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› SigmasTek SP6-4.5 6V 4.5AH Sealed Lead Acid Battery User Manual

SigmasTek SP6-4.5

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Model: SP6-4.5

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1. PRODUCT OVERVIEW

The SigmasTek SP6-4.5 is a high-quality 6 Volt 4.5 Amp-Hour (AH) Sealed Lead Acid (SLA) battery, designed as a replacement for the Yuasa NP4.5-6. This battery utilizes Absorbent Glass Mat (AGM) technology, providing a maintenance-free and spill-proof design for reliable performance. It features F1 terminals for easy connection.



Figure 1: SigmasTek SP6-4.5 6 Volt 4.5 AH Sealed Lead Acid Battery. This image shows the SigmasTek SP6-4.5 battery, highlighting its compact design and F1 terminals.

2. SAFETY INFORMATION

Always observe the following safety precautions when handling, installing, or charging the battery:

- **Eye Protection:** Always wear appropriate eye protection when working with batteries.

- **Skin Protection:** Avoid contact with battery acid. In case of contact, flush immediately with water and seek medical attention.
- **Ventilation:** Ensure adequate ventilation during charging to prevent accumulation of explosive gases.
- **No Smoking/Sparks:** Keep flames, sparks, and smoking materials away from the battery.
- **Short Circuits:** Do not short-circuit the battery terminals. This can cause severe burns, fire, or explosion.
- **Disposal:** Dispose of batteries according to local regulations. Do not incinerate.
- **Children:** Keep batteries out of reach of children.

3. SETUP & INSTALLATION

Follow these steps for proper installation of your SigmasTek SP6-4.5 battery:

1. **Inspect Battery:** Before installation, visually inspect the battery for any signs of damage, such as cracks or leaks. Do not install a damaged battery.
2. **Prepare Equipment:** Ensure the device or system where the battery will be installed is turned off and disconnected from any power source.
3. **Identify Terminals:** Locate the positive (+) and negative (-) terminals on both the battery and the equipment. The SigmasTek SP6-4.5 uses F1 terminals.
4. **Connect Terminals:** Connect the positive (+) terminal of the battery to the positive (+) terminal of the equipment. Then, connect the negative (-) terminal of the battery to the negative (-) terminal of the equipment. Ensure connections are secure and tight.
5. **Verify Polarity:** Double-check that the polarity is correct before powering on the equipment. Incorrect polarity can cause damage to both the battery and the device.
6. **Secure Battery:** Place the battery in a stable position, ensuring it is not subject to excessive vibration or movement.

4. OPERATION & CHARGING

The SigmasTek SP6-4.5 is a rechargeable sealed lead acid battery. Proper charging is essential for maximizing its lifespan and performance.

4.1 Initial Charge

Although batteries are typically shipped with a partial charge, it is recommended to fully charge the battery before its first use to ensure optimal performance.

4.2 Charging Guidelines

- **Charger Type:** Use a charger specifically designed for 6 Volt Sealed Lead Acid (SLA) batteries. Using an incorrect charger can damage the battery.
- **Charging Voltage:** Refer to your charger's instructions for specific voltage settings. Typically, a constant voltage charge is used.
- **Charging Temperature:** Charge the battery in a well-ventilated area at ambient temperatures, ideally between 20°C and 25°C (68°F and 77°F).
- **Overcharging:** Avoid prolonged overcharging, as this can reduce battery life. Modern SLA chargers often have float charge capabilities to prevent this.
- **Deep Discharge:** Avoid deep discharging the battery regularly, as this can also shorten its lifespan. Recharge the battery as soon as possible after use.

5. MAINTENANCE

The SigmasTek SP6-4.5 battery features Absorbent Glass Mat (AGM) technology and a sealed, maintenance-free design. This

means it does not require electrolyte level checks or water additions.

- **Cleaning:** Keep the battery terminals and casing clean and free from dirt, dust, and corrosion. Use a dry cloth or a slightly damp cloth if necessary. Do not use solvents.
- **Storage:** If storing the battery for an extended period, ensure it is fully charged and store it in a cool, dry place. Recharge the battery every 3-6 months to prevent self-discharge and maintain its capacity.
- **Inspection:** Periodically inspect the battery for any physical damage or swelling. If any damage is observed, discontinue use and replace the battery.

6. TROUBLESHOOTING

This section addresses common issues you might encounter with your SigmasTek SP6-4.5 battery.

Problem	Possible Cause	Solution
Battery not holding charge	<ul style="list-style-type: none">◦ Battery not fully charged◦ Charger malfunction◦ Battery reached end of life◦ Deep discharge damage	<ul style="list-style-type: none">◦ Ensure proper charging cycle.◦ Test charger with another battery or use a different charger.◦ Replace battery if it's old or heavily used.◦ Avoid deep discharges; recharge promptly.
Device not powering on	<ul style="list-style-type: none">◦ Battery not charged◦ Incorrect terminal connection◦ Faulty device	<ul style="list-style-type: none">◦ Charge the battery fully.◦ Verify positive (+) and negative (-) connections.◦ Test the device with a known good power source or battery.
Battery swelling or overheating	<ul style="list-style-type: none">◦ Overcharging◦ Internal short circuit◦ Exposure to high temperatures	<p>IMMEDIATELY DISCONNECT THE BATTERY.</p> <ul style="list-style-type: none">◦ Discontinue use and replace the battery.◦ Ensure charger is appropriate and functioning correctly.◦ Store and operate battery within recommended temperature ranges.

7. SPECIFICATIONS

Feature	Detail
Model Number	SP6-4.5
Voltage	6 Volts
Capacity	4.5 Amp-Hours (AH)
Battery Cell Composition	Sealed Lead Acid (SLA)
Technology	Absorbent Glass Mat (AGM)
Terminal Type	F1
Reusability	Rechargeable
Dimensions (L x W x H)	2.76 x 1.86 x 3.94 inches (70 x 47 x 100 mm)
Manufacturer	SigmasTek

8. WARRANTY INFORMATION

The SigmasTek SP6-4.5 battery comes with a **1-Year Warranty** from the date of purchase. This warranty covers defects in materials and workmanship under normal use and service. It does not cover damage resulting from misuse, abuse, neglect, improper installation, or unauthorized modifications.

For warranty claims, please retain your proof of purchase and contact SigmasTek customer support.

9. CUSTOMER SUPPORT

If you have any questions, require technical assistance, or need to report an issue with your SigmasTek SP6-4.5 battery, please contact our customer support team.

Please visit the official SigmasTek website for the most up-to-date contact information and support resources. When contacting support, please have your battery model number (SP6-4.5) and purchase details ready.



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