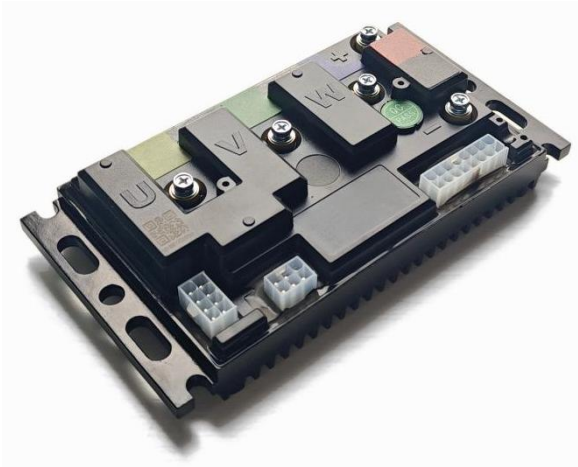
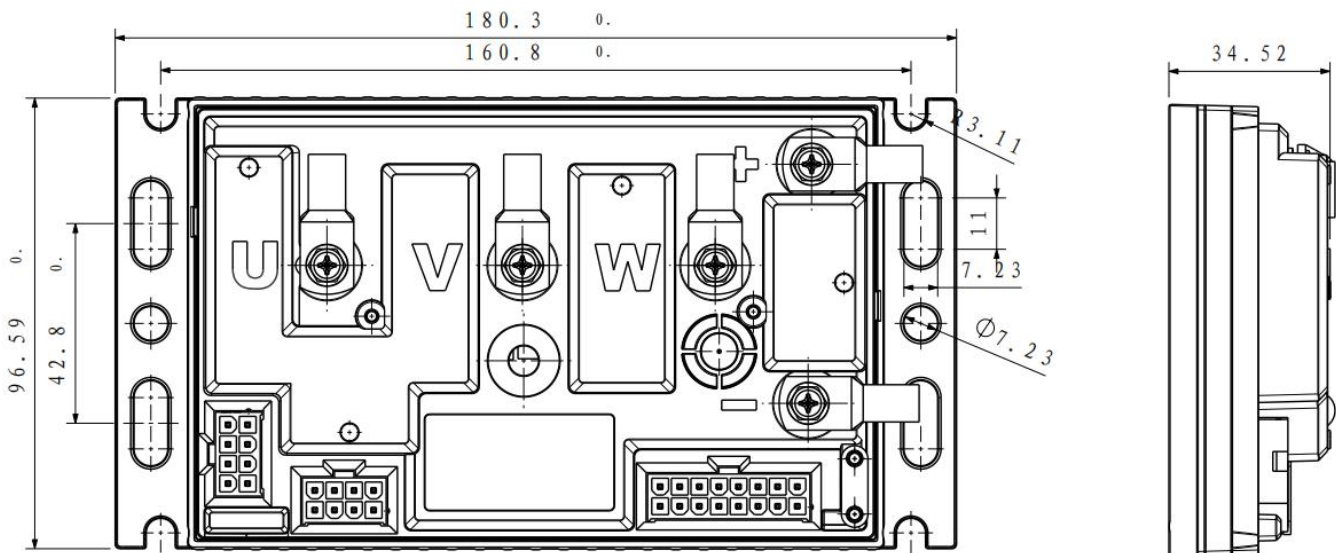




- IP66
- Input Voltage 36~88V
- Non-Isolated Type
- Built-in 6-Axis Sensor Optional
- Built-in Bluetooth Optional

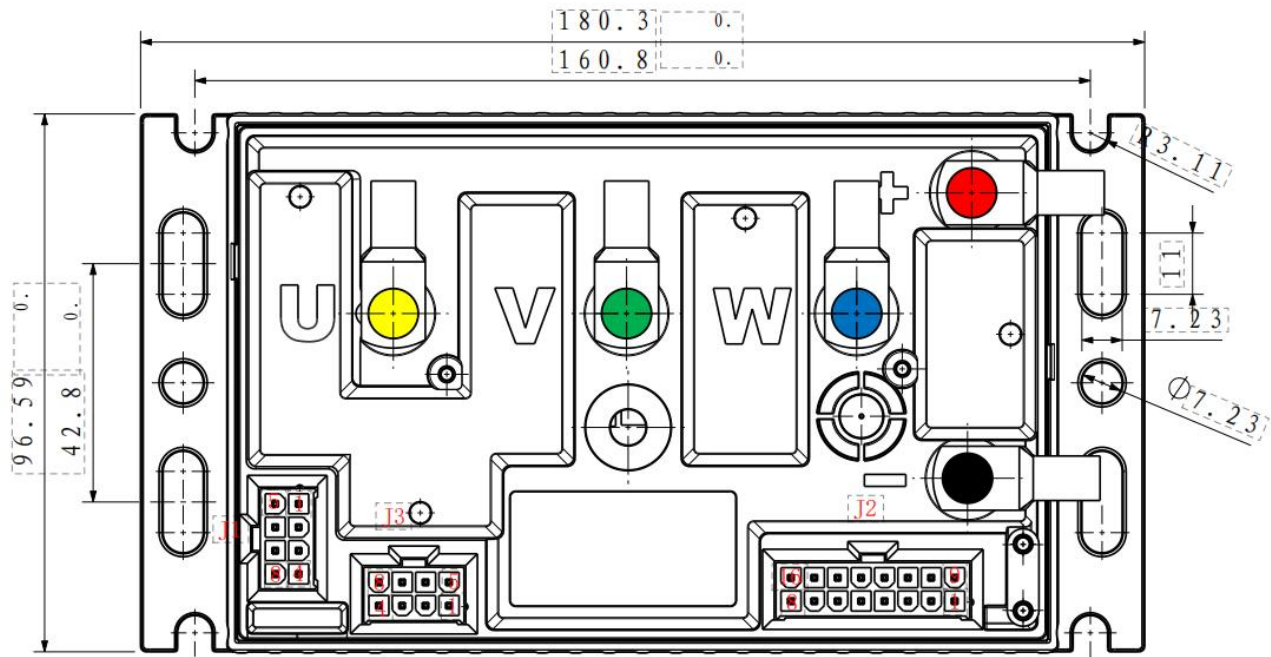
■ Dimensions & Installation Instructions



