

DUOS MULTITEMP WIRELESS TRANSMITTER INSTALLATION GUIDE

PL-Dr

IG_DUOS_MULTITEMP_E01A

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DUOS MULTITEMP TRANSMITTER INSTALLATION GUIDE

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CHECK WIRELESS COMMUNICATION BETWEEN DUOS MULTITEMP TRANSMITTER AND GATEWAY

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LEGEND:



Important information for the setup;

Tak

Take note of the information;

Validation of a setting;

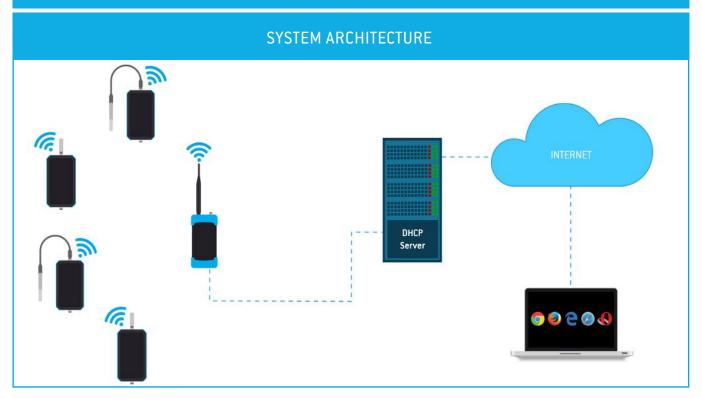
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01 CONNECT AND CONFIGURE DUOS WIRELESS GATEWAY

NOTE:

If your device is a DUOS IoT GATEWAY, please consider the information on this page. If your device is a DUOS GATEWAY, please go to the next page to start the equipment setup.



MINIMUM REQUIREMENTS

The right application of DUOS IoT GATEWAY only occurs if all minimum requirements are met by the customer side. The architectural minimum requirements needed to successfully use this device are:

- Ethernet cable (included with your DUOS IoT GATEWAY);
- DHCP server;
- Web browser with the latest version;

You must have a DHCP server in your network. The main purpose of this kind of server is to automatically provide and assign IP addresses and other network parameters to connected devices.

To begin the configuration of DUOS IoT GATEWAY, the pin of button mode, must be in the *Config Mode* side.

After completing the setup procedures, go to step 5 to begin the connection to the platform.



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O1 CONNECT AND CONFIGURE DUOS WIRELESS GATEWAY

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

01	Connect the antenna to the <i>Gateway</i> .	
02	Connect the DUOS RS485-USB cable to the computer and then to the Gateway.	
03	Check the device connection through the LED signage. If the red and blue LEDs are active, both the cable and <i>Gateway</i> a	 LED flashes slowly LED switched on and steady Red LED flashes every second whenever it sends beacons to new elements to join the network Green LED flashes as soon as the device receives data from other equipment.



01 CONNECT AND CONFIGURE DUOS WIRELESS GATEWAY

TekOn Configurator		- 🗆 X
File Tools Help		
Devices 4 Transmitters 4 Head 1HU1102 THU1102	Port Name COM4 Baudrate 19200	
 THP1217 THT1216 THT011 THT201 THT301 THU301 THT202 	Parity None r Refresh Serial Ports Cateway Repeater Transmitter Modbus Configuration	Not Connected
THP102	Modbus Address 1 Modbus Baudrate 19200 •	*
TDU1218 TDU1219 TDU301	Modbus Parity None • Wireless Network ID: Wireless Channel	Unknown Model
Witness Witness WGW104 WGW104 UOS PLUS	Click on connection button to start	

05

Select the Serial Port of the DUOS Wireless Gateway

Click on the *Refresh Serial Ports* button.

