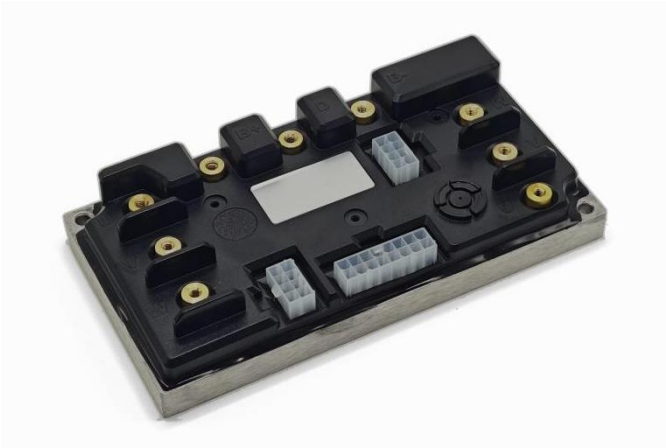
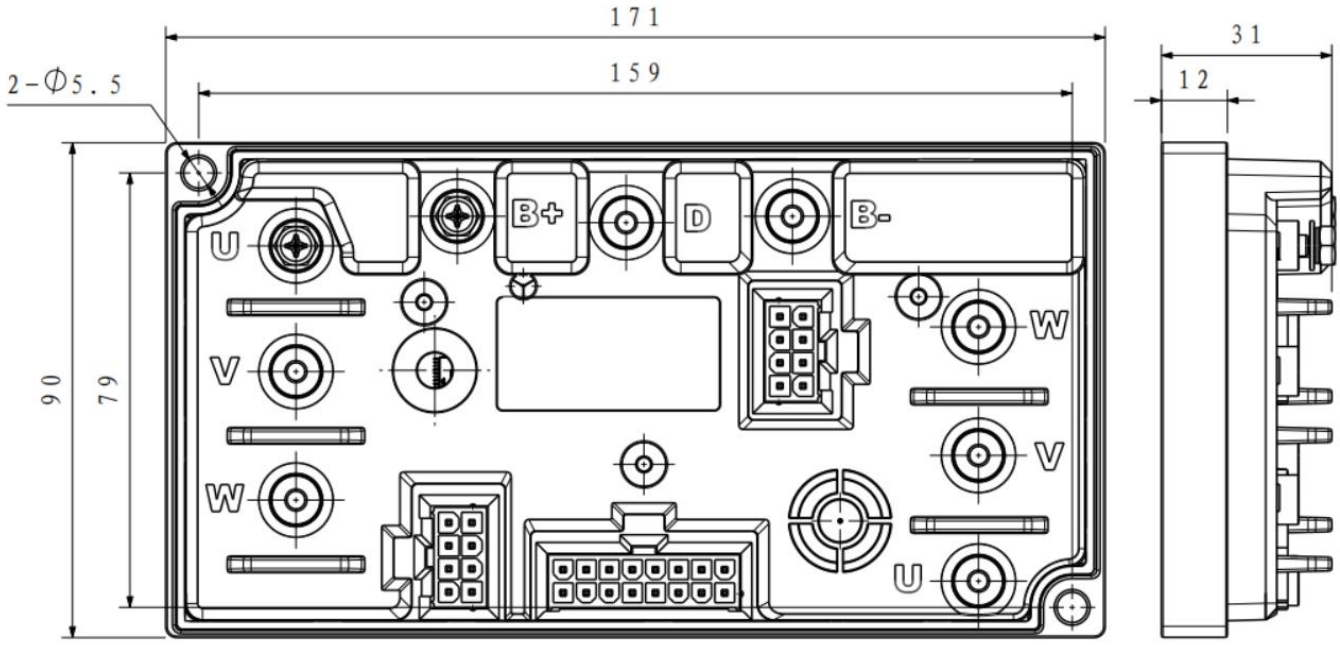


