ASW3000H-S/ASW3680H-S
ASW4000H-S/ASW5000H-S

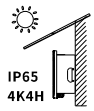
English Quick installation guide

I.Safety Instruction

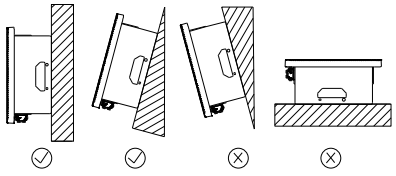
1. The contents of this document will be updated irregularly for product version upgrade or other reasons. Unless otherwise specified, this document only works as guide. All statements, information and suggestions in this document do not constitute any guarantee.
2. This product can only be installed, commissioned, operated and maintained by technicians who have carefully read and fully understood the user manual.
3. This product must only be connected with PV modules of protection class II(in accordance with IEC 61730, application class A).PV modules with a high capacitance to ground must only be used if their capacity does not exceed 1.5μF.Do not connect any sources of energy other than PV modules to the product.
4. The product must only be operated in connection with an intrinsically safe lithium-ion battery approved by AISWEI. The battery must comply with the locally applicable standards and directives and must be intrinsically safe.
5. The communication interface of the battery used must be compatible with the product. The entire battery voltage range must be completely within the permissible input voltage range of the product. The maximum permissible DC input voltage of the product must not be exceeded.
6. The PV modules generate dangerous high DC voltage which is present in the DC cable conductors and live components. The DC cables connected to a battery may be live. Touching live DC cable conductors and live components can result in lethal injuries due to electric shock.
7. All components must remain within their permitted operating ranges at all times.

II.Mounting environment

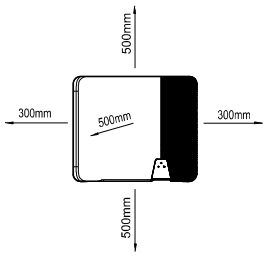
1. Ensure that the inverter is installed out of the reach of children.
2. To ensure best operating status and prolonged service life, the mounting ambient temperature of the inverter should be ≤45°C.
3. To avoid direct sunlight, rain, snow, ponding on the inverter, it is suggested to mount the inverter in places with a top protective roof. Do not completely cover the top of the inverter.



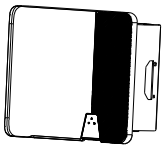
4.The mounting condition must be suitable for the weight and size of the inverter. The inverter is suitable to be mounted on solid wall that is vertical or tilted backwards (Max. 15°). It is not recommended to install the inverter on the wall made of plasterboards or similar materials. The inverter may make noise when working.

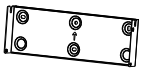


5. To ensure adequate heat dissipation, the clearances between the inverter and other objects are recommended as right:



III.Scope of delivery


Inverter x1


Wall mounting bracket x1


DC connector x2


AC connector x2


Antenna x1


Smart meter terminal x1


Smart meter x1


Screw accessory x1

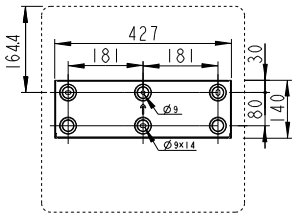

Magnetic ring x1


Battery terminal cover x1

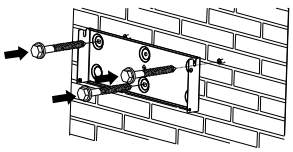

Documentation x1

IV.Inverter’s mounting

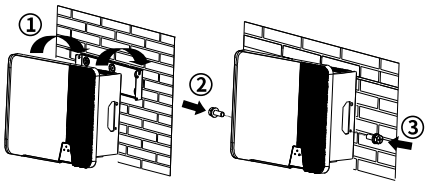
1. Use a Φ10mm bit to drill 3 holes at a depth of about 70mm according to the location of the wall mounting bracket.



