ANNREN

CATALOGUE

Combo in 1+PDU

DC/DC Converter

On Board Charger

EV & ESS SOLUTION PROVIDER

Company Profile

Based in Taiwan and founded in 2002, ANNREN TECHNOLOGIES Co., Ltd., (here after called "**AT**") develops and produces battery compatible DC/DC electrical power converters, high ef ciency on board chargers, and integrated all-in-one high voltage control units, like PDU, BDU, etc. including fan cooling and liquid cooling systems.

AT designs and manufactures system solutions to the EV OEM world widely. In response to EV industry market trending and customers' demand changes, **AT** launched high voltage **power distribution units (PDU), battery disconnected units (BDU)**for electric vehicle system in 2009. We also devote our R&D team into high voltage **on board charger(OBC)** & DC/DC converter since 2015. **AT** has been focused on electric vehicles and green energy products, and providing systematic solutions to worldwide OEM EV automotives.

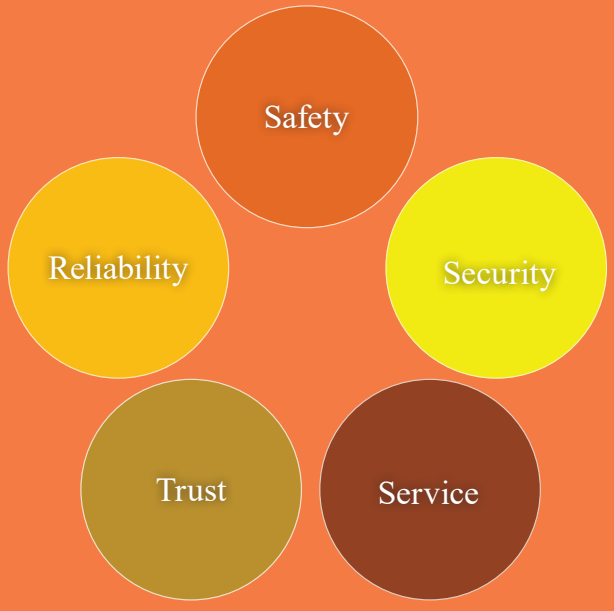
Our Core Competency: Systematic solutions like PDU, BDU, OBC, DC/DC converter, EVCC and SECC.

Product Categories

Combo_(2/3/4/5) in 1+PDU	**On(off) Board Chargers**	**LV(HV) DC/DC Converters**
PDU / BDU	**EVCC & SECC**	**Connector/Inlet/Adapter**
DC/AC Converter/MCU	**Battery / BTMS**	**Energy Storage System (ESS)**

We according to SAE / IEC standard design our products, pass EMI, follow up the safety standards. Quality assurance. We provide our esteemed customers **safety, security, reliability, trust and service.**

Please feel free and contact us for product speci cation inquiries or OEM / ODM custom made requirements.



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CONTENTS

Version: V0
File No.: DM-B-049-0

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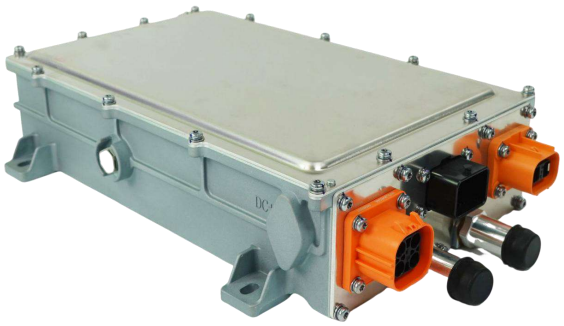
6.6KW OBC-Liquid
Model No. ATC6K6-220S380-W



Features

1 Output Power: 6.6KW
2 Input Voltage: 85~265VAC
3 Output Voltage: 200~450VDC
4 Dimensions: 326x211x83mm
5 Weight: ≤9KG
6 Cooling System: Liquid, flow rate ≥6L/min
7 Protection Level: IP67
8 Communication Method: CAN-BUS
9 Enclosure: Aluminum alloy
10 Software: Digital software design
11 Online Upgrade & Fault Diagnosis: Supported

Specification

Description	Technical Specification	Remark
Operating Temperature	-40~85°C	Coolant inlet temperature
Rated Output Power	6.6KW	
Input Voltage Range	85~265VAC	
Rated Output Voltage	200~450VDC	
Rated Output Current	20A	
Auxiliary Voltage Range	9~32VDC	VCC
Efficiency	≥94%	Rated voltage
Voltage Accuracy	±1%	
Current Accuracy	±3%	
Low Voltage Wakeup	200mA max (wakeup signal)	Wakeup BMS/VCU, VCC followed
Wakeup Method	AC, PP/CP, EN(hardwire)	Support reservation charging
Communication Method	CAN-BUS	
Quiescent Current	≤2mA	Battery current will be consumed in sleep/standby mode
Protection Characteristics	Input OVP, UVP, output OVP, UVP, OTP, OCP, output short circuit protection, communication fault protection	
EMC	GB/T 18387-2008, EN 55022	

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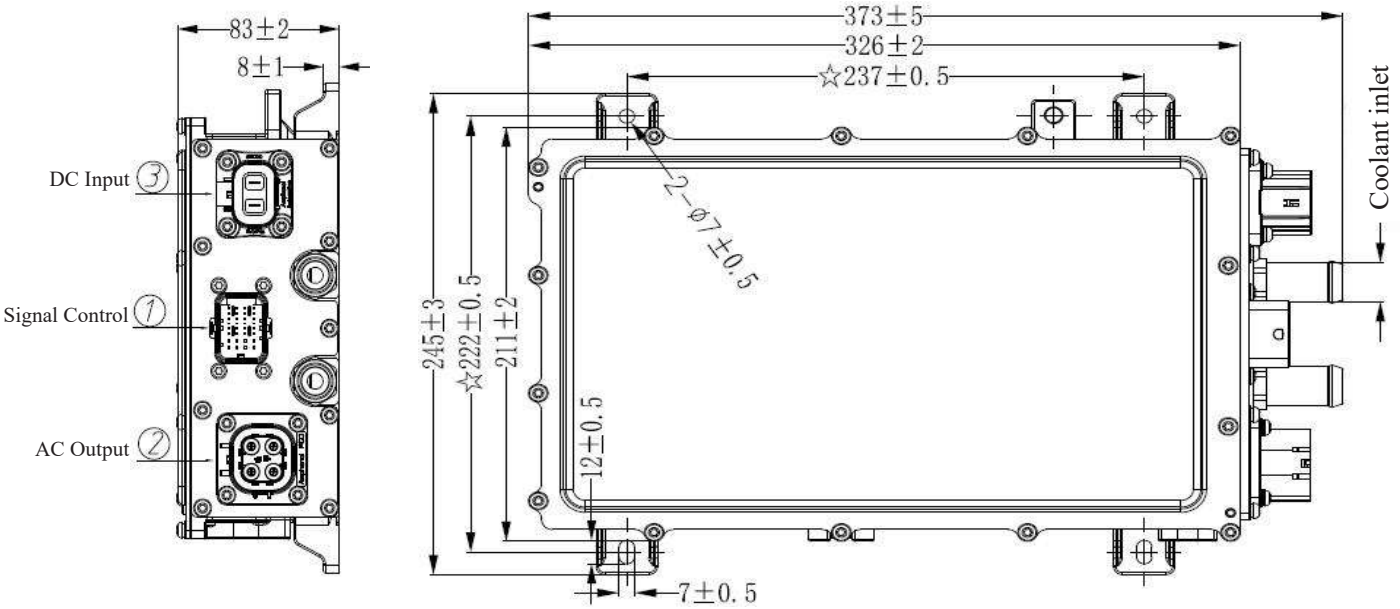
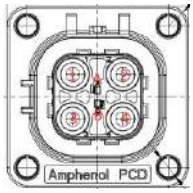
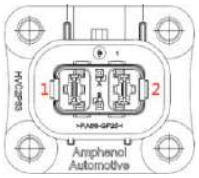
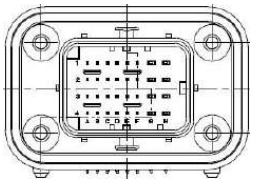
6.6KW OBC-Liquid
Model No. ATC6K6-220S380-W

Structural Parameters (unit : mm)



Connector Model

Position	Function	Brand	Socket Model	Plug Model
1	Signal control	TE	2334366-2	2137299-8
2	AC Input	Amphenol	HVSL364024A	HVSL364064A106I
3	DC Output	Amphenol	HVC2P63MV406	HVC2P63FS406

AC Input(2)		DC Output(3)		Signal Control(1)							
											
1	L	1	Output +	1A	CAN 1-H	2A	Wakeup	3A	NTC 1 +	4A	HVIL_IN
2	NC	2	Output -	1B	CAN 1-L	2B	PP_OUT	3B	NTC 2 +	4B	HVIL_OUT
3	NC	A	HVIL_IN	1C	EN_OBC	2C	NC	3C	NC	4C	NC
4	N	B	HVIL_OUT	1D	NC	2D	NC	3D	NTC 1 & 2 -	4D	NC
A	HVIL_IN			1E	PP	2E	NC	3E	Lock feedback 1	4E	NC
B	HVIL_OUT			1F	CP	2F	NC	3F	Lock feedback 2	4F	NC
	Ground to chassis			1G	VCC +	2G	NC	3G	Lock +	4G	NC
				1H	GND	2H	NC	3H	Lock -	4H	NC

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6.6KW OBC-Liquid
Model No. ATC6K6-220S640-W

Features

1 Output Power: 6.6KW
2 Input Voltage: 85~265VAC
3 Output Voltage: 450~750VDC
4 Dimensions: 326x211x83mm
5 Weight: ≤8KG
6 Cooling System: Liquid, flow rate ≥6L/min
7 Protection Level: IP67
8 Communication Method: CAN-BUS
9 Enclosure: Aluminum alloy
10 Software: Digital software design
11 Online Upgrade & Fault Diagnosis: Supported

Specification

Description	Technical Specification	Remark
Operating Temperature	-40~85°C	Coolant inlet temperature
Rated Output Power	6.6KW	
Input Voltage Range	85~265VAC	
Rated Output Voltage	450~750VDC	
Rated Output Current	12A	
Auxiliary Voltage Range	9~32VDC	VCC
Efficiency	≥94%	Rated voltage
Voltage Accuracy	±1%	
Current Accuracy	±3%	
Low Voltage Wakeup	200mA max (wakeup signal)	Wakeup BMS/VCU, voltage follows the VCC
Wakeup Method	AC, PP/CP, EN(hardwire)	Support reservation charging
Communication Method	CAN-BUS	
Quiescent Current	≤2mA	Battery current will be consumed in sleep/standby mode
Protection Characteristics	Input OVP, UVP, output OVP, UVP, OTP, OCP, output short circuit protection, communication fault protection	
EMC	GB/T 18387-2008, EN 55022	

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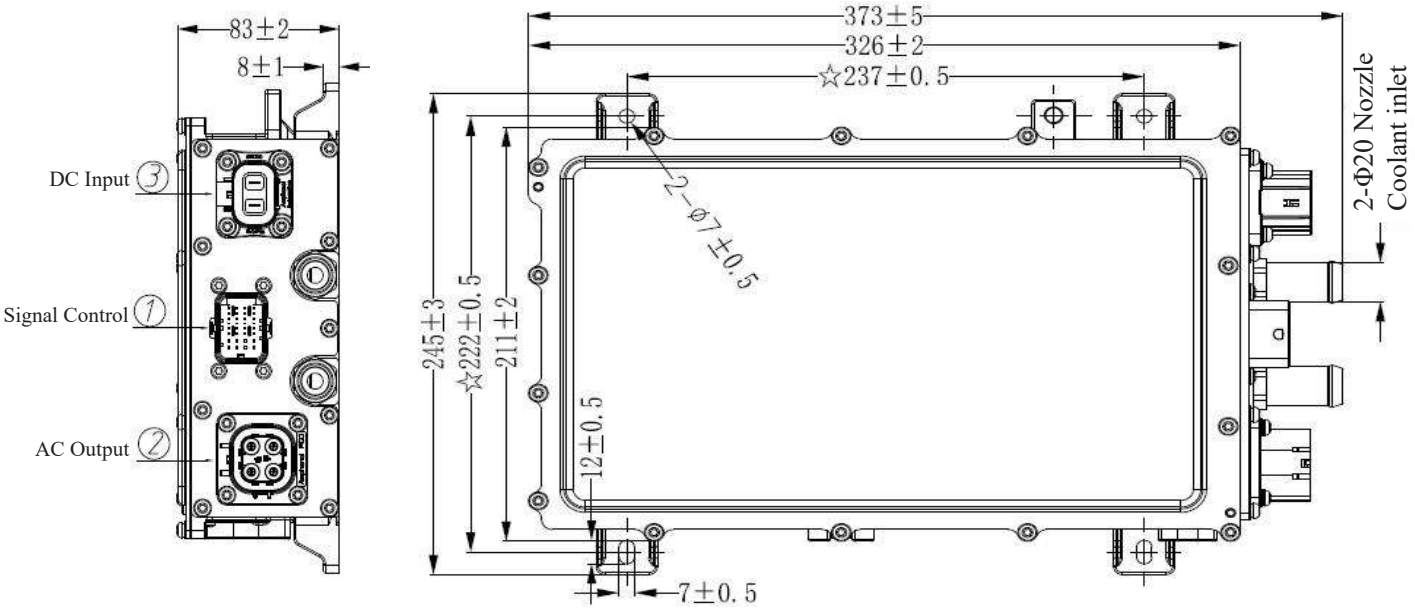
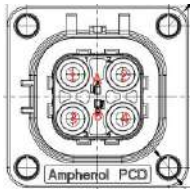
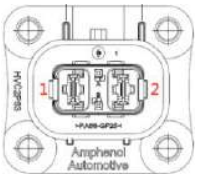
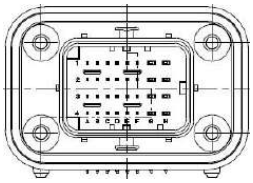
6.6KW OBC-Liquid
Model No. ATC6K6-220S640-W

Structural Parameters (unit : mm)



Connector Model

Position	Function	Brand	Socket Model	Plug Model
1	Signal control	TE	2334366-2	2137299-8
2	AC Input	Amphenol	HVSL364024A	HVSL364064A106I
3	DC Output	Amphenol	HVC2P63MV406	HVC2P63FS406

AC Input(2)		DC Output(3)		Signal Control(1)							
											
1	L	1	Output +	1A	CAN 1-H	2A	Wakeup	3A	NTC 1 +	4A	HVIL_IN
2	NC	2	Output -	1B	CAN 1-L	2B	PP_OUT	3B	NTC 2 +	4B	HVIL_OUT
3	NC	A	HVIL_IN	1C	EN_OBC	2C	NC	3C	NC	4C	NC
4	N	B	HVIL_OUT	1D	NC	2D	NC	3D	NTC 1 & 2 -	4D	NC
A	HVIL_IN			1E	PP	2E	NC	3E	Lock feedback 1	4E	NC
B	HVIL_OUT			1F	CP	2F	NC	3F	Lock feedback 2	4F	NC
	Ground to chassis			1G	VCC +	2G	NC	3G	Lock +	4G	NC
				1H	GND	2H	NC	3H	Lock -	4H	NC

Version: V0
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10KW OBC-Liquid
Model No. ATC10K-220S750-W

Features

1 Output Power: 10KW
2 Input Voltage: 85~265VAC
3 Output Voltage: 500~850VDC
4 Dimensions: 369x238x98mm
5 Weight: ≤10.5KG
6 Cooling System: Liquid, flow rate ≥12L/min
7 Protection Level: IP67
8 Communication Method: CAN-BUS
9 Enclosure: Aluminum alloy
10 Software: Digital software design
11 Online Upgrade & Fault Diagnosis: Supported

Specification

Description	Technical Specification	Remark
Operating Temperature	-40~85°C	Coolant inlet temperature
Rated Output Power	10KW	
Input Voltage Range	85~265VAC	
Rated Output Voltage	500~850VDC	
Rated Output Current	16A	
Auxiliary Voltage Range	9~32VDC	VCC
Efficiency	≥94%	Rated voltage
Voltage Accuracy	±1%	
Current Accuracy	±3%	
Low Voltage Wakeup	200mA max (wakeup signal)	Wakeup BMS/VCU, VCC followed
Wakeup Method	AC, PP/CP, EN(hardwire)	Support reservation charging
Communication Method	CAN-BUS	
Quiescent Current	≤2mA	Battery current will be consumed in sleep/standby mode
Protection Characteristics	Input OVP, UVP, output OVP, UVP, OTP, OCP, output short circuit protection, communication fault protection	
EMC	GB/T 18387-2008, EN 55022	

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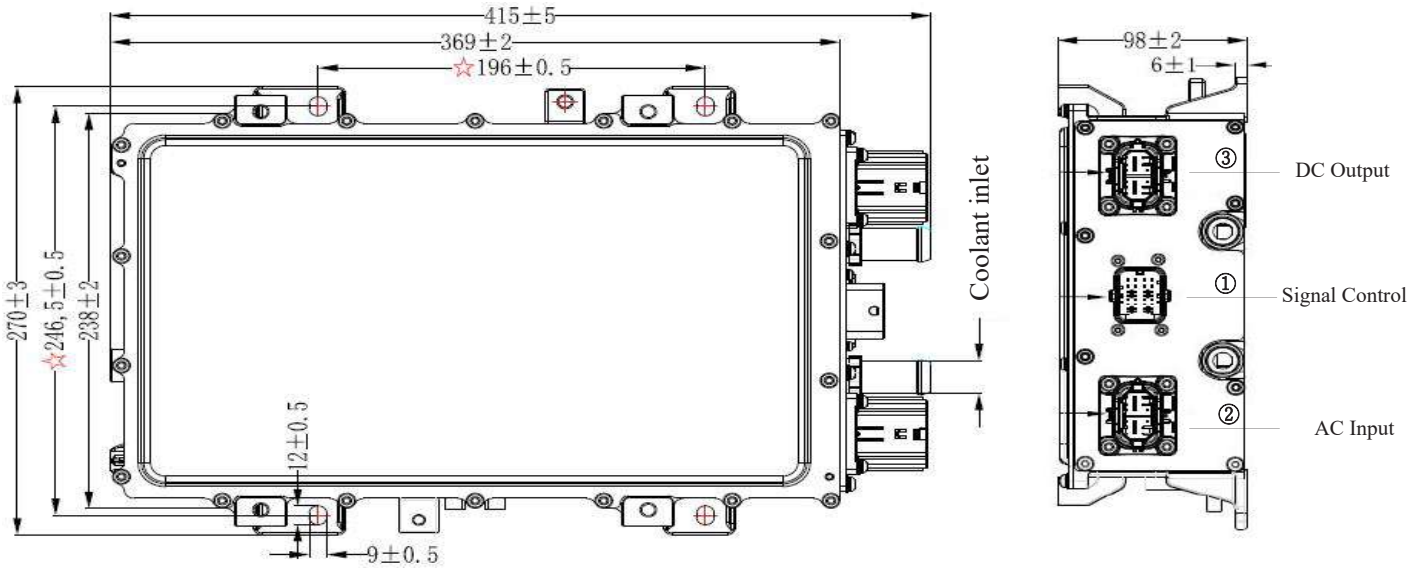
10KW OBC-Liquid
Model No. ATC10K-220S750-W

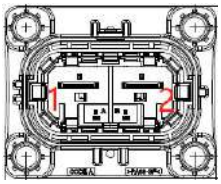
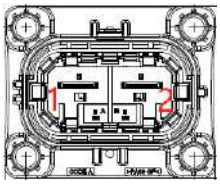
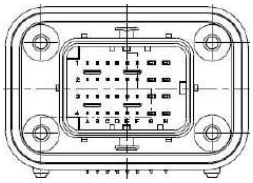
Structural Parameters (unit : mm)



Connector Model

Position	Function	Brand	Socket Model	Plug Model
1	Signal control	TE	2334366-2	2137299-8
2	AC Input	Amphenol	HVC2P95MV101	HVC2P95FS116
3	DC Output	Amphenol	HVC2P95MV201	HVC2P95FS216

Interface Definition

AC Input(2)		DC Output(3)		Signal Control(1)							
											
