



## **PLUS TWPH-1UT** INSTALLATION GUIDE

IG\_PLUS\_TWPH-1UT\_E02A

**TEKONELECTRONICS.COM** 

## **PLUS TWPH-1UT** INSTALLATION GUIDE

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## **01** WGW420 PLUS WIRELESS GATEWAY CONFIGURATION

TEKON CONFIGURATOR SOFTWARE is only compatible with the Microsoft® Windows® Operating System.

01	Connect the antenna to the <i>Gateway.</i>



**O2** Wiring Connect the power supply and then the *RS485-USB* cable to the *Gateway*.



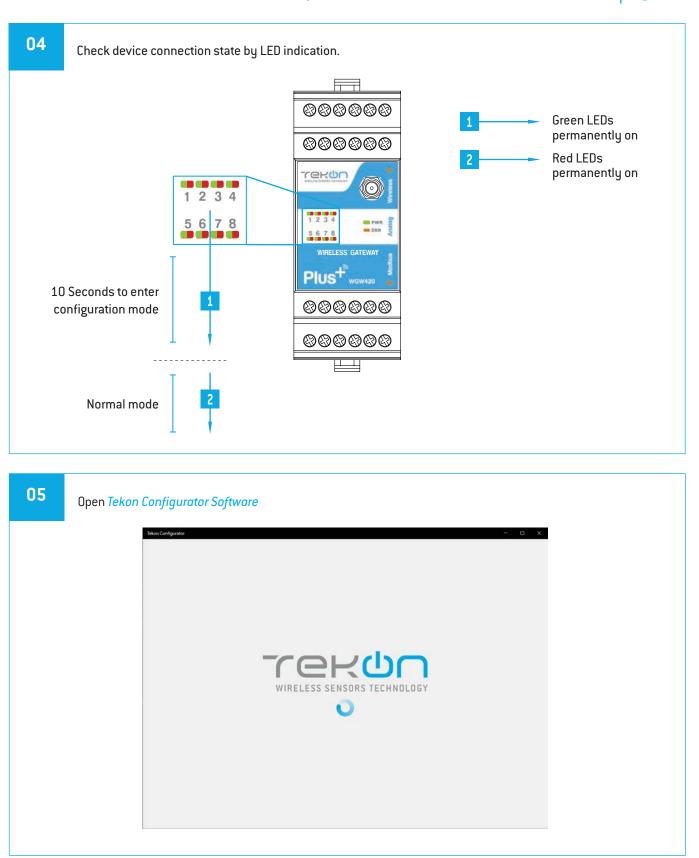
Wire Indication: Blue - GND; Brown - +24 VDC; Orange - Data+ (A); Black - GND; Yellow - Data - (B)

03 Power ON the device.

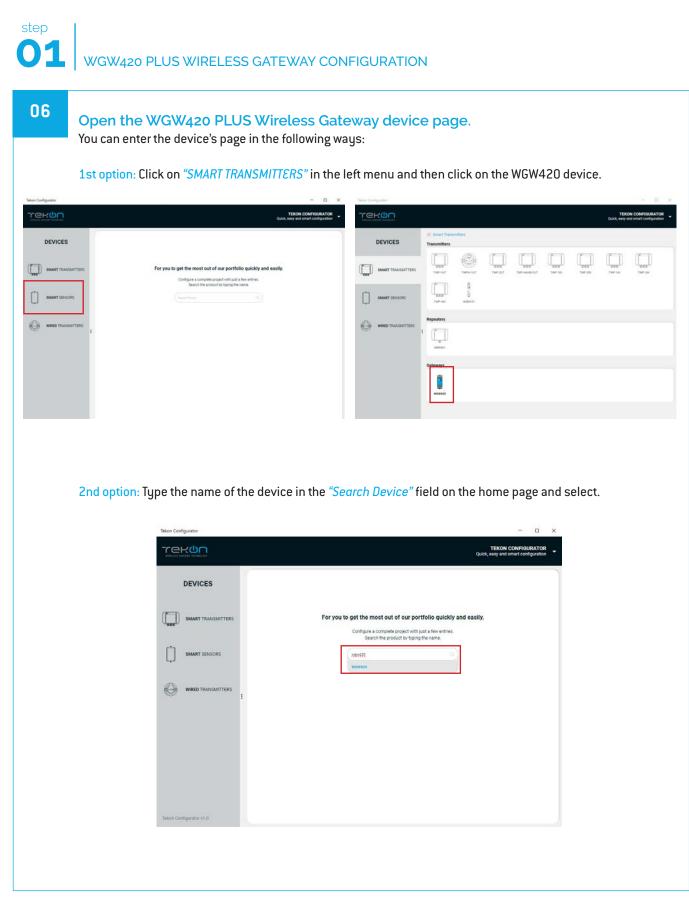




#### WGW420 PLUS WIRELESS GATEWAY CONFIGURATION









WGW420 PLUS WIRELESS GATEWAY CONFIGURATION

07	Load the "Port COM" corresponding	to the WGW420 PLUS Wireless Gateway.
	DEVICES   DEVICES   OUTOR SUMART TRANSPORTERS   SMART TRANSPORTERS   SMART TRANSPORTERS   WIED TRANSPORTERS   WIED TRANSPORTERS	
	NOTE: If the USB cable has already been connected otherwise you need to click on the " <sup>2</sup> " butto	before opening the device page, "Port COM" will appear in the list, n.
08	Select corresponding Port COM <sup>2</sup> .	
	WIRED TRANSMITTERS	
	Telion Configurator v1.6	(2) WHITE GROUP

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



# **01** WGW420 PLUS WIRELESS GATEWAY CONFIGURATION

9	Perform a power cycle on the <i>Gateway</i> .
	•





#### NOTE:

After power up, you have 10 seconds to enter configuration mode by clicking on Connect button ((b)) (while green LEDs are permanently on). In this mode, you can manage device parameters: *Modbus Address*, *Modbus Baudrate*, *Modbus Parity*, *Wireless Network ID* and *Wireless Channel*.

