

# THM602-I

THERMOCOUPLE AND MV MODBUS TEMPERATURE HEAD TRANSMITTER



### **INSTALLATION GUIDE**

IG\_INHD\_THM602-I\_E02B

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# THERMOCOUPLE AND MV MODBUS TEMPERATURE HEAD TRANSMITTER THM602-I

## **INSTALLATION GUIDE**

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CONNECT AND CONFIGURE THM602-I TEMPERATURE HEAD TRANSMITTER

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



#### Open the THM602-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 THM602-I device.

Tekon Configurator	- D ×	Tekon Co	onfigurator								- 0 ×
	TEKON CONFIGURATOR Quick, easy and smart configuration	TC								TEKC Quick, easy a	N CONFIGURATOR
DEVICES			DEVICES	Wired Transr Transmitters	mitters						
SMART TRANSMITTERS     For you to get the mo	bst out of our portfolio quickly and easily.		SMART TRANSMITTERS	TDU201-1	TDU002-1	THP101	THP102-1	**** **** THT201	THT2021	THUSOTH	THMS01
Configue a Search	complete project with just a few entries. In the product by typing the name.	¢	SMART SENSORS	THM502-1	THM602-1						
WIRED TRANSMITTERS		0	WIRED TRANSMITTERS	1							

02

<sup>&</sup>lt;sup>1</sup>Tekon Configurator software is free of charge and available at <u>www.tekonelectronics.com</u>





# **O1** CONNECT AND CONFIGURE THM602-I TEMPERATURE HEAD TRANSMITTER

		1
	2nd option: Type the name of the de	evice in the <i>"Search Device"</i> field on the home page and select.
	Tekon Configurator	- 0 ×
		TEKON CONFIGURATOR Quick, easy and smart configuration
	DEVICES	
	(F=1)	For you to get the most out of our portfolio guickly and easily
	SMART TRANSMITTERS	Configure a complete project with just a few entries. Search the product by typing the name.
	SMART SENSORS	
	Tekon Configurator v2.0.0	
03	Make cure that the equipment is so	practed to
	the power supplier.	
		~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~
04	Make cure that the equipment is as	nnected
	with the computer through a RS485	5 TO USB
	CONVERTER CABLE or similar equipr	ment.
		9 <u>9.3</u> 9



step

#### CONNECT AND CONFIGURE THM602-I TEMPERATURE HEAD TRANSMITTER

05	Load the	"Port COM" co	orresponding to the THM6002-I	
		DEVICES         Image: Strate	Wired Transmitters > Transmitters > THM6024         Wired Transmitters > THM6024         Disconnected ?         Disconnected ?         Prescost         Sensor Type         Transmitter Description         Sensor Voltage (mV)         Transmitters 1 maperature         Interval Transmitters 2         Prescostion         Sensor Voltage (mV)         Transmitter Description         Sensor Voltage (mV)         Sensor Voltage (mV)         Pentry         Sensor Voltage (mV)         Pentry         Sensor Voltage (mV)         Pentry         Sensor Voltage (mV)	
		Tekon Configurator v2.0.0	@ wett conce	
	NOTE: If the USB ca otherwise y	able has already ou need to click o	been connected before opening the device page, "Port COM" will appe on the " 🥝 " button.	ar in the list,
06	Select corres	sponding <i>Port nar</i>	me².	
		DEVICES         Image: State of the sta		

**NOTE:** The serial port depends on the operating system.

<sup>2</sup> You can check device's serial port name in "Device Manager" on Microsoft <sup>®</sup> Windows<sup>®</sup> operating system.



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#### CONNECT AND CONFIGURE THM602-I TEMPERATURE HEAD TRANSMITTER

7 Click	on <i>Connect</i> ( 🕲 ) button.	
Tekon Configurator		×
DEVICES	Wired Transmitters > Transmitters > THM6024	Vou can set the configuration mode by two diffent actions:
SMART TRANSMIT	ERS Part CON COM9 © Gommer Sensor Voltage (mir)	1) Perform a power cycle, disconnecting the power plug and connecting again. You have
WIRED TRANSMITTI	RS Temperature Unit Cedua  Temperature Unit Cedua  Hothun Address 1 0	a 5 seconds window to enter in configuration mode.
	Baudote (bp) (1000 *) Party ( <u>Hone</u> *) Rophts 2 *	2) Press the transmitter button dur ing five seconds to enter in configu tion mode
Tekon Configurator v2.0.0		I write device

08

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



#### NOTE:

If you do not connect any sensor to the transmitter, the temperature value will be 65535.00° C.

