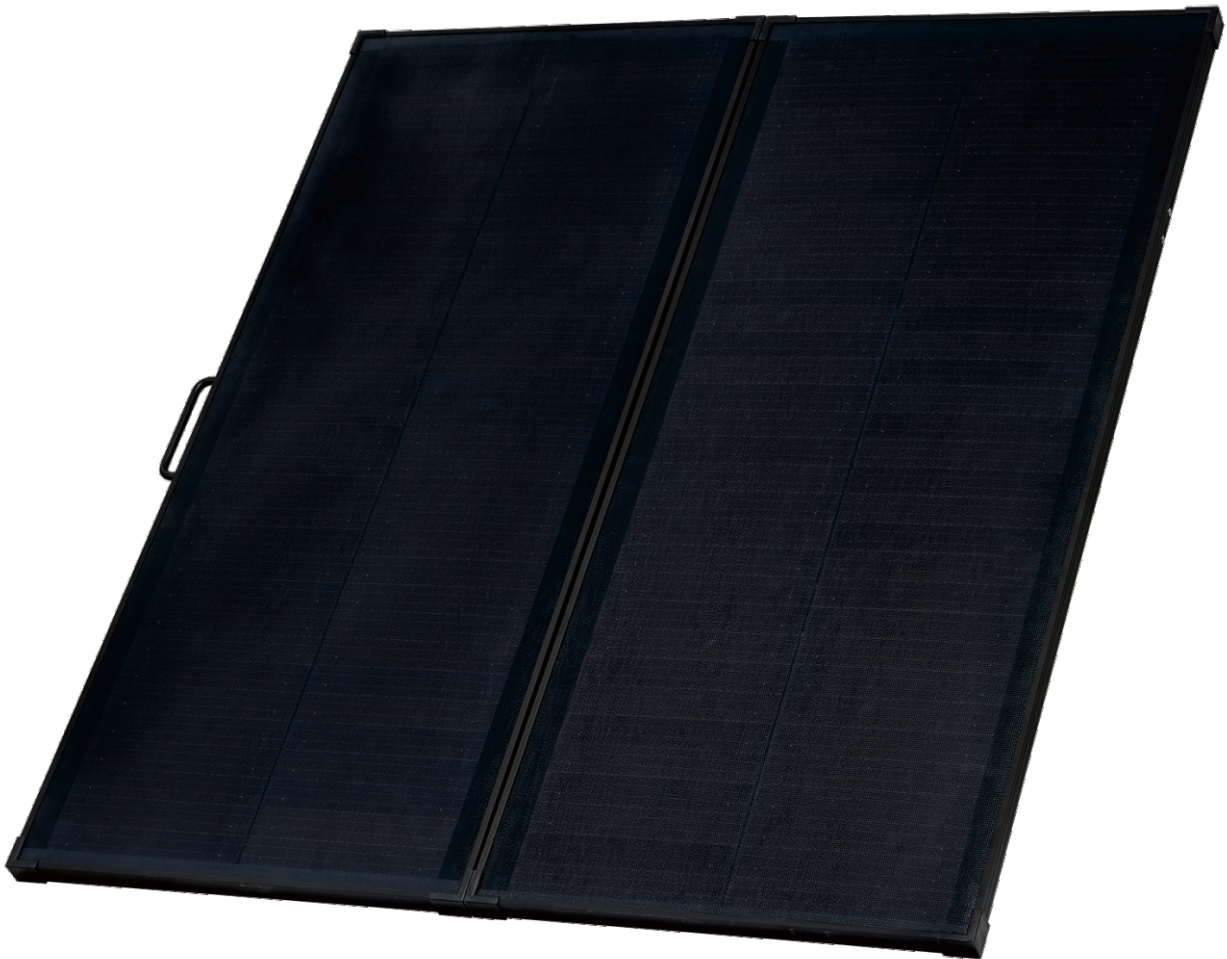




Shingled Folding Solar Panel

USER MANUAL



MODEL NO.: AP200SG-FOL / AP300SG-FOL

Please read this manual carefully before installation, and retain it for future reference.

V1.1

ABOUT US

ATEM POWER, born in June 2017, as a synonym for exciting outdoor experience, is an Australian company with dedication and passion for the R&D of high quality products in the field of renewable energy products, batteries and related accessories.

