MPLAB® PICkit™ 5
In-Circuit Debugger/Programmer

Summary

The MPLAB® PICkit™ 5 in-circuit debugger/programmer enables quick prototyping and portable, production-ready programming for all Microchip devices, including PIC® microcontrollers (MCUs) and dsPIC® Digital Signal Controllers (DSCs), AVR® and SAM devices and Arm® Cortex®-based microprocessors (MPUs). It works alongside the MPLAB X Integrated Development Environment (IDE) to provide a powerful and easy-to-use Graphical User Interface (GUI) for debugging and programing. Alternatively, the MPLAB PICkit 5 in-circuit debugger/programmer can be used stand-alone with the MPLAB Programmer-to-Go (PTG) mobile app, allowing you to connect to the tool from your smartphone via Bluetooth®. After connecting, you can select from one of multiple saved .ptg files on the installed SD™ card and program the powered target board directly.

The MPLAB PICkit 5 in-circuit debugger/programmer connects via USB Type-C® to your PC using a high-speed USB 2.0 interface and the same eight-pin single in-line header that previous generations used to connect to the target. With stand-alone programming features accessible from your smartphone, the MPLAB PICkit 5 in-circuit debugger/programmer is a versatile programming companion that lets you prototype and debug your solution and then unplug and bring the device with you to deploy that solution out in the field.

Advantages

- **Take advantage of Programmer-to-Go (PTG) support with the MPLAB PTG mobile app**
  - Save multiple program images to the SD card Select which image to program or set a new default image
  - Connect wirelessly from your smartphone via Bluetooth
  - Start programing from the app or by pressing on the logo
- **Supply 150 mA to the target**
  - Option to be self-powered from the target (2.7V to 5V)
- **Simplify your workspace**
  - USB Type-C cable interface makes it easy to connect to a PC
  - No external power needed when the device is powered by high-speed USB 2.0
- **Use the eight-pin single in-line header**
  - Supports a wide variety of interfaces such as four-wire JTAG and Serial Wire Debug (SWD) with streaming UART Virtual Comm Port (VCP)
  - Can be used with adapter board (not included) for standard connectors for JTAG, SWD, ICSP and AVR protocols
  - Backward compatible using the same eight-pin header and form factor of previous generation
- **Reduce costs**
  - Features and performance at a fraction of the cost of comparable debuggers/programmers
- **Easily maintain and upgrade**
  - Add new device support and features simply by using the latest version of MPLAB X IDE, available as a free download at www.microchip.com/mplabx

Supported Products

The MPLAB PICkit 5 in-circuit debugger/programmer supports all PIC, AVR and SAM MCUs, dsPIC DSCs and SAM MPUs. Firmware is continually being updated and device support managed with Device Family Packs (DFPs) lets you easily add support for new devices. For the most current list of supported parts, review the latest release notes located in MPLAB X IDE. As new device firmware is released, it can be downloaded free of charge at www.microchip.com.

Host System Requirements

- Available USB 2.0 port
- Microsoft Windows® 7 or later, macOS® and Linux®
- MPLAB X IDE version 6.10 or later

Ordering Information

Part Number	Description	Availability
PG164150	One MPLAB® PICkit™ 5 in-circuit programmer/debugger One USB Type-A to USB Type-C® cable Two MPLAB PICkit 5 in-circuit programmer/debugger stickers	Now

Other Development Tools from Microchip

Part Number	Development Tool	Description
AC102015	Debugger Adapter Board	The adapter board gives MPLAB® PICkit™ 5 programmer/debugger compatibility to Arm®-style connectors. This board supports JTAG, SWD, ICSP and AVR protocols.
SW006021-FS	MPLAB XC8 PRO Functional Safety Compiler License	This is a TÜV SÜD-certified complier license package that supports 8-bit PIC® and AVR® microcontrollers.
SW006021-2	MPLAB XC8 PRO Compiler (Workstation License)	This is a C/C++ compiler license for 8-bit PIC and AVR microcontrollers.

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