Product Description:

The charger works with household electricity from 140 to 275 volts. It is very efficient and safe, with a power efficiency of over 92% when the voltage is above 180 volts. It is designed for electric vehicles like 3 wheelers and 2-wheelers using Li-ion batteries. The charger has a display that shows the battery status, charging progress, and error codes and buzzer for alerts.

Safety Info:

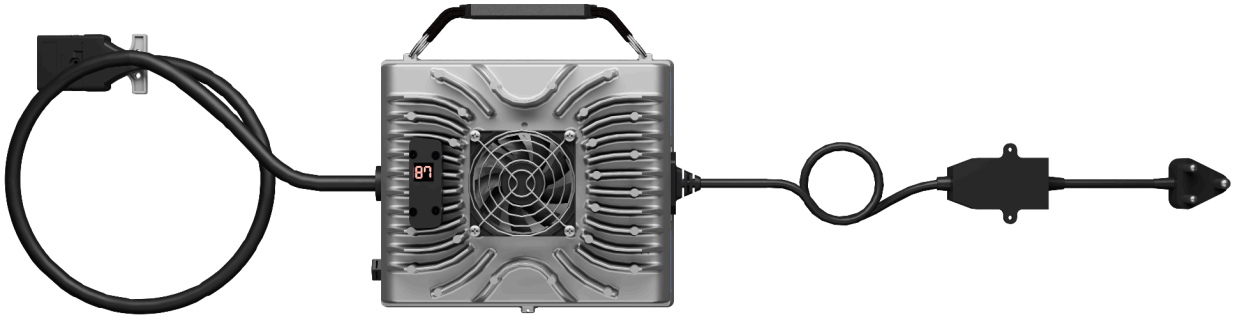
- Read all the instructions before using the Vecmocon Charger (hereinafter referred to as Unit).
- To reduce the risk of injury, close supervision is necessary when the Unit is used near children.
- Use only recommended Vecmocon accessories with the Unit.
- Do not expose the Unit to fire or excessive temperature. Do not use near flammable gases or fumes.
- Do not use the Unit with damaged wires or plugs.
- Make sure to use the Unit in a ventilated environment. Do not restrict the ventilation of the Unit in any way during usage.
- During storage, keep the Unit in a dry and ventilated place to avoid moisture and electric shock.
- Do not disassemble, repair, or modify the Unit or the battery pack.

Warning and Hazard:

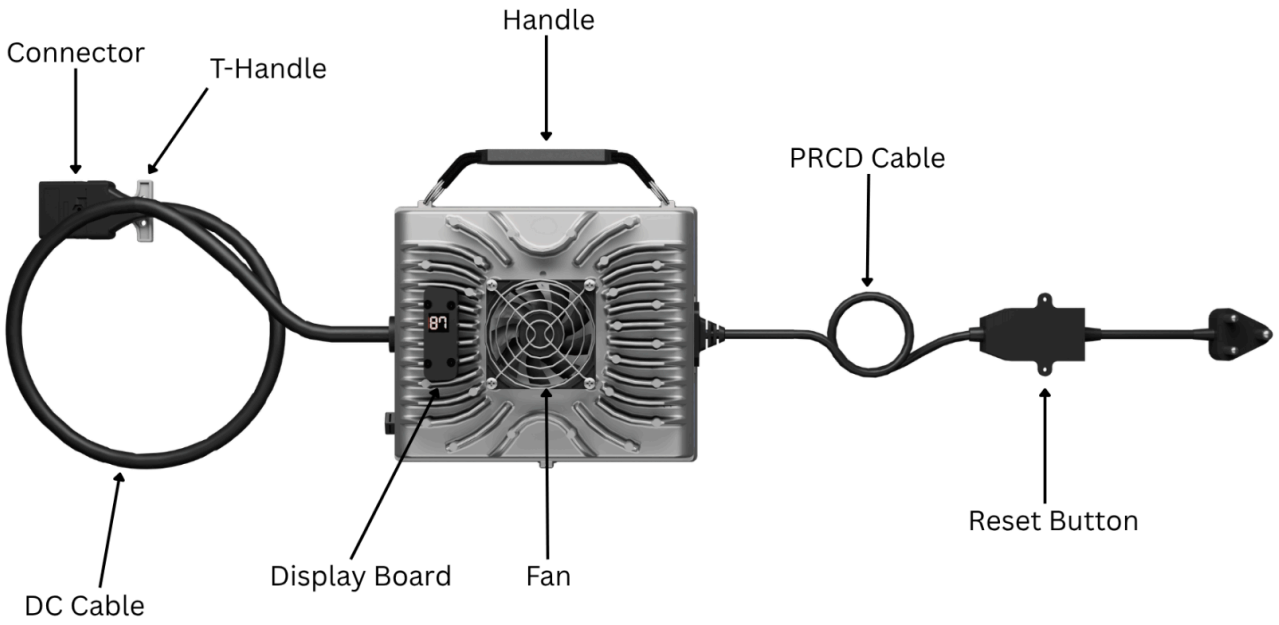
When charging, use a compatible and authorized charger. Charge in a dry, ventilated area away from flammable materials. Avoid using damaged chargers and do not touch them with wet hands. Regularly inspect the charger and cables, and properly disconnect after use. Follow manufacturer guidelines for safety.

