the Sper Scientific 850013 Advanced Datalogging Sound Meter, covering features, operation, calibration, troubleshooting, PC connection, and specifications.</p>
<p>UVAB LIGHT METER</p> <p>850032</p> <p>Instruction Manual</p> 	<p>UVAB Light Meter 850032 Instruction Manual</p> <p>Instruction manual for the Sper Scientific 850032 UVAB Light Meter, detailing its features, operation, specifications, and safety precautions for measuring UVA and UVB irradiance in industrial, scientific, and safety applications.</p>
<p>Dissolved Oxygen Pen</p> <p>850045</p> 	<p>Sper Scientific 850045 Dissolved Oxygen Pen User Manual and Specifications</p> <p>User manual and specifications for the Sper Scientific 850045 Dissolved Oxygen Pen. Learn about its features, how to calibrate and measure dissolved oxygen and temperature, probe maintenance, battery replacement, technical specifications, and warranty information.</p>

<div><div>DATALOGGING UVAB / UVC METER</div><div>850031</div><div>Instruction Manual</div><div><div>SPER SCIENTIFIC</div><div>Environmental Measurement Instruments</div></div></div>	<p>Sper Scientific 850031 Datalogging UVAB/UVC Meter Instruction Manual</p> <p>Instruction manual for the Sper Scientific Model 850031 Datalogging UVAB/UVC Meter, detailing its features, measurement procedures for UVA, UVC, and temperature, datalogging functions, advanced settings, specifications, and warranty. Designed for industrial, scientific, and safety applications.</p>
<div><div><div>SPER SCIENTIFIC</div><div>Environmental Measurement Instruments</div></div><div><div>Non-Contact Dual Use Infrared Thermometer - Sper Scientific</div><div>TE-94</div><div>Instruction Manual</div></div></div>	<p>Sper Scientific Non-Contact Dual Use Infrared Thermometer TE-94 - Precision Temperature Measurement</p> <p>Discover the Sper Scientific TE-94 NIST Certified Non-Contact Dual Use Infrared Thermometer. Offers precision, convenience, and advanced non-contact measurement for body and surface temperatures. Ideal for home, office, and industrial use.</p>

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SPER
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Graphic Display Sound Meter

Slim, light, ergonomic design

Features a large bar graph display, A to C dual frequency weighting scales, minimum, peak, fast or slow response, AC or DC output, auto-power-off, low battery indicator. Comes 90 to 130 dB in the 1/3 octave scale with a resolution of 0.1 dB and an accuracy of ± 1.4 dB (ref. IEC 61672-1). Comes ready to use with a windshield, 9V battery, instructions, and a foam-lined hard shell carrying case. NIST Traceable Certificate of Calibration available, or calibrate anytime using optional Acoustical Calibrator 850006.

size: 10.2" x 2.1" x 1.1" (258 x 55 x 25 mm) weight: 6.5 oz (185 g)

No. Description Range Resolution Accuracy

850015 Graphic Display Sound Meter 90 to 130 dB ± 1.4 dB ± 1.7 dB

850016 Graphic Display Sound Meter Calibrator 114 dB ± 0.1 dB ± 0.1 dB

850015 9V battery, instructions, and a foam-lined hard shell carrying case

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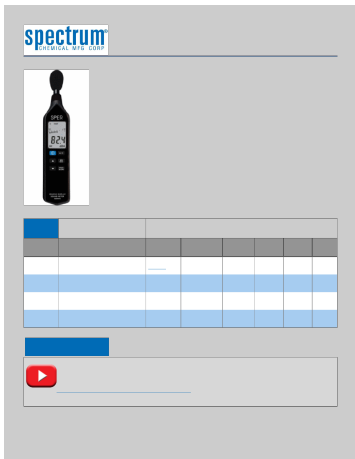
850015 9V battery, instructions, and a foam-lined hard shell carrying case

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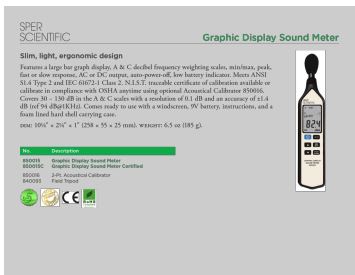
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Sper Scientific Graphic Display Sound Meters 1 day ago — Description Features a large bar graph display A C decibel frequency weighting scales min max peak fast filename* UTF 8 Met

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Comparisons - Sound Meters											
Product	850015	850016	850017	850018	850019	850020	850021	850022	850023	850024	850025
Accuracy	±1.5 dB	±1.5 dB	±1.5 dB	±1.5 dB	±1.5 dB	±1.5 dB	±1.5 dB	±1.5 dB	±1.5 dB	±1.5 dB	±1.5 dB
Audio Tone	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
dB Scale A	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
dB Scale C	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Peak	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Fast/Slow Measurement	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Min/Max	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Auto Averaging	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
AC Coupled	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
DC Coupled	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Bandwidth	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Bar Graph	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Detachable Probe	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Internal Calibration	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Logging	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Impedance	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Microphone	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Audio Recording	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓

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Comparisons - Sound Meters Product: Retail: Accuracy: Bluetooth Sound Meter 850019 103 Pen 840018 139 Mini 850014 160 Graphic Display **850015** 209 Digital Environmental Detachable Type 2 Quality Meter Probe 840029 with Sound 840012 850069 289 292 314 Type 1 840015 Advanced Sound In...

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