1	L	1	Output +	1A	CAN 1-H	2A	Wakeup	3A	NTC 1 +	4A	HVIL_IN
2	N	2	Output -	1B	CAN 1-L	2B	PP_OUT	3B	NTC 2 +	4B	HVIL_OUT
A	HVIL_IN	A	HVIL_IN	1C	EN_OBC	2C	NC	3C	NC	4C	NC
B	HVIL_OUT	B	HVIL_OUT	1D	NC	2D	NC	3D	NTC 1 & 2 -	4D	NC
	Ground to chassis			1E	PP	2E	NC	3E	Lock feedback 1	4E	NC
				1F	CP	2F	NC	3F	Lock feedback 2	4F	NC
				1G	VCC +	2G	NC	3G	Lock +	4G	NC
				1H	GND	2H	NC	3H	Lock -	4H	NC

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11KW OBC-Liquid
Model No. ATC11K-380S380-W

Features

1 Output Power: 11KW
2 Input Voltage: 3 phase 304~456VAC
3 Output Voltage: 200~450VDC
4 Dimensions: 369x238x98mm
5 Weight: ≤10.5KG
6 Cooling System: Liquid, flow rate ≥8L/min
7 Protection Level: IP67
8 Communication Method: CAN-BUS
9 Enclosure: Aluminum alloy
10 Software: Digital software design
11 Online Upgrade & Fault Diagnosis: Supported
12 Compatible with 1 phase and 3 phase charging piles

Specification

Description	Technical Specification	Remark
Operating Temperature	-40~85℃	Coolant inlet temperature
Rated Output Power	11KW	1 phase input 6.6KW: supported
Input Voltage Range	3 phase 304~456VAC (wire-wire voltage, 3 phase 4 wire)	1 phase input: 175~265VAC
Rated Output Voltage	200~450VDC	
Max Output Current	32A	1 phase input: 20A
Auxiliary Voltage Range	9~32VDC	VCC
Efficiency	≥94%	Rated voltage
Voltage Accuracy	±1%	
Current Accuracy	±3%	
Low Voltage Wakeup	200mA max (wakeup signal)	Wakeup BMS/VCU, voltage follows the VCC
Wakeup Method	AC, PP/CP, EN(hardwire)	Support reservation charging
Communication Method	CAN-BUS	
Quiescent Current	≤2mA	Battery current will be consumed in sleep/standby mode
Protection Characteristics	Input OVP, UVP, output OVP, UVP, OTP, OCP, output short circuit protection, communication fault protection	
EMC	GB/T 18387-2008, EN 55022	

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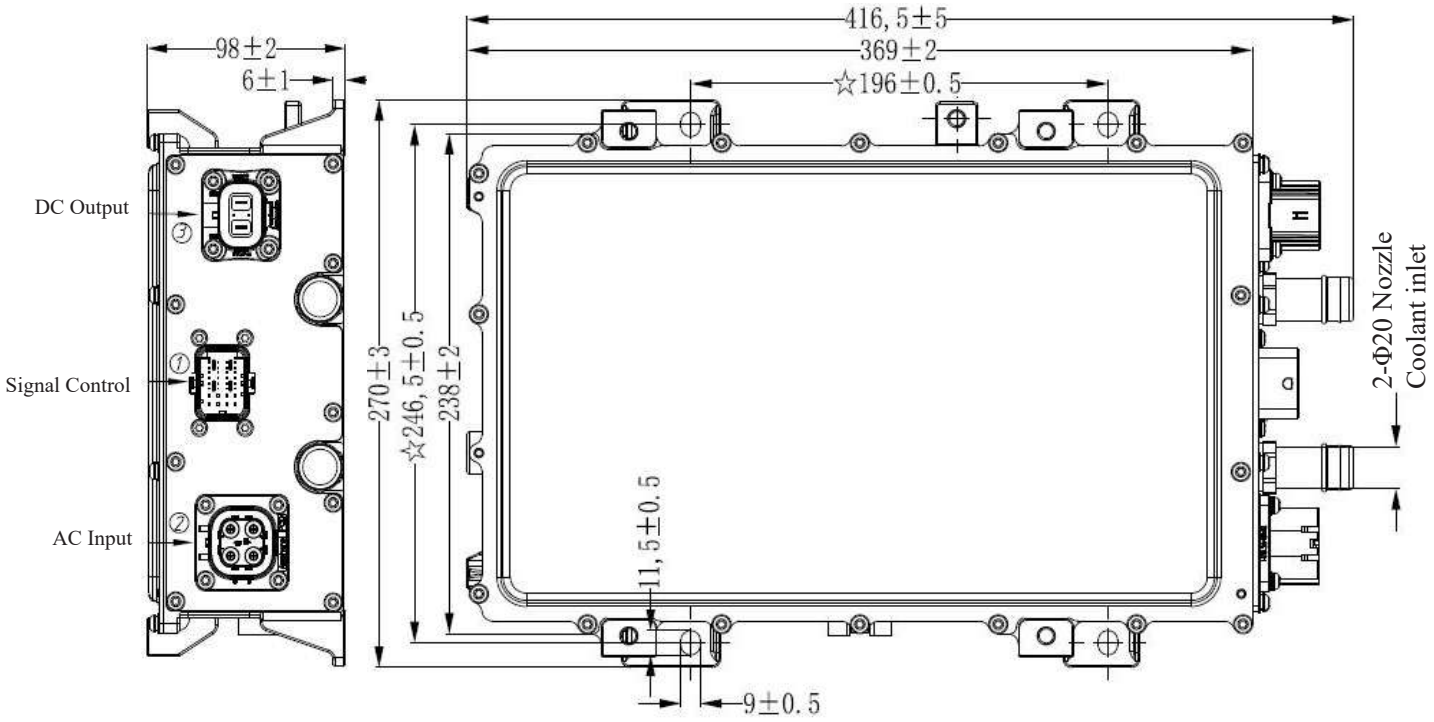
11KW OBC-Liquid
Model No. ATC11K-380S380-W

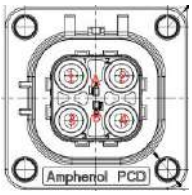
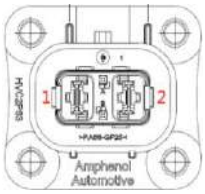
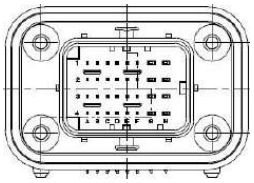
Structural Parameters (unit : mm)



Connector Model

Position	Function	Brand	Socket Model	Plug Model
1	Signal control	TE	2334366-2	2137299-8
2	AC Input	Amphenol	HVSL364024A	HVSL364064A106I
3	DC Output	Amphenol	HVC2P63MV406	HVC2P63FS406

Interface Definition

AC Input(2)		DC Output(3)		Signal Control(1)									
													
1	L1, single phase	1	Output +	1A	CAN 1-H	2A	Wakeup	3A	NTC 1 +	4A	HVIL_IN		
2	L2	2	Output -	1B	CAN 1-L	2B	PP_OUT	3B	NTC 2 +	4B	HVIL_OUT		
3	L3	A	HVIL_IN	1C	EN_OBC	2C	NC	3C	NTC 3 +	4C	CAN 2-H		
4	N	B	HVIL_OUT	1D	NC	2D	NC	3D	NTC 1 & 2 & 3 -	4D	CAN 2-L		
A	HVIL_IN			1E	PP	2E	NC	3E	Lock feedback 1	4E	NC		
B	HVIL_OUT			1F	CP	2F	NC	3F	Lock feedback 2	4F	TB_R		
	Ground to chassis			1G	VCC +	2G	NC	3G	Lock +	4G	EN 2		
				1H	GND	2H	NC	3H	Lock -	4H	NC		

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11KW OBC-Liquid
Model No. ATC11K-380S540-W

Features

1 Output Power: 11KW
2 Input Voltage: 3 phase 304~456VAC
3 Output Voltage: 400~650VDC
4 Dimensions: 369x238x98mm
5 Weight: ≤10.5KG
6 Cooling System: Liquid, flow rate ≥8L/min
7 Protection Level: IP67
8 Communication Method: CAN-BUS
9 Enclosure: Aluminum alloy
10 Software: Digital software design
11 Online Upgrade & Fault Diagnosis: Supported
12 Compatible with 1 phase and 3 phase charging piles

Specification

Description	Technical Specification	Remark
Operating Temperature	-40~85℃	Coolant inlet temperature
Rated Output Power	11KW	1 phase input 6.6KW: supported
Input Voltage Range	3 phase 304~456VAC (wire-wire voltage, 3 phase 4 wire)	1 phase input: 175~265VAC
Rated Output Voltage	400~650VDC	
Max Output Current	23A	1 phase input: 14A
Auxiliary Voltage Range	9~32VDC	VCC
Efficiency	≥94%	Rated voltage
Voltage Accuracy	±1%	
Current Accuracy	±3%	
Low Voltage Wakeup	200mA max (wakeup signal)	Wakeup BMS/VCU, voltage follows the VCC
Wakeup Method	AC, PP/CP, EN(hardwire)	Support reservation charging
Communication Method	CAN-BUS	
Quiescent Current	≤2mA	Battery current will be consumed in sleep/standby mode
Protection Characteristics	Input OVP, UVP, output OVP, UVP, OTP, OCP, output short circuit protection, communication fault protection	
EMC	GB/T 18387-2008, EN 55022	

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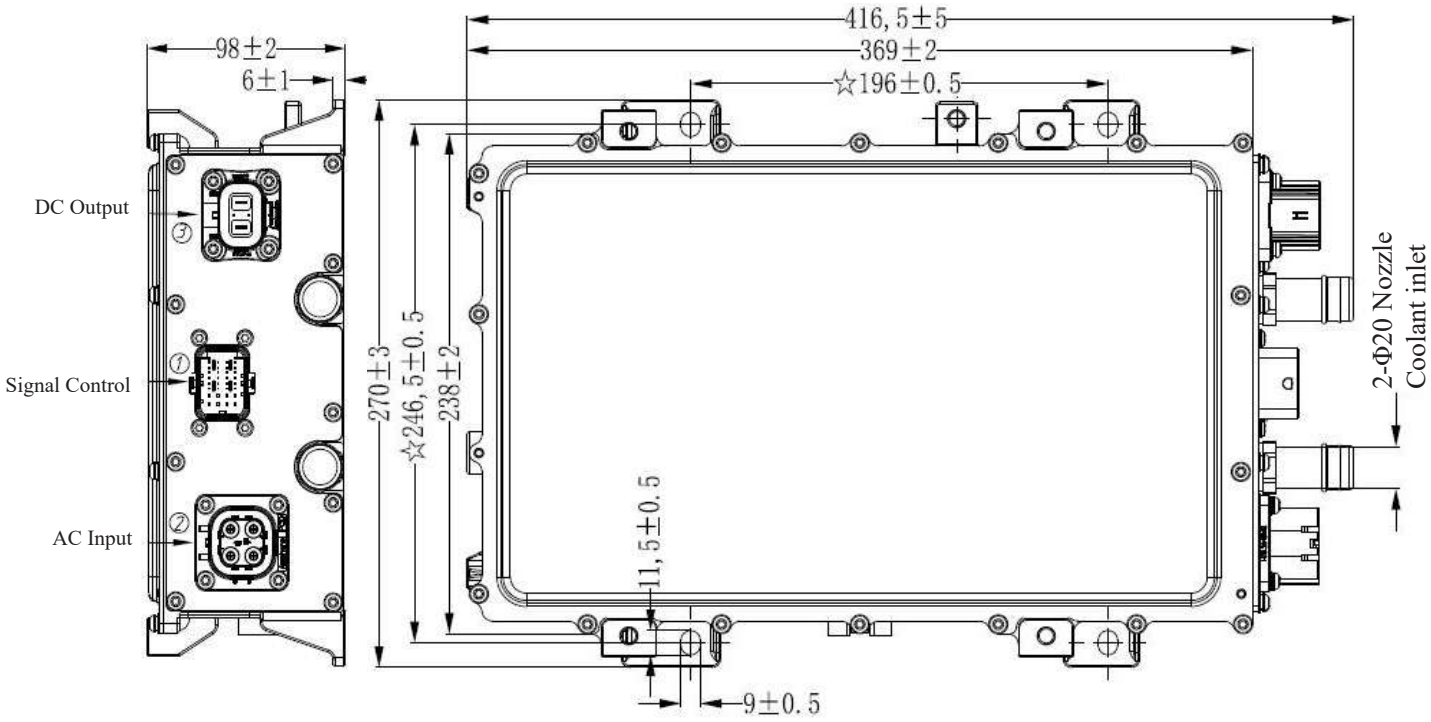
11KW OBC-Liquid
Model No. ATC11K-380S540-W

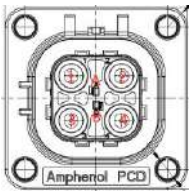
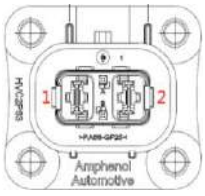
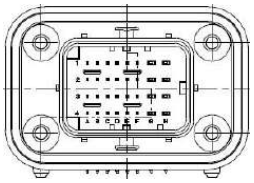
Structural Parameters (unit : mm)



Connector Model

Position	Function	Brand	Socket Model	Plug Model
1	Signal control	TE	2334366-2	2137299-8
2	AC Input	Amphenol	HVSL364024A	HVSL364064A106I
3	DC Output	Amphenol	HVC2P63MV406	HVC2P63FS406

Interface Definition

AC Input(2)		DC Output(3)		Signal Control(1)									
													
1	L1, single phase	1	Output +	1A	CAN 1-H	2A	Wakeup	3A	NTC 1 +	4A	HVIL_IN		
2	L2	2	Output -	1B	CAN 1-L	2B	PP_OUT	3B	NTC 2 +	4B	HVIL_OUT		
3	L3	A	HVIL_IN	1C	EN_OBC	2C	NC	3C	NTC 3 +	4C	CAN 2-H		
4	N	B	HVIL_OUT	1D	NC	2D	NC	3D	NTC 1 & 2 & 3 -	4D	CAN 2-L		
A	HVIL_IN			1E	PP	2E	NC	3E	Lock feedback 1	4E	NC		
B	HVIL_OUT			1F	CP	2F	NC	3F	Lock feedback 2	4F	TB_R		
	Ground to chassis			1G	VCC +	2G	NC	3G	Lock +	4G	EN 2		
				1H	GND	2H	NC	3H	Lock -	4H	NC		

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11KW OBC-Liquid
Model No. ATC11K-380S640-W

Features

1 Output Power: 11KW
2 Input Voltage: 3 phase 304~456VAC
3 Output Voltage: 450~750VDC
4 Dimensions: 369x238x98mm
5 Weight: ≤10.5KG
6 Cooling System: Liquid, flow rate ≥8L/min
7 Protection Level: IP67
8 Communication Method: CAN-BUS
9 Enclosure: Aluminum alloy
10 Software: Digital software design
11 Online Upgrade & Fault Diagnosis: Supported
12 Compatible with 1 phase and 3 phase charging piles

Specification

Description	Technical Specification	Remark
Operating Temperature	-40~85℃	Coolant inlet temperature
Rated Output Power	11KW	1 phase input 6.6KW: supported
Input Voltage Range	3 phase 304~456VAC (wire-wire voltage, 3 phase 4 wire)	1 phase input: 175~265VAC
Rated Output Voltage	450~750VDC	
Max Output Current	20A	1 phase input: 12A
Auxiliary Voltage Range	9~32VDC	VCC
Efficiency	≥94%	Rated voltage
Voltage Accuracy	±1%	
Current Accuracy	±3%	
Low Voltage Wakeup	200mA max (wakeup signal)	Wakeup BMS/VCU, voltage follows the VCC
Wakeup Method	AC, PP/CP, EN(hardwire)	Support reservation charging
Communication Method	CAN-BUS	
Quiescent Current	≤2mA	Battery current will be consumed in sleep/standby mode
Protection Characteristics	Input OVP, UVP, output OVP, UVP, OTP, OCP, output short circuit protection, communication fault protection	
EMC	GB/T 18387-2008, EN 55022	

Version: V0
File No.: DM-B-049-0

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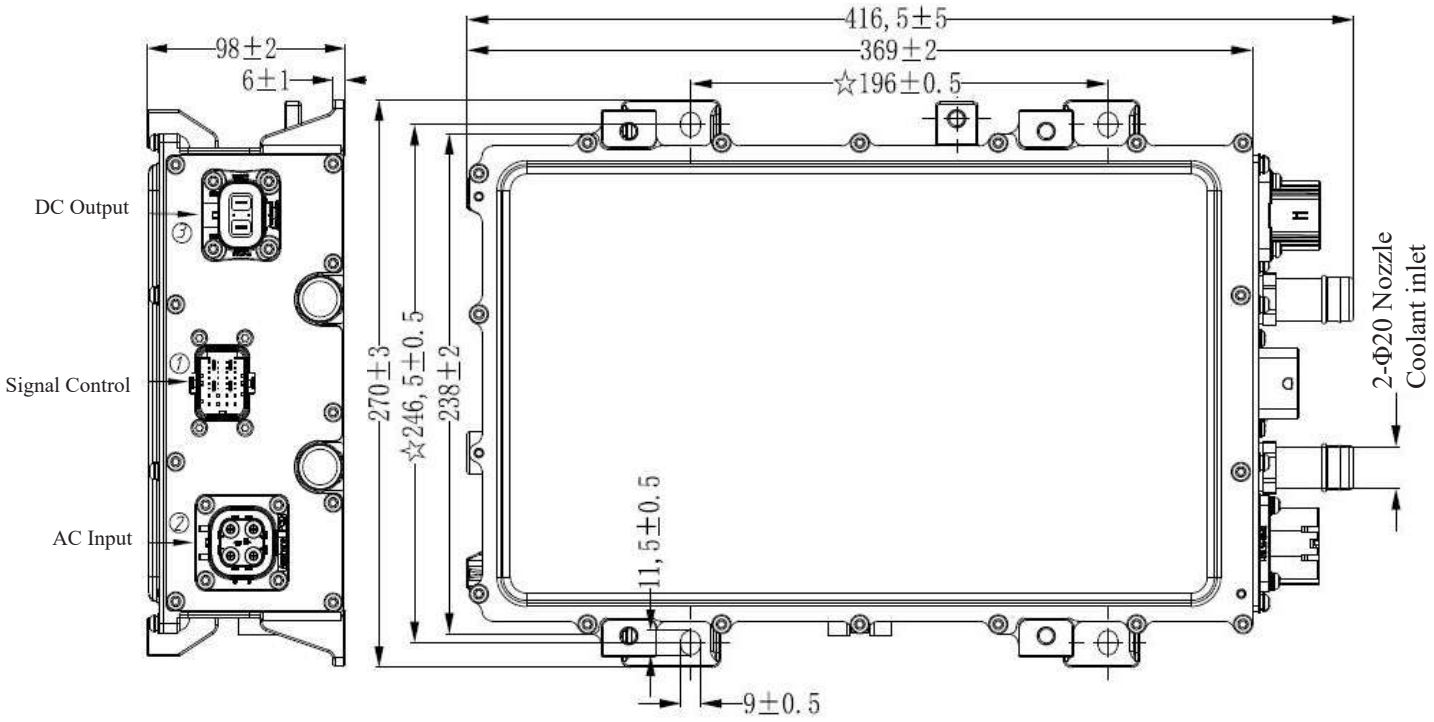
11KW OBC-Liquid
Model No. ATC11K-380S640-W

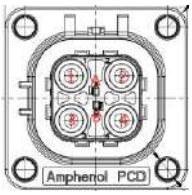
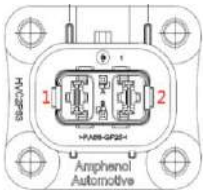
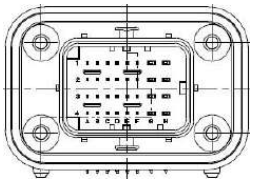
Structural Parameters (unit : mm)



Connector Model

Position	Function	Brand	Socket Model	Plug Model
1	Signal control	TE	2334366-2	2137299-8
2	AC Input	Amphenol	HVSL364024A	HVSL364064A106I
3	DC Output	Amphenol	HVC2P63MV406	HVC2P63FS406

Interface Definition

AC Input(2)		DC Output(3)		Signal Control(1)							
											
1	L1, single phase	1	Output +	1A	CAN 1-H	2A	Wakeup	3A	NTC 1 +	4A	HVIL_IN
2	L2	2	Output -	1B	CAN 1-L	2B	PP_OUT	3B	NTC 2 +	4B	HVIL_OUT
3	L3	A	HVIL_IN	1C	EN_OBC	2C	NC	3C	NTC 3 +	4C	CAN 2-H
4	N	B	HVIL_OUT	1D	NC	2D	NC	3D	NTC 1 & 2 & 3 -	4D	CAN 2-L
A	HVIL_IN			1E	PP	2E	NC	3E	Lock feedback 1	4E	NC
B	HVIL_OUT			1F	CP	2F	NC	3F	Lock feedback 2	4F	TB_R
	Ground to chassis			1G	VCC +	2G	NC	3G	Lock +	4G	EN 2
				1H	GND	2H	NC	3H	Lock -	4H	NC

