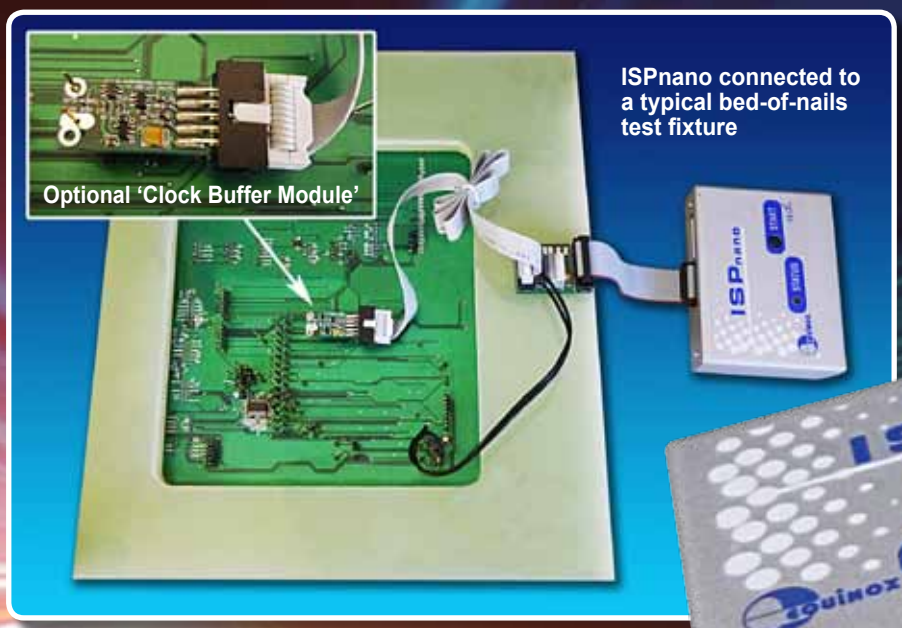
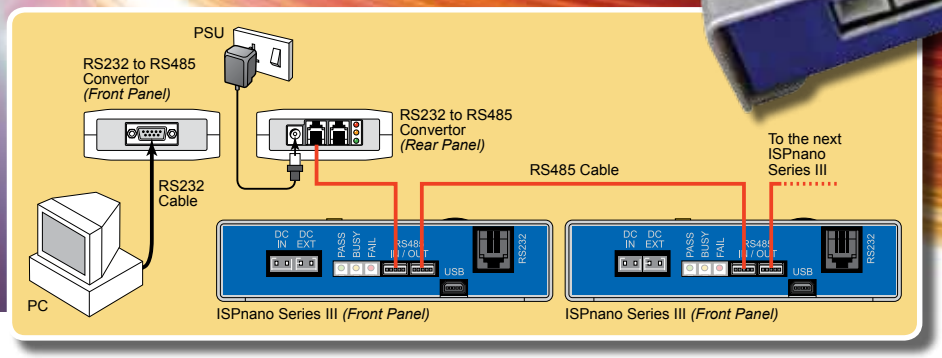
ISPnano Series III

High-Speed Production In-System Programming (ISP) Module





Network up to 32 programmers to a single PC via the RS485 interface

The **ISPnano Series III** is a state-of-the-art **ISP Programmer** designed for high-speed **In-System Programming (ISP)** of FLASH Microcontrollers and Serial Memory devices in a production environment.

Its compact size and abundance of programming ports makes it ideal for integration into any Programming / Test Fixture or ATE System. It supports programming of devices by most interfaces including SPI, JTAG, JTAG chain, SWD, XMEGA PDI, ATtiny TPI, SCI, I2C (2-wire) and UART Boot Loader. The fastest possible programming times are guaranteed due to a combination of highly optimised algorithms, local storage of Project Data and high slew rate Line Driver Circuitry.

- **High-speed In-System Programming (ISP) designed for high-throughput production environments**
- **Wide ranging Device Support capability**
  - microcontrollers / serial memory devices / sensors etc
- **Compact physical size ideal for integration into ATE / Test Fixtures**
  - Designed to mount directly under the bed-of-nails in a fixture
- **Comprehensive ESD and over-voltage protection on all programmer I/O pins and programmer communication ports**
- **Scaleable parallel programming solution**
  - Network up to 32 programmers for multi-channel concurrent programming of multiple PCBs on a PCB panel

CE RoHS

STANDALONE PROGRAMMING

PRODUCTION PROGRAMMING

FIRMWARE UPGRADEABLE

SCALEABLE SOLUTION

EQUINOX TECHNOLOGIES

EQUINOX TECHNOLOGIES UK LIMITED

The Embedded Solutions Company

ISPnano Series III

Programming Interfaces:

- Supports most ISP hardware interfaces / protocols including JTAG, ARM SWD (Serial Wire Debug), SPI, I2C, XMEGA AVR PDI, ATtiny AVR TPI, ATtiny AVR HV mode, 8051 UART Bootloader, ams1-wire, ams UART
- Dedicated 2-wire I2C serial port
- Dedicated 2-wire XMEGA PDI / ATtiny TPI serial interface port
- Very fast programming speeds suitable for high-throughput production environments
- Individually configurable programmer I/O pins
- All programmer I/O lines are fully **ESD** and **over-voltage protected**
- Supports programming of target ICs between 1.8 and 5.0V.
- Programmable frequency generator output on SCK2 pin - supports external clocking of AVR microcontrollers to speed up programming

Control methods:

- PC control via RS232, RS485 or USB port
- Network up to 32 x ISPnano programmers to a PC via RS485 bus
- Standalone operation (no PC required)
- **Remote System Control** e.g. PLC, ICT, ATE - using **ASCII (ATC)** protocol or **TTL Control Port**

Standalone Mode:

- Supports loading of up to 64 x **'Standalone Programming Projects'** into the programmer memory (16 Mbytes capacity)
- Single-button **auto-program** operation allows repetitive execution of the selected project
- Standalone project execution can be triggered by Start button, Fixture Lid Switch, TTL control port, Target Sensing Circuit, Remote Keypad or **ASCII Text Communications** protocol (for remote control)

Power control:

- Programmable **Target VCC** Supply: 1.8V - 5.0V @ 480 mA
- Programmable **Target VPP** Supply: 6.5V - 13.5V @ 100mA
- Programmer controlled **'Target Discharge Circuit'**
- Target voltage and current monitored by programmer
- Target Board short-circuit monitoring
- Programmer controlled **'External VCC switch'** (1.8 to 24.0V)
- Power supply input: 9.0 to 24.0V

Device support:

- Atmel AVR SPI, AVR JTAG, XMEGA PDI, ATtiny TPI, ATtiny HV microcontrollers
- ams - Magnetic Rotary Position Sensors
- ARM microcontrollers (via JTAG or SWD interface) - ARM7TDMI®, Cortex M0, Cortex M3, Cortex M4
- Selected 8051 FLASH microcontrollers
- Serial EEPROM memories (SPI and I2C)
- Serial FLASH memories (SPI)
- Atmel / Adesto Serial DataFLASH™
- Sigma - Z-Wave SOC's and modules

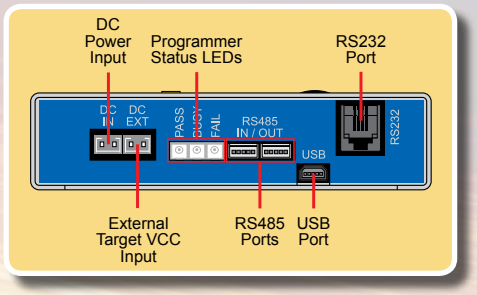
Software (as standard):

- **EQTools** - creates **'Standalone Programming Projects'**
- **EDS** - Development Mode for testing under PC control
- **Upload Wizard** - uploads projects to the programmer
- **ASCII Text Communications** protocol (for remote control)

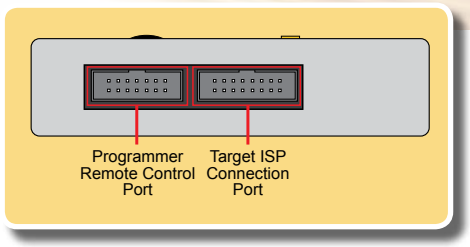
Typical applications:

- Medium to high-volume **production programming (ISP)**
- Production Test / Programming fixtures
- PLC controlled programming fixtures
- **Multi-PCB panel** programming (requires multiple programmers)

Front Panel Layout



Rear Panel Layout



System Contents:

The picture shows the typical contents of the ISPnano Series III programming kit.

The programmer is also available separately without any power supply or cables.

Ordering information:

ISPnano-S3KIT - Full **ISPnano Series III** programming kit including power supply, cables, documentation etc.

ISPnano-S3 - **ISPnano Series III** programming module only

Device Support Libraries

The 'Device Support Libraries' for this programmer must be purchased separately.
Please contact Equinox for an up-to-date list of all available 'Device Support Libraries'.

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