48V-72V-96V
3.3 kW

Automotive On-Board Charger

48V-72V-96V, 3.3 kW
For Light Electric Vehicle

Automotive On-Board Charger

Product Overview

SAYKAL's 3.3 kW On-Board Charger (OBC) is a pioneering solution engineered to address the energy efficiency needs of Mini-Mobility applications. Tailored for maximizing the utilization of electric vehicle batteries, this compact and easily integrable OBC seamlessly harmonizes with the architecture of various Low-Speed Electric Vehicles (LEV). With advanced control capabilities, it ensures optimal performance and intelligent energy management, thereby significantly enhancing your vehicle's overall efficiency.

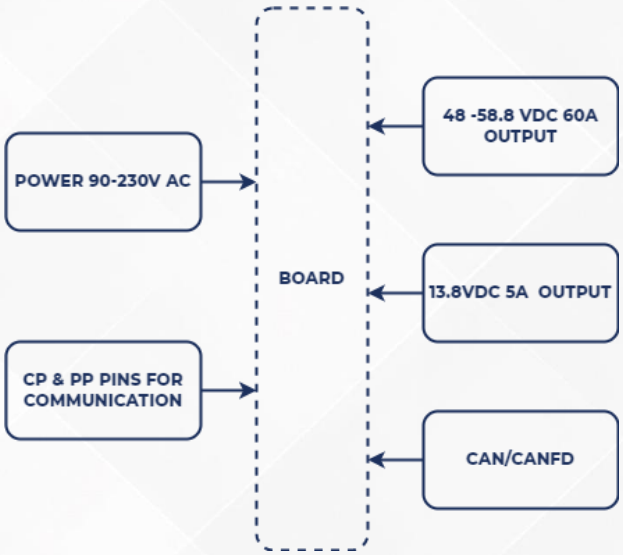
Applications

- Low - Speed Electric Vehicles - LEVs
- Golf Carts
- Campus Transportation
- Electric Boats

Hardware Features

- 90 – 265V AC Input Voltage
- Input Current 14,5A
- Max Input Current 16A
- Rated Power 3.3kW
- Reverse Battery Protection
- Over Current/Voltage/Temperature Protection
- CAN / FDCAN
- Temperature Sensing
- ECE R10 compliant
- IP67 Class Protection

Functional Block Diagram



Software Features

- Firmware Update with CAN / CANFD
- Control / Monitor over CAN / CANFD
- RS422/RS485 Communication (Optional)
- CCS Supported (CP-PP)
- Intelligent Charging Modes
- Sleep mode
- Input/Output Over Current/Voltage/Temperature Protection
- Under Voltage Control

Technical Specifications

PFC Side

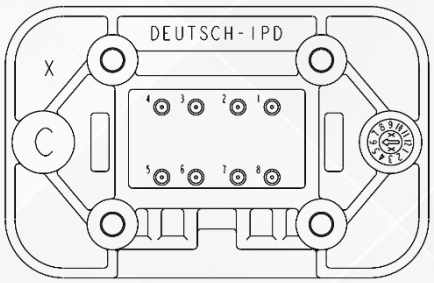
Nominal Input Voltage	Vin	VAC	220
Minimum Input Voltage	Vin_min	VAC	90
Maximum Input Voltage	Vin_max	VAC	265
Input Current	Iin	A	14,5
Maximum input current	Iin_max	A	16
Line Frequency	f_line	Hz	50
Input Power	Pin	W	3520
Efficiency (PFC)	η		0,98
Power Factor	Cosφ		0,99
PFC Output Power	Pout_pfc	W	3445
PFC Swithing Frequency	fsw	kHz	50
DC Bus Voltage	VDC	V	400

LLC Side

Operating input voltage	Vin	VDC	400
Minimum input voltage	Vin_min	VDC	380
Maximum input voltage	Vin_max	VDC	410
Rated output voltage (Model 48,72,96)	Vo	VDC	48, 72, 96
Minimum output voltage (Model48)	Vo_min	VDC	42
Maximum output voltage(Model48)	Vo_max	VDC	58,8
Maximum output current(Model48)	Io_max	A	60
Rated output power	Po_rated	W	3300
Resonant frequency	f_res	kHz	130
Min Switching frequency	fsw_min	kHz	70
Max Switching frequency	fsw_max	kHz	150
Efficiency (LLC)	η		0,96

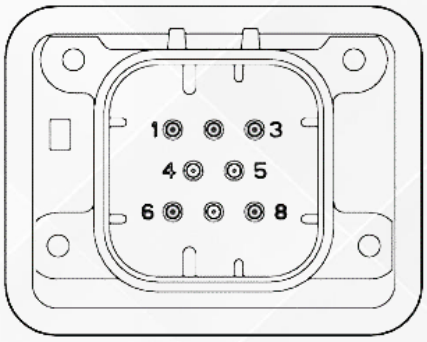
Pin Out / Pin Names and Descriptions

PIN	NAME	DESCRIPTION
1	AC_LINE	90V – 230V AC INPUT
2	AC_LINE	90V – 230V AC INPUT
3	AC_NEUTRAL	90V – 230V AC NEUTRAL
4	AC_NEUTRAL	90V – 230V AC NEUTRAL
5	UNATTACHED	UNATTACHED
6	CP PIN	CP PIN FOR COMMUNICATION
7	PP PIN	PP PIN FOR COMMUNICATION
8	EARTH	EARTH



