



**TELLUS POWER GREEN**

# **TELLUS POWER GREEN DC FAST CHARGER**

**30kW Wall Mount  
DC Fast Charging Station**



## TELLUS POWER GREEN DC FAST CHARGER

### Specifications



Model #	TP-EVPD-30KW
Product #	<b>TP5-30-480</b>
Input	480VAC (3P+N+PE)
Frequency	60Hz
Output Voltage	150 to 1000VDC
Output Current	0 to 100A
Connector(s)	CCS1 or CHAdeMO
Efficiency	≥94% at nominal output power
Power Factor	> 0.98
Operating Temperature	22°F to 131°F (-30°C to 55°C)
Working    Storage humidity	≤ 95% RH    ≤ 99% RH (Non-condensing)
Altitude	< 6600ft (2000m)
Display	7" LCD with touch screen
RFID system	ISO    IEC 14443A/B
Dimensions (l x d x h)	21" x 12" x 27"
Protective Class	NEMA 3S, IK 10
Cooling System	Air cooled
Weight	176 lbs (80kg)
Charging Protocol	Mode 4, IEC-61851, ISO-15118, DIN SPEC 70121
	Mode 4, CHAdeMO 0.9, 1.0
Length of charging cable	16ft (5m)
Interface protocol	OCPP 1.6J
Communication	Ethernet / 4G Wi-Fi
Electrical Safety: GFCI	RCD 20 mA Type A (UL)
Electrical Safety: Surge Protection	20 kA
Electrical Safety General	Over Voltage, Under Voltage, Over Current, Missing Ground
Electrical Safety: Output Short	Output power disabled when output is short circuited
Electrical Safety Temperature	Temperature Sensors @ Charge Coupler and Power Electronics
Emergency Stop	Emergency Stop Button Disables Output Power
Regulatory Compliance	UL-2202    EMC: EN 61000-6-1:2007, EN 61000-6-3:2007/A1:2011/AC:2012





TELLUS POWER GREEN

# TELLUS POWER GREEN DC FAST CHARGER 60 kW Charging Station

## FEATURES

- Powerful Compact All-In-One DC Charger
- Simple Air-Cooled Power Modules
- Easy to Maintain
- Parallel Charging Feature
- Available in 500VDC and 1000VDC
- OCPP 1.6J
- Credit Card Reader
- Cord Management



## Tellus Power Green DC Fast Charger Specifications



Model #	TP-EVPD-60KW	
Product #	<b>TP3-60-480</b>	<b>TP5-60-480</b>
Input	480VAC (3P+N+PE)    60Hz	
Output Voltage	150-500VDC	150-1000VDC
Output current	0 to 150A	
FLA    Breaker Rating	80A    100A	
Connectors	CCS1 CCS1 and CCS1 CCS1 and CHAdeMO	
Cyclic Charge Mode	CCS1 - 150A    CHAdeMO – 125A	
Parallel Charge Mode (Optional)	30 kW per Port	
Efficiency	≥94% at nominal output power	
Power factor	> 0.98	
Display	10" touch screen	
Access Control	RFID : ISO/IEC 14443A/B   Credit Card Reader (Optional)	
Metering	DC kWh meter per each connector	
Operating temperature	-22°F to 131°F (-30°C to 55°C)	
Altitude	6500' (2000m)	
Working    Storage Humidity	≤ 95% RH    ≤ 99% RH (Non-condensing)	
Dimensions (L x D x H)	29" x 19" x 72"	
Protective Class	NEMA 3S (IP54), IK10	
Cooling system	Air cooling fans	
Weight	530 lbs (240kgs)	
Compliance	UL and CE Certified	
DC Charge System	Mode 4 - IEC-61851, ISO-15118, DIN 70121 Mode 4 - CHAdeMO 0.9, 1.0	
Charging cable	16ft (5m), Cable Retractor Included	
Communication    Protocol	Ethernet, 4G/WiFi    OCPP 1.6J	
Electrical Safety: GFCI	RCD 20 mA Type A	
Electrical Safety: Surge Protection	20 kA	
Electrical Safety General	Over Voltage, Under Voltage, Over Current, Missing Ground	
Electrical Safety: Output Short	Output power disabled when output is short circuited	
Electrical Safety Temperature	Temperature Sensors @ Charge Coupler and Power Electronics	
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Regulatory Compliance	UL-2202    EMC: EN 61000-6-1:2007, EN 61000-6-3:2007/A1:2011/AC:2012	



**TP-EVPD-30kW  
30kW DC Charger  
Installation Manual**



# TABLE OF CONTENTS

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## Contents

1. Safety.....	3
2. Installation.....	4
2.1 ADA Consideration .....	4
2.2 Additional Cautionary Notes .....	5
3. TP-EVPD-30kW DC Fast Charger Specifications: .....	6
4. Installation Overview .....	8
5. Outline Drawing of TP-EVPD-30kW DCFC.....	9
6. AC Input Power Wiring.....	12
6.1 AC Input Termination.....	13
7. Operating Instructions .....	13
7.1 RFID (Option – 1) .....	16
7.2 QR Code / Mobile App (Option – 2).....	16
8. Configuration.....	17
9. Maintenance or Service .....	19
9.1 Maintenance Precautions .....	19
9.2 Maintenance Items .....	19
9.3 Visual Check Items.....	19
9.4 Replacement of Fixed-Life Components .....	19
10. Trouble shooting .....	21
10.1 Error Codes.....	21
10.1 Fault information table.....	21
11. Customer Responsibilities.....	22
12. Product Warranty .....	23
13. Appendix.....	24

## PLEASE NOTE

Tellus Power reserves the right to make change as necessary to comply with change in the industry and due to errors and omissions to ensure a safe and reliable installation.

Please call our customer support line +1 949 534 3000 if there are any questions related to installation or operation of this equipment.

# CRITICAL SAFETY INSTRUCTIONS

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## 1. Safety

### READ THE ENTIRE MANUAL BEFORE DESIGNING OR INSTALLING EQUIPMENT






#### **WARNING**

This unit is a high-powered electrical device and can be hazardous if improperly installed, serviced, or operated. Failure to follow procedures in this manual could result in extreme hazard to personnel and/or damage to the equipment and related infrastructure. In addition, the installation, service, and maintenance need to comply with local codes and the Authority Having Jurisdiction (AHJ).

### IMPORTANT SAFETY INSTRUCTIONS

The symbols used are international icons used to depict various levels of caution when installation, servicing or maintaining the equipment. Same symbols will also appear on the equipment for identifying caution levels required when access certain areas of the charger.

	<p><b>DANGER</b></p>	<p>High voltage danger label to keep people safe from electrical discharge, which could result in injury or potential death.</p>
	<p><b>WARNING</b></p>	<p>Warning icon represents hazard, that could result in severe injury or possibly death.</p>
	<p><b>GENERAL CAUTION</b></p>	<p>Caution icon represents a potential hazard or unsafe practice that could result in injury</p>

 **SERVICE WARNING**

**THERE ARE NO SERVICEABLE ITEMS INSIDE THE EQUIPMENT. THERE IS HIGH VOLTAGE INSIDE THE EQUIPMENT WHICH COULD CAUSE SEVERE INJURY OR DEATH. DO NOT ATTEMPT TO REPAIR THE CHARGE STATION YOURSELF. THIS CAN ONLY BE PERFORMED BY FACTORY QUALIFIED PERSONEL.**

 **CHARGING CABLE DAMAGE**

**Do not operate the charger if the charging cable is damaged or if there are exposed wires in the charging cord assembly. Shut off power at the electrical disconnect or at the breaker. Then immediately contact Tellus service. If there are any questions, please contact customer service.**

## **2. Installation**

### **Safety instructions**

Read the entire installation instructions before designing the installation and prior to installation.

This equipment should be installed by a journeyman level electrician. Local building codes need to be complied with. In most jurisdictions the installation of this equipment requires plan check, building and electrical permits. Verify with the local Authority Having Jurisdiction prior to starting construction.

The charging station relies on the grounding system for safety. All grounding instructions should be strictly adhered to as prescribed in this manual and any applicable electrical safety requirements, all local electrical safety codes, and NEC.

 **HIGH VOLTAGE EQUIPMENT:**

This charging system contains both AC and DC high voltage circuitry and devices and should only be installed by a qualified electrician trained to work on high voltage, high current AC and DC systems

### **2.1 ADA Consideration**

This equipment has been designed to meet ADA requirements when installed as prescribed in this manual and in accordance to the STANDARDS FOR ACCESSIBLE DESIGN for Americans with Disabilities document, 2010 ADA Standards for Accessible Design:

[http://www.ada.gov/2010ADASTandards\\_index.htm](http://www.ada.gov/2010ADASTandards_index.htm)

Parking space, allowances for wheelchair movement, charger, bollards, and parking stops are defined in several publicly available EV charger installation recommended practices documents incorporating the ADA requirements. <http://www.ada.gov>





For information about the ADA, including the revised 2010 ADA regulations, please visit the Department's website [www.ADA.gov](http://www.ADA.gov); or, for answers to specific questions, call the toll-free ADA Information Line at 800- 514-0301 (Voice) or 800-514-0383 (TTY)."

## **2.2 Additional Cautionary Notes**

### **WARNING**

- Do not have power on while any of the maintenance doors are open unless proper personnel protection equipment is worn.
- Only trained personnel should be working in this equipment while the doors are open, and the unit is powered on.

### **WARNING**

- **There are high voltage and high capacity energy storage components on this system. There are components and circuits that remain charged for some time (1 to 2 minutes) with high voltage power, even after main power is disconnected. Always test with a voltmeter before any maintenance or service is performed.**

**This manual covers the electrical and mechanical installation procedure for the Tellus 30kW charger. The operations and programming manual are separate.**

### 3. TP-EVPD-30kW DC Fast Charger Specifications:

#### Products Details for USA Region

Parameter	Specifications: TP5-30-480
Maximum Power	30 kW
Output Voltage	150 – 1000VDC
Output Current	80A
Input Voltage    Frequency	480VAC (3P + N + PE)    60 Hz
FLA    Breaker Rating	40A    63A
Power Factor	>0.98
Efficiency	>94% at nominal output power
DC Charge Mode	Mode 4, IEC-61851, ISO-15118, DIN SPEC 70121
Charging Connector Standard	CCS1   CHAdeMO
Weight	180 lbs (80 kg)
Dimensions	18" x 22" x 12"
Insulation (input – output)	>2.5 kV
Ingress Protection	IP 54
Operating temperature	-30 deg C to 55 deg C (-22 deg F to 131 deg F)
Working    Storage Humidity	≤ 95% RH    ≤ 99% RH (Non-condensing)
Display	7" LCD touch screen
Communication Protocol	OCPP 1.6J
Access Control	RFID: ISO/IEC 14443A/B    Credit Card Optional
Power Electronics Cooling	Air Cooled
Regulatory Compliance	UL-2202    EMC: EN 61000-6-1:2007, EN 61000-6-3:2007/A1:2011/AC:2012
Communication	Ethernet - Standard, 3G/4G/Wi-Fi (Optional)
Electrical Safety: GFCI	RCD 20 mA Type A
Electrical Safety: Surge Protection	20 kA
Electrical Safety General	Over Voltage, Under Voltage, Over Current, Missing Ground
Electrical Safety: Output Short	Output power disabled when output is short circuited
Electrical Safety Temperature	Temperature Sensors @ Charge Coupler and Power Electronics
Emergency Stop	Emergency Stop Button Disables Output Power



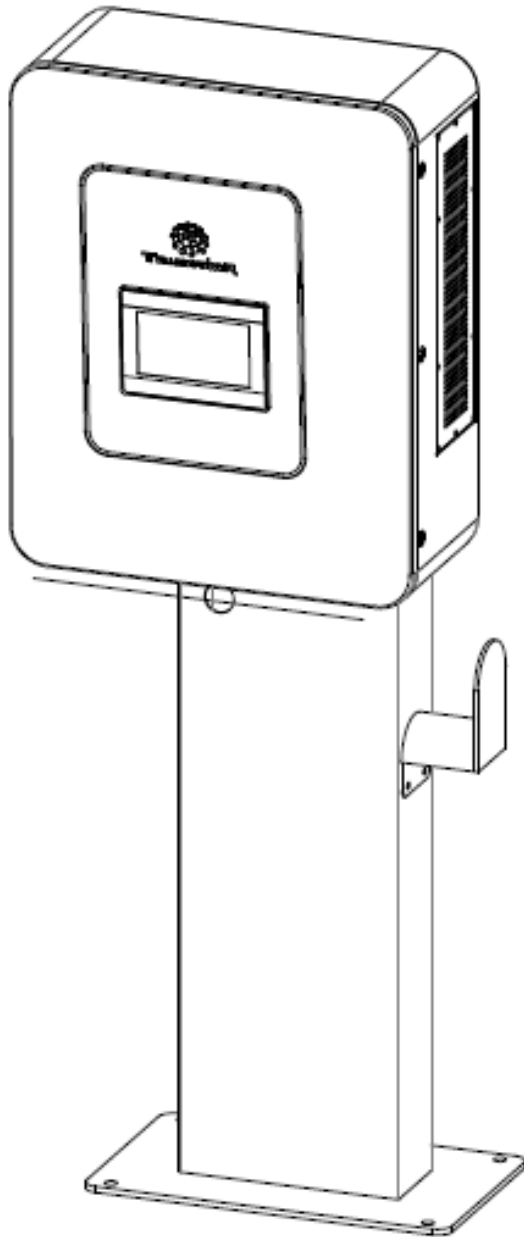
**Products Details for Rest of the World**

