

OBC11kW500V

Bidirectional On-Board Charger



The 11kW OBC is a high power, bi-directional AC-DC/DC-AC conversion module specifically designed to meet the application of transmitting power from power grid to the vehicle battery and from battery to power grid (V2G).

- Wide battery voltage range 240V – 500V
- Dual AC input either single-phase 220Vac or three-phase 380Vac
- Max. efficiency 96.8%
- Full-featured protection

Flexible Setup & Installation

Input either single phase 220Vac or three phase 380Vac; Integrated water cooling system for stable operation.

High Performance

Isolated DAB topology with peak efficiency up to 96.8%.

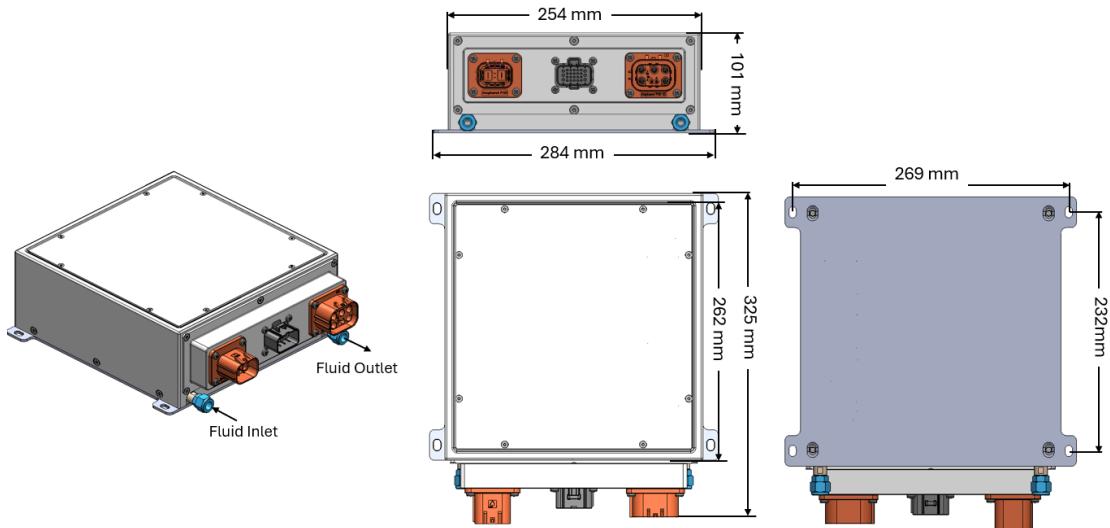
Remote/On-site Monitoring

Remote monitoring with Can Bus.

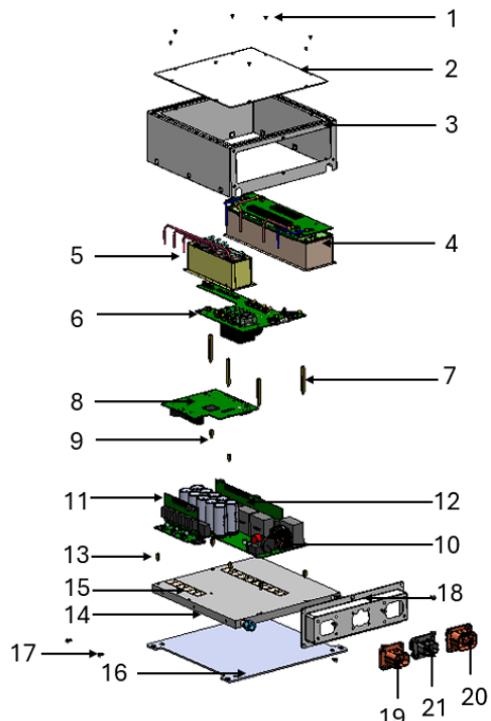
Product Specification

Input (AC)	
Input Voltage Range	360 – 400 Vac, three phase 190 – 240 Vac, single phase
Input Current Range for single phase	0 – 33 A
Input Current Range for three phases (per phase)	0 – 18 A
Input Voltage Accuracy	< ±0.5%
Input Current Accuracy	< ±1% (Output loading of 20% – 100%)
Output (DC Battery)	
Output Power Range	11 kW, three phase 6.6 kW, single phase
Output Voltage Range	240 – 500 Vdc
Output Current Range	0 – 25 A, three phase 0 – 17 A, single phase
Output Voltage Accuracy	< ±5V
Output Current Accuracy	< ±1% (Output loading of 20% – 100%)
Efficiency	
Max. Efficiency	96.8 %
Equipment Protection	
AC Input Overcurrent Protection	Yes
AC Input Overvoltage Protection	Yes
AC Output Undervoltage Protection	Yes
DC Input Overcurrent Protection	Yes
DC Input Overvoltage Protection	Yes
DC Output Undervoltage Protection	Yes
General Data	
Operating Temperature Range	-40 °C to +55°C, derating at 45°C and above
Permissible Ambient Humidity	0 – 100 %
Permissible Altitude	2000 m
Noise	≤ 25 dB
Topology	Isolated DAB
Communication	Can Bus
Cabinet Size (W x H x D)	254 mm x 262 mm x 101 mm
Weight	11 kg
Type of Cooling	Water Cooling
Connector	ARKER TYPE KSB P double self-sealing connector
Power Density	1.6kW/L

Dimension



Product Breakdown



S.no	Part Description	Material	QTY
1	Top Cover Screw_M3 X6	SUS 302	8
2	Top Cover	Al5052	1
3	Main Enclosure	Al5052	1
4	Transformer_Assy & Enclosure	SUS 302	1
5	Inductor_Assy & Enclosure	SUS 302	1
6	EMI Board	N/A	1
7	Standoff M4 X 50mm	Brass	4
8	MCU Board	N/A	1
9	Standoff M4 X 12mm	N/A	2
10	Power Module Assy	N/A	1
11	Gate Driver_PFC	Brass	1
12	Gate Driver_Transformer	Al5052	1
13	Standoff M4 X 10mm	Brass	5
14	Cold Plate	Al5052	1
15	Ceramic Pad	Al2O3	14
16	Base Plate	Al5052	1
17	Screws_M4 X6	SUS 302	28
18	Connector Socket Cover	Al5052	1
19	High Voltage AC Socket	N/A	1
20	High Voltage AC Socket	N/A	1
21	Signal Connector	N/A	1

Efficiency

Grid to battery charging efficiency

