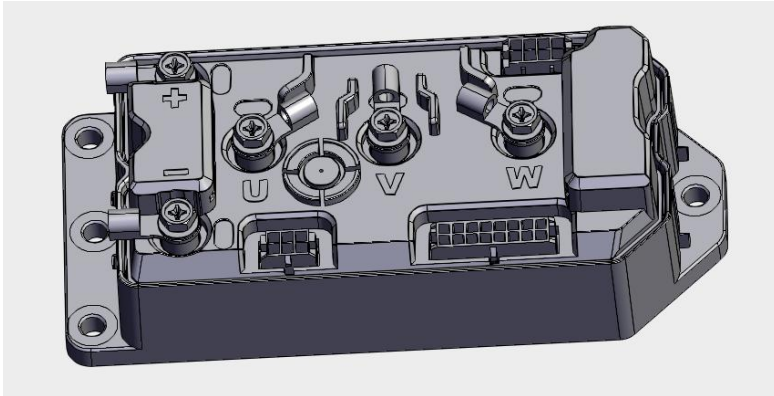
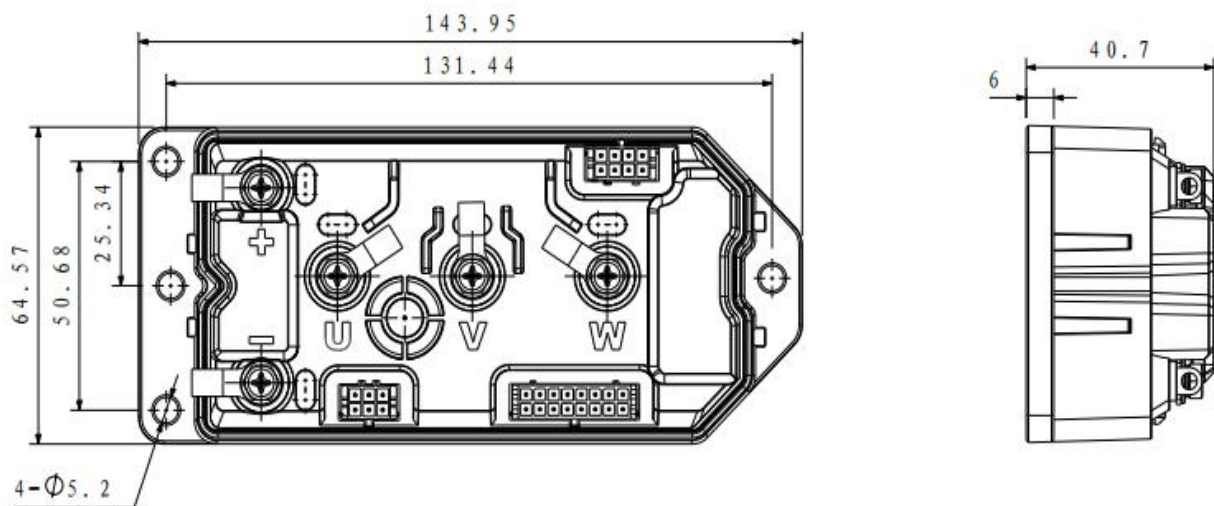




- IP66
- Input Voltage 36~88V
- Non-Isolated Type
- Built-in 6-Axis Sensor Optional
- Built-in Bluetooth Optional

