

6 Battery Modules

- [6.1 BAT-4AHA \(Chargeable Lithium Battery\)](#)
- [6.2 BAT-8AHA \(Chargeable Lithium Battery\)](#)
- [6.3 PBB-12AHA \(12AH Lead-Acid Battery Charger Module\)](#)

6.1 BAT-4AHA (Chargeable Lithium Battery)

Product Support

Table 6-1 provides the product support for the BAT-4AHA battery.

Table 6-1 Product support for the BAT-4AHA battery

Battery Name	Product Support
BAT-4AHA	S5700-LI-BAT Series

Appearance

Figure 6-1 shows a BAT-4AHA battery.

Figure 6-1 BAT-4AHA battery



Function

Table 6-2 describes the functions of a BAT-4AHA battery.

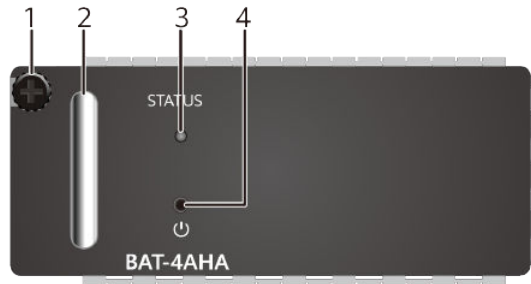
Table 6-2 Functions of a BAT-4AHA battery

Function	Description
Power redundancy	The BAT-4AHA battery can be installed in the battery slot at the rear of an S5700-LI-BAT switch to provide power redundancy. When the external power supply system fails, the battery powers the switch to ensure uninterrupted services.
Protection	The BAT-4AHA battery provides various protection functions, including charge overvoltage protection, charge overcurrent protection, discharge overcurrent protection, undervoltage protection, and short-circuit protection.
Alarm reporting	The BAT-4AHA battery can report alarms on low-power state, low/high temperature, battery failures, and power supply time.
Command line configuration	You can configure the power supply time alarm threshold for the BAT-4AHA battery and turn off the battery using commands.
Overtemperature protection	The battery enters the overtemperature protection state when the charge temperature is out of the range of -5°C to +55°C or when the discharge temperature is out of the range of -10°C to +65°C. The battery restores to the operation state when the charge temperature restores to the range of 0°C to 50°C or the discharge temperature restores to the range of -5°C to +60°C.
Visualized management	You can use the web-based management system to check the battery status and manage the battery.
In-service software upgrade	In V200R005C00 to V200R010C00 versions, the lithium battery software can be upgraded using the upgrade battery-app command.
Hot swapping	The battery is hot swappable.

Panel

Figure 6-2 shows the panel of a BAT-4AHA battery.

Figure 6-2 BAT-4AHA battery panel



1. Captive screw	2. Handle	3. Battery indicator	<p>4: Battery switch button</p> <p>NOTE</p> <ul style="list-style-type: none"> • The switch button is invalid when the battery is not installed in the switch. • If the switch is powered by an AC power supply system, you do not need to turn on the lithium battery by holding down this button after installing the battery in the switch. The lithium battery works in backup mode automatically after it is installed. • If the switch is not connected to an AC power supply system, install the lithium battery, and then hold down this button for 1s to turn on the battery so that the battery starts to power the switch. • You can hold down this button for 1s to turn off the lithium battery only when the switch has no AC power input.
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Table 6-3 describes the indicator on the BAT-4AHA battery panel.

Table 6-3 Description of the BAT-4AHA battery indicator

Indicator	Color	Description
STATUS	Off	<ul style="list-style-type: none"> The lithium battery is not connected to the switch. The lithium battery is faulty or its temperature is abnormal.
	Green	<ul style="list-style-type: none"> Steady on: The lithium battery has been fully charged and is working in backup state. Fast blinking: The lithium battery is supplying power to the switch. Slow blinking: The switch is charging the lithium battery.

Specifications

Table 6-4 lists specifications of a BAT-4AHA battery.

