

DS series




# 60kW Free Standing DC Fast Charger



- Simultaneous DC Charging
- Multi-standard: CCS & CHAdeMO
- Network or standalone operation
- User authentication
- Optional cable management accessories
- Supports smart charging and load balancing
- Efficiency > 94%; PF > 0.99(APFC)
- 7-inch LCD screen with user friendly interface
- OCPP 1.6 JSON (Upgradable to 2.0 OTA)
- NEMA 3R
- Customization available

## Cable Management



Model Name	UL, DS 60 Series
Safety	NRTL – cETLus (USA/Canada)
Product Photo	

### Power Specification

AC Input	Input Rating	3 $\Phi$ _480Vac (+10%, -15%)
	AC Input Connection	3P+N+PE (Wye configuration), TN/TT
	Max. Input Current	DC System:3 $\Phi$ 100A
	Frequency	50Hz/60Hz
	Power Factor	>0.99
	Efficiency	>94%,at optimize V/I point
DC Output	Output Voltage Range	CCS1:150~950Vdc CHAdEMO:150~500Vdc
	Max. Output Current	CHAdEMO/CCS1:120A@500Vdc
	Max. Output Power	DC System:60kW
	Voltage Accuracy	$\pm$ 2%
	Current Accuracy	$\pm$ 2%

### User Interface & Control

Display	7" LCD
Push Buttons	Operation buttons/ Emergency stop button
User Authentication	RFID: support ISO 14443A/B, ISO 15693, FeliCa Lite-S (RCS966) OCPP, 2D barcode, APP, Mobile payment
Meter	AC/DC Meter (2022)

### Communication

External	Ethernet,Wi-Fi,and 4G
Internal	CAN bus/RS485

### Environmental

Operating Temperature	-30°C~50°C, will derating from 50°C and above
Humidity	5%~95% RH, non-condensing
Altitude	$\leq$ 2000m
IP/IK Level	• NEMA 3R • IK10 (not including screen and RFID module)
Cooling Method	Fan cooling

### Mechanical

Cabinet Dimension(W x D x H)	700 x 331 x 1800 mm $\pm$ 1%
Weight	$\leq$ 235kg $\pm$ 1%
Cable Length	4m

### Protection

Input Protection	OVP, OCP, OPP, OTP, UVP, SPD
Output Protection	OCP, SCP, OVP, LVP, OTP, IMD

### Regulation

Certificate	UL 2202, UL2231
Charging Interface	CHAdEMO V1.2, DIN 70121, ISO15118, GB/T 27930

## 3.4 Recommended Tools for Installation and Inspection

### 3.4.1 Recommended Tools for Installation

Type	Description
Philips Screwdriver	No. 2 and 3
Shifting Wrench	
Socket Screwdriver	No. 8, 10, 17 and 19
Electrical Tape	Black / 15mm Width
AC Input Cable	50mm <sup>2</sup> at least Cable x 5 (L1, L2, L3, N, PE)
Ring Terminal	1. Ring Terminal for L1, L2, L3, N (Inner Diameter: 10.5mm, Outer Diameter: 22mm) 2. Ring Terminal for PE (Inner Diameter: 6.4mm, Outer Diameter: 22mm)
Crimping Pliers for Ring Terminal	
Wire Stripper	
Wire Cutters	
Crane/ Forklift	>235Kg

### 3.4.2 Recommended Tools for Inspection & Commissioning

Type	Description
EV or EV Simulator	Meet CHAdeMO/CCS Standard
Multiple Meter	1000V
Current Probe	200Amp
RFID Authorized Card	
RFID No Valid Card	
Door Key	
Needle-Nose Plier	
Laptop or PC & CAT6 cable	For Charger Configuration

