



**ENHANCE YOUR DRIVE WITH
INNOVATIVE EV SOLUTIONS**



**SHAKTI EV MOBILITY
ALL PRODUCT BOOKLET**

ABOUT THE COMPANY

- **SHAKTI PUMPS (INDIA) LIMITED** is foraying into the Electric Vehicle (EV) segment through its 100% wholly owned subsidiary company **SHAKTI EV MOBILITY PRIVATE LIMITED (SEVMPL)**. The subsidiary company will manufacture Induction, BLDC and PMSM Motor including Controller, Charger, VFD (EV Application) to optimize battery performance in EV automobiles.
- SEVMPL was incorporated as private limited company under Companies Act 2013 on December 16, 2021 and will leverage on Shakti group's 40 years of experience in making motors, and 5 years of experience in manufacturing Power Electronics Equipment.
- The manufacturing activity of SEVMPL will be carried out at Sector 5, Pithampur, Dist. Dhar (M.P), India with a total installed capacity of 1,32,000 (No.'s) each for Induction, BLDC, PMSM motor and controller. The plant is equipped with state of the art technology along with a full-fledged in-house R&D centre to continue innovation and pace up with current trends.

A FOUNDATION, STRONG & SOUND

The foundation of Shakti Pumps (India) Ltd. was laid in 1982. With a humble beginning, we have gone from strength to success in becoming India's largest manufacturer of submersible pumps, motors and solar controllers today.



An ISO 9001-2015, ISO 14001:2015 & ISO 45001:2018 company, our cutting-edge manufacturing facility with an installed capacity of 5,00,000 pumps per annum is located in Central India at Pithampur (M.P.).

QUALITY, A WAY OF LIFE AT SHAKTI

We accord paramount importance to quality. Be it practices, procedures or people, every aspect of our company comes together to ensure that customers get products and services of the highest quality. Our quality control and testing labs are amongst the most advanced set-ups in the country- enabling us to meet international quality standards consistently.



OUR TECHNOLOGY, OUR STRENGTH

We employ the finest technology from around the world to manufacture our products. Our state of the art plant has cutting-edge Japanese and European machinery. The use of robots ensures precision of the highest level. Ultra-modern CNC machines, stamping machines, cathode electrode deposition plants, etc. speak volumes about our technological strength.

APPLICATION

India's ARAI (I) Certified Motor Powertrain

SPM (Shakti Powertrain Motor) are customized to meet customer's special requirements. these motors provide high performance with features and solution for individual and industrial applications such as commercial vehicles car, Auto, L 5 Loader, Road sweeper machine, retro fitment, E-Rickshaws and E-Vehicles etc.

VEHICLE CATEGORY

VEHICLE CATEGORY: L1, L2

VEHICLE CATEGORY: L5 M, L5 N

VEHICLE CATEGORY: E-RICKSHAW

VEHICLE CATEGORY: E-CAR

PRODUCT FEATURES

- | | | |
|-----------------------------|---|--|
| High Performance Design : | <ul style="list-style-type: none"> • Dynamically balanced rotors ensure smooth operation. • Double shielded, high-temperature bearings for enhanced durability. | 



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| Efficient Cooling System : | <ul style="list-style-type: none"> • Three-dimensional heat transfer principle in cooling fins design. | |
| Operational Efficiency : | <ul style="list-style-type: none"> • Minimized friction losses for optimal performance. • Low noise operation ensures smooth running. | |
| Ingress Protection : | <ul style="list-style-type: none"> • IP67 rating protects against moisture, dust & water ingress. | |
| Reliability & Ease of Use : | <ul style="list-style-type: none"> • Reliable operation with easy maintenance. • Short payback period for cost-effectiveness. | |

EV Motor 3Wheeler & 4 Wheeler (1-20 kW) (Upcoming)

10 kW



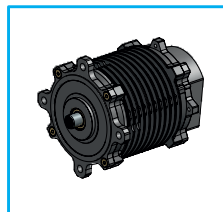
15 kW



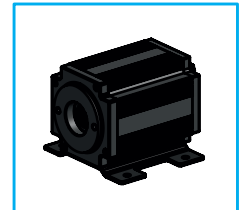
20 kW



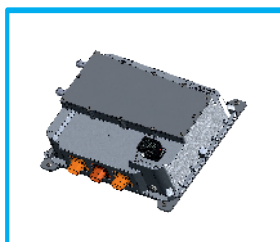
3-15 kW Rare Earth Free Magnet Motor



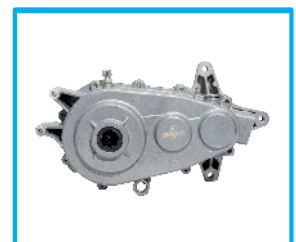
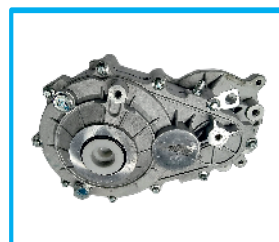
1.5kW, 2.2kW Fanless Steering Motor (Upcoming)



SARATHI (STEERING AND COMPRESSOR DRIVE) (2 in 1)(UPCOMING)



Gearbox (1:6, 1:8, 1:10 & 1:12)



VEHICLE CATEGORY FOR 2W (L1, L2)



PRODUCT FEATURES

- Highly Efficient Motors



- Water and Dust Resistant (IP 67)