#### 10

#### Click on *Connect* ( 👜 ) button.

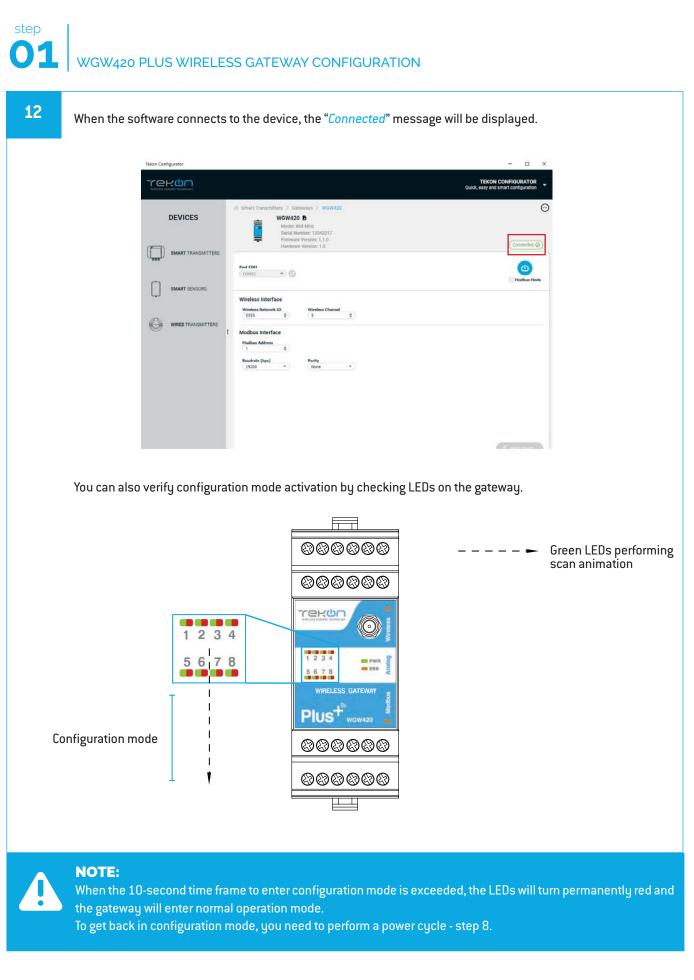
DEVICES		Quick, easy and smart configuration
SMART TRANSMITTERS	Part COH	
SMART SENSORS	COH22 * ©	Hodbus Hod
	Modbus Interface	
	Bandola (bps) Parky Staphila (4000 V Rinte V 2 V	Ð
		a conserver



## WGW420 PLUS WIRELESS GATEWAY CONFIGURATION

11	The software will connect to	o the device.
	DEVICES         Image: State Stat	Concentration in the interface      Models      Models
	Teriton Configurator v1.0	P HIT GOD
		connect to the device, the <u>connecton Faller</u> status is displayed. If it hasn't previous steps and check the port COM.







#### WGW420 PLUS WIRELESS GATEWAY CONFIGURATION

13	Configure the device fields an	d write by clicking on	the <i>"WRITE D</i>	DEVICE" button.	
	Teles         DEVICES         SMART TRANSMITTERS         Image: Construction of the second secon	Senart Transmitters > Osteways > WOW420     WOW420     D     Model: 668 MR1:     D:     Model: 668 MR1:     D:     D	9 7		
	NOTE: The "WRITE DEVICE" button will change it will be disabled.	l only be active wher	n there is a c	hange to one of the editable	e fields, if there is no
	While the settings are being w	ritten, the following ic TEXON COMPARIANCE ORIGINARY of Mark Comparison Commence Commence Commence Commence Commence Commence Commence Commence Commence Commence Commence Commence Commence Commence Commence Commence Commence Commence Commence Commence Commence Commence Commence Commence Commence Commence Commence Commence Commence Commence Commence Commence Commence Commence Commence Commence Commence Commence Commence Commence Commence Commence Commence Commence Commence Commence Commence Commence Commence Commence Commence Commence Commence Commence Commence Commence Commence Commence Commence Commence Commence Commence Commence Commence Commence Commence Commence Commence Commence Commence Commence Commence Commence Commence Commence Commence Commence Commence Commence Commence Commence Commence Commence Commence Commence Commence Commence Commence Commence Commence Commence Commence Commence Commence Commence Commence Commence Commence Commence Commence Commence Commence Commence Commence Commence Commence Commence Commence Commence Commence Commence Commence Commence Commence Commence Commence Commence Commence Commence Commence Commence Commence Commence Commence Commence Commence Commence Commence Commence Commence Commence Commence Commence Commence Commence Commence Commence Commence Commence Commence Commence Commence Commence Commence Commence Commence Commence Commence Commence Commence Commence Commence Commence Commence Commence Commence Commence Commence Commence Commence Commence Commence Commence Commence Commence Commence Commence Commence Commence Commence Commence Commence Commence Commence Commence Commence Commence Commence Commence Commence Commence Commence Commence Commence Commence Commence Commence Commence Commence Commence Commence Commence Commence Commence Commence Commence Commence C	Con will be dis	splayed next to the "WRITE L splayed next to	DEVICE" button ( ))
	Wireless Interface Wireless Network ID Wireless Channel 5555 0 5 0 0	C Parket Rat	SHART SDOOR	Wireless Inforface Wireless Inforface 1 Moduus Interface 1 Sachdra (by 1000 * Party 1000 * *	