Since the company was founded, we have committed to innovation that aims to make your life infinitely more convenient. And the belief in our conviction for quality and commitment allows us to innovate in developing products that are optimally tailored to the needs of our amazing customers.

We engineer and supply solar products for homes, 4x4s, recreational vehicles and virtually any application you can think of. And we also develop reliable, high performing deep-cycled batteries and lithium batteries for standby or daily power needs. Accessories include battery chargers and inverters that are ideal for RV's, commercial vehicles, boats, yachts and many more applications!

At ATEM POWER, we stay true to our DNA by prioritizing technological innovation designed to improve our products and striving to provide excellent customer care. Because we are motivated to explore the limits of solar power!

WARNINGS & SAFETY INFORMATION

DO NOT operate the solar panel UNLESS YOU HAVE READ AND UNDERSTOOD THIS MANUAL and the panel should be installed as per these installation instructions. ATEM POWER recommends that the panel be installed by a suitably qualified person.

General Safety Precautions

- This product is not intended for use by persons with reduced physical, sensory or mental capabilities, or lack of experience or knowledge. Children should be supervised to ensure that they do not play with the product.
- Ensure there are no chemicals, plastic parts, curtains, liquids or other textiles in the immediate vicinity of the product.
- NEVER operate the product in a wet environment, or at sites where gas or dust explosions could occur.
- Ensure that there is sufficient free space around the product for ventilation.
- NEVER touch uninsulated cable ends, and use ONLY insulated tools.
- The installer must provide a means for cable strain relief to prevent the transmission of stress to the connections.
- DO NOT use if there is any visible signs of damage on the solar panel, the controller or the wiring.

Solar Panel:

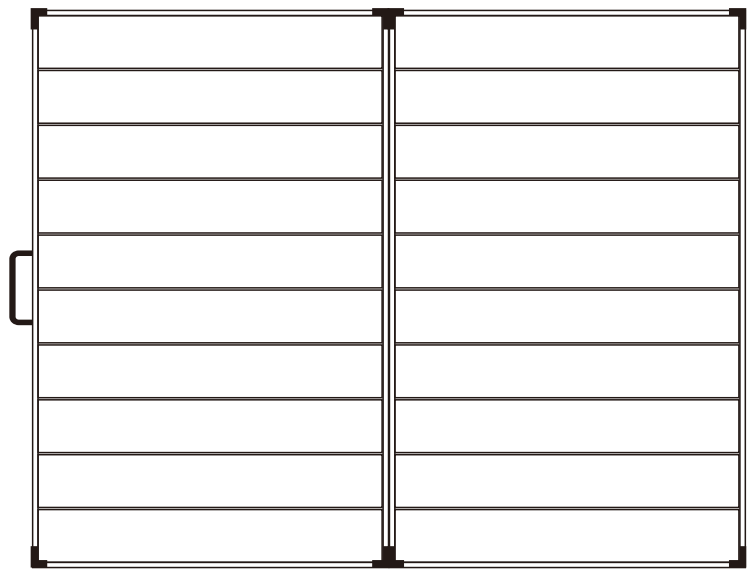
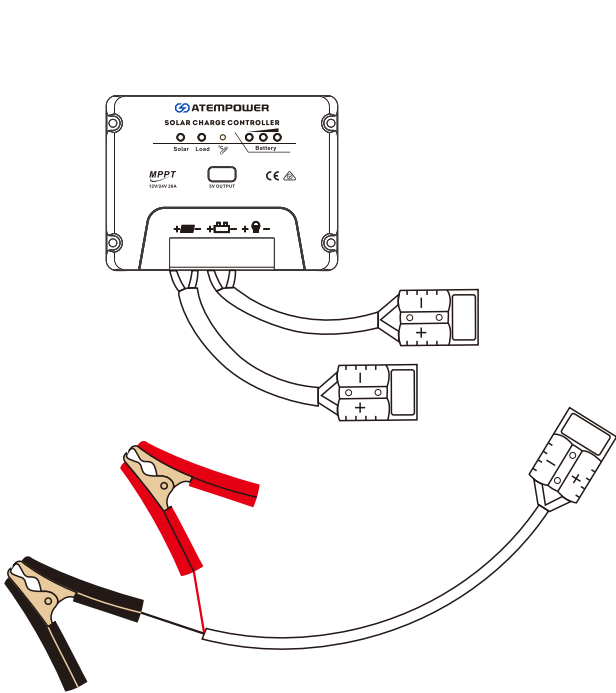
- This solar panel will generate power when exposed to light, even if it is unconnected. Completely cover the panel during installation to reduced the risk of electrical spark.
- DO NOT use mirror or other devices to artificially concentrate sunlight on the panel.
- Partially shaded or partially obscured solar panel might lead to reduced power.
- DO NOT immerse the solar panel in water or wet it.
- NEVER disassemble, bend, hit or step on your solar panel. Handle and install your solar panel with care, otherwise cells and wiring may be damaged, which can cause short circuit, local overheating and decrease in efficiency.
- Ensure nothing sharp or heavy could potentially break or damage the solar panel during transport or storage.
- Remove any shades (such as shades from weeds, trees, buildings, etc.) which cover your solar panel while it is working.
- DO NOT operate the unit if it has been smashed, pierced, or otherwise damaged in any way.
- Please use a wet sponge or cloth to clean the unit as necessary.
- This unit is not intended for commercial use.

