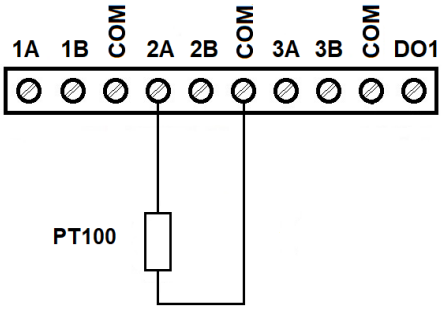
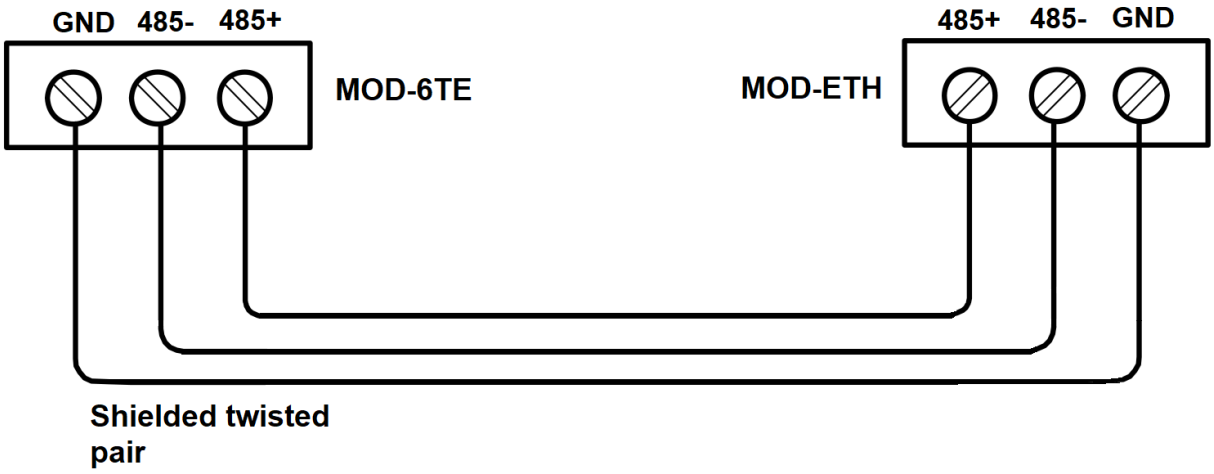
Example how to connect MOD-ETH with MOD-6TE and read registers by Modbus TCP

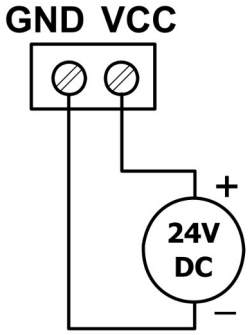
1 Connect temperature sensors to channel 2 of the MOD-6TE module. In this example it will be PT100 2-wire.