Mount Screws: M6

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

■ Wiring Definitions



Connector model: ZT2247-B/6+16+8 (30pin) / 5557 socket

8PIN (J1) 5557				8(6)PIN (J3) 5557			
1 CANL	2 CANH	3 IO8	4 5V	1 HALL+	2 Temperature	3 GND	4 NC
5 KEY	6 IO6	7 AD3	8 GND	5 HALLA	6 HALLB	7 HALLZ	8 PWM
16PIN (J2) 5557							
1 DC+	2 YB	3 IO5	4 IO3	5 IO2	6 AD2/RX	7 VSO	8 IO1
9 LSD2	10 IO11	11 IO7	12 IO10	13 IO4	14 5V	15 GND	16 AD1/TX

Notes:

1. IO pin can be used as P gear, gear selection, reverse, etc. Active low.
2. The high brake port is a 12V high brake; active when connected to 12V.
3. Lamp control ports are low-side drivers with continuous current capability of 0.2A and instantaneous 1A (3S); optional.
4. DC+ (J2-1) and Negative (J2-15): supply capability 0.3A.
5. When the 6-axis sensor is selected, Bluetooth is unavailable; J2-4/5/13 and J3-1 are not available.
6. When built-in Bluetooth is selected, the 6-axis sensor and SinCos are unavailable; J2-7/16 are not available.
7. When the ABZ sensor is selected, J1-3 is not available.

■ **Technical Specifications**

Model	DEMxCB12xx
Rated Input Voltage (DC-V)	36~72
Rated Input Current (DC-A)	30
Rated Output Current (AC-A@30min)	30
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	CANL	Communication	Withstand voltage 40V	Voltage difference between CANH and CANL < 5.5V
J1-2	CANH	Communication	Withstand voltage 40V	
J1-3	IO8	Digital Input	Withstand voltage 20V	Unavailable when the 6-axis sensor is built in
J1-4	5V	Power Output	4.3~4.7V 0.05A	Throttle+/accelerator 5V (ACC+)
J1-5	KEY	Power Wake-up Input	30~88V, consumption <0.01A	Key switch / key power
J1-6	IO6	Digital Input	Withstand voltage 20V	High brake, active high
J1-7	AD3	Analog Input	Withstand voltage 5V	Accelerator/throttle signal input
J1-8	GND	Ground	Current capability 0.05A	Throttle GND
J2-1	DC+	Power Output	<0.1A	Same voltage as terminal + internally
J2-2	YB	LSD Output	72V 0.5A	Low-side driver, controllable lamp
J2-3	IO5	Digital Input	Withstand voltage 88V	Active low <0.3V; active high >3V or open
J2-4	IO3	Digital Input	Withstand voltage 88V	Active low <0.3V; active high >3V or open Unavailable when the 6-axis sensor is built in
J2-5	IO2	Digital Input	Withstand voltage 88V	Active low <0.3V; active high >3V or open Unavailable when the 6-axis sensor is built in
J2-6	AD2	Analog Input	Withstand voltage 40V AD sampling range 0~5V	Unavailable when Bluetooth is built in
	RX	TTL serial receive	Active low <0.3V Active high >3V Input impedance 49K	
J2-7	VSO	Output	0.009A	Wheel rotation signal, connected to W phase
J2-8	IO1	Digital Input	Withstand voltage 88V	Active low <0.3V; active high >3V or open
J2-9	LSD2	Output	72V 0.5A	Low-side driver, controllable lamp
J2-10	IO11	Digital Input	Withstand voltage 20V	Active high/low configurable When configured active low: <0.3V = low, >3V or open = high When configured active high: >3V = high, <0.3V or open = low
J2-11	IO7	Digital Input	Withstand voltage 88V	Active low <0.3V; active high >3V or open

J2-12	IO10	Digital Input/Output	Withstand voltage 20V	Active high/low configurable, same as IO11
J2-13	IO4	Digital Input	Withstand voltage 88V	Active low <0.3V; active high >3V or open Unavailable when the 6-axis sensor is built in
J2-14	5V	Power Output	4.8~5.1V 0.08A	External power supply
J2-15	GND	Ground	Current capability 2A	Connected to terminal -
J2-16	AD1	Analog Input	Withstand voltage 40V AD sampling range 0~5V	Unavailable when Bluetooth is built in
	TX	TTL communication output	Low-level output <0.2V High-level output >3.1V Output impedance 16K	
J3-1	HALL+	Power Output	4.5~5V 0.1A	Encoder power supply
J3-2	Temperature	Analog Input	Resistive load only	Motor temperature port
J3-3	GND	Ground	Current capability 2A	Encoder GND
J3-4	NC	NC		Not connected; pin absent when J3 is 6-pin
J3-5	HALLA	Signal Input	5V	Hall A
J3-6	HALLB	Signal Input	5V	Hall B
J3-7	HALLZ	Signal Input	5V	Hall C/Z
J3-8	PWM	Signal Input	Withstand voltage 20V	PWM signal; pin absent when J3 is 6-pin

■ 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 (mutually exclusive with the wheelie function).
- 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.