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11KW OBC-Module
Model No. ATC11K-380S380-M

Features

1 Output Power: 11KW
2 Input Voltage: 3 phase 304~456VAC
3 Output Voltage: 200~450VDC
4 Dimensions: 300x200x60mm
5 Weight: ≤6.5KG
6 Cooling Method: Heat sink attached to bottom plate
7 Communication Method: CAN-BUS
8 Enclosure: N/A
9 Software: Digital software design
10 Online Upgrade & Fault Diagnosis: Supported
11 Compatible with 1 phase and 3 phase charging piles

Specification

Description	Technical Specification	Remark
Operating Temperature	-40~85℃	Bottom plate temperature
Rated Output Power	11KW	1 phase input 6.6KW: supported
Input Voltage Range	3 phase 304~456VAC (wire-wire voltage, 3 phase 4 wire)	1 phase input: 175~265VAC
Rated Output Voltage	200~450VDC	
Max Output Current	32A	1 phase input: 20A
Auxiliary Voltage Range	9~32VDC	VCC
Efficiency	≥94%	Rated voltage
Voltage Accuracy	±1%	
Current Accuracy	±3%	
Low Voltage Wakeup	200mA max (wakeup signal)	Wakeup BMS/VCU, VCC followed
Wakeup Method	AC, PP/CP, VCU_EN(hardwire)	Support reservation charging
Communication Method	CAN-BUS	
Quiescent Current	≤2mA	Battery current will be consumed in sleep/standby mode
Protection Characteristics	Input OVP, UVP, output OVP, UVP, OTP, OCP, output short circuit protection, communication fault protection	
EMC	GB/T 18655-2008, EN 55022	

Version: V0
File No.: DM-B-049-0

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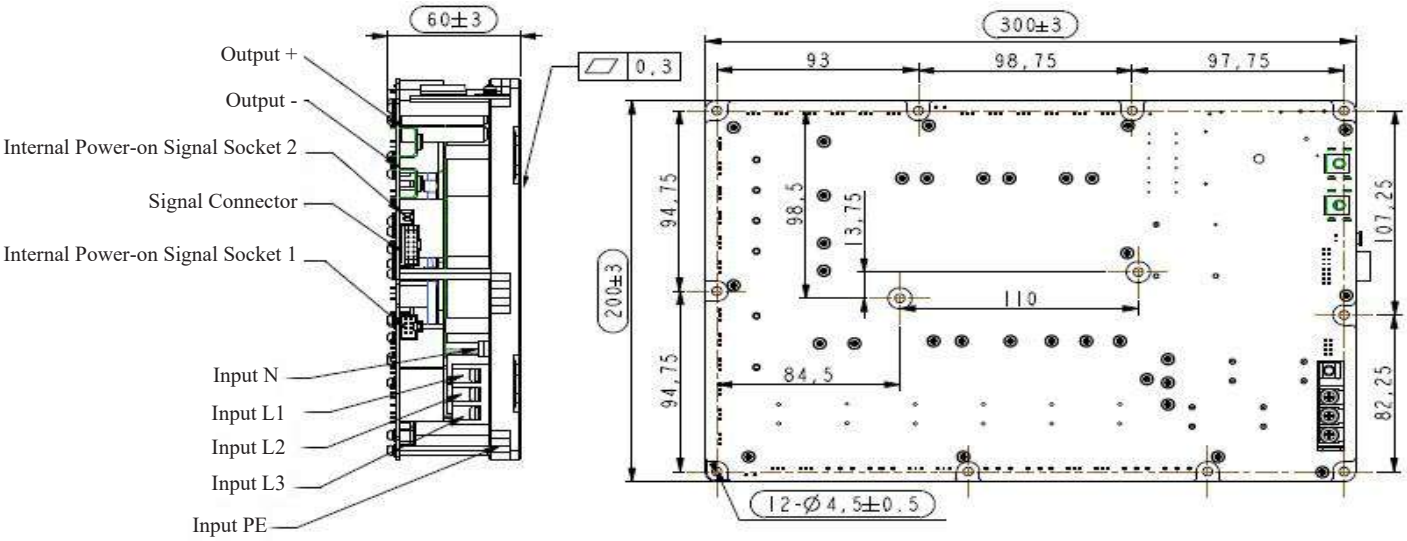
11KW OBC-Module
Model No. ATC11K-380S380-M

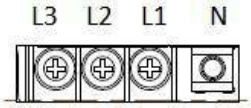
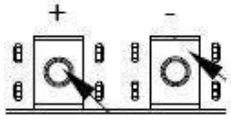
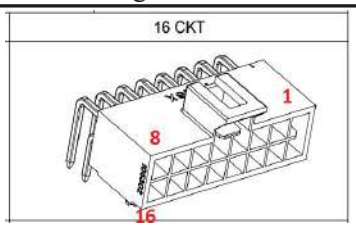
Structural Parameters (unit : mm)



Connector Model

Function	Brand	Socket Model	Plug Model
Control terminal	MOLEX	105314-1216	105308-1216
Input	/	M4 Binding post	M4 Screw
Output	/	M4 Binding post	M4 Screw

Interface Definition

AC Input		DC Output		Signal Control			
							
L1	Fire wire 1	+	Output +	1	VCC -	9	VCC +
L2	Fire wire 2	-	Output -	2	VCU_EN	10	PP_OUT
L3	Fire wire 3			3	Lock +	11	Lock feedback 2
N	Neutral			4	Lock -	12	NTC 1 +
G	Ground to chassis			5	Lock feedback 1	13	NTC 1 & 2 -
				6	CAN-H	14	NTC 2 +
				7	CAN-L	15	PP
				8	Wakeup	16	CP

Version: V0
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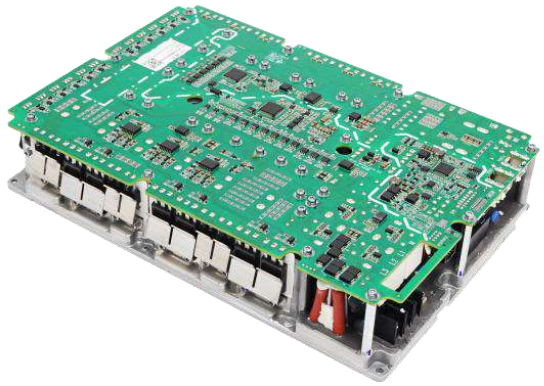
11KW OBC-Module
Model No. ATC11K-380S540-M



Features

1 Output Power: 11KW
2 Input Voltage: 3 phase 304~456VAC
3 Output Voltage: 400~650VDC
4 Dimensions: 300x200x60mm
5 Weight: ≤6.5KG
6 Cooling Method: Heat sink attached to bottom plate
7 Communication Method: CAN-BUS
8 Enclosure: N/A
9 Software: Digital software design
10 Online Upgrade & Fault Diagnosis: Supported
11 Compatible with 1 phase and 3 phase charging piles

Specification

Description	Technical Specification	Remark
Operating Temperature	-40~85℃	Bottom plate temperature
Rated Output Power	11KW	1 phase input 6.6KW: supported
Input Voltage Range	3 phase 304~456VAC (wire-wire voltage, 3 phase 4 wire)	1 phase input: 175~265VAC
Rated Output Voltage	400~650VDC	
Max Output Current	23A	1 phase input: 14A
Auxiliary Voltage Range	9~32VDC	VCC
Efficiency	≥94%	Rated voltage
Voltage Accuracy	±1%	
Current Accuracy	±3%	
Low Voltage Wakeup	200mA max (wakeup signal)	Wakeup BMS/VCU, voltage follows the VCC
Wakeup Method	AC, PP/CP, EN(hardwire)	Support reservation charging
Communication Method	CAN-BUS	
Quiescent Current	≤2mA	Battery current will be consumed in sleep/standby mode
Protection Characteristics	Input OVP, UVP, output OVP, UVP, OTP, OCP, output short circuit protection, communication fault protection	
EMC	GB/T 18387-2008, EN 55022	

Version: V0
File No.: DM-B-049-0

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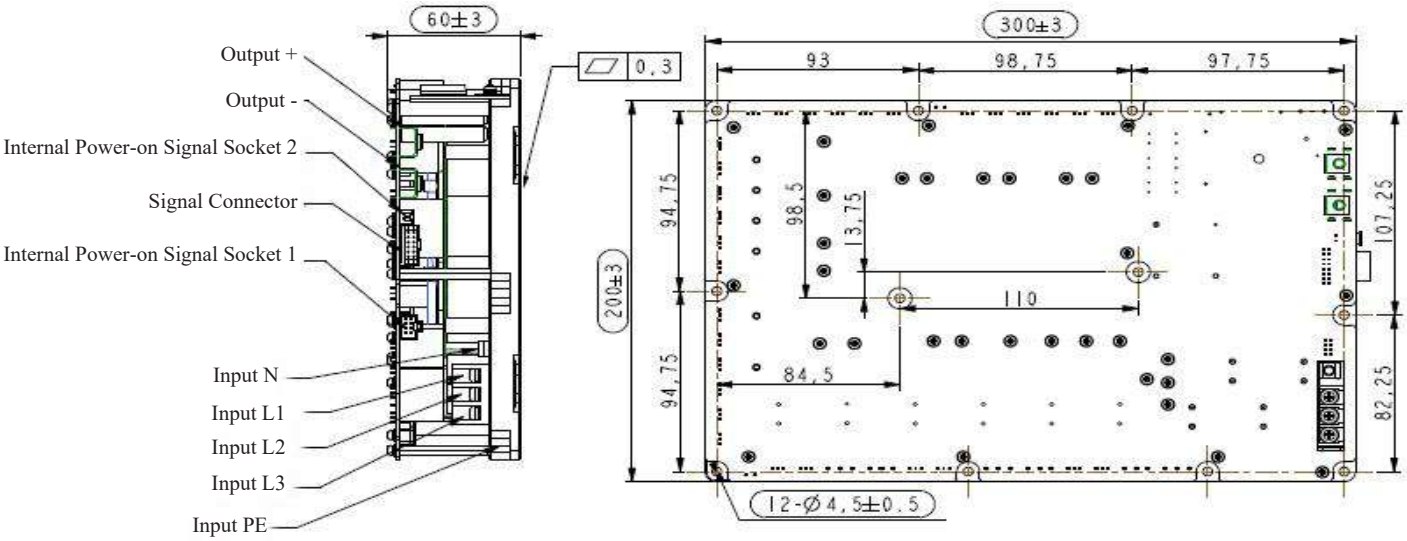
11KW OBC-Module
Model No. ATC11K-380S540-M

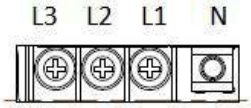
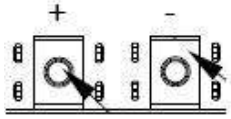
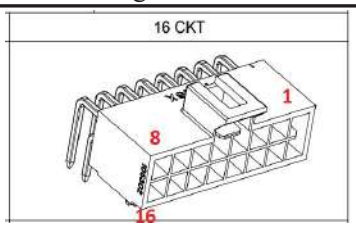
Structural Parameters (unit : mm)



Connector Model

Function	Brand	Socket Model	Plug Model
Control terminal	MOLEX	105314-1216	105308-1216
Input	/	M4 Binding post	M4 Screw
Output	/	M4 Binding post	M4 Screw

Interface Definition

AC Input		DC Output		Signal Control			
							
L1	Fire wire 1	+	Output +	1	VCC -	9	VCC +
L2	Fire wire 2	-	Output -	2	VCU_EN	10	PP_OUT
L3	Fire wire 3			3	Lock +	11	Lock feedback 2
N	Neutral			4	Lock -	12	NTC 1 +
G	Ground to chassis			5	Lock feedback 1	13	NTC 1 & 2 -
				6	CAN-H	14	NTC 2 +
				7	CAN-L	15	PP
				8	Wakeup	16	CP

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13KW OBC-Liquid
Model No. ATC13K-220S640-W

Features

1 Output Power: 13KW
2 Input Voltage: 85~265VAC
3 Output Voltage: 450~750VDC
4 Dimensions: 370x252x158mm
5 Weight: ≤16KG
6 Cooling System: Liquid, flow rate ≥10L/min
7 Protection Level: IP67
8 Communication Method: CAN-BUS
9 Enclosure: Aluminum alloy
10 Software: Digital software design
11 Online Upgrade & Fault Diagnosis: Supported

Specification

Description	Technical Specification	Remark
Operating Temperature	-40~85℃	Coolant inlet temperature
Rated Output Power	13KW	
Input Voltage Range	85~265VAC	
Rated Output Voltage	450~750VDC	
Rated Output Current	24A	
Auxiliary Voltage Range	9~32VDC	VCC
Efficiency	≥94%	Nominal voltage
Voltage Accuracy	±1%	
Current Accuracy	±3%	
Low Voltage Wakeup	12/24VDC@200mA max(wakeup signal)	Wakeup BMS/VCU
Wakeup Method	AC, PP/CP, VCU_EN	Support reservation charging
Communication Method	CAN-BUS	
Quiescent Current	≤2mA	Battery current will be consumed in sleep/standby mode
Protection Characteristics	Input OVP, UVP, output OVP, UVP, OTP, OCP, output short circuit protection, input reverse protection	
EMC	GB/T 18387-2008, EN 55022	

Version: V0
File No.: DM-B-049-0

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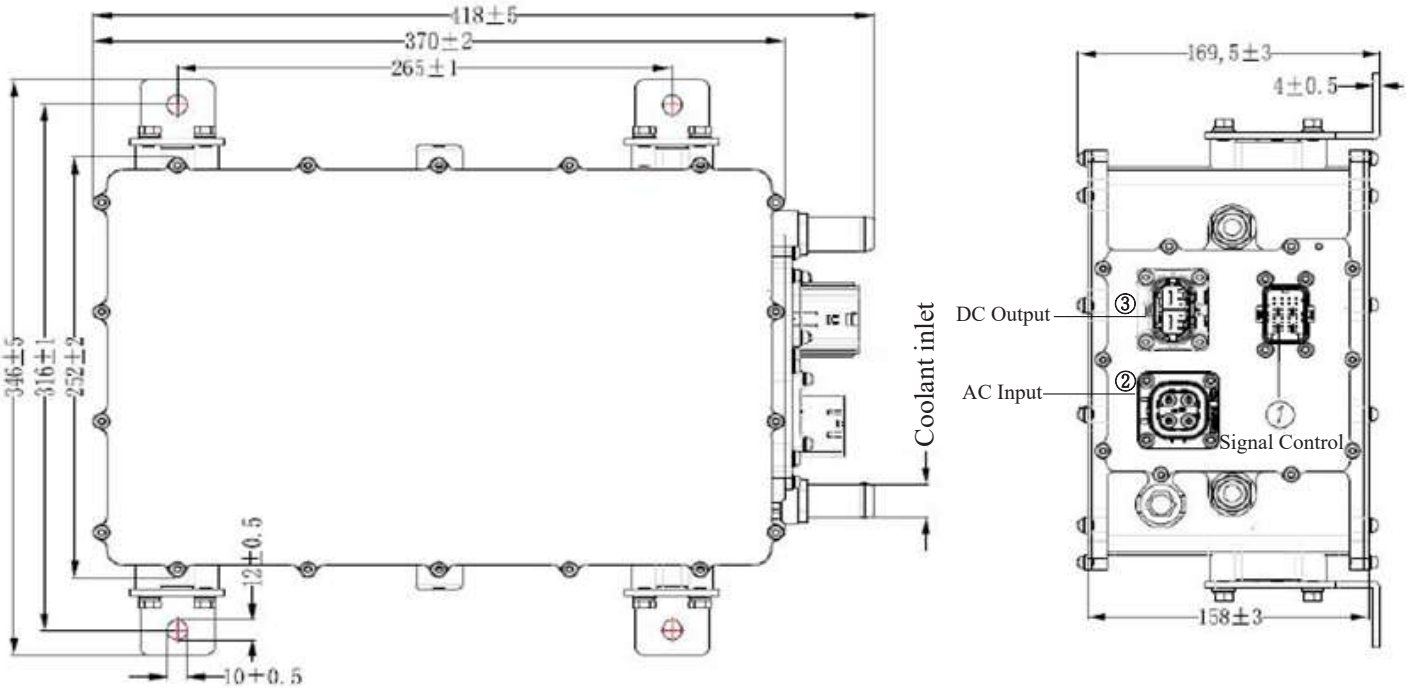
13KW OBC-Liquid
Model No. ATC13K-220S640-W

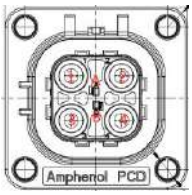
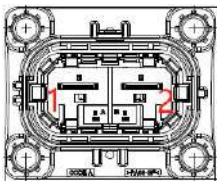
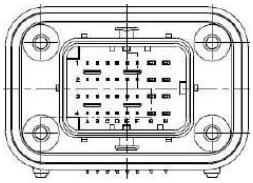
Structural Parameters (unit : mm)



Connector Model

Position	Function	Brand	Socket Model	Plug Model
1	Signal control	TE	2334366-2	2137299-8
2	AC Input	Amphenol	HVSL364024A	HVSL364064A106I
3	DC Output	Amphenol	HVC2P95MV201	HVC2P95FS216

Interface Definition

AC Input(2)		DC Output(3)		Signal Control(1)							
											
1	L	1	Output +	1A	CAN 1-H	2A	Wakeup	3A	NTC 1 +	4A	HVIL_IN
2	N	2	Output -	1B	CAN 1-L	2B	PP_OUT	3B	NTC 2 +	4B	HVIL_OUT
A	HVIL_IN	A	HVIL_IN	1C	EN_OBC	2C	NC	3C	NC	4C	NC
B	HVIL_OUT	B	HVIL_OUT	1D	NC	2D	NC	3D	NTC 1 & 2 -	4D	NC
	Ground to chassis			1E	PP	2E	NC	3E	Lock feedback 1	4E	NC
				1F	CP	2F	NC	3F	Lock feedback 2	4F	NC
				1G	VCC +	2G	NC	3G	Lock +	4G	NC
				1H	GND	2H	NC	3H	Lock -	4H	NC

Version: V0
File No.: DM-B-049-0

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22KW OBC-Liquid
Model No. ATC22K-380S380-W

Features

1 Output Power: 22KW
2 Input Voltage: 3 phase 304~456VAC
3 Output Voltage: 200~450VDC
4 Dimensions: 370x252x158mm
5 Weight: ≤20KG
6 Cooling System: L iquid, flow rate ≥12L/min
7 Protection Level: IP67
8 Communication Method: CAN-BUS
9 Enclosure: Aluminum alloy
10 Software: Digital software design
11 Online Upgrade & Fault Diagnosis: Supported
12 Compatible with 1 phase and 3 phase charging piles

Specification

Description	Technical Specification	Remark
Operating Temperature	-40~85℃	Coolant inlet temperature
Rated Output Power	22KW	1 phase input 6.6KW: supported
Input Voltage Range	3 phase 304~456VAC (wire-wire voltage, 3 phase 4 wire)	1 phase input: 175~265VAC
Rated Output Voltage	200~450VDC	
Max Output Current	64A	1 phase input: 20A
Auxiliary Voltage Range	9~32VDC	VCC
Efficiency	≥94%	Rated voltage
Voltage Accuracy	±1%	
Current Accuracy	±3%	
Low Voltage Wakeup	200mA max (wakeup signal)	Wakeup BMS/VCU, voltage follows the VCC
Wakeup Method	AC, PP/CP, EN(hardwire)	Support reservation charging
Communication Method	CAN-BUS	
Quiescent Current	≤2mA	Battery current will be consumed in sleep/standby mode
Protection Characteristics	Input OVP, UVP, output OVP, UVP, OTP, OCP, output short circuit protection, communication fault protection	
EMC	GB/T 18387-2008, EN 55022	