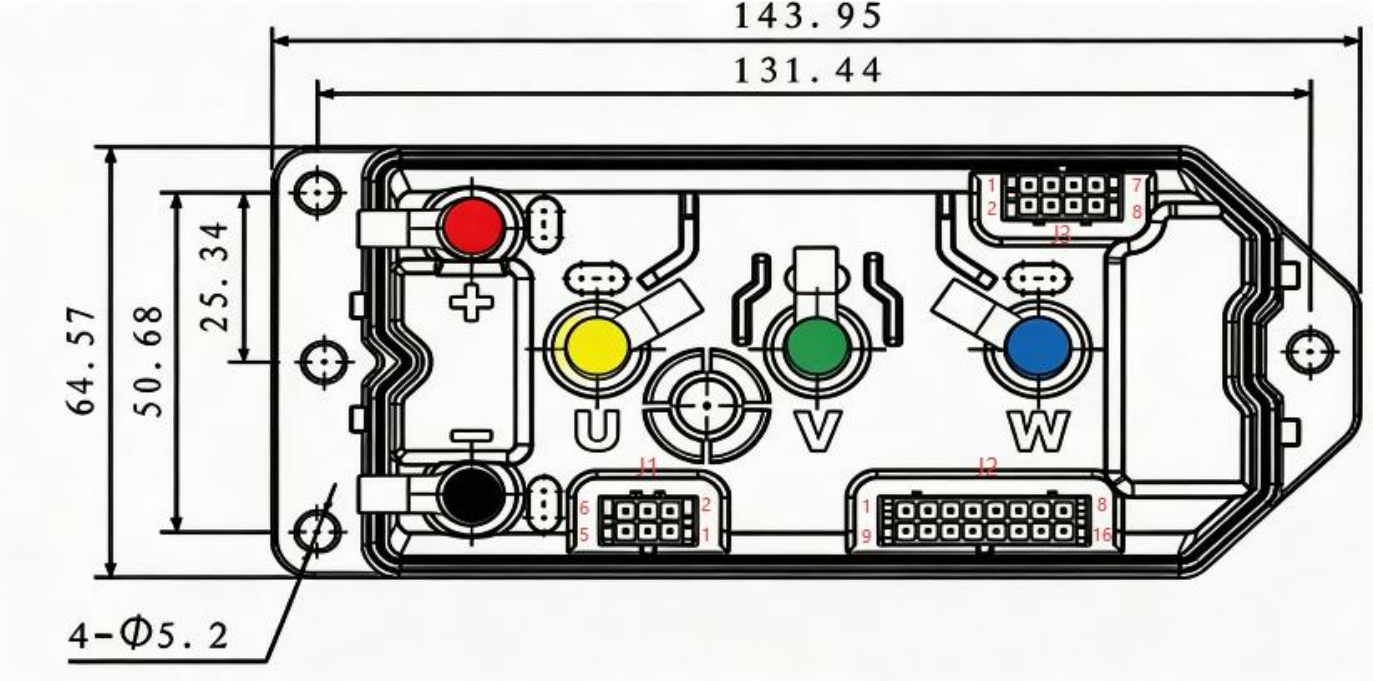
■ Dimensions & Installation Instructions



Terminal screws: M4×12 (tightening torque 2.5~4 N·m)



■ Wiring Definitions



Connector model: HC-MX3.0-2×4A(8P)+HC-MX3.0-2×3A(6P)+BX-MX3.0-2-8PZZ(16P)/30pin

6PIN(J1)				8PIN(J3)			
6/12V	4/LSD4	2/LSD2		1/HALLA /A/Sin+	3/HALLB /B/Sin-	5/HALLC /Z/COS+	7/GND
5/12V	3/LSD3	1/YB_SPD /LSD1		2/HALL+	4/TEMP	6/GND	8/PWM /COS-
16PIN(J2)							
1/KEY	2/ADIN1	3/IO2	4/IO3	5/ADIN3 /RX	6/IO5	7/IO7	8/CANH
9/DC+	10/GND	11/IO1	12/ACC+	13/ADIN2 /TX	14/IO4	15/IO6	16/CANL

Notes:

- 1. Func IO can be used as P gear, gear selection, reverse, etc.
- 2. IO1~5 and IO7 active low; IO6 active high/low configurable.
- 3. ABZ, ABC or SinCos - select only one of the three.