MPPT Controller:

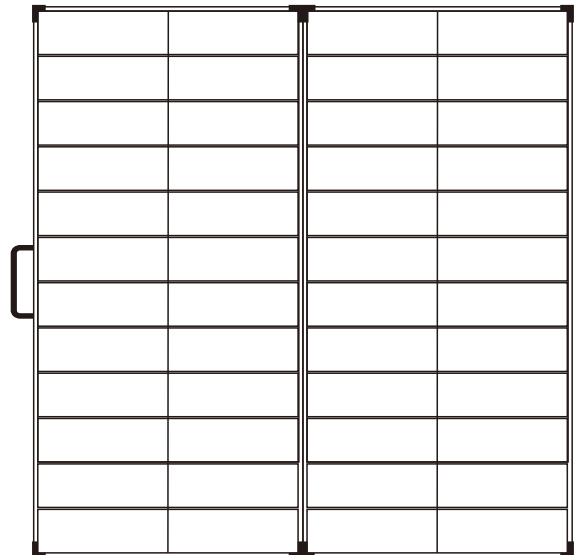
- The MPPT controller is ONLY designed to regulate solar panels.
- NEVER connect more than 1 load to the controller.
- ALWAYS keep the connectors of the solar and its controller clean.
- The controller is ONLY compatible with lead-acid, AGM, GEL, calcium or LiFePO4 batteries, and should not be used with nickel metal hydride batteries.

IN THE KIT

- 1 PC(s) ATEM POWER Shingled Folding Solar Panel
- 1 PC(s) ATEM POWER 20A MPPT Controller
- 1 PC(s) Anderson Extension Cable with Alligator Clips
- 1 PC(s) User Manual



