AMPHENOL PCD CHENNAI

CCID - Charging Circuit Interrupting Device

User Manual

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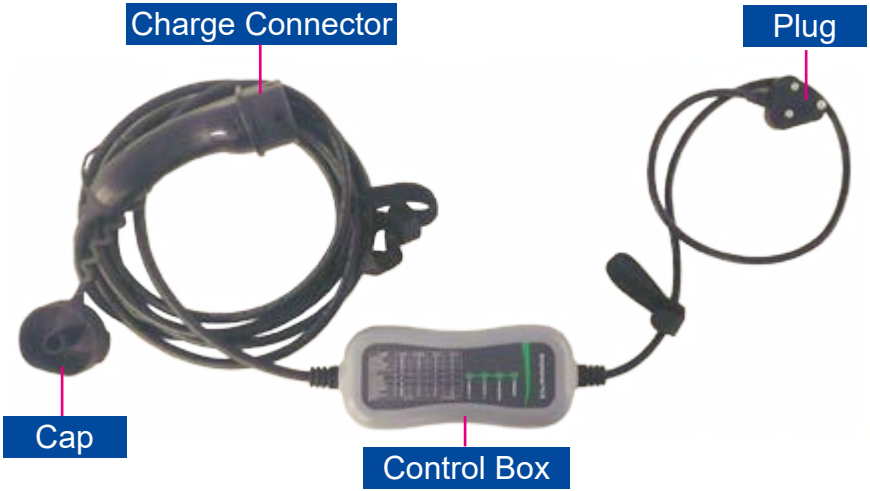
Charge Circuit Interrupting Device (CCID) is a hand held device to charge Vehicles with Type-2 connector. It comes with a 16A 3-pin standard plug that can be plugged to a 16A domestic power socket. The output side has a Type-2 IEC62196-2 connector rated for 16A. It is loaded with all safety functions for a safe charging. This device can charge the battery to a maximum of 3.3kWh per hour, that translates roughly to a range of 33 kms. It takes long time to full charge and is suitable for overnight charging.

The CCID consists of a control box, a 1m length input cable with a 16A standard domestic plug and a 4m length output cable with a Type 2 connector.

The control box has got all the necessary circuit to monitor the following parameters and connects to the vehicle only whenall the parameters are within the limits.

The control box extends the power only after the charger is plugged-in. This is accomplished by a control pilot. It provides the status of the charger as well as the rated current it can supply. Four LEDs present in the control box indicate the charge and fault status.



1. Connect the CCID plug into a 16A socket.
All the four LEDs glow for a while when powered on and the white LED continues to glow while all other go off. The CCID is now ready for Plug-in.

2. Plug the Charge Connector to the Electric Vehicle charge port (Charging Inlet).
When the vehicle is charging, white LED and blue LED glow steadily while green LED blinks. When the charging is finished green LED glows steadily while all other LEDs go off.

3. After charging is completed and the mechanical lock is released by the vehicle, remove the Charge connector.

Table 1 provides the LED status for various stages of charging, protection and faults.

Working Status	LED Status			
	Power(White)	Connection/ Charging (Green)	Relay Status(Blue)	Fault(Red)
Power-up	ON 0.5s	ON 0.5s	ON 0.5s	ON 0.5s
Waiting for Charging	ON	OFF	OFF	OFF
Plugged-in	ON	ON	OFF	OFF
Charging	ON	Blink (1s)	ON	OFF
Plugged-in, Not charging	ON	ON	ON	OFF
Finished Charging	OFF	ON	OFF	OFF
Temperature High	ON	ON	OFF	Fault Code 1 time
Current High	ON	ON	OFF	Fault Code 2 times
Earth Leakage	ON	ON	OFF	Fault Code 3 times
Relay Fail	ON	ON	Blink (1s)	Fault Code 4 times
Earth Fault	ON	ON	OFF	Fault Code 1 time
Voltage High	ON	ON	OFF	Fault Code 2 times
Voltage Low	ON	ON	OFF	Fault Code 3 times
CP fail	ON	ON	OFF	Fault Code 1 time
Car side Diode fail	ON	ON	OFF	Fault Code 2 times