Table 6-4 Specifications of a BAT-4AHA battery

Item	Description
Dimensions (H x W x D)	40 mm x 100 mm x 205 mm (1.6 in. x 3.9 in. x 8.1 in.)
Weight	0.8 kg (1.76 lb)
Charge voltage range	10.8 V DC to 14 V DC
Discharge voltage range	9 V DC to 12.45 V DC
Maximum charge current	1.25 A
Maximum discharge power	50 W; typical: 40 W
Charge environment temperature	0°C to 45°C (32°F to 113°F)
Discharge environment temperature	-5°C to +50°C (23°F to 122°F)
Storage temperature	-20°C to +60°C (-4°F to 140°F)

Item	Description
Relative humidity	5% RH to 95% RH, noncondensing
Operating altitude	0-5000 m (0-16404 ft.)
Maximum storage time (fully charged, no charging)	6 months: < 40°C (104°F); recommended temperature: 20°C to 30°C (68°F to 86°F)
Storage requirements	NOTICE A lithium battery must be charged after the maximum storage time; otherwise, the battery service life decreases or the battery is damaged. <ul style="list-style-type: none">• The storage environment must comply with ETS 300 029-1-1 and CLASS 1.2.• The storage environment must be free from acidic, alkaline, or other corrosive gases.• Keep a lithium battery away from direct sunlight and more than 2 m from heat sources.• Do not place a battery upside down and avoid collision or stress on the battery.
Rated capacity	4 AH
Life time	> 4 years NOTE The battery life time is obtained under the following condition: The temperature is 20°C to 30°C, and the discharge capacity of the battery exceeds 50% for no more than once a day.
EMC	<ul style="list-style-type: none">• EN55022• EN55024
Environmental standards	RoHS
Safety	<ul style="list-style-type: none">• EN 60950-1: 2006• EN 62133: 2003
Transportation	UN38.3
Part number	24021354

6.2 BAT-8AHA (Chargeable Lithium Battery)

Product Support

[Table 6-5](#) provides the product support for the BAT-8AHA battery.

Table 6-5 Product support for the BAT-8AHA battery

Battery Name	Product Support
BAT-8AHA	S5700-LI-BAT Series

Appearance

Figure 6-3 shows a BAT-8AHA battery.

Figure 6-3 BAT-8AHA battery

Function

Table 6-6 describes the functions of a BAT-8AHA battery.

Table 6-6 Functions of a BAT-8AHA battery

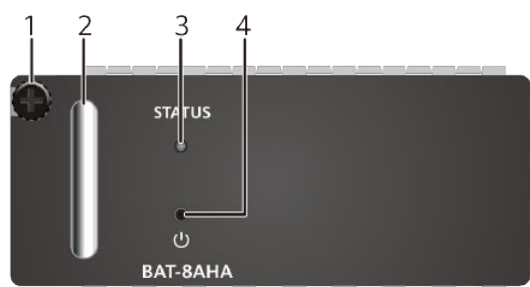
Function	Description
Power redundancy	The BAT-8AHA battery can be installed in the battery slot at the rear of an S5700-LI-BAT switch to provide power redundancy. When the external power supply system fails, the battery powers the switch to ensure uninterrupted services.
Protection	The BAT-8AHA battery provides various protection functions, including charge overvoltage protection, charge overcurrent protection, discharge overcurrent protection, undervoltage protection, and short-circuit protection.
Alarm reporting	The BAT-8AHA battery can report alarms on low-power state, low/high temperature, battery failures, and power supply time.

Function	Description
Command line configuration	You can configure the power supply time alarm threshold for the BAT-8AHA battery and turn off the battery using commands.
Overtemperature protection	The battery enters the overtemperature protection state when the charge temperature is out of the range of -5°C to +55°C or when the discharge temperature is out of the range of -10°C to +65°C. The battery restores to the operation state when the charge temperature restores to the range of 0°C to 50°C or the discharge temperature restores to the range of -5°C to +60°C.
Visualized management	You can use the web-based management system to check the battery status and manage the battery.
In-service software upgrade	In V200R005C00 to V200R010C00 versions, the lithium battery software can be upgraded using the upgrade battery-app command.
Hot swapping	The battery is hot swappable.