Product Packing List:

- Charger



Product Info:



Product Specifications:

- Absolute maximum ratings and technical specifications.

AC Input Voltage Range AC	140VAC to 275 VAC
Maximum AC input Current	10A ± 0.5A
DC Output Voltage Range	35 V±0.5V to 84V±0.5V
Maximum Output Current	25 ±0.5A
Maximum Output Power	1500 W
AC Line Frequency Range	45 Hz - 55 Hz

- Charger Operating Technical Specifications.

Parameter	Details	Specification/Value
AC Input	Operation AC Input Voltage Range	230VAC ±5VAC
	Operation AC Input Current	8A ±0.5A
	Power Factor	> 0.99
	Input current total harmonic distortion	< 3.0%

Output Characteristics	Rated Output Current	25A ±0.5A
	Max DC Output Voltage	84V± 0.5V
	Min DC Output Voltage	35V± 0.5V
	Output current Ripples	± 1.2A
	Output Voltage Ripples	≤1%
	*Efficiency at Full Load (Efficiency calculated at Charger terminals)	> 92%
Communication	Displays Information	Seven Segment Display ,LED indicator, Buzzer
	Protocol	Default i-VEC, customizable per customer needs
Environmental	Operating Temperature	-10 to 50 C
	IP Level	IP67
	Cooling Method	Natural Air Cooling/forced Fan cooling
	Storage Temperature	-20 to 80 C
Mechanical	Weight(Kg)*	4.7KG ± 2
	Length ,Width,Height	237 ± 2 mm, 207 ± 2 mm , 105 ± 2 mm
	Housing	ADC12 Aluminium(F -Die)
	No of output connectors	1 - Standard SB75
Protection	Key Protections	OV, UV, OT, Surge test