Parameter	Specifications: TP4-30-400
Maximum Power	30 kW
Output Voltage	150 – 750VDC
Output Current	80A
Input Voltage    Frequency	380VAC / 415VAC / 480VAC (3P + N + PE)    50Hz/60Hz
Power Factor	>0.98
Efficiency	>94% at nominal output power
DC Charge Mode	Mode 4, IEC-61851, ISO-15118, DIN SPEC 70121
Charging Connector Standard	CCS   GB/T   CHAdeMO
Weight	180 lbs (80 kg)
Dimensions (L x D x H)	21" x 12" x 27"
Insulation (input – output)	>2.5 kV
Ingress Protection	IP 54
Operating temperature	-30 deg C to 55 deg C (-22 deg F to 131 deg F)
Working    Storage Humidity	≤ 95% RH    ≤ 99% RH (Non-condensing)
Display	7" LCD touch screen
Communication Protocol	OCPP 1.6J
Access Control	RFID: ISO/IEC 14443A/B    Credit Card Optional
Power Electronics Cooling	Air Cooled
Regulatory Compliance	UL-2202    EMC: EN 61000-6-1:2007, EN 61000-6-3:2007/A1:2011/AC:2012
Communication	Ethernet - Standard, 3G/4G/Wi-Fi (Optional)
Electrical Safety: GFCI	RCD 30 mA Type A
Electrical Safety: Surge Protection	20 kA
Electrical Safety General	Over Voltage, Under Voltage, Over Current, Missing Ground
Electrical Safety: Output Short	Output power disabled when output is short circuited
Electrical Safety Temperature	Temperature Sensors @ Charge Coupler and Power Electronics
Emergency Stop	Emergency Stop Button Disables Output Power

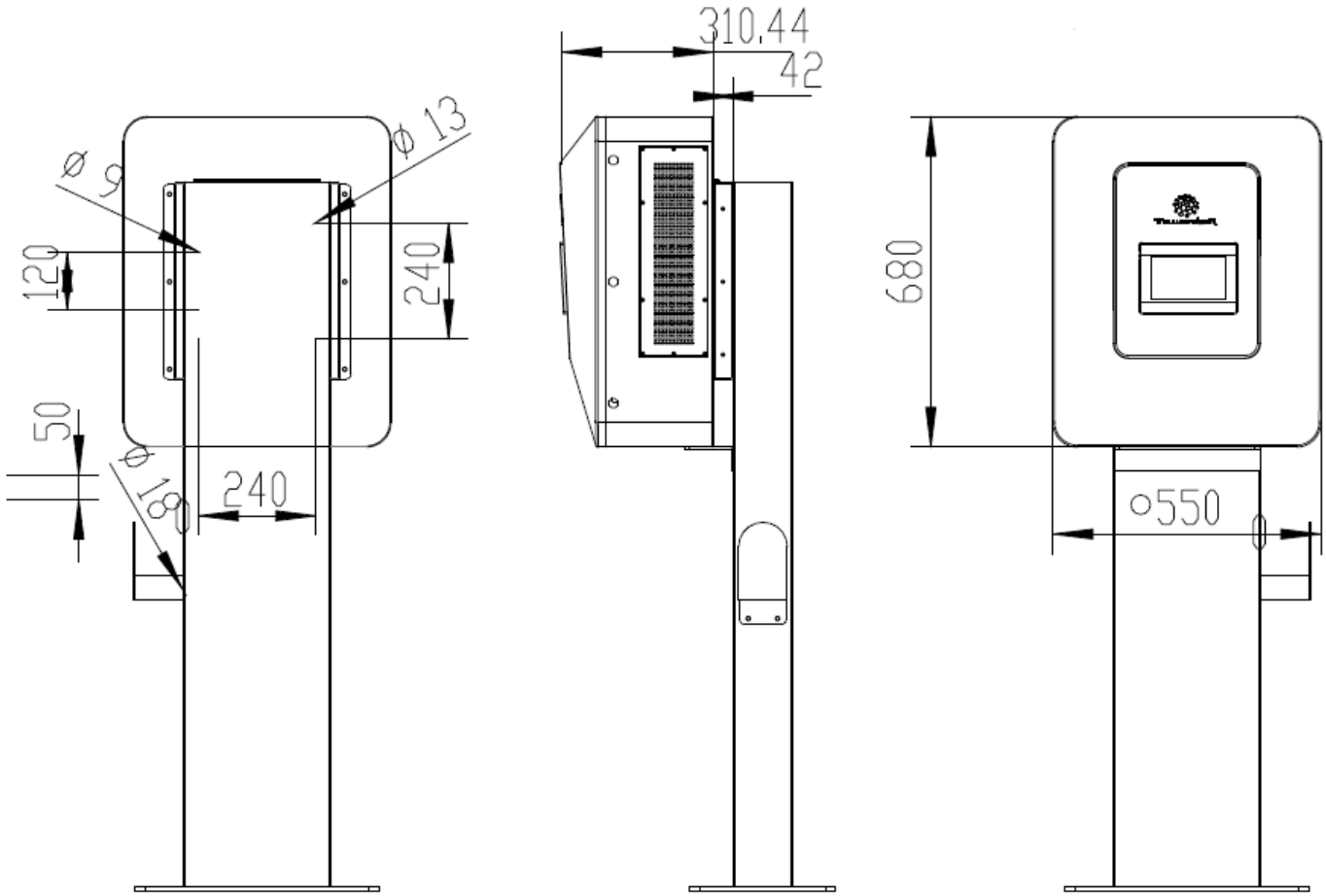
## 4. Installation Overview

<b>Electrical Input Requirements</b> (Depending upon market)	<b>Input voltage: 380VAC (3 Phase + Neutral + Earth), 50Hz</b>
	<b>Full Load Amperage: 50 Amps (At Rated power)</b>
	<b>Breaker Capacity: 63 Amps</b>
	<b>Input voltage: 480VAC (3 Phase + Neutral + Earth), 60Hz</b>
	<b>Full Load Amperage: 40 Amps (At Rated power)</b>
<b>Location</b>	The charger can be installed on any stable wall or any pole structure with appropriate brackets. The input cable provision is provided from the bottom the charger. The height of the charger should be in above 4 ft from the ground.
	Charger Dimensions (L x D x H): 21" x 12" x 27"
<b>Mounting</b>	Wall Mount
<b>Cables</b>	Input Cables must be Copper (3P+N). Flexible copper is preferred.
	Depending on the situation and cable type, the cables must be embedded in the ground/surface with proper cable duct.
<b>Grounding</b>	Reliable protective grounding must be provided. It is recommended to have separate dedicated ground exclusively for the charger considering the safety aspects. The ground resistance should be less than or equal to 4Ω. Copper cable of in accordance with NEC shall be used to connect charger housing to external ground.
<b>Breaker</b>	Breaker (3P+N) with suitable current capacity depending up on the charger rating to be provided. This shall be in accordance with NEC, typically 1.25 X Full Load Amperage.
<b>Miscellaneous</b>	Copper lugs (Flat type) for input cable and earth cable should be provided based on size of cable.
<b>Additional notes</b>	Do not let the flammable, explosive or flammable materials, chemicals, flammable vapors, and other dangerous goods close to charging station
	In the areas of floods, heavy rains, storms, snow, or similar harsh weather conditions, Tellus recommends a canopy for the charger for protection. The charger is IP54.
	Confirm that your installation site has a load capacity sufficient to support this equipment.
	Charge cable length depending on options will be between 13 ft and 16 ft.

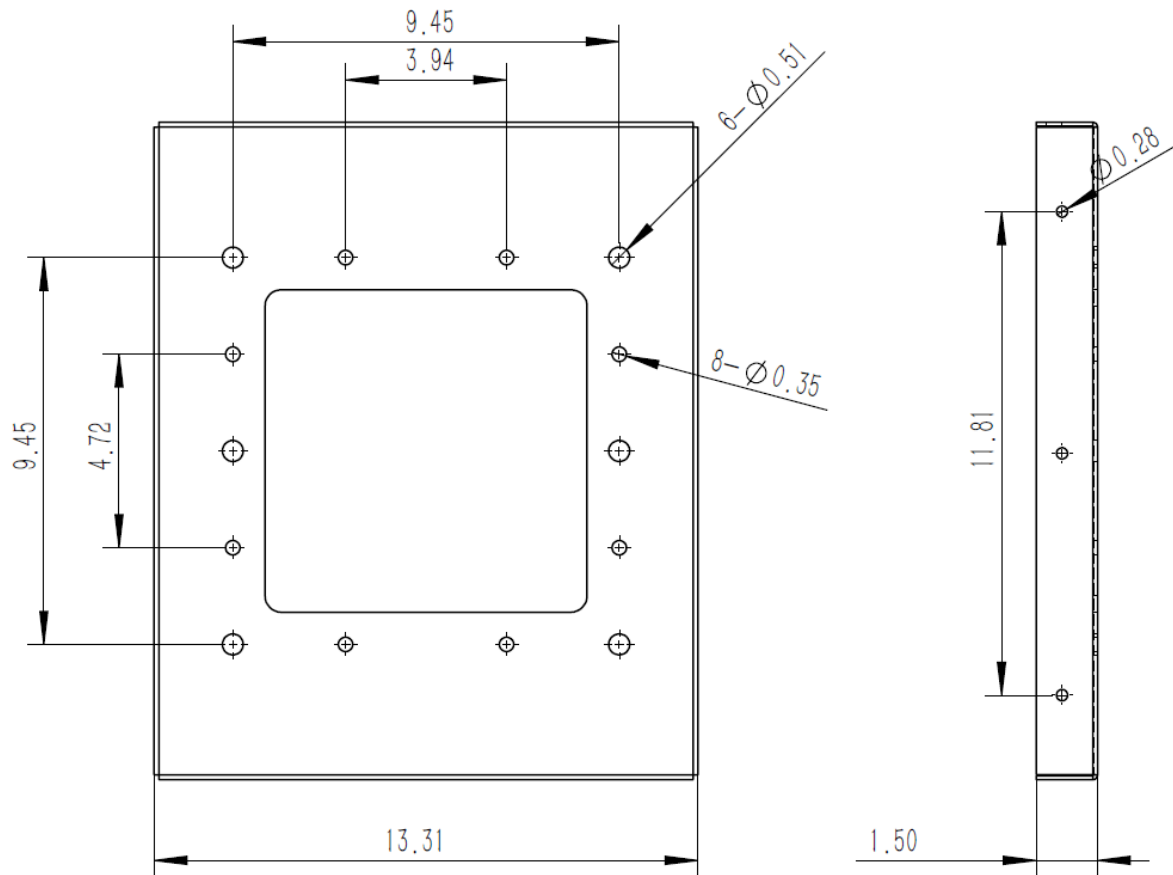
## 5. Outline Drawing of TP-EVPD-30kW DCFC



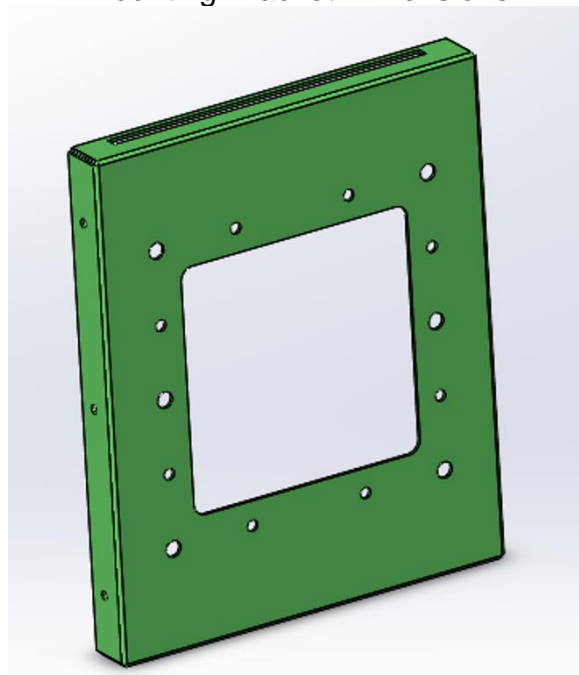
Charger Depicted to be mounted on stand. The dimensions of the bracket remains the same from wall mount and stand mount.



