Sper Scientific 850099

Sper Scientific Manometer SD Card Logger Model 850099 Instruction Manual

Model: 850099

1. Introduction

The Sper Scientific Manometer SD Card Logger Model 850099 is designed for precise measurement of gauge and differential pressure in non-corrosive and non-ionized air and gas environments. This device records pressure data along with date and time directly onto standard SD memory cards, facilitating easy data transfer and analysis without specialized software.

Image 1: Front view of the Sper Scientific Manometer SD Card Logger 850099, showing the display and control buttons.

2. Package Contents

Verify that all items listed below are present and in good condition upon unpacking:

- Sper Scientific Manometer SD Card Logger (Model 850099)
- Carrying Case

- 6 AA Batteries
- Tubing and Pipe Attachment Lugs
- SD Card
- Instruction Manual

Image 2: The manometer and its accessories, including the carrying case, batteries, tubing, and SD card.

3. Product Features

- Measures gauge and differential pressure up to 101 PSI.
- Accuracy: ±2% full scale.
- Records data onto standard SD memory cards with date and time stamps.
- Direct data upload to Excel without additional software or cables.
- Supports 10 units of measure (e.g., PSI, kPa, mbar).
- Push-button zero offset for accurate readings.
- Min/Max function to capture extreme values.
- Hold function to freeze current readings.
- Automatic power-off feature to conserve battery life.
- Low battery indicator.
- Large, easy-to-read backlit LCD display.
- Integrated fold-out easel back for convenient viewing.
- Compatible with optional USB Power Cable 840058 or AC Adapter 840097.

Image 3: Rear view of the manometer showing the fold-out easel stand for desktop use.

4. Setup

4.1 Battery Installation

1. Locate the battery compartment on the back of the device.
2. Open the battery compartment cover.
3. Insert 6 AA batteries, ensuring correct polarity.
4. Close the battery compartment cover securely.

4.2 SD Card Insertion

1. Locate the SD card slot on the side of the device.
2. Insert the provided SD card into the slot until it clicks into place.
3. To remove, push the SD card gently inward until it springs out.

4.3 Tubing Connection

Connect the provided tubing to the P1 and P2 differential input ports located at the top of the device. P1 is for positive pressure, and P2 is for negative pressure. Ensure connections are secure to prevent leaks.

Image 4: Top view of the manometer, highlighting the P1 and P2 differential input ports.

5. Operation

5.1 Power On/Off

Press the **POWER** button to turn the device on. Press and hold the **POWER** button to turn it off. The device features an auto power-off function to conserve battery life after a period of inactivity.

5.2 Zero Offset

Before taking measurements, ensure the device is at ambient pressure and press the **ZERO** button to calibrate the reading to zero. This ensures accurate differential pressure measurements.

5.3 Unit Selection

Press the **UNIT** button to cycle through the 10 available units of measure (e.g., PSI, kPa, mbar, In H^2O). The selected unit will be displayed on the LCD.

5.4 Hold Function

Press the **HOLD** button to freeze the current reading on the display. Press it again to release the hold and resume live measurements.

5.5 Min/Max Function

The device can display the minimum and maximum pressure values recorded during a measurement session. Refer to the full instruction manual for detailed steps on accessing and resetting Min/Max readings.

5.6 Backlight

The LCD display features a backlight for improved visibility in low-light conditions. Activate the backlight by pressing the light bulb icon button.

6. Data Logging

6.1 Recording Data

To begin recording pressure data, ensure an SD card is inserted. Press the **REC** button. The device will log measurements along with the date and time at predefined intervals. Press **REC** again to stop recording.

6.2 Data Transfer to PC

The recorded data is stored on the SD card in a format compatible with Microsoft Excel. To transfer data:

1. Remove the SD card from the manometer.
2. Insert the SD card into a computer's memory card slot or an external SD card reader.
3. Open the data files directly in Microsoft Excel for analysis. No special software or drivers are required.

Additional SD cards can be used for unlimited data storage. Ensure the date and time are set correctly on the device for accurate data logging timestamps.

