

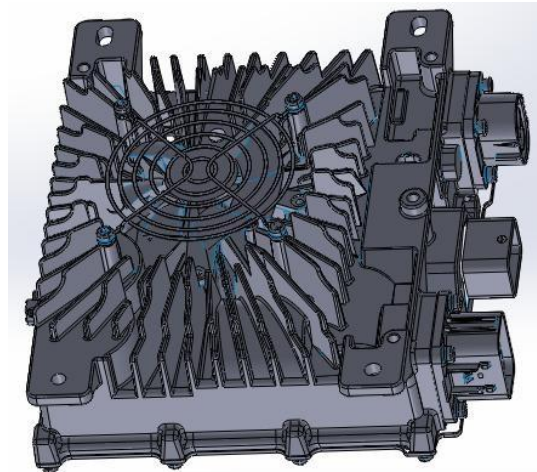
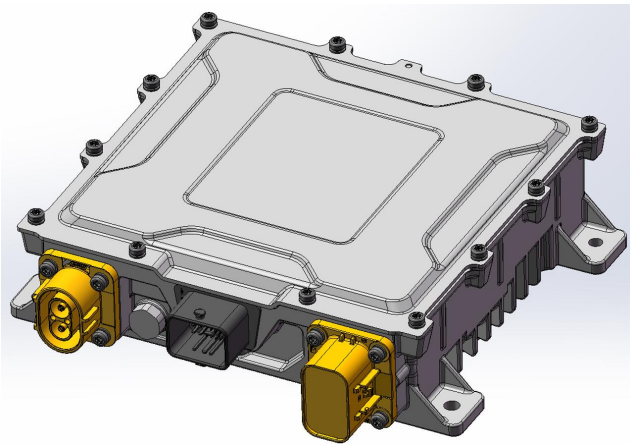
GW-MF Series Chager Main Parameter

● Overview

GW-MF series 3.3KW charger is a product designed by Information & Technology Co., Ltd . according to the national standard of charger, specially designed for electric vehicle power battery to supplement electric energy. This product not only has the advantages of high efficiency, small size, high stability, long life, etc., but also has the characteristics of high protection level, high reliability, and complete protection functions. It is an ideal power source for electric vehicle charging. The charger has a built-in thermal induction device with overheat protection function and can automatically recover. The fully sealed potting process and the protection level of up to IP67 can ensure that it can work in any complex environment without causing failure.

Main features:

1. Support UDS diagnosis CAN wake-up function
2. Fully sealed process can work reliably under the conditions of -40°C - $+85^{\circ}\text{C}$
3. Built-in temperature sensor to shut down output under hazardous operating conditions (internal 90°C)
4. Protection class IP67 Can work safely under short-term water immersion conditions



Models

Model NO.	Cooling method	Voltage Platform	Hardware	Power
GW-MF-48-40	Air cooling	48V	48V/40A	3.3KW
GW-MF-72-40	Air cooling	72V	72V/40A	3.3KW
GW-MF-96-32	Air cooling	96V	96V/32A	3.3KW
GW-MF-108-32	Air cooling	108V	108V/32A	3.3KW
GW-MF-144-23	Air cooling	144V	144V/23A	3.3KW
GW-MF-312-10	Air cooling	312V	312V/10A	3.3KW
GW-MF-540-6	Air cooling	540V	540V/6A	3.3KW

Label Definition :

- Notes: 1. For the product model, see the model definition table
2. The configuration code changes according to customer needs
3. See the following technical specifications for the output range of OBC



