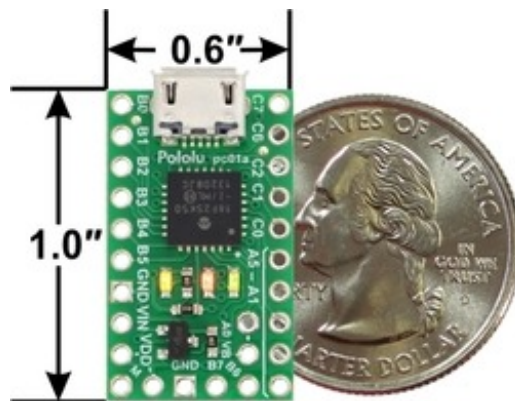




P-Star 25K50 Micro



P-Star 25K50 with U.S. quarter for size reference.

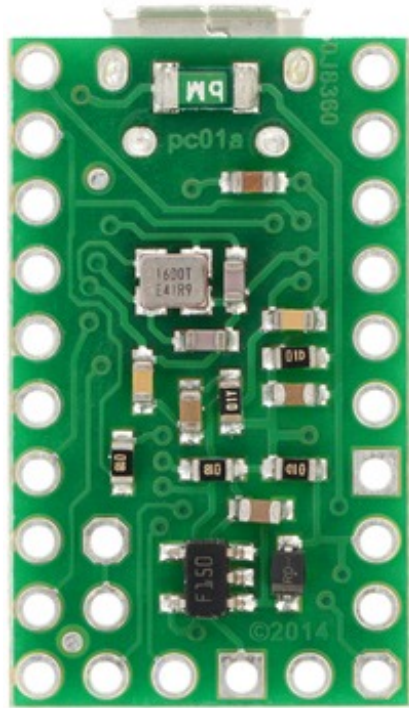
Overview

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.

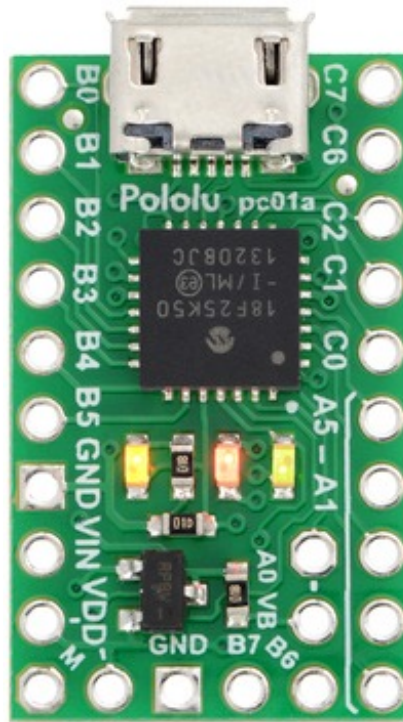
Our comprehensive user's guide provides the basics you need to get started with the P-Star 25K50 Micro as well as detailed technical information.



This product requires a USB A to Micro-B cable (not included) to connect to a computer.



P-Star 25K50 Micro, bottom view.



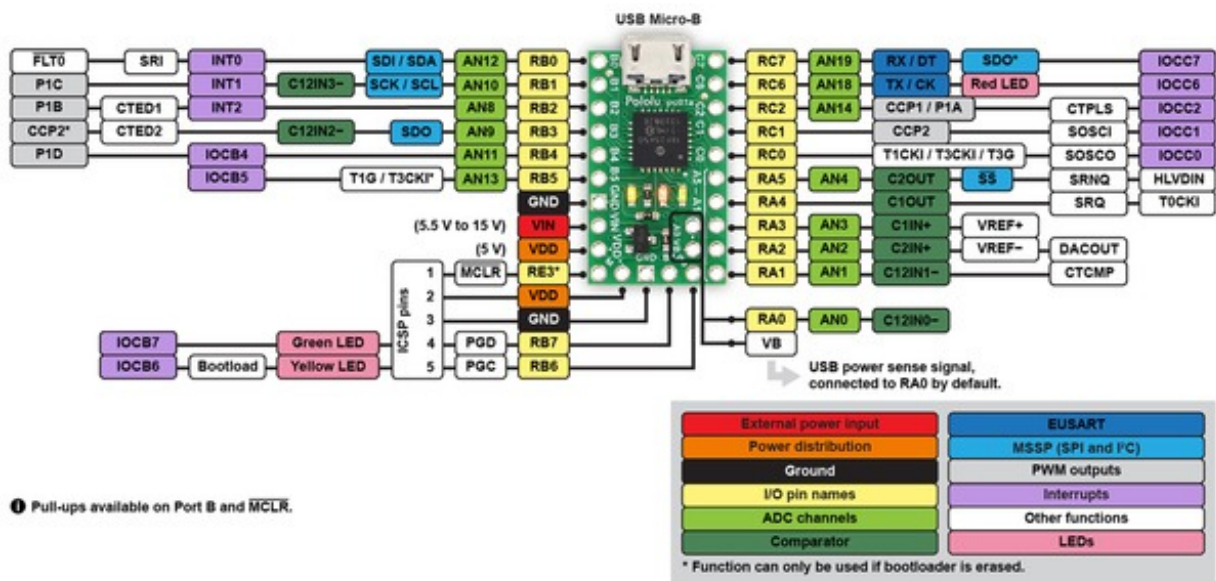
P-Star 25K50 Micro, top view.

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

Pinout

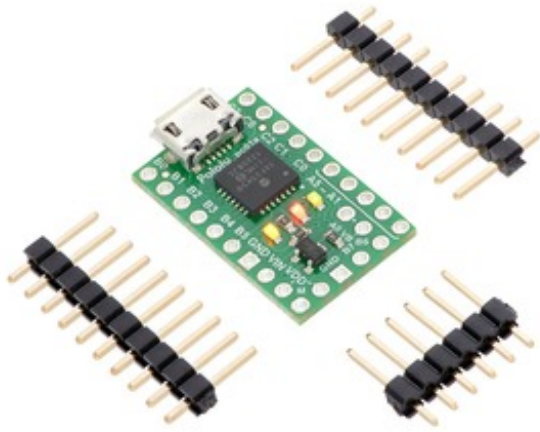


P-Star 25K50 Micro pinout diagram.

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.



P-Star 25K50 Micro with included optional headers.



The P-Star 25K50 Micro with soldered headers and connected USB cable.

[Documentation on producer website.](#)

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