7. Specifications

- **Model:** 850099
- **Measurement Range:** Up to 101 PSI (differential and gauge pressure)
- **Accuracy:** ±2% full scale
- **Units of Measure:** 10 selectable units (e.g., PSI, kPa, mbar, In H^2O, mm Hg)
- **Data Storage:** SD Card (up to 16GB, user-supplied or included)
- **Display:** Large backlit LCD
- **Power Source:** 6 AA batteries (included) or optional 9V DC adapter/USB cable
- **Dimensions:** 7" × 2¾" × 1¾" (178 × 70 × 44 mm)
- **Weight:** 1 lb. (0.45 kg)
- **Operating Environment:** Non-corrosive and non-ionized air and gas only. Not for use with liquids.

7.1 Detailed Measurement Ranges and Resolution

Specifications

Meter	850097		850098		850099	
	Range ±	Res.	Range ±	Res.	Range ±	Res.
PSI:	2.9	0.001	29	0.01	101.5	0.05/0.1
In H^2O:	80	0.05	802	0.5	2810	2
m H^2O:	2.040	0.001	20.4	0.01	71.35	0.05
hPa:	20	0.01	200	0.1	700	0.5
kPa:	200	0.1	2000	1	7000	5
In Hg:	5.905	0.002	59.05	0.01	30.54	0.1
mbar:	2	0.1	2000	1	7000	5
mm of Hg:	150	0.1	1500	1	5250	5
Kg cm^2:	0.204	0.001	2.04	0.001	7.135	0.005
Max Pressure:	3 PSI		29 PSI		101 PSI	
Accuracy	±2 fs%					
Atmosphere	0.197	0.001	1.974	0.001	6.905	0.005

Image 5: Detailed specifications table for Manometer models, highlighting ranges and resolutions for various pressure units. Model 850099 is listed with a maximum pressure of 101 PSI.

8. Maintenance

- **Cleaning:** Wipe the device with a soft, damp cloth. Do not use abrasive cleaners or solvents.
- **Battery Replacement:** Replace batteries when the low battery indicator appears on the display to ensure continuous operation and data integrity.
- **Storage:** When not in use for extended periods, remove the batteries and store the device in its carrying case in a cool, dry place.
- **SD Card Care:** Handle SD cards carefully. Avoid bending or exposing them to extreme temperatures or moisture.

9. Troubleshooting

- **Device does not power on:**
  - Check if batteries are inserted correctly with proper polarity.
  - Replace with fresh batteries.
  - Ensure the power button is pressed firmly.
- **Inaccurate readings:**
  - Perform a zero offset calibration before measurement.
  - Verify that tubing connections are secure and free of leaks.
  - Ensure the device is used within its specified operating environment (non-corrosive, non-ionized air/gas).
- **Data not recording to SD card:**
  - Ensure the SD card is properly inserted and not full.
  - Try a different SD card.
  - Check if the **REC** button was pressed to start recording.

- **Display is dim or unreadable:**
  - Activate the backlight.
  - Replace batteries if the low battery indicator is on.

10. Warranty and Support

For warranty information, technical support, or service inquiries, please refer to the contact details provided in the original product packaging or visit the official Sper Scientific website. Keep your purchase receipt as proof of purchase for warranty claims.
Manufacturer: Sper Scientific
Website: www.sperscientific.com

Related Documents - 850099

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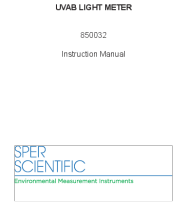
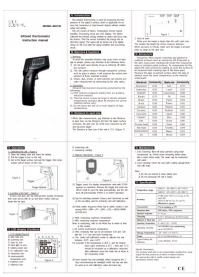
	UVAB Light Meter 850032 Instruction Manual Instruction manual for the Sper Scientific 850032 UVAB Light Meter, detailing its features, operation, specifications, and safety precautions for measuring UVA and UVB irradiance in industrial, scientific, and safety applications.
	Sper Scientific 800130 Infrared Thermometer Instruction Manual Comprehensive instruction manual for the Sper Scientific 800130 infrared thermometer, covering operation, safety, maintenance, and specifications for accurate non-contact temperature measurement.

	Sper Scientific Radiation Monitors 840007, 840026 Instruction Manual This instruction manual provides detailed information on the Sper Scientific Radiation Monitors models 840007 and 840026. It covers operation, battery replacement, interpreting radiation readings, technical specifications, and basic principles of ionizing radiation. Learn how to use and understand your Geiger counter for accurate measurements.
	Sper Scientific 850013 Advanced Datalogging Sound Meter Instruction Manual Instruction manual for the Sper Scientific 850013 Advanced Datalogging Sound Meter, covering features, operation, calibration, troubleshooting, PC connection, and specifications.