1. Main parameter

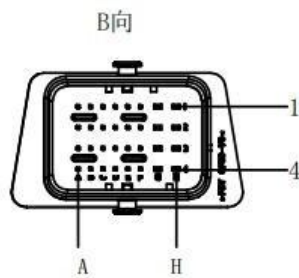
Voltage Platform		48V	72V	96V/108V	144V	312V	540V
Output	Output voltage range	30~66V	50~99V	65~140V	90~195v	220V-450V	350V-650V
	Output current	40A	40A	32A	23A	10A	6A
	Output power	3300W@220VAC 1600W@110VAC					
	Output Mode	CC / CV					
	CV Accuracy	±1%					
	CC Accuracy	±2%					
	Ripple Voltage Coefficient	5%					
Input	Input voltage range	AC 90~265V					
	Frequency	45-65Hz					
	Input current	16A					
	Power factor	≥0.99 more than half load					
	Effecificiency	≥93% full -load					
	Stand-by Consumption	≤5W					
Low Voltage Output	Output Mode	Constant Voltage					
	Output Voltage	13.8V					
	Rated Current	5A					
	CV Accuracy	±2%					
	Output Power	≥62.5W					
	Ripple Voltage Coefficient	1%					
Protection function	Input Over-voltage Protection	AC270±5V					
	Input Under-voltage Protection	AC85±5V					
	Output Over-voltage Protection	Stop the output when exceeds + 2% of the maximum output voltage					
	Output Under-voltage Protection	Stop the output when below -5% of the minimum output voltage					
	Output Over-current Protection	Stop the output when exceeds + 5% of the maximum output current					

	Over-temperature Protection	Power down from 85 °C and turn off at 90°C
	Short-circuit Protection	Stop Output
	Battery Reverse Connect Protection	Yes
	Ground Protection	$\leq 100\text{m}\Omega$
	CAN communication Protection	Automatically stop the output when CAN communication fails
	Power-off Protection	Yes
Signal Port	CC signal detection	100 Ω —3.3k-Infinite
	CP signal detection	0%—100%, 5V—15V Vpp
	CC Singal output	220 Ω or 680 Ω
	Temperature detection	Two inputs, support 1K and 10K
	12V wakeup input	$\leq 10\text{mA}$
	12V wakeup output	Max 0.2A
	12V constant power	Sleep current $\leq 1\text{mA}$, peak current $\leq 5\text{A}$
	Electromagnetic lock drive	Maximum peak current 5A
	Electromagnetic lock in position signal	Switch
	CAN Cmmunication	Yes
	Baud rate	125Kbps、250Kbps、500Kbps
	Terminal Resistance	No
Safety & others	Withstand Voltage	Input to Output: 2500VAC $\leq 10\text{mA}$ Input to Ground: 2000VAC $\leq 10\text{mA}$ Output to Ground: 2000VAC $\leq 10\text{mA}$, all 1min
	Ground resistance	$< 100\text{M}\Omega$ Testing current 25A AC
	Insulation Resistance	Input, output, signal terminal to casing $\geq 10\text{M}\Omega$ Testing Voltage 1000VDC
	Electromagnetic Immunity	GB/T 18487.3-2001 11.3.1
	Electromagnetic Abusive	GB/T 18487.3-2001 11.3.2
	Harmonic Current	GB 17625.1-2003 6.7.1.1

Inrush Starting Current	$\leq 24A$
Current-rise Time	$\leq 5S$, Overshoot $\leq 5\%$
Close Response time	100%-10% $\leq 50mS$, 100%- 0% $\leq 200mS$
Protection Level	IP67
Vibration Resistance	10—25Hz Amplitude1.2mm, 25—500Hz 30m/s ² , 8hrs per direction
Noise	$\leq 60dB$ (Grade A)
MTBF	150000H
Work Environment	Relative Temp 5%-95% No condensation
Working Temperature	-40 ~ 85℃
Storage Temperature	-40℃ ~ +105℃
Over temperature protection	The module stops working when the temperature reaches 90 degrees, and the power supply automatically resumes normal operation after cooling

2. Interface definition diagram

No.	Port name	Terminal definition	Connector model	vender
1	AC input	1: Live Wire 2: Earth wire 3:Naught wire	3030301	Vearne
2	DC output	1-output positive, 2-output positive	3030201	Vearne
3	signal	See below	064334011	Molex

