Dataman 448Pro+

www.dataman.com

- 4 x 48 pin universal ZIF sockets accepting 300/600 mil DIP devices
- Independent modules supporting concurrent programming
- Intelligent pin drivers allow varying voltages to be applied to any pin delivering signals without overshoot, increasing programming yield
- Pin drivers operate down to 1.8V so youíll be ready to program the full range of tomorrows advanced low-voltage devices
- ISP capable using the JTAG interface

The Dataman 448Pro+ is a PC based gang programmer featuring four independent universal programming modules, ISP capabilities and USB 2.0 connectivity. Supporting over 32,000 devices with new support added monthly, the Dataman 448Pro+ can program without the need for a family-specific modules, giving you the freedom to choose the optimal device for your design.

The 448Pro+ is built to meet the demands of high volume production programming with minimal operator effort. Concurrent programming options combine with device insertion tests and a user friendly interface to give higher programming yields and reduced failure rates.

Hardware:

General

- FPGA based totally reconfigurable 48 powerful TTL pindrivers provide H/L/pull_up/pull_down and read capability for each pin of socket. Advanced pindrivers incorporate high-quality high-speed circuitry to deliver signals without overshoot or ground bounce for all supported devices. Pin drivers operate down to 1.8V so you'll be ready to program the full range of tomorrows advanced low-voltage devices.
- Each programming module performs device insertion and contact tests before programming each device. These capabilities, supported by overcurrent protection and signature-byte check help prevent chip damage due to operator error.
- The selftest capability allows diagnostics included in the software to thoroughly check the health of the each programming module.
- Built-in protection circuits eliminate damage to programming modules and/or programmed devices due to environment or operator failure. All ZIF sockets and ISP connector pins are protected against ESD up to 15kV.
- 448Pro+ programmer performs programming verification at the marginal level of supply voltage, improving programming yield and guarantees long data retention.
- Various socket converters are available to handle device in PLCC, SOIC, PSOP, SSOP, TSOP, TSSOP, TQFP, QFN (MLF), SDIP, BGA and other packages.

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Base Unit (DAC)

- USB 2.0 high-speed compatible port, up to 480 Mbit/s transfer rate
- On-board intelligence: powerful microprocessor and FPGA based state machine
- Three D/A converters for VCCP, VPP1, and VPP2, controllable rise and fall time
- VCCP range 0..8V/1A
- VPP1, VPP2 range 0..26V/1A
- Selftest capability

ZIF Socket Pindriver

- 48-pin DIL ZIF (Zero Insertion Force) socket accepts both 300/600 mil devices up to 48-pin
- Pindrivers: 4 x 48 universal
- VCCP/VPP1/VPP2 can be connected to each pin
- Perfect ground for each pin
- FPGA based TTL driver provides H, L, CLK, pull-up, pull-down on all pindriver pins
- Analog pindriver output level selectable from 1.8 V up to 26V
- Current limitation, overcurrent shutdown, power failure shutdown
- ESD protection on each pin of socket (IEC1000-4-2: 15kV air, 8kV contact)
- Continuity test: each pin is tested before every programming operation

ISP Connector

- 20-pin male type with missinsertion lock
- 5 TTL pindrivers, provides H, L, CLK, pull-up, pull-down; level H selectable from 1.8V up to 5V to handle all (including low-voltage) devices
- 1x VCCP voltage (range 2V..7V/100mA), can be applied to pins 1, 3
- Programmed chip voltage (VCCP) with both source/sink capability and voltage sense
- 1x VPP voltage (range 2V..25V/50mA), can be applied to pins 2,3,4,6,8,10
- Target system supply voltage (range 2V..6V/250mA)
- ESD protection on each pin of ISP connector (IEC1000-4-2: 15kV air, 8kV contact)

Software:

User Interface
Production Mode Control

- This part of the software is focused to the easy monitoring of high-volume production operations.
- Operator-friendly control software combines many powerful functions with ease of use. Graphic user interface provides an overview of important information, reducing the burden on the operator with unnecessary details.
- Project files are used to control the 448Pro+ multiprogrammer. The project files contain user data, chip programming setup, chip configuration, auto programming command sequence, etc. This helps minimize operator error as the project file is normally created and proofed by engineer and passed to the operator. The optional protected mode can be set avoiding unwanted changes to the project file.
- Each chip may be programmed with different data such as serial number, configuration and calibration information.

Engineering Mode Control

- This part of the software is focused to the quick and easy preparation of the project file for usage in the production mode control software.
- Each programming module is driven by an easy-to-use control program with pull-down menus, hot keys and on-line help. Selecting of device is performed by its class, by manufacturer or simply by typing a fragment of vendor name and/or part number.
- Standard device-related commands (read, blank check, program, verify, erase) are enhanced by test functions (insertion test, signature-byte check) and additional special functions (autoincrement, production mode - programming starts immediately once chip inserted into socket).
- All known data formats are supported. Automatic file format detection and conversion during loading of file. Jam file (JEDEC standard JESD-71) and VME file compatible.
- The rich-featured auto-increment function enables one to assign individual serial numbers to each programmed device - or simply increments a serial number, or the function enables one to read serial numbers or any programmed device identification signatures from a file.
- The software provides extensive information about programmable devices including detailed drawings of all available packages. The software also provides explanations of chip labelling (prefixes and suffixes) for each of the supported chips.

The Dataman 448Pro+ supports over 32,000 of the most popular devices in use today - with future devices being added monthly. Dataman 448Pro+ coverage includes the following device types:

Programmer (ZIF Socket)
1-Wire E(E)PROM, BI-PROM, Configuration (EE)PROM, CPAL, EEPROM, EPROM, EPLD, Flash, Flash EPROM, FPGA, GAL, MACH, Microcontrollers, MROM, NV RAM, PAL, PEEL, PLD, PROM, Serial E(E)PROM

Programmer (ISP Connector)
Microcontrollers, PLD, Serial E(E)PROM

Package Includes:

- **Dataman 448Pro+ Universal Gang Production Programmer**
  Dimensions: 361x234x56 mm (14.2x9.2x2.2 inches)
  Weight: 3.5kg (7.72 lb)
  Operating voltage: 100-240V AC
  Power consumption: max. 60W active
- Moulded USB Cable
- Diagnostic POD for ZIF socket selftest of the programmer (x1)
- Diagnostic POD for ISP connector selftest of the programmer (x1)
- ISP cable (x4)
- Anti-dust cover for ZIF socket (x4)
- ESD wrist strap with cord and banana plug
- User manual
- Software
- Transport case
- Optional range of adapters and socket converters also available

Warranty and Support:

- 30 day money back guarantee* - If you don't like it, send it back
- Three year guarantee - Three years parts and labour warranty, on the 448Pro+ universal gang programmer.
- Life-Time Technical Support - 448Pro+ technical support is available free via our website and telephone helpdesk for life
- Life-Time Software Updates - 448Pro+ software updates are available free via our website for life

*Applies to orders from UK/US office only

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