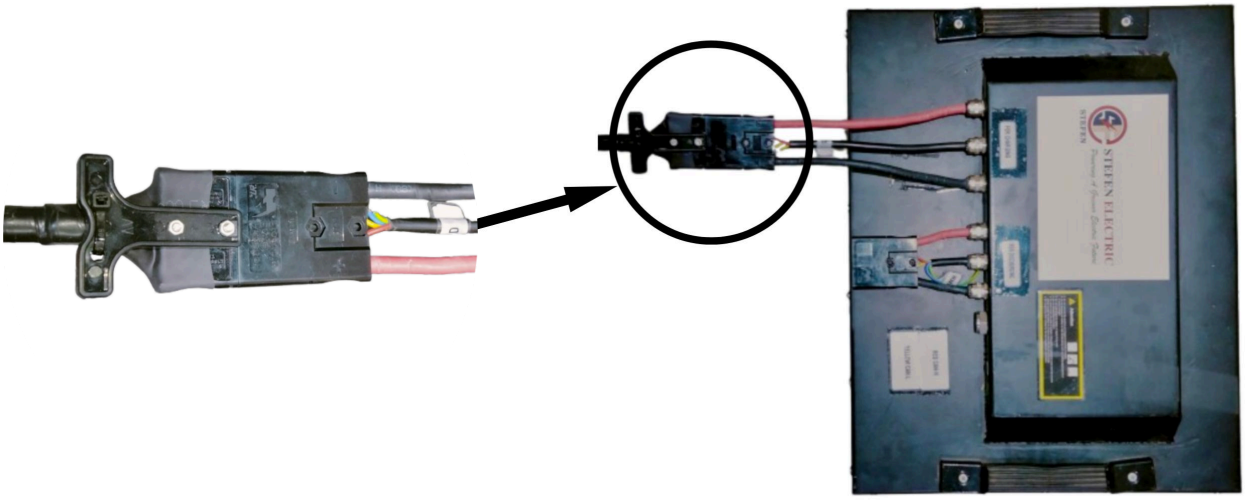
*subject to change

How to Use?:

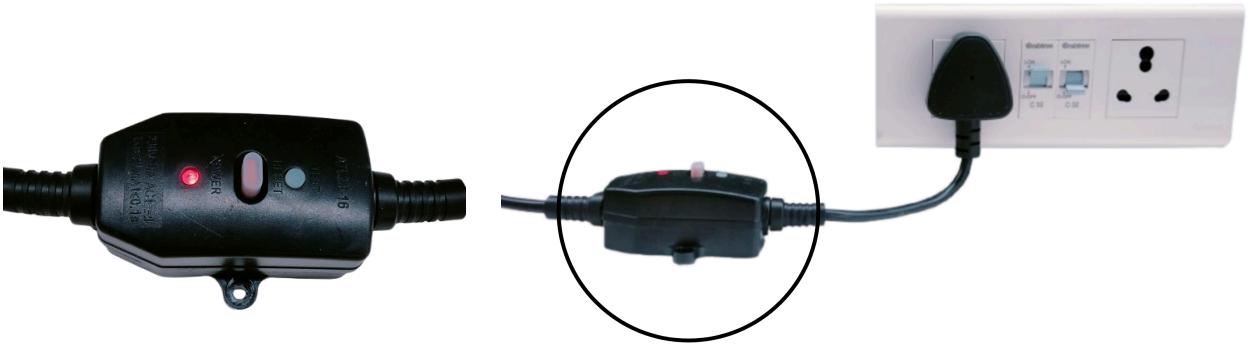
1. Mount the PRCD Cable (AC Cable) on the wall with its mounting holes.