#### NOTE:

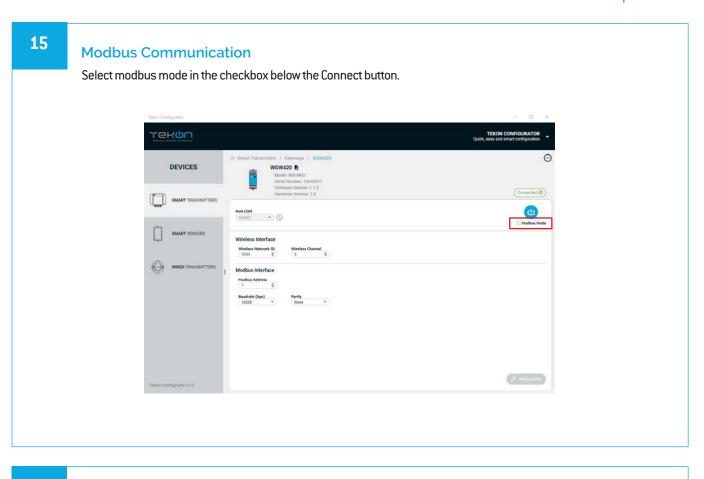
The wireless network connection between devices is ensured by setting the same *Wireless Network ID* and *Wireless Channel* parameters.



	urator		vice to normal operating mode.
	Serial N Segme Firmwar		(Disconnected ())
0	SMART SENSORS Wireless Interface Wireless Interface	Windess Channel	Hectbus Hode
0	WIRED TRANSMITTERS	(5 0) Parity (Non *)	
	1300	(none *	
Telion Confi	gurator v1 0		1 WHELPOWCE



#### WGW420 PLUS WIRELESS GATEWAY CONFIGURATION

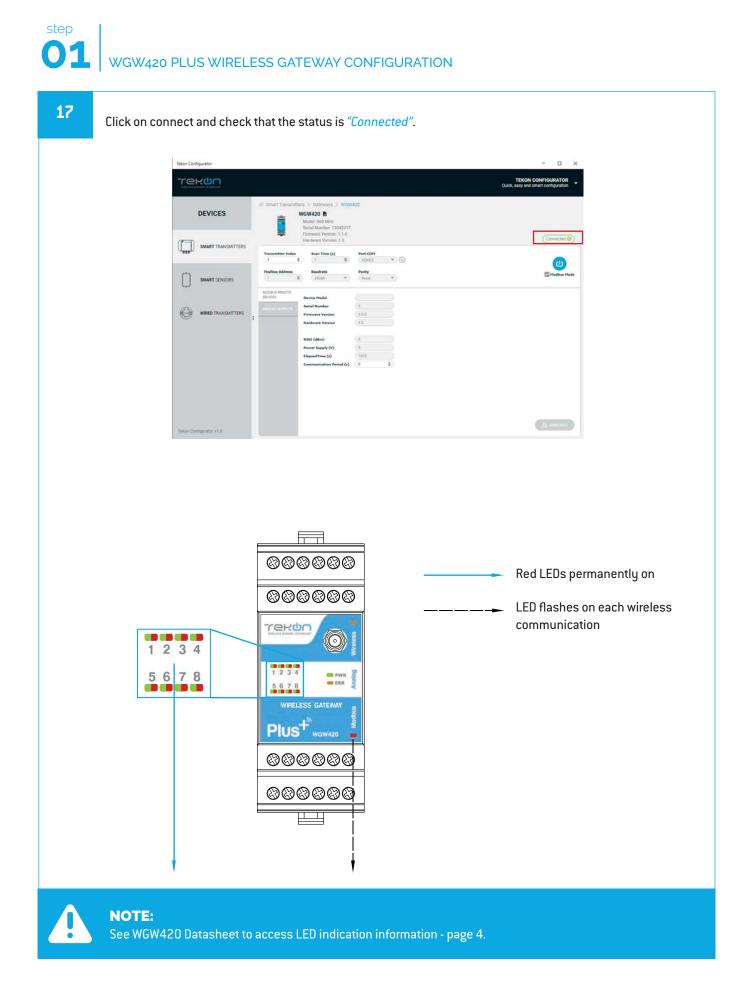


16

Ensure that *Port name*, *Baudrate*, *Parity* and *Modbus Address* fields are the same as those obtained in configuration mode.

1000		TEKON CONFIGURATOR Quick, easy and smart configuration
DEVICES	htts > Gateways > WGW420 WGW420 B Modat: 668 MRI: Senial Namber: T002017 Filmmark Version: 1.1.0 Handwark Version: 1.3	(Disconnected @
Transmitter Index	Scan Time (c)         Pert COII           1         0         COI402         *         •           Banderie         Parity         •         •         •           13000         *         fixone         *         •	(1) ≥ Hodbus Hod
	Device Hold Sard Howker Formare Vertion Hochare Vertion Hochare Vertion Hower Happel (*) StapaelTene (c) Communication Period (*)	
Texos Configurator v1.0		(A swipers









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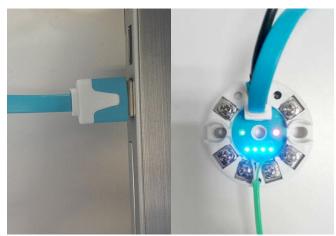
TWPH-1UT PLUS WIRELESS TEMPERATURE TRANSMITTER CONFIGURATION