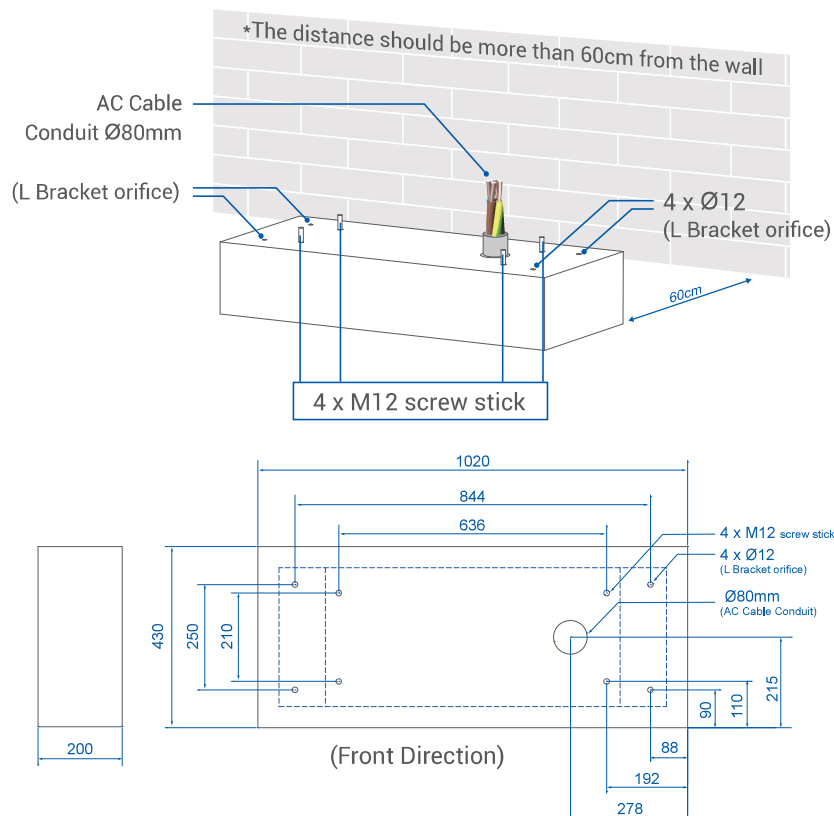
### 3.5 Installation Procedure

#### 3.5.1 Installation Procedure

##### STEP 1.

Build 1020mm x 430mm x 200mm concrete base on the level to stand charger in advance; implant  $\Phi 80$  mm conduit for input AC and Ethernet cables and implant 4 pcs of M12 screw stick out the concrete base for 40 mm to fix the charger. The positioning of these 4 pcs of M12 screws should be within  $\pm 2$  mm in short axis,  $\pm 8$  mm in long axis according to screw holes of charger.

To fit this positioning requirement, a steel plate fixture be suggested. Please create the fixture by the following drawing or order this fixture from your vendor. The other way to fix the charger on concrete base is install 2 of L-brackets accessories outside of charger and drill the screw holes ( $\Phi 12$  mm) on the cement base as drawing below.



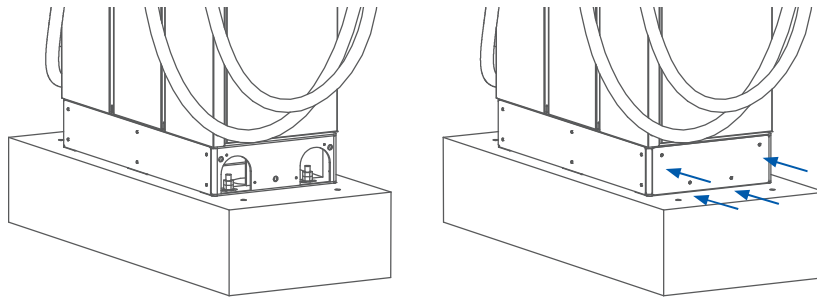
### STEP 2.

Extend 3 phase 5 wires AC input cable from conduit of concrete base, AC cable expose at least 400mm and these 5 wires should be with ring terminals ( L1, L2, L3 & N: Inner Diameter: 10.5mm, Outer Diameter: 22mm & PE: Inner Diameter: 6.4mm, Outer Diameter: 22mm) . The conductor cross sectional area of input power wires should be not less than 50mm<sup>2</sup>. If internet connection is via Ethernet, a 1500 mm Ethernet cable is necessary to install via the conduit to the charger.

## 3.5.2 Two Methods of Fixing DSWx601 Charger

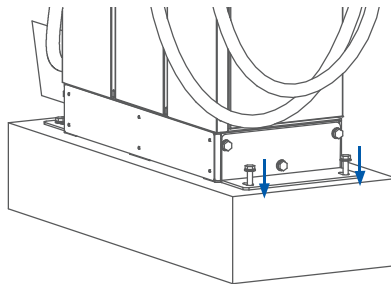
### METHOD 1.