Version: V0
File No.: DM-B-049-0

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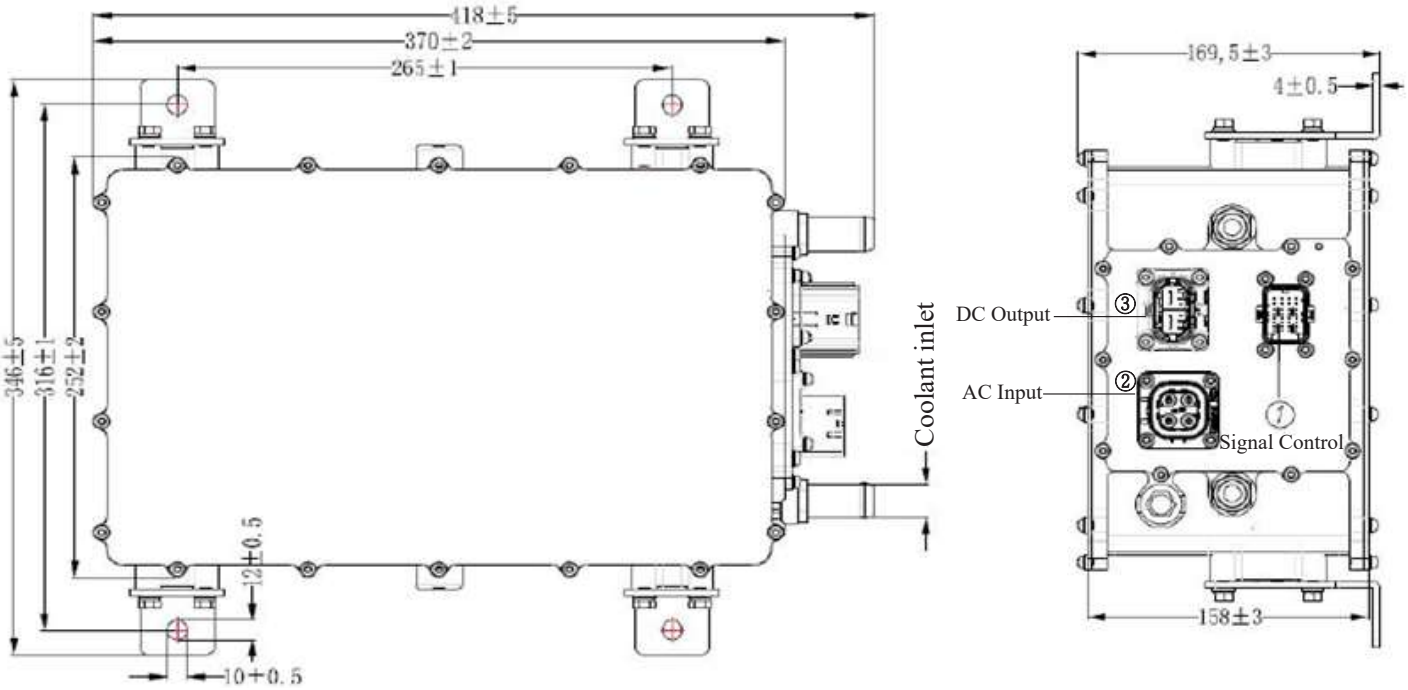
22KW OBC-Liquid
Model No. ATC22K-380S380-W

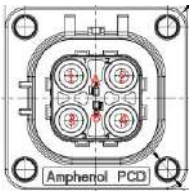
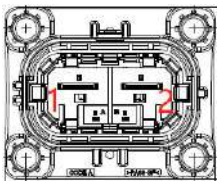
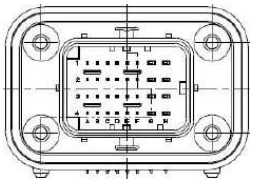
Structural Parameters (unit : mm)



Connector Model

Position	Function	Brand	Socket Model	Plug Model
1	Signal control	TE	2334366-2	2137299-8
2	AC Input	Amphenol	HVSL364024A	HVSL364064A106I
3	DC Output	Amphenol	HVC2P95MV201	HVC2P95FS216

Interface Definition

AC Input(2)		DC Output(3)		Signal Control(1)							
											
1	L1, single phase	1	Output +	1A	CAN 1-H	2A	Wakeup	3A	NTC 1 +	4A	HVIL_IN
2	L2	2	Output -	1B	CAN 1-L	2B	PP_OUT	3B	NTC 2 +	4B	HVIL_OUT
3	L3	A	HVIL_IN	1C	EN_OBC	2C	NC	3C	NTC 3 +	4C	CAN 2-H
4	N	B	HVIL_OUT	1D	NC	2D	NC	3D	NTC 1 & 2 & 3 -	4D	CAN 2-L
A	HVIL_IN			1E	PP	2E	NC	3E	Lock feedback 1	4E	EN_L
B	HVIL_OUT			1F	CP	2F	NC	3F	Lock feedback 2	4F	NC
	Ground to chassis			1G	VCC +	2G	NC	3G	Lock +	4G	NC
				1H	GND	2H	NC	3H	Lock -	4H	NC

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1.5KW DC/DC Converter-Fan
Model No. ATD1K5-380S14-A

Features

1 Output Power: 1.5KW
2 Input Voltage: 250~450VDC
3 Output Voltage: 13.8VDC
4 Dimensions: 262x180x120mm
5 Weight: ≤3KG
6 Cooling System: Fan
7 Protection Level: IP67
8 Communication Method: CAN-BUS
9 Enclosure: Aluminum alloy made
10 Software: Digital software design

Specification

Description	Technical Specification	Remark
Operating Temperature	-40~85°C	Air inlet ambient temperature
Rated Output Power	1.5KW	Peak power: 1.8KW
Input Voltage Range	250~450VDC	
Rated Output Voltage	13.8VDC	Adjustable
Rated Output Current	109A	
Auxiliary Voltage Range	9~18VDC	VCC
Efficiency	≥95%	Rated voltage
Output Voltage Ripple	≤500mVPK-PK	
Output Voltage Accuracy	±1%	
Wakeup Method	CAN, hard wire, high voltage	
Communication Method	CAN-BUS	
Quiescent Current	≤2mA	Battery current will be consumed in sleep/standby mode
Protection Characteristics	Input OVP/UVP, output OVP/UVP, input anti-reverse protection, output short circuit protection, OCP, OTP	
EMC	GB/T 18655-2010 Class 3	

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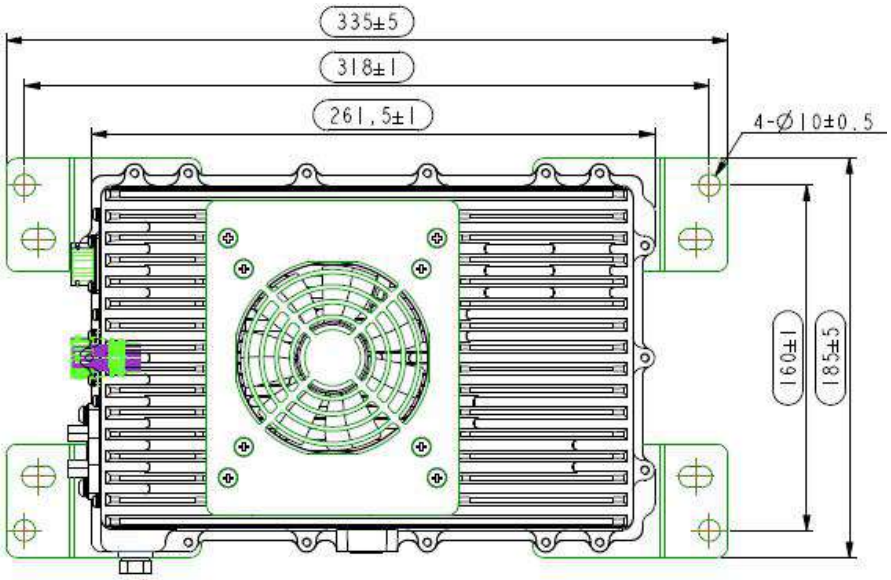
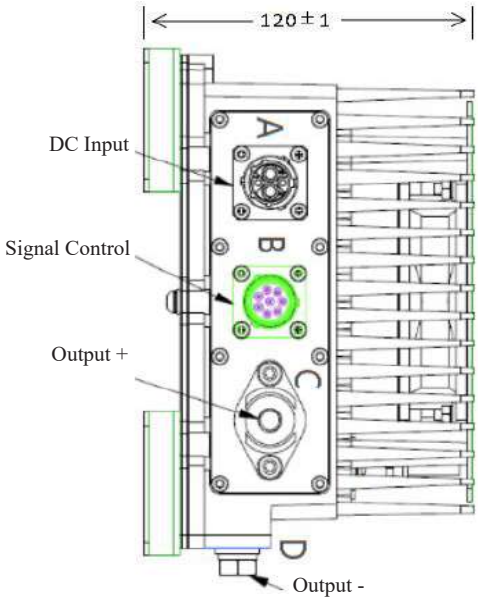
1.5KW DC/DC Converter-Fan
Model No. ATD1K5-380S14-A

Structural Parameters (unit : mm)

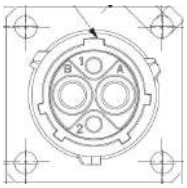
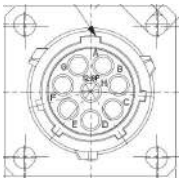
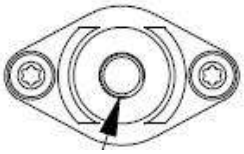




Connector Model

Position	Function	Brand	Socket Model	Plug Model
A	DC Input	Amphenol	RT00122PN03	RT06122SNHEC03
B	Signal control	Amphenol	RT00128PN03	RT06128SNHEC03
C	Output +	Gvtong	GH01-F200-1NNB-T21	M8 Screw
D	Output -	/	M8 Bolt	M8 Screw

Interface Definition

DC Input(A)		Signal Control(B)		Output Positive(C)	
					
A	Input +	A	NC	+	Output +
B	Input -	B	CAN-L		
1	NC	C	CAN-H		
2	NC	D	Shielded wire		
		E	GND		
		F	NC		
		G	NC		
		H	Enable		

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2KW DC/DC Converter-Fan
Model No. ATD2K-380S14-A

Features

1 Output Power: 2KW
2 Input Voltage: 250~450VDC
3 Output Voltage: 13.8VDC
4 Dimensions: 262x180x120mm
5 Weight: ≤4.5KG
6 Cooling System: Fan
7 Protection Level: IP67
8 Communication Method: CAN-BUS
9 Enclosure: Aluminum alloy
10 Software: Digital software design

Specification

Description	Technical Specification	Remark
Operating Temperature	-40~85°C	Air inlet ambient temperature
Rated Output Power	2KW	Peak Power: 2.4KW
Input Voltage Range	250~450VDC	
Rated Output Voltage	13.8VDC	Adjustable
Rated Output Current	145A	
Auxiliary Voltage Range	9~18VDC	VCC
Efficiency	≥95%	Rated voltage
Output Voltage Ripple	≤500mVPK-PK	
Output Voltage Accuracy	±1%	
Wakeup Method	CAN, hard wire	
Communication Method	CAN-BUS	
Quiescent Current	≤2mA	Battery current will be consumed in sleep/standby mode
Protection Characteristics	Input OVP/UVP, output OVP/UVP, input anti-reverse protection, output short circuit protection, OCP, OTP	
EMC	GB/T 18655-2010 Class 3	

Version: V0
File No.: DM-B-049-0

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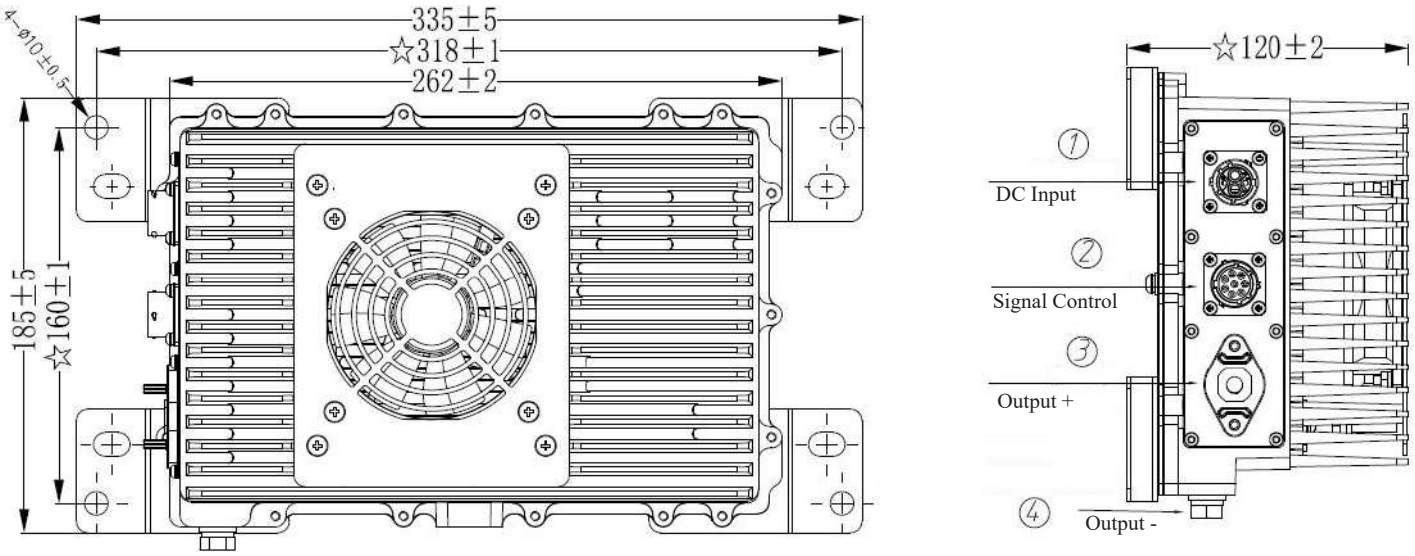
2KW DC/DC Converter-Fan
Model No. ATD2K-380S14-A

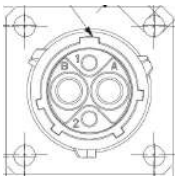
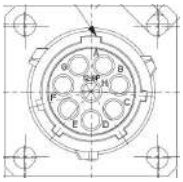
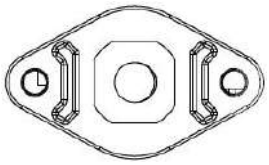
Structural Parameters (unit : mm)



Connector Model

Position	Function	Brand	Socket Model	Plug Model
1	DC Input	Amphenol	RT00122PN03	RT06122SNHEC03
2	Signal control	Amphenol	RT00128PN03	RT06128SNHEC03
3	Output +	Gvtong	GH01-F200-1ANB-T21	M8 Screw
4	Output -	/	M8 Bolt	M8 Screw

Interface Definition

DC Input(1)		Signal Control(2)		Output Positive(3)	
					
A	Input +	A	CAN-H	+	Output +
B	Input -	B	CAN-L		
1	NC	C	Enable		
2	NC	D	VCC +		
		E	GND		
		F	HVIL_IN		
		G	HVIL_OUT		
		H	NC		

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2KW DC/DC Converter-Fan
Model No. ATD2K-540S14-A

Features

1 Output Power: 2KW
2 Input Voltage: 400~750VDC
3 Output Voltage: 13.8VDC
4 Dimensions: 262x180x120mm
5 Weight: ≤5KG
6 Cooling System: Fan
7 Protection Level: IP67
8 Communication Method: CAN-BUS
9 Enclosure: Aluminum alloy
10 Software: Digital software design
11 Online Upgrade & Fault Diagnosis: Supported

Specification

Description	Technical Specification	Remark
Operating Temperature	-40~85°C	Air inlet ambient temperature
Rated Output Power	2KW	Peak Power: 2.4KW
Input Voltage Range	400~750VDC	
Rated Output Voltage	13.8VDC	Adjustable
Rated Output Current	145A	
Auxiliary Voltage Range	9~18VDC	VCC
Efficiency	≥95%	Rated voltage
Output Voltage Ripple	≤500mVPK-PK	
Output Voltage Accuracy	±1%	
Wakeup Method	CAN, hard wire	
Communication Method	CAN-BUS	
Quiescent Current	≤2mA	Battery current will be consumed in sleep/standby mode
Protection Characteristics	Input OVP/UVP, output OVP/UVP, input anti-reverse protection, output short circuit protection, OCP, OTP	
EMC	GB/T 18655-2010	

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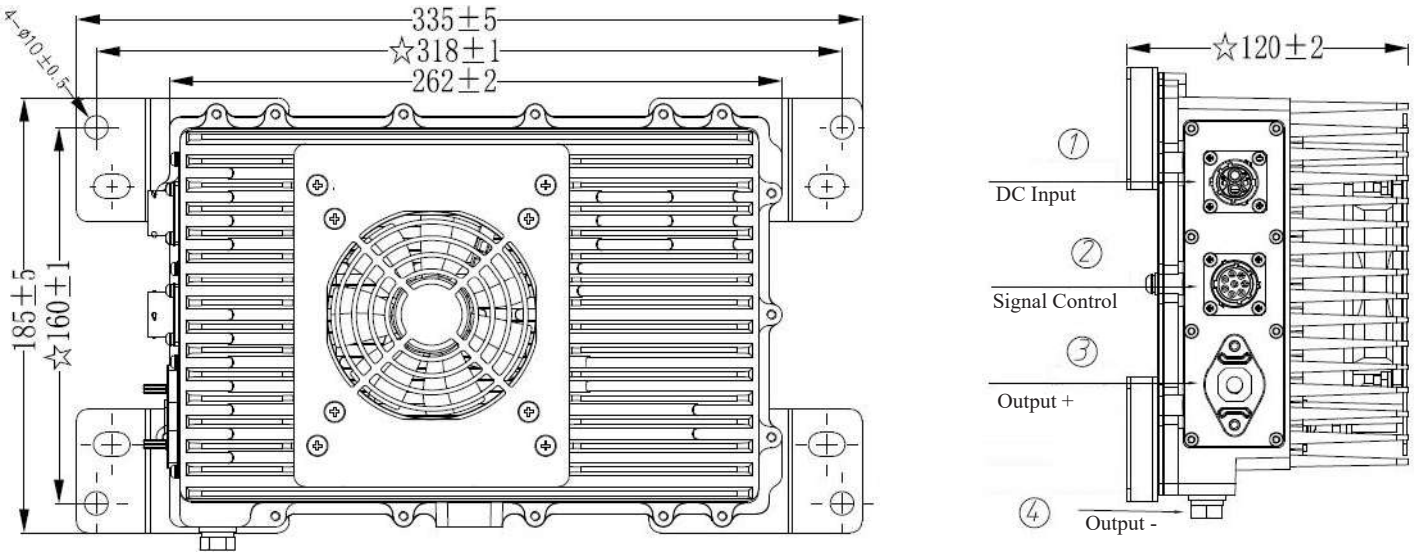
2KW DC/DC Converter-Fan
Model No. ATD2K-540S14-A

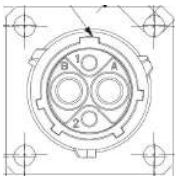
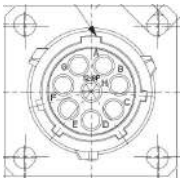
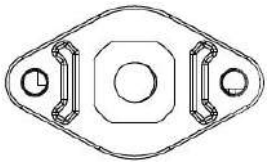
Structural Parameters (unit : mm)



Connector Model

Position	Function	Brand	Socket Model	Plug Model
1	DC Input	Amphenol	RT00122PN03	RT06122SNHEC03
2	Signal control	Amphenol	RT00128PN03	RT06128SNHEC03
3	Output +	Gvtong	GH01-F200-1ANB-T21	M8 Screw
4	Output -	/	M8 Bolt	M8 Screw

Interface Definition

DC Input(1)		Signal Control(2)		Output Positive(3)	
					
A	Input +	A	VCC +	+	Output +
B	Input -	B	CAN-L		
1	Interlock 1	C	CAN-H		
2	Interlock 2	D	CAN -		
		E	GND		
		F	NC		
		G	NC		
		H	Enable		

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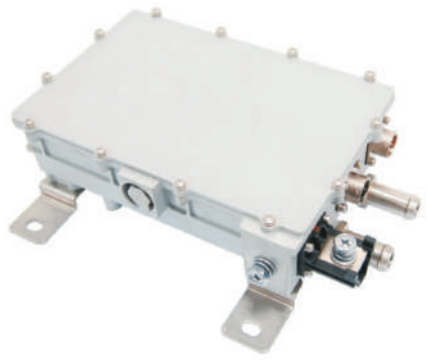
2KW DC/DC Converter-Liquid
Model No. ATD2K-380S14-W



Features

1 Output Power: 2KW
2 Input Voltage: 250~450VDC
3 Output Voltage: 13.8VDC
4 Dimensions: 263x166x82mm
5 Weight: ≤3KG
6 Cooling System: Liquid, flow ≥6L/min
7 Protection Level: IP67
8 Communication Method: CAN-BUS
9 Enclosure: Aluminum alloy
10 Software: Digital software design