2 Connect MOD-6TE and MOD-ETH using RS485:



3 Connect power supply to MOD-6TE and MOD-ETH.

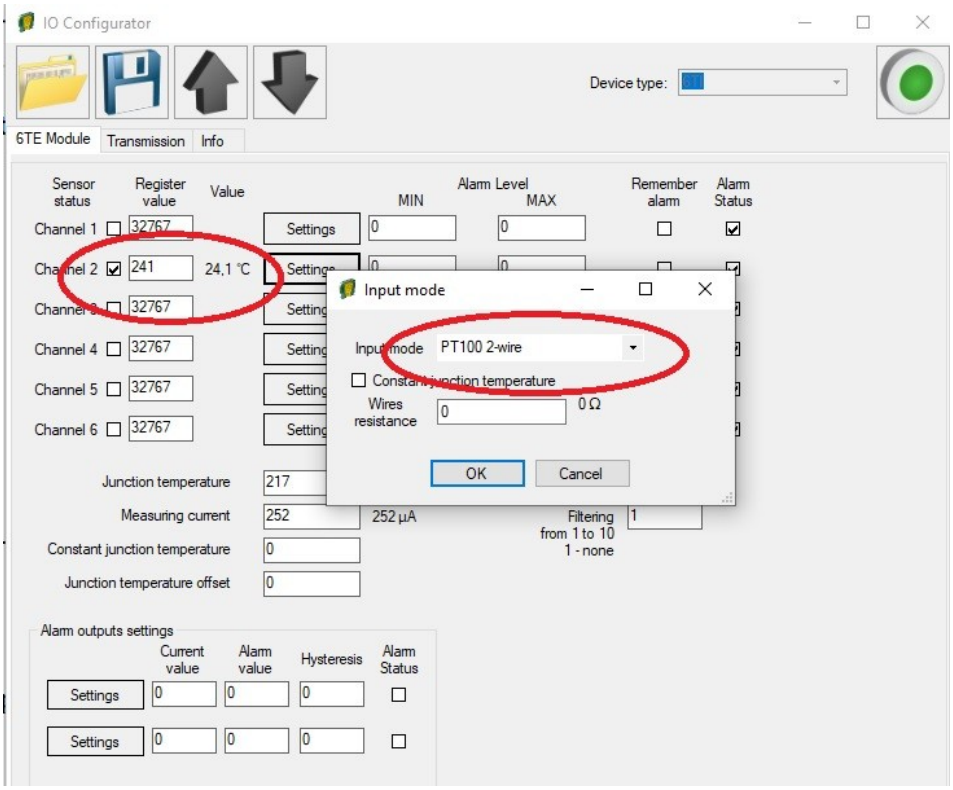


4 Open IO Configurator

Link to download:

https://www.aspar.com.pl/katalogi/IOMODULES/KONFIGURATOR/software/Konfigurator_IO.zip

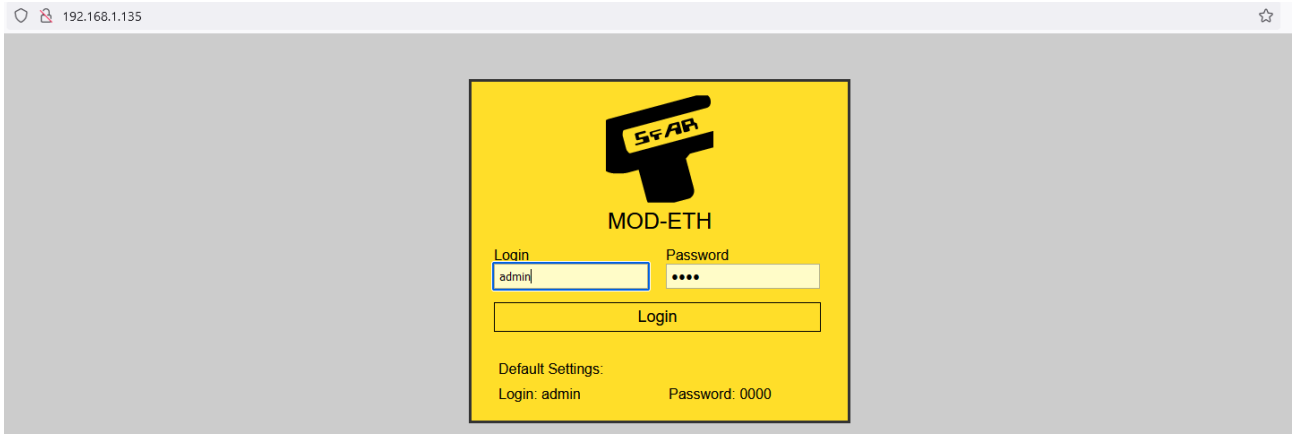
5 Connect MOD-6TE with IO Configurator via USB cable and set type of temperature sensor and read the temperature channel 2 – **24,1°C** (register value **241**)