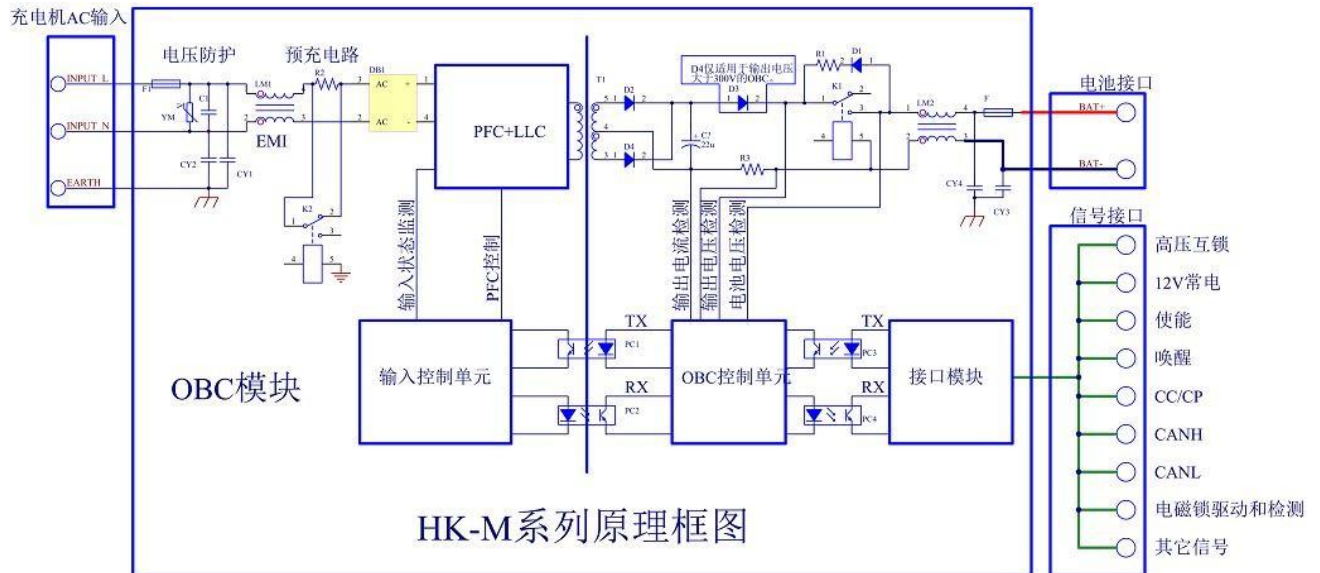


通讯连接器
型号: 643340100 molex
对插型号: 0643193211 molex

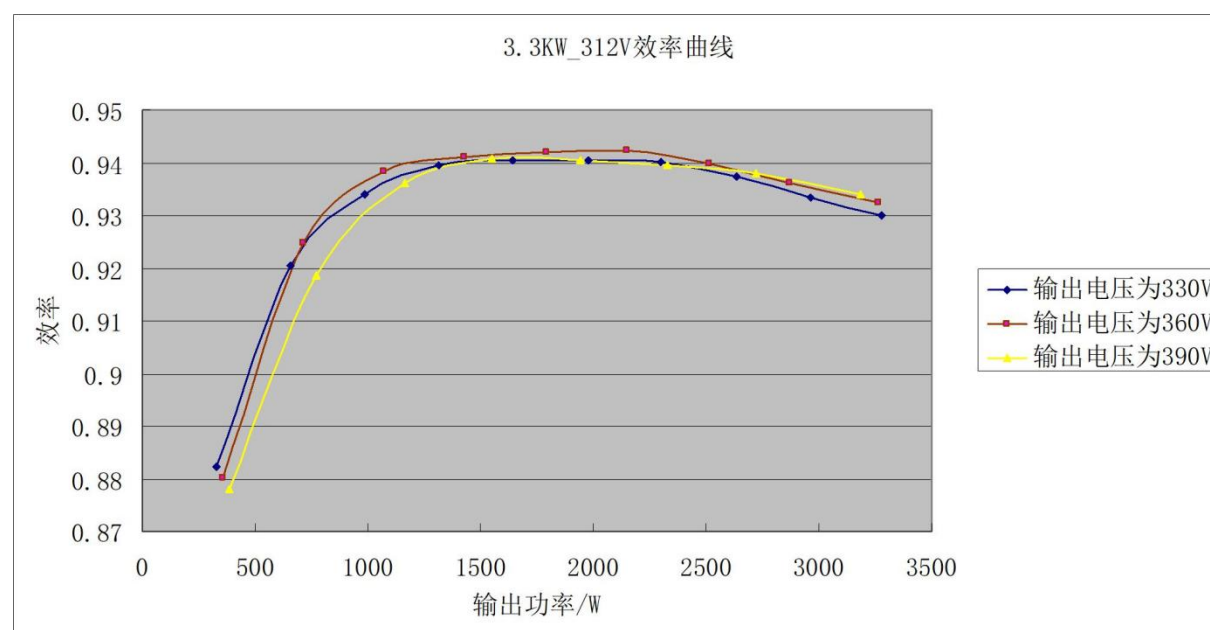
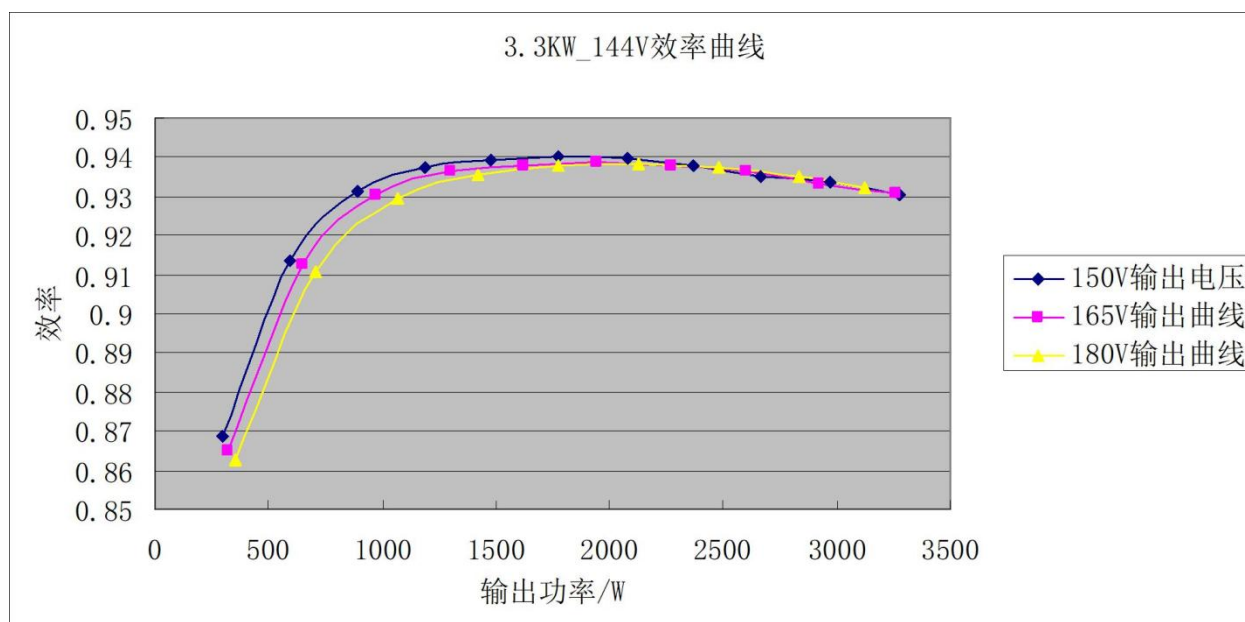
No.	Signal number	name	Function	Remarks
5	1E	External red indicator light	Charging status indicates that the red light output is positive	reserve
6	1F	External green indicator light	Charging status indicates a positive green light output	reserve
8	1H	KL 30 current +	Normal current input power supply 9-18v	reserve
9	2A	13.8V	13.8V0.2A output	used
10	2B	EN enable	The 12V high-level is effective	reserve

17	3A	CC	Connection confirmation	reserve
18	3B	CP	Power confirmation	reserve
24	3H	Electronic lock power +	Lock the charging plug	reserve
25	4A	CAN_H	CAN High	used
26	4B	CAN_L	CAN low	used
27	4C	High voltage interlock signal HVIL+	High voltage interlock 1	reserve
28	4D	High voltage interlock signal HVIL-	High voltage interlock 2	reserve
29	4E	Electronic lock feedback line 2	Electronic lock feedback line 2	reserve
30	4F	Electronic lock feedback line 1	Electronic lock feedback line 1	reserve
31	4G	KL 30 Current Power-	Normal input negative	reserve
32	4H	Electronic Lock Power Supply-	Unlock the charging plug	reserve

