WIRELESS SENSORS TECHNOLOGY

THM502-I

RTD AND OHM MODBUS TEMPERATURE HEAD TRANSMITTER

INSTALLATION GUIDE

IG_INHD_THM502-I_E02B

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RTD AND OHM MODBUS TEMPERATURE HEAD TRANSMITTER THM502-I

INSTALLATION GUIDE

Table of contents

step

01

CONNECT AND CONFIGURE THM502-I TEMPERATURE HEAD TRANSMITTER

step
01 CONNECT AND CONFIGURE THM502-I TEMPERATURE HEAD TRANSMITTER

DOWNLOAD AND INSTALL *"TEKON CONFIGURATOR"* FREE SOFTWARE FROM TEKON ELECTRONICS WEBSITE

01

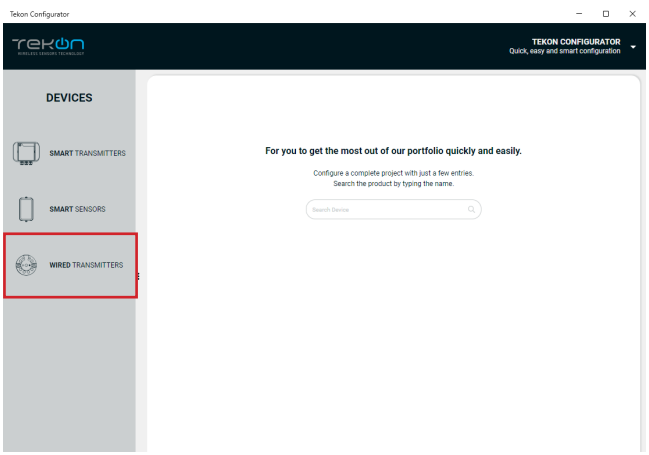
Open Tekon Configurator software.

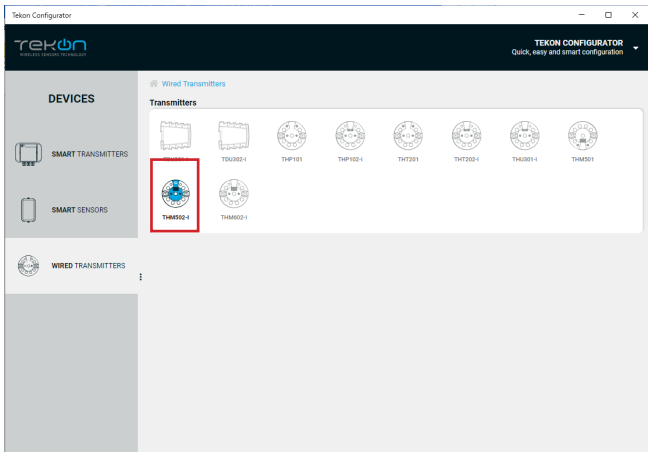
02

Open the THM502-I device page.

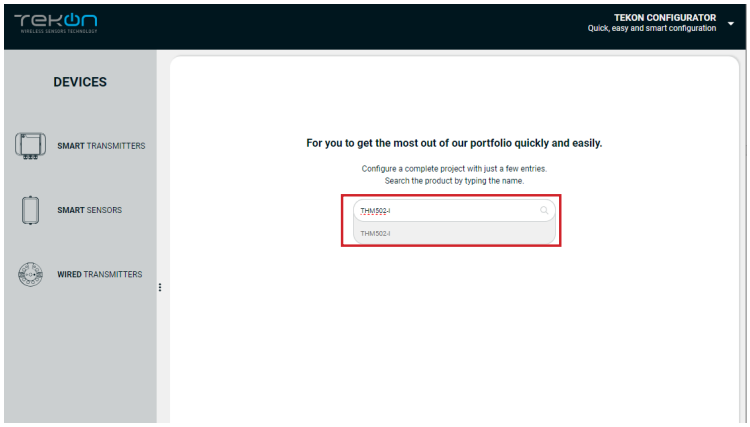
You can enter the device's page in the following ways:

1st option: Click on *"WIRED TRANSMITTERS"* in the left menu and then click on the device.





