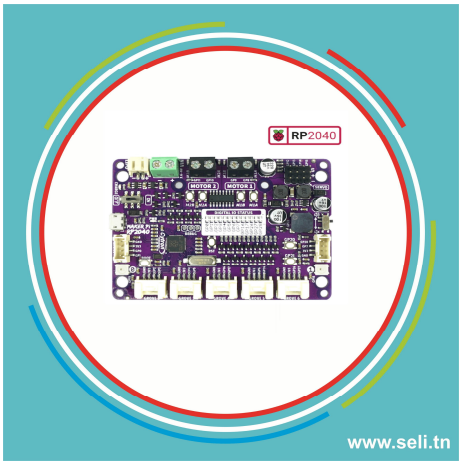
DEV111
CARTE DE DEVELOPPEMENT RASPBERRY PI RP2040 POUR ROBOTIQUE



PRODUCT DETAILS

Note

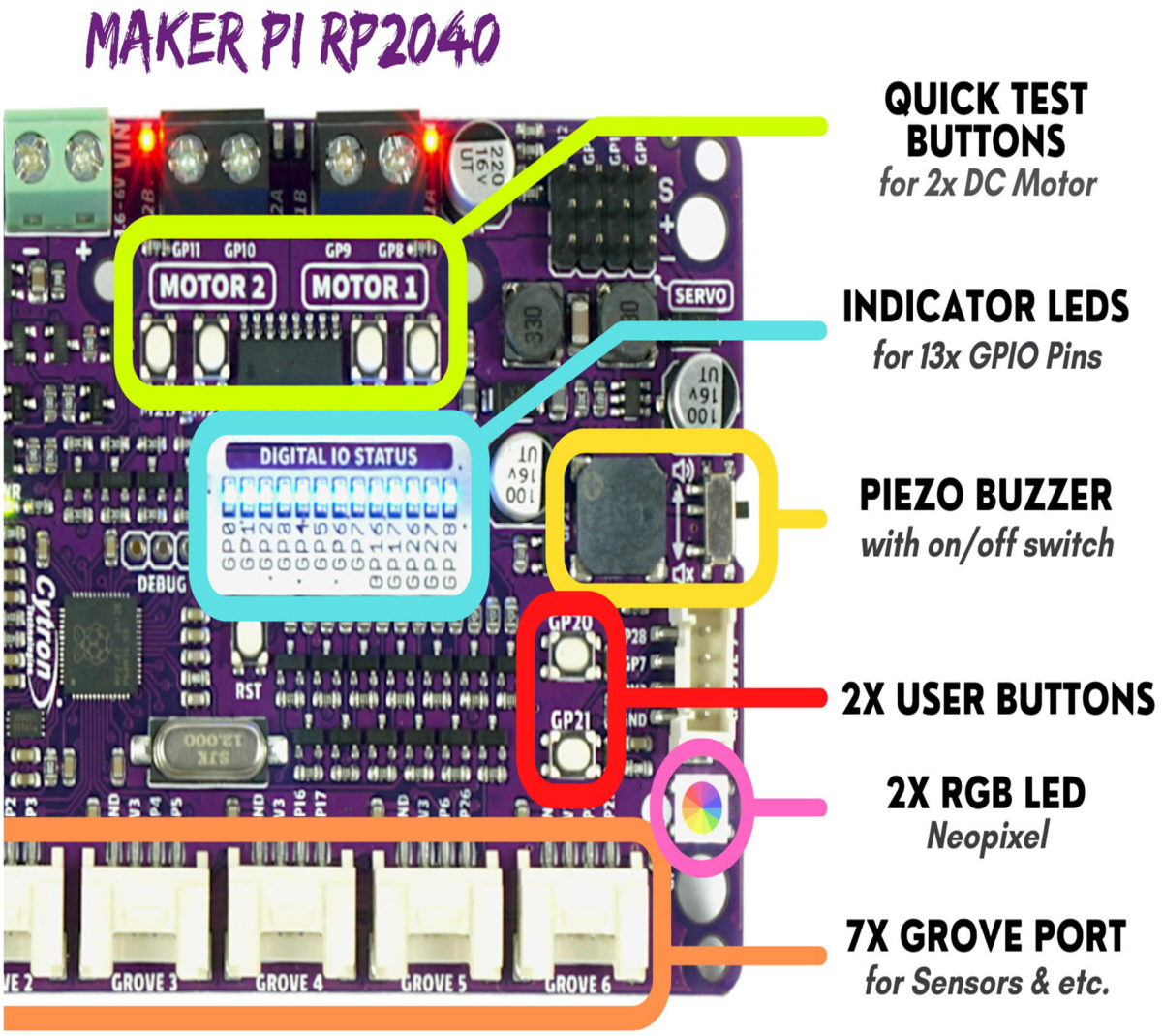
Choose an RP2040 Board to begin your DIY project!