2. Place the Vecmocon Char[illegible]e base plate side at the bottom.

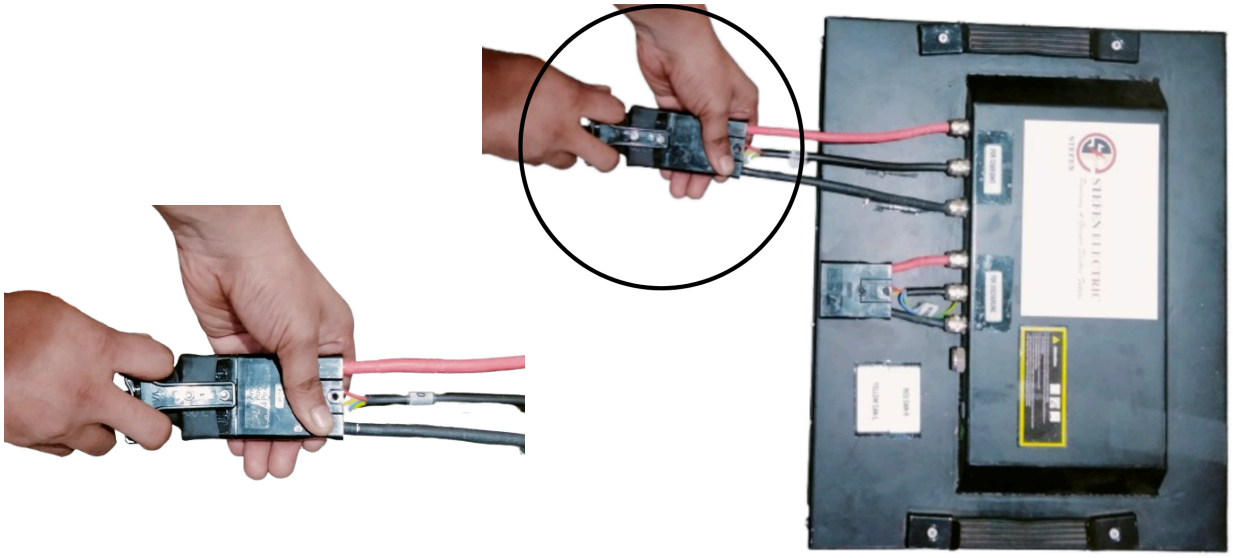
3. Connect the DC Cable connector of the Vecmocon Charger with your battery connector properly without leaving any gap between the connectors of the Charger and the battery; otherwise, spark will generate at the joint charger and battery connectors, leading to the melting of connectors and safety concern with more heat dissipation.



4. Once you are done with the proper connection with the AC cable and DC cable, switch on the power Plug for charging, which results in the power indicator turning on and the fan starting to run after 10-15 seconds.



5. On getting a full charge of the battery, immediately turn the power switch off to turn off the power indicator of the PRCD cable and remove the DC Cable connector from the battery.

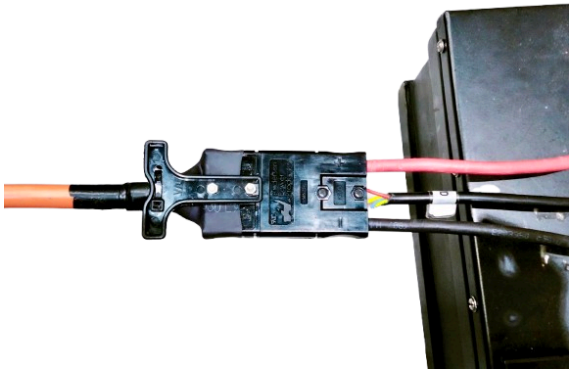


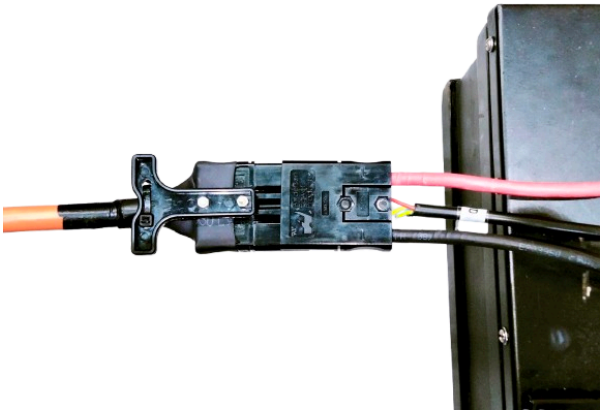
Safety Precautions:

For your safety, please read the instructions carefully before using the charger and keep it for future reference.

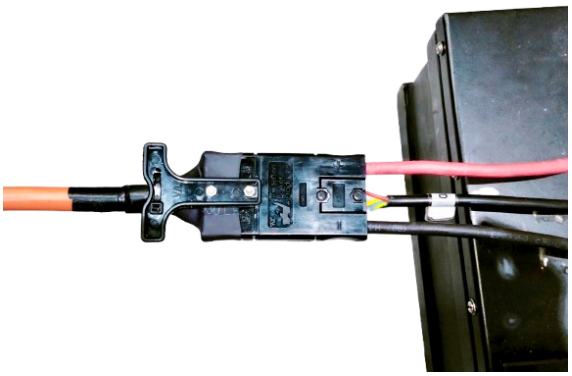
1. Charger Lifting	
Do's	Don'ts
Lift the charger by its carrier belt given on one side of the charger.	Don't lift the charger by its DC Cable which can break the charger connection.