Specification

Description	Technical Specification	Remark
Operating Temperature	-40~85°C	Coolant inlet temperature
Rated Output Power	2KW	Peak power: 2.4KW
Input Voltage Range	250~450VDC	
Rated Output Voltage	13.8VDC	Adjustable
Rated Output Current	145A	
Auxiliary Voltage Range	9~18VDC	VCC
Efficiency	≥95%	Rated voltage
Output Voltage Ripple	≤500mVPK-PK	
Output Voltage Accuracy	±1%	
Wakeup Method	CAN, hard wire	
Communication Method	CAN-BUS	
Quiescent Current	≦2mA	Battery current will be consumed in sleep/standby mode
Protection Characteristics	Input OVP/UVP, output OVP/UVP, input anti-reverse connection, output short circuit protection, OCP, OTP	
EMC	GB/T 18655-2010 Class 3	

Version: V0
File No.: DM-B-049-0

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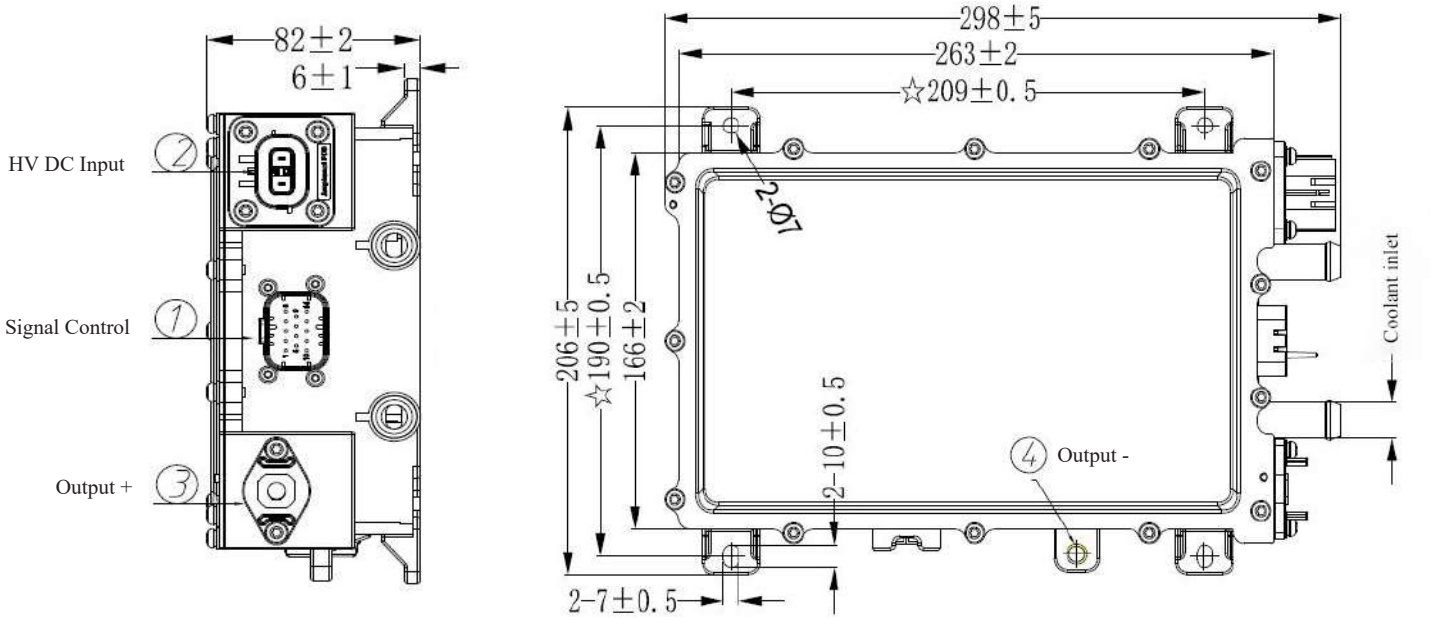
2KW DC/DC Converter-Liquid
Model No. ATD2K-380S14-W

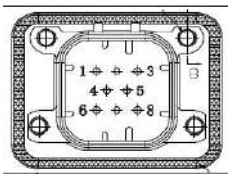
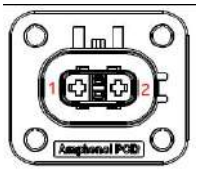
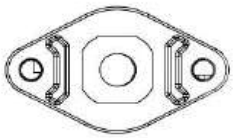
Structural Parameters (unit : mm)



Connector Model

Position	Function	Brand	Socket Model	Plug Model
1	Signal control	Gvtong	GVT03-RS013-14-L02	GE01-P008-14NNB-Y01
2	HV DC input	Amphenol	HVSL282022FND	HVSL282062F104IND
3	Output +	Gvtong	GH17-F200-1NNB-T01	M8 Screw
4	Output -	/	M8 Bolt	M8 Screw

Interface Definition

Signal Control(1)		HV DC Input(2)		Output Positive(3)	
					
1	CAN-H	1	Input +	+	Output +
2	CAN-L	2	Input -		
3	KEY (connect on file)	A	HVIL_IN		
4	VCC + (connect to 12V power supply)	B	HVIL_OUT		
5	GND				
6	HVIL_IN				
7	HVIL_OUT				
8-14	NC				

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2KW DC/DC Converter-Module
Model No. ATD2K-380S14-M

Features

1 Output Power: 2KW
2 Input Voltage: 250~450VDC
3 Output Voltage: 13.8VDC
4 Dimensions: 180x120x50mm
5 Weight: ≤1.6KG
6 Cooling Method: Heat sink attached to bottom plate
7 Communication Method: CAN-BUS
8 Enclosure: N/A
9 Software: Digital software design

Specification

Description	Technical Specification	Remark
Operating Temperature	-40~85°C	Bottom plate temperature
Rated Output Power	2KW	Peak power: 2.4KW
Input Voltage Range	250~450VDC	
Rated Output Voltage	13.8VDC	Adjustable
Rated Output Current	145A	
Auxiliary Voltage Range	9~18VDC	VCC
Efficiency	≥95%	Rated voltage
Output Voltage Ripple	≤500mVPK-PK	
Output Voltage Accuracy	±1%	
Wakeup Method	CAN, hard wire, high voltage	
Communication Method	CAN-BUS	
Quiescent Current	≦2mA	Battery current will be consumed in sleep/standby mode
Protection Characteristics	Input OVP/UVP, output OVP/UVP, input anti-reverse protection, output short circuit protection, OCP, OTP	
EMC	GB/T 18655-2010 Class 3	

Version: V0
File No.: DM-B-049-0

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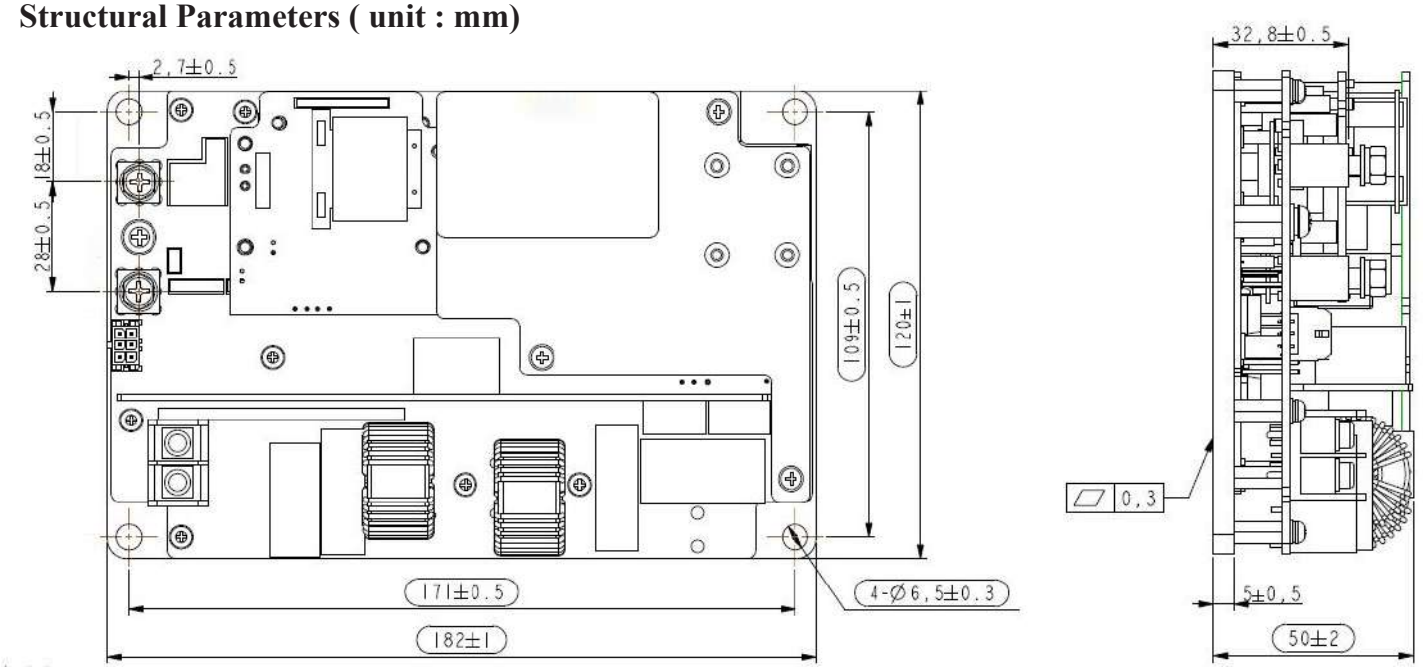
2KW DC/DC Converter-Module
Model No. ATD2K-380S14-M

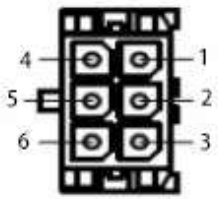
Structural Parameters (unit : mm)



Connector Model

Function	Brand	Socket Model	Plug Model
Control terminal	MOLEX	43045-0612	43025-0600
Input	/	M4 Binding post	M4 Screw
Output	/	M5 Copper pillar	M5 Screw

Interface Definition

Brand	Model	Description		Remark
MOLEX	43045-0612	PIN1	VCC +	
		PIN2	Hardwire enable	
		PIN3	GND	
		PIN4	CAN-GND	
		PIN5	CAN-H	
		PIN6	CAN-L	
/	M4 Binding post	Input +	IN +	2.5mm² wire recommended
		Input -	IN -	
/	M5 Copper pillar	Output +	OUT +	2.5mm² wire recommended
		Output -	OUT -	

Version: V0
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2.5KW DC/DC Converter-Liquid
Model No. ATD2K5-380S14-W

Features

1 Output Power: 2.5KW
2 Input Voltage: 250~450VDC
3 Output Voltage: 13.8VDC
4 Dimensions: 298x172x86mm
5 Weight: ≤3.3KG
6 Cooling System: Liquid, flow ≥6L/min
7 Protection Level: IP67
8 Communication Method: CAN-BUS
9 Enclosure: Aluminum alloy
10 Software: Digital software design

Specification

Description	Technical Specification	Remark
Operating Temperature	-40~85°C	Coolant inlet temperature
Rated Output Power	2.5KW	Peak power: 2.8KW
Input Voltage Range	250~450VDC	
Rated Output Voltage	13.8VDC	Adjustable
Rated Output Current	181A	
Auxiliary Voltage Range	9~18VDC	VCC
Efficiency	≥95%	Rated voltage
Output Voltage Ripple	≤500mVPK-PK	
Output Voltage Accuracy	±1%	
Wakeup Method	CAN, hard wire	
Communication Method	CAN-BUS	
Quiescent Current	≤2mA	Battery current will be consumed in sleep/standby mode
Protection Characteristics	Input OVP/UVP, output OVP/UVP, input anti-reverse connection, output short circuit protection, OCP, OTP	
EMC	GB/T 18655-2010 Class 3	

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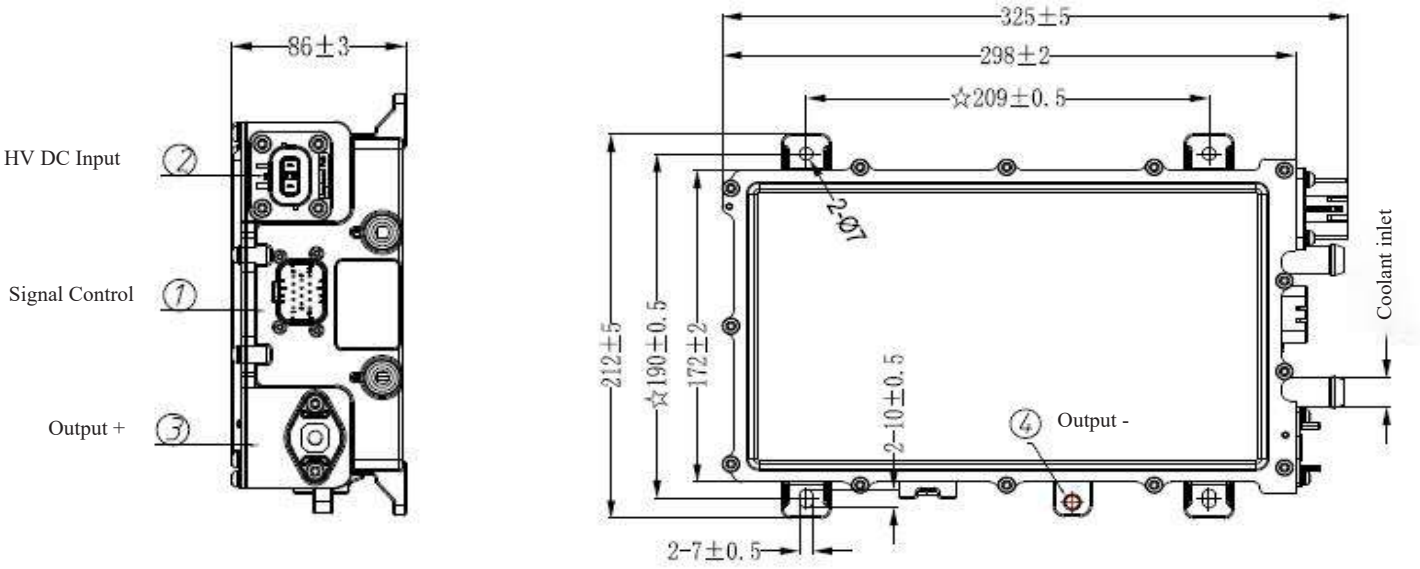
2.5KW DC/DC Converter-Liquid
Model No. ATD2K5-380S14-W

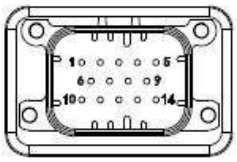
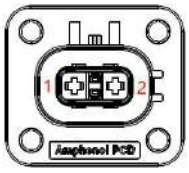
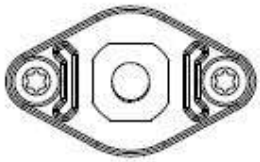
Structural Parameters (unit : mm)



Connector Model

Position	Function	Brand	Socket Model	Plug Model
1	Signal control	Gvtong	GVT03-RS013-8-L02	GE01-P008-14NNB-Y01
2	HV DC input	Amphenol	HVSL282022FND	HVSL282062F104IND
3	Output +	Gvtong	GH17-F200-1NNB-T01	M8 Screw
4	Output -	/	M8 Bolt	M8 Screw

Interface Definition

Signal Control(1)		HV DC Input(2)		Output Positive(3)	
					
1	CAN-H	1	Input +	+	Output +
2	CAN-L	2	Input -		
3	KEY (connect on file)	A	HVIL_IN		
4	VCC + (connect to 12V power supply)	B	HVIL_OUT		
5	GND				
6	HVIL_IN				
7	HVIL_OUT				
8-14	NC				

Version: V0
File No.: DM-B-049-0

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3KW DC/DC Converter-Fan
Model No. ATD3K-540S27-A

Features

1 Output Power: 3KW
2 Input Voltage: 400~750VDC
3 Output Voltage: 27.5VDC
4 Dimensions: 262x180x120mm
5 Weight: ≤4.8KG
6 Cooling System: Fan
7 Protection Level: IP67
8 Communication Method: CAN-BUS
9 Enclosure: Aluminum alloy
10 Software: Digital software design

Specification

Description	Technical Specification	Remark
Operating Temperature	-40~85°C	Air inlet ambient temperature
Rated Output Power	3KW	Peak power: 3.6KW
Input Voltage Range	400~750VDC	
Rated Output Voltage	27.5VDC	Adjustable
Rated Output Current	110A	
Auxiliary Voltage Range	9~32VDC	VCC
Efficiency	≥95%	Rated voltage
Output Voltage Ripple	≤500mVPK-PK	
Output Voltage Accuracy	±1%	
Wakeup Method	CAN, hard wire	
Communication Method	CAN-BUS	
Quiescent Current	≤2mA	Battery current will be consumed in sleep/standby mode
Protection Characteristics	Input OVP/UVP, output OVP/UVP, input anti-reverse protection, output short circuit protection, OCP, OTP	
EMC	GB/T 18655-2010 Class 3	

Version: V0
File No.: DM-B-049-0

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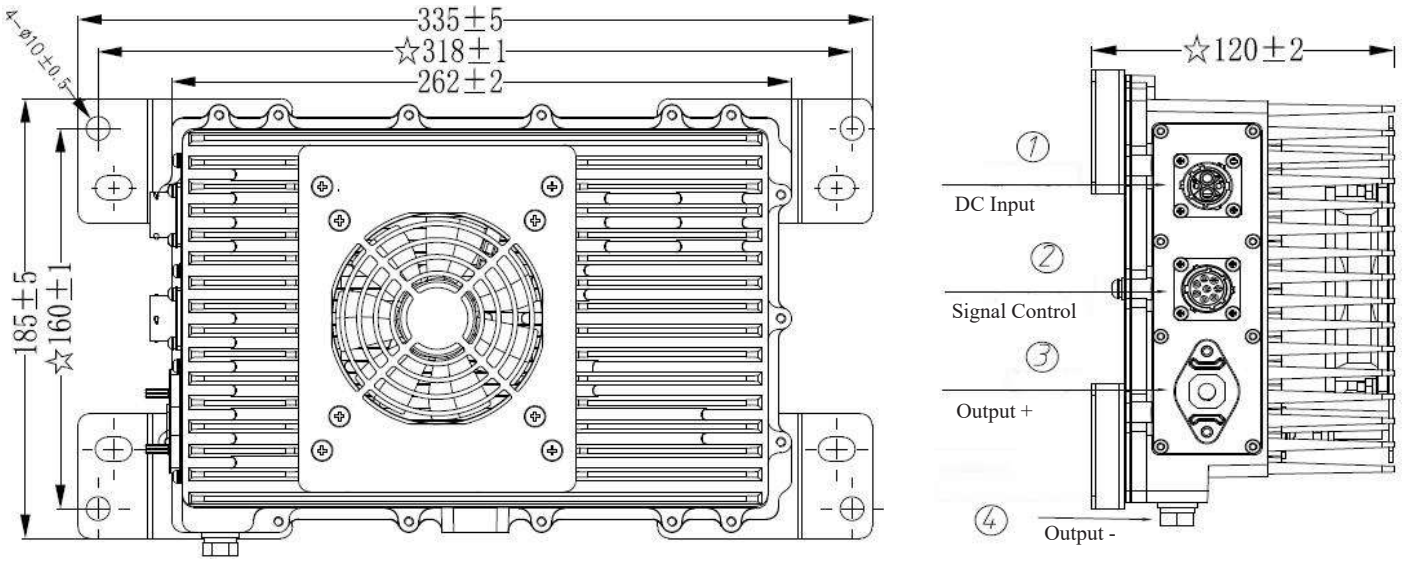
3KW DC/DC Converter-Fan
Model No. ATD3K-540S27-A

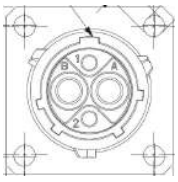
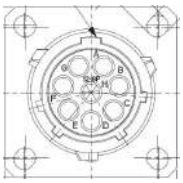
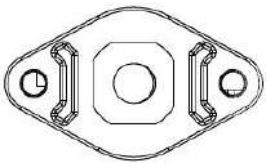
Structural Parameters (unit : mm)



Connector Model

Position	Function	Brand	Socket Model	Plug Model
1	DC Input	Amphenol	RT00122PN03	RT06122SNHEC03
2	Signal control	Amphenol	RT00128PN03	RT06128SNHEC03
3	Output +	Gvtong	GH01-F200-1ANB-T21	M8 Screw
4	Output -	/	M8 Bolt	M8 Screw