DT15-08PC

PIN	NAME	DESCRIPTION
1	RESERVED	SERIAL COMMUNICATION
2	RESERVED	SERIAL COMMUNICATION
3	12V	DC OUTPUT
4	RESERVED	SERIAL COMMUNICATION
5	GND	GND
6	RS422_A	SERIAL COMMUNICATION
7	CAN_L	CAN COMMUNICATION
8	CAN_H	CAN COMMUNIATION PIN



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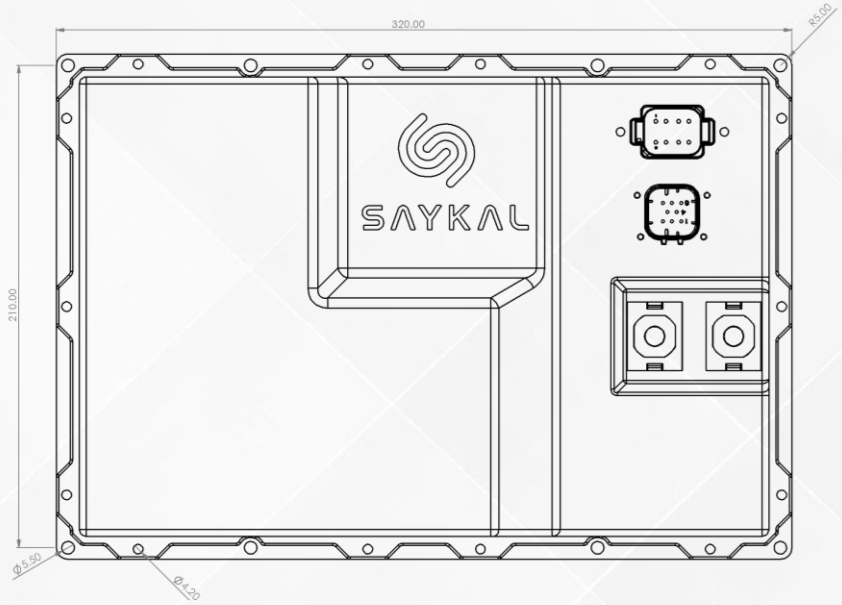
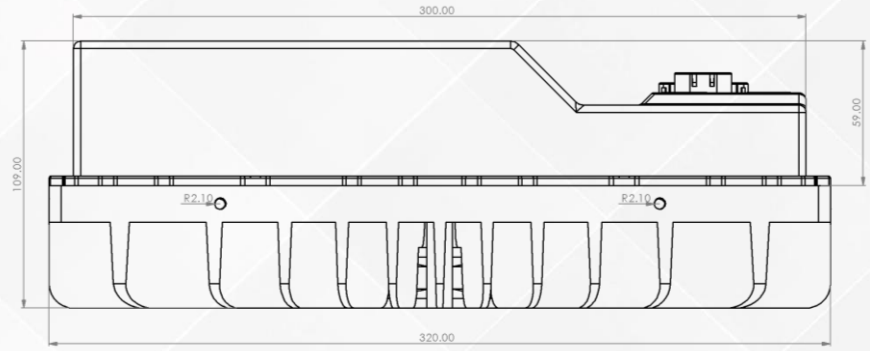
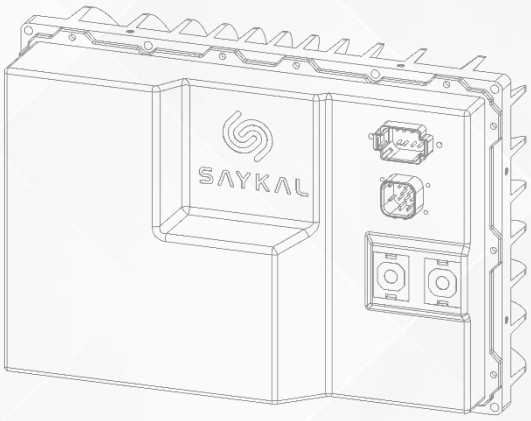
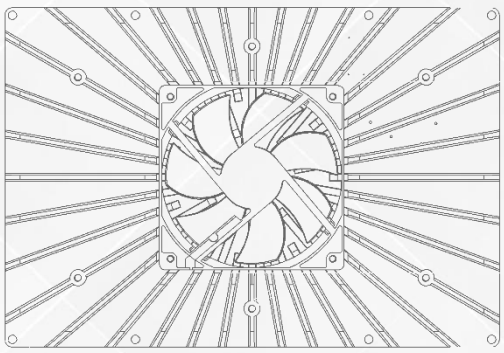
Package Outline and Branding Drawing









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