**01** Connect the antenna and sensor connectors to the *TWPH-1UT PLUS Wireless Transmitter.*.





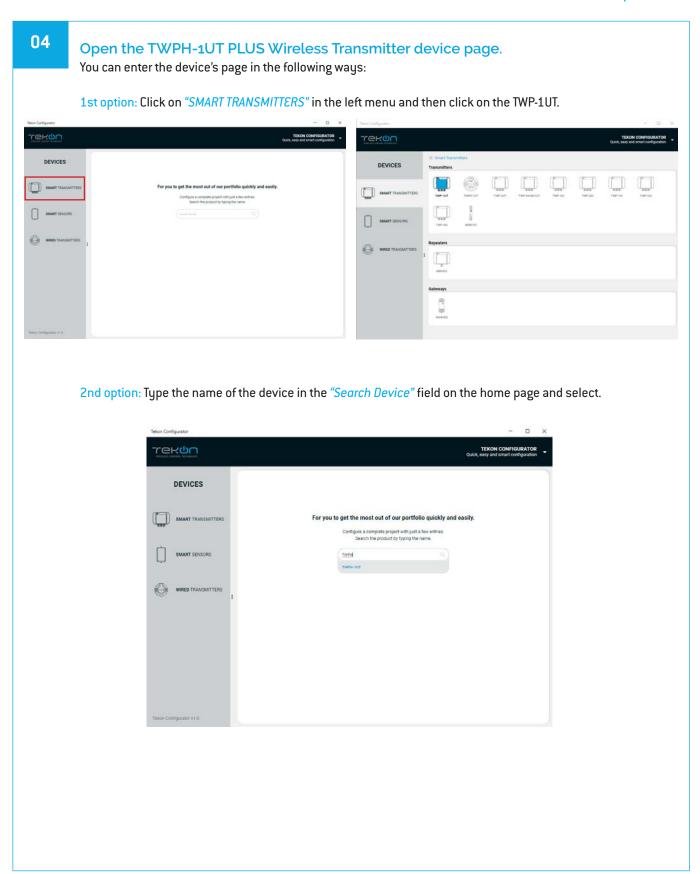
Connect the micro USB cable to the computer and then to *TWPH-1UT PLUS Wireless Transmitter*.



03	Open <i>Tekon</i> (	Configurator Software	



#### TWPH-1UT PLUS WIRELESS TEMPERATURE TRANSMITTER CONFIGURATION





#### step 0 TWPH-1UT PLUS WIRELESS TEMPERATURE TRANSMITTER CONFIGURATION 05 Load the "Port COM" corresponding to the TWPH-1UT PLUS Wireless Transmitter. TEKON CONFIC rekun mitters > Transmitters > TWPH-10T DEVICES TWPH-1UT B SMART TRANSMITTERS C Select CO SMART SENSORS End Device Repeater s Channe ÷ O tion Rea wer Supply (V) Ø white device NOTE: If the USB cable has already been connected before opening the device page, "Port COM" will appear in the list, otherwise click the button (🙆) 06 Select corresponding Port Com<sup>2</sup>. Configur rek<mark>u</mark>u TEKON C itters > Transmitters > TWPH-107 DEVICES TWPH-1UT nected (U) SMART TRANSMITTERS Port COP C G End Device n Hode 0 es Channel WIRED TRANSMITTERS tion Per er Supply (V) nal Temperature (°C) Ø WHITE DEVES

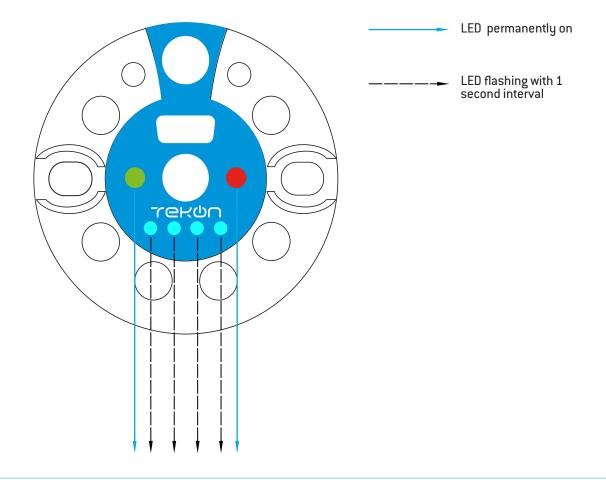
<sup>2</sup> You can check device's serial port name in "Device Manager" on Microsoft <sup>®</sup> Windows<sup>®</sup> operating system.