Interface Definition

DC Input(1)		Signal Control(2)		Output Positive(3)	
					
A	Input +	A	VCC +	+	Output +
B	Input -	B	CAN-L		
1	NC	C	CAN-H		
2	NC	D	CAN -		
		E	GND		
		F	NC		
		G	NC		
		H	Enable		

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3KW DC/DC Converter-Liquid
Model No. ATD3K-360S27-W

Features

1 Output Power: 3KW
2 Input Voltage: 200~500VDC
3 Output Voltage: 27VDC
4 Dimensions: 263x166x82mm
5 Weight: ≤4.5KG
6 Cooling System: Liquid, flow ≥6L/min
7 Protection Level: IP67
8 Communication Method: CAN
9 Enclosure: Aluminum alloy
10 Software: Digital software design
11 Online Upgrade & Fault Diagnosis: Supported

Specification

Description	Technical Specification	Remark
Operating Temperature	-40~85°C	Coolant inlet temperature
Rated Output Power	3KW	
Input Voltage Range	200~500VDC	
Rated Output Voltage	27VDC	Adjustable
Output Current Range	0~109A	
Output Voltage Range	0~32VDC	VCC
Efficiency	≥90%	Rated voltage
Output Voltage Ripple	≤500mVPK-PK	
Output Voltage Accuracy	±1%	
Wakeup Method	CAN, hard wire	
Communication Method	CAN	
Quiescent Current	≤2mA	Battery current will be consumed in sleep/standby mode
Protection Characteristics	Input OVP/UVP, output OVP/UVP, input anti-reverse protection, output short circuit protection, OCP, OTP	
EMC	GB/T 17619-1998, GB18655-2002	

Version: V0
File No.: DM-B-049-0

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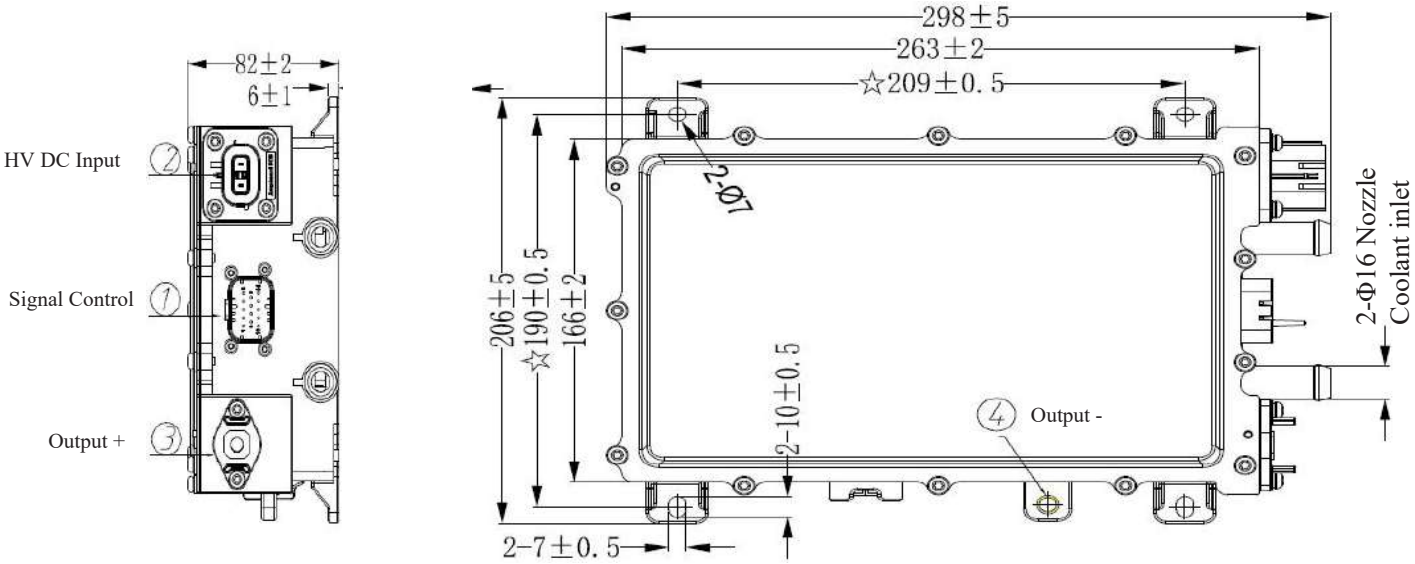
3KW DC/DC Converter-Liquid
Model No. ATD3K-360S27-W

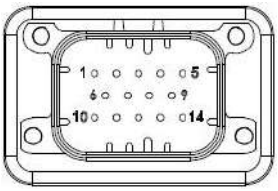
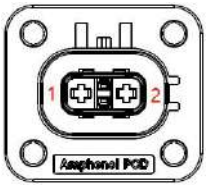
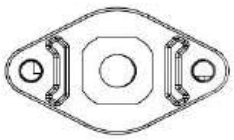
Structural Parameters (unit : mm)



Connector Model

Position	Function	Brand	Socket Model	Plug Model
1	Signal control	Gvtong	GVT03-RS013-14-L02	GE01-P008-14NNB-Y01
2	HV DC Input	Amphenol	HVSL282022FND	HVSL282062F104IND
3	Output +	Gvtong	GH17-F200-1NNB-T01	M8 Screw
4	Output -	/	M8 Bolt	M8 Screw

Interface Definition

Signal Control(1)		HV DC Input(2)		Output Positive(3)	
					
1	CAN-H	1	Input +	+	Output +
2	CAN-L	2	Input -		
3	KEY (connect ON)	A	HVIL_IN		
4	VCC + (connect to power supply)	B	HVIL_OUT		
5	GND				
6	HVIL_IN				
7	HVIL_OUT				
8	NC				

Version: V0
File No.: DM-B-049-0

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3KW DC/DC Converter-Liquid
Model No. ATD3K-540S27-W

Features

1 Output Power: 3KW
2 Input Voltage: 400~750VDC
3 Output Voltage: 27.5VDC
4 Dimensions: 263x166x82mm
5 Weight: ≤4.5KG
6 Cooling System: Liquid, flow ≥6L/min
7 Protection Level: IP67
8 Communication Method: CAN-BUS
9 Enclosure: Aluminum alloy
10 Software: Digital software design
11 Online Upgrade & Fault Diagnosis: Supported

Specification

Description	Technical Specification	Remark
Operating Temperature	-40~85°C	Coolant inlet temperature
Rated Output Power	3KW	Peak Power: 3.6KW
Input Voltage Range	400~750VDC	
Rated Output Voltage	27.5VDC	Adjustable
Rated Output Current	110A	
Auxiliary Voltage Range	9~32VDC	VCC
Efficiency	≥95%	Rated voltage
Output Voltage Ripple	≤500mVPK-PK	
Output Voltage Accuracy	±1%	
Wakeup Method	CAN, hard wire	
Communication Method	CAN-BUS	
Quiescent Current	≤2mA	Battery current will be consumed in sleep/standby mode
Protection Characteristics	Input OVP/UVP, output OVP/UVP, input anti-reverse protection, output short circuit protection, OCP, OTP	
EMC	GB/T 18655-2010	

Version: V0
File No.: DM-B-049-0

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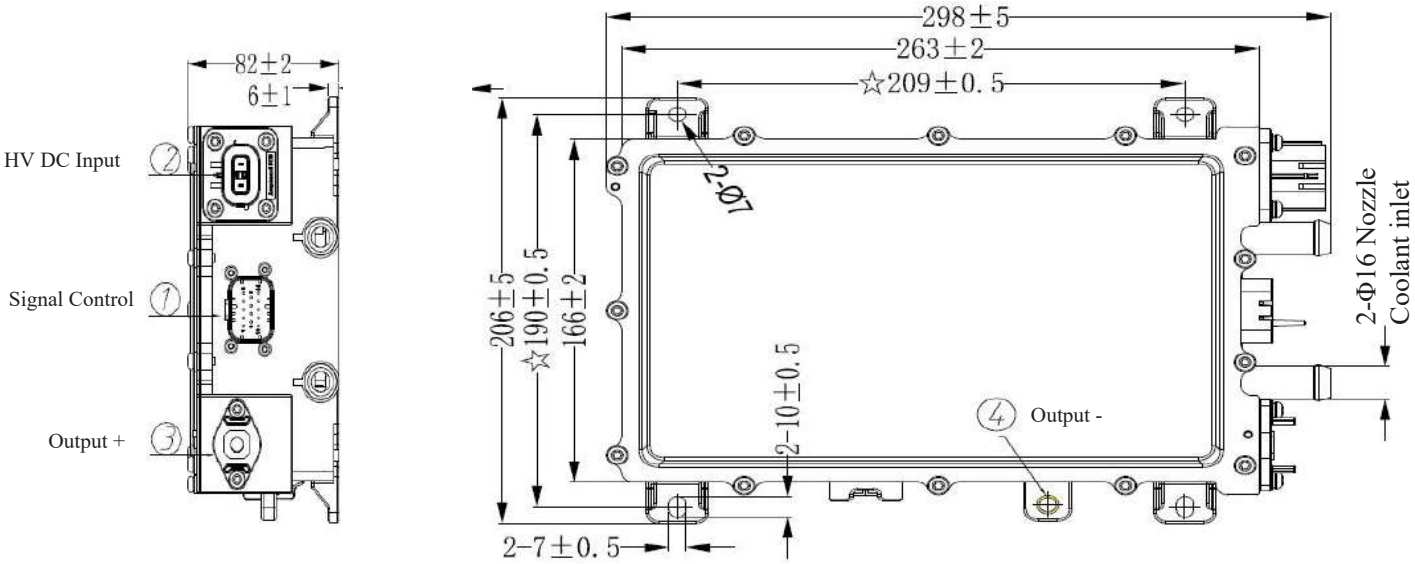
3KW DC/DC Converter-Liquid
Model No. ATD3K-540S27-W

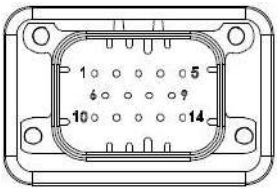
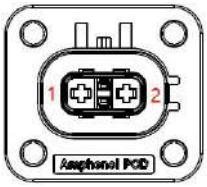
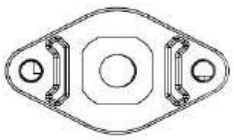
Structural Parameters (unit : mm)



Connector Model

Position	Function	Brand	Socket Model	Plug Model
1	Signal control	Gvtong	GVT03-RS013-14-L02	GE01-P008-14NNB-Y01
2	HV DC Input	Amphenol	HVSL282022FND	HVSL282062F104IND
3	Output +	Gvtong	GH17-F200-1NNB-T01	M8 Screw
4	Output -	/	M8 Bolt	M8 Screw

Interface Definition

Signal Control(1)		HV DC Input(2)		Output Positive(3)	
					
1	CAN-H	1	Input +	+	Output +
2	CAN-L	2	Input -		
3	KEY (connect ON)	A	HVIL_IN		
4	VCC + (connect to power supply)	B	HVIL_OUT		
5	GND				
6	HVIL_IN				
7	HVIL_OUT				
8	NC				

Version: V0
File No.: DM-B-049-0

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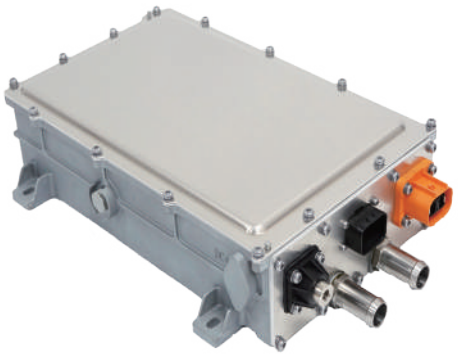
6KW DC/DC Converter-Liquid
Model No. ATD6K-540S27-W



Features

1 Output Power: 6KW
2 Input Voltage: 400~750VDC
3 Output Voltage: 27.5VDC
4 Dimensions: 326x211x83mm
5 Weight: ≤5KG
6 Cooling System: Liquid, flow rate ≥12L/min
7 Protection Level: IP67
8 Communication Method: CAN-BUS
9 Enclosure: Aluminum alloy
10 Software: Digital software design

Specification

Description	Technical Specification	Remark
Operating Temperature	-40~85°C	Coolant inlet temperature
Rated Output Power	6KW	
Input Voltage Range	400~750VDC	
Rated Output Voltage	27.5VDC	Adjustable
Rated Output Current	218A	
Auxiliary Voltage Range	9~32VDC	VCC
Efficiency	≥95%	Rated voltage
Output Voltage Ripple	≤500mVPK-PK	
Output Voltage Accuracy	±1%	
Wakeup Method	CAN, hard wire	
Communication Method	CAN-BUS	
Quiescent Current	≤2mA	Battery current will be consumed in sleep/standby mode
Protection Characteristics	Input OVP/UVP, output OVP/UVP, input anti-reverse protection, output short circuit protection, OCP, OTP	
EMC	GB/T 18655-2010 Class 3	

Version: V0
File No.: DM-B-049-0

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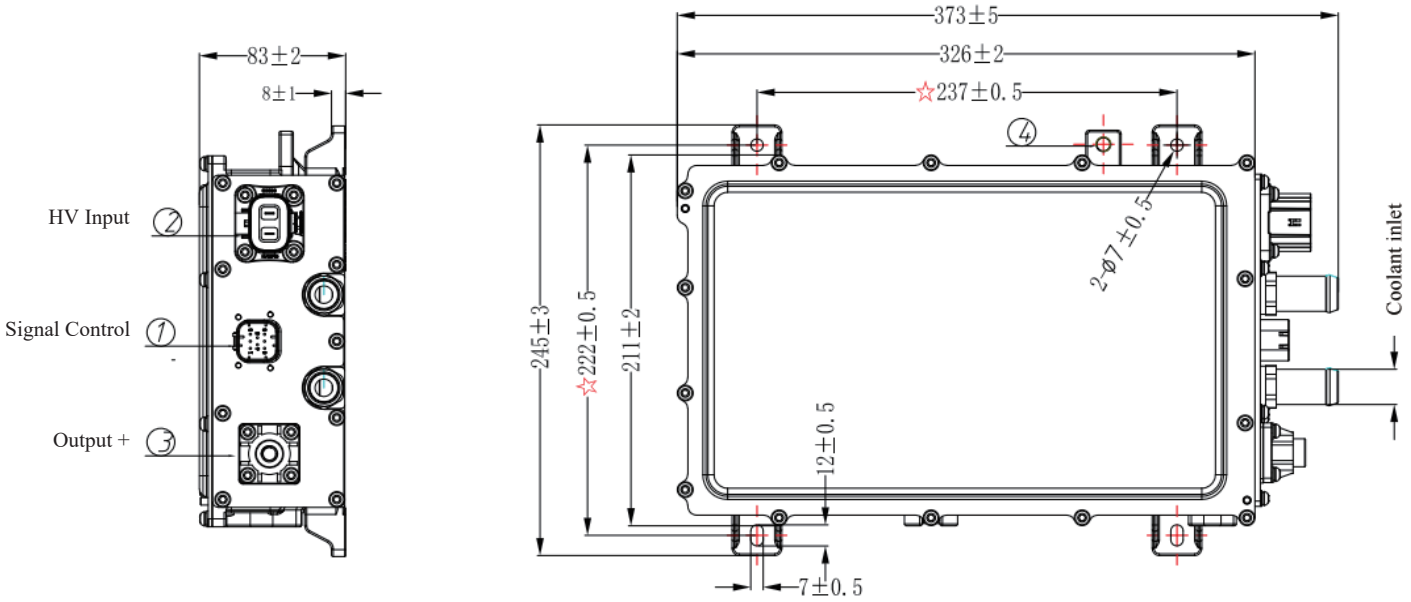
6KW DC/DC Converter-Liquid
Model No. ATD6K-540S27-W

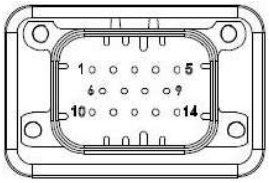
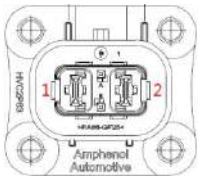
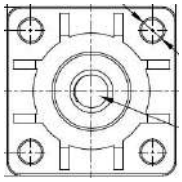
Structural Parameters (unit : mm)



Connector Model

Position	Function	Brand	Socket Model	Plug Model
1	Signal control	Gvtong	GVT03-RS013-14-L02	GE01-P008-14NNB-Y01
2	HV input	Amphenol	HVC2P63MV406	HVC2P63FS406
3	Output +	CNNT	ACTB135P-GY-M6	M8 Screw
4	Output -	/	M8 Bolt	M8 Screw

Interface Definition

Signal Control(1)		HV Input(2)		HV Output(3)	
					
1	CAN-H	1	Input +	+	Output +
2	CAN-L	2	Input -		
3	KEY(connect on file)	A	HVIL_IN		
4	VCC +(connect to 12V power supply)	B	HVIL_OUT		
5	GND				
6	HVIL_IN				
7	HVIL_OUT				
8	CAN2-H				
9	CAN2-L				
10-14	NC				

Version: V0
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Combo 2KW DC/DC Converter+6.6KW OBC Bidirectional
Model No. ATD2KCB6K6-D14C380-W

Features

1 Output Power:
OBC: 6.6KW
DC/DC: 2KW
2 Input Voltage:
OBC: 85~265VAC
DC/DC: 250~450VDC
3 Output Voltage:
OBC: 250~450VDC
DC/DC: 9~16VDC
4 Dimensions: 326x211x83mm
5 Weight: ≤9KG
6 Cooling System: Liquid, flow rate ≥8L/min
7 Protection Level: IP67
8 Communication Method: CAN-BUS
9 Enclosure: Aluminum alloy
10 Software: Digital software design

Specification

Description	Technical Specification	Remark
OBC Charging Mode		
Rated Output Power	6.6KW	
Input Voltage Range	85~265VAC	
Input Current	32A Max	
Power Factor	≥0.99(@220VAC full load)	
Output Voltage Range	250~450VDC	
Max Output Current	20A	Adjustable
Efficiency	≥94%	
Voltage Accuracy	±1%	Rated voltage & specific load
Current Accuracy	±1%	
Inverter Mode		
Input Voltage Range	250~450VDC	
Output Voltage	220Vac(±5%)/50Hz	
Power	6KVA	
Efficiency	≥94%	
Output Harmonic Distortion (THDv)	<3%(linear load)	
Dynamic Response	60ms(linear load)	
Leakage Current Protection Threshold	≤30mA	

Version: V0
File No.: DM-B-049-0

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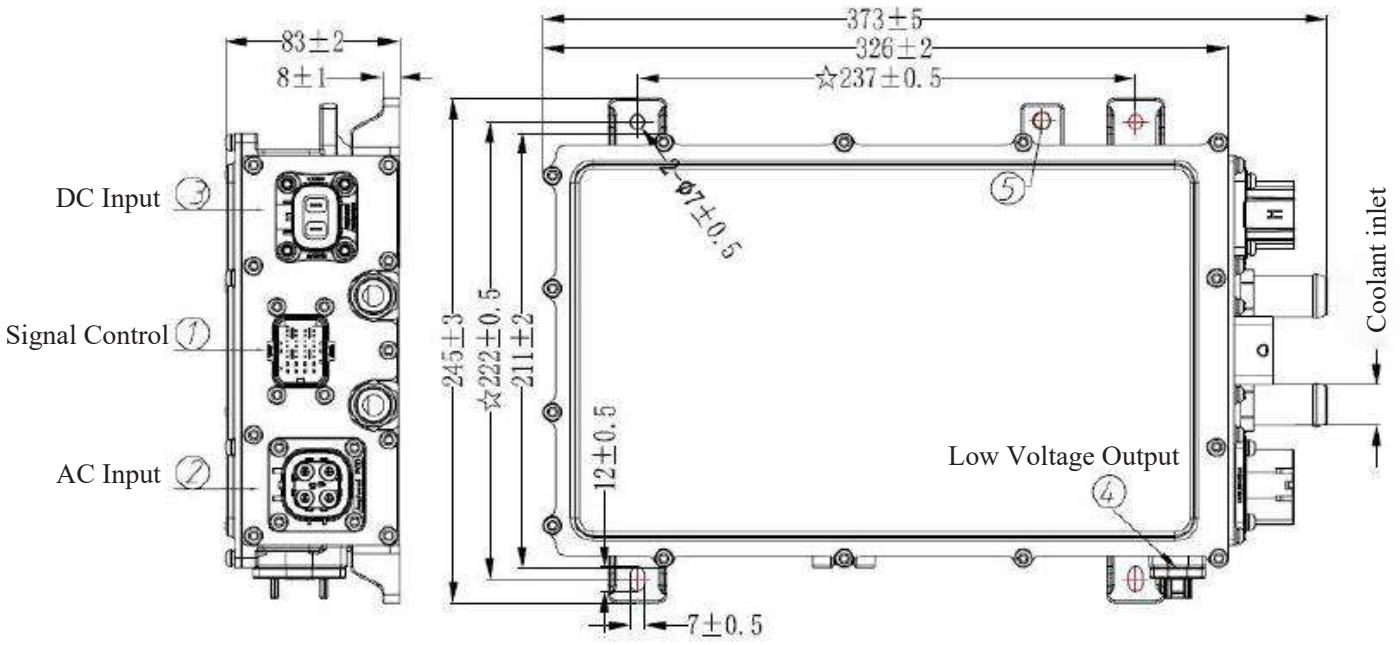
Combo 2KW DC/DC Converter+6.6KW OBC Bidirectional
Model No. ATD2KCB6K6-D14C380-W