**30kW Charging Station Dimensions**



Mounting Bracket Dimensions



Mounting Bracket 3D View

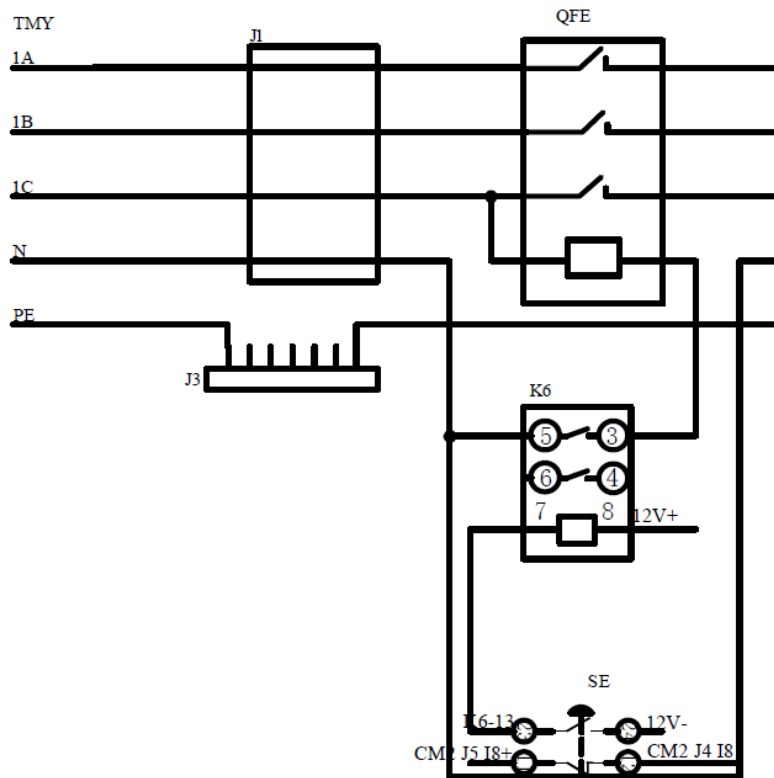
## 6. AC Input Power Wiring

Charger requires Input voltage of

380VAC, 50Hz and current of 50 Amps

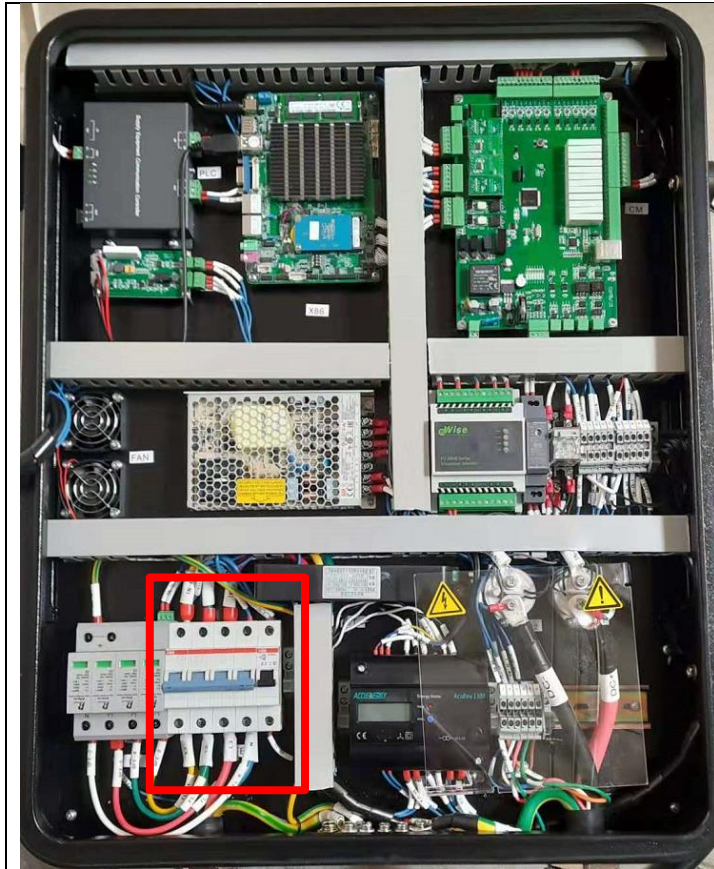
480VAC, 60Hz and current of 40 Amps

Below is the schematic diagram of the input connection of the charger.





### 6.1 AC Input Termination



Line Side Single input option (copper)	Ampere Rating per Pole
16 sq mm Or 5 AWG Please follow local codes	63

**Main Breaker**

**L1(A), L2(B), L3(C)** are the 3 Phase Lines  
**N** is the Neutral.  
**PE** is the Protective Earth or Ground

**Component Description**

4 Pole MCB

## 7. Operating Instructions

Tellus Power charger provides multiple options to operate and charge the EV. All the Tellus chargers come with a standard RFID card reader, Smart charging facility and optional Credit Card reader. Below is the screen giving various options displayed.





- Make sure the Emergency Button is turned off.
- Switch ON the Charger from Main panel.
- Switch the Main MCCB and MCB(s) within the charger
- Wait for 1 to 2 minutes to Boot the machine and check 3 icons at top corner of Charger display should appear.



This icon indicates the charger is not connected to a server network or loss of internet connectivity. If no network is connected, the station works as a stand-alone device with Tellus Power RFID cards



This icon indicates the charger is connected to a server network; it can be authorized with registered RFID cards or mobile app.



The stable icon indicates working condition of the charger. If the icon flashes or not visible on the screen, the controller is inactive.



RFID card reader is active. If the icon is not visible on the screen, the RFID reader is inactive.



## 7.1 RFID (Option – 1)

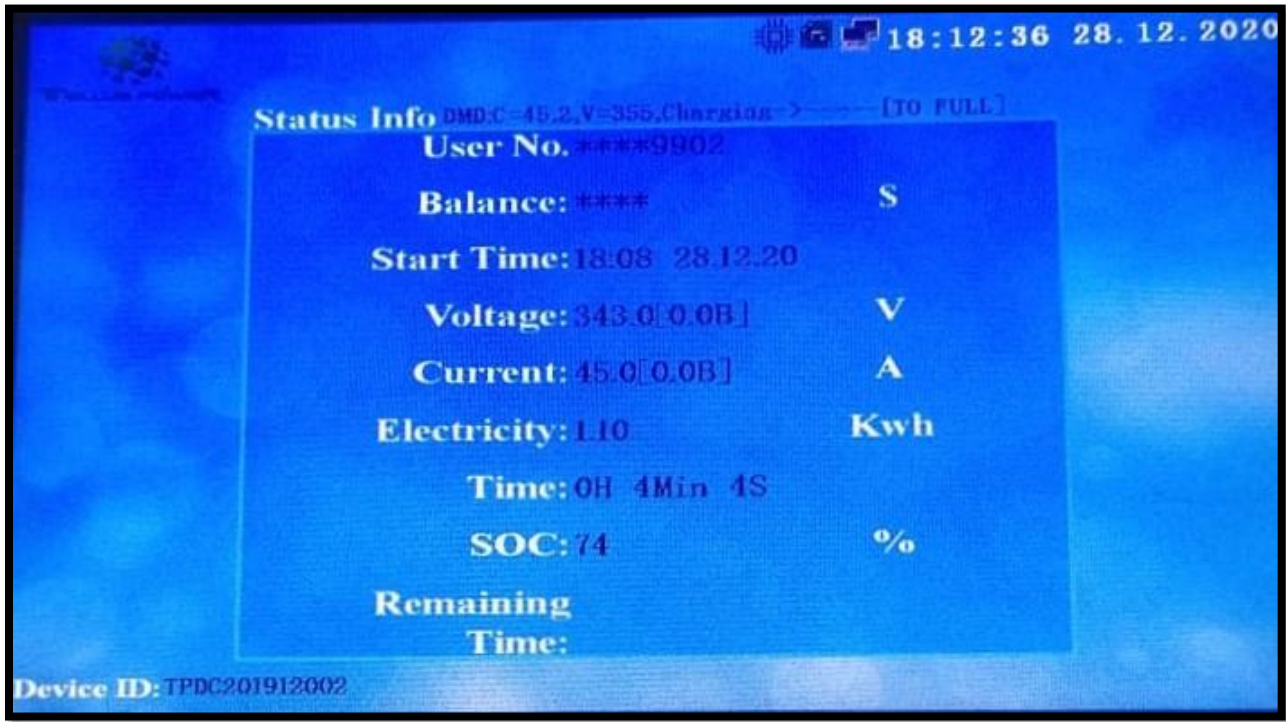
1. Please Select one from the 3 different options available on the screen
  - a. Complete Charge – 100%
  - b. Charge based on Time
  - c. Charge based on Energy
2. Connect the Gun to the EV
3. Charger display will show “Please swipe the card”
4. Swipe the registered RFID card
5. Charging will start
6. To stop the charging – Swipe the same RFID card again.

## 7.2 QR Code / Mobile App (Option – 2)

1. Please Select one from the 3 different options available on the screen
  - a. Complete Charge – 100%
  - b. Charge based on Time
  - c. Charge based on Energy
2. Connect the Gun to the EV
3. Charger display will show “Please swipe the card / Scan QR”
4. Scan the QR code or Start the charging from Mobile App

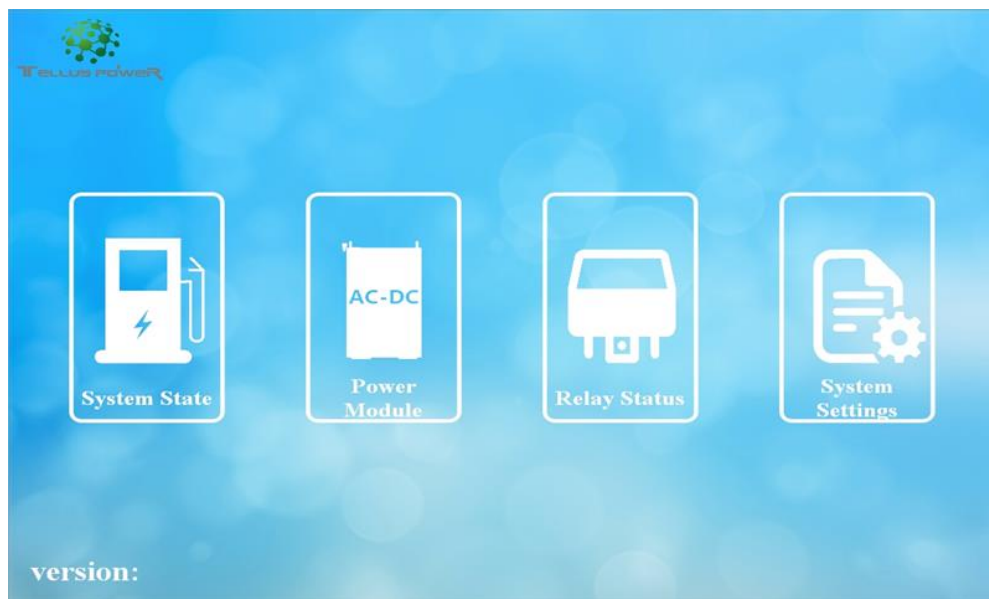


- 5. Charging will start
- 6. To stop the charging – Stop from the Mobile App.



## 8. Configuration

The system settings can be accessed from screen by touching the Tellus Power logo. Please contact Tellus Power representative for password.