🖞 TekOn Configurator		- 🗆 🗙
File Tools Help		
Devices A Transmitters A (2) Head	Serial Port Configuration Port Name COM4 -	
 THU1102 THP1217 THT1216 	Baudrate 19200 - Parity None - Refresh Serial Ports	Not Connected
 THP101 TH701 TH702 TH702 TH9102 TH9102 TH02 TH012 TDU1218 TDU1219 TDU301 Wireless WGW1104 WGW410 DUS 	Gateway Repeater Transmitter Modbus Configuration Modbus Address 1 Modbus Baudrate 19200 Modbus Parity None Wireless Network ID: Wireless Channel Read Write	Unknown Model
PLUS	Click on connection button to start	

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



O1 CONNECT AND CONFIGURE DUOS WIRELESS GATEWAY

TekOn Configurator		- 🗆 X
File Tools Help		AND A REAL
Devices Transmitters Head THU1102 THP1217 THP1216 THP1216 THP101 THP101	Serial Port Configuration Port Name COM3 Baudrate COM3 Parity COM1 COM1 Gateway Represent ransmitter	Not Connected
THU301 THU301 THU301 TH1202 TH1502 TH1501 TH1501 TU1218 TU1219 TU1219 TU1219 TU1301 Wireless Wireless WWW1104	Modbus Configuration Modbus Address 1 🔹 Modbus Baudrate 19200 • Modbus Parity None • Wireless Network ID: • Wireless Channel •	Unknown Model
WGW104 WGW410 DUOS PLUS SFRIAI	Read Write Click on connection button to start	

07

Remove the *DUOS RS485-USB* cable from the *Gateway* side and reinsert it.



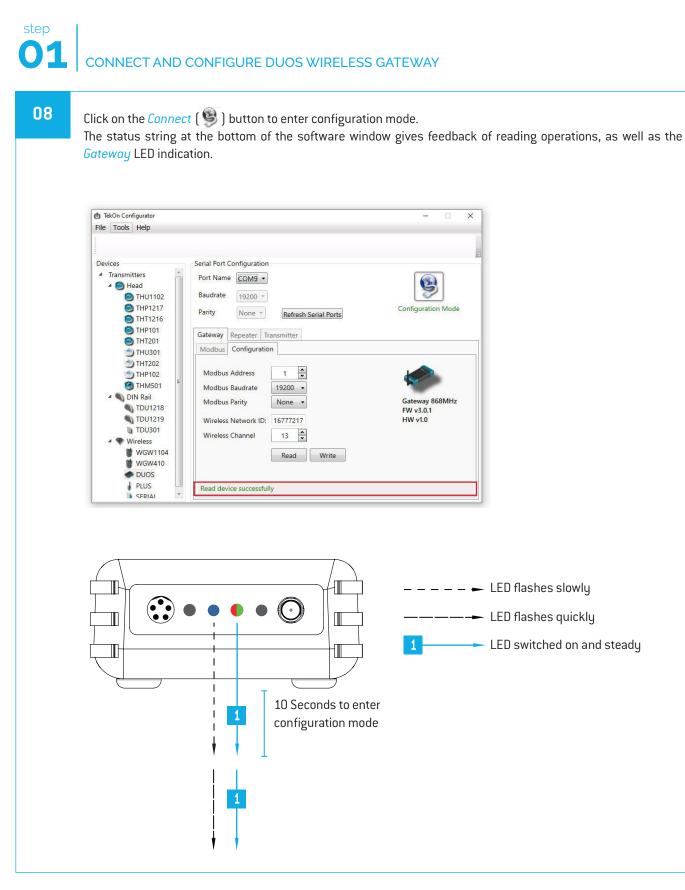
NOTE:

After reinserting the cable, you have 10 seconds to enter in configuration mode by clicking on the Connect () button, while the blue LED flashes slowly.

In this mode, you can manage the device parameters: *Modbus Address*, *Modbus baud rate*, *Modbus Parity*, *Wireless Network ID* and *Wireless Channel*.

² You can check the device port name in the Device Manager menu in the Windows operating system.







NOTE:

When 10 seconds have been exceeded, the blue LED is steady and it is no longer possible to enter configuration mode. In this case, the cable must be removed and reinserted - step 2.



