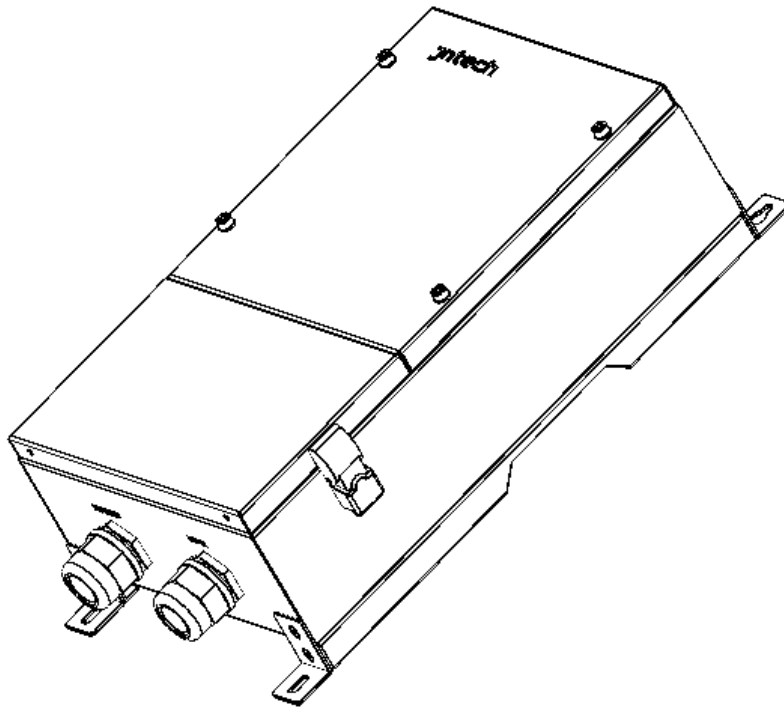


Outlet Filter

user manual

JNPH1AF
JNPH2AF
JNPH3AF



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V1.0

Preface

Manual Instruction

This manual describes the transportation, installation, operation, maintenance and troubleshooting of the following SUPPLIER Outlet Filter (Short as filter).

JNPH1AF

For JNP2K2H/JNP3KH/JNP3K7H/JNP4KH/JNP5K5H/JNP7K5H solar pumping system.

JNPH2AF

For JNP11KH / JNP15KH/ JNP18K5H solar pumping system.

JNPH3AF

For JNP22KH/ JNP30KH/ JNP37KH/ JNP45KH/ JNP55KH solar pumping system.

In order to describe conveniently later, there is no distinguish between JNPH1AF, JNPH2AF, JNPH3AF, They will be short for JNPH x AF.

Target Reader




This manual applies to the professional engineering and technical person who is responsible for installing and operating of outlet filter.


Use the Manual

Please read this manual carefully before installing and operating outlet filter. Please keep this manual well for operation and maintenance in future. The manual content would be constantly updated and revised, but it unavoidably has slightly discrepancies or errors with real outlet filter, please kind prevails if user purchases our outlet filter.







Symbol Used

The following safety symbols may be used in this manual, and the meanings are shown in below.

Safety Symbol	Meaning
 Danger	Means that it may lead to serious accident of injuries, if safety warning is ignored.
 Warning	Means that it may lead to serious accident of injuries, equipment serious damage or main business interruption, if safety warning is ignored.
 Notice	Means that it may lead to moderate accident of injuries, equipment moderate damage or part of the business interruption, if safety warning is ignored.

 Noted	Means that the content is additional information.
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Outlet Filter related symbols:

Symbol	Meaning
	AC power.
	Refer to relevant instructions
	Cannot discard Power Pack together with domestic garbage.
	Beware of dangerous high-voltage.
	Should wait for 5 minutes after outlet filter and AC power are disconnected, then Power Pack only can be touched.
	Beware of hot surface The Power Pack temperature can exceed 60°C during operation.

