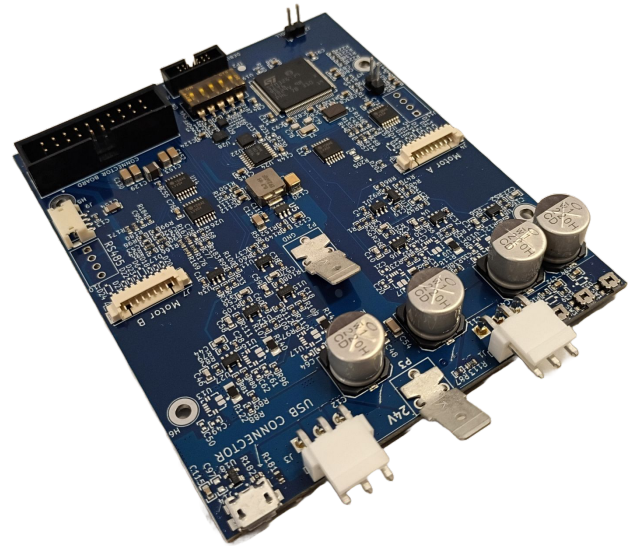


MAGNI 6 MOTOR CONTROLLER 48V

GENERAL OVERVIEW

The Magni 6 Motor Controller provides dual-motor field-oriented control (FOC) for ground-based mobile robot rovers. By leveraging Pico-ROS with Zenoh middleware, the controller allows seamless integration into ROS-base robots without the need for additional drivers. Its compact footprint makes it suitable for a wide range of robotic applications, from research platform to production robots.



For illustration purposes only.
Actual board may vary

KEY SPECIFICATIONS

- **Nominal Motor Voltage:** 48V, also works with 12/24V motors
- **Maximum Input Voltage:** 60V
- **Maximum Current:** 20A per Motor, limited by current
- **No. of Motors supported:** 2 Nos (2 X 3-phase electrically commutated motors)
- **Control Method:** Field Oriented Control
- **Odometry Support:** Able to take odometric input.
- **ROS Integration:** Driverless Pico-ROS

CONNECTORS

- **Primary Connector:** Flow control serial, plus power for the digital sections of the board.
- **Motor Power:** Screw connectors provided to supply motor power.

SUPPORT BOARDS

A standard support board can be provided to interface with a Raspberry Pi, delivering power to both the computer and the motor controller for simplified integration.

CONNECTOR PINOUT

- **Power Pins (+12V, +5V, +3.3V):** Provides logic and peripheral power. The +12V power is generated on board from Vm, where as it must be provided with 5V and 3.3V power supplies
- **Ground Pins (GND):** Multiple ground pins are provided to ensure stable power and signal reference.
- **UART with flow control (Rx, Tx, RTS, CTS):** Standard serial interface with flow control communication with a host (e.g., RPi 5).
- **NC(Not Connected):** Reserved pins with no function in the current revision.

+12V	1	2	+5V
+12V	3	4	+3.3V
GND	5	6	NC
GND	7	8	NC
GND	9	10	NC
GND	11	12	NC
UROS_RX	13	14	GND
UROS_TX	15	16	GND
UROS_RTS	17	18	GND
UROS_CTS	19	20	GND

PHYSICAL DIMENSIONS

- **Motor Board Controller (MCB):** 105 mm x 86 mm (L x W)