01 CONNECT AND CONFIGURE DUOS WIRELESS GATEWAY

09

Take note of the device configuration data available, namely: *Modbus Address*, *Modbus Baudrate*, *Modbus Parity*, *Wireless Network ID* and *Wireless Channel*.

1 TekOn Configurator		- 0	×
File Tools Help	Serial Port Configuration		
▲ Transmitters ▲ ▲ ● Head ● THU1102 ● THP1217 ● TH71216 ● THP101 ● TH7101 ● TH7101 ● TH7101 ● TH701	Port Name COM9 • Baudrate 19200 • Parity None • Refresh Serial Ports Gateway Repeater Transmitter Modbus Configuration	Configuration Mode	
 THT202 THP102 THM501 DIN Rail TDU1218 TDU1219 TDU301 Wireless WiGW1104 WGW410 	Modbus Address 1 Modbus Baudrate 19200 Modbus Parity None Wireless Network ID: 16777217 Wireless Channel 13 Read Write	Gateway 868MHz FW v3.0.1 HW v1.0	
DUOS PLUS SFRIAI	Read device successfully		

A

10

NOTE:

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

Click on the *Disconnect* (🧐) button.

The Modbus interface and the wireless network are active if the blue LED is on and steady and the red LED is flashing once per second.

TekOn Configurator		- 0
ile Tools Help		
Devices	Serial Port Configuration	
Transmitters Mead	Port Name COM9 -	
C THU1102	Baudrate 19200 -	~
THP1217 THT1216	Parity None * Refresh Serial Ports	Configuration Mode
THP101 THT201	Gateway Repeater Transmitter	
THU301	Modbus Configuration	
THT202 THP102 THM501 DIN Rail TDU1218 TDU1219 TDU301 Wireless Wireless Wireless UWGW1104 WGW1104 UGW1104	Modbus Address 1 Modbus Baudrate 19200 Modbus Parity None Wireless Network ID: 16777217 Wireless Channel 13 Read Write	Gateway 868MHz FW v3.0.1 HW v1.0
PLUS SFRIAI	Read device successfully	

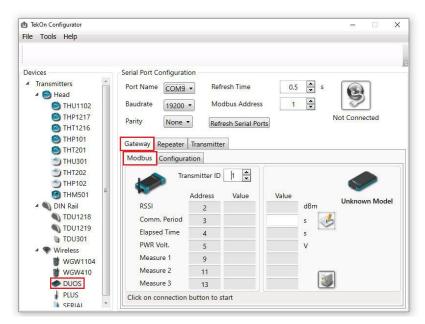


11

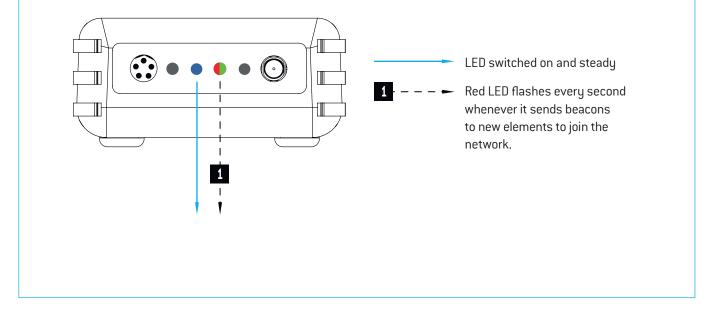
01 CONNECT AND CONFIGURE DUOS WIRELESS GATEWAY

Modbus Communication

Open the *Modbus* tab of the *Gateway* and set the previously saved configurations.



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

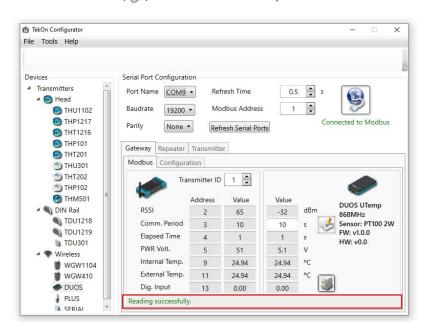




01 CONNECT AND CONFIGURE DUOS WIRELESS GATEWAY

12

Click on the *Connect* () button and check the operation status at the bottom of the window.