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1 Outlet Filter Unpacking

1.1 Accessories Unpacking

Supplier. Supplies standard outlet filter and common accessories as following:

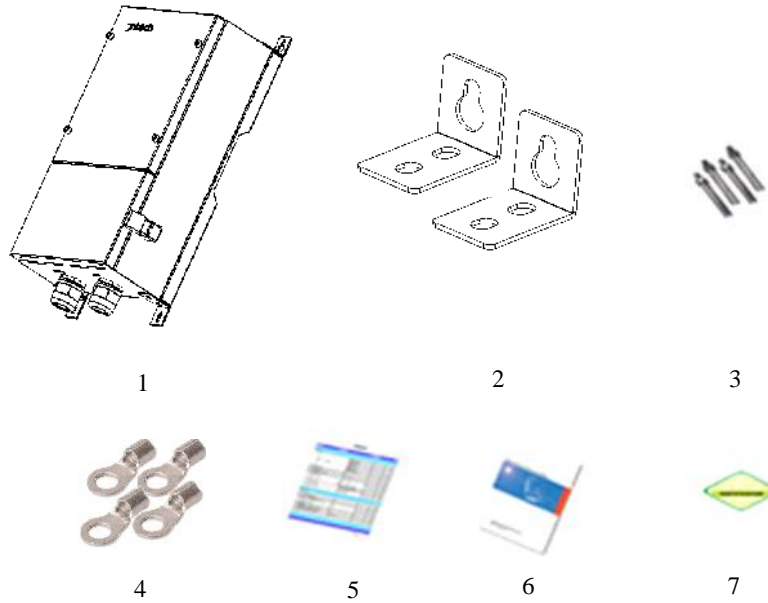


Figure1-1 Outlet filter and standard accessories

Table1-1 Outlet Filter and Accessories Table

No.	Introduction	Delivery State
1	Outlet Filter	Standard
2	Fixing Rail	Standard
3	Expansion Bolt	Standard
4	Cool pressure terminal	Standard
5	Packing List	Standard
6	User Manual	Standard
7	Certificate of Approval	Standard

1.2 Dimension

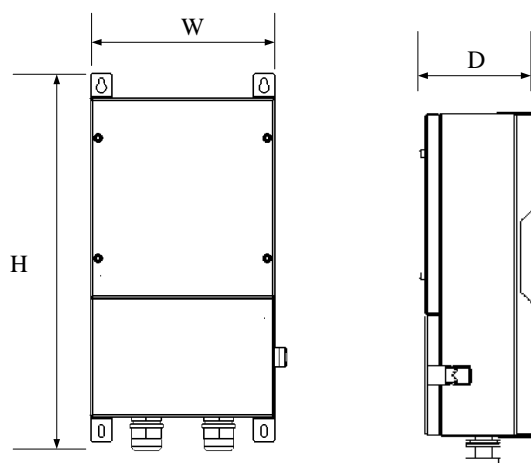


Figure1-2 Outlet filter dimension figure

Table1-1 Outlet Filter Dimension

Model	Width (mm)	Height (mm)	Depth(mm)	Net weight
JNPH1AF	260	520	150	14.5
JNPH2AF	260	520	150	17.5
JNPH3AF	350	544	215	34

1.3 Identify Filter

The nameplate in the side of filter, and it shows the filter model, some important parameter and certificate mark.

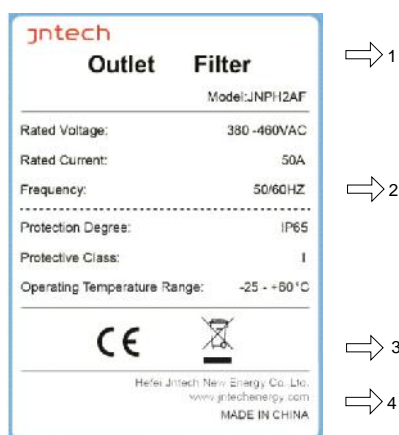


Table 1-2 Nameplate information table





No.	Description
1	SUPPLIER Logo and name
2	Filter model and parameter information
3	Certificate and safety signs
4	Company and website

2 Installation Procedure

2.1 Installation Tool

The installation of AC filter and wire should use tools as following, user can select proper tools according to experience.

