



Combo 2.5KW DCDC Converter 6.6KW OBC Bidirectional 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/ V2V : 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

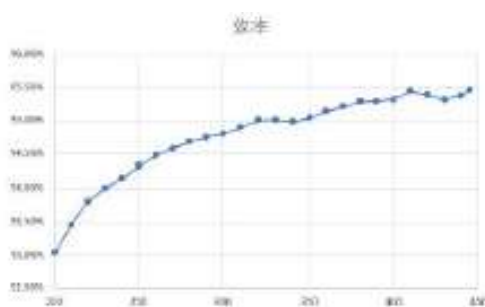
Specification

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	269~279VAC	Turn off output
Input over-voltage recovery	259~269VAC	Hysteresis range ≥ 5Vac
Input under-voltage protection	75~85VAC	Turn off output



Input under-voltage recovery	85~95VAC	Hysteresis range $\geq 5V_{ac}$
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°C	Detect the internal temperature of OBC. When the temp. of detected point is higher than 85 °C, starts reducing output power. However, when the temp. still keep rising to 90 °C, OBC will shuts down.

OBC output efficiency and temperature de-rating curve



OBC Efficiency curve



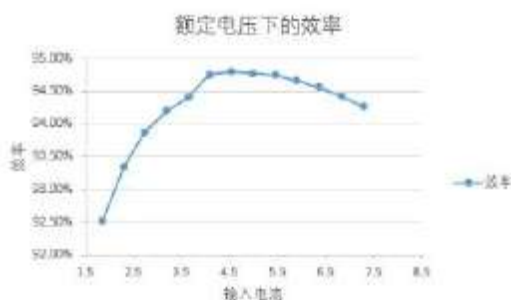
OBC Temperature de-rating curve

OBC-Inverter Mode		
Rated input voltage(VDC)	350	
Input Voltage Range(VDC)	330~480	
Output Voltage	220VAC($\pm 5\%$)/50 ± 1 HZ	
Rated Output Power(KW)	3.3	
Efficiency(%)	≥ 92	
Output current range (discharge inside vehicle)(A)(Max)	10	Range: 0-10
Output current range (discharge outside the vehicle)(A)	27	Determine by PP resistance
Output overvoltage protection(V)	400	
Output overvoltage recovery(V)	380	
Output overcurrent protection(A)	22	
Overload period (s)	10	
DC/DC		
Input Voltage Range(VDC)	200~480	
Efficiency(%)	≥ 92	Input current >2A
Output Voltage Range(V)	9 ~16	
Rated Output Voltage(V)	14	Our Standard Nominal voltage: 14V
Rated Output Current(A)	178	



Peak Output Current(A)	214	
Rated Power (KW)	2.5	
Peak Power(KW)	3	≤ 6min
Input overvoltage protection point(VDC)	490	
Input overvoltage recovery point(VDC)	480	
Input under voltage protection point(VDC)	190	
Input under voltage recovery point(VDC)	200	
Output overvoltage protection point(VDC)	16	
Output under voltage protection point(VDC)	9	
Over temperature protection °C	100	When internal temp. of DCDC is higher than 100°C , reduces output
	105	When the temp. continues rise and reach 105 °C , shut down output
Output overcurrent protection(A)	>220	
Communication failure warning	Yes	

