P-Combiner-HV-3/6-V2
Instruction Manual

Information Version: 1.0

5PMPA08-00253

This manual introduces P-Combiner-HV-3/6-V2 from Pylontech. P-Combiner-HV-3/6-V2 is the power combination box for ForceH series battery system. "-3" is for the type having 3 input terminals and 1 output terminal with 50A current. "-6" is for the type having 6 input terminals and 1 output terminal with 100A current. Please follow the instructions carefully during the installation process. Any confusion, please contact Pylontech for advice and clarification.

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1. Safety

Read all safety instructions carefully prior to any work and observe them when working on the system.

Incorrect operation may cause:

- Injury or death to the operator or a third party
- Damage to the system hardware and other properties belonging to the operator or a third party.

Skills of Qualified Personnel:

- Training in the installation and commissioning of the electrical system, as well as the dealing with hazards.
- Knowledge of this manual and other related documents.
- Knowledge of the local regulations and directives.

1.1 Symbol

	Danger!
	Caution! Safety!
	Do not connect the positive and negative reversely.
	Keep away from children.

	Warning: electric shock.
	Warning: flammable materials.
	Read the manual before installing and operating the product.
	Grounding.
	Recycle label.
	The certificate label for EMC/CE.
	Label for Waste Electrical and Electronic Equipment (WEEE) Directive (2012/19/EU)
	Label for RoHS Directive (2011/65/EU (L174/88, June 8,2011) and 2015/863/EU).
	The certificate label for Safety by TÜV SÜD.

1.2 EU Declaration of Conformity

within the scope of the EU directives

- Restriction of the use of certain hazardous substances 2011/65/EU (L 174/88, June 8,2011) and 2015/863/EU (L 137/10, March 31,2015) (RoHS)
- Waste electrical and electronic equipment 2012/19/EU (L197/38, 24.7.2012) (WEEE)
- Low-voltage switchgear and controgear assemblies - Part 2: Power switchgear and controlgear assemblies(IEC61439-1 & IEC61439-2)

Pylon Technologies Co., Ltd. confirms herewith that the products described 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 en.pylontech.com.cn.

1.3 Safety Precautions



Caution

1) It is important and necessary to read the instruction manual carefully before installation or use. Failure to do so or to follow any of the instructions or warnings in this document can result in electrical shock, serious injury, death, or can damage battery, potentially rendering it inoperable, which is out of product warranty scope.
2) Please contact the supplier within 24 hours if there is something abnormal.
3) DO NOT connect power terminals reversely.
4) DO NOT expose to flammable or harsh chemicals or vapors.
5) DO NOT connect with PV solar wiring directly.
6) DO NOT connect with AC power.
7) DO NOT insert any foreign object into any part of the box.
8) The warranty claims are excluded for direct or indirect damage due to items above.