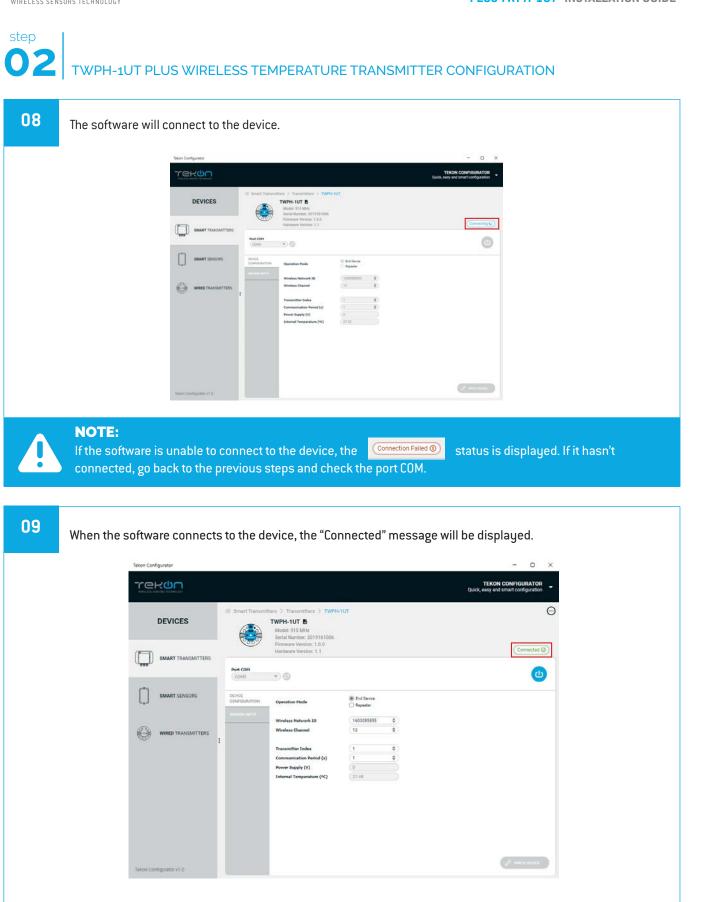
### TWPH-1UT PLUS WIRELESS TEMPERATURE TRANSMITTER CONFIGURATION

7 Clia	ck on the "Connect" butto	n ((()) to enter <i>Configuration Mode</i> .	
		# Smart Transmillers > Transmitters > TWPH-1UT	Culck, way and smart configuration
	SMART GENOORS	Part CODE         Operation Hode         Ind Device           Control (sector)         Operation Hode         Ind Device           Control (sector)         Operation Hode         Ind Device           Workers Retroyk 10         Image: Instructure Inst	
	Telson Configurator vit.0		() were sever

When the TWPH-1UT Transmitter is in Configuration Mode, all LEDs are active but with different behaviours.









#### TWPH-1UT PLUS WIRELESS TEMPERATURE TRANSMITTER CONFIGURATION

#### 10

#### Configure Wireless Network ID and Wireless Channel previously obtained from Gateway.

The wireless connection between both devices is ensured by setting the same *Wireless Network ID* and *Wireless Channel* parameters. Gateway Modbus Index will define the modbus registers window used to store information sent by the transmitter. Each transmitter should have a different *Gateway Modbus Index* in order to avoid information override.

Click on Write Device button to update Transmitter settings.

					TEKON CONFIGURATOR Quick, easy and smart configuration
DEVICES	🤃 Smart Transm	Itters > Transmitters > TWPH TWPH-1UT Model: 915 MHz Serial Nomber: 2019161006	HUT		Θ
SMART TRANSMITTERS	Port COH CONS	Firmware Version: 1.0.0 Hardware Version: 1.1			(Connectes @)
SMART SENSORS	DEVICE CONFIGURATION	Operation Hode	End Device O Repeater		
	1	Wireless Network ID Wireless Channel Transmitter Index	1400085855	0	
		Communication Period (s) Power Supply (V) Internal Temperature (*C)	(1 (0 (27.40	•	
Tekon Configurator v1.0					U WITTE DOWCL

On this page you can configure the transmitter's *communication period*, i.e. the time interval between measurements and communication of the values to the gateway. In addition, you can configure the *reconnection period* which is only triggered when communication between the gateway and the transmitter fails. When communication fails, the transmitter will try to connect to the gateway using the following logic: - 5 attempts with the communication period set;

- N attempts with the reconnection period until communication is successful.

The default reconnection period is 30 minutes. Please note that short reconnection periods (< 30 minutes) will impact the transmitter's autonomy if communication takes a long time to be re-established.



#### 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.

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.





11	Click on "SENSOR INPUT"		
	Tekon Configurator	-	0 ×
		TEKON CONFI Quick, easy and smart c	GURATOR
	DEVICES	Smart Transmitters > Transmitters > TWPH-1UT  WOPH-1UT  Model: 915 MMz Serial Number: 2019181006	Θ
	SMART TRANSMITTERS	Pinnware Version: 1.0 Hardware Version: 1.1	
	SMART SENSORS	Contractivition         Sensor Type         FT100.3 wires         *           SENSOR INFUT         Sensor Temperature (*C)         65335	
	WIRED TRANSMITTERS		
	Tekon Configurator v1.0		
	Tekon Configurator v1.0		

Tekon Configurator		- 0 ×
		TEKON CONFIGURATOR Quick, easy and smart configuration
DEVICES	Smarl Transmitters > TwPH-1UT TWPH-1UT B Model: 915 MHz Serial Number: 2019161006	Θ
SMART TRANSMITTERS	Firmware Version: 1.0 Hardware Version: 1.1	(Connected @)
SMART SENSORS	IRING Constantiation Sensor Type PT100 3 wires * Sensor Temperature (*C) PT100 2 wire PT100 3 wires	
WIRED TRANSMITTERS	P100 4 wins TG 3 TG K TG N TG N TG R TG S TG T	



#### TWPH-1UT PLUS WIRELESS TEMPERATURE TRANSMITTER CONFIGURATION

			te the <i>Transmitter</i> settings. the sensor and internal tem	perature.	
8	Tekon Configurator			- o x	
				TEKON CONFIGURATOR Quick, easy and smart configuration	
	DEVICES	e Smart Tranam	tters > Transmitters > TWPH-IUT TWPH-IUT Model: 915 MHz Serial Number: 2019161006	Θ	
	SMART TRANSMITTERS	Port COM	Firmware Version: 1.0.0 Hardware Version: 1.1	(Connected @)	
	SMART SENSORS	COHS DEVICE CONSIGNATION SENSOR INPUT	v      Sensor Type     TC K      v      Sensor Temperature (MC)     (27.13	<b>(</b> )	
	WIRED TRANSMITTERS				
	Tekon Configurator v1.0	4			

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

After clicking on *Disconnect* button, the device will permanently attempt to connect to a wireless network. If there is no communication, the Status LED flashes slowly and the Mode LED flashes quickly. When there's a successful connection directly to a wireless network, both status LEDs alternate quickly - during 1 minute if the transmitter is operating as end device or permanently if operating as repeater.

