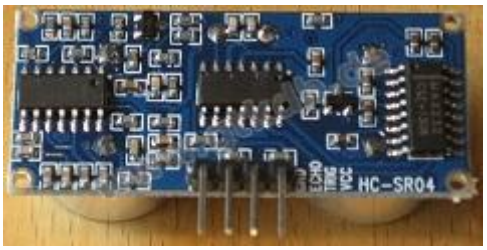
Detecting the distance to an object with an ultransonic sensor

With the capture capability of Netzer a simple ultrasonic sensor like the HC-SR04 module can be used.

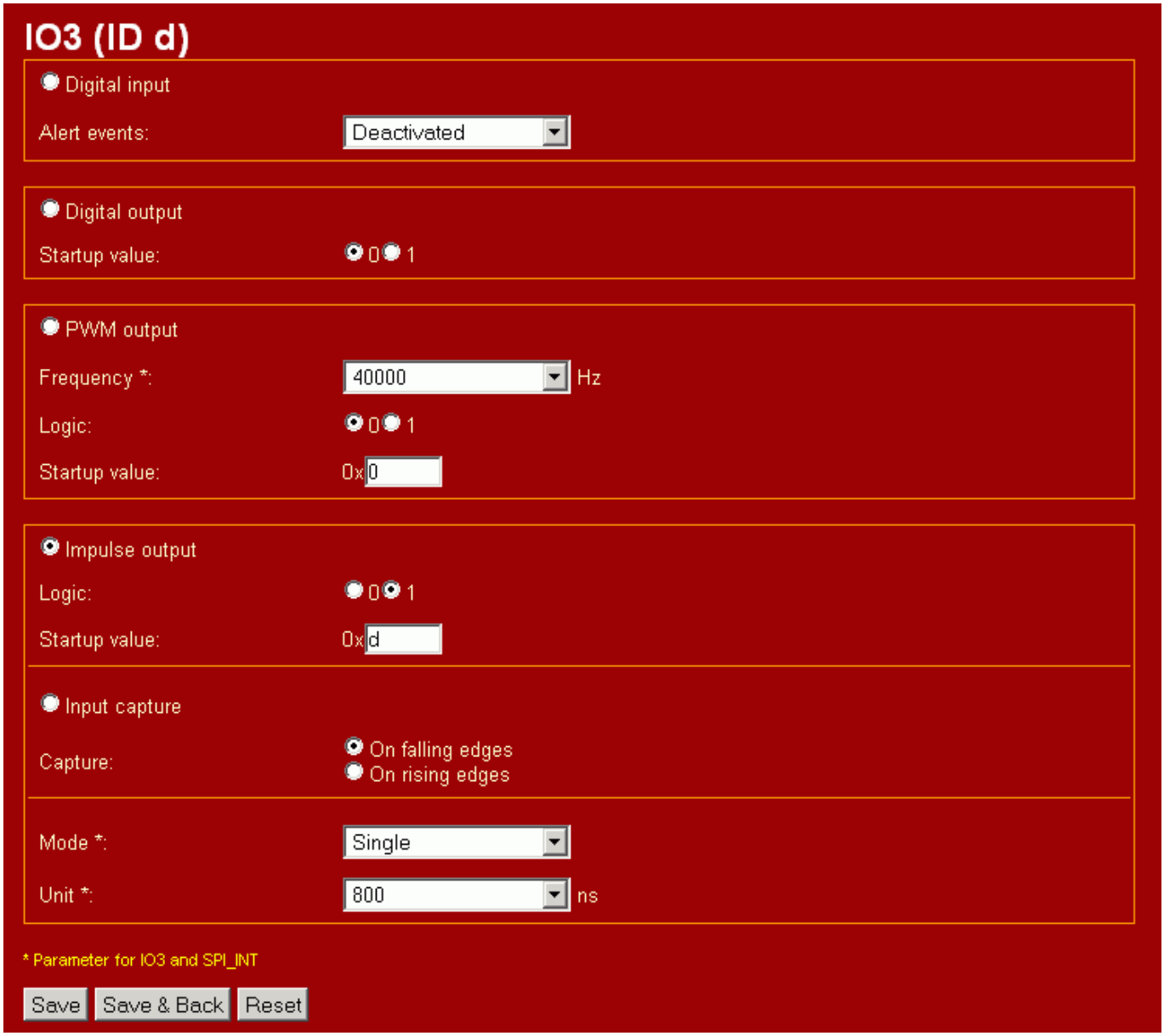


For that reason the sensor shall be connected like:

Sensor signal	Netzer signal	Further descriptions
VCC	-	Connect the sensor to +5V
GND	GND	Ground signal
TRIG (I)	IO3	The trigger signal
ECHO (O)	IO0, SPI_INT	The echo signal. Due to the Netzer pins are +5V tolerant, no voltage divider is needed!

IO3

IO3 is used for generating the trigger signal. Datasheet of the sensor stats that at least 10 µs pulse must be generated to start the measurement.



The image shows how to configure IO3.

Depending on the configured unit the following value must be written to IO3 to get the 10 µs impulse:

Unit	Value
100ns	100 (0x64)
200ns	50 (0x32)
400ns	25 (0x19)
800ns	13 (0x0D)

The easiest way is to configure the impulse as startup value like shown in image above.