2nd option: Type the name of the device in the *"Search Device"* field on the home page and select.



step
01
CONNECT AND CONFIGURE THM502-I TEMPERATURE HEAD TRANSMITTER

03

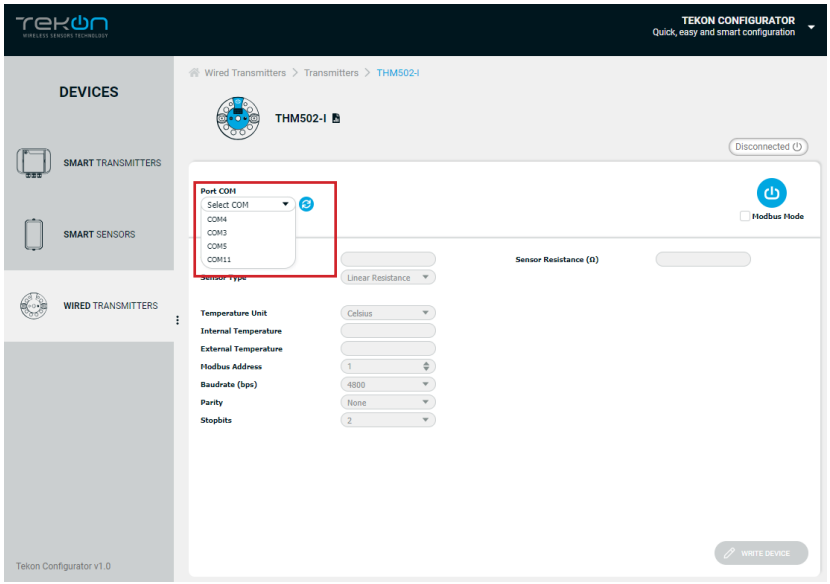
Make sure that the equipment is connected to the power supplier.

04

Make sure that the equipment is connected with the computer through a RS485 TO USB CONVERTER CABLE or similar equipment.

05

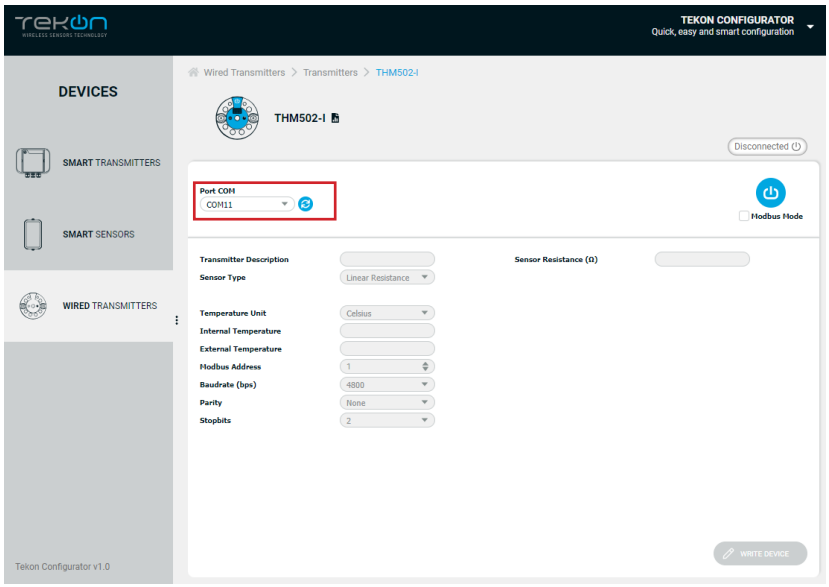
Load the "Port COM" corresponding to the THM502-I.



NOTE:
If the USB cable has already been connected before opening the device page, "Port COM" will appear in the list, otherwise you need to click on the "⟳" button.