AP300SG-FOL



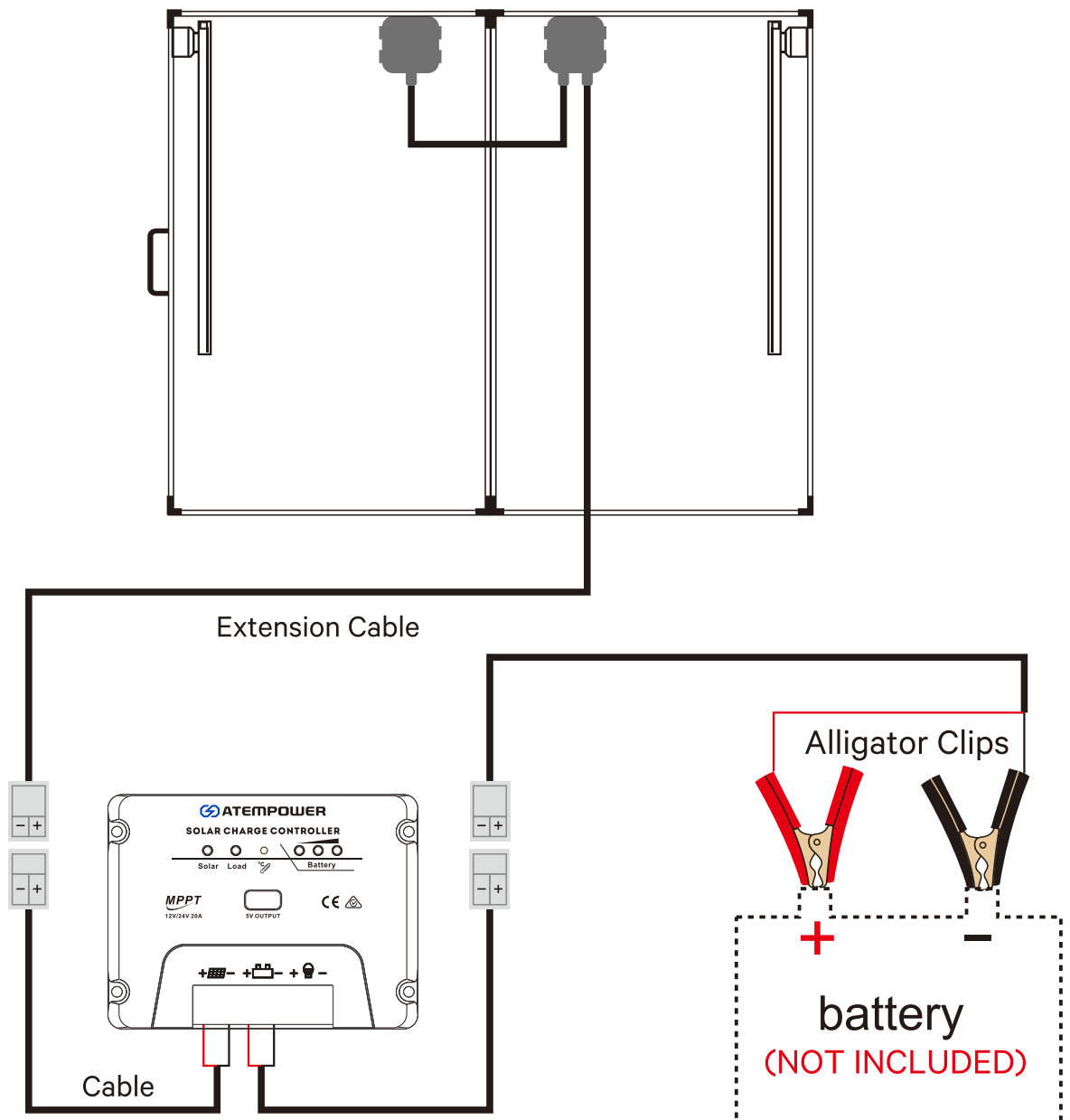
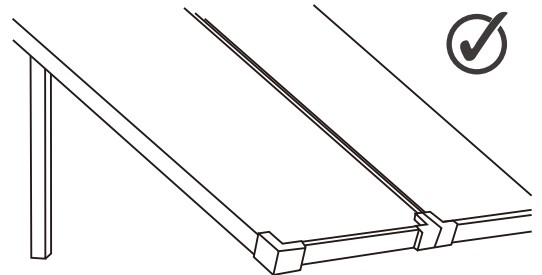
AP200SG-FOL



IDENTIFICATIONS OF PARTS & INSTALLATION



STANDARD SETUP & WIRING

1. Open and unfold the ATEM POWER solar panel.
2. Fully extend the kickstands.



Note: Always connect the battery clips to the battery first, before connecting it to the solar panel.

TECHNICAL SPECIFICATION

MODEL NO.:	AP200SG-FOL	AP300SG-FOL
Panel Size (Folded):	1100*490*50 mm	1100*670*50 mm
Panel Size (Unfolded):	1100*980*25 mm	1100*1340*25 mm
Wire Size:	2.5mm ²	
Cell Type:	Shingled Module Grade A Monocrystalline Cell	
Film Material:	ETFE	
Max. Power(PM):	200W	300W
Open-Circuit Voltage(VOC):	22.32V	22.50V
Short-Circuit Current(ISC):	11.78A	17.90A
Max. Power Voltage(VMP):	18.0V	18.4V
Max. Power Current(IMP):	11.1A	16.3A
Max. System Voltage:	1000V	
Max. Series Fuse Rating:	20A	
Power Tolerance:	±5%	
Operating Temperature Range:	-40°C ~ 85°C	
Waterproof rating:	IP 65	
Connector Type:	Anderson Style Plug	
Certifications:	 	

MAINTENANCE

- Regularly inspect your solar panels and make sure its surface is free from dust, dirt, and other debris.
- Clean with a wet cloth or glass cleaner if necessary.
- Make sure that all structural components and electrical connections are secure and clean.
- Check and replace damaged components if necessary.