6 Set communication parameters in MOD-6TE and MOD-ETH in IO Configurator - (TRANSMISSION):

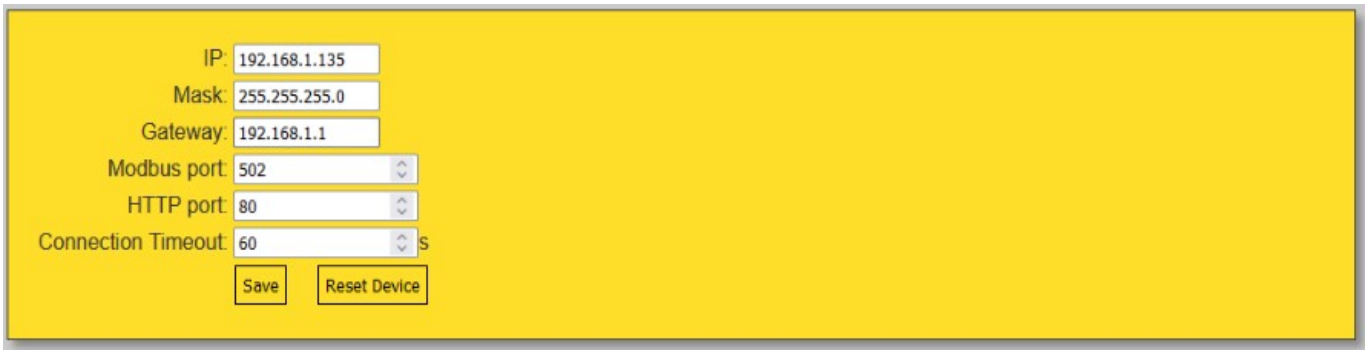
MOD-ETH	**MOD-6TE**
Baud rate: 19200 Parity: NONE Data bits: 8 Stop bits: 1 Response delay: 0 Modbus Type: RTU	Address: 2 Baud rate: 19200 Parity: NONE Data bits: 8 Stop bits: 1 Response delay: 0 Modbus Type: RTU

7 Connect MOD-ETH to your PC using Ethernet cable and open using web browser MOD-ETH: 192.168.1.135 (login: admin, password: 0000).



8 Set:

8.1 NETWORK



8.2 MODBUS CONFIG (**GATEWAY MODE**)

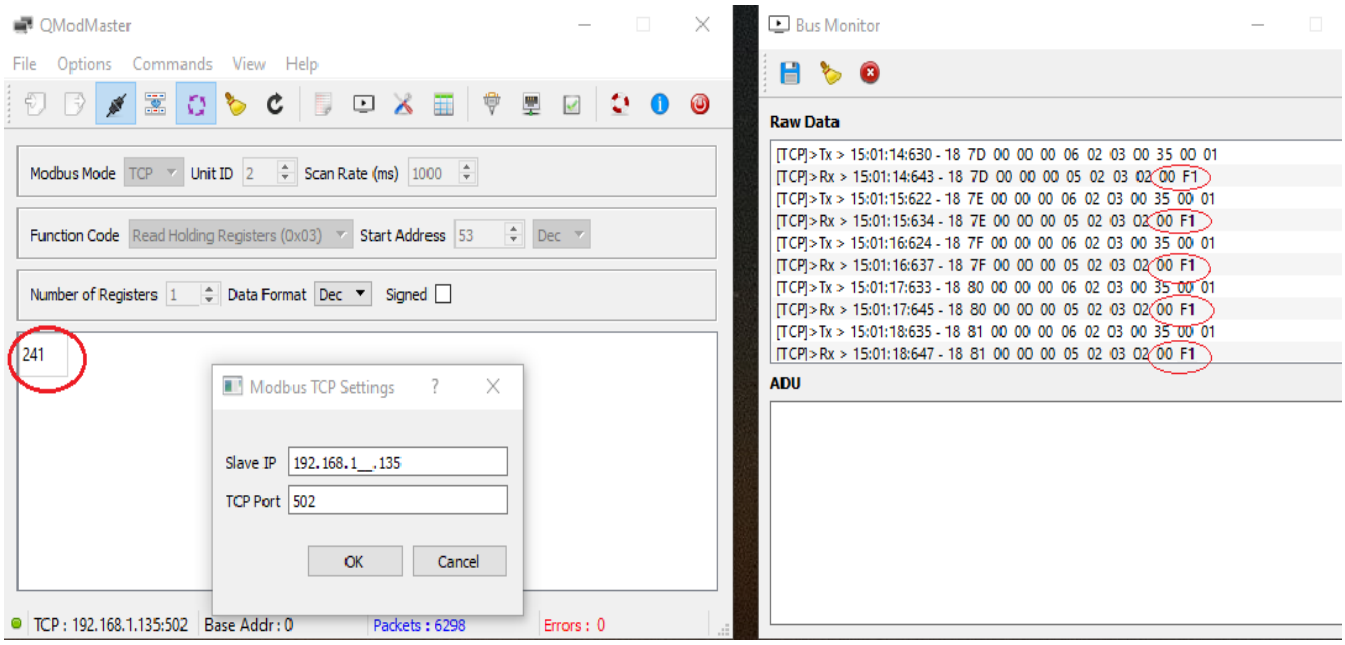
The MOD-ETH module has two different working modes. The first is the Modbus TCP **GATEWAY**, in which the device converts the frames of Modbus TCP into Modbus RTU/ASCII and sends them to the RS485 network's devices.