Table2-1 Installation tool list

schematic	Name	Specification	Function
	Crimping Pliers	M10	For connecting wire's processing
	Electric Drilling	8	For hole drilling
	Cross Screwdriver	8	For wire connection of AC input terminal
	Open Spanner	10#	To fasten expansion bolt

2.2 Installation Location

Outlet filter shall be installed at vertical and backward inclination, max. inclination angle should be 10°.

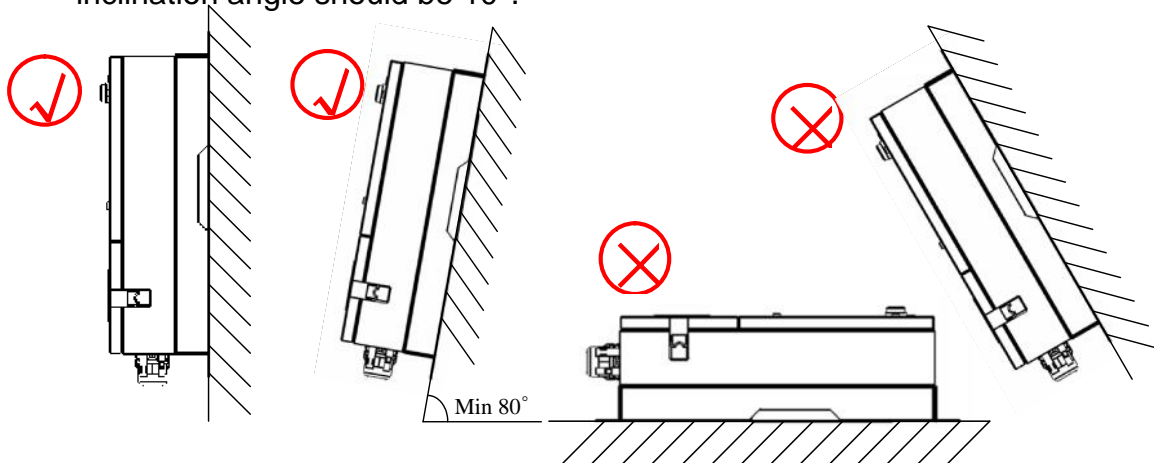


Fig.2-1 Installation diagram

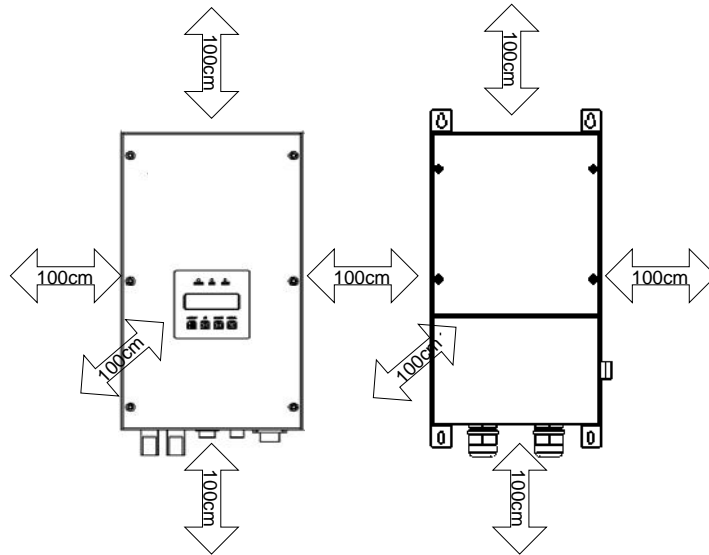


Fig. 2-2 Outlet Filter min. spatial size figure

As figure2-2 show outlet filter shall be installed on right side of inverter. Please do keep the distance between inverter and outlet filter over 100cm.