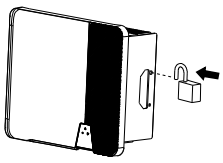
2. Insert wall plugs into the wall and fix the wall mounting bracket to the wall by screwing three self-tapping screws(SW10).



3. Hang the inverter to the wall mounting bracket. Secure the inverter to the wall mounting bracket on both sides using M5 screws.
Screwdriver type: PH2, torque: 2.5Nm.



4. To protect the inverter from theft, attach the padlock provided by customer through the wall mounting bracket and the inverter.

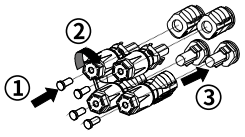


V.DC connection

DANGER

- Make sure PV modules have good insulation against ground.
- On the coldest day based on statistical records, the Max. open-circuit voltage of the PV modules must not exceed the Max. input voltage of the inverter.
- Check the polarity of DC cables.
- Ensure that DC switch has been disconnected.
- Do not disconnect DC connectors under load.

1. Please refer to “DC Connector Installation Guide”.
2. Before DC connection, insert the DC plug connectors with sealing plugs into DC input connectors of the inverter to ensure protection degree.

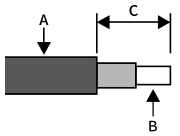


VI.Battery connection

DANGER

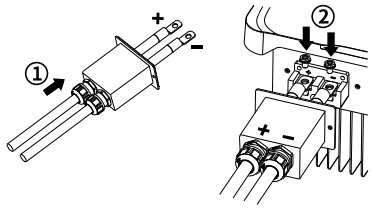
- The lithium battery (pack) capacity should be 50Ah or larger.
- Lead acid batteries are not allowed.
- The battery type must be approved by AISWEI.

1. Cable requirements are as follows. Insert the conductor into a suitable terminal lug and crimp the contact .

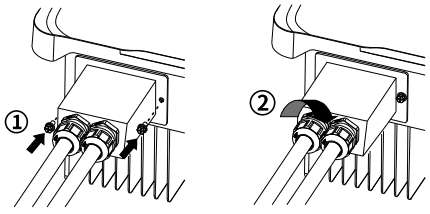


Object	Description	Value
A	External diameter	10-12mm
B	Copper conductor cross-section	20-25mm^2
C	Stripping length of the cable outer sheath	≤55mm

2. Screw the cable terminal lugs to the socket through the battery terminal cover . Screwdriver type: T30 or SW10, torque: 4.0Nm



3. Tighten the battery terminal cover and cable gland nuts. Screwdriver type: PH2, torque: 1.6Nm

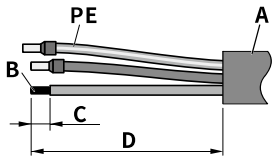


VII.AC connection

DANGER

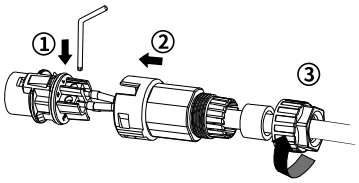
- All electrical installations must be done in accordance with all local and national rules.
- Make sure that all DC switches and AC circuit breakers have been disconnected before establishing electrical connection. Otherwise, the high voltage within the inverter may lead to electrical shock.
- In accordance with safety regulations, the inverter need be grounded firmly. When poor ground connection(PE) occurs, the inverter will report PE grounding error. Please check and ensure that the inverter is grounded firmly or contact AISWEI service.

1. AC cable requirements are as follows. Insert the conductor into a suitable ferrule acc. to DIN 46228-4 and crimp the contact .

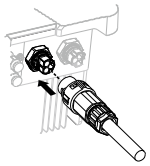


Object	Description	Value
A	External diameter	10-16mm
B	Copper conductor cross-section	4-6mm^2
C	Stripping length of the insulated conductors	13mm
D	Stripping length of the cable outer sheath	53mm
The PE conductor must be 2 mm longer than the L and N conductors.		