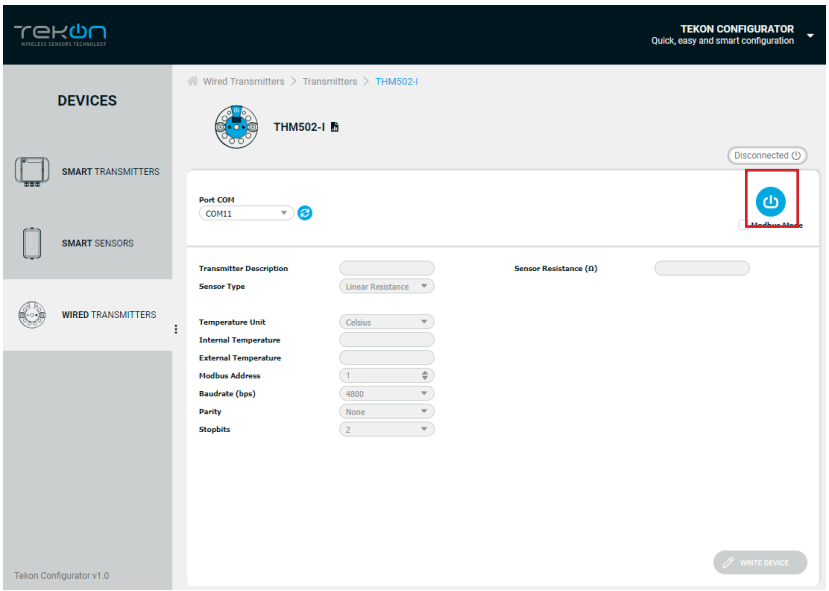
step
01 CONNECT AND CONFIGURE THM502-I TEMPERATURE HEAD TRANSMITTER

06 Select corresponding *Port COM*[2].



NOTE:
The serial port depends on the operating system.

07 Click on *Connect* (⏻) button to enter in configuration mode.



You can set the configuration mode by two different actions:

1) Perform a power cycle, disconnecting the power plug and connecting again. You have a 5 seconds window to enter in configuration mode.

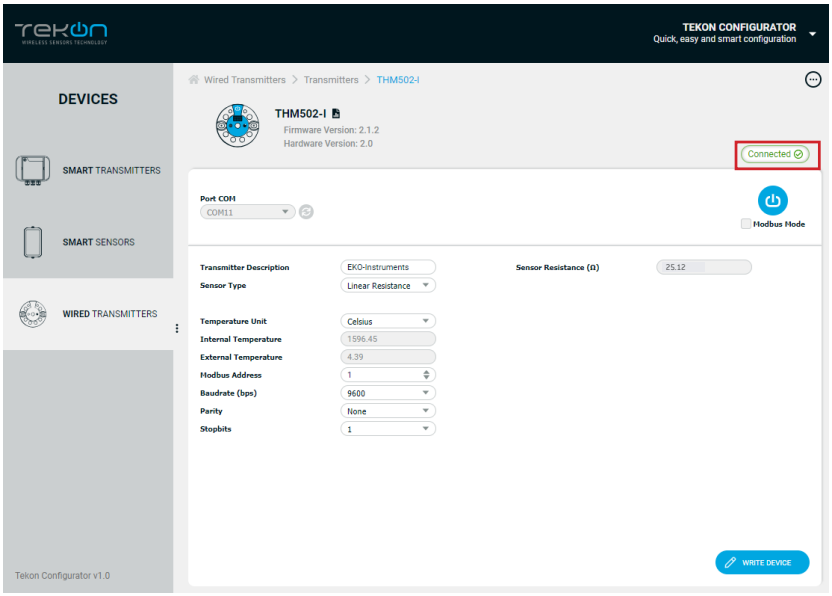
2) Press the transmitter button during five seconds to enter in configuration mode

[2] You can check device's serial port name in "Device Manager" on Microsoft ® Windows® operating system.