S.NO	PARAMETERS	VALUE	REMARKS
1	NETWORK	ETH	Ethernet-DO NOT CHANGE
2	NETCFGFILE	/etc/network/interfaces	Path- DO NOT CHANGE
3	WLAN CONF	/home/guest/wpa_supplicant.conf	Path- DO NOT CHANGE
4	DEVICE IP	192.168.0.3	IP Address of Device
5	DEVICE GATEWAY	192.168.0.1	IP Address of Gateway
6	DEVICE NET MASK	255.255.255.0	IP Address of mask
7	SERVICE URL	<<Provide Portal Details>>	Ocpp Server URL
8	DEVICE ID	<<Provide ID >>	Device ID
9	CHARGE POINT VENDOR	Tellus power	Charger OEM- DO NOT CHANGE
10	CHARGE POINT MODEL	DC	Charger Type- DO NOT CHANGE
11	ADPATH	./pic	Path - DO NOT CHANGE
12	QRCODE NAME		NA
13	LANG	en	Path - DO NOT CHANGE
14	MODE	offline/record/upload/debug	Path - DO NOT CHANGE
15	CHARGING PIC	/img/charging_tata.jpg	Path - DO NOT CHANGE
16	IDLE PIC	/img/standby.jpg	Path - DO NOT CHANGE
17	LCM	/dev/ttyS4	Path - DO NOT CHANGE
18	LCM ENCODE TYPE	UNICODE	Encode - DO NOT CHANGE
19	LCM PASSWORD	123456	Password for access
20	RFID	RFID0=/dev/ttyS1	Path - DO NOT CHANGE
21	PLUG1	GBTDC1:3=/dev/ttyS0	Path - DO NOT CHANGE
22	DC1QRCODE NAME.		NA
23	RFID ORIGINAL NUMBER	1	NA
24	POWERSUPPLY	4	Power Settings-DO NOT CHANGE
25	PSMQUANTITY	1	Power Settings-DO NOT CHANGE
26	POWEROUTMODE	POWEROUTMODE 0	Power Settings-DO NOT CHANGE
27	PSMMAXVOLTAGE	750	Power Settings-DO NOT CHANGE
28	PSMMAXCURRENT	80	Power Settings-DO NOT CHANGE
29	PSMMIDVOLTAGE	300	Power Settings-DO NOT CHANGE
30	PSMMIDCURRENT	20	Power Settings-DO NOT CHANGE
31	PSMMINVOLTAGE	50	Power Settings-DO NOT CHANGE
32	PSMMINCURRENT	0	Power Settings-DO NOT CHANGE
33	PMAX	30000	Power Settings-DO NOT CHANGE

## 9. Maintenance or Service

### DANGER

**READ AND FOLLOW THE “SAFETY CONCERNS” AT THE BEGINNING OF THIS MANUAL BEFORE USING THIS DEVICE**

EV Charging Stations require regular maintenance beyond installation to ensure the quality of the vehicle’s charge, and the continued value of your electric vehicle. Whether you’re installing a personal EV charger, or a public one for use, eventually you will require repair or maintenance services to keep your system working without flaws.

### 9.1 Maintenance Precautions

Each of the capacitors in this device have a high voltage for a time after shutting off the input power supply. Allow 1 minute after powering down before servicing internal components.

### 9.2 Maintenance Items

Perform periodic checks every 3 to 6 months based on the site conditions and the usage of the charging station.

1. Check the input voltage and ensure it is within the acceptable limits.
2. Check the Ground / Earth resistance and ensure it is within the acceptable limits
3. Clean the Air Filter periodically
4. Make sure that Power Module lights are blinks green
5. Ensure the charging cables are not worn out and gun pins are clean.
6. Make sure all the air-cooling fans are working normally.

### 9.3 Visual Check Items

1. Check for abnormal sound from running fans and power units. If there is abnormal sound, please contact **Tellus** +1 949 534 3000 for further assistance.
2. Check for abnormal odor, changes of inner materials, corrosion, anomaly in appearance, etc., in this device. If there are any anomalies, please contact a **Tellus service** representative for further assistance.
3. Check for dust and dirt in this device regularly. The air filters on the doors can be removed and cleaned using a vacuum cleaner or air blower. The cabinet can be cleaned using a vacuum cleaner. The dust on the components can be cleaned using a soft cloth. Please pay extra attention while using the vacuum cleaner, it should not apply pressure on the control boards or any components.

### 9.4 Replacement of Fixed-Life Components

To prevent the device from failure due to worn out components, it is necessary to replace the components before they reach the end of their lifespan. Use the following replacement intervals as



a guideline for the estimate of the total running time. Please contact a **Tellus service** representative for further assistance when you replace the parts.

- Intake and exhaust air filters (if present): Approximately three (3) years. The period depends upon the site conditions.
- Please keep in mind that the replacement interval of each part can vary depending on, for example, the usage environment of the device.



## 10. Trouble shooting

### 10.1 Error Codes

If an error occurs, check the nature of the error by referring to following “Error Code List” and take appropriate actions according to instructions by the manufacturer

ERROR	DESCRIPTION	POSSIBLE SOLUTION
ERROR FLAG 0	Lightning protection device failure	Check the SPD and GFCI circuit
ERROR FLAG 1	Insulation detection abnormal	The insulation check on the EV has failed. Please try to charge different EV.
ERROR FLAG 2	Abnormal communication between Insulation Monitor and Main Control Board (CM)	Please check the connection between the IM and CM boards. Check the LED lights on the CM and IM
ERROR FLAG 3	Abnormal communication between TR board and CM board	Please check the connection between the tr and cm boards. Check the LED lights on the CM and TR
ERROR FLAG 4	Electronic lock failure	Possible failure of the gun to lock on the EV or the 24v supply voltage
ERROR FLAG 5	Internal use	Reserved
ERROR FLAG 6	Abnormal communication between DC meter and Main Control Board (CM)	Please check the connection between the DC and CM boards. Check the LED lights on the CM and communication lines of DC meter.

### 10.1 Fault information table

Fault type	Solution
IP address communication failure or Server Communication Failure	Please check the parameter settings interface IP address information, such as the corresponding IP address is not correct, please re-enter the address, restart the charging station
AC input over voltage / under voltage	Please check the AC input side of the voltage is too high or too low, excluding the input exception if there is a fault, and then check the parameters set the interface set the threshold is correct
DC output over voltage / over current	Please check whether the output voltage and current are within the range of parameter settings. If not, please check whether the output voltage, current is too high, or whether the parameter setting is reasonable

Card reader failure	The card reader is incorrectly wired, or the card reader is disabled.
Insulation fault	Please check whether the DC bus insulation is normal.
Monitoring board communication failure	Check whether the monitoring board communication line is correct
Charging gun connection failure	Charging gun connection disconnected, please check whether the charging gun is connected properly.
The emergency stop button is pressed	Check whether the emergency stop button is pressed, if it is, inspect the charger and if everything is normal, release the emergency button and restore the main breaker
Charging Session shutdown is not successful	MCU board and power module communication failure. Please press emergency stop button to stop the charging. Check the MCU board and power module CAN communication bus.

## 11. Customer Responsibilities

1. To operate the charge station with the required protective devices such as MCBs and switches and proper cables installed.
2. The operator/owner/customer is cautioned that any changes or modifications not approved by Tellus shall void Tellus warranty policy
3. To write an emergency plan that instructs people what to do in case of emergency.
4. To locate and prepare the site as per the instructions laid out in this document.
5. To make sure that there is sufficient space around the charger to carry out any regular maintenance work.
6. To appoint a trained person(s) responsible for the safe maintenance/service of the charge station.
7. Neither Tellus nor any of its affiliates shall be liable to the operator/owner/customer of this product or third parties for damages, losses, costs or expenses incurred by as a result of: an accident, misuse or abuse of this product or unauthorized modifications, repairs or alterations to this product, or failure to strictly comply Tellus operating and maintenance instructions.

## 12. Product Warranty

Tellus Power Green offers various products of EV Chargers. The products include AC and DC Fast Chargers with single and dual connectors with different charging standards depending upon the customer's choice.

- Tellus Power products are covered by a warranty against the manufacturing defects.
- Under this guarantee, Tellus liability is limited to repair or replacement of the product with the same or equivalent, or reconditioned product warranted for 90-days or the balance of the original warranty whichever is longer.
- The warranty will not include removal costs, transportation costs, insurance costs, re-installation costs, loss of charging station revenue, nor loss or damage of any kind whatsoever, whether incidental, consequential or otherwise.

### EXCLUSIONS FROM LIMITED WARRANTY

**IMPORTANT:** The Limited Warranty and on your Product shall not apply to defects, or service repairs, resulting from any of the following:

- Damages due to normal wear and tear to charging cords, connectors, LCD/LED display, Touch Screen, or any product alteration or modification, misuse, abuse, accident, vandalism, acts of nature, power surges, or use of software, parts, or supplies not supplied by Tellus, and causes other than manufacturing defects not covered by the warranty.
- Force Majeure – any occurrence or extraordinary event or circumstance beyond the control of Tellus Power Green that is an act of God or whether that occurrence is caused by war, riot, storm, (such as hurricane, flooding, earthquake, volcanic eruption, etc.), or other natural forces, including high input voltage from generators or lightning strikes or acts of nature or other causes.
- Any Alteration or Modification of the Product in any way not approved in writing by Tellus Power Green
- Abuse, damage or otherwise being subjected to problems caused by negligence (including but not limited to physical damage from being struck by a vehicle) or misapplication, or misuse of the Products by customers or end users.
- Any damage to the EV charger cord, unless such damage is caused by a manufacturing defect in the cord or connector assembly.
- Improper site preparation or maintenance.
- that has been improperly installed, operated, handled or used, including use under conditions for which the product was not designed, use in an unsuitable environment, or use in a manner contrary to the Tellus Installation and Operations Manual or applicable laws or regulations;
- Damage as a result of accidents, extreme power surge, extreme electromagnetic field.
- Use of the Product with software, interfacing, parts or supplies not supplied by Tellus Power Green.
- Tellus disclaims any liability for damage to product, property, or personal injury resulting in whole or in part, from improper installation, maintenance or use that is not in accordance with Tellus installation and maintenance procedures.
- Maintenance or use that is not in accordance with Tellus installation and maintenance procedures that has been subjected to incidental or consequential damage caused by defects of other components of the electrical system.

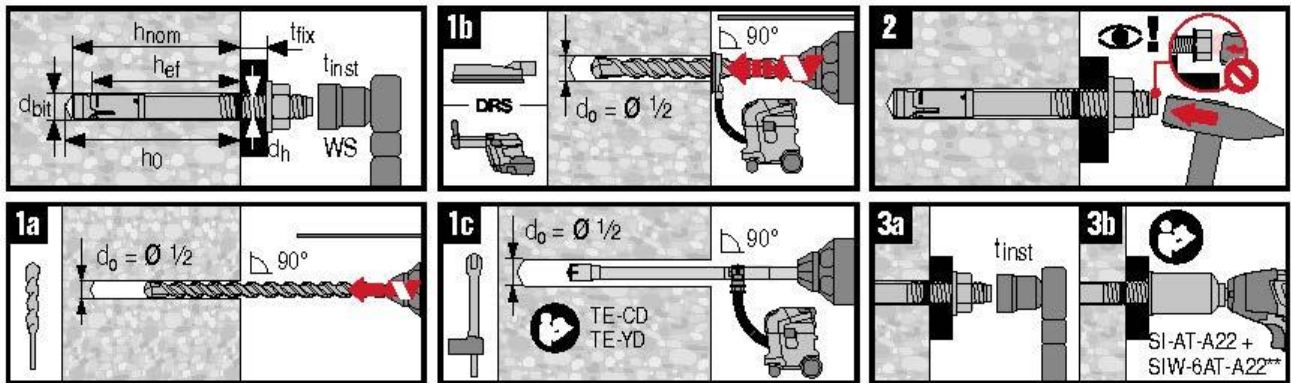
**This document is Property of Tellus Power Green. and should not be copied, reproduced, or used as the basis for sale or manufacture of apparatus without TPG's written permission**

### 13. Appendix



1/2"  
KB-TZ, KB-TZ SS 304,  
KB-TZ SS 316

2143081 A4-10.2019



Anchor diameter	[inch]	1/2							
d <sub>bit</sub>	[inch]	1/2							
Anchor Length	[inch]	3 3/4	4 1/2		5 1/2		7		
h <sub>ef</sub>	[inch]	2	2	3 1/4	2	3 1/4	2	3 1/4	
min. h <sub>nom</sub>	[inch]	2 3/8	2 3/8	3 5/8	2 3/8	3 5/8	2 3/8	3 5/8	
min. h <sub>0</sub> <sup>***</sup>	[inch]	2 5/8	2 5/8	4	2 5/8	4	2 5/8	4	
T <sub>inst</sub>	[ft-lb]	40	40		40		40		
T <sub>inst</sub> (Masonry)	[ft-lb]	25	25		25		25		
d <sub>h</sub>	[inch]	9/16	9/16		9/16		9/16		
WS (Wrench Size)	[inch]	3/4	3/4		3/4		3/4		
max. t <sub>fix</sub>	[inch]	7/8	1 5/8	3/8	2 5/8	1 3/8	4 1/2	3 1/4	

Use only carbide-tipped masonry drill bits complying with ANSI B212.15.1994

\*\* Adaptive torque (AT) system not applicable for installation in concrete masonry unit / grout filled block

\*\* AT System not applicable for wood fastening applications

\*\*\* For a non-hole cleaning installation (step 1a or 1b), make sure to drill deep enough to achieve h<sub>0</sub>, taking into account the depth of debris remaining in the hole