					TEKON CONFIGURATOR Quick, easy and smart configuration
DEVICES	# Shart Tream	thes > Transmittes > TWP TWPH-1UT B Model: 915 MHz Serial Number: 2019161006 Firmware Version: 1.0.0	HUT		
SMART TRANSMITTERS	Puet COH COHS	Hardware Version: 1.1			
SMART GENSORS	DEVICE CONFIGURATION	Operation Hode	End Device		
	-	Wireless Network ID Wireless Channel	(1600085855) (12	8) 8	
		Transmitter Index Communication Period (s) Power Supply (V)	3	8 0	
		Prever Supply (V) Internal Temperature (*C)	(D.B.		

#### NOTE:

Make sure that the devices are at a distance of at least 3 meters or remove the antenna from the gateway (in case both devices are near each other).





# GATEWAY ANALOG OUTPUTS

01	Follow steps 01 and 14 of the PLUS Wireless <i>Gateway</i> Configuration.
02	In Tekon Configurator Software select MODBUS MODE >> ANALOG OUTPUTS
03	Click the (()) button and wait for the device to connect.
	TEKON CONFIGURATOR Quick, easy and smart configuration
	DEVICES       WGW20 D         Mode: Edd MHz       Mode: Edd MHz         Smart TRANSMITTERS       Mode: Edd MHz         Image: Smart Transmitter Index       Port COH         Image: Smart Transmitter Index       Image: Smart Transmitter Index         Image: Smart Transmitter Index       Image: Smart Transmitter Index         Image: Smart Transmitter Index
	MURED TRANSMITTERS     ANULOS SUTPUTS       I     Haximum Value     6       Haximum Value     55     0       Humber of Cycles     5     0       Output offiset (uA)     5     0       Hotbus Address Link     5     0       Actual Current (mA)     3.1
	Tekon Configurator v1.0



# Step GATEWAY ANALOG OUTPUTS

04

Considering the transmitter configuration with Modbus Address=1, there is a Gateway Modbus Address Window corresponding to Modbus address window [0-19].

rekau			EGISTERS - TRANSMITTERS DATA	
		Description	Address	
DEVICES	Smart Transmitters > Gateways > WGW420 WGW420 B	Serial Number	(Transmitter Modbus Index-1) x 20+0	
	Model: 868 MHz Sarial Number: 13042017	Transmitter Model	(Transmitter Modbus Index-1)x20+2	
SMART TRANSMITTERS	Firmware Version: 1.1.0 Hardware Version: 1.0	RSSI	(Transmitter Modbus Index-1)x20+3	
SMART TRANSMITTERS	Port COH	Communication Period	(Transmitter Modbus Index-1)x20+4	
0	CON22 • (G)	Elapsed Time	(Transmitter Modbus Index-1)x20+5	
SMART SENSORS	Wireless Interface	Power Voltage	(Transmitter Modbus Index-1)x20+6	
	Wireless Network ID Wireless Channel	Data O	(Transmitter Modbus Index-1)x20+7	_
WIRED TRANSMITTERS	Modbus Interface	Data 1	(Transmitter Modbus Index-1)x20+9	
	Plodbus Address	Data 2	(Transmitter Modbus Index-1)x20+11	
	Baudrate (bps) Parity	Data 3	(Transmitter Modbus Index-1)x20+13	
	19200 * None *	Data 4	(Transmitter Modbus Index-1)x20+15	
		FW Version Major Minor	(Transmitter Modbus Index-1)x20+17	
		FW Version Revision	(Transmitter Modbus Index-1)x20+18	
		HW Version Major Minor	(Transmitter Modbus Index-1)x20+19	

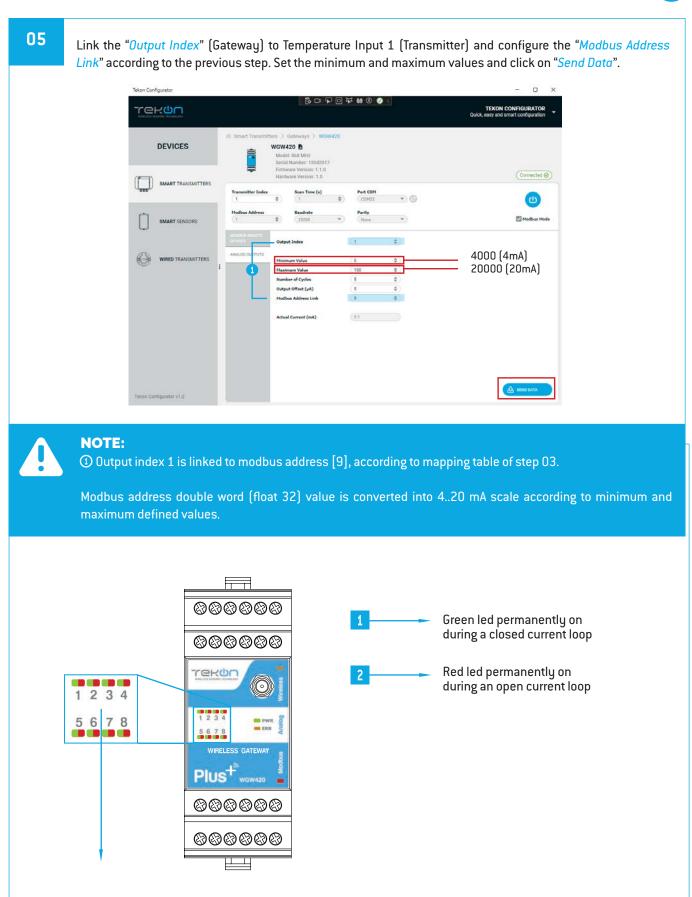


#### NOTE:

Transmitter analog input 1 data is received and stored at the Gateway Modbus address [9].