step
01 CONNECT AND CONFIGURE THM502-I TEMPERATURE HEAD TRANSMITTER

08

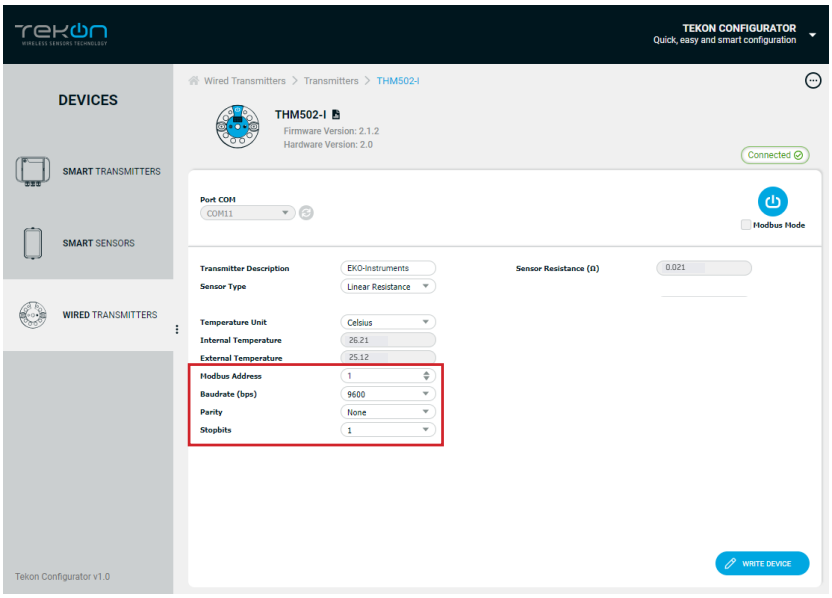
When the software connects to the device, the "*Connected*" message will be displayed.



NOTE:
If the software is unable to connect to the device, the Connection Failed status is displayed. If it hasn't connected, go back to the previous steps and check the port COM.

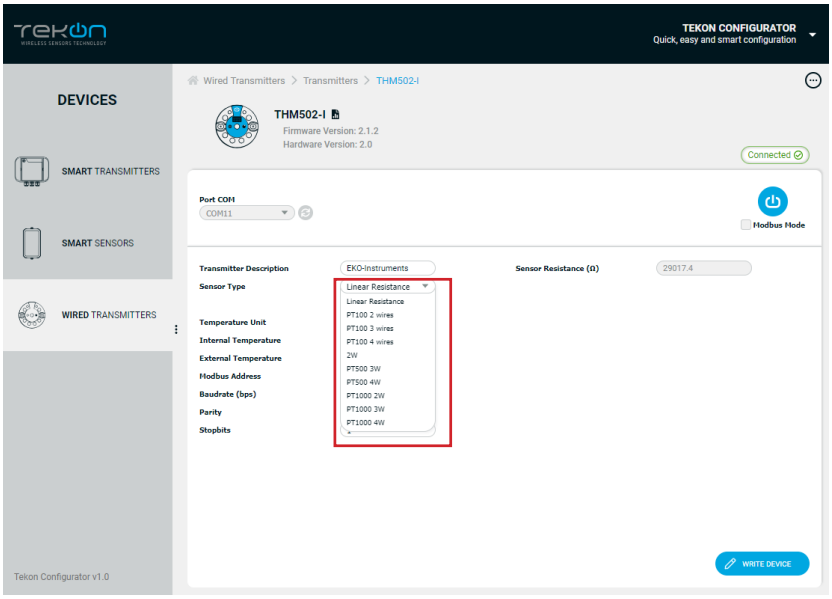
09

Set Modbus Address, Baudrate (bps), Parity and Stopbits.