Description	Technical Specification	Remark
DC/DC Mode		
Input Voltage Range	250~450VDC	
Input Current Range	<16A(@240VDC full load)	
Efficiency	≥94%	
Output Voltage Range	9~16VDC	
Rated Output Voltage	14VDC	
Rated Output Current	145A	
Rated Power	2KW	
Peak Power	2.4KW	
Voltage Ripple	300mV Max	
Others		
Operating Temperature	-40-85°C	Coolant inlet temperature
Low Voltage Wakeup	12VDC&200mA max (wakeup signal)	Wakeup BMS/VCU
Wakeup Method	DC, PP/CP, EN(hard wire)	Support reservation charging
CAN Communication	CAN-BUS	
Quiescent Current	≤1mA	Battery current will be consumed in sleep/standby mode
Protection	Input OVP, UVP, output OVP, UVP, OTP, OCP, output short circuit protection, communication fault protection	
EMC	GB/T18387-2008, EN 55022	

Structural Parameters (unit : mm)



Version: V0
File No.: DM-B-049-0

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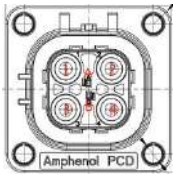
Combo 2KW DC/DC Converter+6.6KW OBC Bidirectional
Model No. ATD2KCB6K6-D14C380-W

Connector Model

Position	Function	Brand	Socket Model	Plug Model
1	Signal control	TE	2334366-2	2137299-8
2	AC Input	Amphenol	HVSL364024A	HVSL364064A106I
3	DC Output	Amphenol	HVC2P63MV406	HVC2P63FS406
4	Low voltage output	Gvtong	GH01-F200-1NNB-T21	M8 Copper

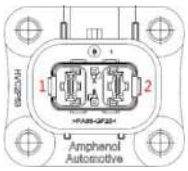
Interface Definition

AC Input(2)



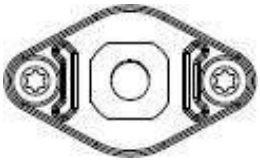
1	L
2	NC
3	NC
4	Neutral
A	HVIL_IN
B	HVIL_OUT
	Ground to chassis

DC Output(3)



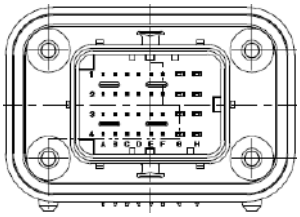
1	Output +
2	Output -
A	HVIL_IN
B	HVIL_OUT

Low Voltage Output(4)



+	LV Output +

Signal Control(1)



1A	CAN 1-H	2A	Wakeup	3A	NTC1 +	4A	HVIL_IN
1B	CAN 1-L	2B	PP_OUT (low resistance)	3B	NTC2 +	4B	HVIL_OUT
1C	EN_OBC	2C	EN_Inverter	3C	NC	4C	CAN 2-H(reserved)
1D	EN_DC	2D	NC	3D	NTC 1 & 2 -	4D	CAN 2-L(reserved)
1E	PP	2E	NC	3E	Lock feedback 1	4E	NC
1F	CP	2F	NC	3F	Lock feedback 2	4F	NC
1G	VCC +	2G	NC	3G	Lock +	4G	NC
1H	GND	2H	NC	3H	Lock -	4H	NC

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File No.: DM-B-049-0

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Combo 2.2KW DC/DC Converter+6.6KW OBC
Model No. ATD2K2CB6K6-D14C750-W

Features

1 Output Power:
OBC: 6.6KW
DC/DC: 2.2KW
2 Input Voltage:
OBC: 85~265VAC
DC/DC: 500~850VDC
3 Output Voltage:
OBC: 500~850VDC
DC/DC: 9~16VDC
4 Dimensions: 326x211x83mm
5 Weight: ≤9KG
6 Cooling System: Liquid, flow rate ≥8L/min
7 Protection Level: IP67
8 Communication Method: CAN-BUS
9 Enclosure: Aluminum alloy
10 Software: Digital software design

Specification

Description	Technical Specification	Remark
OBC Charging Mode		
Rated Output Power	6.6KW	
Input Voltage Range	85~265VAC	
Input Current	32A Max	
Power Factor	≥0.99(@220VAC full load)	
Output Voltage Range	500~850VDC	
Max Output Current	10A	Adjustable
Efficiency	≥94%	
Voltage Accuracy	±1%	Rated voltage & specific load
Current Accuracy	±1%	
DC/DC Mode		
Input Voltage Range	500~850VDC	
Input Current	<10A(@240VDC full load)	
Efficiency	≥94%	
Output Voltage Range	9~16VDC	
Rated Output Voltage	14VDC	
Rated Output Current	158A	
Rated Power	2.2KW	
Peak Power	2.5KW	
Voltage Ripple	300mV Max	

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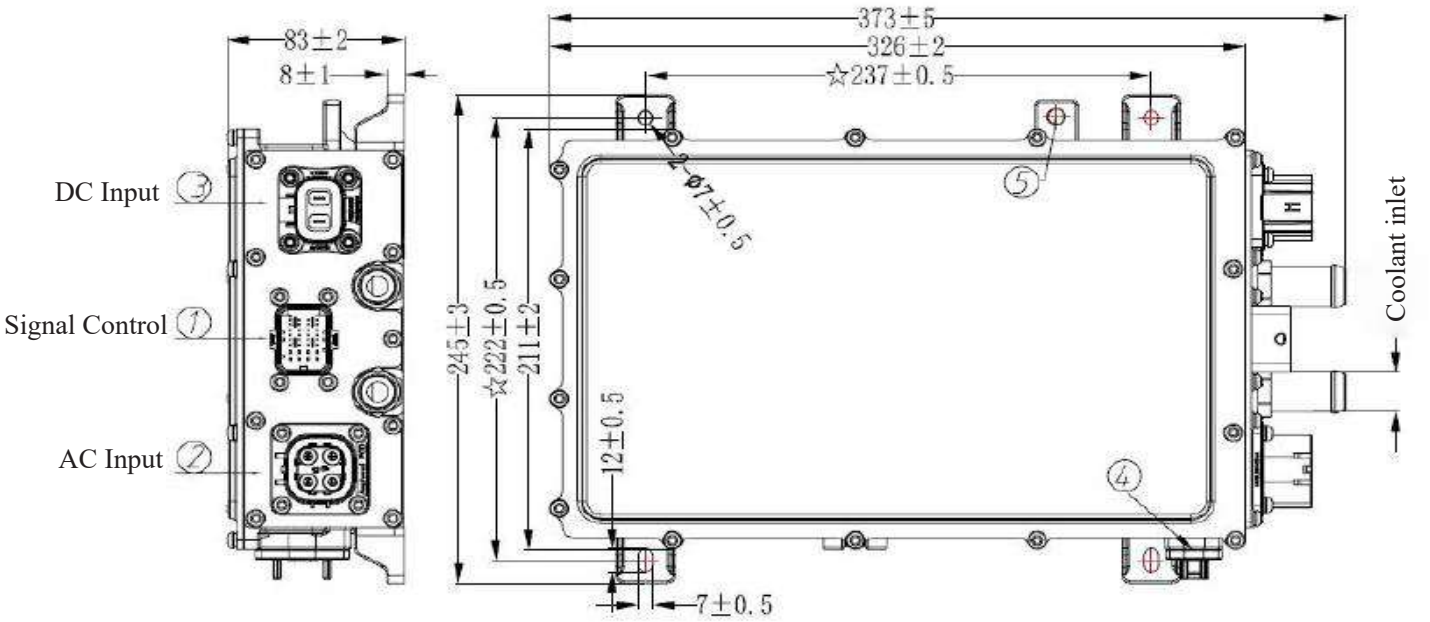
Combo 2.2KW DC/DC Converter+6.6KW OBC
Model No. ATD2K2CB6K6-D14C750-W

Description	Technical Specification	Remark
Others		
Operating Temperature	-40-85℃	Coolant inlet temperature
Low Voltage Wakeup	12VDC&200mA max (wakeup signal)	Wakeup BMS/VCU
Wakeup Method	CAN, DC, PP/CP	Support reservation charging
CAN Communication	CAN-BUS	
Quiescent Current	≤1mA	Battery current will be consumed in sleep/standby mode
Protection	Input OVP, UVP, output OVP, UVP, OTP, OCP, output short circuit protection, communication fault protection	
EMC	GB/T18387-2008, EN 55022	

Structural Parameters (unit : mm)



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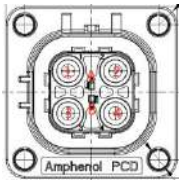
Combo 2.2KW DC/DC Converter+6.6KW OBC
Model No. ATD2K2CB6K6-D14C750-W

Connector Model

Position	Function	Brand	Socket Model	Plug Model
1	Signal control	TE	2334366-2	2137299-8
2	AC Input	Amphenol	HVSL364024A	HVSL364064A106I
3	DC Output	Amphenol	HVC2P63MV406	HVC2P63FS406
4	Low voltage output	Gvtong	GH01-F200-1NNB-T21	M8 Copper

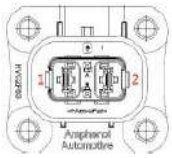
Interface Definition

AC Input(2)



1	L
2	NC
3	NC
4	Neutral
A	HVIL_IN
B	HVIL_OUT
	Ground to chassis

DC Output(3)

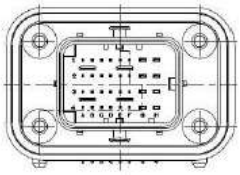


1	Output +
2	Output -
A	HVIL_IN
B	HVIL_OUT

Low Voltage Output(4)

+	LV Output +

Signal Control(1)



1A	CAN 1-H	2A	Wakeup	3A	NTC 1 +	4A	HVIL_IN
1B	CAN 1-L	2B	PP_OUT (low resistance)	3B	NTC 2 +	4B	HVIL_OUT
1C	EN_OBC	2C	EN_Inverter	3C	NC	4C	CAN 2-H(reserved)
1D	EN_DC	2D	NC	3D	NTC 1 & 2 -	4D	CAN 2-L(reserved)
1E	PP	2E	NC	3E	Lock feedback 1	4E	NC
1F	CP	2F	NC	3F	Lock feedback 2	4F	NC
1G	VCC +	2G	NC	3G	Lock +	4G	NC
1H	GND	2H	NC	3H	Lock -	4H	NC

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Combo 2.5KW DC/DC Converter+6.6KW OBC
Model No. AR2K5D6K6B-270S400L-I

Features

1 Output Power:
OBC: 6.6KW
DC/DC: 2.5KW
2 Input Voltage:
OBC: 85~265VAC
DC/DC: 270~450VDC
3 Output Voltage:
OBC: 270~450VDC
DC/DC: 9~16VDC
4 Dimensions: 279x202x68mm
5 Weight: ≤5.5KG
6 Cooling System: Liquid, flow rate ≥6L/min
7 Protection Level: IP67
8 Communication Method: CAN 2.0B

Specification

Description	Technical Specification
OBC Charging Mode	
Rated Output Power	6.6KW
Input Voltage Range	85~265VAC
Input Current	32A Max
Power Factor	0.98@rated input, output ≥half load
Output Voltage Range	270~450VDC
Max Output Current	22A
Efficiency	≥92% @rated input and output
Output Voltage Accuracy	≤±1%
Output Current Accuracy	≤±3%@＞10A；≤±0.3A @＜10A
Output Voltage Ripple Coefficient	≤±5%
DC/DC Mode	
Input Voltage Range	270~450VDC
Rated Input Voltage	350VDC
Input Current	12A
Efficiency	≥92% @rated input and output
Output Voltage Range	9~16VDC
Rated Output Voltage	14VDC
Output Current	180A
Rated Power	2.5KW
Under Charging / Inverting State DCDC Max Output Power	2KW
Output Voltage Accuracy	≤±1%
Output Voltage Ripple	≤500mVpp@20MHz
Output Voltage overshoot	≤5% Vout

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Combo 2.5KW DC/DC Converter+6.6KW OBC
Model No. AR2K5D6K6B-270S400L-I

Description	Technical Specification
Low-Voltage Input	
Input Voltage Range	9~16VDC (Normal work) ; 6~18VDC (communication is normal)
Quiescent Current	≤2mA (whole system)
CAN Communication	CAN 2.0B
HVIL Function	The high-voltage connector interlock signal is given by the low-voltage signal connector, and its status is detected by the vehicle
Wakeup Method	Hard wire, CAN
UDS Function	Optional
Boot Loader Function	Optional
AUTOSAR(4.3.1 network management)	Optional(the development time is 6 weeks and NRE needed)
Environmental Conditions	
Working Temperature	-40~85°C
Ambient Storage Temperature	-40~105°C
Working Environment Humidity	5%~95%, no condensation
Cooling Method	Liquid cooling
IP Rating	IP67
Cooling System	
Coolant Path	Nozzle diameter 16mm (outer diameter)
Coolant Requirements	50% water and 50% glycol
Coolant Temperature	Normal work: -40~+ 65 °C; Derating work: + 65~+ 85 °C
Coolant Flow	≥6L/min
Safety Features	
Dielectric Strength	AC input side to high voltage output side: 2800 VDC AC input side to low voltage output side (housing): 2800 VDC High voltage output side to low voltage output side (housing): 2800 VDC
Insulation Resistance	Test voltage 500 VDC AC input side to high voltage output side: ≥10 MΩ AC input side to low voltage output side (housing): ≥10 MΩ High voltage output side to low voltage output side (housing): ≥10 MΩ
Grounding Resistance	Resistance between charger case and PE ＜0.1 Ω

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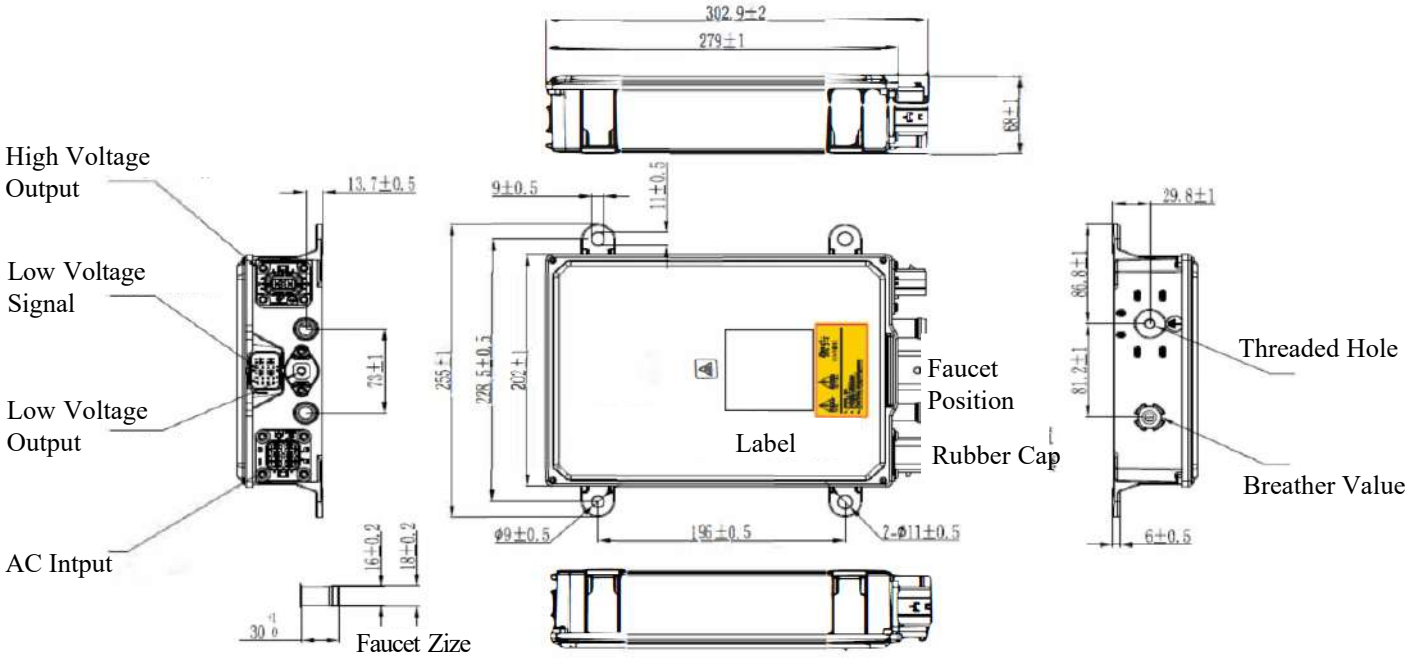
Combo 2.5KW DC/DC Converter+6.6KW OBC
Model No. AR2K5D6K6B-270S400L-I

Structural Parameters (unit : mm)



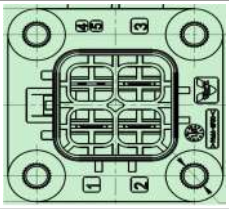
Product Interface

Connector Information

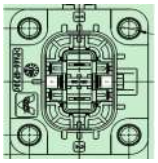
Pinout Definition	Receptacle		Plug Model	
	Model	Brand	Model	Brand
AC Input	YGC1174-EV-P(3+2)R/1	Yonggui	YGC1174-EV-S(3+2)P	Yonggui
High voltage output	YGC1174-EV-P(2+2)RA	Yonggui	YGC1174-EV-S(2+2)PA	Yonggui
Low voltage output	GH01-F200-1NNB-T02	Gvtong	M8 Hole OT terminal	
Low voltage signal	64334-0100	MOLEX	64319-3211	MOLEX

Connector Pin Definition

AC Input

Position	Description				Picture
1	L1	Line	Rated Current	32A	
2	N	Neutral	Rated Current	32A	
3	PE	Ground	Rated Current	32A	
4	HVIL_IN	Interlock_in	Signal	20mA	
5	HVIL_OUT	Interlock_out	Signal	20mA	

High Voltage Output

Position	Description				Picture
1	HV +	High voltage output positive	Rated Current	22A	
2	HV -	High voltage output negative	Rated Current	22A	
3	HVIL_IN	Interlock_in	Signal	20mA	
4	HVIL_OUT	Interlock_out	Signal	20mA	

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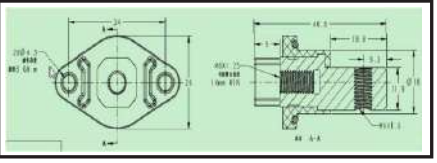
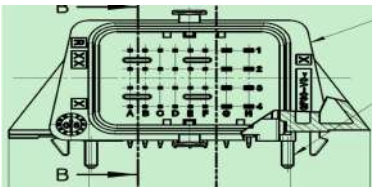
Model No. AR2K5D6K6B-270S400L-I

Low-Voltage Output Positive

Position	Description				Picture
/	14V +	Low voltage 14V output positive	Rated Current	180A	

Low Voltage Signal

Position	Description			Picture
1A	NC			
1B	NC			
1C	NC			
1D	NC			
1E	NC			
1F	NC			
1G	NC			
1H	KL30	VCC (12V +)	Power input	
2A	NC			
2B	NC			
2C	NC			
2D	NC			
2E	NC			
2F	NC			
2G	NC			
2H	NC			
3A	NC			
3B	NC			
3C	OBC_Wakeup_IN	OBC hard wire wakeup input, high (KL15) enable	Analog input	
3D	DCDC_Wakeup_IN	DCDC hard wire wakeup input, high (KL15) enable	Analog input	
3E	NC			
3F	NC			
3G	NC			
3H	NC			
4A	CAN-H	CAN high	Digital	
4B	CAN-L	CAN low	Digital	
4C	HVIL_IN	High-voltage interlock_in	Analog output	
4D	HVIL_OUT	High-voltage interlock_out	Analog output	
4E	NC			
4F	NC			
4G	KL 31	Ground (return of 12V)	Power ground	
4H	NC			

Note: The above valid range of medium and high voltage is 6~18VDC.