The second mode is the **Device Table** function, in which the module reads the RS485 network's devices only using the earlier-defined requests and ignores the requests addressed to other devices in the Modbus TCP network. The communication with external modules is only possible through the internal registers of the module in the range of addresses from 1000 to 1099.

9 Read channel 2 of MOD-6TE (**GATEWAY MODE**) using Modbus Master Device.

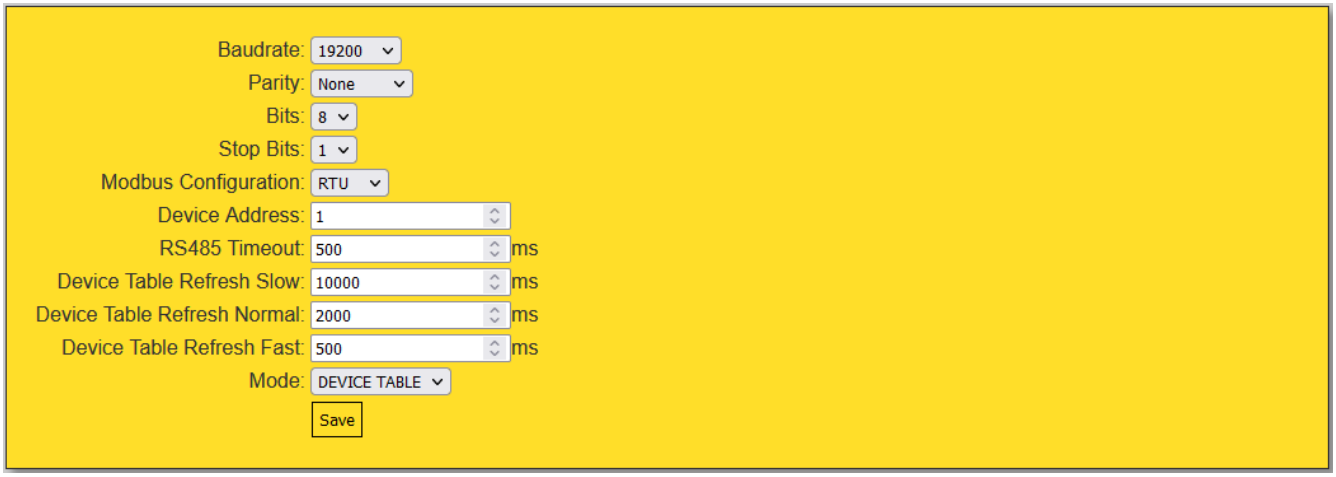
In this case Modbus Master Device is software – **QModMaster**.

Below the window with Modbus TCP settings – Master Device. You have to use: address of MOD-6TE: 2, READ HOLDING REGISTER - function 3, and start address: 53 (Channel 2 in MOD-6TE)

