

Phyton™ ChipProg™-ISP2 Series

CPI2-B1 In-System Device Programmer

Phyton CPI2-B1 in-system device programmer is designed for production and engineering. It allows easy and seamless integration into test fixtures, automated testers and handlers. CPI2-B1 currently supports 40,000+ in-system programmable microcontrollers, flash memory, and programmable logical devices. Support for new devices is always in our development pipeline.



Features Overview

(Applicable to current model, may change in future revisions)

- Extremely fast.
- Computer controlled, or standalone operations.
- Drive up to 72 programmers from one PC.
- Each programmer in a gang cluster works independently.
- In the gang mode programmers support multiple projects running concurrently to program different device types on same target.
- Synchronous and asynchronous launch modes.
- Opto-isolated programming and control signals (option).
- Programs devices with Vcc from 1.2V to 5.5V.
- Supports JTAG, SWD, SPI, SCI, I²C, UART, and other interfaces.
- Can program some devices at a long distance - up to 5m (~15ft).
- USB 2.0 High Speed and LAN communication interfaces.
- Intuitive, user-friendly graphical user interface (GUI).
- Simplified graphical user interface for use by unskilled personnel.
- Stores up to 256 standalone projects on a built-in SD card.
- Up to 32 standalone projects can be launched by ATE signals.
- Application Control Interface (ACI) and SDK.
- Enables control from programs in, C, C++, C#, Visual Basic, etc.
- Enables control from National Instrument® LabVIEW™.
- On-the-fly utility allows controlling already launched programmer.
- Create programming scripts with included scripting language.
- Reliable data and project settings protection.
- Tamperproof software and firmware.
- Palm-size unit, easily mountable onto a DIN rail.

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Application Area

- Production multi-channel device programmer for use in programming fixtures, automated handlers, ATE and ICT.
- In-system device programmer for development purposes.
- Standalone, battery-powered, in-field service programmer.

Implementations and Applications

- Palm-size unit in a plastic enclosure.
- User-configurable gang programming system comprised of single CPI2-B1 units mounted on a standard DIN rail.
- CPI2-B1 kit includes a plastic bracket for mounting the programmer on a standard EN 50022 (TS35) 35 mm DIN rail.

Options and Ordering Codes

- CPI2-B1 – single-channel device programmer without galvanic isolation of control lines.
- CPI2-ISO optional board – provides galvanic isolation of programming and control signals.

System Requirement and Communication interfaces

- Compatible with Microsoft™ Windows® XP, 7, 8 or 10.
- USB 2.0 High-speed.
- 100 Mbit/s Ethernet (LAN) - dynamic and static IPs addresses are supported.
- Up to 72 CPI2-B1 programmers can be controlled by one PC.

Computer Controls

- From Automated Test Equipment (ATE).
- Command line control.
- Application Control Interface (DLL).
- Integration with National Instruments® LabVIEW™ software.
- On-the-fly management utility allows control of already launched and running device programmer.
- Scripting language for writing custom scripts.
- User-friendly graphical user interface (GUI).
- Optional simplified graphical user interface for unskilled personnel.
- Individual programmer targeting – each ganged CPI2-B1 can be set to program different device type with different data.

Standalone Control

- The programmer can work in a standalone mode.
- Stores up to 256 standalone projects.
- Up to 32 standalone projects can be launched by ATE signals.
- Individual targeting – in the standalone mode each CPI2-B1 can program different device type with different data.
- Special utility allows monitoring standalone activity on a computer.

Managing Projects and Configurations

- The software supports unlimited number of projects.
- Project files are tamperproof and protected against corruption.
- The software ensures data integrity - data transfers between PC and the programmer are accompanied with CRC sum.

- The software allows storing and quick retrieving user-configurable options: GUI configurations, colors, fonts, sounds, hot keys, etc.

Powering the programmer

- From external power supply 5V/1A (not included).
- From PC USB port.

Powering Targets from the Programmer

- When powered from an external power supply (5V@1A), provides the target equipment with the voltages: Vcc (1.2 to 5.5V @ up to 350mA) and Vpp (1.2 to 15V @ up to 80mA).

Software Features

- Project support enables storing multiple images with affiliated configuration settings.
- Supports loading and saving files in all popular formats.
- Enables an unlimited number of data buffers to be opened and maintained.
- Enables arithmetic operations with data blocks in buffers.
- Enables writing serial numbers, MAC addresses and other device-specific parameters into user-selectable device areas.
- Allows writing custom signatures and data blocks into devices.
- Choose among several algorithms for calculating checksums.
- Special DLL for user-defined checksum calculation.
- Writes programming session logs with real time stamps.
- A GUI editor for easy setting of device and algorithm parameters, such as fuses, lock bits, boot loader vectors, etc.
- Comprehensive self-test procedure.

Signals to/from Target

- Ten input/output lines with logical levels 1.2 to 5.5V that can be individually programmed as TTL/CMOS logic I/O.
- The ten signal lines alternate with GND lines for stable programming via long cables.
- Some devices can be programmed at long distance: up to 5 m (~15 ft) – actual distances are target-specific.
- Two input/output lines which can be individually programmed as TTL logic I/Os, GNDs, Vcc or Vpp.

Control Methods

- Start/Stop logic signal for external control.
- BUSY, GOOD and ERROR output signals for ATE control.
- 5 logic inputs for choosing one of 32 preloaded projects.
- One low-current output – can be used for project select.
- Three GND lines.

Dimensions

- 114 x 73 x 32 mm (~4.5 x 2.9 x 1.25 inch).

Contact information

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