Rated voltage	170 to 270V AC single phase
Operating voltage range	85 to 280 VAC
Withstand voltage	1400 Vrms
Insulation resistance	≥100MΩ
Rated frequency	50/60 Hz (+/- 3%)
Rated current	16A
PWM duty cycle control	21.6%, 16.7%, 10% temperature based de-rating control (optional)
Operating temperature	-10 to 50°C
Storage temperature	-20 to 85°C
Working humidity	5% to 95% RH, non-condensing
Altitude	< 3000 meters

Do's and Don'ts

1. Handle with care.
2. Do not drop.
3. Ensure proper contact of the input plug. Loose connection may result in heating and burn.
4. Always keep the Charge Connector closed with the Dust Cap while not in use.
5. Do not wet the input plug or the Charge Connector and do not use while either one is wet.
6. Use an MCB at the wall outlet instead of a switch.

Troubleshooting

CCID not charging after plugged-in – Check the LED indicators and find out the ‘Working Status’ from Table 1

Working Status	LED Status				Reason for Not Charging
	Power (White)	Connection/ Charging (Green)	Relay Status (Blue)	Fault(Red)	
No indication	OFF	OFF	OFF	OFF	Input power fail/ CCID Fault
Waiting for Charging	ON	OFF	OFF	OFF	Not Plugged to the EV properly
Plugged-in	ON	ON	OFF	OFF	EV Fault
Plugged-in, Not charging	ON	ON	ON	OFF	EV Fault
Finished Charging	OFF	ON	OFF	OFF	Charging Finished
Temperature High	ON	ON	OFF	Fault Code 1 time	Charging Connector is faulty
Current High	ON	ON	OFF	Fault Code 2 times	EV Fault
Earth Leakage	ON	ON	OFF	Fault Code 3 times	EV Fault/ Charging Connector Fault
Relay Fail	ON	ON	Blink (1s)	Fault Code 4 times	CCID Fault
Earth Fault	ON	ON	OFF	Fault Code 1 time	Check Earth Connection at the wall outlet
Voltage High	ON	ON	OFF	Fault Code 2 times	Input voltage is above 270V
Voltage Low	ON	ON	OFF	Fault Code 3 times	Input Voltage is below 170V
CP fail	ON	ON	OFF	Fault Code 1 time	CCID/EV Fault
Car side Diode fail	ON	ON	OFF	Fault Code 2 times	EV Fault

Please read the following instructions carefully: failure to follow these instruction may lead to a risk of fire or can result in serious injury or death.

• Do not touch the contacts on the vehicle charging inlet and on the CCID charging equipment.
• Do not perform any modifications or repair tasks to electrical components.
• Do not remove the cover and do not open the housing. The device contains no parts that could be serviced by the user. Leave any servicing tasks to a qualified technician.

• Do not use the CCID charging device if it is damaged and /or soiled. Check cable and connector for damage and soiling before using them.

• Operate the CCID charging equipment in properly grounded power networks only.
• The grid socket used for charging must be connected to a protected circuit that complies with local laws and standards.

• Keep sockets, plug connection and the CCID charging equipment free of moisture, water, snow, ice and other liquids. Never immerse in water.
• Do not store outside and do not expose to a direct jet of water or water splash.

• During normal operation if wall plug heats up unreasonably during charging, unplug the CCID and have the wall socket replaced by a qualified electrician before you continue charging.

• Do not disconnect the grid plug or vehicle connector while charging.

• Completely uncoil the cable of the CCID charging equipment before using it.

• Do not wrap the charging cable or the power cord around the control unit or the charging connector.

• Do not drive over any component of the CCID.

• Make sure the grid plug is correctly and completely inserted.

• Do not fold or kink the charging cable.

• Do not drag the CCID over any surface.

• This device is intended only for charging vehicles, which do not require ventilation during the charging process.

• Disconnect the CCID charging device from the socket during a thunderstorm.

• Comply with the safety instructions in the installation manual and in the vehicle owner's manual

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