DC-DC Output efficiency curve



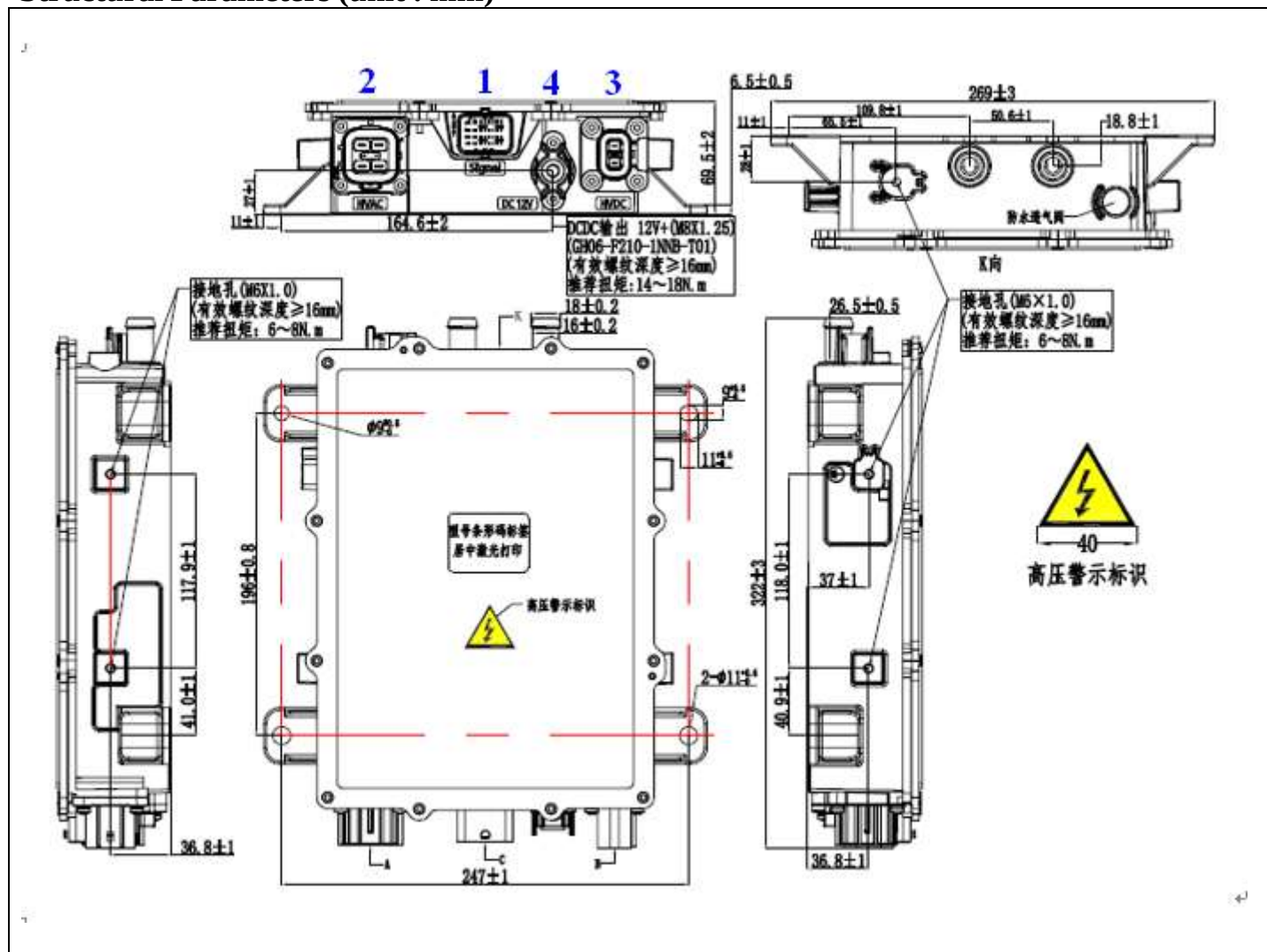
Pic4 DC efficiency curve

Others

Operating Temperature(°C)	-40~65	Coolant inlet temperature
Relative humidity(%RH)	5~95	No condensation, no frost
Vibration level	Complied with QC/T895-2011	
Noise level (Db)	≤65	Complied with QC/T895-2011
Salt fog grade	Complied with QC/T2423.17-2011	
Altitude (m) Max	≤3000	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(Kbps)	250	
CAN bus communication format	Comply with CAN2.0B specification	
Terminating resistor	No built in terminating resistor	
Storage Temperature(°C)	-40-95	



Structural Parameters (unit : mm)

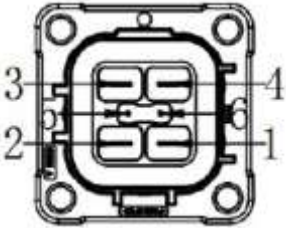
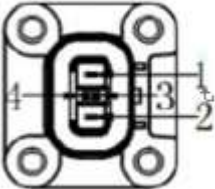
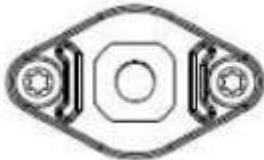
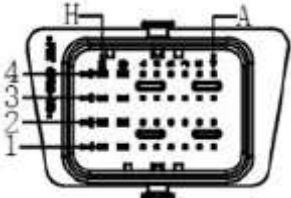


Connector Model

Item	Function	Brand	Socket Model	Plug Model	Rated Currenty(A)	Cable size
1	LV Signal control	Molex	0643340100	643191211		A-F => 0.5mm ² G,H => 0.7mm
2	AC Input	Amphenol	HVC4PG63MV106-S02	HVC4PG63FS106	32A	6mm ²
3	DC Output (HV)	TE	2367138-1	4-2103177-1 (4-2310537-1)	20A	4mm ²
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		



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	NC (CP)	4A	CANH
1B	(Indicator Red)	2G	NC (N_TEMP+)	3B	NC (PP)	4B	CANL
1E	NC (E-lock feedback)			3E	NC (E-Lock Driver-)	4C	HVIL+
1G	NC(L TEMP-)			3F	(Indicator Green)	4D	HVIL-
1H	KL30(VCC)			3G	NC (N TEMP-)	4E	NC(E-LOCK Driver+)
				3D	KL15(EN-OBC/DC)	4F	NC (L TEMP+)
						4G	KL31 (GND)
						4H	(Indicator Ground)

Remark

1. NC: no connected
2. Indicator is the driving signal output by OBC, it provides driving signals for external indicator lights, PIN 1B is the red light of the indicator, 2F is the blue light, 3F is the green light, and 4H is the indicator **ground.**(指示燈是由 OBC (車載充電器) 輸出的驅動訊號，用來為外部的指示燈提供驅動信號。PIN 腳位分配如下：1B 是指示燈的紅燈, 2F 是藍燈, 3F 是綠, 4H 是指示燈的接地端。