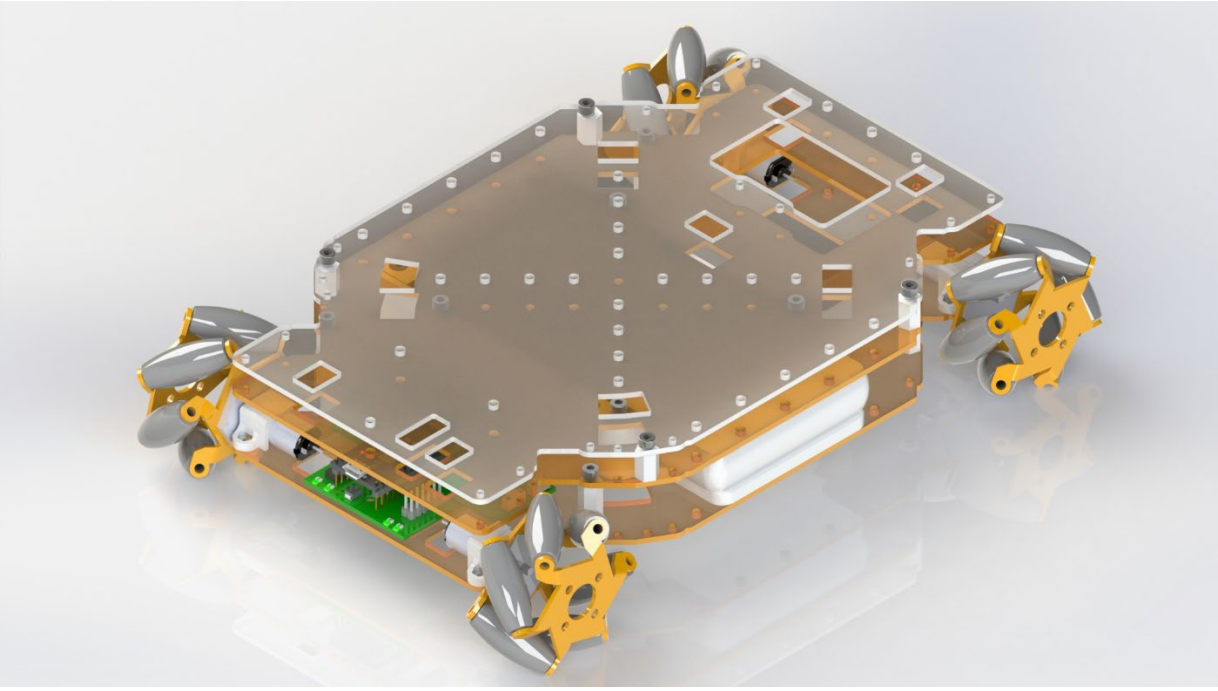
Fachhochschule Dortmund
University of Applied Sciences and Arts