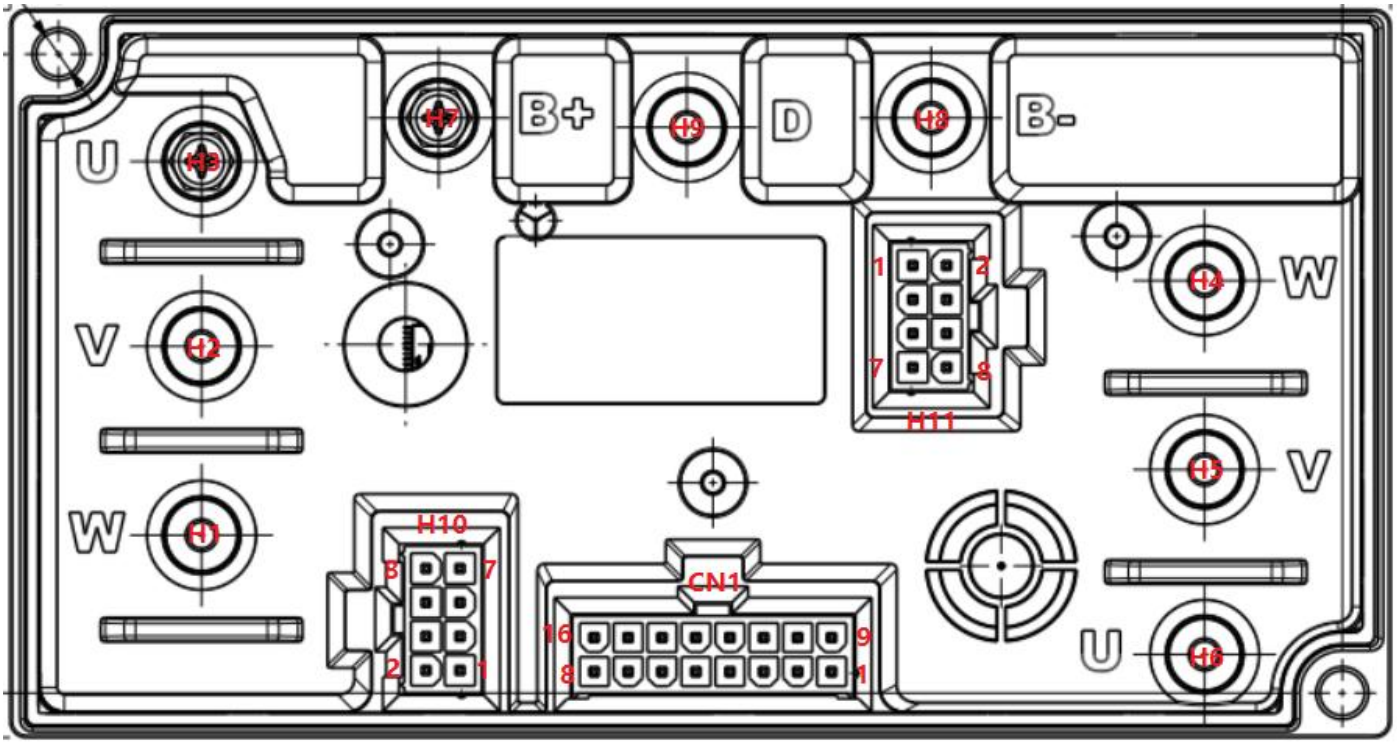
- IP66
- Input Voltage 36~88V
- Dual-Motor Control
- Non-Isolated Type

■ Dimensions & Installation Instructions



Secure the phase wires and bus bars with M4 screws (tightening torque 2.5~4 N • m);
The six phase-wire terminals correspond to the two motors respectively: Motor 1 U1/V1/W1, Motor 2 U2/V2/W2.

■ Wiring Definitions



Connector Model: Main interface CN1 C4201WV-2×8P (16PIN);
Motor Hall connectors H10 / H11 HC-5557-2×4A (8PIN×2, for Motor 1 / Motor 2 respectively)

CN1 (16PIN)	1	2	3	4	5	6	7	8
	VDC+	KEY	CANH	CANL	AGND	ADIN1	IO_3	ADIN2
	9	10	11	12	13	14	15	16
	IO_7 /LSD4	IO_6 /LSD3	IO_5 /LSD2	IO_4 /LSD1	AGND	V5_ACC	IO_2	IO_1
H10 Motor 1 Sensor	1	2	3	4	5	6	7	8
	HALL_C1 /Z1	HALL+	HALL_B1 /B1	TEMP_M1	HALL_A1 /A1	AGND	PWM1	AGND
H11 Motor 2 Sensor	1	2	3	4	5	6	7	8
	HALL_C2 /Z2	HALL+	HALL_B2 /B2	TEMP_M2	HALL_A2 /A2	AGND	PWM2	AGND

Notes: 1. The function IO (IO_1~IO_7) can be used for P gear, gear position, reverse, etc.; IO_2 is active-low.

2.The lamp control / driver ports are low-side drivers with a continuous current capability of 0.5A and a momentary 1A (3S) optional.

3.The Hall connectors of the two motors must be plugged into H10 (Motor 1) and H11 (Motor 2) respectively; the phase-wire terminals shall match one to one. Do not cross-connect.

■ Technical Specifications

Model	DEMCB14xx
Rated Input Voltage (DC-V)	36~72
Rated Input Current (DC-A)	15
Rated Output Current (Arms@30min)	25 (per motor)
Input Voltage Range (DC-V)	36~88
Maximum Input Current (DC-A)	40
Maximum Output Current (Apk)	130 (per motor)
Operating Ambient Temperature (°C)	-20~+65
Motor Type	PMSM / SynRM / Induction Motor (supports dual independent motor control)
Motor Control Method	Dual-motor FOC/MTPA/SVPWM/Flux Weakening
Motor Sensor Type	Dual ABZ / HALL ABC (select one)
Efficiency	97%
Protection	OverCurrent / OverVoltage / OverTemperature / Stall
Dimensions (mm)	171*90*31
Weight (kg)	<1.0
Communication	CAN2.0 / 1-Wire
Cooling Method	Forced Air Cooling
Protection Rating	IP66

