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Combo 2.5KW DCDC Converter 6.6KW OBC Bidirectional with ISO26262 FUSA ASIL B Model No. ATCDB66662252

Features

1 Nominal Output Power:
OBC: 6.6KW ; DC/DC: 2.5KW
2 Input Voltage Range:
OBC: 90~264VAC ; DC/DC: 200~480VDC
3 Output Voltage Range:
OBC: 200~480VDC
DC/DC: 9 -16V, Nominal: 14V
4 Dimensions: 322*269*69.5mm
5 Weight: ≤6.5KG
6 Cooling System: Liquid, flow ≥8L/min
7 Ingress Protection Rating: IP67
8 V2L (Vehicle to Load): Supported
9 UDS Diagnostics: Supported (Basic SID)
10 Enclosure: Aluminum alloy
11 Software: Digital software design
12 Inverter Function: Supported by Bi-direction OBC
11 Online Upgrade & Fault Diagnosis: Supported

Specification

Description	Technical Specification	Remark
OBC		
Rated Output Power	6.6KW	
Rated Input Voltage	220VAC	
Input Voltage Range	90~264VAC	
Input Current	32A Max	
Power Factor	@>0.98 at 50%~100% load @>0.94 at 15%~50% load	
Rated Output Voltage	350VDC	
Output Voltage Range	200~480VDC	
Max Output Current	22A	
Output ripple and noise	±5%Vo	
Efficiency	Vout below 300V, efficiency ≥ 93% Vout above 300V,efficiency ≥ 95%	Rated voltage & Specific load
Voltage Accuracy	±1%	
Current Accuracy	±5%	
Input Over-voltage Protection	260~270VAC	Turn off output
Input over-voltage recovery	250~260VAC	Hysteresis range ≥ 5Vac

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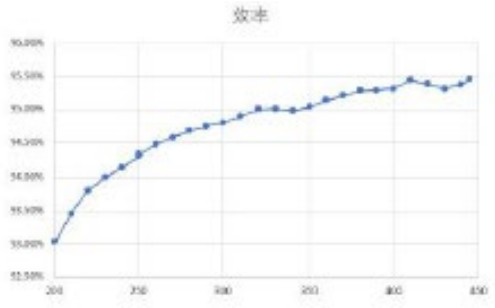
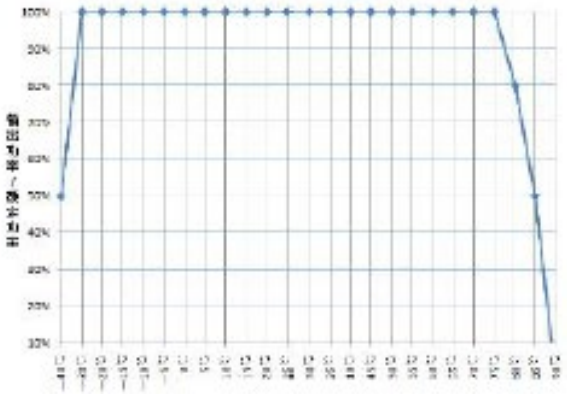
Input under-voltage protection	80~90VAC	Turn off output
Input under-voltage recovery	90~95VAC	Hysteresis range ≥ 5Vac
Input over-current protection	32A	
Output over-voltage protection	490VDC	
Output under-voltage protection	190VDC	
Output over-current protection	22A	
Output short circuit protection	Yes	
Output reverse connection protection	Yes	
Communication failure warning	Yes	
Over-temperature protection	85~90℃	Detect the internal temperature of OBC. When the temp. of detected point is higher than 85 ℃, starts reducing output power. However, when the temp. still keep rising to 90 ℃, OBC will shuts down.