4. Principle Diagram



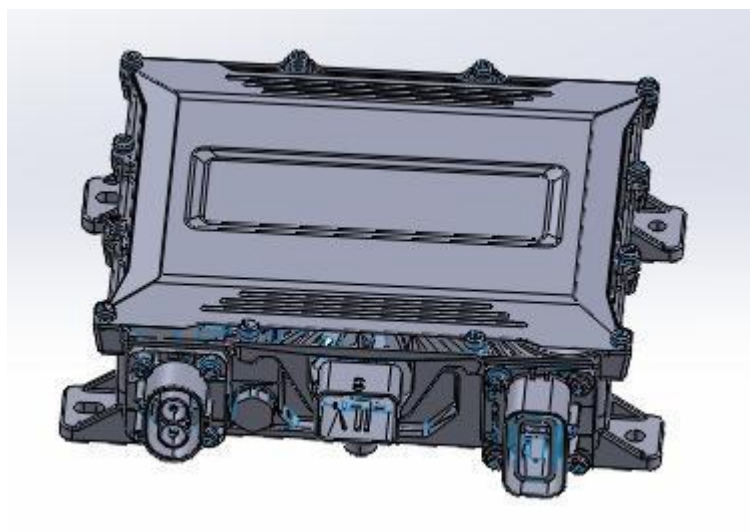
5. Efficiency Curve



6. Installation Dimensions

VI. Installation size

Air-cooled type recommended installation method:



7. Standard CAN protocol (can also be customized according to customer requirements)

Can protocol NO.	1000
CAN baud rate	250K

OUT	IN	CAN ID	Cycle (ms)
BMS	Charger	0x1806E5F4	1000
Datas			
Position	Data Name		
BYTE1	Max Allowable Charging Terminal Voltage High Byte		0.1V/bit offset: 0 e.g.: Vset =3201, its corresponding 320.1v。
BYTE2	Max Allowable Charging Terminal Voltage Low Byte		
BYTE3	Max Allowable Charging Current High Byte		0.1A/bit offset: 0 e.g.: Iset =582, its corresponding 58.2A。
BYTE4	Max Allowable Charging Current Low Byte		
BYTE5	Control		0: Start charging. 1: battery protection, stop charging
BYTE6	Reserved		
BYTE7	Reserved		
BYTE8	Reserved		

OUT	IN	CAN ID	Cycle (ms)
CCS	BCA	0x18FF50E5	1000
Data			
Position	Data name		
BYTE1	Max Allowable Charging Terminal Voltage High Byte		

BYTE2	Max Allowable Charging Terminal Voltage Low Byte	0.1V/bit offset: 0 e.g.: Vout =3201, its corresponding 320.1v
BYTE3	Max Allowable Charging Current High Byte	0.1A/bit offset: 0 e.g.: Iout =582, its corresponding 58.2A

BYTE4	Max Allowable Charging Current Low Byte	The highest BIT indicates the symbol, 0: charging 1 : discharging.
BYTE5	STATUS	
BYTE6	Reserved	
BYTE7	Reserved	
BYTE8	Reserved	

STATUS	Mark	Description
Bit0	Hardware Failure	0: Normal. 1: Hardware Failure
Bit1	Temperature of Charger	0: Normal. 1: Over temperature protection
Bit2	Input Voltage	0: Input voltage is normal. 1: Input voltage is wrong, the charger will stop working
Bit3	Starting state	0: Battery is connected normally. 1: Battery is not connected or the battery is connected reversely.
Bit4	Communication State	0: Communication is normal. 1: Communication receive time-out.
Bit5		
Bit6		
Bit7		

Control Mode

1. The BMS sends operating information(Message 1) to charger at fixed interval of 1s. After receiving the message, the charger will work under the Voltage and Current in Message. If the Message is not received within 5s, it will enter into communication error state and stop charging.
2. The charger send broadcast message (Message 2) at intervals of 1s. The display meter can show the status of the charger according to up-to-date information.