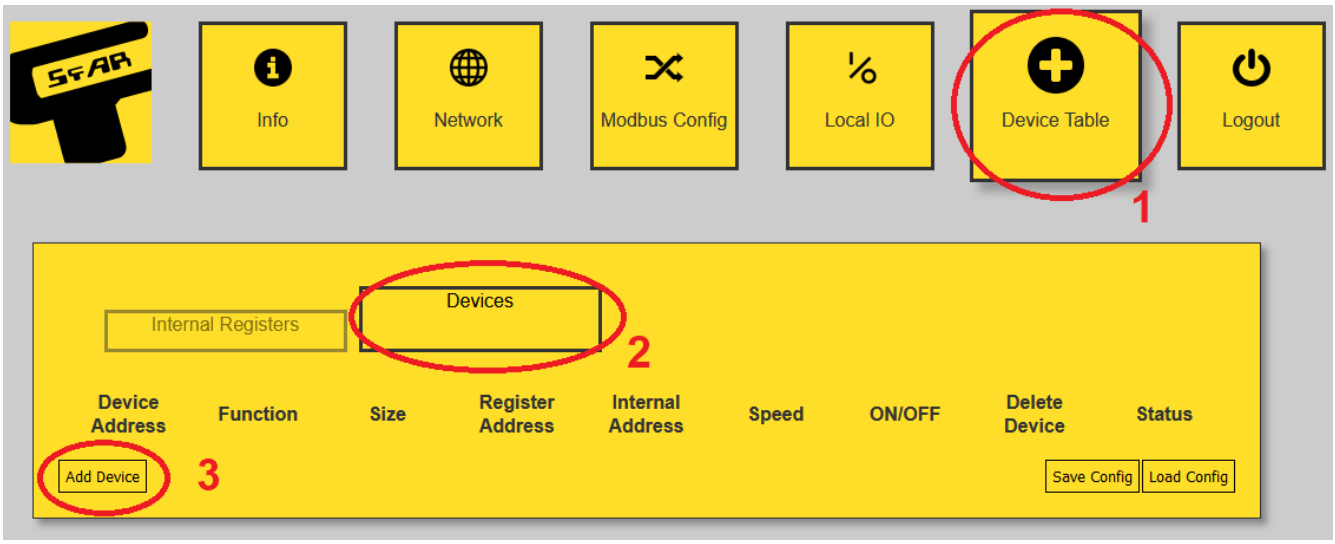


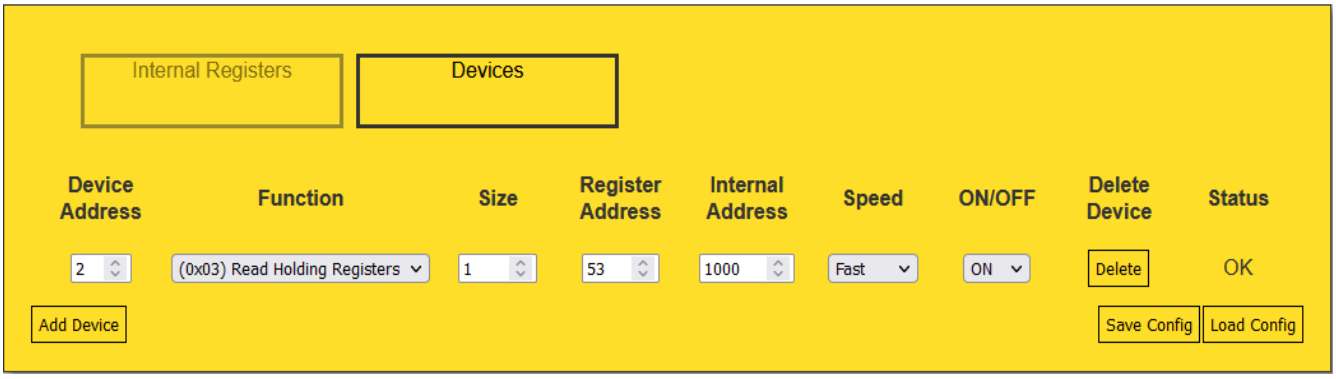
There is only one temp. sensor.
00 F1 (hex) **241 - 24,1 °C** - this is temperature No 2 from MOD-6TE.