Version: V0
File No.: DM-B-049-0

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Combo 3KW DC/DC Converter+11KW OBC Bidirectional
Model No. ATD3KC11KB-D14C380

Features

1 Output Power:
OBC: 11KW
DC/DC: 3KW
2 Input Voltage:
OBC: 304~456VAC(3 phase 4 wire)
DC/DC: 250~450VDC
3 Output Voltage:
OBC: 250~450VDC
DC/DC: 9~16VDC
4 Dimensions: 369x238x98mm
5 Weight: ≤12KG
6 Cooling System: Liquid, flow rate ≥10L/min
7 Protection Level: IP67
8 Communication Method: CAN-BUS
9 Enclosure: Aluminum alloy
10 Software: Digital software design
11 Inverter Function: Supported
12 Online Upgrade & Fault Diagnosis: Supported

Specification

Description	Technical Specification	Remark
OBC Charging Mode		
Rated Output Power	11KW	
Input Voltage Range	304~456VAC(3 phase 4 wire)	1 phase input: 176~264VAC
Input Current	32A Max	
Power Factor	≥0.99(@220VAC full load)	
Output Voltage Range	250~450VDC	Adjustable
Max Output Current	32A	
Efficiency	≥94%	Rated voltage
Voltage Accuracy	±1%	
Current Accuracy	±1%	
Inverter Mode		
Input Voltage Range	250~450VDC	
Output Voltage	220VAC(±5%, 1 phase)	
Power	6KVA(1 phase)	
Efficiency	≥94%	
Output Harmonic Distortion (THDv)	<3%(linear load)	
Dynamic Response	60ms(linear load)	
Leakage Current Protection Threshold	≤30mA	

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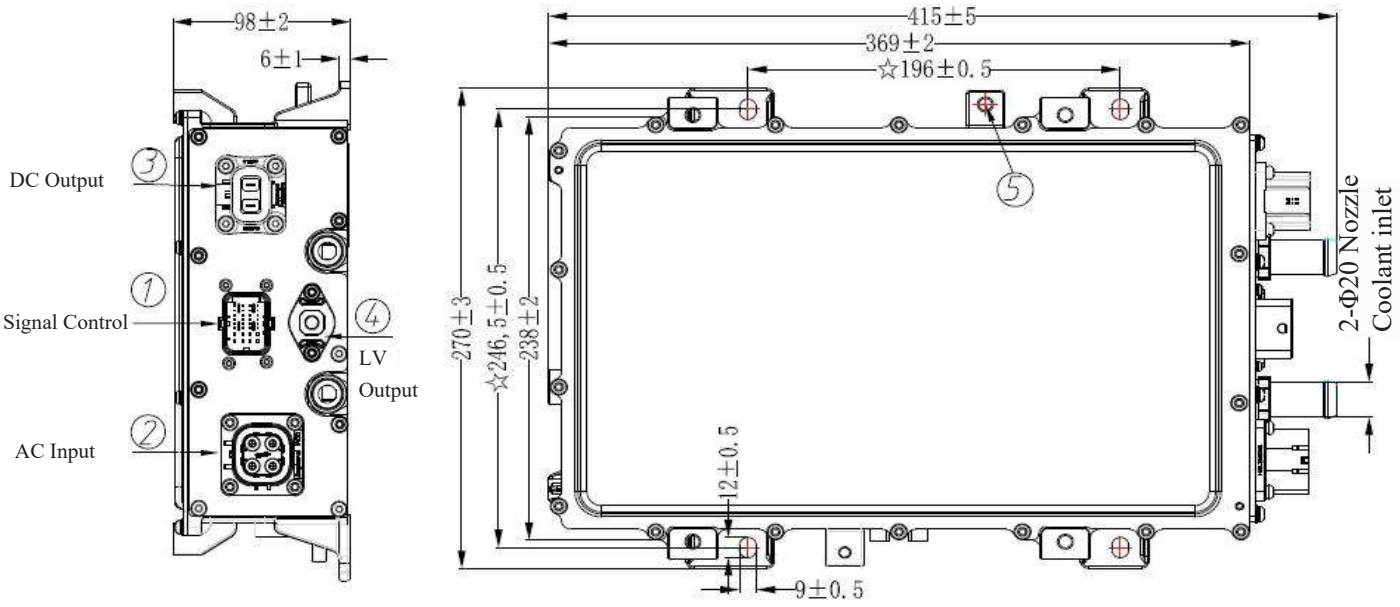
Combo 3KW DC/DC Converter+11KW OBC Bidirectional
Model No. ATD3KC11KB-D14C380

Description	Technical Specification	Remark
DC/DC Mode		
Input Voltage Range	250~450VDC	
Input Current Range	<16A(@240VDC full load)	
Efficiency	≥94%	
Output Voltage Range	9~16VDC	
Rated Output Voltage	13.8VDC	
Rated Output Current	218A	
Rated Power	3KW	
Peak Power	3.6KW	
Voltage Ripple	300mV Max	
Others		
Operating Temperature	-40~85℃	Coolant inlet temperature
Low Voltage Wakeup	12VDC&200mA max (Wakeup signal)	Wakeup BMS/VCU
Wakeup Method	CAN, AC, HVDC, PP/CP, EN(Hardwire)	Support reservation charging
CAN Communication	CAN-BUS	
Quiescent Current	≤1mA	Battery current will be consumed in sleep/standby mode
Protection	Input OVP, UVP, output OVP, UVP, OTP, OCP, output short circuit protection, communication fault protection	
EMC	GB/T18387-2008, EN 55022	

Structural Parameters (unit : mm)



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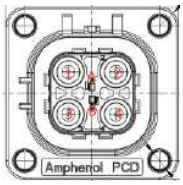
Combo 3KW DC/DC Converter+11KW OBC Bidirectional
Model No. ATD3KC11KB-D14C380

Connector Model

Position	Function	Brand	Socket Model	Plug Model
1	Signal control	TE	2334366-2	2137299-8
2	AC Input	Amphenol	HVSL364024A	HVSL364064A106I
3	DC Output	Amphenol	HVC2P63MV406	HVC2P63FS406
4	Low voltage output	Gvtong	GH01-F200-1NNB-T21	M8 Copper

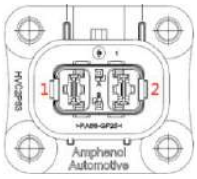
Interface Definition

AC Input(2)



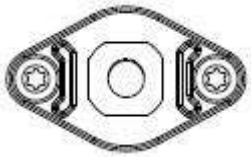
1	L1/single phase
2	L2
3	L3
4	Neutral
A	HVIL_IN
B	HVIL_OUT
	Ground to chassis

DC Output(3)



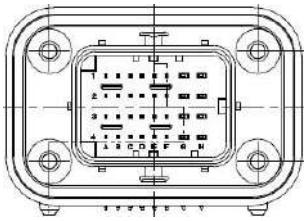
1	Output +
2	Output -
A	HVIL_IN
B	HVIL_OUT

Low Voltage Output(4)



+	LV Output +

Signal Control(1)



1A	CAN 1-H	2A	Wakeup	3A	NTC1 +	4A	HVIL_IN
1B	CAN 1-L	2B	PP_OUT (low resistance)	3B	NTC2 +	4B	HVIL_OUT
1C	EN_OBC	2C	EN_Inverter	3C	NTC3 +	4C	CAN 2-H(reserved)
1D	EN_DC	2D	NC	3D	NTC 1 & 2 & 3 -	4D	CAN 2-L(reserved)
1E	PP	2E	NC	3E	Lock feedback 1	4E	NC
1F	CP	2F	NC	3F	Lock feedback 2	4F	NC
1G	VCC +	2G	NC	3G	Lock +	4G	NC
1H	GND	2H	NC	3H	Lock -	4H	NC

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Combo 2.7KW DC/DC Converter+11KW OBC+PDU
Model No. AT3HD3KCB11KB-D14C380-W

Features

1 Output Power:
OBC: 11KW
DC/DC: 2.7KW
2 Input Voltage:
OBC: 304~456VAC(three-phase four-wire)
DC/DC: 250~450VDC
3 Output Voltage:
OBC: 250~450VDC
DC/DC: 9~16VDC
4 Dimensions: 372x240x98mm
5 Weight: ≤15KG
6 Cooling System: Liquid, flow rate ≥10L/min
7 Protection Level: IP67
8 Communication Method: CAN-BUS
9 Enclosure: Aluminum alloy
10 Software: Digital software design
11 Inverter Function: Supported
12 Online Upgrade & Fault Diagnosis: Supported

Specification

Description	Technical Specification	Remark
OBC Charging Mode		
Rated Output Power	11KW	
Input Voltage Range	304~456VAC(three-phase four-wire)	Single-phase input 176~264VAC
Input Current	32A Max	
Power Factor	≥0.99(@220VAC full load)	
Output Voltage Range	250~450VDC	Adjustable
Max Output Current	32A	
Efficiency	≥94%	Rated voltage
Voltage Accuracy	±1%	
Current Accuracy	±1%	
Inverter Mode		
Input Voltage Range	250~450VDC	
Output Voltage	220Vac(±5%)/50Hz	
Power	6KVA	
Efficiency	≥94%	
Output Harmonic Distortion (THDv)	<3%(linear load)	
Dynamic Response	60ms(linear load)	
Leakage Current Protection Threshold	≤30mA	

Version: V0
File No.: DM-B-049-0

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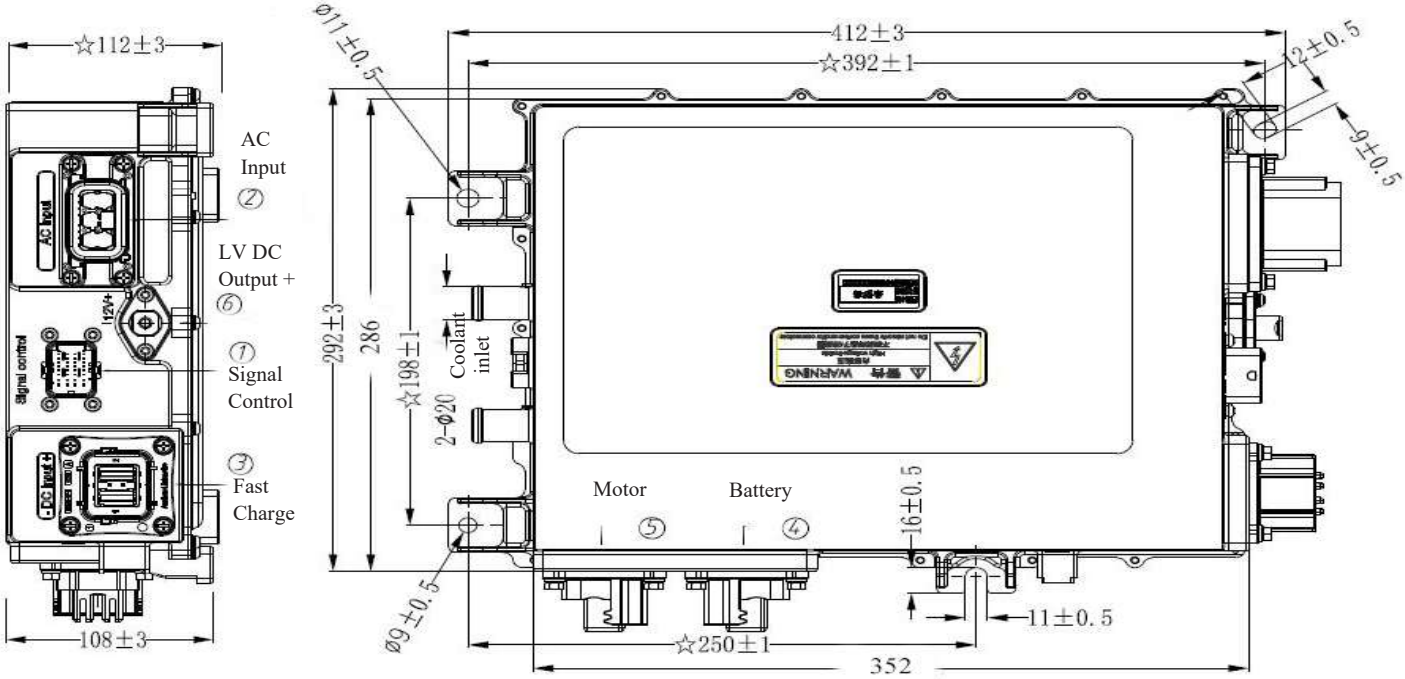
Combo 2.7KW DC/DC Converter+11KW OBC+PDU
Model No. AT3HD3KCB11KB-D14C380-W

Description	Technical Specification	Remark
DC/DC Mode		
Input Voltage Range	250~450VDC	
Input Current Range	<16A(@240VDC full load)	
Efficiency	≥94%	
Output Voltage Range	9~16VDC	
Rated Output Voltage	14VDC	
Rated Output Current	192A	
Rated Power	2.7KW	
Peak Power	3KW	
Voltage Ripple	300mV Max	
Others		
Operating Temperature	-40-85℃	Coolant inlet temperature
Low Voltage Wakeup	12VDC&200mA max (wakeup signal)	Wakeup BMS/VCU
Wakeup Method	CAN, AC, HVDC, PP/CP, EN(hardwire)	Support reservation charging
CAN Communication	CAN-BUS	
Quiescent Current	≤1mA	Battery current will be consumed in sleep/standby mode
Protection	Input OVP, UVP, output OVP, UVP, OTP, OCP, output short circuit protection, communication fault protection	
EMC	GB/T18387-2008, EN 55022	

Structural Parameters (unit : mm)



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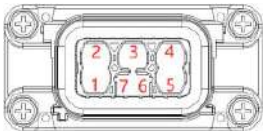
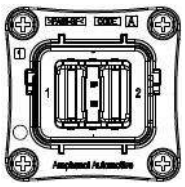
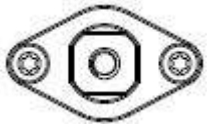
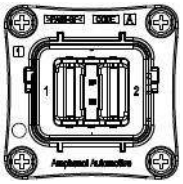
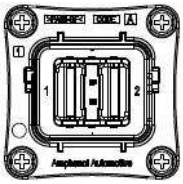
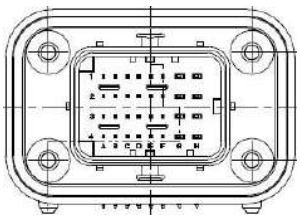
Connector Model

Position	Function	Brand	Socket Model	Plug Model
1	Signal control	TE	2334366-2	2137299-8
2	AC Input	Amphenol	HVC5P63MV105	HVC5P63FS106
3	Fast charge	Amphenol	HVPC2P16FV141	HVPC2P16MS150S
4	Battery	Amphenol	HVPC2P16FV241	HVPC2P16MV250
5	Motor	Amphenol	HVPC2P16FV141	HVPC2P16MS150
6	LV DC Output +	Gvtong	GH04-F200-1NNB-T01	M8 Copper

Interface Definition

AC Input(2)		Moter(5)		LV DC Output(6)		Fast Charge(3)		Battery(4)	
									
1	L1	1	Output +	+	LV +(35mm²)	1	Output -	1	Output -
2	L2	2	Output -			2	Output +	2	Output +
3	L3	A	HVIL_IN			A	HVIL_IN	A	HVIL_IN
4	Neutral	B	HVIL_OUT			B	HVIL_OUT	B	HVIL_OUT
5	PE								
6	HVIL_IN								
7	HVIL_OUT								

Signal Control(1)



1A	CAN 1-H	2A	Wakeup	3A	NTC 1 +	4A	HVIL_IN
1B	CAN 1-L	2B	PP_OUT (low resistance)	3B	NTC 2 +	4B	HVIL_OUT
1C	EN_OBC	2C	EN_Inverter	3C	NTC 3 +	4C	CAN 2-H(reserved)
1D	EN_DC	2D	NC	3D	NTC 1 & 2 & 3 -	4D	CAN 2-L(reserved)
1E	PP	2E	Fast charge contactor +	3E	Lock feedback 1	4E	NC
1F	CP	2F	Fast charge contactor -	3F	Lock feedback 2	4F	NC
1G	VCC +	2G	NC	3G	Lock +	4G	NC
1H	GND	2H	NC	3H	Lock -	4H	NC

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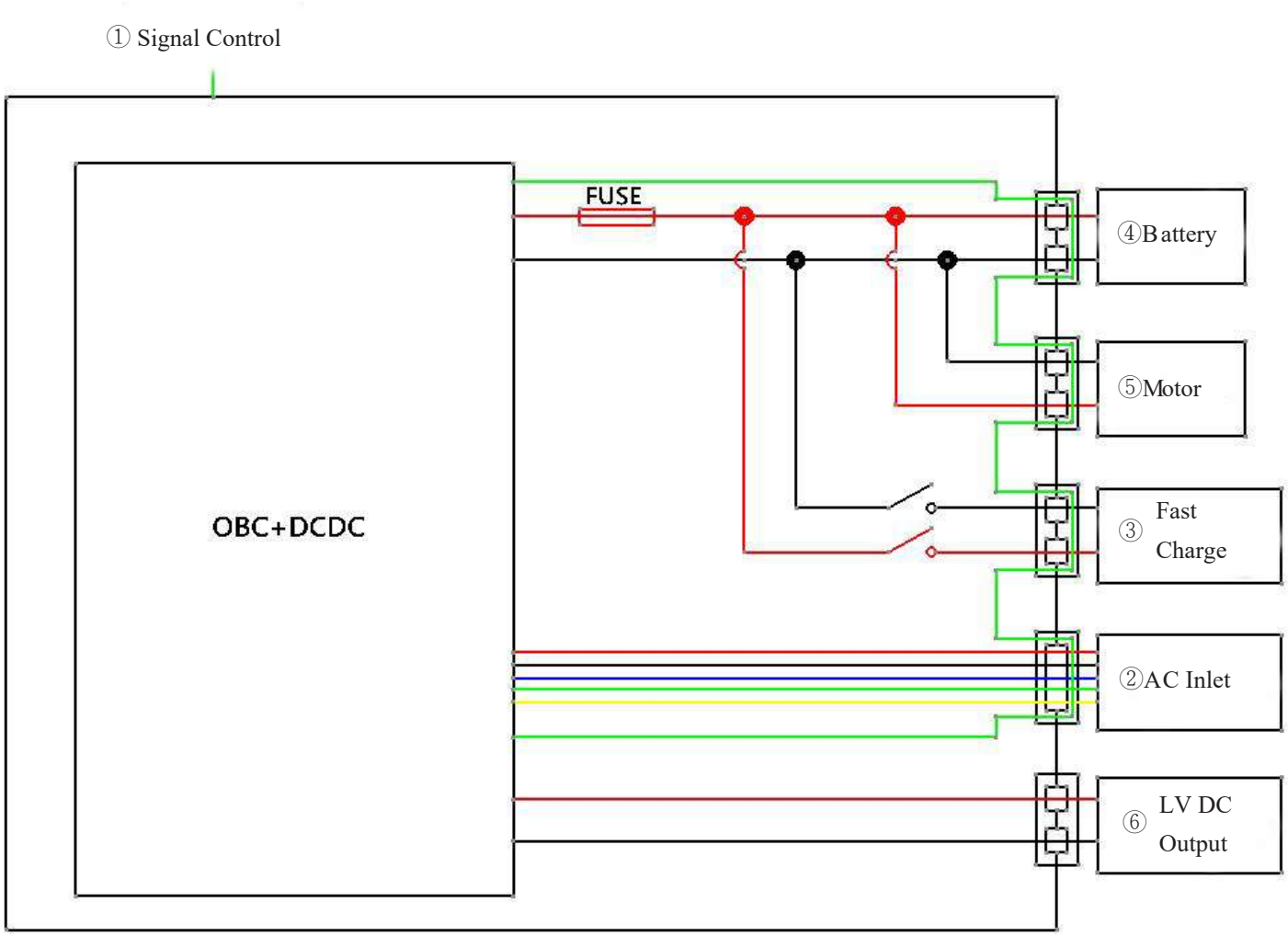
Model No. AT3HD3KCB11KB-D14C380-W

Device Parameters

Name	Fuse Specifications	Contactor Specifications
OBC	80A	/
Fast charging contactor	/	250A

PDU Schematic Diagram



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