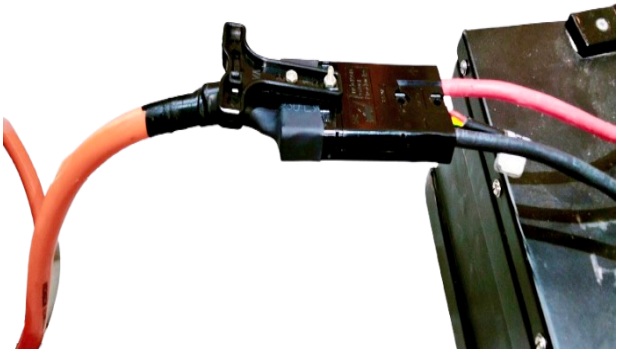
2. Battery Connectivity with Charger	
Do's	Don'ts
No gap between Anderson Connector of DC Cable of the charger and Battery Connector.	Gap at Connector Joint can lead to power loss in terms of heating and hence can burn the connector.



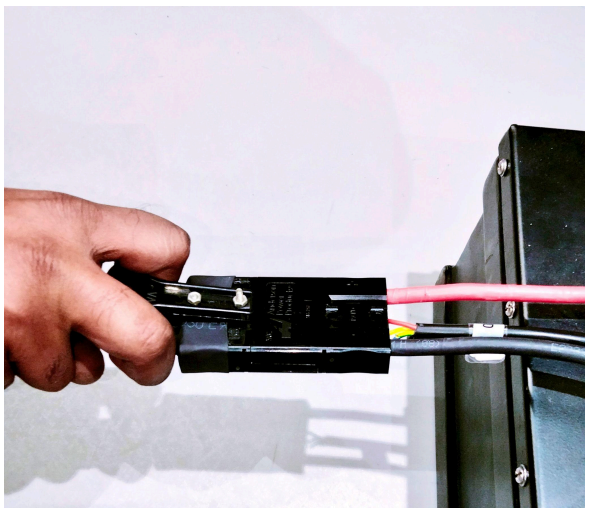


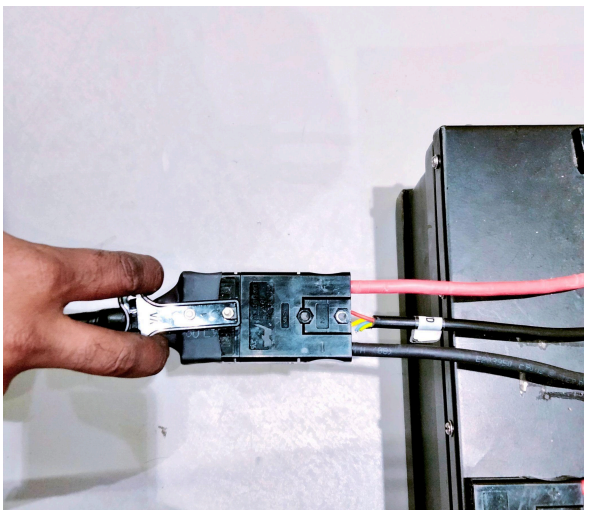
3. Battery Positioning to connect with the charger.	
Do’s	Don’ts
No Stress must be developed leading to damaging of DC Cable from its Connector Joint	Due to such Battery - Charger connection (sharp bending of DC Cable) more stress is developed at the Connector Joint leading to its damaging of the DC Cable from Connector Joint.





4. Removal of DC Connector from Battery-Charger Connection	
Do’s	Don’ts
The direction of pulling force should be horizontal and aligned with the height of the joint and hence no chances of any damages.	The direction of pulling force is inclined which will break the connector.