- Regenerative Braking



- CAN Communication



- Highly Durable



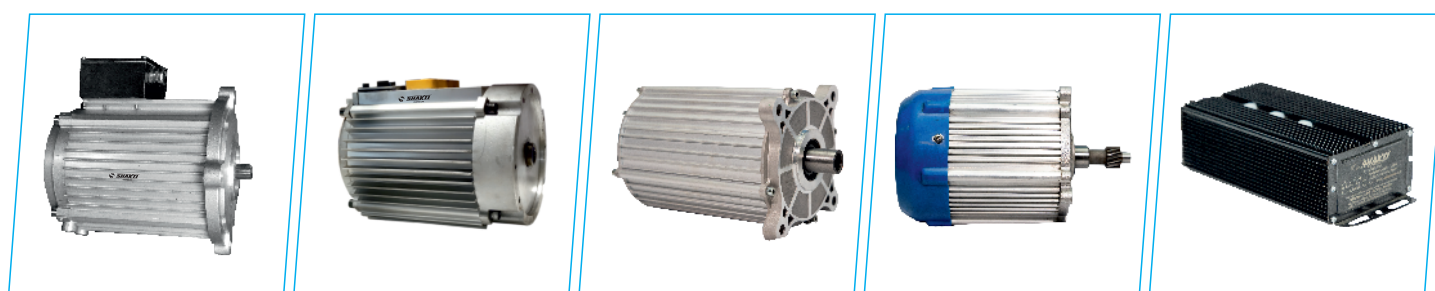
SHAKTI HUB MOTOR SPECIFICATIONS

HUB MOTOR SPECIFICATIONS									
Motor type	Three Phase PMSM Hub Motor								
Motor Category	10" Hub Motor								
Motor code	9000032951	9000031138	9000032941	9000032942	9000032945	9000031140	9000033150	9000030977	9000032949
Rated Power Rating (Watt)	800	800	1000	1000	1200	1200	1500	1500	1500
Peak Power Rating (Watts)	1400	1800	1400	1800	2000	2500	2000	2500	2100
Voltage Range (V)	48	60	48	60	48	60	48	60	72
Max. Speed (RPM)	550	620	620	620	670	670	670	720	780
Max. Efficiency	90%	90%	90%	90%	90%	90%	90%	90%	90%
Peak Torque (Nm)	82	82	88	88	101	103	98	97	98
Peak ampere AC	73	73	88	88	104	106	100	100	100
Idc	35	35	35	35	50	50	50	50	35
Vehicle Speed (KMPH)	45	51	51	51	55	55	55	59	64
Brake Type	Drum/Disc	Drum/Disc	Drum/Disc	Drum/Disc	Drum/Disc	Drum/Disc	Drum/Disc	Drum/Disc	Drum/Disc
Rim Size (INCH)	10 X 2.15	10 X 2.15	10 X 2.15	10 X 2.15	10 X 2.15	10 X 2.15	10 X 2.15	10 X 2.15	10 X 2.15
IP Rating	IP 67	IP 67	IP 67	IP 67	IP 67	IP 67	IP 67	IP 67	IP 67
Thermal Insulation	H Class (Inverter Duty Class)	H Class (Inverter Duty Class)	H Class (Inverter Duty Class)	H Class (Inverter Duty Class)	H Class (Inverter Duty Class)	H Class (Inverter Duty Class)	H Class (Inverter Duty Class)	H Class (Inverter Duty Class)	H Class (Inverter Duty Class)
Max. Working Temperature (deg. C)	50	50	50	50	50	50	50	50	50
Gradient (Degree)	8	8	8	8	8	8	10	10	10
GVW	235	235	235	235	235	235	235	235	235
Max. Current Adc	35	35	35	35	50	50	50	50	35

HUB MOTOR SPECIFICATIONS													
Motor type	Three Phase PMSM Hub Motor												
Motor Category	12" Hub Motor												
Motor code	9000032954	9000031113	9000033152	9000033153	9000034359	9000031106	9000032955	9000033482	9000032961	9000032959	9000034536	9000033649	9000034537
Rated Power Rating (Watt)	1000	1000	1200	1200	1500	1500	1500	2000	2000	2000	3000	3000	3000
Peak Power Rating (Watts)	1400	1800	2000	2500	2000	2500	3000	4000	3800	3700	4400	5100	5400
Voltage Range (V)	48	60	48	60	48	60	72	48	60	72	48	60	72
Max. Speed (RPM)	620	650	620	650	620	660	750	800	800	950	860	1100	1100
Max. Efficiency	90%	90%	90%	90%	90%	90%	90%	90%	90%	90%	90%	90%	90%
Peak Torque (Nm)	104	105	107	108	107	113	113	148	146	146	165	164	153
Peak ampere AC	96	96	106	95	106	106	106	185	168	168	240	215	275
Idc	35	35	50	50	50	50	50	95	75	60	110	100	90
Vehicle Speed (KMPH)	54	57	54	57	54	58	66	70	70	83	76	95	95
Brake Type	Drum/Disc	Drum/Disc	Drum/Disc	Drum/Disc	Drum/Disc	Drum/Disc	Drum/Disc	Drum/Disc	Drum/Disc	Drum/Disc	Drum/Disc	Drum/Disc	Drum/Disc
Rim Size (INCH)	12 X 2.5	12 X 2.5	12 X 2.5	12 X 2.5	12 X 2.5	12 X 2.5	12 X 2.5	12 X 2.5	12 X 2.5	12 X 2.5	12 X 2.5	12 X 2.5	12 X 2.5
IP Rating	IP 67	IP 67	IP 67	IP 67	IP 67	IP 67	IP 67	IP 67	IP 67	IP 67	IP 67	IP 67	IP 67
Thermal Insulation	H Class (Inverter Duty Class)	H Class (Inverter Duty Class)	H Class (Inverter Duty Class)	H Class (Inverter Duty Class)	H Class (Inverter Duty Class)	H Class (Inverter Duty Class)	H Class (Inverter Duty Class)	H Class (Inverter Duty Class)	H Class (Inverter Duty Class)	H Class (Inverter Duty Class)	H Class (Inverter Duty Class)	H Class (Inverter Duty Class)	H Class (Inverter Duty Class)
Max. Working Temperature (deg. C)	50	50	50	50	50	50	50	50	50	50	50	50	50
Gradient (Degree)	8	8	8	8	8	8	8	14	14	14	16	16	16
GVW	235	235	235	235	235	235	235	275	275	275	275	275	275
Max. Current Adc	35	35	50	50	50	50	50	95	75	60	110	100	100