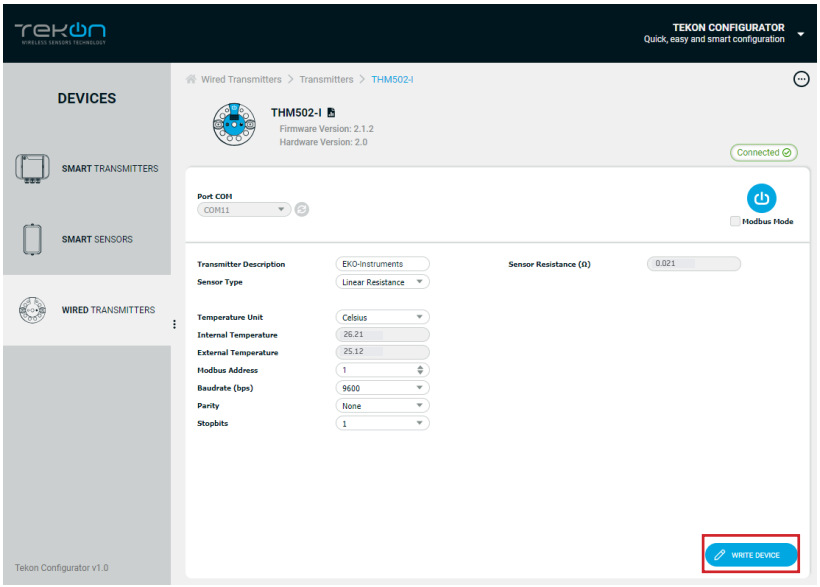


step
01 CONNECT AND CONFIGURE THM502-I TEMPERATURE HEAD TRANSMITTER

10 To change Sensor Type, click on select list and select the sensor.



11 To validate the changes in configuration mode, click on "WRITE DEVICE" button.



While the settings are being written, the following icon will be displayed next to the "*WRITE DEVICE*" button ( )

If the changes to the device have been written, the following symbol will appear ( )

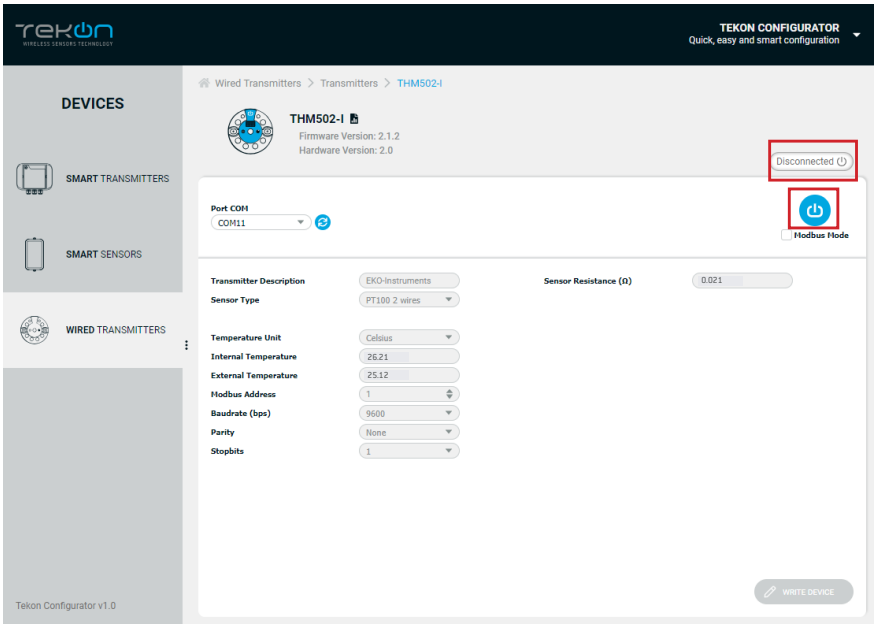
If not, the following symbol will appear ( ),try again and check that the device is connected correctly.

NOTE:
The "WRITE DEVICE" button will only be active when there is a change to one of the editable fields, if there is no change it will be disabled.

step
01 CONNECT AND CONFIGURE THM502-I TEMPERATURE HEAD TRANSMITTER

12

Click on the button (⏻) to exit *configuration mode* and return the device to normal operating mode.