IDiAL Institute for the Digital Transformation of Application and Living Domains

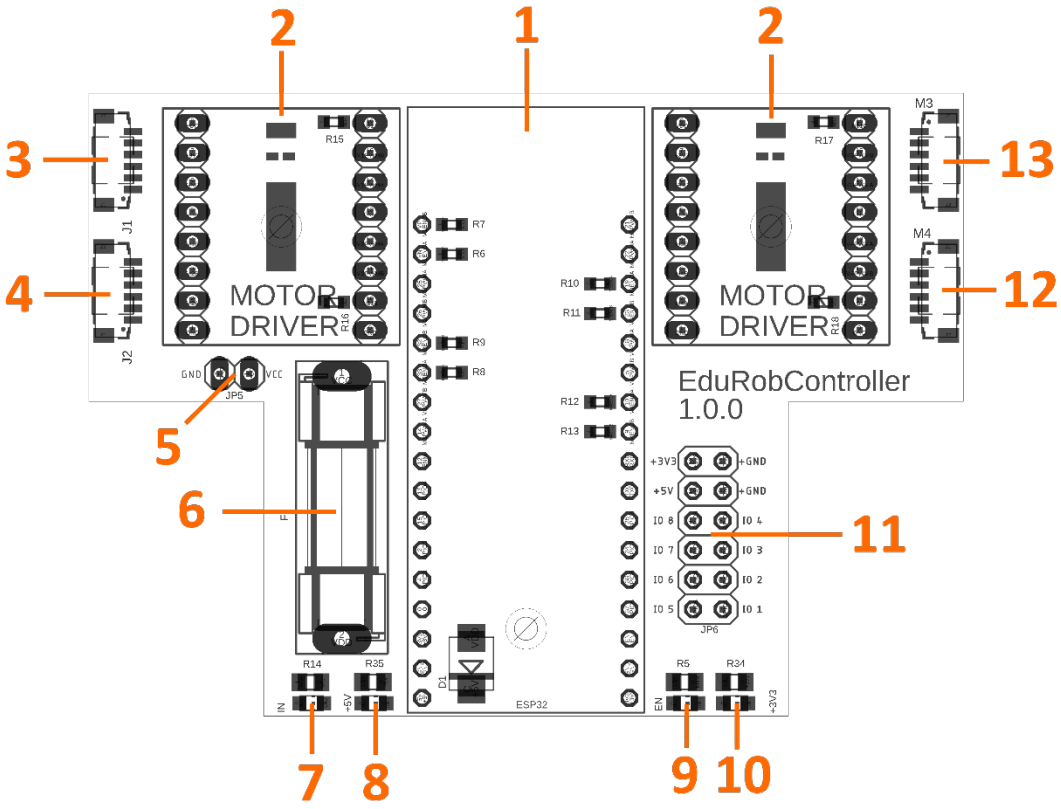
Edurob

Educational robot with support for various drive kinematics

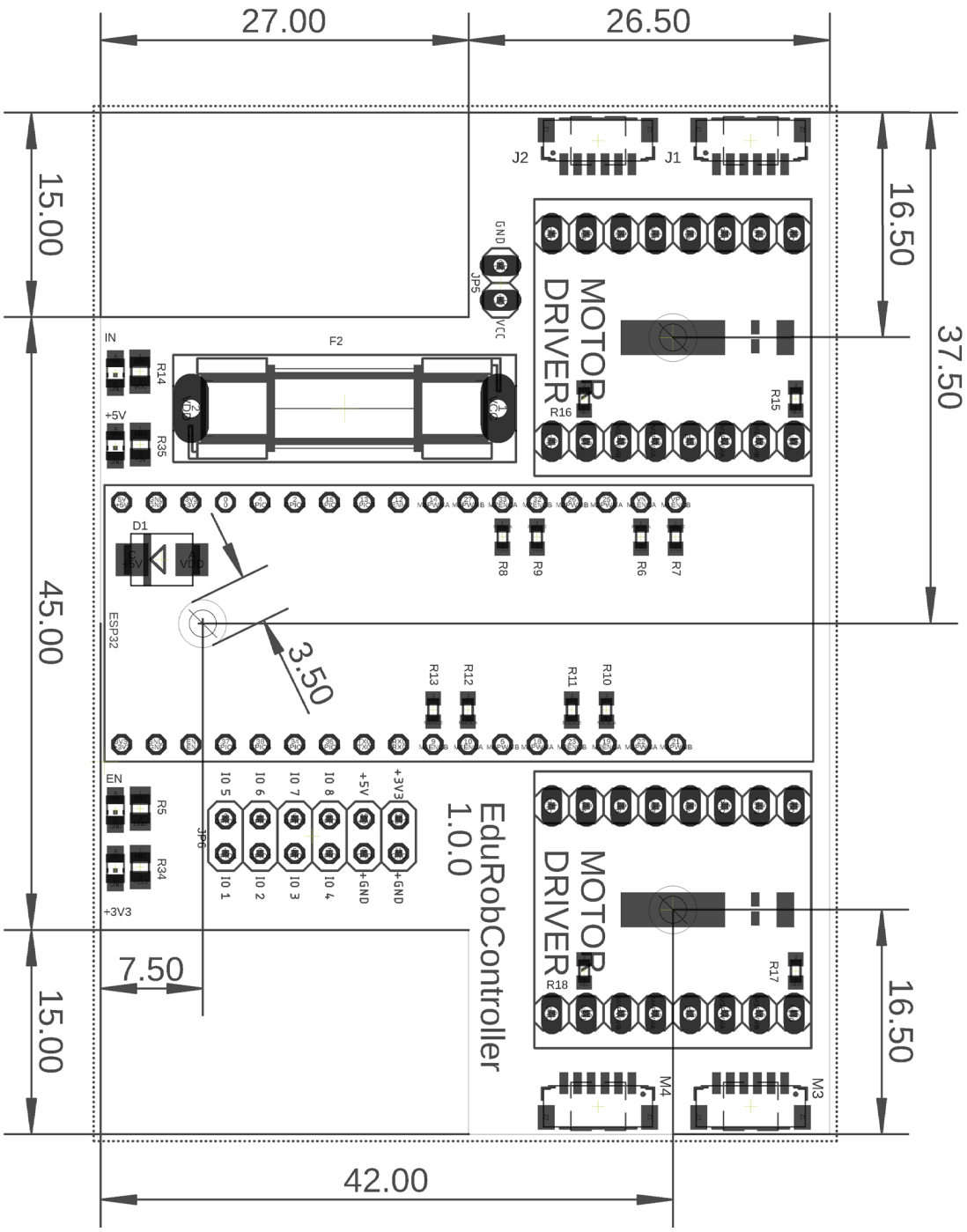


Features

- Espressif ESP32 Microcontroller
  - Dual core, 240Mhz, 32bit
- Connectivity
  - Wifi (2.4Ghz, 802.11b/g/n)
  - Bluetooth 4.2
  - USB UART (3Mbaud)
  - I²C Fast mode (400 Kbit/s, 3.3V)
- Input/Output
  - 4 Motor PWM Outputs
  - 4 Encoder Inputs (3.3V)
  - 8 GPIOs (3.3V)
- Stackable Design
- Dimensions without wheels
  - 160mm x 240mm x 30mm
- Input Voltage Range
  - 5VDC Power Supply (USB Powerbank)
  - 3.3V Logic voltage level
- Software capabilities
  - ROS2 Interface (MicroROS)
  - Motor control
    - Velocity
    - Position
  - Supported Robot kinematics
    - Omnidirectional Mecanum
    - Omnidirectional Omniwheel
    - Differential



1	ESP32-PICO-KIT	8	USB Voltage Indicator
2	Dual DC Motordriver TB6612FNG (1A)	9	Motor Enable Indicator
3	Motor 3 connector	10	Logic Voltage Indicator
4	Motor 1 connector	11	GPIO Header
5	Supply Voltage Connector (max. 5VDC)	12	Motor 0 connector
6	5x20 Fuse (4A)	13	Motor 2 connector
7	Supply Voltage Indicator		


27.00
26.50
15.00
16.50
37.50
45.00
15.00
16.50
42.00
7.50
3.50
J2
J1
JP5
GND
VCC
MOTOR DRIVER
R16
R15
R18
R17
IN
+5V
R14
R35
F2
D1
R8
R9
R6
R7
R13
R12
R11
R10
ESP32
EN
R5
R34
+3V3
JP6
IO 5
IO 6
IO 7
IO 8
+5V
+3V3
IO 1
IO 2
IO 3
IO 4
+GND
+GND
EduRobController
1.0.0
M4
M3

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