HUB MOTOR SPECIFICATIONS									
Motor type	Three Phase PMSM Hub Motor								
Motor Category	17" Hub Motor								
Motor code	9000034534	9000031107	9000032962	9000034535	9000031108	9000032963	9000033681	9000032964	9000031109
Rated Power Rating (Watt)	1500	1500	1500	2000	2000	2000	3000	3000	3000
Peak Power Rating (Watts)	2000	2500	3000	3900	3800	3700	4500	5100	6100
Voltage Range (V)	48	60	72	48	60	72	48	60	72
Max. Speed (RPM)	605	660	750	800	800	821	821	821	821
Max. Efficiency	90%	90%	90%	90%	90%	90%	90%	90%	90%
Peak Torque (Nm)	107	113	113	148	146	146	165	164	171
Vehicle Speed (KMPH)	70	76	87	93	93	95	95	95	95
Brake Type	Disc	Disc	Disc	Disc	Disc	Disc	Disc	Disc	Disc
Rim Size (INCH)	17 x 2.5	17 x 2.5	17 x 2.5	17 x 2.5	17 x 2.5	17 x 2.5	17 x 2.5	17 x 2.5	17 x 2.5
IP Rating	IP 67	IP 67	IP 67	IP 67	IP 67	IP 67	IP 67	IP 67	IP 67
Thermal Insulation	H Class (Inverter Duty Class)	H Class (Inverter Duty Class)	H Class (Inverter Duty Class)	H Class (Inverter Duty Class)	H Class (Inverter Duty Class)	H Class (Inverter Duty Class)	H Class (Inverter Duty Class)	H Class (Inverter Duty Class)	H Class (Inverter Duty Class)
Max. Working Temperature (deg. C)	50	50	50	50	50	50	50	50	50
Gradient (Degree)	8	8	8	14	14	14	16	16	16
GVW	235	235	235	275	275	275	275	275	275
Max. Current Adc	50	50	50	95	75	60	110	100	100

VEHICLE CATEGORY FOR 3W, 4W (L5M, L5N, E-CAR)



PRODUCT FEATURES

- ARAI & Natrax Certified (Govt. Approved)



- Highly Efficient Motor



- CAN Communication



- Long Working Life



- Water and Dust Resistant (IP 67)



- Regenerative Braking with Hill Assistant



SHAKTI L5M,L5N,E-CAR VEHICLE SPECIFICATION

MOTOR TYPE	Powertrain Motors for different Category Vehicles														
	E-Rickshaw				L5 Auto and Loader										
	IPMSM	INDUCTION	IPMSM	IPMSM	INDUCTION	IPMSM	INDUCTION	IPMSM	SYRM	INDUCTION	IPMSM	IPMSM	INDUCTION	IPMSM	IPMSM
MOTOR CODE	9000032814	9000034347	9000035251	9000032815	9000033576	9000034957	9000032511	9000033413	9000033687	9000033557	9000034346	9000033414	9000033359	9000034339	9000034339
Rated Power Rating (Watt)	1.2	1.5	1.5	1.5	2	3	4	4	4	5	5	5	7.5	7.5	7.5
Peak Power Rating (Watts)	2.4	3.15	3.1	2.4	4	5	7	7	7.5	9	9	8	13	12	11
Voltage Range (V)	48/60	48	48	48/60	48	60	48/60	48/60	48	48/60	48	48/60	72	48	72
Max. Speed (RPM)	3800	3660	3660	3800	5000	5250	5500	5000	3800	5500	4500	5000	5300	4750	6000
Max. Efficiency	90	87.3	92	90	85	90	88	92	90	88	92.5	90	91	92	94
Peak Torque (Nm)	28	30	34	33	36	32	74	56	24	86	52	69	82	75	95
Vehicle Speed (KMPH)	33	31	31	35	39	50	50	50	40	55	55	55	55	55	55
SHAFT TYPE	GEAR	SPLINE	GEAR	GEAR	SPLINE	SPLINE	SPLINE	SPLINE	SPLINE	SPLINE	SPLINE	SPLINE	SPLINE	SPLINE	SPLINE
IP Rating	IP67	IP67	IP67	IP67	IP67	IP67	IP67	IP67	IP67	IP67	IP67	IP67	IP67	IP67	IP67
Thermal Insulation	H Class (Inverter duty class)	H Class (Inverter duty class)	H Class (Inverter duty class)	H Class (Inverter duty class)	H Class (Inverter duty class)	H Class (Inverter duty class)	H Class (Inverter duty class)	H Class (Inverter duty class)	H Class (Inverter duty class)	H Class (Inverter duty class)	H Class (Inverter duty class)	H Class (Inverter duty class)	H Class (Inverter duty class)	H Class (Inverter duty class)	H Class (Inverter duty class)
Max. Working Temperature (deg. C)	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50
Gradient (Degree)	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7
GVW	600	700	700	700	650	750	750	750	750	800	800	800	1400	1400	1400

AUTOMOTIVE SYSTEM MOTOR

STEERING/COMPRESSOR/TRACTION

INTRODUCTION

Empowering Electric Vehicles with Advanced Electric Motors.

The automotive system motor serves as the heart of electric vehicle technology, converting electrical energy into powerful mechanical motion. Designed for high performance and efficiency, our electric motors offer cutting-edge solutions for passenger cars, buses, and light commercial vehicles.