Key Features

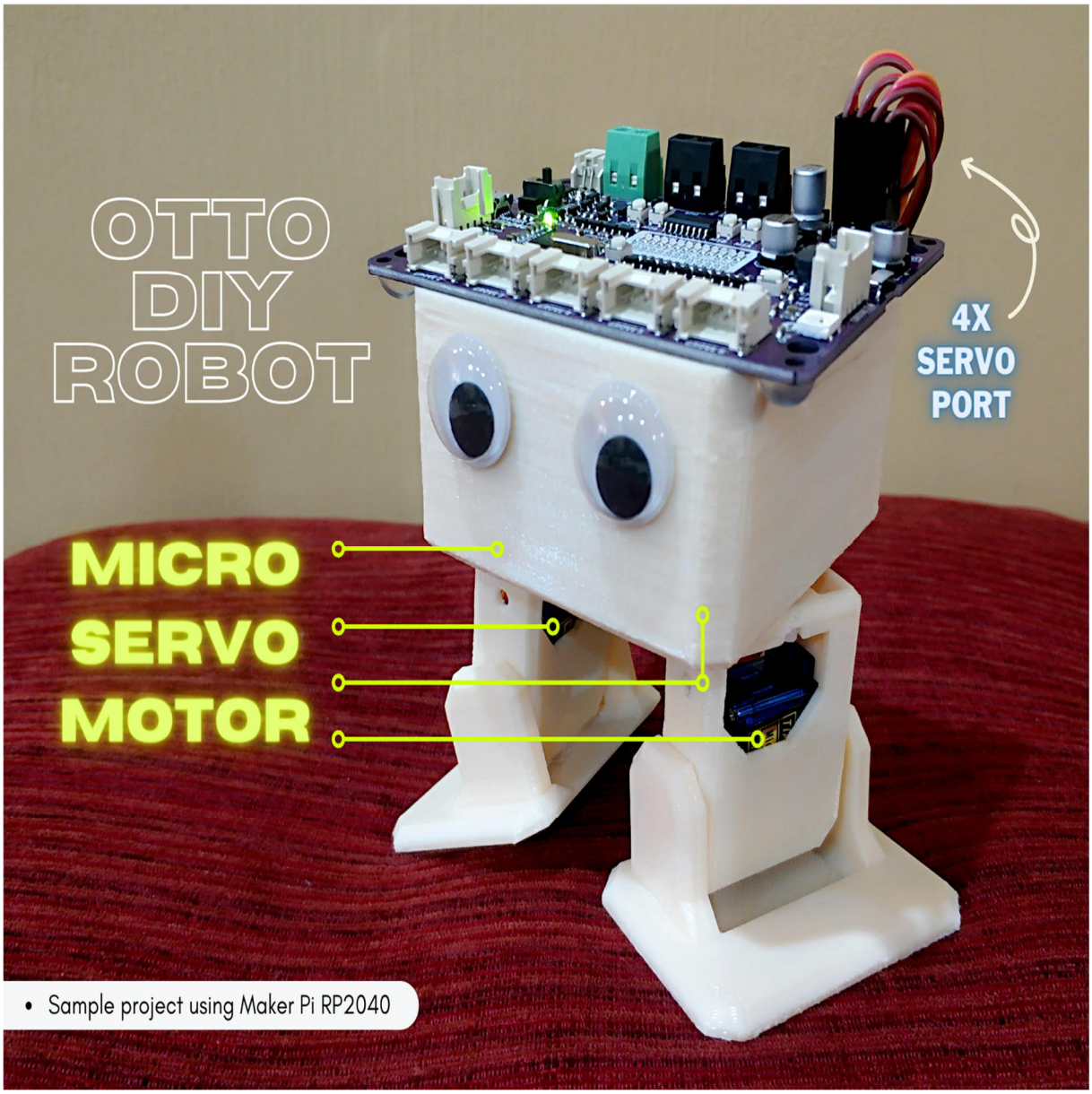
- A compact robot controller board with all the RP2040 goodness
- Controls 4x Servo motors
- Drives 2x DC motors with quick test buttons
- Built-in LiPo charger
- Auto power selection: USB 5V, LiPo (1-cell) or Vin (3.6-6v)
- Power on/off switch
- 7x Grove ports
- LEDs on 13x IO pin
- 2x RGB LEDs (Neopixel)
- Piezo buzzer with mute switch
- 2x push button