Table2-2 Min. spatial size marking

Location	Min. Separable
Upward	100cm
Downward	100cm
Both sides	100cm
Front	100cm

2.3 Installation of Outlet Filter

Step1: Four lugs following with outlet filter should be fixed in the corner of outlet filter by using screwdriver, as the fig. show:

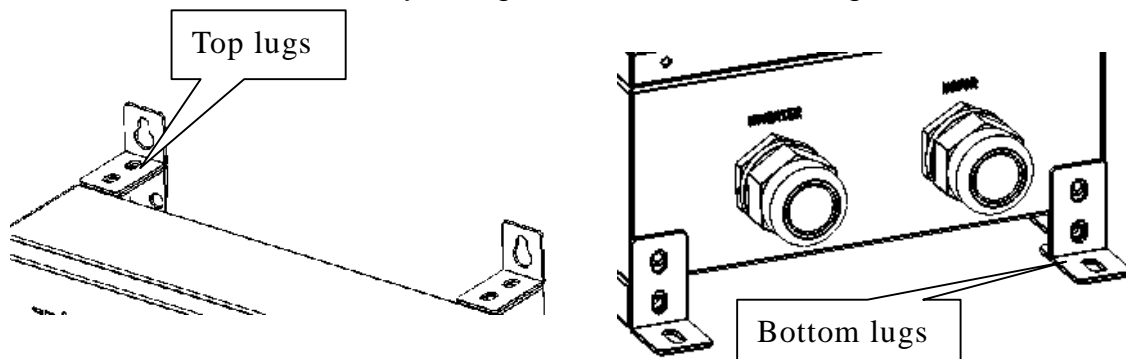


Fig.2-3 Outlet filter lugs sketch map

Step2: Drilling hole in selected site according to the size and shape of board, It is recommend that the hole diameter should $10+1/-0$ and depth is $60+5/-0$.

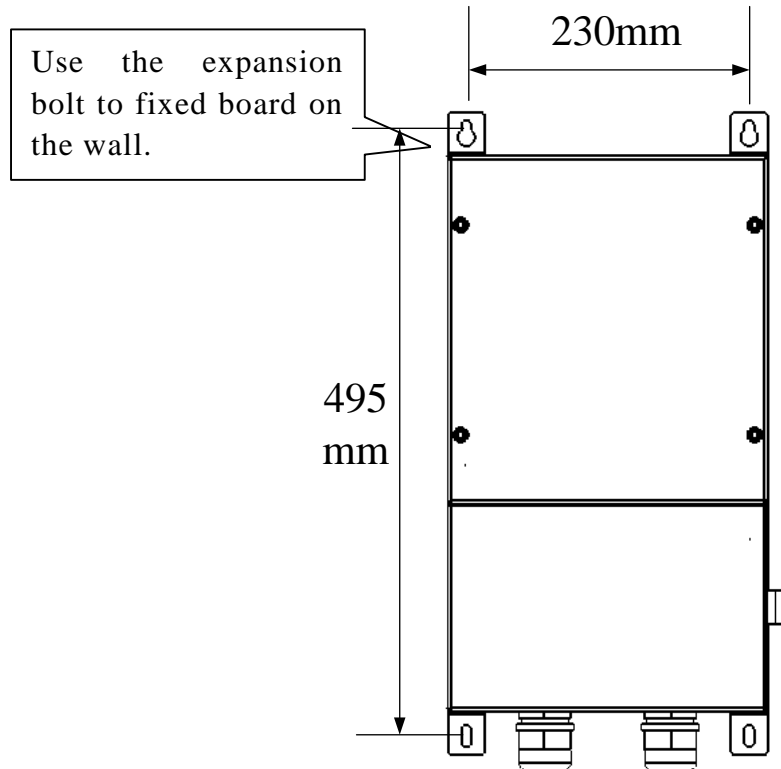


Fig. 2-4 JNPHxAF Mounting hole location

Step3: Let expansion bolt in hole, hange the lugs on expansion bolt as fig. 2-4 showing, and use the spanner to fasten expansion bolt.

3 Electrical Connection

3.1 Outlet filter system installation and connection

The outlet filter connected between inverter and water pump. System optimization for long cable reflect in the following 3 points:

- (1) Effective control of motor reflected voltage, protect motor insulation, prolong the lifespan of pump;
- (2) Effective suppress the surge voltage on the electric cable, protect inverter power module;
- (3) Filter out PWM control high frequency harmonic, pump running more stable, improve system efficiency.