KEY FEATURES

- **High Performance** : Delivering robust power for enhanced driving experience.
- **Efficient Electric Drive** : Maximizing energy efficiency and reducing environmental impact.
- **Versatile Applications** : Ideal for steering systems, compressors, and traction motors.

WHY CHOOSE US?

- **Innovative Technology** : Leading the way in electric mobility solutions.
- **Reliability** : Built to withstand rigorous demands of automotive applications.
- **Sustainability** : Contributing to a cleaner and greener future.

TECHNICAL CHARACTERISTICS

COST EFFICIENCY

Lower operating costs lead to a shorter payback period.

High efficiency ensures optimal energy use & longer range.

ENHANCED DURABILITY

Better heat dissipation and reduce temperature rise.

Extended motor lifespan with “H” class insulation for reliable performance.

ENVIRONMENTAL IMPACT

Significant reduction in CO2 emissions.

Contributing to a cleaner, greener environment.

KEY CHARACTERISTICS

APPLICATION

- Steering Motor
- Compressor Motor
- Fans & Blowers
- Cranes, Hoist & Lift.

FEATURES & BENEFITS

High Performance Design :

- Dynamically balanced rotors ensure smooth operation
- Double shielded, high-temperature bearings for enhanced durability.

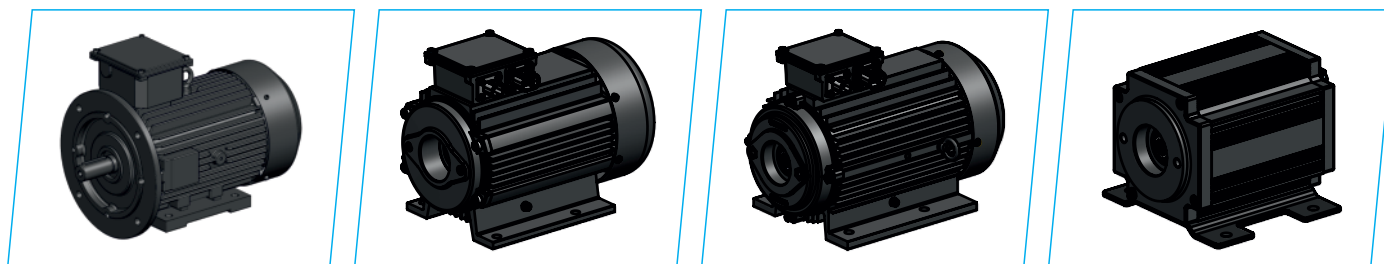
Robust Protection : • IP67 rating protects against moisture, dust & water ingress.

Efficient Cooling System : • Three-dimensional heat transfer principle in cooling fins design.

Operational Efficiency : • Minimized friction losses for optimal performance. • Low noise operation ensures smooth running.

Reliability & Ease of Use : • Reliable operation with easy maintenance. • Short payback period for cost-effectiveness.

STEERING MOTOR



STEERING MOTOR									
Material Code	AC (CAST IRON)		AC (ALUMINIUM)		IPMSM (ALUMINIUM)				
	9000030780	9000030706	9000032671	9000032597	9000032670	9000032916	9000033674	9000033574	9000033642
MOTOR POWER (kW)	2.2	3.7	2.2	3.7	1.5	2.2	2.2	3	5
Peak Power (kW)	4.4* / 7**	7.4* / 8.5**	4.4* / 7**	7* / 8.5**	3* / 3.5**	4.4* / 7**	4.4* / 7**	5.4* / 8**	9* / 13.5**
Volts (V)	415	415	415	415	120	234	238	353	353
Rated Ampere (A)	4.7	7	5.1	8.1	10.3	6.2	6.2	7.4	12.4
Peak Ampere (A)	9	13	9.5	14	21	24	24	17	25
Rated RPM	1452	1457	1455	1455	1500	1200	1500	1500	1500
Rated Torque N-m	14.5	24.1	14.36	14.58	9.5	17.9	14	21.5	31.8
Peak Torque N-m	49.56	70	66.75	70	23	55.8	38.2	45.28	70.5
Max. Efficiency	82.3	87.9	86.7	88.4	86.7	89.8	90.3	91.4	91.4
Type	AC	AC	AC	AC	IPMSM	IPMSM	IPMSM	IPMSM	IPMSM
Shaft Type	Key way	Key way	Key way	Key way	Spline	Spline	Spline	Spline	Spline
Output Phase	3Ø	3Ø	3Ø	3Ø	3Ø	3Ø	3Ø	3Ø	3
Connection	DELTA	DELTA	DELTA	DELTA	SERIES-PARALLEL STAR	SERIES-PARALLEL STAR	SERIES-PARALLEL STAR	SERIES-PARALLEL STAR	SERIES-PARALLEL STAR
Poles	4	4	4	4	6	6	6	8	8
Protection Type	IP67	IP67	IP67	IP67	IP67	IP67	IP67	IP67	IP67
Insulation class	H	H	H	H	H	H	H	H	H
Enclosure	TEFC	TEFC	TEFC	TEFC	TEFC	TEFC	TEFC	TENV	TENV
Frame	100	112	112	112	112	112	112	100	100
Mounting	B35	B35	B34	B34	B34	B34	B34	B34	B34
Ambient Temp.	-20 TO 55	-20 TO 55	-20 TO 55	-20 TO 55	-40 TO 85	-40 TO 85	-40 TO 85	-40 TO 85	-40°C TO 100°C
Cooling Method	Fan cooled	Fan cooled	Fan cooled	Fan cooled	Fan cooled	Fan cooled	Fan cooled	Natural Cooling	Natural Cooling

* Frequent Loading (60 Sec for Every 15 minute)

** momentarily overload (120 Second for 1-2 times a Day)

Note: If required, the above motors can also be utilized for compressor applications.