Description

The Maker Pi RP2040 features the first microcontroller designed by Raspberry Pi - the RP2040 - embedded on a robot controller board! The board comes with a 2-channel DC motor driver, 4 servo motor ports, 7 Grove I/O connectors, and lots of LEDs for troubleshooting and visual effects.



The DC motor driver on board is able to control two brushed DC motors or a single bipolar/unipolar stepper motor. The built-in Quick Test buttons and motor output LEDs allow a functional test of the motor driver in a quick and convenient way without the need of writing any test code. The board features push buttons ready to detect your touch. In addition, the board also can be used to play tone or melody with Piezo Buzzer! Sure, you can use Buzzer Mute Switch to mute the piezo buzzer. All the designs can provide developers with a better experience in DIY robot/motion control projects.

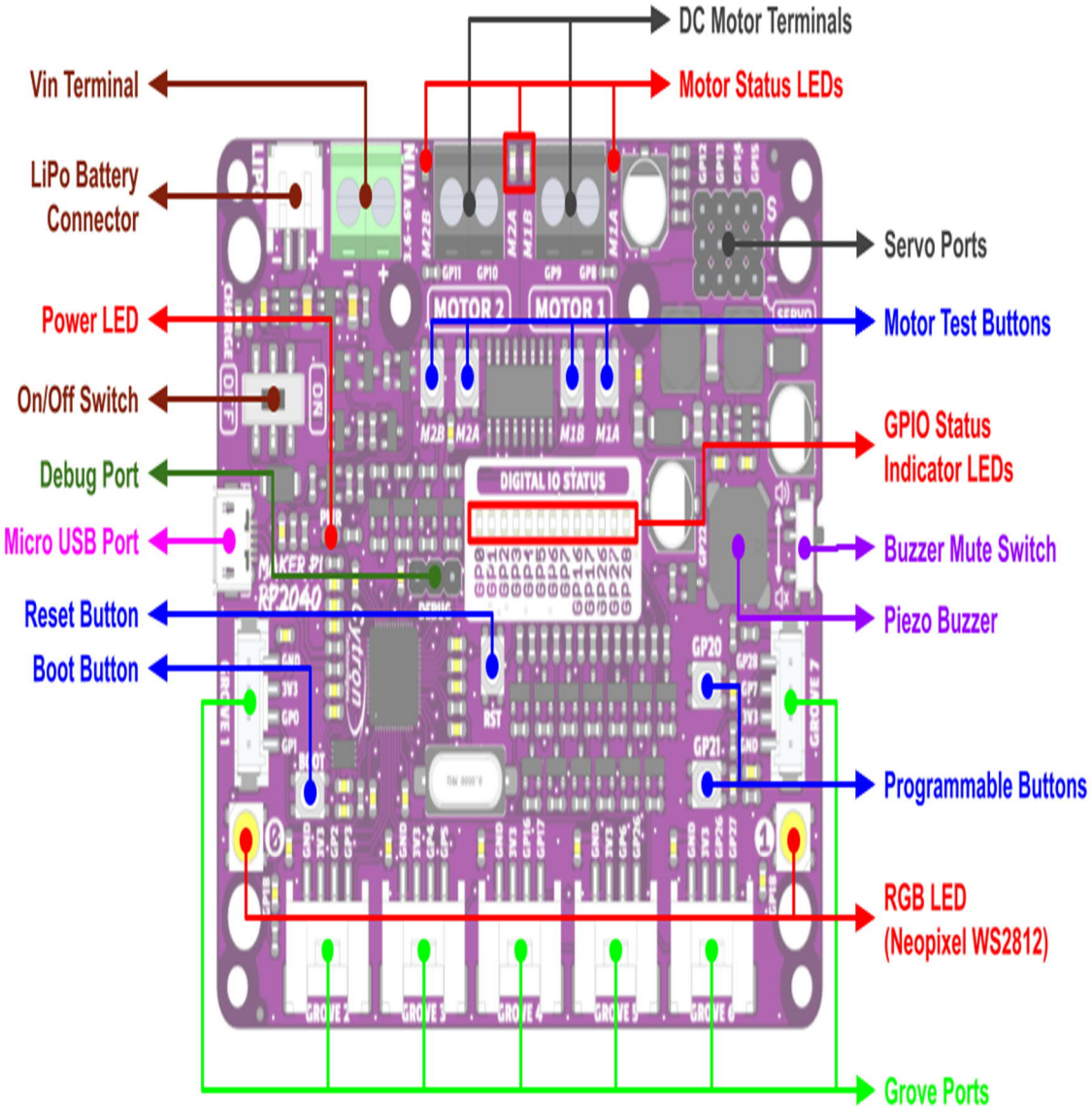


The board is compatible with the existing Pico ecosystem, Software, firmware, libraries and resources that are developed for Pico should work seamlessly with Cytron Maker Pi RP2040 too. CircuitPython is preloaded on the Maker Pi RP2040, so it's very easy to get started. The board supports commonly programming languages as well, so you are free to use MicroPython and C/C++ for Pico/RP2040.

