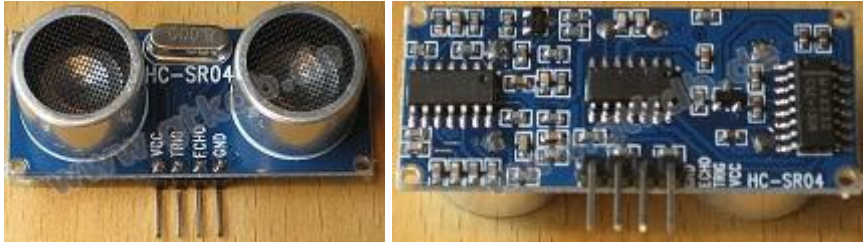


# Detecting the distance to an object with an ultrasonic sensor

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  $\mu$ s pulse must be generated to start the measurement.

### IO3 (ID d)

Digital input  
Alert events:

Digital output  
Startup value:  0  1

PWM output  
Frequency <sup>\*</sup>:  Hz  
Logic:  0  1  
Startup value:

Impulse output  
Logic:  0  1  
Startup value:

Input capture  
Capture:  On falling edges  On rising edges

Mode <sup>\*</sup>:   
Unit <sup>\*</sup>:  ns

\* Parameter for IO3 and SPI\_INT

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)

From: <https://www.mobacon.de/dokuwiki/> - MoBaCon

Permanent link: <https://www.mobacon.de/dokuwiki/doku.php?id=en:netzer:hc-sr04&rev=1408287958>

Last update: 2025/06/11 20:42