**TELLUS POWER GREEN**

# **Installation Manual**

## **60kW DC Charger**

### **Model # TP-EVPD-60kW**



<p><b>Please Note</b></p>	<p>Tellus Power Green reserves the right to make change as necessary to comply with change in the industry and due to errors and omissions to ensure a safe and reliable installation.</p> <p>Please call our customer support line 949-534-3000 if there are any questions related to installation or operation of this equipment.</p>
<p><b>Confidentiality</b></p>	<p>The material contained in this document represent proprietary and confidential information pertaining to services and methods of Tellus Power Green. (Hereafter referred to as “Tellus” or “Tellus Power”). By reading this document, you agree that the information shall not be disclosed outside of and shall not be duplicated, used, or disclosed for any purpose other than what it was created for.</p>

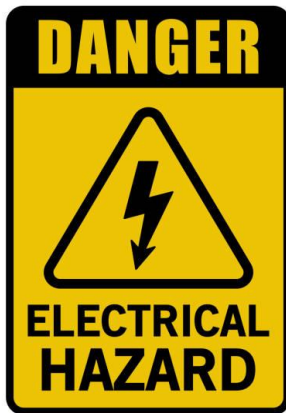
**This manual covers the electrical and mechanical installation procedure for the Tellus TP-EVPD-60kW charger. The operations and programming manual are separate. The model hosts different voltage and connector configurations. Below are different product numbers.**

TP3-60-480-1	Max Voltage: 500VDC; Connectors: CCS1 and CHAdeMO
TP3-60-480-2	Max Voltage: 500VDC; Connectors: CCS1 and CCS1
TP3-60-480-3	Max Voltage: 500VDC; Connectors: CCS1
TP5-60-480-1	Max Voltage: 1000VDC; Connectors: CCS1 and CHAdeMO
TP5-60-480-2	Max Voltage: 1000VDC; Connectors: CCS1 and CCS1
TP5-60-480-3	Max Voltage: 1000VDC; Connectors: CCS1

# TABLE OF CONTENTS

CRITICAL SAFETY .....	4
INSTALLATION.....	5
Drawing of TP-120-480 DCFC .....	7
STATION ANATOMY .....	9
<i>Front Panel</i> .....	9
<i>Charger Components</i> .....	10
MECHANICAL INSTALLATION .....	12
CHARGER INSTALLATION.....	13
<i>AC Input Power Wiring</i> .....	14
<i>AC Input Termination</i> .....	14
OPERATING INSTRUCTIONS .....	15
HOW TO START A CHARGING SESSION .....	16
CHARGER SETTINGS .....	17
MAINTENANCE AND SERVICE .....	18
TROUBLESHOOTING .....	19
CUSTOMER RESPONSIBILITIES .....	20
WARRANTY.....	21
Appendix .....	22

# CRITICAL SAFETY






## READ THE ENTIRE MANUAL BEFORE DESIGNING OR INSTALLING EQUIPMENT

### **WARNING**

This unit is a high-powered electrical device and can be hazardous if improperly installed, serviced, or operated. Failure to follow procedures in this manual could result in extreme hazard to personnel and/or damage to the equipment and related infrastructure. In addition, the installation, service, and maintenance need to comply with local codes and the Authority Having Jurisdiction (AHJ).

### **IMPORTANT SAFETY INSTRUCTIONS**

The symbols used are international icons used to depict various levels of caution when installation, servicing or maintaining the equipment. Same symbols will also appear on the equipment for identifying caution levels required when access certain areas of the charger.

	<b>DANGER</b>	High voltage danger label to keep people safe from electrical discharge, which could result in injury or potential death.
	<b>WARNING</b>	Warning icon represents hazard, that could result in severe injury or possibly death.
	<b>GENERAL CAUTION</b>	Caution icon represents a potential hazard or unsafe practice that could result in injury



### **SERVICE WARNING**

There are no serviceable items inside the equipment. There is high voltage inside the equipment which could cause severe injury or death. Do not attempt to repair the charge station yourself. This can only be performed by factory qualified personnel.



### **CHARGING CABLE DAMAGE**

Do not operate the charger if the charging cable is damaged or if there are exposed wires in the charging cord assembly. Shut off power at the electrical disconnect or at the breaker. Then immediately contact Tellus service. If there are any questions, please contact customer service.



# INSTALLATION

## SAFETY INSTRUCTIONS

Read the entire installation instructions before designing the installation and prior to installation. This equipment should be installed by a journeyman level electrician. Local building codes need to be complied with. In most jurisdictions the installation of this equipment requires plan check, building and electrical permits. Verify with the local Authority Having Jurisdiction prior to starting construction.

The charging station relies on the grounding system for safety. All grounding instructions should be strictly adhered to as prescribed in this manual and any applicable electrical safety requirements, all local electrical safety codes, and NEC.



### HIGH VOLTAGE EQUIPMENT:

This charging system contains both AC and DC high voltage circuitry and devices and should only be installed by a qualified electrician trained to work on high voltage, high current AC and DC systems.

### ADA Consideration

This equipment has been designed to meet ADA requirements when installed as prescribed in this manual and in accordance to the STANDARDS FOR ACCESSIBLE DESIGN for Americans with Disabilities document, 2010 ADA Standards for Accessible Design: [http://www.ada.gov/2010ADASTandards\\_index.htm](http://www.ada.gov/2010ADASTandards_index.htm)

Parking space, allowances for wheelchair movement, charger, bollards, and parking stops are defined in several publicly available EV charger installation recommended practices documents incorporating the ADA requirements. <http://www.ada.gov> \*For information about the ADA, including the revised 2010 ADA regulations, please visit the Department's website [www.ADA.gov](http://www.ADA.gov); or, for answers to specific questions, call the toll-free ADA Information Line at 800- 514-0301 (Voice) or 800-514-0383 (TTY).

## ADDITIONAL CAUTIONARY NOTES



### WARNING

Do not have power on while any of the maintenance doors are open unless proper personnel protection equipment is worn.

Only trained personnel should be working in this equipment while the doors are open, and the unit is powered on.



### WARNING

There are high voltage and high-capacity energy storage components on this system. There are components and circuits that remain charged for some time (1 to 2 minutes) with high voltage power, even after main power is disconnected. Always test with a voltmeter before any maintenance or service is performed.

*This manual covers the electrical and mechanical installation procedure for the Tellus TP-120-480 charger.*

**Tellus Power Green**  
**TP-60-480**  
 Specifications



Product Number	TP3-60-480	TP5-60-480
Input	480VAC (3P+N+PE)    60Hz	
Output Voltage	150-500VDC	150-1000VDC
Output current	0 to 140A	
FLA    Breaker Rating	80A    100A	
Connectors	CCS1 CCS1 and CCS1 CCS1 and CHAdeMO	
Cyclic Charge Mode	CCS1 - 140A    CHAdeMO – 125A	
Parallel Charge Mode (Optional)	30 kW per Port	
Efficiency	≥94% at nominal output power	
Power factor	> 0.98	
Operating temperature	-22°F to 131°F (-30°C to 55°C)	
Altitude	6500' (2000m)	
Working    Storage Humidity	≤ 95% RH    ≤ 99% RH (Non-condensing)	
Display	7" LCD with touch screen	
RFID system	ISO/IEC 14443A/B	
Dimensions (L x D x H)	29" x 19" x 72"	
Protective Class	NEMA 3S, IK10	
Cooling system	Air cooling fans	
Weight	530 lbs (240kgs)	
Compliance	UL and CE Certified	
DC Charge System	Mode 4 - IEC-61851, ISO-15118, DIN 70121 Mode 4 - CHAdeMO 0.9, 1.0	
Length of charging cable	16ft (5m)	
Interface protocol	OCPP 1.6J	
Optional	Credit Card Reader, 3G/4G Modem (Optional)	
Electrical Safety: GFCI	RCD 20 mA Type A	
Electrical Safety: Surge Protection	20 kA	
Electrical Safety General	Over Voltage, Under Voltage, Over Current, Missing Ground	
Electrical Safety: Output Short	Output power disabled when output is short circuited	
Electrical Safety Temperature	Temperature Sensors @ Charge Coupler and Power Electronics	
Emergency Stop	Emergency Stop Button Disables Output Power	
Regulatory Compliance	UL-2202    EMC: EN 61000-6-1:2007, EN 61000-6-3:2007/A1:2011/AC:2012	

# INSTALLATION OVERVIEW

<b>Electrical Input Requirements</b>	<p><b>Input voltage: 480 VAC (3 Phase + Neutral + Earth), 60Hz</b></p> <p><b>Full Load Amperage: 80 Amps (At Rated power)</b></p> <p><b>Breaker Capacity: 100 Amps</b></p>
<b>Location</b>	<p>This charging stations has 4 doors i.e. Front, Rear, Left and Right. Clear 24" distance on the four sides of a charger to be maintained for air circulation for cooling and opening panel for maintenance.</p> <p>Flat Concrete Base with vertical gradient not more than 5% will be provided and a provision for electrical service wires to exit the concrete pad in the location as defined in this document.</p> <p>Charger Dimensions (L x D x H): 29 x 19 x 72 inches</p>
<b>Mounting Pad</b>	<p>Mounting pad shall be of concrete cement with approximate dimensions of 3 ft wide x 2 ft deep, to accommodate the weight and dimensions of the base. Place the charger on the concrete mounting pad with anchor studs using lock washers and nuts.</p> <p>For ADA requirements, the concrete mounting pad shall not exceed 6 inches above the plane of the parking lot.</p> <p>For relocation / lifting – Forklift or crane can be used, provision has been made for this.</p>
<b>Barricade (Bollards)</b>	<p>Suitable bollards should be provisioned to restrict approach of EV to the charger, EV shall be at in accordance with local code.</p>
<b>Cables</b>	<p>Input Cables must be Copper (3P+N). Flexible copper is preferred. Please see the table below in next section for the cable gauge.</p> <p>Depending on the situation and cable type, the cables must be embedded in the ground with proper cable duct.</p>
<b>Grounding</b>	<p>Reliable protective grounding must be provided. It is recommended to have separate dedicated ground exclusively for the charger considering the safety aspects. The ground resistance should be less than or equal to 4Ω. Copper cable of in accordance with NEC shall be used to connect charger housing to external ground.</p>
<b>Breaker</b>	<p>Breaker (3P+N) with suitable current capacity depending up on the charger rating to be provided. This shall be in accordance with NEC, typically 1.25 X Full Load Amperage.</p>
<b>Miscellaneous</b>	<p>Copper lugs (Flat type) for input cable and earth cable should be provided based on size of cable.</p>
<b>Additional notes</b>	<p>Do not let the flammable, explosive or flammable materials, chemicals, flammable vapors, and other dangerous goods close to charging station</p> <p>In the areas of floods, heavy rains, storms, snow, or similar harsh weather conditions, Tellus recommends a canopy for the charger for protection. The charger is IP54.</p> <p>Confirm that your installation site has a load capacity sufficient to support this equipment.</p> <p>Charge cable length depending on options will be between 13 ft &amp; 16 ft.</p>