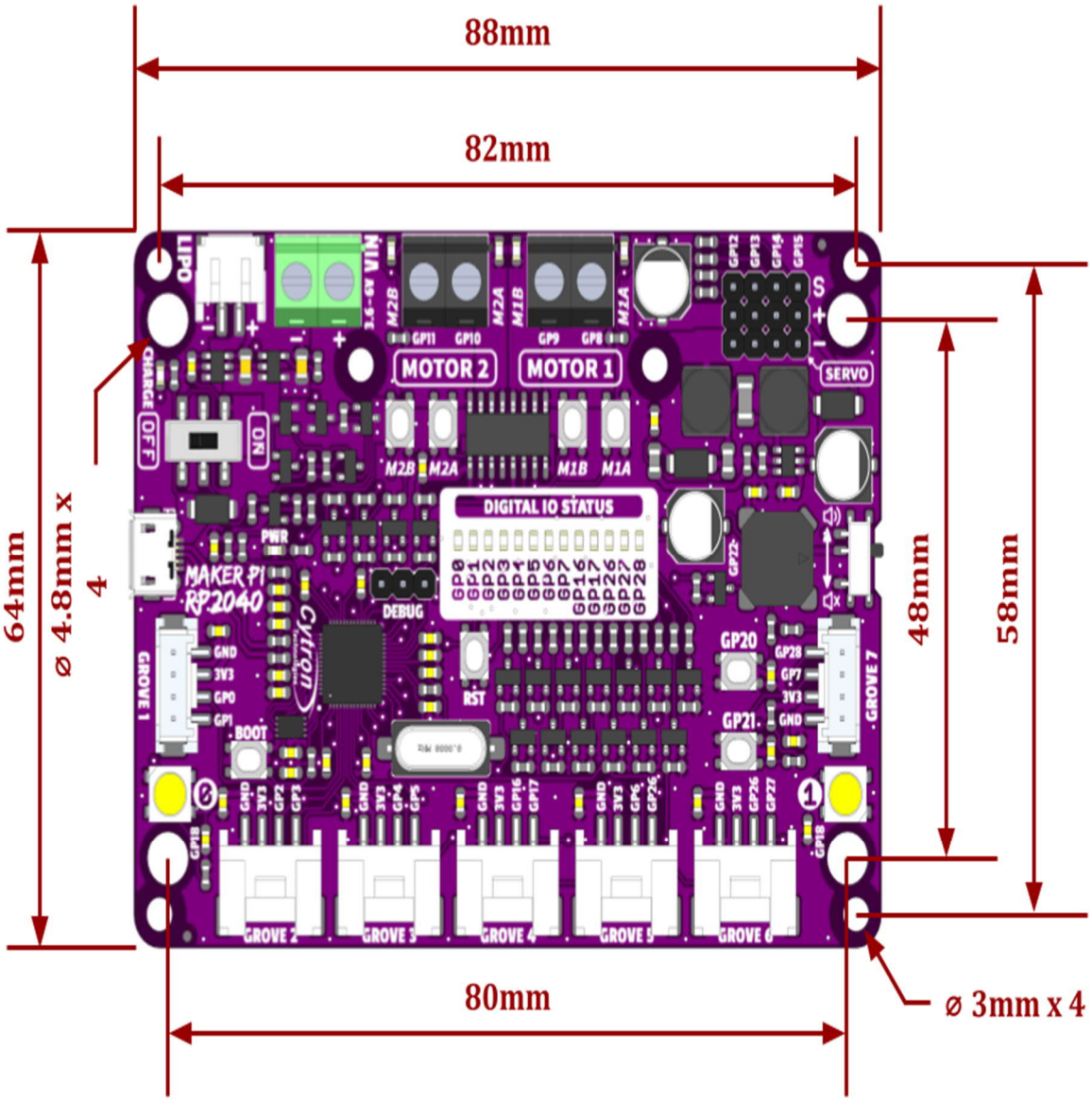
Specification

No	Parameters		Min	Max	Unit
1	Power Input Voltage (USB, LiPo or VIN) *		3.6	6	V
2	Digital Input Voltage	Low Level	-0.3	0.8	V
		High Level	2.0	3.6	V
3	Digital Output Voltage	Low Level	0	0.5	V
		High Level	2.6	3.3	V
4	Analog Input Voltage		0	3.3	V
5	Vmotor (Only USB is connected) *		VUSB - 0.4		V
6	Vmotor (Only either one of LiPo or VIN is connected) *		VLiPo or VIN		V
7	Vmotor (USB and LiPo are connected) *		VUSB - 0.4		V
8	Vmotor (USB and VIN are connected) *	VIN < VUSB	VUSB - 0.4		V
		VIN > VUSB and VIN - VUSB < 0.6	VIN - 0.4		V
		VIN - VUSB > 0.6	VIN		V
9	Maximum DC Motor Current	Continuous	-	1	A
		Peak (< 5 seconds)	-	1.5	A
10	Operating Temperature		-20	85	℃

Board layout & Function


DC Motor Terminals
Vin Terminal
Motor Status LEDs
LiPo Battery Connector
Servo Ports
Power LED
Motor Test Buttons
On/Off Switch
GPIO Status Indicator LEDs
Debug Port
Micro USB Port
Buzzer Mute Switch
Reset Button
Piezo Buzzer
Boot Button
Programmable Buttons
RGB LED (Neopixel WS2812)
Grove Ports
MOTOR 2
MOTOR 1
DIGITAL IO STATUS

Dimension


88mm
82mm
64mm
ø 4.8mm x 4
48mm
58mm
80mm
ø 3mm x 4
LIPO
MOTOR 2
MOTOR 1
SERVO
CHARGE
OFF
ON
DIGITAL IO STATUS
MAKER PI RP2040
DEBUG
PWR
BOOT
RST
GROVE 1
GROVE 2
GROVE 3
GROVE 4
GROVE 5
GROVE 6
GROVE 7

ECCN/HTS