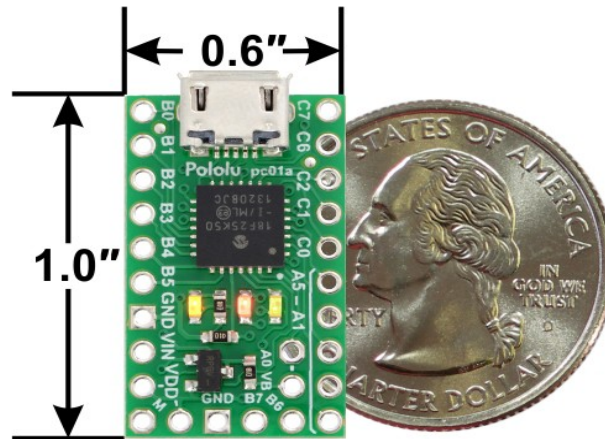


RB-Pol-278 P-Star 25K50 Micro Programmable Module



The P-Star 25K50 Micro is a tiny programmable module featuring Microchip's PIC18F25K50 microcontroller. It packs a micro-USB interface and 16 digital input/output pins onto a board measuring only 1" × 0.6" and ships preloaded with a USB bootloader, so no external programmer is required.

Overview

The Pololu P-Star 25K50 Micro is a general-purpose programmable module based on microchip's PIC18F25K50 microcontroller, which has 32 KB of flash program memory, 2 KB of RAM, and built-in USB functionality. Onboard features of the P-Star (abbreviated P) include a 16 MHz crystal, a USB Micro-B connector, and three user-controllable indicator LEDs. A voltage regulator and power selection circuit allow the board to be powered from either USB or an external 5.5 V to 15 V source, while a resettable PTC fuse on the USB VBUS supply and reverse protection on VIN help protect it from accidental damage. The board ships with a USB bootloader that makes it easy to program the PIC microcontroller without using an external programmer.

Features

- Dimensions: 1" × 0.6" (1.05" × 0.6" including USB Micro-B connector)

Programmable microchip PIC18F25K50 microcontroller

- 32 KB flash (8 KB used by bootloader, leaving 24 KB available for user program by default)
- 2 KB SRAM
- 256 bytes of EEPROM
- Native full-speed USB (12 Mbps)
-

5 V logic voltage

Internally clocked at 48 MHz, resulting in execution speeds up to 12 million instructions per second (MIPS)

Precision 16 MHz crystal

Many I/O lines in a small package

- 16 user I/O lines along the sides of the board

- 3 additional I/O pins available in other locations
- 13 pins can be configured as analog inputs
- 2 PWM output signals (one of which can be sent to four different pins)
- 5-bit digital-to-analog converter (DAC) output

Three user-controllable LEDs

USB micro-B connector

Can be powered from USB or external source regulated to 5 V by onboard regulator

Operating voltage: 5.5 V to 15 V

- Can operate down to 3.8 V with decreased logic voltage

Reverse-voltage protection on external power input

PTC fuse on VBUS supply

Ships with a proprietary USB bootloader developed by pololu for the p-star

Bootloader is usable from windows, linux, and mac OS X with open source software

No external programmer required

Compatible with standard microchip compilers, development tools, and programmers

Comprehensive user's guide

This diagram identifies the I/O and power pins on the P-Star 25K50 Micro. The diagram is also available as a printable PDF (161k pdf). For more information about the PIC18F25K50 microcontroller and its peripherals, see microchip's PIC18F25K50 documentation.

Included hardware

Two 1×10-pin breakaway 0.1" male headers and one 1×6-pin breakaway 0.1" male header are included with the P-Star 25K50 micro. These header pins can be soldered in to use the board with perfboards, breadboards, or 0.1" female connectors.