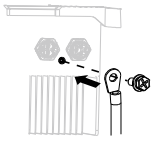
2. Loosen the swivel nut of AC connector. Insert the crimped conductors into corresponding terminals and tighten screws with the accompanied wrench tool (Torque: 1.4Nm). Insert the adapter to the socket element, stuff the sealing sleeve into the adapter and tighten the swivel nut.



3. Plug the AC connector into the socket for the AC connection.



4. If required, you can connect a second protective conductor as equipotential bonding.



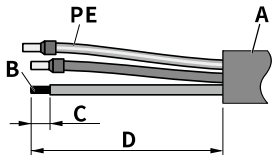
Object	Explanation
M4×10 screw	Screwdriver type: PH2, torque: 1.6Nm
Terminal lug	Type: M4, Customer provided
Grounding cable	Copper conductor cross-section: 4-6mm^2

VIII.EPS connection

DANGER

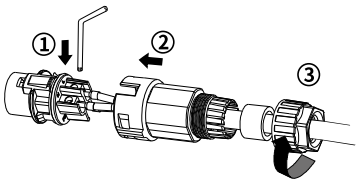
- All electrical installations must be done in accordance with all local and national rules.
- Make sure that all DC switches and AC circuit breakers have been disconnected before establishing electrical connection. Otherwise, the high voltage within the inverter may lead to electrical shock.
- In accordance with safety regulations, the inverter need be grounded firmly. When poor ground connection(PE) occurs, the inverter will report PE grounding error. Please check and ensure that the inverter is grounded firmly or contact AISWEI service.

1. AC cable requirements are as follows. Insert the conductor into a suitable ferrule acc. to DIN 46228-4 and crimp the contact .

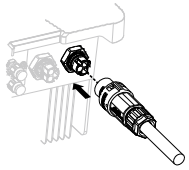


Object	Description	Value
A	External diameter	10-16mm
B	Copper conductor cross-section	2.5-6mm^2
C	Stripping length of the insulated conductors	13mm
D	Stripping length of the cable outer sheath	53mm
The PE conductor must be 2 mm longer than the L and N conductors.		

2. Loosen the swivel nut of AC connector. Insert the crimped conductors into corresponding terminals and tighten screws with the accompanied wrench tool (Torque: 1.4Nm). Insert the adapter to the socket element, stuff the sealing sleeve into the adapter and tighten the swivel nut.



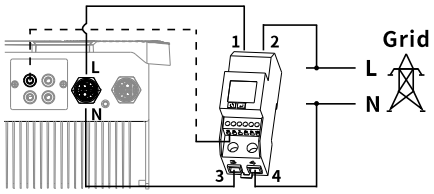
3. Plug the AC connector into the socket for the EPS connection.



IX.Smart meter connection

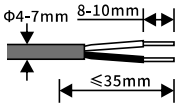
DANGER
- For outdoor use, the communication cables must be UV-resistant.
- Make sure AC cable is totally isolated from AC power before connecting.

Connection diagram

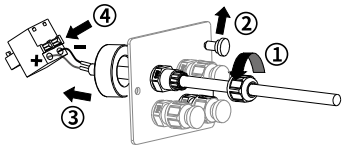


1. Smart meter communication

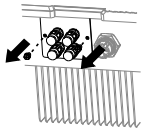
1) Cable requirements are as follows. Insert the conductor into a suitable ferrule acc. to DIN 46228-4 and crimp the contact.



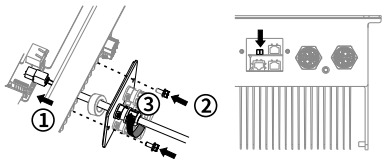
3) Loosen the swivel nut of the cable gland on the communication plate, remove the sealing plug and lead the stripped cable through the swivel nut, sealing sleeve, communication plate and magnetic ring, press the latch of the smart meter terminal and insert the conductors accordingly. Make sure the cable is connected firmly.