Panel

Figure 6-4 shows the panel of a BAT-8AHA battery.

Figure 6-4 BAT-8AHA battery panel



1. Captive screw	2. Handle	3. Battery indicator	<p>4: Battery switch button</p> <p>NOTE</p> <ul style="list-style-type: none"> • The switch button is invalid when the battery is not installed in the switch. • If the switch is powered by an AC power supply system, you do not need to turn on the lithium battery by holding down this button after installing the battery in the switch. The lithium battery works in backup mode automatically after it is installed. • If the switch is not connected to an AC power supply system, install the lithium battery, and then hold down this button for 1s to turn on the battery so that the battery starts to power the switch. • You can hold down this button for 1s to turn off the lithium battery only when the switch has no AC power input.
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Table 6-7 describes the indicator on the BAT-8AHA battery panel.

Table 6-7 Description of the BAT-8AHA battery indicator

Indicator	Color	Description
STATUS	Off	<ul style="list-style-type: none"> The lithium battery is not connected to the switch. The lithium battery is faulty or its temperature is abnormal.
	Green	<ul style="list-style-type: none"> Steady on: The lithium battery has been fully charged and is working in backup state. Fast blinking: The lithium battery is supplying power to the switch. Slow blinking: The switch is charging the lithium battery.

Specifications

Table 6-8 lists specifications of a BAT-8AHA battery.

Table 6-8 Specifications of a BAT-8AHA battery

Item	Description
Dimensions (H x W x D)	40 mm x 100 mm x 205 mm (1.6 in. x 3.9 in. x 8.1 in.)
Weight	1.1 kg (2.43 lb)
Charge voltage range	10.8 V DC to 14 V DC
Discharge voltage range	9 V DC to 12.45 V DC
Maximum charge current	1.25 A
Maximum discharge power	80 W; typical: 45 W
Charge environment temperature	0°C to 45°C (32°F to 113°F)
Discharge environment temperature	-5°C to +50°C (23°F to 122°F)
Storage temperature	-20°C to +60°C (-4°F to 140°F)

Item	Description
Relative humidity	5% RH to 95% RH, noncondensing
Operating altitude	0-5000 m (0-16404 ft.)
Maximum storage time (full power, no charging)	6 months < 40°C (104°F); recommended temperature: 20°C to 30°C (68°F to 86°F)
Storage requirements	NOTICE A lithium battery must be charged after the maximum storage time; otherwise, the battery service life decreases or the battery is damaged. <ul style="list-style-type: none">• The storage environment must comply with ETS 300 029-1-1 and CLASS 1.2.• The storage environment must be free from acidic, alkaline, or other corrosive gases.• Keep a lithium battery away from direct sunlight and more than 2 m from heat sources.• Do not place a battery upside down and avoid collision or stress on the battery.
Rated capacity	8 AH
Life time	> 4 years NOTE The battery life time is obtained under the following condition: The temperature is 20°C to 30°C, and the discharge capacity of the battery exceeds 50% for no more than once a day.
EMC	<ul style="list-style-type: none">• EN55022• EN55024
Environmental standards	RoHS
Safety	<ul style="list-style-type: none">• EN 60950-1: 2006• EN 62133: 2003
Transportation	UN38.3
Part number	24021356

6.3 PBB-12AHA (12AH Lead-Acid Battery Charger Module)

Product Support

[Table 6-9](#) provides the product support for the PBB-12AHA lead-acid battery charger module.

Table 6-9 Product support for the PBB-12AHA lead-acid battery charger module

Module Name	Product Support
PBB-12AHA	S5700-LI-BAT Series

Appearance

Figure 6-5 shows a PBB-12AHA lead-acid battery charger module.