# OUTLINE OF DRAWING TP-60-480 DCFC

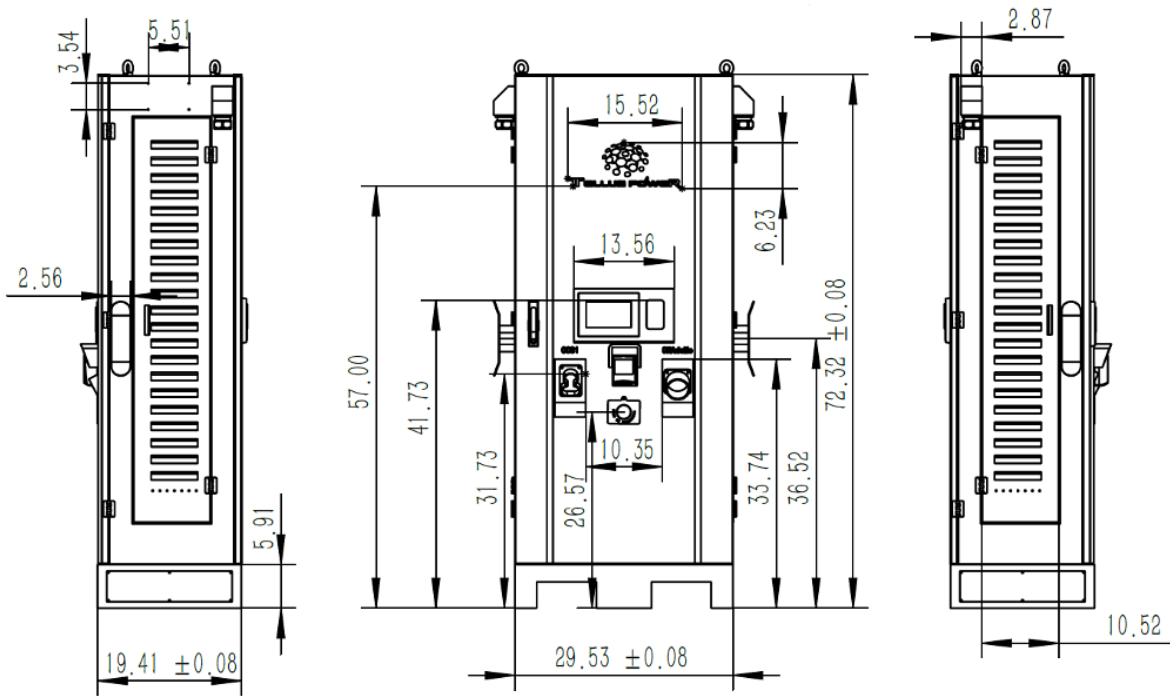


Figure 1 Charger Outline

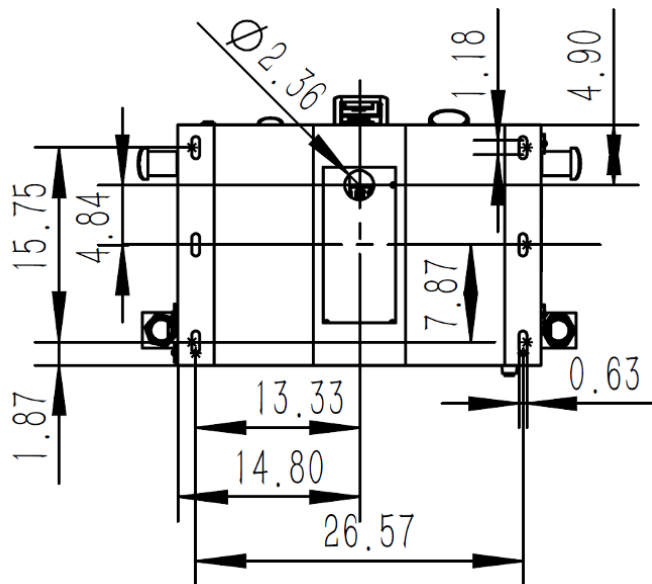


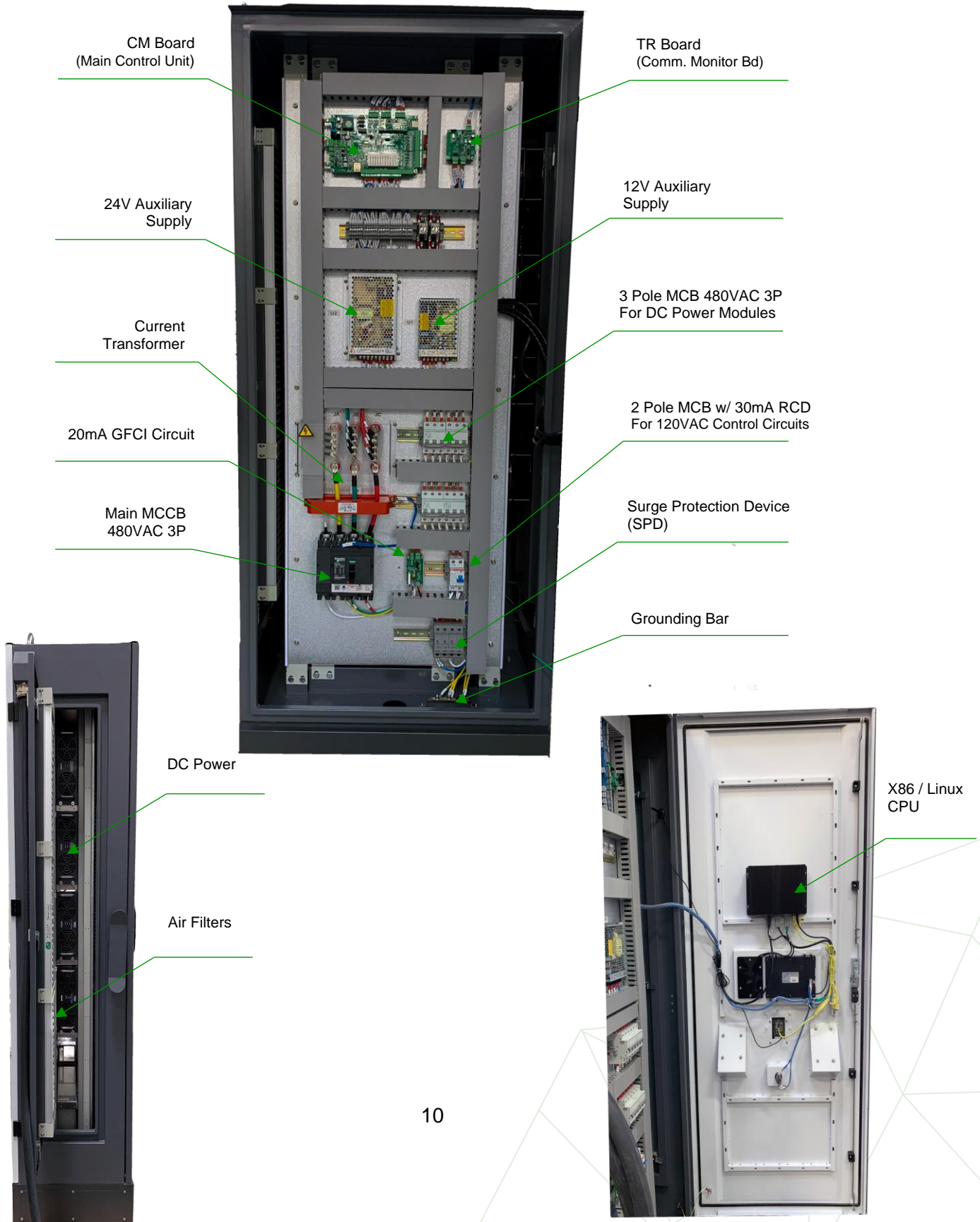
Figure 2 - Charger Bottom View

# STATION ANATOMY

## Front Panel



## Charger Components





SECC

High Voltage DC Relays  
CHAdeMO (2 on the left)  
CCS (2 on the right)

DC Meter

Insulation Monitor

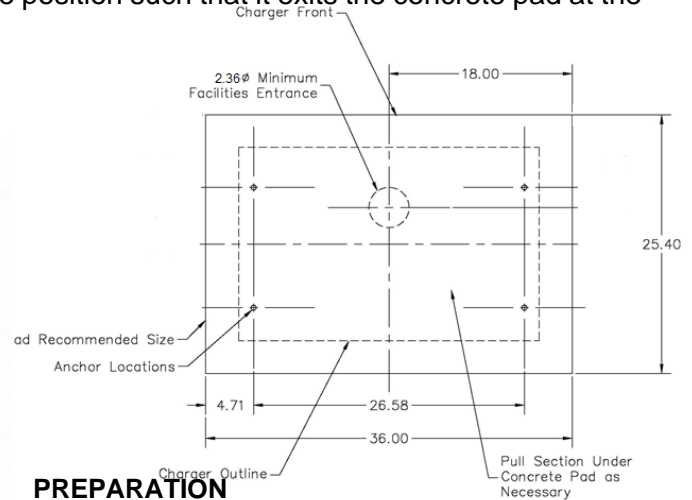
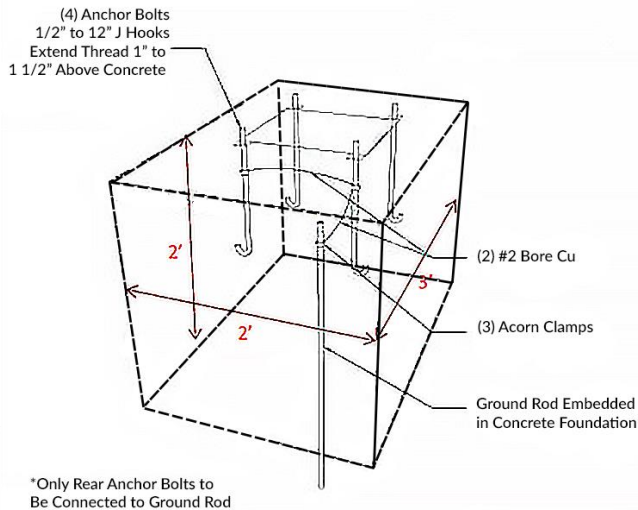


Power Converters  
(Back Side)

# MECHANICAL INSTALLATION

## CONCRETE PAD

Concrete pad using 3,000 to 4,000 psi concrete should be used. Dimension of concrete pad is shown below. Electrical for AC power should be positioned such that it exits the concrete pad at the Main AC Power Line Opening (See Figure 2).



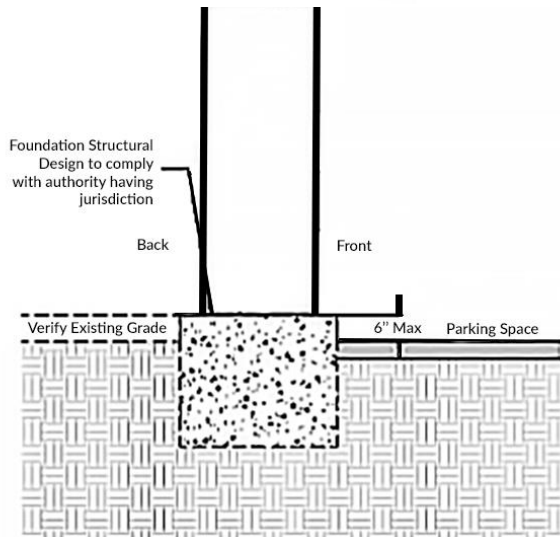
## PREPARATION

**Ground Rod Connection:** Use acorn clamps to install (2) #2 bare Cu wire from the ground rod to the first rear anchor bolt as shown on the diagram.

## SIDE ELEVATION

Important to note:

- The Concrete foundation needs to be sized in accordance with local jurisdiction. The foundation referenced is 2' deep and contains rebar as noted above.
- The foundation for the charger should have a maximum height of 6" above finished grade. Finished grade is defined as where the consumer operating the charger will stand. Foundations that extend higher than 6" above finished grade will cause the charger controls to be above ADA Compliant maximum standards and could result in a failed inspection and possible requirement to lower the foundation to meet ADA Guidelines.



## Alternative Anchor Installation – 4 places

Use Hilti 1/2" KB-TZ SS 304 anchors see Appendix A Hilti Technical Information. Ensure that the concrete has cured in accordance with the concrete and Hilti requirements. Position of anchors in shall be in accordance to figure 6.1 and install per Hilti instructions. A Ground rod will needed and installed.

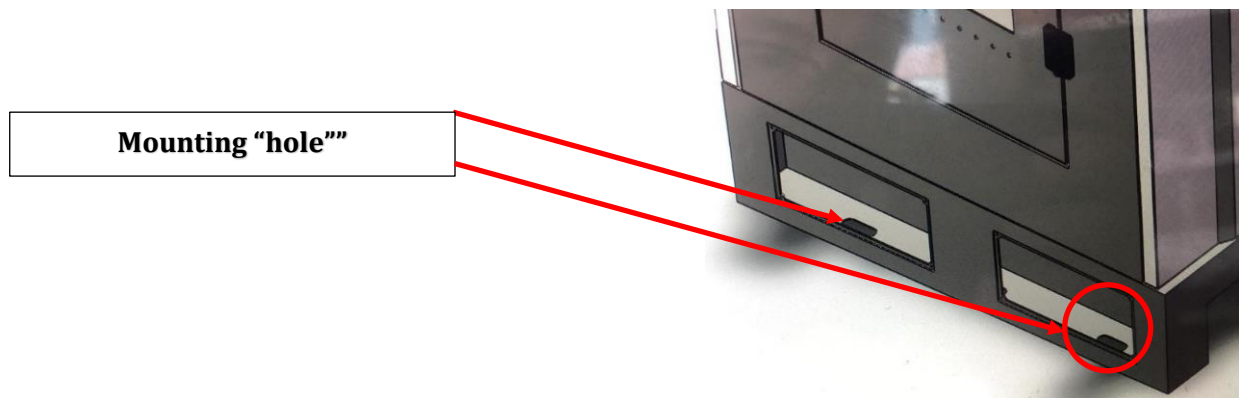


# CHARGER INSTALLATION

## PLACING CHARGER ON MOUNTING PAD

A forklift will be required to move the charger into position. The charger with the crate will weigh 600lbs. The charger without the crate weighs 530 lbs. To lift the charger, use either the forklift cut-outs in the lower frame of the charger or the lifting eyes at the top of the charger.