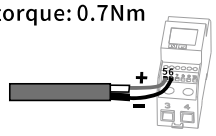
2) Remove the communication plate.



4) Insert the smart meter terminal to the socket, screw communication plate to the inverter and tighten the swivel nut.
Screwdriver type: PH2, torque: 1.6Nm

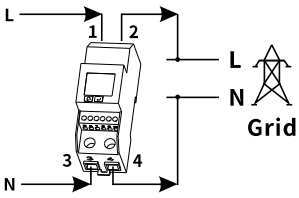


5) Insert the other end cable conductors into the slots of smart meter and tighten them. Screwdriver type: PH0, torque: 0.7Nm



2. AC cable connection

1) Insert the other end cable conductors of AC connector into suitable ferrules acc. to DIN 46228-4 and crimp the contacts.
2) Insert conductors into the slots of smart meter and tighten them as right.
Screwdriver type: PH2, torque: 1.6Nm



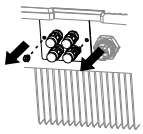
X.Communication setup

DANGER

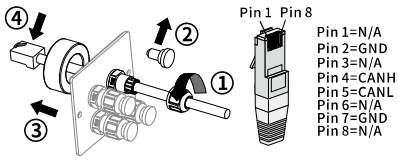
- Separate communication cables from power cables and serious interference sources.
- The communication cables must be CAT-5E or higher-level shield cables. Pin assignment complies with EIA/TIA 568B standard. For outdoor use, the communication cables must be UV-resistant. The total length of communication cable cannot exceed 1000m.

1. BMS communication

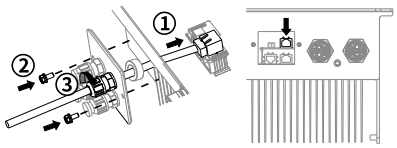
1) Remove the communication plate.



2) Loosen the swivel nut of the cable gland on the communication plate, remove the sealing plug and lead the stripped cable through the swivel nut, sealing sleeve, communication plate and magnetic ring, crimp the crystal as below pin assignment.

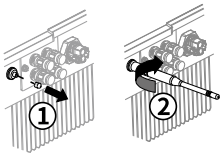


3) Insert the cystal to the socket, screw communication plate to the inverter and tighten the swivel nut.
Screwdriver type: PH2, torque: 1.6Nm



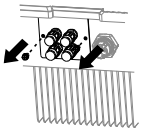
3. WiFi

Take off the sealing cap and tighten the antenna to inverter.

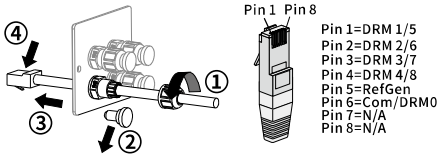


2. DRED

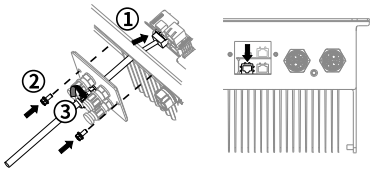
1) Remove the communication plate.



2) Loosen the swivel nut of the cable gland on the communication plate, remove the sealing plug and lead the cable through the swivel nut, sealing sleeve, communication plate , crimp the crystal as below pin assignment.



3) Insert the cystal to the socket, screw communication plate to the inverter and tighten the swivel nut.
Screwdriver type: PH2, torque: 1.6Nm



XI.Commissioning

Notice

- Check that the inverter is grounded reliably.
- Check that the ventilation condition surrounding the inverter is good.
- Check that the grid voltage at the point of connection of the inverter is within the permitted range.
- Check that the sealing plugs in DC connectors and communication cable glands are sealed tightly.
- Check that grid/battery connection regulations and other parameter settings meet safety requirements.
- Check the correct communication connection between the battery BMS and the inverter.
- Check the correct communication connection between the smart meter and the inverter.