Figure 6-5 PBB-12AHA lead-acid battery charger module

Function

Table 6-10 describes the functions of a PBB-12AHA lead-acid battery charger module.

Table 6-10 Functions of a PBB-12AHA lead-acid battery charger module

Function	Description
Connecting to an external lead-acid battery	<p>The PBB-12AHA can be installed in the battery slot at the rear of an S5700-LI-BAT switch. It connects to a lead-acid battery to provide power redundancy. The PBB-12AHA has a BAT port on the panel, which can connect to a lead-acid battery to supply power to the switch.</p> <p>A switch can be powered on using a lead-acid battery charger module and a lead-acid battery. Install the lead-acid battery charger module in the switch, and then connect the lead-acid battery to the charger module.</p>

Function	Description
Alarm reporting	The PBB-12AHA module supports alarms about the lead-acid-battery, including low-power alarm, low-power clear alarm, and full-power alarm.
Protection	The BAT port can prevent the power cable connector from being reversely inserted.
Temperature compensation	The PBB-12AHA has a sensor port on the panel, which can connect to a sensor for temperature compensation during charging of a lead-acid battery.
Charging	The PBB-12AHA can charge the lead-acid battery connected to it.
Hot swapping	The PBB-12AHA is hot swappable.

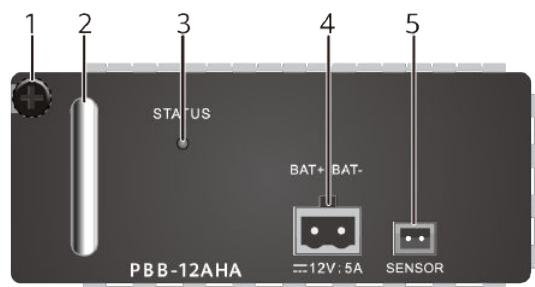
The lead-acid battery (separately purchased) connected to the PBB-12AHA lead-acid battery charger module must meet the following requirements:

- The input voltage is 12 V.
- The rated capacity of the lead-acid battery is 12 ampere-hour.

Panel

Figure 6-6 shows the panel of a PBB-12AHA lead-acid battery charger module.

Figure 6-6 PBB-12AHA lead-acid battery charger module panel



1. Captive screw	2. Handle	3. Indicator
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<p>4. Lead-acid battery input port</p> <p>NOTE Power cables of the lead-acid battery are connected to this port through a connector (delivered with the PBB-12AHA). You need to purchase power cables with a diameter of 14 AWG to 12 AWG.</p>	<p>5. Temperature sensor port</p> <p>NOTE A lead-acid battery temperature sensor can connect to this port to monitor temperature of the lead-acid battery. The lead-acid battery temperature sensor can be purchased from Huawei if needed.</p>	-
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Table 6-11 describes the indicator on a PBB-12AHA lead-acid battery charger module.

Table 6-11 Description of the indicator on a PBB-12AHA lead-acid battery charger module

Indicator	Color	Description
STATUS	Green	<ul style="list-style-type: none"> Off: No lead-acid battery is connected to the PBB-12AHA module. Steady on: A lead-acid battery is connected to the PBB-12AHA module.

Specifications

Table 6-12 lists specifications of a PBB-12AHA lead-acid battery charger module.

Table 6-12 Specifications of a PBB-12AHA lead-acid battery charger module

Item	Description
Dimensions (H x W x D)	40 mm x 100 mm x 205 mm (1.6 in. x 3.9 in. x 8.1 in.)
Weight	0.48 kg (1.06 lb)
Charge voltage range	10.8 V DC to 13.8 V DC
Discharge voltage range	10.8 V DC to 13.6 V DC
Charge current	<ul style="list-style-type: none"> S5700-28P-LI-BAT: maximum value 1.25 A; typical value 1.0 A S5700-28P-LI-24S-BAT: maximum value 2.0 A; typical value 1.8 A
Maximum discharge power	80 W; typical: 60 W

Item	Description
Part number	98010517