

EV

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SHAKTI EV MOBILITY PRIVATE LIMITED

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Group Company - **SHAKTI PUMPS (INDIA) LIMITED**
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Authorised Dealer / Distributor :

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SHAKTI EV CHARGER





SHAKTI EV CHARGER

ABOUT THE PRODUCT

The Shakti EV Charger is a powerful and efficient solution for charging electric two-wheelers and three-wheelers, proudly designed and developed in India. It operates on a single-phase mains supply, with near to unity power factor and low THD in current which ensures high energy efficiency. The charger is capable of charging both lithium-ion and lead-acid batteries, with settings configured via CAN communication protocol & Shakti EV software.

KEY FEATURES

- Battery reverse polarity protection.
- Operate at unity power factor which makes it energy efficient.
- Better charging profiles to improve battery health.
- LED indications for different charging levels, faults and warnings.
- Audio alarm during power on.
- Beep sound on full battery charge.
- Portable with easy handling.
- Automatically protects the battery from over charging.
- Compatible with all commercial batteries available in the market.
- No battery connected detection.

SPECIFICATIONS

Parameters	SHAKTI EV CHARGER
	1.2 kW
INPUT PARAMETERS	
Input Voltage	190V-265V
Input Current	< 7A
Inrush Current	< 20A
Leakage Current	< 3.5mA
Input Frequency	47Hz-63Hz
Power Factor	> 0.95
Efficiency	>92%
OUTPUT PARAMETERS	
Output Voltage Range	40V-72V
Maximum Output Current	20A
Output Power	1200W
Output Ripple Voltage	< 1%
Line Regulation	< 2%
Load Regulation	< 2%
USER INTERFACE & COMMUNICATION	
Indicator	LED
Audio Indicator	Buzzer
Communication	CAN, UART
PHYSICAL	
L X W X H	260mm x 185mm x 90 mm
Net wt. / Gross wt.	Approx 3 KG
OTHER INFO	
Operating Temperature	0 - 50 °C
Relative Humidity	0-95% RH(Non-condensing)
Noise	< 45 dB
IP Degree of Protection	IP 20
Cooling	Air Forced Cooling

BENEFITS

- Promotes Sustainability.
- Energy efficient and cost saving.

APPLICATIONS

- Perfect for vehicles such as electric scooters and e-rikshaw.
- Suitable for charging different types of batteries(Lead acid/ Lithium ion).

PROTECTIONS

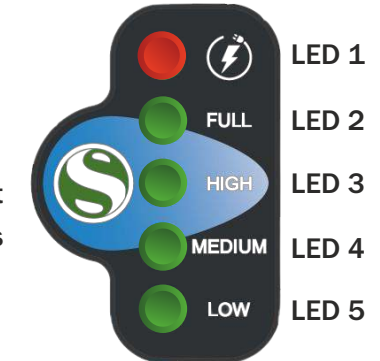
- Input under/over voltage protection.
- Output under/over voltage protection.
- Output over current protection.
- Over temperature protection.
- Short circuit protection.
- Reverse polarity protection.



SHAKTI EV CHARGER

LED INDICATION AND STATUS DESCRIPTION:

The tables below provide an overview of the LED patterns displayed during fault conditions along with their troubleshooting, the battery charging process (indicating different battery charge levels), and during normal operation.



a) Fault Information LED Indications:

LED INDICATIONS DURING FAULT CONDITIONS			
Fault Name	Reason	LED Indication	Troubleshooting
AC Under Voltage	Input voltage (Vac) < 140 V	LED 1 blinking	Check the AC input voltage.
AC Over Voltage	Input voltage (Vac) > 270 V	LED 1 blinking	Check the AC input voltage.
Battery Open	Battery is not connected	LED 4 & LED 5 blinking	Check and securely connect the battery to the charger.
Battery Reverse	Polarity of the battery is reversed	LED 2, 3, 4, 5 blinking	Recheck the battery connection.
Battery Under Voltage	Battery voltage < Battery UV Limit	LED 4 & LED 5 blinking	Check the charger settings.
Battery Over Voltage	Battery voltage > Battery OV Limit	LED 2 & LED 3 blinking	Check the battery if it is fully charged.

Note: Battery UV limit and Battery OV limit are configurable via CAN communication depending upon the type of battery connected for charging.

b) Battery Charging Process Indications:

LED INDICATIONS DURING BATTERY CHARGING PROCESS				
Battery %	Voltage Range	Charging Current	LED Indication	
			CONSTANT	BLINKING
25 %	Under Voltage to V1 Voltage	I1	-	LED 5
50 %	V1 to V2	I2	LED 5	LED 4
75 %	V2 to V3	I3	LED 4 & LED 5	LED 3
90 %	V3 to V4	I4	LED3, LED4, & LED5	LED 2
100 %	V4 to V5	I5	LED2, LED3, LED4, & LED5	-

Note: The voltage level range and charging current value may vary and can be configured via CAN Communication depending upon the type of battery selected for charging.

c) Normal Operation LED Indications:

LED INDICATIONS DURING NORMAL CONDITIONS		
Operating Condition	Voltage Range	LED Indication
AC Normal Operation	190 V ≤ Vac_Normal ≤ 270 V	LED 1 CONSTANT ON

SAFETY INSTRUCTION:

- Do not open the charger.
- Do not use the charger, if it is damaged.
- Do not insert foreign objects into the charger.
- Never install the charger near flammable, explosive or combustible material.
- Use it in a dry environment, at temperature range specified in the specification table.
- Do not expose the charger to water or moisture.