



# Motor Control Development Kit

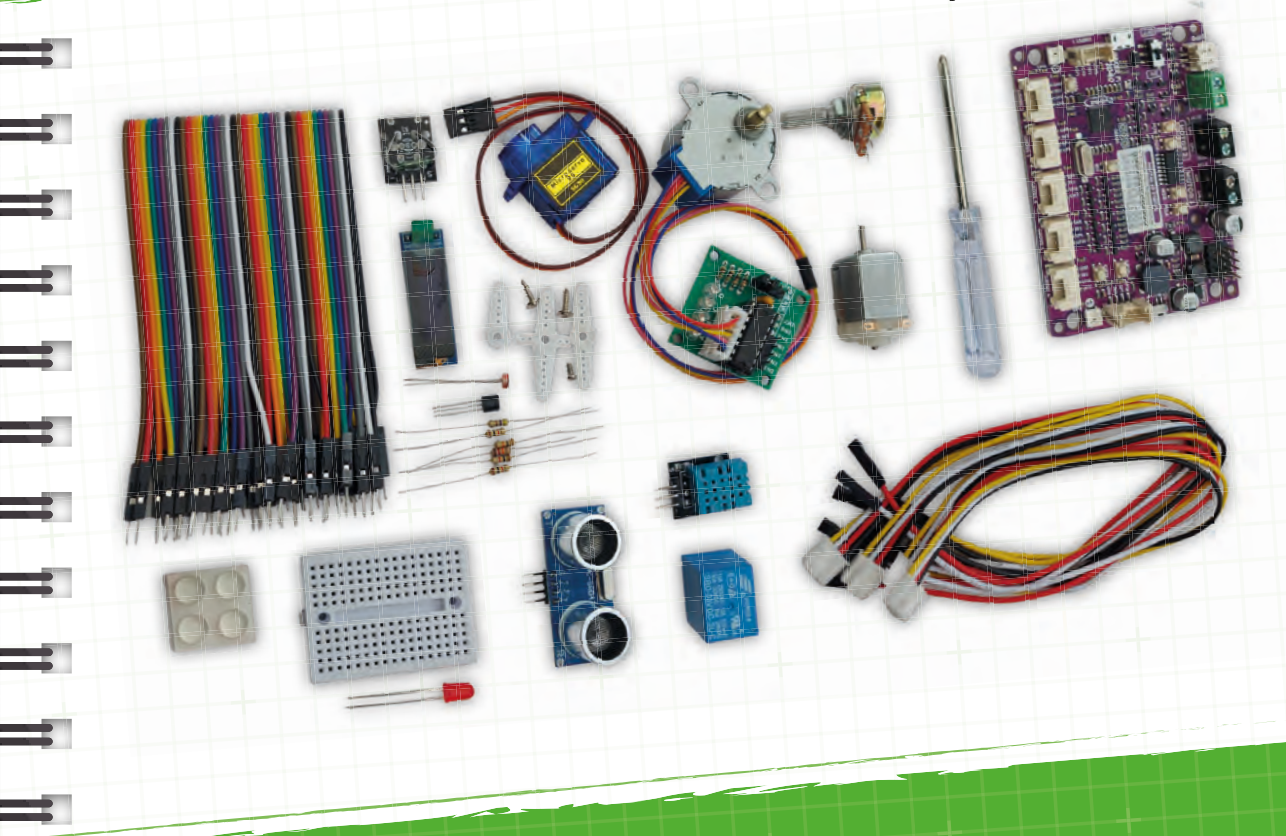
## RP2040-Driven Programming & Projects

Teach Yourself DC, AC, Servo,  
and Stepper Motor Control

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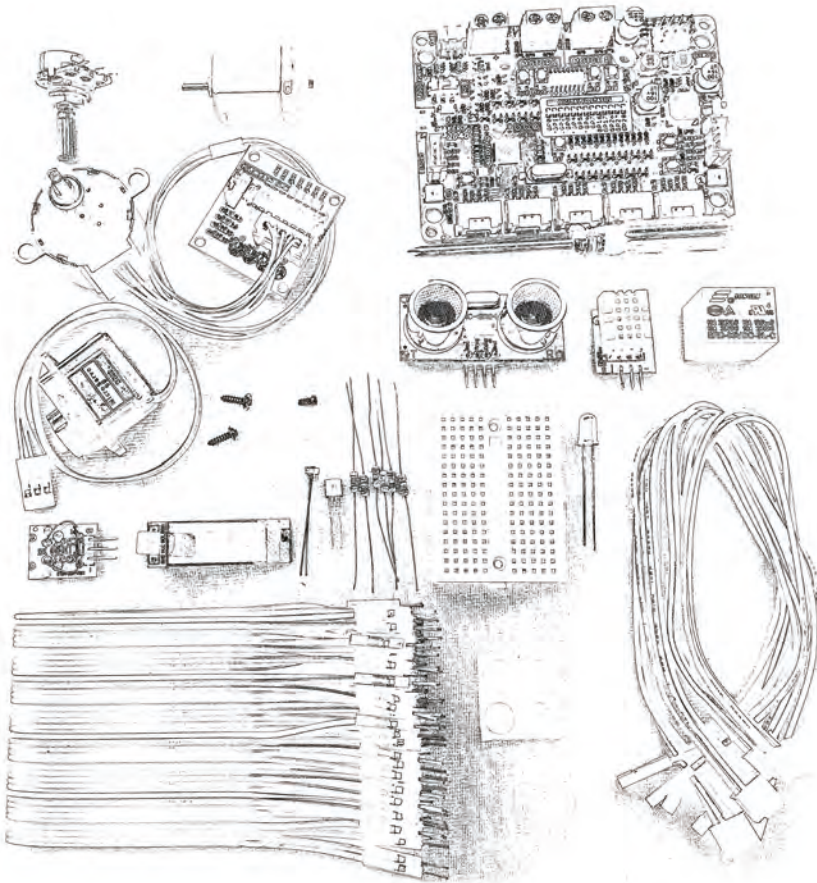


Enhanced Guide Made by Elektor

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## RP2040-Driven Programming & Projects



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# Motor Control Development Kit

## RP2040-Driven Programming & Projects

Electric motors are found in countless electronic appliances and devices in and around our homes. In these devices, motor controllers are used to ensure efficient, safe, and accurate ways to govern the speed or the actuator position of the motor(s) used.

Electric motors can be classified as either DC or AC depending on the type of voltage used to control them. DC motors are the oldest type of electric motors and they are widely used by electronics developers both in home labs and in schools and laboratories. Almost all printers, cameras, robots, and CNC machines in consumer, commercial, and industrial applications use some kind of DC motor. AC motors on the other hand are used in many home appliances and tools as they can be powered directly from an AC power outlet.

Cytron's Maker Pi RP2040 Development Board is an advanced system based on the RP2040 processor and developed with motor control applications in mind. The board comes with dual-channel brushed DC motor controller hardware, 4 servo motor ports, and 7 Grove compatible I/O ports, making it an ideal platform within mobile robotics applications, for robot arm control, or in any other type of application requiring precise control of motors and actuators.

This Elektor Guide includes numerous projects using LEDs, a buzzer, an OLED display, an ADC converter, an ultrasonic sensor, PWM, and temperature and humidity control. The main chapters cover DC motor control, servo motor control and stepper motor control using the Maker Pi RP2040 Development Board in creative and educational ways.

This Elektor Guide is the result of a unique collaboration between the original hardware manufacturer and international publisher Elektor International Media. We combine fantastic, innovative hardware directly from the makers, with Elektor's 60+ years of unique experience in writing educational projects and the knowledge needed to get the best out of your purchase. We present a substantial upgrade to the manual combined with some interesting projects that will get you started right away. That's what we call an Elektor Guide, which is added to a kit to offer you the best of both worlds in one box.

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