



Universal Programmer I2C/SPI/JTAG EEPROM/Flash Programmer

Product overview

The Universal Programmer is a professional solution, designed for reading/programming serial I2C and SPI EEPROM and/or flash memories easily and quickly. Additionally the device features the programming and debugging of flash memories via the integrated JTAG interface.

The Universal Programmer uses a standard network connection (TCP/IP) for communication with the SPI/I2C bus and the JTAG interface, an additional device driver software for the personal computer is not necessary. As many as desired programming devices can be operated at the same time by a single PC.

The programmer device is designed for development and serial production. It is particularly suitable for addressing the device either on the finished application board or as an independent device.

Programmer features

- Automatically checks the programmed data (verification)
- Galvanically isolated interfaces for I2C, SPI and JTAG
- SPI baud rate: 10 kbps to 8 Mbps
- I2C baud rate: 100 to 400 kbps
- JTAG baud rate: 10 kbps to 8 Mbps
- Supported hex data formats: raw binary, Intel Hex ASCII and Motorola S-records
- Supported operating systems: Windows 2000/XP/2003 (Linux version upon request)
- The programming functionality can be easily integrated in individual applications via a supplied DLL or via batch processing calls

- SPI EEPROM types: M25Pxx, M95xxx, AT25Fxxxx, AT45Dxxx
- I2C EEPROM types: 24Cxx
- JTAG devices: AT91SAM7 series, LPC2xxx series, EP93xx series, NOR/NAND flashes

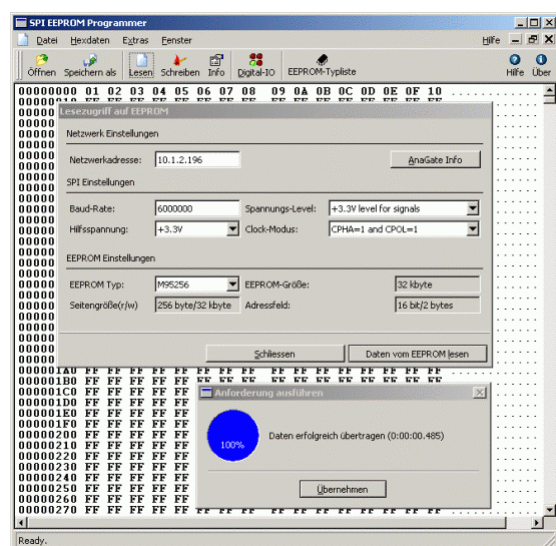
Not supported devices are added upon your request.

I2C details

The Universal Programmer is compatible to the [AnaGate I2C EEPROM programmer](#) unit related to the I2C functionality, however the interface to the I2C bus is galvanically isolated.

SPI details

The Universal Programmer is compatible to the [AnaGate SPI EEPROM programmer](#) unit related to the SPI functionality, however the interface to the I2C bus is galvanically isolated.



JTAG details

With the included JTAG Programmer software CPU and external flash memories can be



programmed easily and quickly. Since the JTAG part of the programmer is implemented with OpenOCD (see <http://openocd.berlios.de/web/>), all components, which can be programmed via OpenOCD, are automatically supported by the Universal Programmer.

In addition, a GDB debugging interface is

provided by OpenOCD, which is offered by the Universal Programmer too. For example the development platform Yagarto (see <http://www.yagarto.de/>) can be used to debug directly source code with the commonly used Eclipse tool.

Options

Power module

Due to the galvanic isolation no more voltage supplies are available at the plugs for I2C, SPI and JTAG. By means of the optional power module different output voltages are available on the Universal Programmer.

Renesas module

By means of the Renesas module option Renesas CPUs (R8C series) can be programmed, whereby the functionality of the [AnaGate Renesas Programmer](#) is made available completely. Additionally a power voltage supply and 8 extra digital inputs and outputs with max. 300 mA are placed at the disposal.

Technical data

| | | |
|----------------|---|--|
| Measurements: | L x B x H | 155 mm x 105 mm x 40 mm |
| | Weight | ca. 250 g |
| Power supply | Input voltage | 8 ..28 V DC or via power supply (EU, UK, US) |
| SPI Bus: | Baud rate | 100 to 8.000 kbps (software configuration) |
| | Galvanical isolation | separated up to 2000V |
| | Interface | 1x 10 pole Flaka plug with CLK, MISO, MOSI, -SS |
| I2C Bus: | Baud rate | 100 to 400 kbps (software) |
| | Galvanical isolation | separated up to 2000V |
| | Interface | 1x 6 pole Flaka plug with SCLK, SDA |
| JTAG: | Baudrate | 100 to 8.000 kbps (software configuration) |
| | Galvanical isolation | separated up to 2000V |
| | Interface | 1x 20 pole Flaka plug (Standard JTAG) |
| LAN Interface: | Baud rate | 10/100 Mbps |
| | TCP/IP | Static or dynamic (DHCP) IP address |
| | Interface | RJ45 socket |
| Digital IO: | Inputs | 4, galvanic decoupled |
| | Outputs | 4, galvanic decoupled (max. 400 mA each channel, max. 500mA total) |
| EC directives: | RoHS, CE | |
| Software: | SPI EEPROM Programmer for Windows 2000/XP/2003 I2C EEPROM Programmer for Windows 2000/XP/2003 JTAG Programmer for Windows 2000/XP/2003 The programming of SPI and I2C devices can done also using standard programming languages (e.g. VB, C/C++, Delphi) with a DLL supplied with the device. | |



Linux support is available upon request.



Technical data (continued)

| | | |
|-----------------------|------------------------|---------------------------------------|
| Power module. (opt.) | Output voltage | 5,0V DC, 3,3V DC, 2,7V DC and 1,8V DC |
| Renesas module (opt.) | Baud rate | 9600, 19200, 38400 und 57600 kbps |
| | Renesas operating mode | Single Wire Mode |
| | Digital Inputs | 8 |
| | Digital Outputs | 8 (max. 300 mA each Kanal) |
| | Output voltage | 5,0V DC, 3,3V DC |

Ordering information

| Order number | Scope of delivery |
|--------------|---|
| PR-UP-HW-XX | Universal Programmer for Windows 2000/XP/2003 including CD-Rom with manual, Software-API as a DLL for Windows 2000/XP/2003 |
| PR-UPP-HW-XX | Universal Programmer for Windows 2000/XP/2003 with power module including CD-Rom with manual, Software-API as a DLL for Windows 2000/XP/2003 |
| PR-UPR-HW-XX | Universal Programmer for Windows 2000/XP/2003 with Renesas module including CD-Rom with manual, Software-API as a DLL for Windows 2000/XP/2003 |
| | XX = EU: plug-in power supply for Europe (230V/50Hz) XX = US: plug-in power supply for USA (110V/60Hz) XX = UK: plug-in power supply for United Kingdom (230V/50Hz) |
| GT-UP-AH | Adapter for mounting on DIN rails |