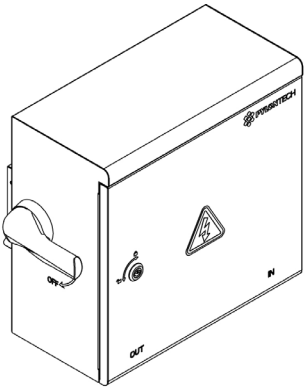
1.4 In Using

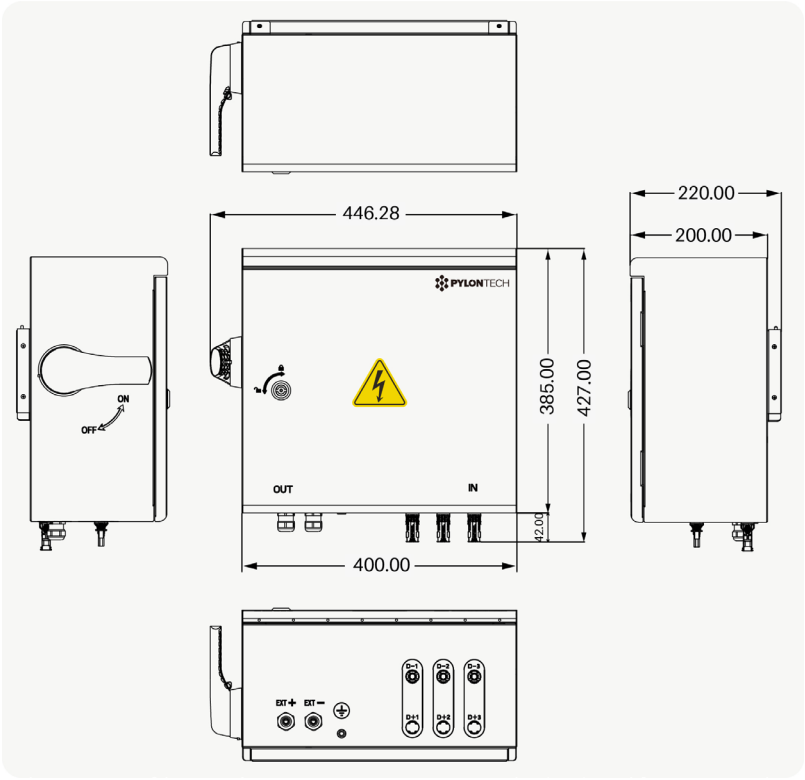
1) If any operation is required or fuse needs replacement, all the power source such as battery, inverter must be turned off and all the cables shall be completely disconnected.
2) DO NOT connect different types batteries in parallel through the P-Combiner box.
3) DO NOT connect inverter with voltage range higher than 1000V.
4) In case of fire, dry powder fire extinguisher or CO2 fire extinguisher is allowed. DO NOT use water before cutting all power off.
5) DO NOT open, repair or disassemble the battery except staffs from Pylontech or authorized by Pylontech. We do not undertake any consequences or related responsibility caused by violation of safety operation or violation of design, production and equipment safety standards.

2. Product Introduction

2.1 Overview of P-Combiner-HV-3/6-V2

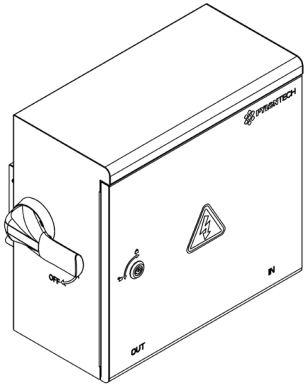
- A. P-Combiner-HV-3-V2

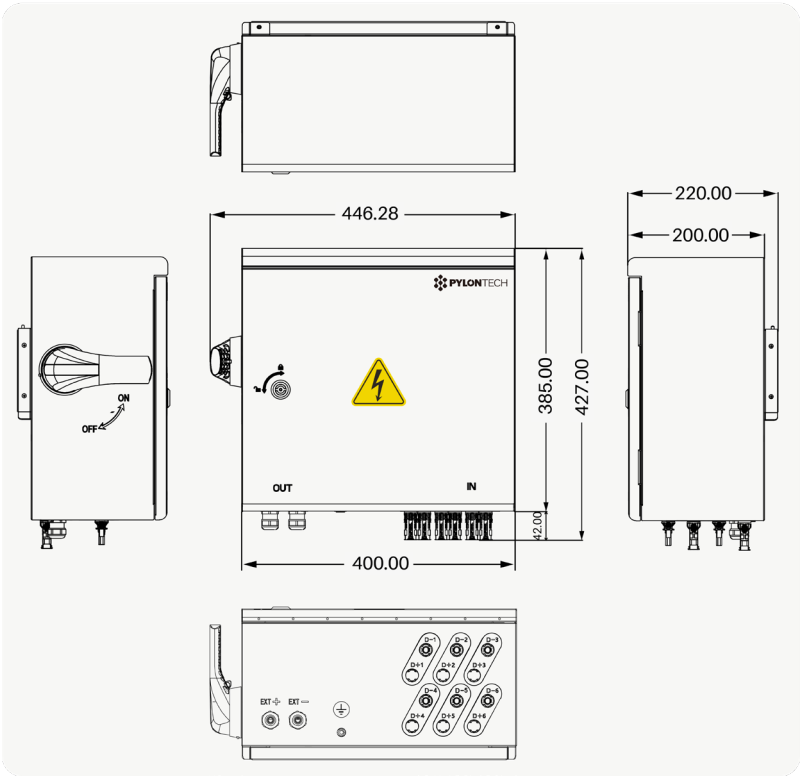




(Unit: mm)

