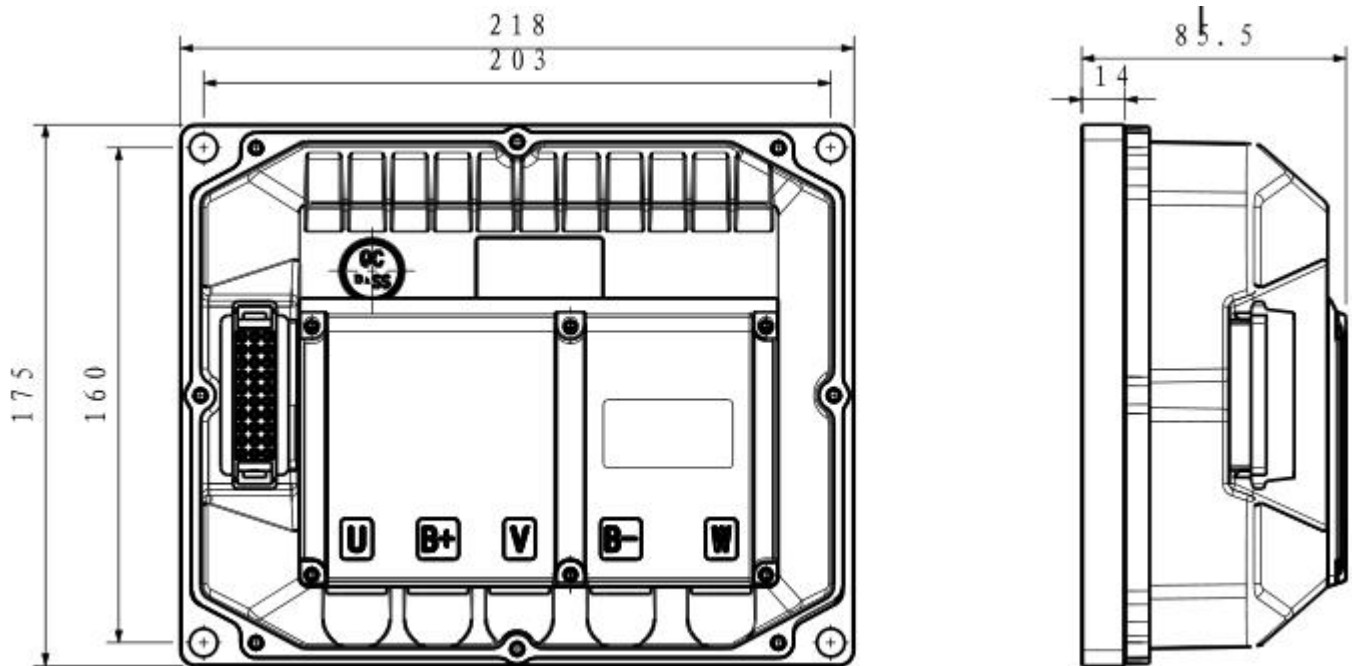




- Isolated Type
- IP66

## ■ Dimensions & Installation Instructions

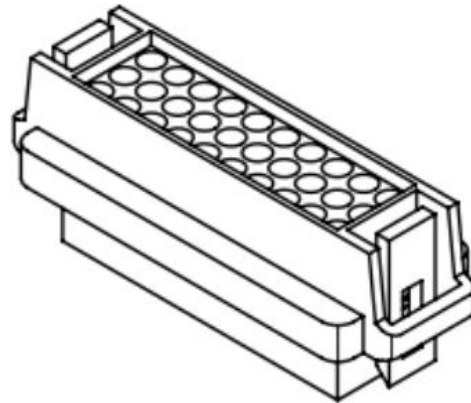
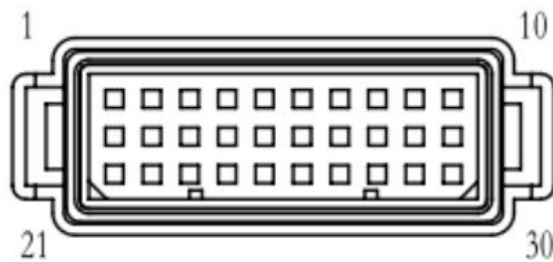


External heat sink required

Terminal screws: M8×12 (tightening torque 9~12 N • m)

## ■ Wiring Definitions

Controller Interface Definitions (30Pin, ZT2023 1.1 × 1.1 × 19.3) (female end ZT2024-A)



| Pin | Function definition          | Signal     | Pin | Function definition                   | Signal Range            |
|-----|------------------------------|------------|-----|---------------------------------------|-------------------------|
| 1   | Motor temperature            | 0~3.3V     | 16  | Alarm signal IO_EX1                   | Active low              |
| 2   | HALL_C (SIN)                 | 0~5V       | 17  | Reverse IO_EX4                        | Active low              |
| 3   | /                            | /          | 18  | CAN_H                                 | /                       |
| 4   | Throttle signal              | 0~5V       | 19  | /                                     | /                       |
| 5   | /                            | /          | 20  | Common negative (12V supply negative) | GND                     |
| 6   | One-key repair IO_EX2        | Active low | 21  | Encoder power supply                  | 5V                      |
| 7   | Low speed gear IO_EX5        | Active low | 22  | HALL_A                                | 0~5V                    |
| 8   | CAN_L                        | /          | 23  | /                                     | /                       |
| 9   | 1-Wire / 485                 | 0~12V      | 24  | Throttle positive                     | 5V                      |
| 10  | Kickstand / low brake IO_EX8 | Active low | 25  | /                                     | /                       |
| 11  | Encoder negative             | GND        | 26  | Bluetooth +12V                        | +12V                    |
| 12  | HALL_B (COS)                 | 0~5V       | 27  | High speed gear IO_EX3                | Active low              |
| 13  | /                            | /          | 28  | High brake IO_EX6                     | Active when 12V applied |
| 14  | Throttle negative            | GND        | 29  | Wheel rotation signal                 | 25~88V                  |
| 15  | /                            | /          | 30  | Key switch line                       | +12V                    |

■ **Technical Specifications**

| Model                              | DEMC48Ixx                                           |
|------------------------------------|-----------------------------------------------------|
| Rated Input Voltage (DC-V)         | 72                                                  |
| Rated Input Current (DC-A)         | 180                                                 |
| Input Voltage Range (DC-V)         | 24~88                                               |
| Maximum Input Current (DC-A, 30s)  | 400                                                 |
| Maximum Output Current (AC-A@10s)  | 900                                                 |
| Peak Power (kW)                    | 30                                                  |
| Operating Ambient Temperature (°C) | -20~+65                                             |
| Motor Type                         | PMSM / SynRM / Induction Motor                      |
| Motor Control Method               | FOC/MTPA/SVPWM/FluWeakening                         |
| Motor Sensor Type                  | HALL ABC or SIN COS                                 |
| Efficiency                         | 98%                                                 |
| Protection                         | OverCurrent / OverVoltage / OverTemperature / Stall |
| Dimensions (mm)                    | 218*175*85.5                                        |
| Weight (kg)                        | <3.5                                                |
| Communication                      | CAN2.0                                              |
| Cooling Method                     | Forced Air Cooling                                  |
| Protection Rating                  | Internal IP66                                       |

#### ■ Product Features

- Mainstream ARM is used as the main control chip.
- 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.
- 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.