■ **Technical Specifications**

Model	DEMCM12xx
Rated Input Voltage (DC-V)	36~72
Rated Input Current (DC-A)	30
Rated Output Current (AC-A@30min)	40
Input Voltage Range (DC-V)	36~88
Maximum Input Current (DC-A)	60
Maximum Output Current (AC-A)	240
Operating Ambient Temperature (°C)	-20~+65
Motor Type	PMSM / SynRM / Induction Motor
Motor Control Method	FOC/MTPA/SVPWM/Flux Weakening
Motor Sensor Type	SinCos / ABZ(+PWM) / HALL ABC (select one of three)
Efficiency	97%
Protection	OverCurrent / OverVoltage / OverTemperature / Stall
Dimensions (mm)	180*96*51
Weight (kg)	<1.2
Communication	CAN2.0 / 1-Wire
Cooling Method	Forced Air Cooling
Protection Rating	IP66

■ Pin Descriptions

Pin	Name	Type	Operating Range	Description
J1-1	YB_SPD	TTL output	0~4.3V output, impedance 1K	Select one of two
	LSD1	LSD Output	0~12V 1A	
J1-2	LSD2	LSD Output	0~12V 1A	Low-side driver 2
J1-3	LSD3	LSD Output	0~12V 1A	Low-side driver 3
J1-4	LSD4	LSD Output	0~12V 1A	Low-side driver 4
J1-5	12V	Power Output	12V 1.5A	12V output
J1-6	12V	Power Output	12V 1.5A	
J2-1	KEY	Power Wake-up Input	25~88V Input impedance 50K	Key switch / key power
J2-2	ADIN1	Analog Input	AD sampling range 0~5V Input impedance 920 Ω	Throttle input
J2-3	IO2	Digital Input	0~16V	Active low
J2-4	IO3	Digital Input	0~16V	Active low
J2-5	ADIN3	Analog Input	AD sampling range 0~5V Input impedance 49K	Select one of two (This pin is unavailable when the SinCos sensor interface is used)
		Serial receive	Active low <0.6V Active high >2V Input impedance 49K	
J2-6	IO5	Digital Input	0~16V	Active low
J2-7	IO7	Digital Input	0~16V	Active low
J2-8	CANH	Communication	Common-mode withstand 40V, differential 5V	Non-Isolated
J2-9	DC+	Power Output	0.1A	Power positive
J2-10	GND	Ground	-	Connected to terminal -
J2-11	IO1	Digital Input	0~16V	Active low
J2-12	ACC+	Power Output	5V 0.05A	Throttle+/accelerator 5V
J2-13	ADIN2	Analog Input	AD sampling range 0~5V Input impedance 49K	Select one of two (This pin is unavailable when the SinCos sensor interface is used)
		Serial send	Low level <0.3V High level >3V Output impedance 16K	
J2-14	IO4	Digital Input	0~16V	Active low
J2-15	IO6	Digital Input	0~16V	Active high/low configurable
J2-16	CANL	Communication	Common-mode withstand 40V, differential 5V	Non-Isolated
J3-1	HALLA	Signal Input	0~5V	Hall A / Mag-Enc A / Sin
J3-2	HALL+	Power Output	5V 0.1A	Encoder power supply
J3-3	HALLB	Signal Input	0~5V	Hall B / Mag-Enc B / Cos
J3-4	TEMP	Analog Input	Resistive load only	Motor temperature port

J3-5	HALLC	Signal Input	0~5V	Hall C / Mag-Enc Z
J3-6	GND	Ground	Current capability 1.5A	Encoder GND
J3-7	GND	Ground	Current capability 1.5A	Encoder GND
J3-8	PWM	Signal Input	0~5V	PWM signal

■ Product Features

- High-power MOSFETs with high current rating, low internal resistance and fast switching speed are used as the power devices.
- An advanced vector control algorithm provides precise control of motor torque and speed.
- Energy regenerative control extends vehicle driving range and meets the needs of different customers.
- Optional anti-rollback function on slopes improves driving safety.
- Built-in 6-axis gyroscope enables wheelie control.
- Built-in Bluetooth enables commissioning and upgrades via mobile phone.
- Software can be customized to meet the different requirements of individual customers.

■ Important Notes

- Always tighten the terminal screws to the required torque.
- The vehicle must be equipped with reliable short-circuit protection such as circuit breakers and fuses.