- B. P-Combiner-HV-6-V2



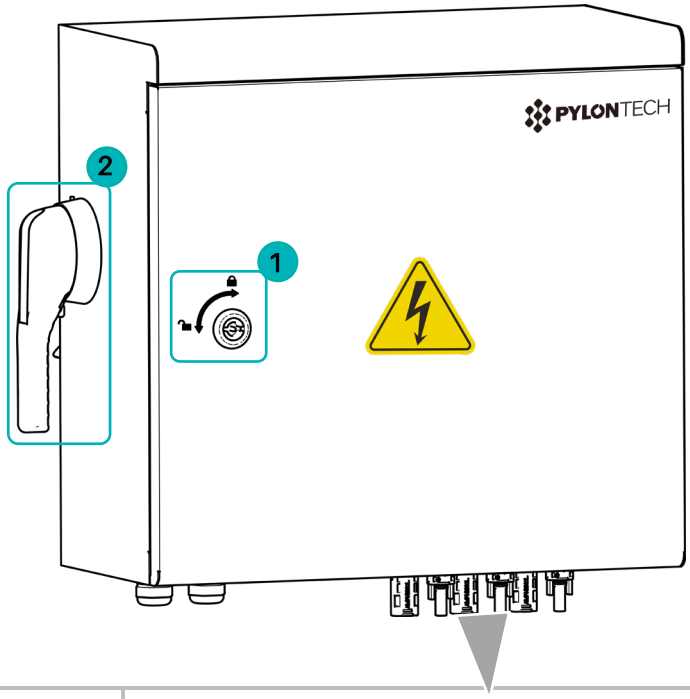


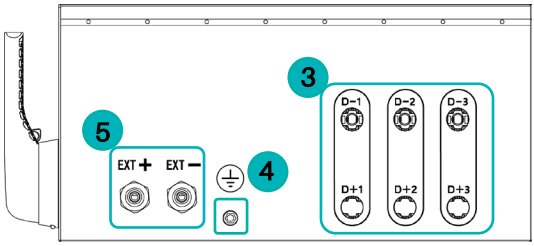
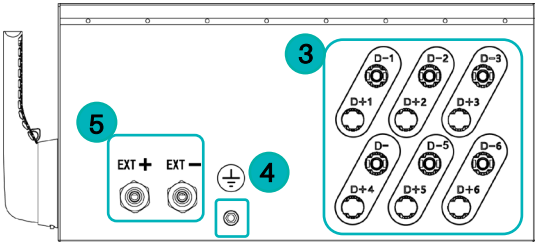
(Unit: mm)

2.2 Specifications of P-Combiner-HV-3/6-V2

Basic Parameters	P-Combiner-HV-3-V2	P-Combiner-HV-6-V2
Nominal Voltage (VDC)	1000	
Number of input terminal (pair)	3	6
Input terminal type (+)	H4SMM8DM (Amphenol)	
Input terminal type (-)	H4SFM8DM (Amphenol)	
Nominal input current per terminal (A)	50	
Number of output terminal (pair)	1	1
Output terminal type	Cable connection (O-ring) M24 x 1.5	
Nominal/Maximum output current (A)	50	100
Fuse nominal current (A)	80	160
Fuse protection breaking capacity	50 kA@ 1000 VDC	
Disconnecting switch capacity	12 kA@ 1500 VDC	
Weight (kg)	11.5	11.7
Dimensions (mm)	400 x 385 x 200	
Working temperature range (℃)	-20 ~ 55	
IP rating	IP55	
Humidity (%, RH)	5% ~ 95% (No Condensation)	
Altitude(m)	≤ 4,000	
Design life (year)	15+ (25℃)	
Reference standards	IEC61439-1, IEC61439-2	

2.3 Introduction of Equipment Interface



Power terminal Interface	A. P-Combiner-HV-3-V2 
	B. P-Combiner-HV-6-V2 

1) Box lock

Be sure to lock the box after installation.

2) Power switch

Switch to ON/OFF for main power loop.

3) Power terminal input

Connect to Force H Series battery power terminals.

4) Grounding point

Attach the grounding cable to the grounding point before connecting power cables.

The grounding resistance should be **smaller than 0.1Ω.**

5) Power terminal output

Connect to inverter.