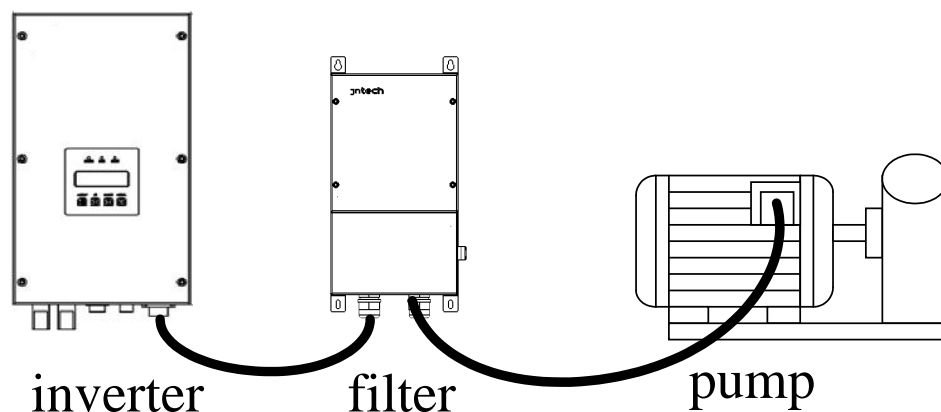


Fig.3-1 Outlet filter system connection sketch map

Input and output terminal of outlet filter installed in the bottom, all of them are M25 water-proof, as is showing Fig.3-2. Output cable switch in outlet filter through the terminal of “INVERTER”, and output cable of outlet filter switch in terminal of pump motor through “MOTOR”

3.2 Outlet Filter Internal Wiring

There are input and output terminal, users need to open the latch in the bottom right side and bottom cover plate. Output cable of inverter connected “U, V, W” three phase terminal array and cable of pump connected with “A, B, C” three phase terminal array respectively, as the Fig. showing:

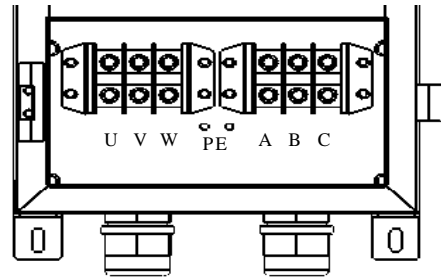
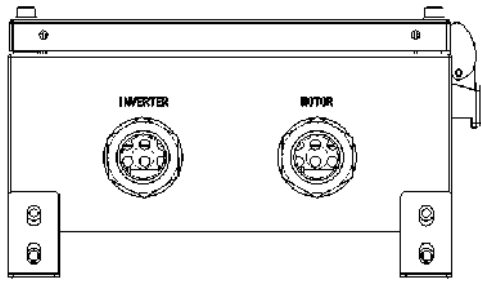


Fig.3-2 Bottom view of outlet filter

Fig.3-3 Internal Terminal

Close the bottom cover plate and lock catch when finish wire connection.
And the bottom over plate in an open condition is strictly prohibited.
Then the outlet filter connection has been completed.

4 Usual malfunctions and maintenance

Solutions to typical faults and states.

Table4-1 Running exception handler table

Situation	Possible Reason	Solution
Display output phase failure when inverter running.	Outlet filter wiring get loose.	Turn off inverter and open filter's cover plate to check if wiring terminal compressed and test U-A, V-B and W-C by multimeter.

Attached List 1

Solar Pumping System configuration, Outlet Filter recommendation form:

Motor Capacity	Rated Voltage	Max. cable length without filter (unshielded cable)	Effective cable length with filter (unshielded cable)	Outlet Filter Model
2.2~4kW	380~480V	40m	95m	JNPH 1AF
5.5kW	380~480V	60m	205m	
7.5kW	380~480V	90m	230m	
11kW	380~480V	100m	245m	JNPH 2AF
15kW	380~480V	115m	265m	
18.5kW	380~480V	125m	285m	
22kW	380~480V	130m	305m	JNPH 3AF
30kW	380~480V	140m	315m	
45kW	380~480V	145m	330m	
55kW	380~480V	155m	335m	