OBC output efficiency and temperature de-rating curve



OBC Efficiency curve



OBC Temperature de-rating curve

OBC-Inverter Mode		
Rated input voltage	350VDC	
Input Voltage Range	200~480VDC	
Output Voltage	220VAC(±5%)/50±1HZ	
Rated Output Power	3.3 KVA	
Efficiency	≥92 %	
Output current range (discharge inside vehicle)	10A	
Output current range (discharge outside the vehicle)	28A	Determine by PP resistance
Output overvoltage protection	274V	
Output overvoltage recovery	264V	
Output overcurrent protection	28A	
Overload period	10s	
DC/DC		
Input Voltage Range	200~480VDC	
Efficiency	≥92%	See DCDC efficiency curve below
Output Voltage Range	9 ~16V	
Rated Output Voltage	14V	
Rated Output Current	178A	

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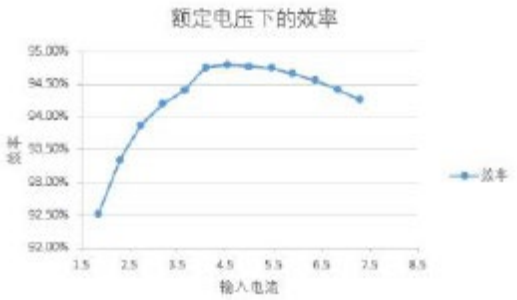
Peak Output Current	214A	
Rated Power	2.5KW	
Peak Power	3KW	≦ 6min
Input overvoltage protection point	490VDC	
Input overvoltage recovery point	485VDC	
Input under voltage protection point	195VDC	
Input under voltage recovery point	200VDC	
Output overvoltage protection point	16VDC	
Output under voltage protection point	9VDC	
Over temperature protection	100℃	When internal temp. of DCDC is higher than 100℃ , reduces output
	105℃	When the temp. continues rise and reach 105 ℃ , shut down output
Output overcurrent protection	>214A	
Communication failure warning	Yes	

DC-DC Output efficiency curve



Pic4 DC efficiency curve

Others		
Operating Temperature	-40~65℃	Coolant inlet temperature
Relative humidity	5～95 %RH	No condensation, no frost
Vibration level	Complied with QC/T895-2011	
Noise level	≦65 dB	Complied with QC/T895-2011
Salt fog grade	Complied with QC/T2423.17-2011	
Altitude	≦4000 m	GB/T16935.1-2008
Temperature and humidity resistance	Complied with GB/T 2423.22	
Drop	Harness as QC/T417.1-2001 requirement Enclosure follow GB/T2423.8-1995	Normal appearance, structure and performance
Wakeup Method	CAN, PP/CP	
CAN Communication	CAN-BUS	
Baud rate	500Kbps	
CAN bus communication format	Comply with CAN2.0B specification	CAN J1939
Terminating resistor	No built in terminating resistor	

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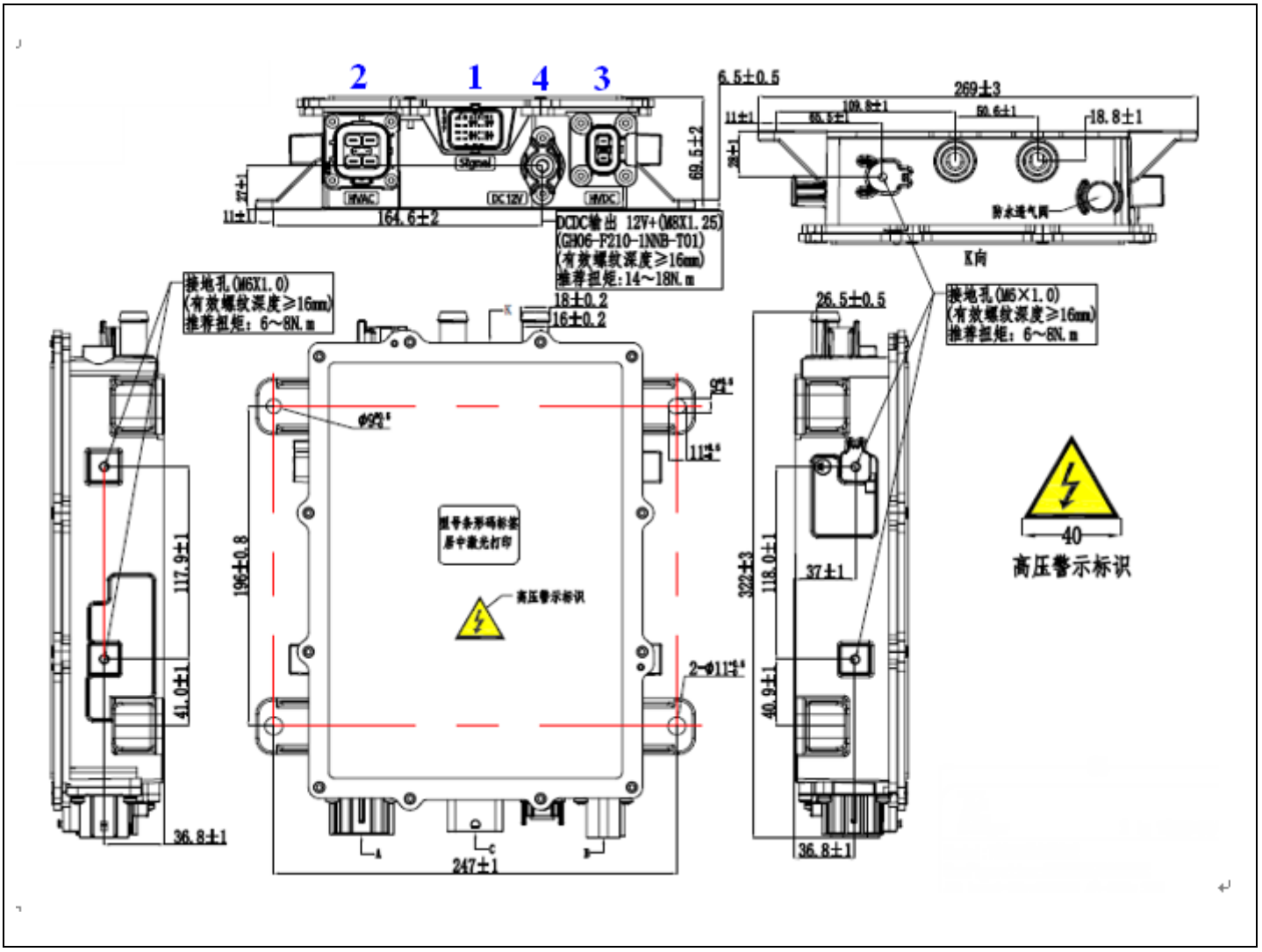
Structural Parameters (unit : mm)



