

Product Datasheet - Technical Specifications



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■ USB-PIO

Digital I/O Interface (USB)

24 Channels. Digital. Signal Output & Monitoring.

Record and output digital TTL signals. The USB-PIO features three 8-bit bidirectional ports. The port lines are led out to a 25-pin D-Sub female connector.

Extra Small. Extra Red. Extra Low-Priced.

The unique idea of the USB-PIO: the device is accommodated in the D-Sub connector housing. Not only the size is extra small but also the price.

Plug & Play.

The connection to the PC is realized via USB. The USB-PIO provides all typical USB features (e.g. Plug&Play, Hot-Plug). Up to 127 devices can be connected and installed during operation.

Powered by USB.

The device is supplied with power via the USB interface. This reduces cabling efforts to a minimum and makes mobile measurements a lot easier.

Open for Everyone.

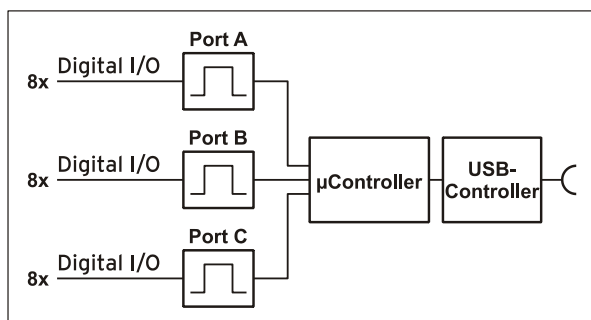
Widely supported: The USB-PIO can be used under Windows® XP/7/8/10 as well as under Mac OS X, Free BSD, and Linux. The complete software for installation and programming of the device is included for free.

NextView®. Try for Free.

The DAQ system is supported by NextView®, the software for data acquisition and analysis. A fully functional 14-day trial is included with delivery to directly test the functionality of the USB-PIO.

Get Connected.

Various optocoupler and relay cards are available at bmc m to electrically isolate the digital lines. For the USB-PIO it is particularly easy as only a 25-pin D-Sub extension cable is needed for connecting.



Functional diagram and pin assignment

6 Technical Data

(typical at 20°C, after 5min., +5V supply)

• Digital Inputs/Outputs

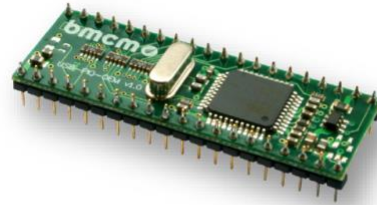
Lines:	3x 8 lines (bidirectional, set in groups of 8, port C in groups of 4)
Level:	CMOS/TTL compatible (low: 0V..0.7V; high: 3V..5V)
Current pick-up per output pin:	max. 5mA (with app. 4V-level), max. 20mA in total of all output channels!
Sampling rate:	up to 500 values/second can be sampled (depending on software and PC)
Input resistance:	100k Ω pull-down resistor (PC off: 1k Ω)
Surge protection:	max. \pm 5.5V, max. max. \pm 20mA in total of all channels!
USB interface:	USB 2.0 compatible (full-speed)

• General Data

Power supply:	+4.5V..+5.5V from USB connection to the PC, max. 100mA
Digital connections:	all 24 lines at 25-pin D-Sub female
CE standards:	EN61000-6-1, EN61000-6-3, EN61010-1
ElektroG // ear registration:	RoHS and WEEE compliant // WEEE Reg.-No. DE75472248
Max. permissible potentials:	60V DC acc. to VDE , max. 1kV ESD on open lines
Temperature ranges:	operating temp. 0..70°C, storage temp. -25..+70°C
Relative humidity:	0-90% (not condensing)
Dimensions:	53 x 44 x 16 mm; USB cable app. 1.1m
Protection type:	IP30
Delivery:	device in plastic housing with USB cable
Available accessories (optional):	connecting cable ZUKA25, 25-pin D-Sub plug ZU25ST, optocoupler/relay cards OR8, R8
Warranty:	2 years from date of purchase at bmcm, claims for damages resulting from improper use excluded

• Software

Software free of charge download:	LIBAD4 SDK for C/C++ programming on Windows-XP/7/8/10, Mac OS X, Unix (FreeBSD, Linux); trial version of the measuring software NextView® to test and operate the hardware
NextView® (optional):	professional software (versions: Professional, Lite) for the acquisition and analysis of measurement data on Windows: 8/10



■ USB-PIO-OEM

Digital I/O Interface (USB)

24 Channels. Digital. Signal Output & Monitoring.

Record and output digital signals. The USB-PIO-OEM features three 8-bit bidirectional ports. The port lines are led through to the module pins.