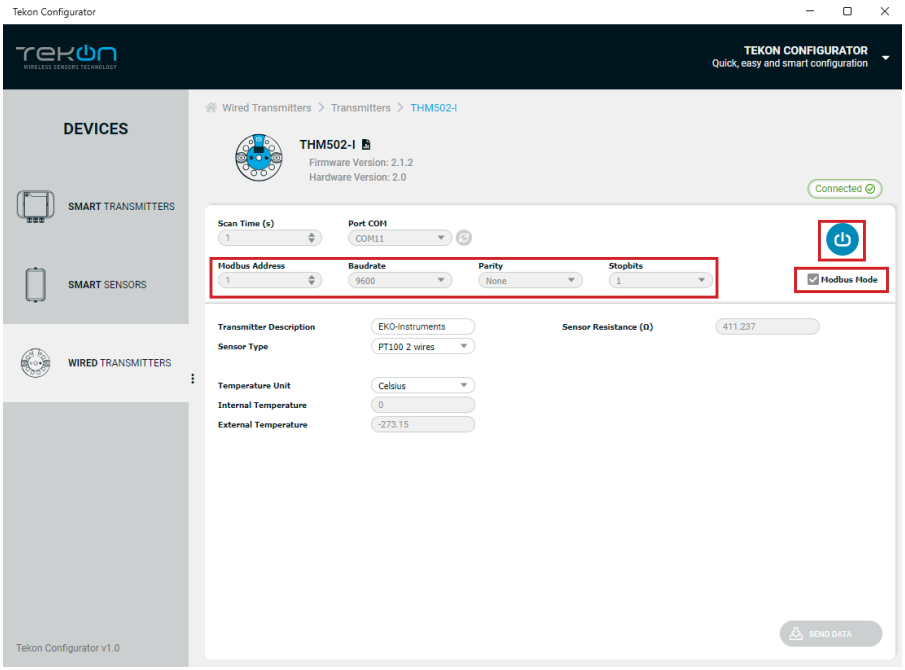


step
01
CONNECT AND CONFIGURE THM502-I TEMPERATURE HEAD TRANSMITTER

13

Modbus Communication

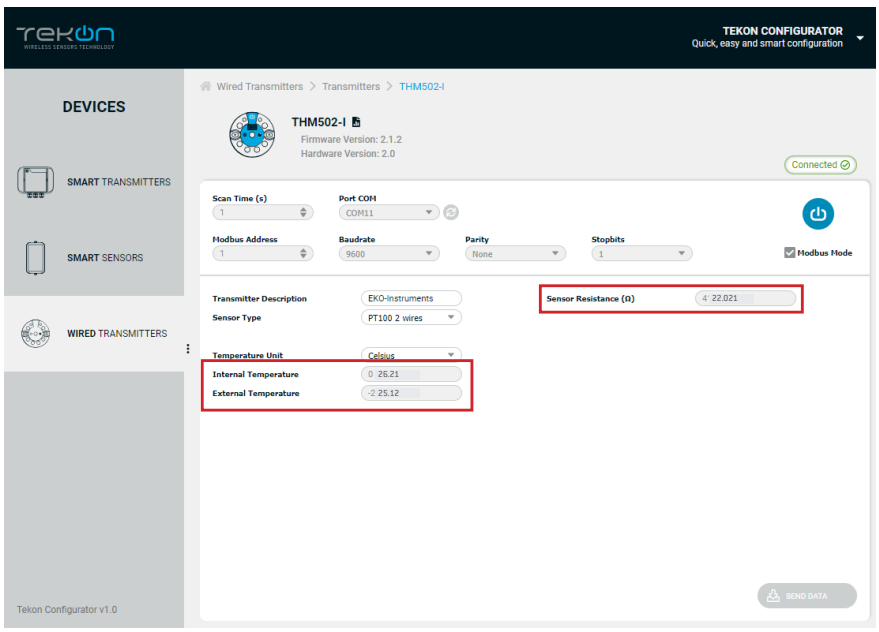
Check "Modbus Mode" and update Modbus Address, Baudrate, Parity, Stopbits and click on ⏻.



14

External temperature value is a 32-bit format and is available in register 23. Resistance value is a 32-bit format and is available in register 52.