10 MODBUS CONFIG (**DEVICE TABLE MODE**)



10.1 Add new devices (**DEVICE TABLE MODE**)





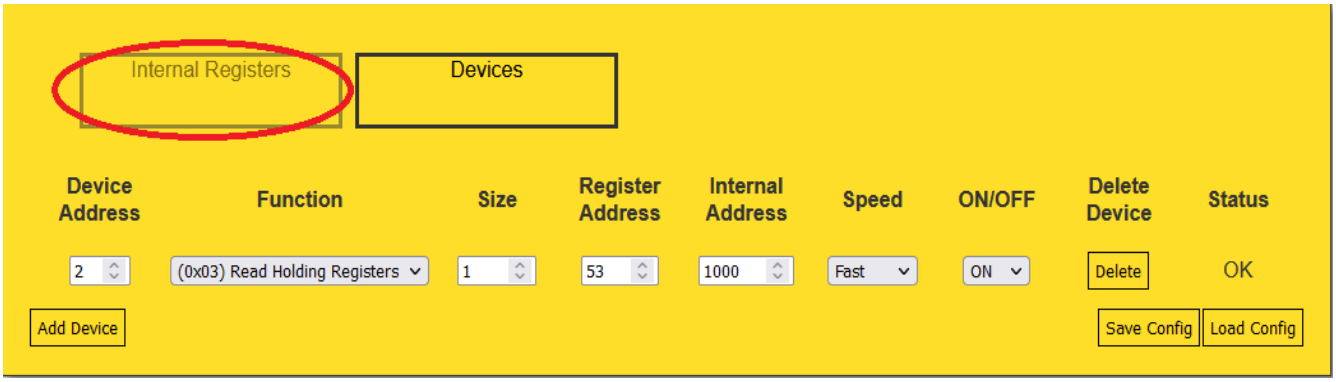
53 (dec) – channel 2 temperature in MOD-6TE

The max amount of new devices is 25.

The communication with external modules is only possible through the internal registers of the module in the range of addresses from **1000 to 1099**.

11 Read channel 2 of MOD-6TE (**DEVICE TABLE MODE**) using Modbus Master Device.

11.1 Open the table of internal registers.

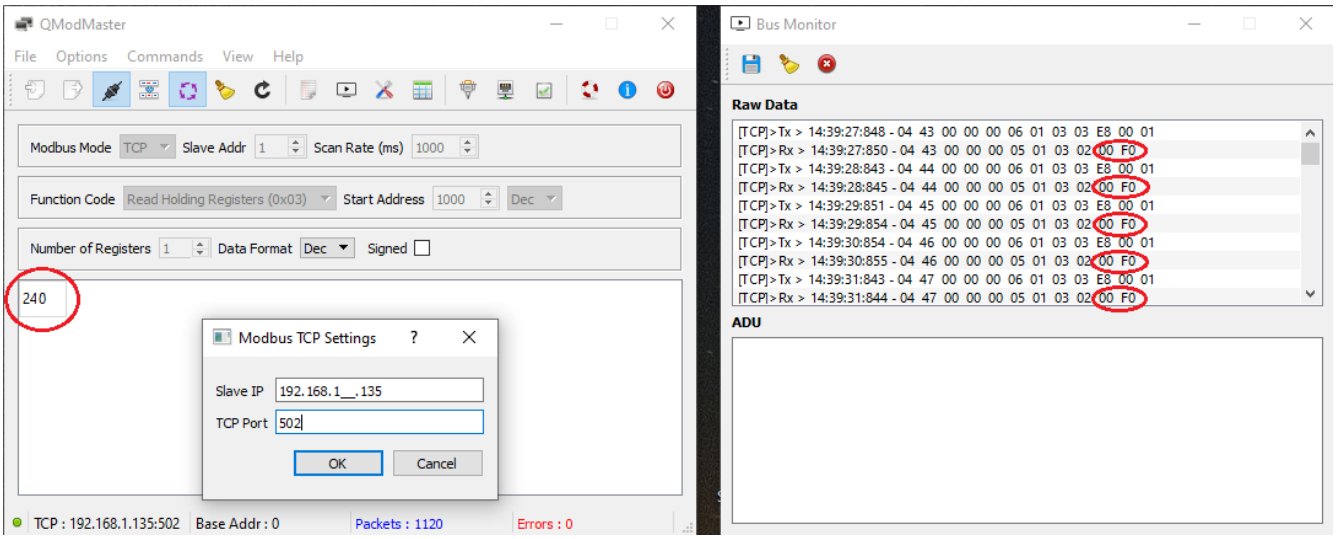


The read temperature value is located in the internal register 1000 - **240 - 24,0 °C.**

12 Read internal register **1000** using Modbus Master Device.

In this case Modbus Master Device is software – **QModMaster**.

Below the window with Modbus TCP settings – Master Device. You have to use: address of MOD-ETH: 1, READ HOLDING REGISTER - function 3, and start address: 1000 (internal register in MOD-ETH)



00 F0 (hex) **240 - 24,0 °C** - this is temperature No 2 from MOD-6TE.