## GATEWAY ANALOG OUTPUTS







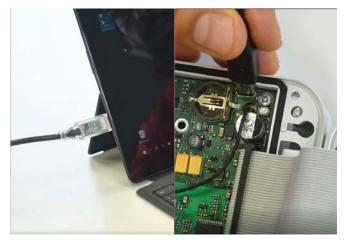
## CONNECT AND CONFIGURE THE PLUS WIRELESS REPEATER

01	Loosen the 4 screws of the case and oppen it.



02

Connect a micro USB cable to the computer and then to *WRP001 PLUS Wireless Repeater*.



#### 03

#### Open the WRP001 PLUS Wireless Repeater device page.

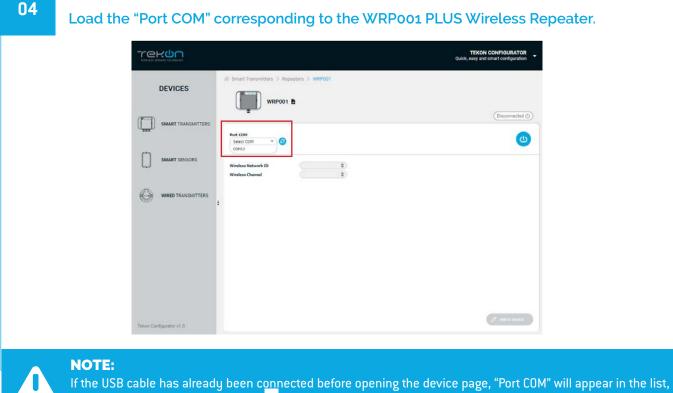
You can enter the device's page in the following ways:

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

	TEXON CONFIGUR Quick, sety and smart config	AATOR - TEKUN		TEXON CONFIGURATOR Guick, easy and smart configuration
DEVICES		DEVICES	- P. Smart Transmitters Transmitters	
SMART TRANSMITTERS	For you to get the most out of our portfolio quickly and easily.		NS 100-107 100-107 100-107 100-100 100-10	
() SMART IDUSCHS	Configure a comparise project with just a file writer. Search the product file through the name (much linear (in))	( SIMART GENELOPS	Terr All Martin	
			n Innen	
			нини нини	
Taxon Configurator v1.0		Tensor Downligacetter et a		



	RE THE PLUS WIRELESS REPEATER



otherwise you need to click on the " <sup>2</sup> " button.



CONNECT AND CONFIGURE THE PLUS WIRELESS REPEATER

05	Select corresponding Port nar	ne².
	Tekon Configurator	- ¤ ×
		TEKON CONFIGURATOR Quide, easy and smalt configuration
	DEVICES	Smart Transmitters > Repeaters > WRP001
	SMART TRANSMITTERS	For COIL Telet COM
	UNART SENSORS	CON13 Wordess Reburek ID Wordess Channel 0
	Tekon Configurator v1.0	(A mont couries

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



step	
04	CONNECT AND CONFIGURE THE PLUS WIRELESS REPEATER



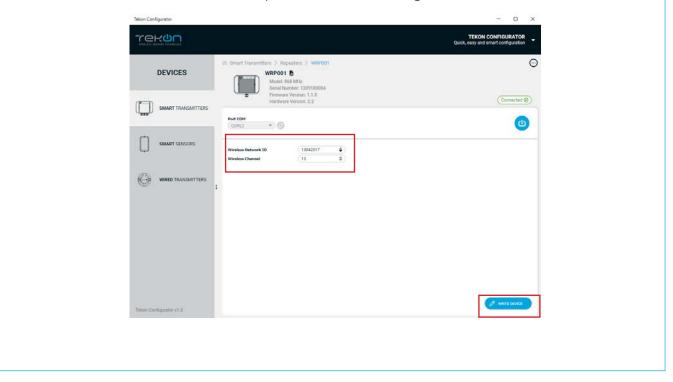
	CONNECT AND CONFIGURE THE PLUS WIRELESS REPEATER	step 04
07	The software will connect to the device.	
	DEVICES       # Stantanders * Agaatas * Stanta         Image: Stantanders * Agaatas * Stanta       Image: Stantanders * Agaatas * Stanta         Image: Stantanders * Agaatas * Stanta       Image: Stantanders * Agaatas * Stanta         Image: Stantanders * Agaatas * Stantanders * Agaatas * Stanta       Image: Stantanders * Stantande	
Δ	Twos Configurates v1.0         NOTE:         If the software is unable to connect to the device, the ① Unexpected Error status is displayed. If it hasn't connected, go back to the previous steps and check the port COM.	
08		
	When the software connects to the device, the "Connected" message will be displayed.	
	Telian Configurator y1.0	

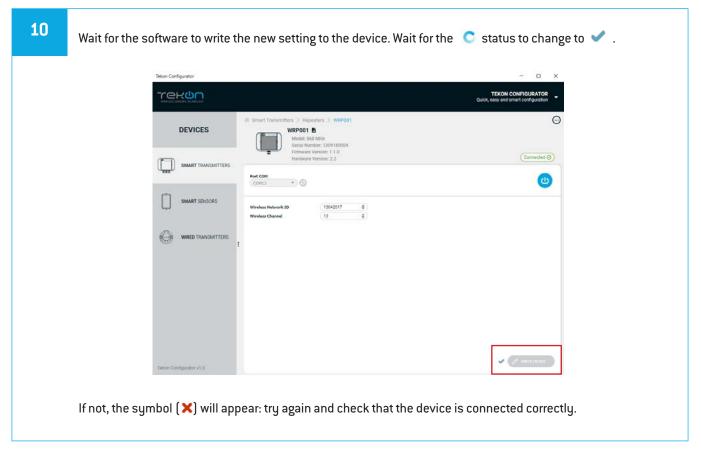


# CONNECT AND CONFIGURE THE PLUS WIRELESS REPEATER

09

Configure the "*Wireless Network ID*" and "*Wireless Channel*" previously obtained from the Gateway. Click on the "*WRITE DEVICE*" button to update the transmitter settings.

