ELECTRIC VEHICLE BATTERY CHARGER

ENERTEC

SPECIFICATIONS

#	Parameter	Value
	General Data	
1	EVSE Type	AC
2	Energy Transfer Mode	Conductive
	Input Data	
1	AC Supply System	Three-Phase, 5 Wire AC system (3Ph.+N+PE)
2	Nominal Input voltage	415V (+6% and -10%) as per IS 12360
3	Input Frequency	50Hz, ±1.5Hz
4	Input Supply Failure backup	Battery backup for minimum 1 hour for the control system and billing unit. Data logs should be synchronized with CMS during back up time, in case battery drains out.
	Environmental Data	
1	Ambient Temperature Range	0 to 55°C
2	Ambient Humidity	5 to 95%
3	Ambient Pressure	86 kpa to 106 kpa
4	Storage temperature	0 to 60°C
	Mechanical Data	
1	Suggested Cable Security	PMAO and the vehicle connector outlet to have provision for locking mechanism during charging to ensure the safety of the cable
2	Mechanical Stability	Shall not be damaged by mechanical impact impact energy : 20 J (5 kg at 0.4 m)
3	IP Ratings	IP 54
4	Cooling	Air cooled or forced air cooled to protect the equipment against temperature hazards
	Output Data	
1	Number of outputs	3
2	Type of each output	230V (+6% and -10%) single phase, 15A as per IS 12360A.C.
3	Output Details	3 Independent charging sockets,
4	Output Current	Three Vehicles charging simultaneously, each at 15A current
5	Output Connector Compatibility	IEC 60309
6	Limiting output current	Circuit breaker for each outlet limited to 16A current output. Breaker should be reset to resume operation
7	Connector Mounting	Angled connector mounted looking downwards for outdoor use
8	Isolation	class 1 or class 2 insulation as per AIS138 (3.3.1 and 3.3.2)
	User Interface & Display Data	
1	ON- OFF (Start-Stop) switches	Mandatory
2	Emergency stop switch	Mushroom headed Push button type (Red color), visible and easily accessible

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3	Visual Indicators	Error indication, Presence of input supply indication, Charge process indication and other relevant information
4	Display size	Minimum 3.5" inches with 720 x 480 pixels, user interface through touch screen / keypad
5	Display Messages	• Vehicle plugged in / Vehicle plugged out • Fault conditions; metering: units consumption; Duration since start of charge, Time to charge, kWh
6	User Authentication	Using mobile application or User interface (OCPP gives only a field mandate, media to be used is open)
7	Metering Information	Consumption Units
	Billing & Payment	
1	Metering	Metering as per units' consumption for charging each vehicle
2	Billing	Grid responsive billing
3	Payment	BHIM / Bharat QR or UPI compliant mobile application payment
	Communication	
1	Communication between EVSE and Central Server	Open Charge Point Protocol (OCPP) 1.5 protocol or higher versions compatible to OCPP 1.5
2	Metering	Grid responsive metering as per units' consumption of each vehicle
3	Interface between charger and central management system(CMS)	Reliable Internet Connectivity
	Protection & Safety	
1	Safety Parameters	Safety and protection As per AIS 138 Part1
2	Start of Charging	The outlet will be locked and covered, the connector will be exposed to charging only after user authentication using user interface or mobile application. Only when the lock opens and connector is properly connected, the switch/relay will turn ON to feed power to EV. Lock will be opened only after full charging and authentication by user or the operator. Once disconnected, the charging session terminates.
3	Power failure	If there is a power failure, user is indicated about this. The charging resumes when power comes on. If the user wants to terminate the session during power failure, the user can shut-off the switch and remove the plug

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4	Interruption of Charging	Connector terminals to be mounted with temperature sensors to avoid burning of connectors. Safety mechanism to trigger switching off of the charging at temp.>80°C for a duration <10s.In such situation, an appropriate signal will be sent to turn the switch/relay OFF to stop the charging. Once disconnected, the charging session terminates. If the above locking mechanism is mandated then the following point won't be required: If plug is taken out (for more than 2 seconds) and then reinserted for charging, the charging-session will disconnect. A new session will be required to continue charging to ensure that no one can remove a vehicle being charged and insert their own cable and use the infrastructure without paying or at someone else's account

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