P-Combiner-HV-3-V2, 6 AWG cable for maximum 50A current.

P-Combiner-HV-6-V2, 4AWG cable for maximum 100 A current.

3. Safe handling of lithium batteries guide

3.1 Tools

		
Wire Cutter	**Socket Wrench** (M8 outer hexagon expansion bolt M6 hexagon bolt)	**Screw Driver** (PH2)

3.2 Safety Gear

It is recommended to wear the following safety gear when dealing with the battery.



Insulated gloves



Safety goggles



Safety shoes

4. Installation and Operation

4.1 Package List

Item	Description	HV-3-V2	HV-6-V2
1	P-Combiner box	1	1
2	Power connector H4SFC8DM	3	6
3	Power connector H4SMC8DM	3	6
4	Expansion bolt	4	4
5	Power cable 4AWG x 2m, SC25-8, orange	-	1
6	Power cable 4AWG x 2m, SC25-8, black	-	1
7	Grounding cable 10AWG x 1m	1	1
8	Power terminal protection cover	3 sets	6 sets
9	Power cable 6AWG x 2m, SC16-8, orange	1	-
10	Power cable 6AWG x 2m, SC16-8, black	1	-

4.2 Wall Mounting Bracket Installation

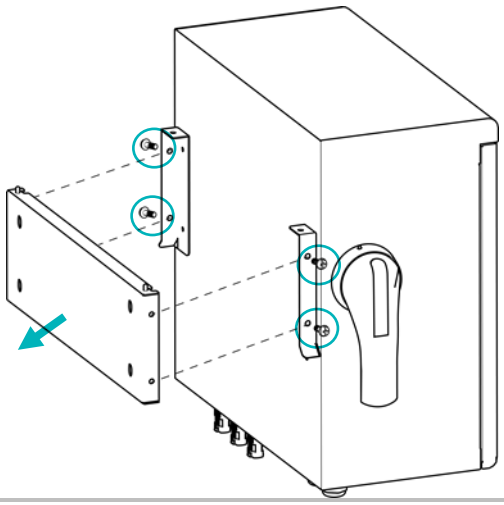
(1) Unscrew to remove the wall mounting bracket from the combiner box.

Torque: 1.5-2.5 N.m

Tool: screw driver

Fastener: Screw, 4 pcs,

M4 x15

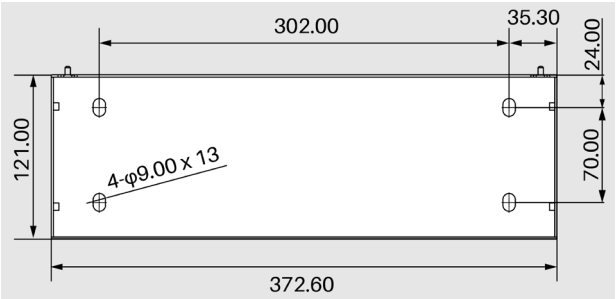


(2) Install the wall mounting bracket on the wall by fastening the 4 expansion bolts into the wall as shown.