SIMHA PLUS UNIVERSAL DRIVE (FOR STEERING MOTOR)



ABOUT THE PRODUCT

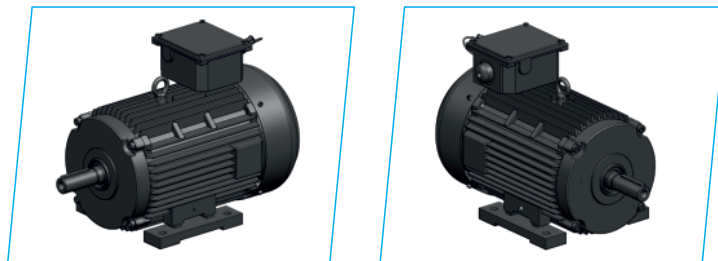
Shakti's Simha Universal Drive is a unique product designed, developed and manufactured in India. It supports wide varieties of motors by virtue of its universal design. It's IP65 design and rust-proof metallic enclosure provides protection from foreign particles (e.g. rain, dust, oil) which obsoletes the need for extra outer case. Remote Monitoring system, Wide temperature range and electrically safe user handling are its additional features.

APPLICATION

All in one solution for driving of various motors like AC-IM, PMSM, IPMSM, S4RM, etc.

Product	
Model No.	96-161
Power	15 HP
Input(DC)	
DC Voltage Ranges	200-850 V
AC Voltage Ranges (if applicable)*	200-480 VAC (3PH)
Output (AC)	
Nominal AC Voltage Ranges	0-480VAC
Frequency	0-400Hz
Max. AC Current	25 A
Rated Power at AC Side	14000 W
Power Factor	0.7 – 1 (at full load)
THD	70-150%
Slope	8300 V/uS
Peak	850
Connection Phases	3 Phase only
Efficiency	
Max Efficiency	>93%
General Data	
Protection	Short Circuit, Lightning/Surge, Over Temperature, Over Current, Over voltage, Dry Run
Ingress Protection	IP 65
Operating Temperature Range	-20 °C to 70 °C (45°C to 70°C with derating)
Certificates	IS 16221-2(IEC62109-2), IEC60529, EN 50530

COMPRESSOR MOTOR



COMPRESSOR MOTOR						
Material Code	AC (CAST IRON)		AC (ALUMINIUM)			
	9000030781	9000030680	9000033346	9000033368	9000026295	9000026296
MOTOR POWER (kW)	2.2	3.7	2.2	3.7	5.5	7.5
Peak Power (kW)	4.4* / 5.2**	7.4* / 8.5**	4.4* / 5.2**	7.4* / 8.5**	11* / 12.5**	15* / 17.5**
Volts (V)	415	415	415	415	415	415
Rated Ampere (A)	5.3	7.3	5.2	7.7	10.7	14
Peak Ampere (A)	10	14	9	13.5	21	28
Rated RPM	964	953	1440	1452	1453	1462
Rated Torque N-m	21.76	37.24	9.08	14.62	20.96	28.32
Peak Torque N-m	47.3		30.5	47.5	76.5	101
Max. Efficiency	80.1	83.8	88.2	89	84.3	85.3
Type	AC	AC	AC	AC	AC	AC
Shaft Type	KEY WAY	KEY WAY	KEY WAY	KEY WAY	KEY WAY	KEY WAY
Output Phase	3Ø	3Ø	3Ø	3Ø	3Ø	3Ø
Connection	DELTA	DELTA	DELTA	DELTA	DELTA	DELTA
Poles	6	6	4	4	4	4
Protection Type	IP67	IP67	IP67	IP67	IP67	IP67
Insulation class	H	H	H	H	H	H
Enclosure	TEFC	TEFC	TEFC	TEFC	TEFC	TEFC
Frame	112	132	100	112	132	132
Mounting	B3	B3	B3	B3	B3	B3
Ambient Temp.	-20 TO 55	-20 TO 55	-20 TO 55	-20 TO 55	-20 TO 55	-20 TO 55
Cooling Method	Fan cooled	Fan cooled	Fan cooled	Fan cooled	Fan cooled	Fan cooled

* Frequent Loading (60 Sec for Every 15 minute)

** momentarily overload (120 Second for 1-2 times a Day)

CONSTRUCTION VEHICLE APPLICATION MOTOR



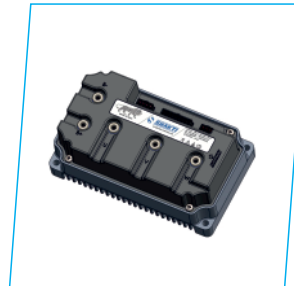
Material Code	MOTOR POWER (kW)	Volts (V)	Rated Ampere (A)	Rated RPM	Max. Efficiency	Type	Shaft Type	Phase	Connection	Poles	Protection Type	Insulation class	Enclosure	Frame	Mounting	Ambient Temp.	Cooling Method
9000034565	50	415	84	2955	92	INDUCTION	KEY WAY	3	DELTA	2	IP55	F	TEFC	225	B35	-20 TO 55	Fan cooled

SHAKTI EV CONTROLLER

Shakti EV Controller for L1,L2 Category



MCU2W50A



MCU2W100A

KEY FEATURES

1. Parking and drive modes functionality.
2. Multiple speed modes: Three standard and a sport mode.
3. Vector control with speed sensor integration.
4. High Brake Mode.
5. Side stand safety protection.
6. Throttle control functionality.
7. Forward and reverse mode control.
8. Regenerative braking control.