SOC Indications:

- Numbers would be indicated for CAN charging as per CAN SOC.
- Non-CAN SOC would be displayed as per customer requirements.

Troubleshooting:

Error codes in case of any defect and their possible Troubleshooting.

Error Codes	Fault Code Description	What to Do
E1	High Frequency AC Fault (ie. Input frequency > 55 Hz)	Correct your AC Power supply
E2	Low Frequency AC Fault (ie. Input frequency < 45Hz)	Correct your AC Power supply
E3	Communication Error (CAN Battery) i.e. Disconnection of Charger from CAN Battery suddenly after charging a battery for some time	Check and correct your CAN communication error, caused by either BMS issue or a battery-charged CAN connection or harness fault.
E4 with Buzzer intermittent sound	**Battery Disconnection Fault** (i) It comes at the beginning of charging a CAN battery, either due to an improper charger-battery. connection or because a non-compatible CAN battery has been connected with the charger. (ii) In a non-CAN battery, this error comes if the charger gets disconnected from a non-CAN battery that was getting charged properly. (iii) Also, a full charge of either CAN (if BMS suspension is not received over CAN) or non-CAN battery is connected for charging. (iv) It appears in the beginning when a CAN or non-CAN battery is used for charging.	Check and resolve the issue either by replacing with a compatible CAN battery or by doing ok connection of Battery-Charger or replacing with non-fully charged battery.
E5	**Battery Dead Fault** It comes in the beginning when Charger is switched on but charger is not connected	Either replace it with an ok battery or sort out the Charger-Battery

	with any battery CAN or non-CAN It also appears when battery pack terminal voltage < 42 V i.e., non-compatible battery is being charged	disconnection issue, or replace it with a compatible battery for charging.
E6	**Reverse Battery Fault** i.e. Battery polarity swapped for CAN or non-CAN and appears in the beginning itself	Check this charger by charging different batteries, also check this battery with other chargers to identify whether it's due to wrong polarity in charger connector or due to wrong polarity in battery connector. Sort out the issue accordingly.
P1	**Pre-charging Time Exceeded** This code will appear after 2 hrs. from Charging start time A non-compatible battery (CAN or non-CAN) has been connected for charging i.e., pre-charging time of battery is more than 2 hrs. as configured in designed Charger	Replace this non-compatible battery with compatible battery for charging
P2	**CC Time Exceeded** This error code will appear on the display board after 10 hrs. from start time of charging which confirms a non-compatible battery (CAN or non-CAN) has been connected for charging i.e., CC mode timing of battery is more than 10 hrs. as configured in designed Charger	Replace this non-compatible battery with a compatible battery for charging the issue accordingly.
P5	**Battery Parameter Change** This error code will appear on display board within 15 sec from start time of charging which confirms a non-compatible battery (CAN or non-CAN) has been connected for charging i.e., battery specs are different from configuration of designed Charger	Replace this non-compatible battery with compatible battery for charging
P6	**Charger Profile Invalid** It appears when battery I/P voltage is more than Charger O/P voltage (84V) i.e., battery specs are different from configuration of designed Charger	Replace this non-compatible battery with compatible battery for charging
C2	**Charger Overcharged**	Switch off the charger.