OEM. Simply Integrate.

The module is an OEM version of the USB-PIO of bmc to equip your device with a modern and powerful USB interface. Special emphasis was put on the easy implementation of both hardware and software components.

Extra Small. Extra Low-Priced.

In size and construction type, the USB-PIO-OEM module looks like a 40-pin DIL IC and can easily be integrated in other devices. Not only the size is extra small but also the price.

Plug & Play.

The connection to the PC is realized via USB. The USB-PIO-OEM provides all typical USB features (e.g. Plug&Play, Hot-Plug). Up to 127 devices can be connected and installed during operation.

Powered by USB.

The device is supplied with power via the USB interface. This reduces cabling efforts to a minimum and makes mobile measurements a lot easier.

Open for Everyone.

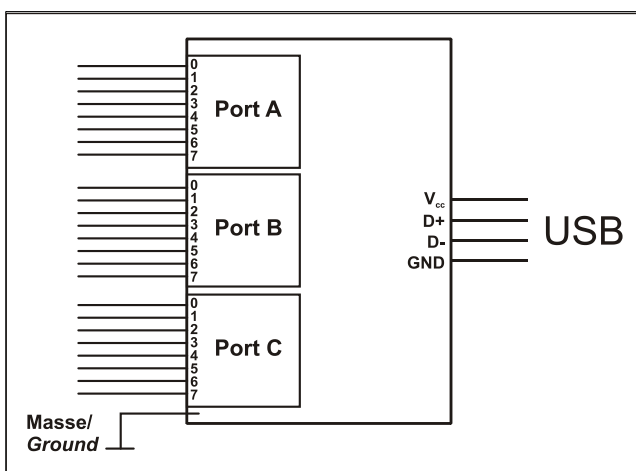
Widely supported: The USB-PIO-OEM can be used under Windows® XP/7/8/10 as well as under MAC OS X, Free BSD, and Linux. The OEM module is 100% software compatible to the USB-PIO. The complete software for installation and programming of the device is included for free.

NextView®. Try for Free.

The module is supported by NextView®, the software for data acquisition and analysis. A fully functional 14-day trial is included with delivery to directly test the functionality of the USB-PIO-OEM.

Accessory. Just Makes it Easier.

For testing purposes or to make your own developments easier, the test tool USB-PIO-OEM-TL is available. It provides standard connectors for the digital lines and the USB bus. In addition, 24 LEDs allow immediate status control of the individual I/O pins.



Function diagram

4 Technical Data

(typical at 20°C, after 5min., +5V supply)

• Digital Inputs/Outputs

Lines:	3x 8 lines (bidirectional, set in groups of 8, port C in groups of 4)
Level:	CMOS/TTL compatible (low: 0V..0.7V; high: 3V..5V)
Current pick-up per output pin:	max. 5mA (with app. 4V-level), max. 20mA in total of all output channels!
Sampling rate:	up to 500 values/second can be sampled (depending on software and PC)
Input resistance:	100k Ω pull-down resistor (PC off: 1k Ω)
Surge protection:	max. $\pm 5.5V$, max. max. $\pm 20mA$ in total of all channels!
USB interface:	USB 2.0 compatible (full-speed)

• General Data

Power supply:	+4.5V..+5.5V from USB connection to the PC, max. 100mA
Connections:	40-pin DIL module, connectors with 2.54mm spacing
Digital connections:	all 24 lines at module pins
CE standards:	Definition and test by the operator!!
ElektroG // ear registration:	RoHS and WEEE compliant // WEEE Reg.-No. DE75472248
Max. permissible potentials:	max. 1kV ESD on open lines
Temperature ranges:	operating temp. 0..70°C, storage temp. -25..+85°C
Relative humidity:	0-90% (not condensing)
Dimensions:	51 x 18 x 10mm ³
Protection type:	IP00
Delivery:	module
Available accessories (optional):	test board USB-PIO-OEM-TL
Warranty:	2 years from date of purchase at bmcm, claims for damages resulting from improper use excluded

• Software

Software free of charge download:	LIBAD4 SDK for C/C++ programming on Windows® XP/7/8/10, Mac OS X, Unix (FreeBSD, Linux); trial version of the measuring software NextView® to test and operate the hardware
NextView® (optional):	professional software (versions: Professional, Lite) for the acquisition and analysis of measurement data on Windows® 8/10