TROUBLESHOOTING:

PROBLEM	CAUSE	SOLUTION
Solar panel doesn't work despite sufficient sunlight	Loose connection	Reconnect
	Bad soldering of wires inside the junction box	Contact us
Low power output	Loose connection	Reconnect
	Wrong tilt angle	Adjust the angle to capture direct sunlight.
	Shadow	Remove any shadow covering the panel
	Accumulation of dust	Clean, best on a regular basis
	High operating temperature	Ensure sufficient air circulation beneath the panel

FREQUENTLY ASKED QUESTIONS

Q: Can the charge controller charge a 24V battery?

A: No, because it is designed to charge a 12V battery. Unauthorized modification to 24V will void the warranty.

Q: Will the solar panel over charge my battery?

A: One of the functions of the MPPT charge controller is to ensure that your battery is not over charged; therefore there is no risk of overcharge.

Q: Can I extend the battery leads?

A: Yes, but not recommended. Please choose the same size of cable for extension. The longer the extension, the greater the line loss. Bigger gauge will be required for longer runs.

Q: Can rain damage the solar panel or its controller?

A: The folding solar panel is IP-65 rated, the controller is not. ATEM POWER recommends protecting the kit from rain, since water into controller may damage the internal circuitry.

Q: Can ATEM POWER folding solar panels be used in extreme weather conditions?

A: Please use the solar panels in stable weather conditions. The optimal temperature range for normal use and storage of ATEM POWER folding solar panels is -20°C to 65°C. DO NOT use solar panels during severe weather conditions, such as thunderstorms, strong winds, and hailstorms.



WARRANTY



ATEM POWER (“Manufacturer”) warrants, to the original purchaser, (“User”) that its solar panel, if purchased from Manufacturer or an authorized distributor or dealer, will be free of defects in material and/or workmanship under normal application, installation, use and maintenance conditions from the date sold and for the duration (the “Warranty Period”) of 3 YEARS. Within the Warranty Period, subject to the exclusions listed below, the Manufacturer will repair, replace the solar panel or provide you with a refund at our discretion, if the unit in question are determined to be defective in material or workmanship. If the Manufacturer deems the solar panel to be not repairable, a new, similar panel will be offered, or a refund will be issued. This Limited Warranty is to the original purchaser of the solar panel and is not transferable to any other person or entity.

EXCLUSIONS:

This warranty does not cover defects that are caused by normal wear and tear, inadequate maintenance, transportation, storage or faulty repair, misuse, neglect, accident or abuse, modification, failure to observe installation instructions or improper installation. It is recommended that the installation should be performed by suitably qualified technicians or the warranty will be voided. For further clarity, this warranty is also void if the solar panel:

- is used for applications other than which it was designed and intended for,
- is damaged due to improper installation,
- is damaged due to the non-observance of any of the instructions supplied by ATEM POWER, or defects resulting from any action of the purchaser including but not limited to mishandling, operation outside of design limits, or unauthorized modification,
- is disassembled, altered, or repaired by someone other than an authorized Manufacturer's agent,
- has been subject to adverse weather, extreme temperature, or physical damage,
- has been damaged by force majeure (e.g. flash of lightning, overvoltage, storm, fire),
- selected by the user is not of the correct size or specification for the intended application.

CLAIMS:

Request return authorization. No returns will be credited without an authorization. In the case of returned products, Manufacturer's exclusive liability for breach of any warranty on the product shall be to replace the solar panel within the warranty period in accordance with the terms of this limited warranty. In no event shall Manufacturer be liable for any loss or damages of any other kind, whether direct, incidental, consequential including lost profits, exemplary, special or otherwise, including any lost profits or removal, shipping, or installation expenses.

For more information, please visit <https://atempower.com/>