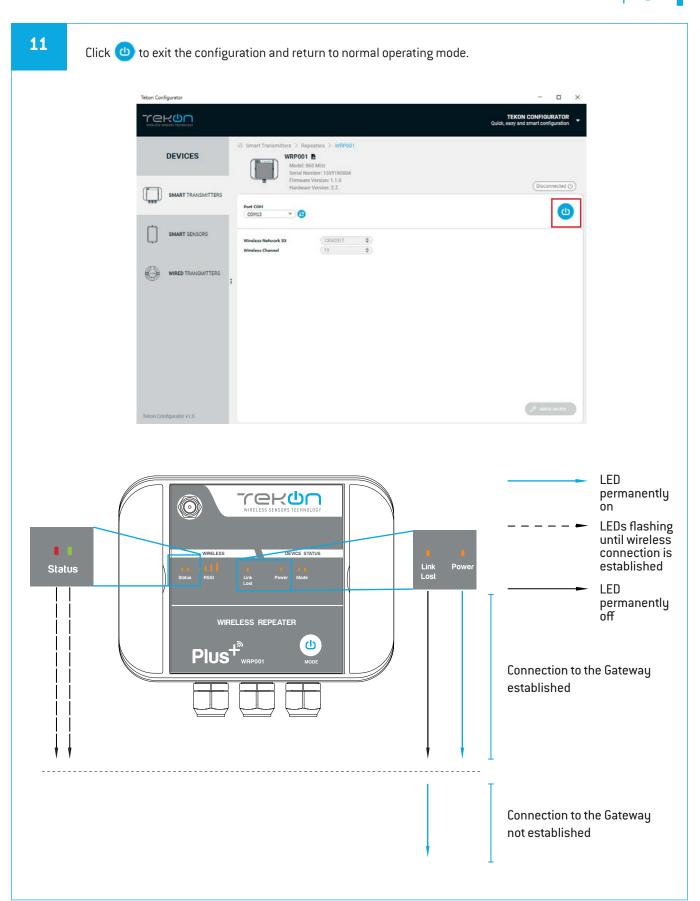






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### CONNECT AND CONFIGURE THE PLUS WIRELESS REPEATER





Transmitter.





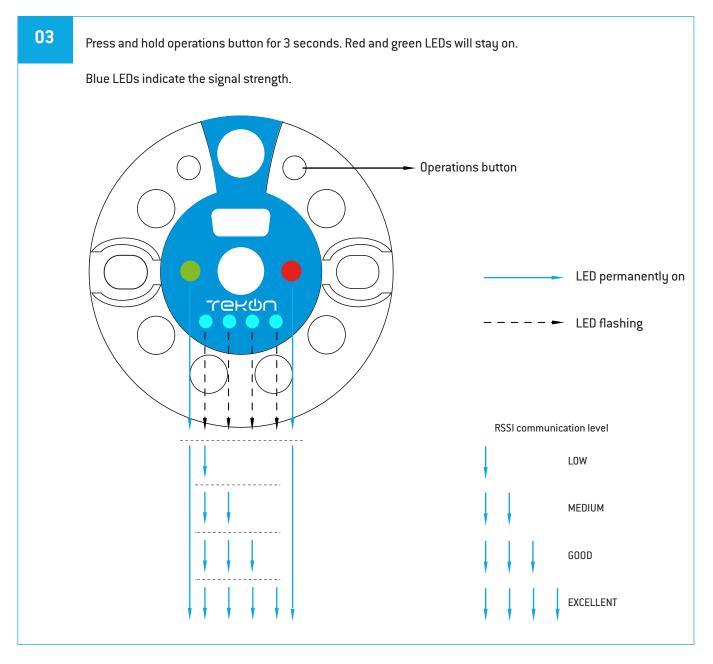
doesn't require additional equipment or software. 01 Press and hold Mode (()) button untill Status LEDs are permanently on and Mode LEDs flash. RSSI LEDs indicate the signal strength. LED permanently on rek<mark>u</mark>u  $\bigcirc$ LED flashing until wireless connection is DEVICE STATUS established **RSSI** L | | | |Т 1 1 WIRELESS REPEATER Т 1 Т Plus 1 1 1 Т Т Т 1 Т 1 Т 1 1 1 Т **Connection Lost** 1 1 1 1 LOW MEDIUM Connection to the Gateway established **RSSI** communication level GOOD EXCELLENT Press and hold Mode (🕛) button untill RSSI LEDs switch off and device resumes normal operation mode. 02

Refers to following devices: TWP4AI Transmitter, TWP-4AI4DI1UT Transmitter, WRP001 Repeater and TWPH-1UT

Site survey mode is a tool that allows a quick wireless signal strength evaluation at the site of installation. It



## **05** SITE SURVEY MODE



04 Press and hold operations button for 3 seconds to exit Site Survey Mode and activate normal operation mode.

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