DIP SWITCH

SWITCH 1 + 2: external power supply and voltage level

 	**1 = ON / OFF, 2 = OFF (external voltage off)** There is no voltage at PIN 2 of the 6-pin and 10-pin programming terminal. The supply of the connected microcontroller must be done via an external power supply. Please make sure to apply the external voltage to PIN2! The level of the external voltage determines the level on the programming lines!
	**1 = OFF (3.3V), 2 = ON (external voltage on)** Height of voltage on the data lines and external = 3.3 volts An external circuit or controller can be powered by the AVR-ISP.
	**1 = ON (5V), 2 = ON (external voltage on)** Height of voltage on the data lines and external = 5 volts An external circuit or controller can be powered by the AVR-ISP.

Note:

• The level of the external voltage at 5 Volt setting depends on the voltage at the USB socket.
• The maximum load on the programming port is 500mA at 5 volts and 100mA at 3.3 volts. If a larger current is required, please supply the connected circuit with external power and DIP switch 2 in position OFF.
• When DIP switch 2 is in the ON position, do not apply any external voltage to the programming connector.
• When DIP switch 2 is in the OFF position, the external voltage must be applied to the programming connector (PIN2) to set the level of signal levels on the programming leads.

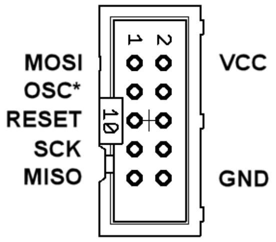
• If PIN2 of the 6-pin or 10-pin programming terminal is not connected, switch 2 must be set to ON.

LEDS

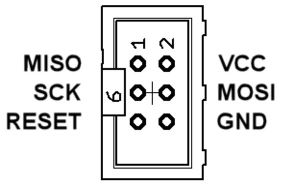
LED green	Lights if there is a USB connection to the PC.
LED red	Flickering when programming AVR controllers.

Connection of an AVR controller

Connect the programming port lines on the ERFOS-AVR-ISP directly to the pins on the controller:



10-pol. Pin header	6-pol. Pin header	AVR-Controller
PIN1 (MOSI)	PIN4 (MOSI)	MOSI oder PDI
PIN5 (RESET)	PIN5 (RESET)	RESET
PIN7 (SCK)	PIN3 (SCK)	SCK
PIN9 (MISO)	PIN1 (MISO)	MISO oder PDO
Optional: PIN3 (OSC)		XTAL1 (XTALIN)



The pin numbers of AVR controllers vary depending on the type and body shape. Please take a look at the datasheet to find the right pin numbers for your controller.

NOTES, TIPS!

• Some AVR controllers (e.g., AT90CAN32 / 64/128, ATMega64 / 128) have special programming pins PDI, PDO. Please use these cables instead of MISO / MOSI (see data sheet).
• ERFOS-AVR-ISP supports adaptive SPI bit rate adjustment. Setting the SPI bit rate too high will usually result in the connected AVR controller not being detected. The rule states that the SPI bit rate must be four times the clock speed of the controller. If a connection cannot be established at the set bit rate, AVR-ISP will automatically switch to lower bit rates until the controller responds.
• If the connected AVR controller still does not want to respond, first check the line connections. MISO to MISO and MOSI to MOSI, this is often reversed. Does the connected microcontroller have a power supply? Maybe the AVR controller lacks the system clock because the fuses are set to external clock. In this case, a crystal can be connected to the XTAL pins of the controller for clock generation or the clock signal from PIN3 (OSC) of the 10-pin header can be connected to XTALIN or XTAL1 (see data sheet of the controller). The clock frequency can be set with ATMEL-Studio via the function "Board-Setting - Clock Generator".
• ERFOS-AVR-ISP does not support ATXMega controller with PDI interface and ATTiny controller with TPI interface.

Note

Disclaimer

The manufacturer accepts no liability for damage that could be caused by using the ERFOS-AVR-ISP.

LINKS

LED-Genial Online-Shop
http://www.led-genial.de

Diamex Online-Shop
http://www.diamex.de

AVR/ATMEL-Studio Download
http://www.mikrocontroller.net/articles/Atmel_Studio

Distribution

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