Connector Model

Position	Function	Brand	Socket Model	Plug Model
1	LV Signal control	Molex	0643340100	643191211
2	AC Input	Amphenol	HVC4PG63MV106-S02	HVC4PG63FS106
3	DC Output (HV)	TE	2367138-1	4-2103177-1(4-2310537-1)
4	Low voltage output +	Gvtong	GH06-F210-1NNB-T01	Install bolts M8 *16. Torque 14-18N. m
	Low voltage output – & PE		(Fix hole for M8 bolt)	M8 specification copper lug

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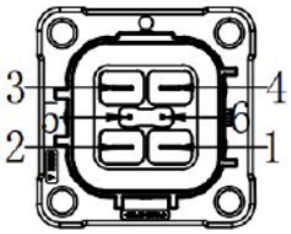
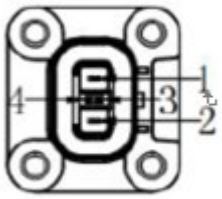
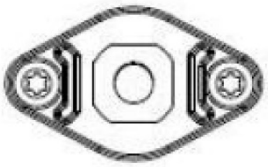
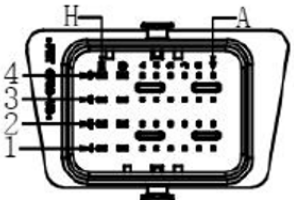
Interface Definition

AC Input(2)		DC output(3)		Low voltage output (4)	
					
1	L (Connect to AC socket inside vehicle)/10A Output of inverter mode	1	Output +	+	LV Output +
2	N (Connect to AC socket inside vehicle)/10A Output of inverter mode	2	Output -		
3	N (Connect to EV Charging socket)/32A	3	HVIL+		
4	L(Connect to EV charging socket)/32A	4	HVIL-		
5	HVIL+				
6	HVIL-				

Signal Control(1)



1A	OBC_Wakeup_inv (Inverter wake-up)	2F	(Indicator Blue)	3A	CP	4A	CANH
1B	(Indicator Red)	2G	(N_TEMP+)	3B	PP	4B	CANL
1E	(E-lock feedback)			3E	(E-Lock Driver-)	4C	HVIL+
1G	(L TEMP-)			3F	(Indicator Green)	4D	HVIL-
1H	KL30			3G	(N TEMP-)	4E	(E-LOCK Driver+)
						4F	(L TEMP+)
						4G	KL31
						4H	(Indicator Ground)