Remove the screws that hold the 2 cover plates on the right and left side of the base. Before lifting the charger onto the Mounting Pad, remove side cover plates which will expose the slotted mounting holes. With the forklift place the charger in position and lower it to the mounting pad while aligning the mounting pad studs with the slotted holes in the base and ensuring that the electrical service also passes through the 4" cut out in the floor of the charger.



*\* Side covers removed, showing the slotted mounting holes*

Install a large  $\frac{1}{2}$ " flat washer, followed by a  $\frac{1}{2}$ " split washer, and then fasten down the appropriate nut and torque to Hilti specification. Remove the lifting eyes and plug the threaded holes in the charger enclosure with appropriate fasteners and then seal with silicon.

Re-install the side cover plates.

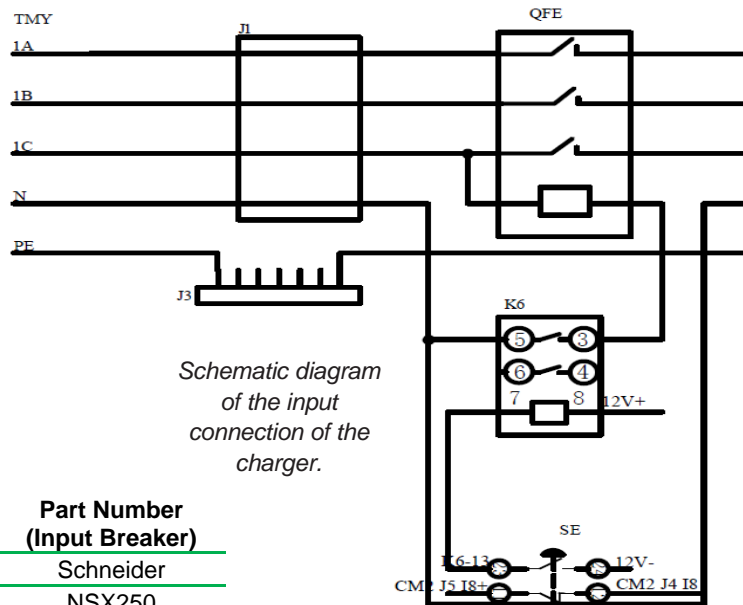
## INSTALL BASE FASTENERS - 4 PLACES

Install  $\frac{1}{2}$ " x 1" x  $\frac{1}{8}$ " thick washer, then the  $\frac{1}{2}$ " lock washer and the 1/2-13 UNC nut and torque to Hilti specification.

## AC Input Power Wiring

### INPUT VOLTAGE

The Charger requires an Input voltage of 480 VAC (3 Phase + Neutral + Earth), 60Hz and current of 80 Amps.



Line Side Single input option	Ampere Rating per Pole	Part Number (Input Breaker)
Wire Range AWG		Schneider
1/0	100	NSX250 690VAC, 160A, 4P, 36kA

## AC Input Termination

### COMPONENTS

L1, L2, L3 are the 3 Phase Lines  
N is the Neutral.

PE is the Protective Earth or  
Ground

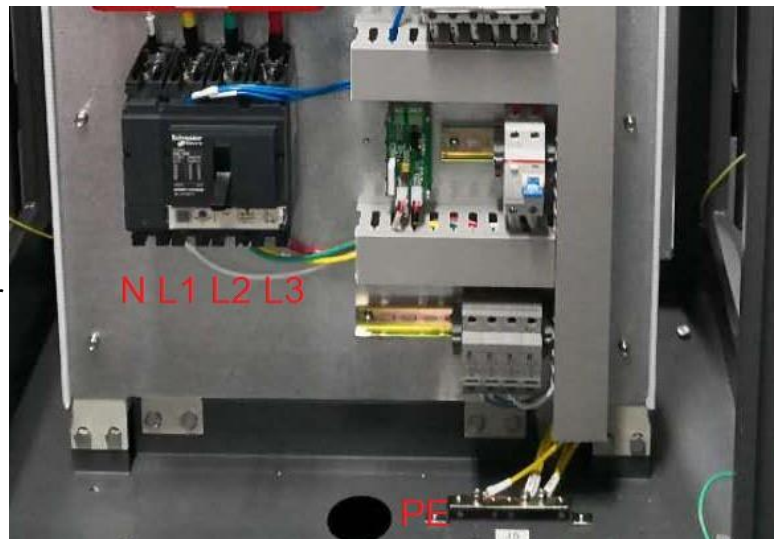
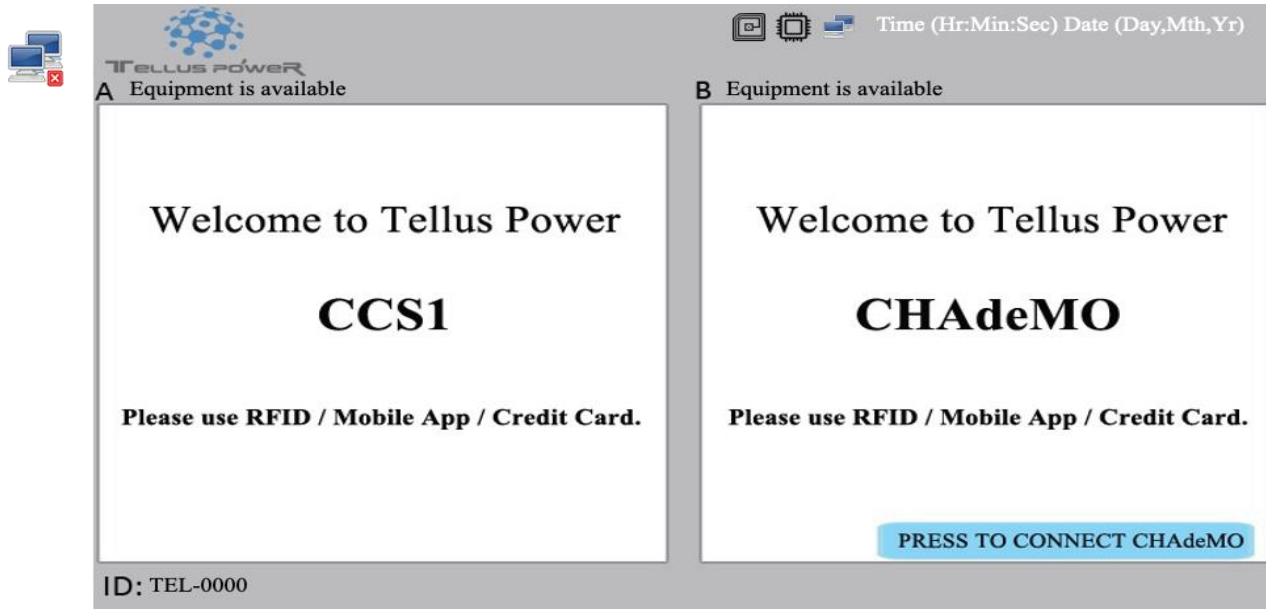


Figure 3 - Main Breakers

# OPERATING INSTRUCTIONS



This icon indicates the charger is not connected to a server network or loss of internet connectivity. If no network is connected, the station works as a stand-alone device with Tellus Power RFID cards.



This icon indicates the charger is connected to a server network; it can be authorized with registered RFID cards or mobile app.

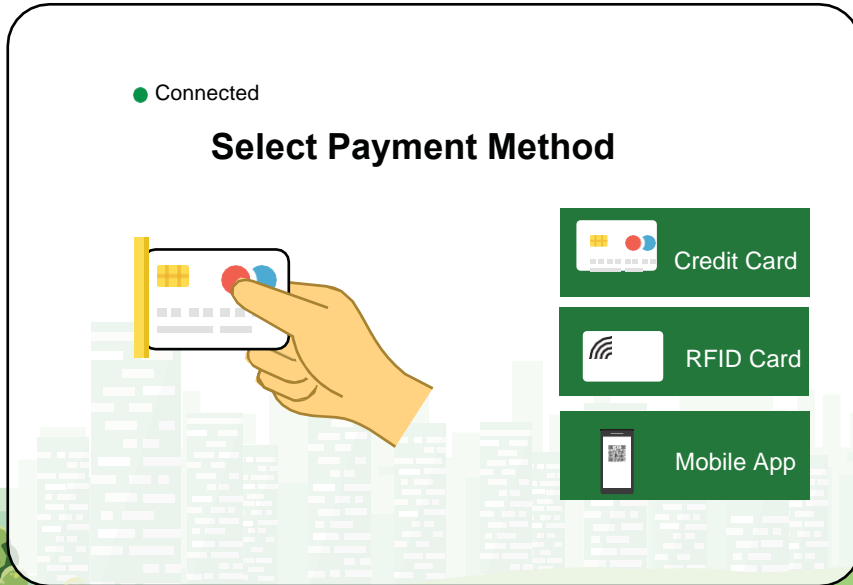


The stable icon indicates working condition of the charger. If the icon flashes or not visible on the screen, the controller is inactive.



RFID card reader is active. If the icon is not visible on the screen, the RFID reader is inactive.

# HOW TO START A CHARGING SESSION



## RFID CARD

01

- 1) Please select the connector compatible to your EV
- 2) Plugin the connector, and for CHAdeMO press the "Please to Connect CHAdeMO".
- 3) Charger display will show "Please swipe the card".
- 4) Swipe the registered RFID card.
- 5) Charging session will begin within 60 seconds.
- 6) To stop the charging – Swipe the same RFID card again or use STOP button on screen.

## QR CODE / MOBILE APP

02

- 1) Please select the Gun compatible to your EV.
- 2) Plugin the connector, and for CHAdeMO press the "Please to Connect CHAdeMO".
- 3) Charger display will show "Please swipe the card / Scan QR".
- 4) Scan the QR code or start the charging from Mobile App.
- 5) Charging session will begin within 60 seconds.
- 6) To stop the charging – Stop from the Mobile App or use STOP button on screen

## CREDIT CARD

03

- 1) Please select the Gun compatible to your EV.
- 2) Plugin the connector, and for CHAdeMO press the "Please to Connect CHAdeMO".
- 3) Charger display will show "Please swipe the card / Scan QR".
- 4) Authorize your credit card. Make sure you have enough balance on the card to charge.
- 5) Charging session will begin within 60 seconds.
- 6) Charging will automatically stop after the 100% charge or use STOP button on screen.

During the charging process, a real-time data output of the charging process on the screen appears. At any point of time, charging session can be stopped using Stop button on the screen or Emergency Stop button.

# CHARGER SETTINGS

## SETTING PARAMETERS

During the initial installation, the setting parameters must be set by the manufacturer or the operating partner, or the service partner. Changes may only be made by trained specialist personnel.

The setting window can be accessed by following steps.

- 1) Touch the Tellus Power Logo.
- 2) Provide the Password. Password will be shared to the authorized representative.
- 3) Select System Settings.

PARAMETER	VALUE
TIME ZONE	UTC+HH:MM
PSM QUANTITY	1
POWER OUT MODE	1
OCCUPIED PLUG	1
PSM MAX VOLTAGE	500
PSM MAX CURRENT	150
PSM MID VOLTAGE	200
PSM MID CURRENT	80
PSM MIN VOLTAGE	150
PSM MIN CURRENT	1
PMAX	20000
CCS NETWORK 1	ETH1
INSYS PLC MAC 1	00:00:00:00
TIME	2020-08-20 T20:46:25

S.NO	PARAMETERS	VALUE	REMARKS
1	NETWORK	ETH	Ethernet-DO NOT CHANGE
2	NETCFGFILE	/etc/network/interfaces	Path- DO NOT CHANGE
3	WLAN CONF	/home/guest/wpa_supplicant.conf	Path- DO NOT CHANGE
4	DEVICE IP	192.168.2.5	IP Adress of Device
5	DEVICE GATEWAY	192.168.2.1	IP Adress of Gateway
6	DEVICE NET MASK	255.255.255.0	IP Adress of mask
7	SERVICE URL	ws://localhost:8080/ocpp/	OCPP Server URL
8	DEVICE ID	1020180520001001	Device ID{can be combination of alphabets and numbers}
9	CHARGE POINT VENDOR	Tellus power	Charger OEM- DO NOT CHANGE
10	CHARGE POINT MODEL	DC	Charger Type- DO NOT CHANGE
11	ADPATH	./pic	Path - DO NOT CHANGE
12	QRCODE NAME		NA
13	LANG	en	Path - DO NOT CHANGE
14	MODE	offline/record/upload/debug	Path - DO NOT CHANGE
15	CHARGING PIC	/img/charging_tata.jpg	Path - DO NOT CHANGE
16	IDLE PIC	/img/standby.jpg	Path - DO NOT CHANGE
17	LCM	1cm=/dev/ttyS4	Path - DO NOT CHANGE
18	LCM ENCODE TYPE	UNICODE	Encode - DO NOT CHANGE
19	LCM PASSWORD	123456	Password for access
20	RFID	RFID0=/dev/ttyS1	Path - DO NOT CHANGE
21	PLUG1	GBTDC1:2=/dev/ttyS0	Path - DO NOT CHANGE
22	PLUG2	GBTDC2:2=/dev/ttyS0	Path - DO NOT CHANGE
23	DC1QRCODE NAME		NA
24	RFID ORIGINAL NUMBER	0	NA

# MAINTENANCE AND SERVICE



## **DANGER**

READ AND FOLLOW THE “SAFETY CONCERNS” AT THE BEGINNING OF THIS MANUAL BEFORE USING THIS DEVICE

EV Charging Stations require regular maintenance beyond installation to ensure the quality of the vehicle’s charge, and the continued value of your electric vehicle. Whether you’re installing a personal EV charger, or a public one for use, eventually you will require repair or maintenance services to keep your system working without flaws.