SPECIFICATIONS

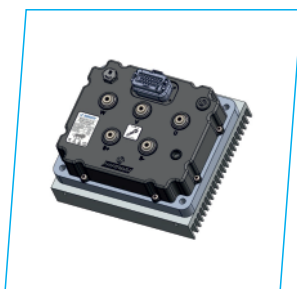
PARAMETERS	MCU - 2W				
	86-02	86-03	86-10	86-04	86-24
INPUT(DC)					
Voltage	40V-71V	40V-71V	62V-84V	40V-85V	40V-85V
Max Input Current	30A	50A	50A	100 A	150 A
Maximum Power	1800 W	3000 W	3600 W	8400 W	11880 W
OUTPUT(AC)					
Nominal AC Voltage range	0-42 VAC	0-42 VAC	0-50 VAC	0-60 VAC	0-60 VAC
Frequency	0-400 Hz			0-500 Hz	
Power Factor Range	0.8 - 1				
Connection Phases	3 phase only				
EFFICIENCY					
Max Efficiency	> 90%				
COMMUNICATION					
Communication Protocols	CAN				
GENERAL DATA					
Cooling Method	Natural Cooling				
Ambient Humidity	0-90%				
Position Feedback	Hall Sensor				
Mounting	Horizontal (tentative)				
Noise (dbA)	< 20 dbA				
Operating Temperature Range	-20 °C to 60 °C				
IP Rating	IP 67				
Dimensions (L*W*H)	200 x 125 x 65 mm ³			190 x 111 x 72mm ³	190 x 111 x 85mm ³
Net Weight	1 Kg			1.3 Kg	1.9 Kg

PROTECTIONS

1. Short circuit protection.
2. Motor over temperature.
3. Controller over temperature.
4. DC Bus over voltage.
5. DC Bus under voltage.
6. Throttle signal error.
7. Hall Sensor signal error

SHAKTI EV CONTROLLER

Shakti EV Controller for L5 Category – 7.5 kW



MCU3W150A



MCU3W7.5KW

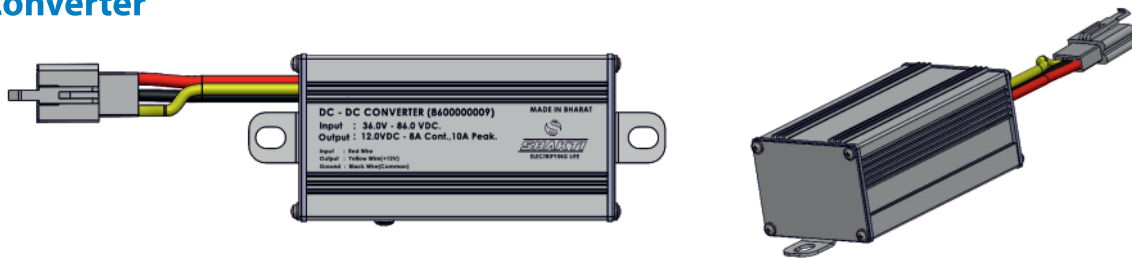
SPECIFICATIONS

PARAMETERS	MCU - 3W		
	8600000006	8600000019	8600000023
	8600000028 [#]	8600000029	8600000031 [#]
INPUT			
Voltage	48V/60V / 72V (36V-84V)		40-72 V
Max Input Current	200A	210A	65A
Maximum Power	10000 W	14000 W	3000 W
OUTPUT			
Nominal AC Voltage range	0-50 VAC	0-60 VAC	0-42 VAC
Frequency	0-800 Hz	0-800 Hz	0-500 Hz
Max AC Current	365 A	460 A	190 A
Power Factor Range	0.8 - 1		
Connection Phases	3 phase only		
Max Efficiency	> 95%		> 90%
OTHER INFO			
Communication Protocols	CAN		CAN / LIN
Cooling Method	Natural Cooling /Air forced Cooling [#]	Air forced Cooling	Natural Cooling
Operating Temperature Range	-25 °C to 65 °C		-20 °C to 60 °C
Pollution Degree	PD3		
IP Rating	IP 67		
Noise	< 20 dBA		
Position Feedback	Encoder		
Mounting	Horizontal Tentative		
Dimensions (L*W*H)	(193mm X 183mm X 106mm) ± 1.50	(242mm X187mm X157.65mm) ± 1.50	(190mm X111mm X172mm) ± 1.50 (340mm X13mm X80mm) ± 1.50 [#]
Weight	4 Kg	5.3 Kg	1.3 Kg / 2.2 Kg [#]
Protection	Short circuit, Under voltage/ Over Voltage/ Motor and Controller Temperature fault.		
Precharge Contractor	Required		

FEATURES

Features Of Shakti EV Controllers (5 & 7.5 kW)	
Fault Indicator	Beep/ Alarm Sound/ Through CAN
Speed Modes	First, Second and Third Mode (Settable as per customer requirement)
Forward and Reverse Mode	Yes
Regenerative braking	Yes
High Brake and Hand brake	Yes
Interlock	Yes
Hill Assist	Yes (For 5 sec)
CAN communication	Yes (Internal 120 ohm connected)
Aux Supply	FAN control and other loads (Max 1.5A)
Parking Mode	Yes

DC-DC Converter



ABOUT THE PRODUCT

The Shakti DC-DC Converter is a high-performance power module designed for Electric Vehicle (EV) applications. It efficiently converts the EV battery voltage, ranging from 36V to 86V DC, into a stable 12V DC output capable of supplying up to 10A of current. This converter provides reliable power for auxiliary systems such as lighting, horn, cluster, etc. Built with advanced protection features including over-voltage, over-current, and thermal safeguards.

