SORYQEX Battery Storage Co., Ltd.

5kWh All-in-One ESS

Installation Manual

Off-Grid Cabin / Workshop Backup / Small Backup Loads / 6.5kW / / Compact All-in-One Unit

Product path: /all-in-one-ess/
Install type: Floor-Standing | Voltage class: —
Source hub: /installation-manuals/

1. Overview

All-in-One ESS systems that combine battery, inverter, and energy management in one unit for home backup, solar storage, and business use.

Qualified personnel only. Follow local electrical codes. Confirm model, voltage, communication, breaker, cable size, and clearance for THIS exact product before installation.

2. Model Snapshot

Item	Value
Model	5kWh All-in-One ESS
Installation format	Floor-Standing
Voltage class	—
Product page	/all-in-one-ess/
Capacity / Power	Off-Grid Cabin
Voltage / Chemistry	Workshop Backup
Use Case	Small Backup Loads
Install / Format	6.5kW
Note	Compact All-in-One Unit
RS-A10	MPPT operating voltage range 90–230VDC, maximum PV input power 8000W.
GSL-AIO-5K10 / GSL-AIO-5K20	MPPT operating voltage range 80–550V, maximum PV input power 7500Wp.
SolaX ESS-TRENE	use the project datasheet and grid connection design before PV integration.
System dimension	19.7" × 26" × 49.2"; net weight: 287 lb
Dimension	560 × 180 × 1510mm; weight: 128kg; IP65

3. Before You Install

- Confirm the exact model name matches the packing label and datasheet
- Check installation space, wall/floor load capacity, and service clearance
- Confirm inverter / PCS compatibility (voltage, protocol, charge limits)
- Select breaker and cable size for this battery + inverter combination
- Check indoor/outdoor suitability and IP / enclosure rating for the site
- Prepare grounding, isolation, and emergency shutoff per local code

4. Installation Steps (General)

- Power down related AC/DC sources and verify zero energy where required
- Unpack and inspect for shipping damage; keep packing list for warranty
- Mount or place the unit per the stated format: Floor-Standing
- Install protective earth / PE before energizing power circuits
- Connect DC / expansion / communication cables with correct polarity and torque
- Configure BMS / CAN / RS485 / WiFi settings to match the inverter protocol
- Power up in the sequence required by the host inverter / ESS controller
- Verify SOC, voltage, communication, and a low-load test before full operation

5. Wiring & Protection Checklist

- Do not size cables from a generic chart - use this model + inverter pair
- Keep DC polarity correct; reverse polarity can damage BMS / inverter
- Separate signal and power routing where required by the system design
- Use only approved connectors / expansion cables for parallel or host packs
- Never bypass BMS protection, fuses, or manufacturer interlocks

6. Notes From Product Page

- Floor-Standing / Stacked
- Watch how an All-in-One ESS is built, installed, and used with solar charging and backup loads — from cabinet layout to a real power test.
- Show the cabinet or unit structure, battery section, inverter or PCS area and control interface.
- Show placement, cable connection, grounding and startup preparation.
- Choose the system by battery capacity and rated output power.
- Capacity, voltage, chemistry
- PV input power, voltage range and MPPT quantity
- RS-A10: MPPT operating voltage range 90–230VDC, maximum PV input power 8000W.
- GSL-AIO-5K10 / GSL-AIO-5K20: MPPT operating voltage range 80–550V, maximum PV input power 7500Wp.
- GSL-AIO-5K10 / GSL-AIO-5K20: off-grid nominal voltage 220V / 230V / 240V, nominal frequency 50 / 60Hz.

7. Safety

- LiFePO4 systems still require electrical safety practice and fire-access clearance
- Do not open sealed packs, short terminals, crush, or expose to immersion
- Stop use if swelling, abnormal heat, odor, leakage, or persistent faults appear
- Follow transport and storage rules for lithium battery products

8. FAQ

Q: Does an All-in-One ESS include the inverter?

A: Many models do. RS-A10 combines controller, inverter, and battery. GSL-AIO-5K10 and GSL-AIO-5K20 include 5000W off-grid output. SolaX ESS-TRENE integrates BMS, EMS, and PCS.

Q: Is an All-in-One ESS the same as a battery?

A: No. A battery only stores energy. An All-in-One ESS can also include the inverter or PCS, battery management, energy management, solar input, and monitoring.

Q: Can I use it with solar panels?

A: Yes, when the PV array matches the system PV input limits. RS-A10 uses a 90–230VDC MPPT range. GSL-AIO-5K10 and GSL-AIO-5K20 use an 80–550V MPPT range.

Q: Does adding more battery capacity increase load support?

A: No. GSL-AIO-5K10 and GSL-AIO-5K20 grow from 10.24kWh to 20.48kWh, but both keep the same 5000W off-grid output rating.

Q: How should I check backup time?

A: Use the datasheet backup time if listed. If it is not listed, use theoretical full-load runtime only as a sizing reference: battery capacity ÷ rated output power.

9. Support

Download hub: /installation-manuals/
Compatibility check: /check-inverter-compatibility/
Quote / engineering: /get-a-quote/
Always confirm final breaker, cable, and protocol values on the latest datasheet for this model.