■ Pin Descriptions

Pin	Name	Type	Operating Range	Description
CN1-1	VDC+	Power Input	36~88V	Bus positive (connect to battery +)
CN1-2	KEY	Power Wake-up Input	30~88V, consumption <0.01A	Key switch / key power
CN1-3	CANH	Communication	Withstand voltage 40V	Voltage difference between CANH and CANL <5.5V
CN1-4	CANL	Communication	Withstand voltage 40V	Voltage difference between CANH and CANL <5.5V
CN1-5	AGND	Ground	Current capability 2A	GND
CN1-6	ADIN1	Analog Input	Withstand voltage 40V / AD sampling 0~5V	AD function configurable
CN1-7	IO_3	Digital Input	Withstand voltage 20V	IO function configurable
CN1-8	ADIN2	Analog Input	Withstand voltage 40V / AD sampling 0~5V	AD function configurable
CN1-9	IO_7	Digital Input	Withstand voltage 20V	IO function configurable
	LSD1	Low-side Driver Output	Current capability 0.5A, withstand voltage 88V	Alternative to IO function (choose one)
CN1-10	IO_6	Digital Input	Withstand voltage 8V	IO function configurable
	LSD2	Low-side Driver Output	Current capability 0.5A, withstand voltage 88V	Alternative to IO function (choose one)
CN1-11	IO_5	Digital Input	Withstand voltage 20V	IO function configurable
	LSD3	Low-side Driver Output	Current capability 0.5A, withstand voltage 88V	Alternative to IO function (choose one)
CN1-12	IO_4	Digital Input	Withstand voltage 20V	IO function configurable
	LSD4	Low-side Driver Output	Current capability 0.5A, withstand voltage 88V	Alternative to IO function (choose one)
CN1-13	AGND	Ground	Current capability 2A	GND
CN1-14	V5_ACC	Power Output	4.3~4.7V 0.05A	Throttle+ / accelerator 5V (ACC+)
CN1-15	IO_2	Digital Input	Withstand voltage 88V	Active low <0.3V; active high >3V or open; IO configurable
CN1-16	IO_1	Digital Input	Withstand voltage 8V	IO function configurable
H10-1	HALL_C1/Z1	Signal Input	5V	Motor 1: Hall C / encoder Z
H10-2	HALL+	Power Output	4.5~5V 0.1A	Motor 1: Hall power 5V
H10-3	HALL_B1/B1	Signal Input	5V	Motor 1: Hall B / encoder B
H10-4	Motor Temp 1	Analog Input	Resistive load only	Motor 1: motor temperature (NTC)
H10-5	HALL_A1/A1	Signal Input	5V	Motor 1: Hall A / encoder A
H10-6	AGND	Ground	Current capability 2A	Motor 1: Hall GND / encoder GND
H10-7	PWM1	Output / Low-side Driver	72V 0.5A	Motor 1: encoder PWM
H10-8	AGND	Ground	—	Motor 1: Hall power ground
H11-1	HALL_C2/Z2	Signal Input	5V	Motor 2: Hall C / encoder Z

H11-2	HALL+	Power Output	4.5~5V 0.1A	Motor 2: Hall power 5V
H11-3	HALL_B2/B2	Signal Input	5V	Motor 2: Hall B / encoder B
H11-4	Motor Temp 2	Analog Input	Resistive load only	Motor 2: motor temperature (NTC)
H11-5	HALL_A2/A2	Signal Input	5V	Motor 2: Hall A / encoder A
H11-6	AGND	Ground	Current capability 2A	Motor 2: Hall GND / encoder GND
H11-7	PWM2	Output / Low-side Driver	72V 0.5A	Motor 2: encoder PWM
H11-8	AGND	Ground	—	Motor 2: Hall power ground
H1	U1 (Phase)	Power Output	Connected to phase wire	Motor 1 Phase A
H2	V1 (Phase)	Power Output	Connected to phase wire	Motor 1 Phase B
H3	W1 (Phase)	Power Output	Connected to phase wire	Motor 1 Phase C
H4	U2 (Phase)	Power Output	Connected to phase wire	Motor 2 Phase A
H5	V2 (Phase)	Power Output	Connected to phase wire	Motor 2 Phase B
H6	W2 (Phase)	Power Output	Connected to phase wire	Motor 2 Phase C
H7	VDC+	Power Input	36~88V	Bus positive (connect to battery +)
H8	AGND	Ground	—	Bus negative (connect to battery −)
H9	VS_DISCHARGE	Brake / Discharge	30A discharge capability	Brake / discharge resistor port

■ 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.
- Supports independent vector control of two motors: a single controller drives two motors simultaneously, for a more compact structure and lower cost.
- Energy regenerative control extends vehicle driving range and meets the needs of different customers.
- 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.
- The Hall connectors and phase-wire terminals of the two motors must match one to one (Motor 1 ↔ H10/U1V1W1, Motor 2 ↔ H11/U2V2W2); crossed wiring is strictly prohibited.