Torque: 12-13 N.m

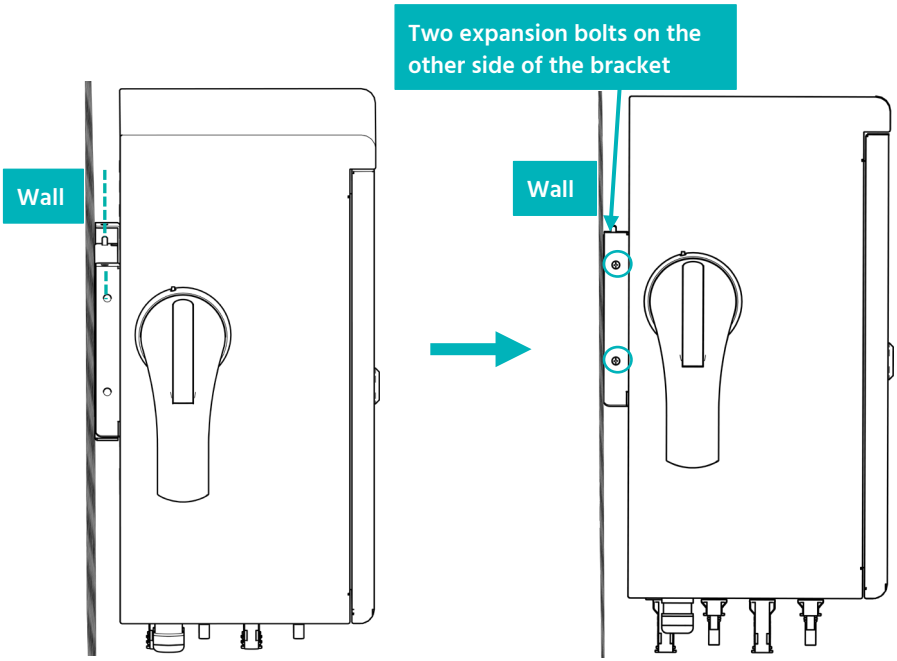
Tool: Socket Wrench

Fastener: expansion bolt, 4 pcs ,M8 x 60



(3) Aligning the two holes with the pins on the mounting bracket, hang the box onto the bracket. Fasten four screws to fix the box.

Torque: 3.4-4.4 N.m; Tool: screw driver; Fastener: Screws, 4 pcs, M5 x12



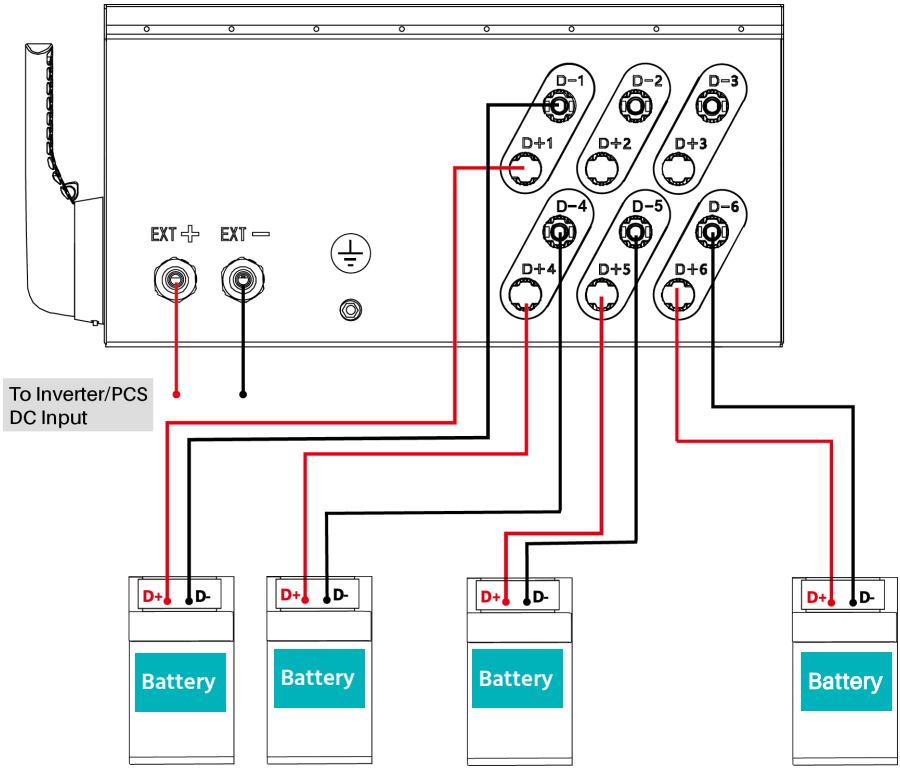
4.3 Cable Connection

Caution:

1) Ensure the switch is set to OFF.
2) Ensure NO reverse connection.
3) Ensure all cables connected in pair: 1+ and 1- from one battery.

(1) Connect positive and negative power cables from battery to box.

(2) Connect output power cables of the combiner box to the inverter or PCS.



NOTE: The above illustration of battery amount is for reference ONLY.

- For P-Combiner-HV-3-V2, there can be maximum 3 batteries connected to one combiner box.
- For P-Combiner-HV-6-V2, there can be maximum 6 batteries connected to one combiner box.

5. Remarks

For recycle and disposal, follow the local disposal rules.

DO NOT dispose directly.





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