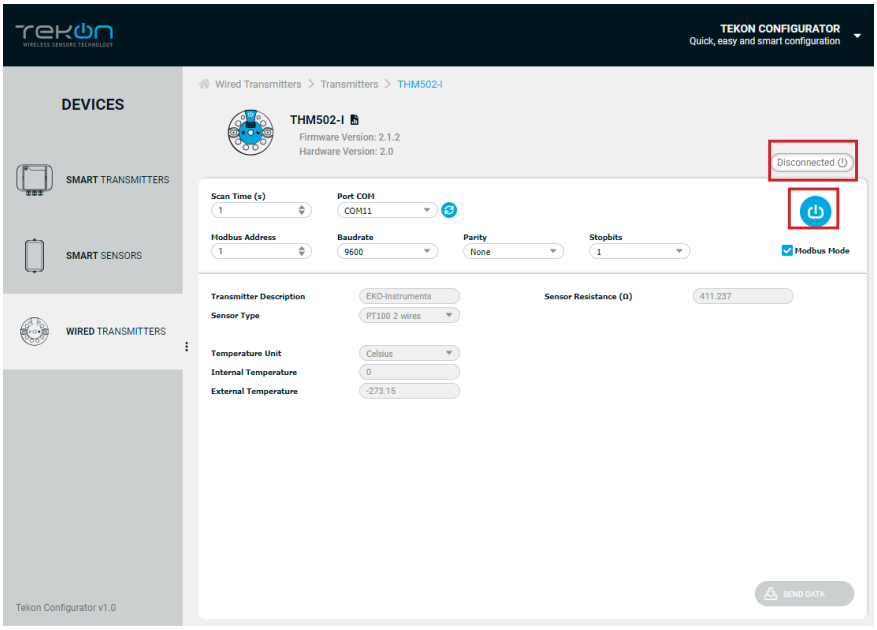
Both registers can be accessed through Read Holding Registers function (FC = 03).
Temperature and Resistance values are in Double32 CD AB type format.



step
01 CONNECT AND CONFIGURE THM502-I TEMPERATURE HEAD TRANSMITTER

15

Click on the button ( ) to exit *Modbus mode* and return the device to normal operating mode.



step

02

MODBUS MAP

step 02 MODBUS MAP

MODBUS TABLE (HOLDING REGISTERS)			
Description	Address	Type	Values
Sensor status	13	UINT16	1 - Reading OK 2 - Open circuit 3 - Short circuit 6 - Internal temperature below the minimum allowed limit 7 - Internal temperature above the minimum allowed limit
Acquisition mode configuration	15	UINT16	1 - Linear resistance 3 - PT100 2W 4 - PT100 3W 5 - PT100 4W 13 - PT500 2W 14 - PT500 3W 15 - PT500 4W 16 - PT1000 2W 17 - PT1000 3W 18 - PT1000 4W
Internal temperature (simple resolution)	16	INT16	Temperature value from the internal sensor multipled by 10
External temperature (simple resolution)	17	INT16	Temperature value from the internal sensor multipled by 10
Temperature format configuration	18	UINT16	1 - °C 2 - °F 3 - K
Internal temperature (full resolution)	21	FLOAT32	Formato: CD AB (little endian byte swap)
External temperature (full resolution)	23	FLOAT32	Formato: CD AB (little endian byte swap)
Modbus slave address	42	UINT16	
Modbus baudrate	43	FLOAT32	Formato: CD AB (little endian byte swap)
Modbus parity	45	UINT16	
Sensor resistance measured	52	FLOAT32	Formato: CD AB (little endian byte swap)
Device model	54	UINT16	69 - THM502-I
FW version: Major | Minor	56	UINT16	
FW revision	57	UINT16	
HW version: Major | Minor	58	UINT16	
System state	59	UINT16	1 - Normal running 2 - Configuration 3 - Tekon user configuration 5 - Load default settings 255 - Deadlock
Modbus stop bits	64	UINT16	

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