## **MAINTENANCE PRECAUTIONS**

Each of the capacitors in this device have a high voltage for a time after shutting off the input power supply. Allow 1 minute after powering down before servicing internal components.

## **MAINTENANCE ITEMS**

Perform periodic checks every 3 to 6 months based on the site conditions and the usage of the charging station.

- 1) Check the input voltage and ensure it is within the acceptable limits.
- 2) Check the Ground / Earth resistance and ensure it is within the acceptable limits
- 3) Clean the Air Filter periodically
- 4) Make sure that Power Module lights are blinks green
- 5) Ensure the charging cables are not worn out and gun pins are clean.
- 6) Make sure all the air-cooling fans are working normally.

## **VISUAL CHECK ITEMS**

- 1) Check for abnormal sound from running fans and power units. If there is abnormal sound, please contact Tellus 949-534-3000 for further assistance.
- 2) Check for abnormal odor, changes of inner materials, corrosion, anomaly in appearance, etc., in this device. If there are any anomalies, please contact a Tellus service representative for further assistance.
- 3) Check for dust and dirt in this device regularly. The air filters on the doors can be removed and cleaned using a vacuum cleaner or air blower. The cabinet can be cleaned using a vacuum cleaner. The dust on the components can be cleaned using a soft cloth. Please pay extra attention while using the vacuum cleaner, it should not apply pressure on the control boards or any components.

## **REPLACEMENT OF FIXED-LIFE COMPONENTS**

To prevent the device from failure due to worn out components, it is necessary to replace the components before they reach the end of their lifespan. Use the following replacement intervals as a guideline for the estimate of the total running time. Please contact a Tellus service representative for further assistance when you replace the parts.

- Intake and exhaust air filters (if present): Approximately three (3) years. The period depends upon the site conditions.
- Please keep in mind that the replacement interval of each part can vary depending on, for example, the usage environment of the device.

# TROUBLESHOOTING

## ERROR CODES

If an error occurs, check the nature of the error by referring to following “Error Code List” and take appropriate actions according to instructions by the manufacturer

ERROR	DESCRIPTION	POSSIBLE SOLUTION
ERROR FLAG 0	Lightning protection device failure	Check the SPD and GFCI circuit
ERROR FLAG 1	Insulation detection abnormal	The insulation check on the EV has failed. Please try to charge different EV.
ERROR FLAG 2	Abnormal communication between Insulation Monitor and Main Control Board (CM)	Please check the connection between the IM and CM boards. Check the LED lights on the CM and IM
ERROR FLAG 3	Abnormal communication between TR board and CM board	Please check the connection between the tr and cm boards. Check the LED lights on the CM and TR
ERROR FLAG 4	Electronic lock failure	Possible failure of the gun to lock on the EV or the 24v supply voltage
ERROR FLAG 5	Internal use	Reserved
ERROR FLAG 6	Abnormal communication between DC meter and Main Control Board (CM)	Please check the connection between the DC and CM boards. Check the LED lights on the CM and communication lines of DC meter.

FAULT TYPE	SOLUTION
IP address communication failure or Server Communication Failure	Please check the parameter settings interface IP address information, such as the corresponding IP address is not correct, please re-enter the address, restart the charging station
AC input over voltage / under voltage	Please check the AC input side of the voltage is too high or too low, excluding the input exception if there is a fault, and then check the parameters set the interface set the threshold is correct
DC output over voltage / over current	Please check whether the output voltage and current are within the range of parameter settings. If not, please check whether the output voltage, current is too high, or whether the parameter setting is reasonable
Card reader failure	The card reader is incorrectly wired, or the card reader is disabled.
Insulation fault	Please check whether the DC bus insulation is normal.
Monitoring board communication failure	Check whether the monitoring board communication line is correct
Charging gun connection failure	Charging gun connection disconnected, please check whether the charging gun is connected properly.
The emergency stop button is pressed	Check whether the emergency stop button is pressed, if it is, inspect the charger and if everything is normal, release the emergency button and restore the main breaker
Charging Session shutdown is not successful	MCU board and power module communication failure. Please press emergency stop button to stop the charging. Check the MCU board and power module CAN communication bus.

## CUSTOMER RESPONSIBILITIES

- 1) To operate the charge station with the required protective devices such as MCBs and switches and proper cables installed.
- 2) The operator/owner/customer is cautioned that any changes or modifications not approved by Tellus shall void Tellus warranty policy
- 3) To write an emergency plan that instructs people what to do in case of emergency.
- 4) To locate and prepare the site as per the instructions laid out in this document.
- 5) To make sure that there is sufficient space around the charger to carry out any regular maintenance work.
- 6) To appoint a trained person(s) responsible for the safe maintenance/service of the charge station.
- 7) Neither Tellus nor any of its affiliates shall be liable to the operator/owner/customer of this product or third parties for damages, losses, costs or expenses incurred by as a result of: an accident, misuse or abuse of this product or unauthorized modifications, repairs or alterations to this product, or failure to strictly comply Tellus operating and maintenance instructions.

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# WARRANTY

## Warranty and Service Plan

Tellus DC chargers comes with the 2 years parts only standard warranty. However, we offer service plans which covers parts and labor as well for an additional add-on fee. We can train your operators or engineers and equip with basic understanding of the troubleshooting and part replacement to make sure the equipment downtime as well as total cost of ownership is minimized.

## Warranty Terms

**LIMITED WARRANTY:** Subject to the exclusions from warranty coverage set forth below, Tellus warrants that the Product will be free from any defects in materials and/or workmanship (the “Limited Warranty”) for a period of two year after 30 days from the date of shipment or from date of the initial installation whichever is earlier (the “Warranty Period”). If the Product becomes defective in breach of the Limited Warranty, Tellus Power will, upon written notice of the defect received during the Warranty Period, either repair or replace, at Tellus Power’s choice, the Product if it proves to be defective. Tellus Power will also pay for shipping charges for the failed part. If the returned part has not failed the customer will pay for shipping charges for the replacement part and the associated returned part. Under this guarantee, Tellus liability is limited to repair or replacement of the product with the same or equivalent, or reconditioned product warranted for the original warranty period. The warranty will not include removal costs, re-installation costs, loss of charging station revenue, nor loss or damage of any kind whatsoever, whether incidental, consequential, or otherwise.

## Exclusions From Limited Warranty

**IMPORTANT:** The Limited Warranty and on your Product shall not apply to defects, or service repairs, resulting from any of the following:

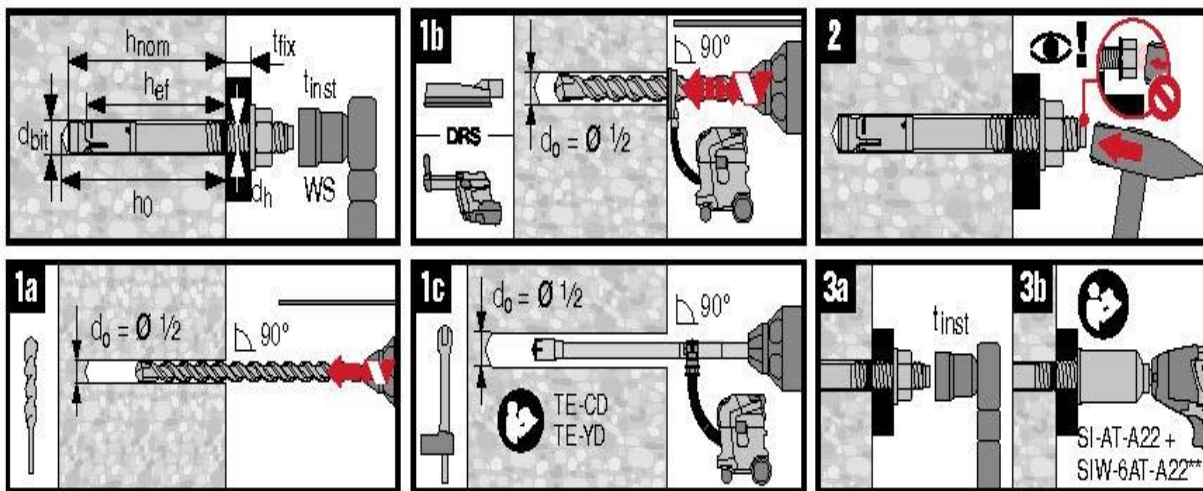
- Damages due to normal wear and tear to charging cords, connectors, LCD/LED display, Touch Screen, or any product alteration or modification, misuse, abuse, accident, vandalism, acts of nature, power surges, or use of software, parts, or supplies not supplied by Tellus, and causes other than manufacturing defects not covered by the warranty.
- Force Majeure – any occurrence or extraordinary event or circumstance beyond the control of Tellus Power that is an act of God or whether that occurrence is caused by war, riot, storm, (such as hurricane, flooding, earthquake, volcanic eruption, etc.), or other natural forces, including high input voltage from generators or lightning strikes or acts of nature or other causes.
- Any Alteration or Modification of the Product in any way not approved in writing by Tellus Power.
- Abuse, damage or otherwise being subjected to problems caused by negligence (including but not limited to physical damage from being struck by a vehicle) or misapplication, or misuse of the Products by customers or end users.
- Any damage to the EV charger cord, unless such damage is caused by a manufacturing defect in the cord or connector assembly.
- Improper site preparation or maintenance. That has been improperly installed, operated, handled, or used, including use under conditions for which the product was not designed, use in an unsuitable environment, or use in a manner contrary to the Tellus Installation and Operations Manual or applicable laws or regulations.
- Damage because of accidents, extreme power surge, extreme electromagnetic field.
- Use of the Product with software, interfacing, parts or supplies not supplied by Tellus Power Green.
- Tellus disclaims any liability for damage to product, property, or personal injury resulting in whole or in part, from improper installation, maintenance or use that is not in accordance with Tellus installation and maintenance procedures.
- Maintenance or use that is not in accordance with Tellus installation and maintenance procedures.
- That has been subjected to incidental or consequential damage caused by defects of other components of the electrical system.

# Appendix



1/2"  
KB-TZ, KB-TZ SS 304,  
KB-TZ SS 316

2143081 A4-10.2019



Anchor diameter	[inch]	1/2						
d <sub>bit</sub>	[inch]	1/2						
Anchor Length	[inch]	3 3/4	4 1/2		5 1/2		7	
h <sub>ef</sub>	[inch]	2	2	3 1/4	2	3 1/4	2	3 1/4
min. h <sub>nom</sub>	[inch]	2 3/8	2 3/8	3 5/8	2 3/8	3 5/8	2 3/8	3 5/8
min. h <sub>0</sub> ***	[inch]	2 5/8	2 5/8	4	2 5/8	4	2 5/8	4
T <sub>inst</sub>	[ft-lb]	40	40		40		40	
T <sub>inst (Masonry)</sub>	[ft-lb]	25	25		25		25	
d <sub>h</sub>	[inch]	9/16	9/16		9/16		9/16	
WS (Wrench Size)	[inch]	3/4	3/4		3/4		3/4	
max. t <sub>fix</sub>	[inch]	7/8	1 5/8	3/8	2 5/8	1 3/8	4 1/2	3 1/4

Use only carbide-tipped masonry drill bits complying with ANSI B212.15.1994

\*\* Adaptive torque (AT) system not applicable for installation in concrete masonry unit / grout filled block

\*\* AT System not applicable for wood fastening applications

\*\*\* For a non-hole cleaning installation (step 1a or 1b), make sure to drill deep enough to achieve h<sub>0</sub>, taking into account the depth of debris remaining in the hole