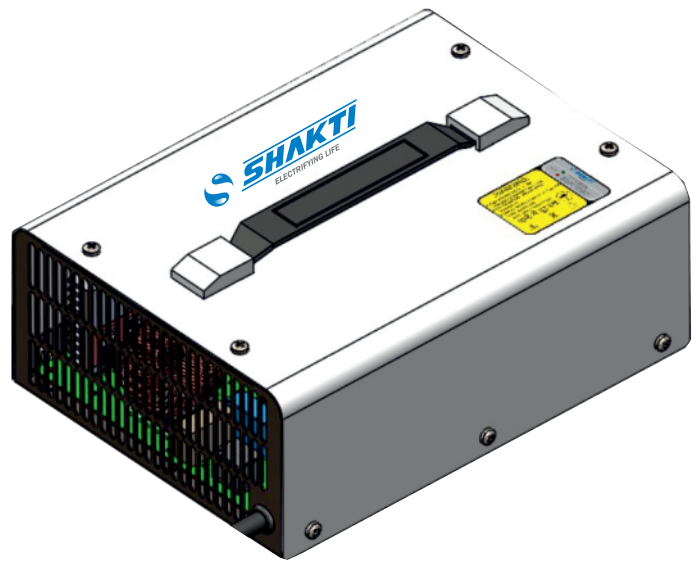
The Shakti DC-DC Converter delivers reliable, efficient, and stable power conversion, ensuring safe operation even under harsh automotive and high-transient EV conditions.

SPECIFICATIONS

DC – DC Converter	
Input (DC)	
Voltage	36V-86V
Current	3A
Maximum Power	130W
Output (AC)	
Voltage	12V
Peak Current	10A
Continuous Current	8A
Maximum Power	120W
Efficiency	
Max Efficiency	> 90%
Protection	
Input Under Voltage	YES
Over Temperature	YES
Output Over Current	YES
Output Under Voltage	YES
Output Over Voltage	YES
Short Circuit Protection	YES
Ingress Protection	IP65
General Data	
Cooling Method	Natural Cooling
Mounting	Vertical (tentative)
Operating Temperature Range	(-30 °C to +60 °C)
Dimensions (L*W*H)	123.7mm X 50mm X 40.9mm
Net Weight	200gm
Topology	Synchronous Buck

SHAKTI EV CHARGER

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 & warnings.
- No battery connected detection.
- 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.

APPLICATIONS

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

BENEFITS

1. Promotes Sustainability.
2. Energy efficient and cost saving.

PROTECTIONS

1. Input under/over voltage protection.
2. Output under/over voltage protection.
3. Output over current protection.
4. Over temperature protection.
5. Short circuit protection.
6. Reverse polarity protection.

SPECIFICATIONS

Parameters	SHAKTI EV CHARGER								
	86-01	86-07	86-08	86-05	86-11	86-12	86-26	86-16**	86-15**
	1.2 kW	1.5 kW		750 W	900 W			3 kW	
INPUT PARAMETERS									
Input Voltage	190V-265V							200V-265V	
Input Current	≤ 7A	≤ 9A		≤ 5A	≤ 6A			≤ 16A	≤ 16A
Input Frequency	50Hz								
Power Factor	> 0.98								
Efficiency	>92%							>91%	
OUTPUT PARAMETERS									
Output Voltage Range	40V-72V	40V-72V	56V-84V	40V-60V	47V-73V	57V-84V	40V-60V	47V-73V	40V-60V
Maximum Output Current	20A	25A	20A	12A	12 A	10.5 A	15 A	50A	50A
Output Power	1200W	1500W		720W	876 W		900W	3000W	3000W
Output Ripple Voltage	< 1%							< 1%	
Line Regulation	< 2%							< 3%	
Load Regulation	< 2%							< 3%	
USER INTERFACE & COMMUNICATION									
Indicator	LED								
Audio Indicator	Buzzer			NA					
Communication	CAN, UART								
PHYSICAL									
L X W X H	260 x 185 x 90mm ³			291 x 134 x 93mm ³				270 x 265 x 110mm ³	
Net wt. / Gross wt.	Approx 3.5 Kg							Approx 5 Kg	
OTHER INFO									
Operating Temperature	0 to 50 °C			- 5 to 55 °C				0 to 50 °C	
Relative Humidity	0-95% RH(Non-condensing)								
Noise	< 45 dB								
IP Degree of Protection	IP 20			IP67					
Output Connector*	SB50 without CAN, SB75 with CAN							SB75 with CAN	
Cooling	Air Forced Cooling								

*Output connector can be customised as per user requirements

** upcoming product

DISPOSAL

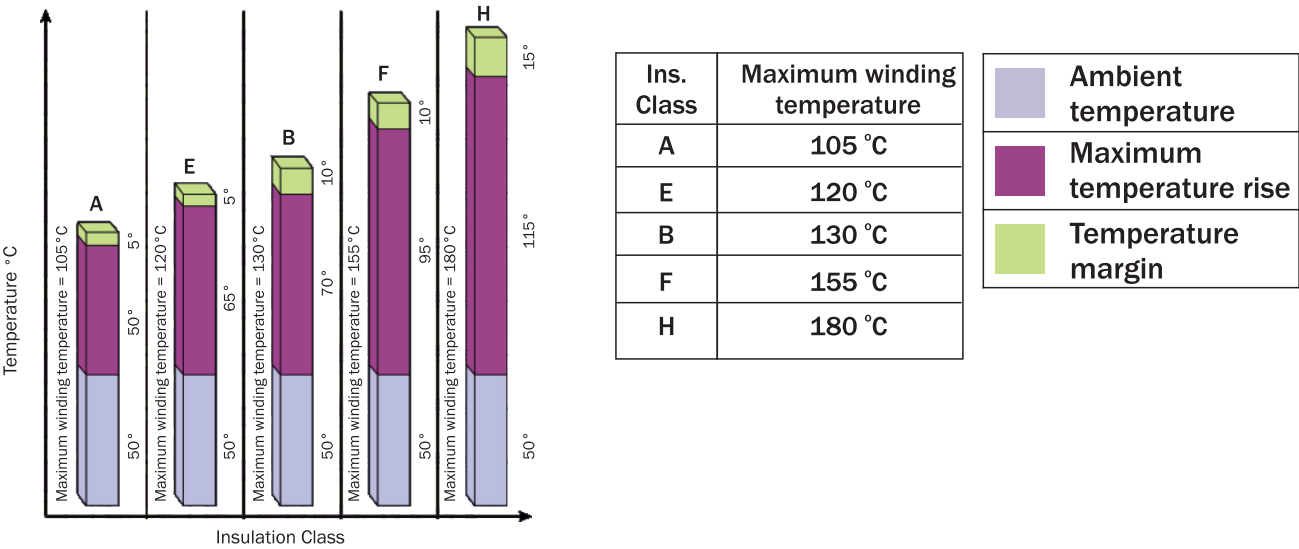
This product or parts of it must be disposed of in an environmentally sound way:

1. Use the public or private waste collection service.
2. If this not possible, contact the nearest Shakti company or service workshop.

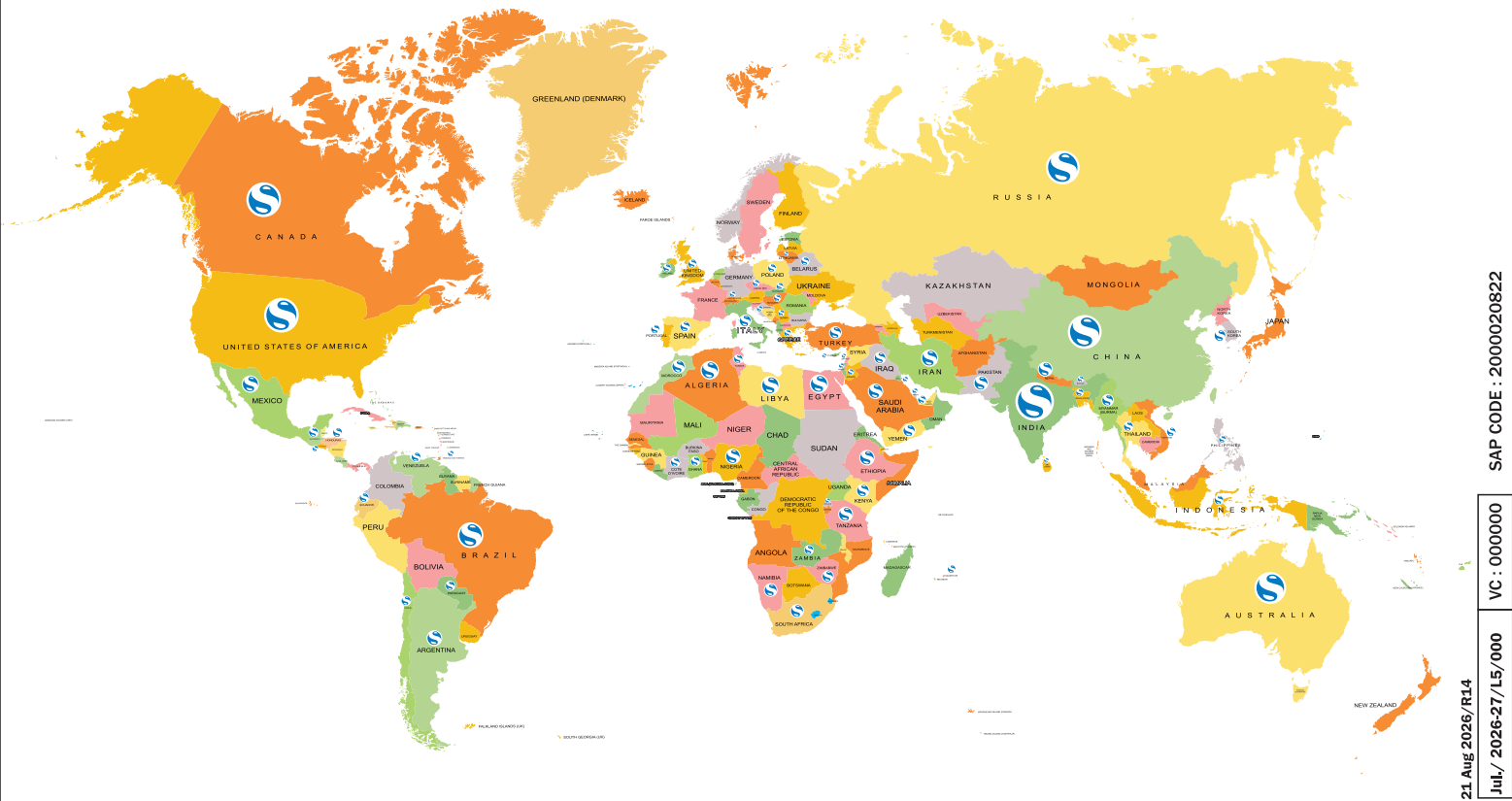
Subject to alternation

Understanding the Insulation Class & Temperature

Motors are manufactured with class 'H' insulation. The reserve thermal capacity helps to maintain the integrity of the insulation and motor life. Temperature rise and maximum temperature at the hottest points of winding is according to temperature classes IS 325/ IEC 60034-1



OUR PRESENCE



TOLL FREE NO. 1800 103 5555

SHAKTI EV MOBILITY PRIVATE LIMITED

Address : Plot No.4, Integrated Industrial Area, Pithampur Sector-5,
Dhar Road, Pithampur, District Dhar - 454774 Madhya Pradesh
Tel : +91 7292 410500, Email: info@shaktievmobility.com, www.shaktievmobility.in
Group Company - **SHAKTI PUMPS (INDIA) LIMITED**
www.shaktipumps.com