	If the battery continues, keep Charging after or threshold.	
C3	**AC Under Voltage Fault** It appears in CAN or non-CAN Battery whenever AC I/P voltage < 140V b.	Solve your AC supply and maintain minimum release voltage of 150 V (to restart the charging)
C4	**AC Over Voltage Fault** It appears in CAN or non-CAN Battery whenever AC I/P voltage > 275 V	Solve your AC supply and maintain a release voltage of 265 max. (to restart the charging)
C6	It appears while charging a CAN or a non-CAN battery, when temp. of charger crosses its rated temp. (90 °C), then automatically current gets reduced accordingly to avoid heat losses and to keep charger safe	Nothing to worry about, charger is working fine
C7	**Charger Under Temp. Fault** It appears while charging a CAN or a non-CAN battery, when any of the internal components of the charger decreases up to rated temp. (-20 °C) due to less ambient temp (which must be in the operating temp. range (-10° C to 60° C), which leads to stoppage of the charging process	The charger is fine but you need to increase the ambient temp. min. up to release temp. of charger (-10° C)
C8 with continuous Buzzer sound	**Charger Over Temp. Fault** It appears while charging a CAN or a non-CAN battery, when temp. of charger reaches up to more than 100° C, due to ambient temp being out of the operating temp. range (-10° C to 60° C) then the charger stops charging to avoid heat losses and to keep the charger safe.	The charger is fine but you need to decrease the ambient temp. min up to release temp. of charger (90° C)
C9	**Charger Short Circuit** If the charger terminal shorted while charging.	Contact our technician.
B1	**Battery Over Voltage Fault** This fault code is sent by BMS on detecting cell over voltage issue in a CAN battery	The charger is working fine but you need to discuss with BMS manufacturer or Battery manufacturer on this cell un-balance issue to resolve it.
B2	**Battery Over Current Fault** This fault code is sent by BMS on detecting cell over current issue in a CAN battery	Charger is working fine but you need to discuss with BMS manufacturer or Battery manufacturer on this issue to resolve it

B4	**Battery Under Temp. Fault** This fault code is sent by BMS on detecting cells under temp. issue in a CAN battery	Charger is working fine but you need to discuss with BMS manufacturer or Battery manufacturer on this issue to resolve it
B5 with continuous Buzzer	**Battery Over Temp. Fault** This fault code is sent by BMS on detecting cells over temp. issue in a CAN battery	Charger is working fine but you need to discuss with BMS manufacturer or Battery manufacturer on this issue to resolve it
Numbers (like 10. 20,30,40,50,60, 70, 80, 99) with blinking.	Reaching pack voltage during charging. It appears only in case of charging of non-CAN Battery. If pack SOC ranges from 0 to 15% (10) will blink, similarly 15 to 25% (20), 25 to 35% (30), 35-45% (40), 45-55% (50), 55-65% (60), 65-75% (70), 75-85% (80), 85-95% (90), 95-100% (99) will blink on display board These SOC codes will be based on design requirement of terminal voltage as per customer.	Nothing to worry about, it shows % charging status of non-CAN Battery.
AC	When AC I/P voltage supply is > 275V only at the starting point of charging.	Check with your supply voltage (board) and restart the charger.

Display of other Display Codes :

Error Codes	**Fault Code Description**	**What to Do**
OP	Charger connection is OK, and Fan rotation will start with changed display code SOC after 10 sec of switch on, automatically	Nothing to worry about, wait for 15 sec max, code will change automatically along with fan rotation confirming that charging started.
FC with Buzzer Sound	Full Charge or CV Time Exceeded It appears when CAN or non-CAN battery either gets charged fully or its CV mode timing exceeds 4 hrs. as we know, in CV phase, current drops to min threshold current of 3A	Switch off the connection as your battery is fully charged.
SOC	Charging of CAN Battery started	Nothing to worry about, the charging of the CAN Battery has started.

Disposal and Recycle:

Recycle the Unit responsibly and according to local, state, and national regulations applicable to EV battery chargers.

Warranty Info:

Vecmocon offers a 2+1 year warranty period from the date of purchase. Keep a copy of the purchase receipt as proof of purchase. Our product's warranty is limited only to the Unit itself when used normally in accordance with the operating instructions and the system environment.

The warranty excludes ordinary wear and tear, misuse, negligence, improper installation, lack of maintenance, unauthorized repairs, non-genuine parts, modifications, accidents, natural disasters, pests, voltage issues, and external causes. It also excludes damage from non-standard charging, incompatible parts, using the product as a stationary power source, harmful substance exposure, failure to install updates, physical impacts, manhandling, and shipping damages. Loss of data, revenue, or goodwill is not covered.

Contact Us:

For customer service and warranty information please contact the concerned KAM.