#### NOTE:

If the software is unable to connect to the device, the <u>Connector Failed</u> status is displayed. If it hasn't connected, go back to the previous steps and check the port COM.



step <b>01</b>	CONNECT AND CONFIC	GURE THM602-I TEMPERATURE HEAD TRANSMITTER
09	External temperature value and is available in register 1 Both registers can be acces Temperature and Milivolts va	is a 32-bit format and is available in register 23. Milivolts value is a 32-bit format 9. sed through Read Holding Registers function (FC = 03). alues are in Double32 CD AB type format.
		TEKON CONFIGURATOR Quice, easy and smart configuration
	DEVICES	Wired Transmitters > Transmitters > THM602-1  THM602-1  THM602-1  Firmwere Version: 1.0  Hardware Version: 1.2  Connected @
	SMART TRANSMITTERS	Port COH COHS V (3) Mindus Hode
	SMART SENSORS	Transmitter Description         teste 5         Sensor Voltage (mV)         0.021           Sensor Type         Unest Voltage         *         *         *
	WIRED TRANSMITTERS	Temperature Unit     Celsius       Internal Temperature     26.21       External Temperature     25.12
		Hodbus Address     1     \$       Baudrate (bps)     3600     *       Parity     None     *       Stophets     2     *

10	Set Modbus	Address, Baudra	te (bps), Parity and Stopbits.	
	Set Modbus	Address, Baudra	te (DDS), Party and Scoppits.	



step

#### CONNECT AND CONFIGURE THM602-I TEMPERATURE HEAD TRANSMITTER

11 To ob on	en Concerture alial		**		
To chang	ge Sensor Type, clici	con select list and select	the sensor.		
	Tekon Configurator			- 🗆 ×	
				TEKON CONFIGURATOR Quick, easy and smart configuration	
	DEVICES			٣	
		Firmware Version: 1.0.0			
	SMART TRANSMITTERS			Connected ⊘	
	10000 C	Port COM		۵	
	SMART SENSORS			Modbus Mode	
	Ų	Transmitter Description (teste 5	Sensor Voltage (mV)	0	
		Sensor Type Linear Voltage  Unear Voltage		0.021	
	WIRED TRANSMITTERS	Temperature Unit TC J Internal Temperature TC N			
		External Temperature TC R TC S Modbus Address			
		Baudrate (bps)			
		Stopbits 2 V			
	Tekon Configurator v2.0.0				
12 To valida	ate the changes in c	onfiguration mode, click	on " <i>WRITE DEVICE</i> " b	utton.	
Tekon Configurator	······································	·····	- 🗆 ×		
			TEKON CONFIGURATOR Quick, easy and smart configuration		
	☆ Wired Transmitters > Transmitters > T	HM602-I	$\overline{\odot}$	While the settin	es are being
DEVICES	🚰 ТНМ602-І 🖪			written the follow	wing icon will
_	Firmware Version: 1.0.0 Hardware Version: 1.2		Connected Ø	be displayed next	to the "WRITE
SMART TRANSMITTERS					
	COM8 V		U Madhur Mada		,
SMART SENSORS				If the changes to t	he device have
	Transmitter Description         teste 5           Sensor Type         TC K	Sensor Voltage (mV)	0.021	been written, the fo	llowing symbol
WIRED TRANSMITTERS	, Temperature Unit Celsius	- •		will appear (✔ )	_ 2
	Internal Temperature 26.21 External Temperature 25.12				
	Modbus Address 1	<b></b>		If not the followin	a sumhol will
	Parity None			annear ( 🗙 ) tru ag	ain and check
	Stoppits	•		that the device	is connected
				correctlu	
				concerny.	
Tekon Configurator v2.0.0					



#### 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 deactivated.



step

#### CONNECT AND CONFIGURE THM602-I TEMPERATURE HEAD TRANSMITTER

13 Click on the button ( ) to exit *configuration mode* and return the device to normal operating mode. - 0 × Tekon Configurator TEKON CON Quick, easy and 'ex<mark>u</mark>n GURATOR ed Transmitters > Transmitters > THM602-I 0 DEVICES THM602-I 🖪 Firmware Version: 1.0.0 Hardware Version: 1.2 Connected ⊘ SMART TRANSMITTERS Port COM COM8 V S ப SMART SENSORS teste 5 Sensor Voltage (mV) 0.021 itter Description тск Sensor Type perature Unit Celsius Internal Temperature External Temperature 26.21 25.12 Modbur Address \$ 9600 Baudrate (bps) None 2 Parity • ekon Configurator v2.0.0 14 **Modbus Mode** Check "Modbus Mode" and update Modbus Address, Baudrate, Parity, Stopbits and click on @ . Tekon Configurator × TEKON CONFIGURATOR Quick, easy and smart configuration rekun -A Wired Transmitters > Transmitters > THM602-I









MODBUS TABLE (HOLDING REGISTERS)			
Description	Address	Туре	Values
Sensor status	13	UINT16	<ol> <li>Reading OK</li> <li>Open circuit</li> <li>Internal temperature below the minimum allowed limit</li> <li>Internal temperature above the minimum allowed limit</li> </ol>
Acquisition mode configuration	15	UINT16	<ul> <li>2 - Linear voltage</li> <li>6 - Thermocouple K</li> <li>7 - Thermocouple J</li> <li>8 - Thermocouple N</li> <li>9 - Thermocouple R</li> <li>10 - Thermocouple S</li> <li>11 - Thermocouple T</li> <li>12 - Thermocouple C</li> </ul>
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
Acquired milivolts	19	FLOAT32	Format: CD AB (little endian byte swap)
Internal temperature (full resolution)	21	FLOAT32	Format: CD AB (little endian byte swap)
External temperature (full resolution)	23	FLOAT32	Format: CD AB (little endian byte swap)
Modbus slave address	42	UINT16	
Modbus baudrate	43	FLOAT32	Format: CD AB (little endian byte swap)
Modbus parity	45	UINT16	
Device model	54	UINT16	70 - THM602-I
FW version: Makor   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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