1. Switch on AC circuit breaker between the inverter and the grid.
2. Switch on DC switch.
3. Switch on battery.
4. Link to inverter WiFi.
5. Set the communication parameters of the smart meter.
6. Set parameters through App (Safety, Smart meter, Battery, Working-mode).
7. Click power-on button through App, Energy storage inverter will start to work.

XII.EU Declaration of Conformity

Within the scope of the EU directives:
- Electromagnetic compatibility 2014/30/EU (L 96/79-106， March 29, 2014)(EMC)
- Low voltage directive 2014/35/EU (L 96/357-374， March 29, 2014)(LVD)
- Radio equipment directive 2014/53/EU (L 153/62-106， May 22, 2014)(RED)

AISWEI New Energy Technology (Jiangsu) Co., Ltd. confirms herewith that the inverters mentioned in this document are in compliance with the fundamental requirements and other relevant provisions of the above mentioned directives.
The entire EU Declaration of Conformity can be found at www.aiswei-tech.com.

XIII.Technical Data

Technical Data	ASW3000H-S	ASW3680H-S	ASW4000H-S	ASW5000H-S
PV input port				
Max. PV modules power(STC)	5500W	6180W	6500W	7500W
Max. PV input voltage	d.c. 550V			
MPPT voltage range	d.c. 100-530V			
Max. PV input current	d.c. 2×12A			
Isc PV (absolute maximum)	d.c. 2×18A			
Max. PV input current, per MPPT	d.c. 12A			
Number of MPPT/strings per MPPT	2/1			
Battery input port				
Rated Battery voltage	d.c. 48V			
Battery voltage range	d.c. 40-60V			
Max. battery charge / discharge current	d.c. 50/50A			
Battery type	Li-Ion			
Grid output/input port				
Rated grid active power	3000W	3680W	4000W	5000W
Max. grid output apparent power	3000VA*2	3680VA*2	4000VA*2	5000VA*1*2
Rated grid voltage	a.c. 230V			
Rated grid frequency	50Hz			
Max. grid output current	a.c 13.6A	a.c 16A	a.c 18.2A	a.c 22.7A*3
Max. grid input apparent power	2500VA*2			
Max. grid input current	a.c. 12A			
Adjustable displacement power factor	0.8 ind...0.8 cap			
Harmonic distortion (THD) at Pac.r	< 3%			
EPS output port				
Rated EPS voltage	a.c. 230V			
Rated EPS frequency	50Hz			
Max. EPS output apparent power	2500VA*2			
Max. EPS output current	a.c. 12A			
General Data				
Dimensions (W x H x D)	494×420×195mm			
Weight	21.5kg			
Noise emission (typical)	< 25dB(A)@1m			
DC connection	Plug-in DC connector			
AC connection	Plug-in AC connector			
Communication	WiFi/Meter			
Display	LED			

*1: For VDE-AR-N4105,Smax=4600VA

*2 For AS/NZS 4777.2:2015, Smax=Srated

*3 For AS/NZS 4777.2:2015, Iac max=21.7A

XIII.Technical Data

Technical Data	ASW3000H-S	ASW3680H-S	ASW4000H-S	ASW5000H-S
General Data				
Mounting	Wall bracket mounting			
Cooling	Convection			
Operating temperature range	-25...+60℃			
Relative humidity (non-condensing)	0...100%			
Max. operating altitude	4000m(Derating above 3000m)			
Degree of protection	IP65			
Climate category	4K4H			
Inverter topology	Non-isolated			
Protective class	I			
Overvoltage category	II(PV), III(MAINS)			

XIV.Contact

If you have any technical problems with our products, please contact our service.
We require the following information in order to provide you with the necessary assistance:

- Inverter device type
- Inverter serial number
- Battery type
- Type and number of connected PV modules
- Error code
- Mounting location
- Warranty card

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