Lift the charger on concrete base, pull the input cable through bottom hole of charger; fasten 8 pcs of M12 screw nuts and 4 pcs of M12 washers on 4 pcs of M12 screw of concrete base (2 nuts for each screw) to secure the chargers. Then fix the base cover (in the accessory pack) in charger base.



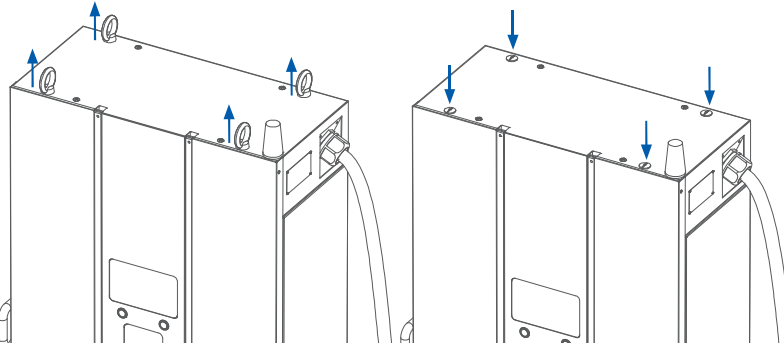
### METHOD 2.

If use L-brackets to fix charger, secure L-brackets on the cement base by 4 pcs of M12 expansion bolts.



**NOTE**

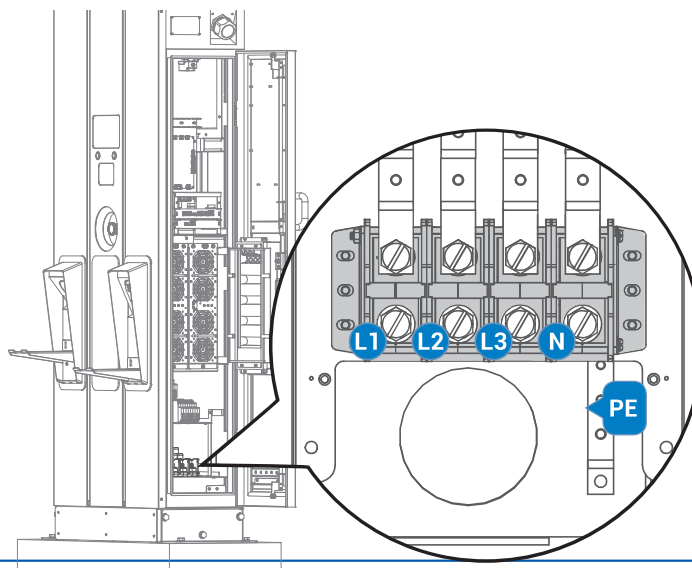
If remove the eye bolts on the top of the cabinet, must assemble the water-proof plastic bolts(in the accessory pack).



**3.5.3 Installing the AC Input Connection**

**STEP 1.**

Open Right Cover for Wiring: Connect L1, L2, L3 and N of AC power to 4P terminal. Fasten each wire with proper screw and torque number- 120Kgf.cm/5-15 secs. Connect the PE wire (green with yellow) to grounding position of charger and torque number- 60Kgf.cm.



### STEP 2.

Pull AC power cables to power distribution box, connect the Protective Earth wire (Green/Yellow) to ground point of power distribution box. Neutral should be shorted with ground point to meet TN(-S) grounding system.

### STEP 3.

Wiring installation of L1, L2, L3 and Neutral wire to an external breaker. Recommended breaker spec.: Max. input current shall be over than 134A, B Curve type.



An 134A NFB B curve.

### STEP 4.

Do Inspection as section 3.6.1 to 3.6.3 .

Turn on the power source and be ready for operational testing. The power supply of the Standalone DC Fast Charger will be enabled and automatically drive the information screen. Information screen will turn to Phihong charging solution screen within 30 seconds.



Not following installation instruction will cause charger damage.

### STEP 5.

Use foaming agent to fill the gap in the AC cable conduit and complete the installation.