

The IO project

Like described in the [licenses](#) article the version decomposes into the variants **IO_base** and **IO_pro**.

Common features

- Different IP access modes (DHCP, AutoIP etc.), look at [network settings](#)
- Multilingual (German, English, Spanish and Netherlands) webserver for diverse settings.
- Multicast DNS functionality for easy and quick access via the network
- [The serial server \(net socket\)](#) with standard interfaces SPI Master, I2C Master and UART
- Configuring, writing and reading Netzer GPIOs via [web interface](#)
- Automatic refresh of the GPIO page within configurable time
- Support of advanced IO peripherals like ADC, PWM, impulse generator und edge counters (look at [Netzer GPIO](#))

IO_base

- Writing and reading Netzer GPIOs via [GPIO server](#)
- Select the language of the web interface dynamically

IO_pro

- Select the language of the web interface statically - each language has a separate image
- SNTP client with an integrated real time clock
- Configuring, writing and reading of the Netzer GPIOs via [command interface](#) with the connected channels:
 - [WebSocket](#)
 - [CGI](#)
 - [command server](#)
- [process module](#) for processing ladder logic with a minimum cycle time of 1 millisecond
- Extending the [serial server](#) with a I2C monitor
- All pins can be accessed via a new [SPI-Master](#) protocol. This new feature can also be used to adress more than one slave.
- [UART](#) interface has new features like parity and and handshake signals
- Extending the [serial server](#) with TCP Client functionality and DNS resolver

The factory settings

- All Netzer GPIOs are configured as digital inputs.
- The [GPIO server](#) resp. [command server](#) is listening at port 65000.
- Authentification at [command server](#) is enabled
- Automatic reloading of the GPIO web page is disabled
- The [serial server](#) is configured for port 64000.
- The serial mode is deactivated.

- UART is configured for 19200 Baud, no parity, no handshake.
- SPI is configured for 10,4 MHz, mode 0, sample at the middle.
- I2C is configured for 100 kHz

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