The messages *Connected to Modbus* and *Reading successfully* will appear if the *Serial Port* configuration parameters are correct and the Modbus connection established.

If the blue LED is on and steady and red LED flashes once per second, the *Gateway* is fully operational on the Modbus and wireless interfaces.



step 02

CONNECT AND CONFIGURE DUOS MULTITEMP WIRELESS TRANSMITTER

01 Connect the probe (and the digital input cable, if it will be used) to the *DUOS MultiTemp Wireless Transmitter*.



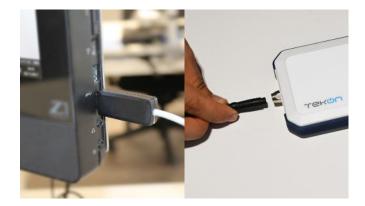
02

Open a new window of the *Tekon Configurator Software* and select the menu *DUOS* >> *Transmitter*.

TekOn Configurator		- 0 3
File Tools Help Devices	Serial Port Configuration	
 ▲ Transmitters ▲ ● Head ● THU1102 ● THP1217 ● THP1216 ● THP101 	Port Name COM4 • Baudrate 19200 • Parity None • Refresh Serial Ports Gateway Repeater Transmitter 2	Not Connected
THT201 THT201 THT202 THT202 THT02 TH0102 THM501 TDU1218 TDU1218 TDU1219 TDU301 Wireless WGW1104 WGW410 VGW410 VGW410 VGW410 VGW410 VGW51104 VGW5110 VGW511 VGW5110 VGW5110 VGW511 VGW511 VGW511 VGW5110 VGW511 VGW511 VGW511 VGW511 VGW511 VGW511 VGW511 VGW51 VGW511 VGW511 VGW511 VGW51 VGW5 VGW51 VGW5 VGW5 VGW5 VGW5 VGW5 VGW5 VGW5 VGW5	Measure 1 Measure 2 Measure 3 Battery Voltage V Comm. Period s Transmitter ID s Wireless Network ID: Wireless Channel v Read Write	Unknown Model
PLUS SFRIAI	Click on connection button to start	

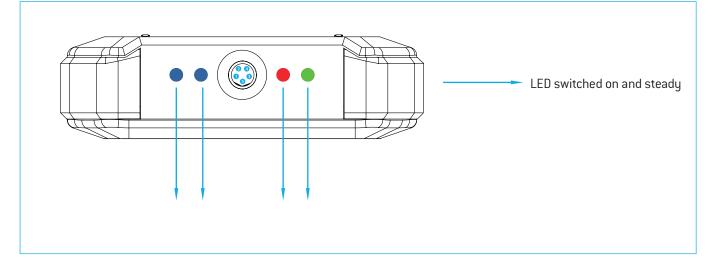
03 Connect the *DUOS TRANSMITTER SARC* cable to the computer and then to the transmitter.

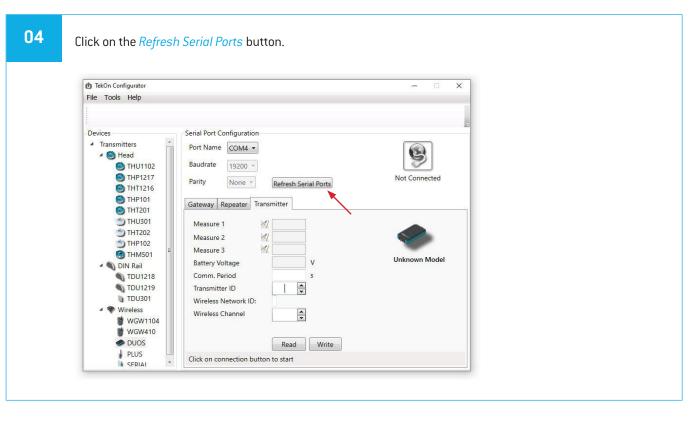
After cable connection, all LEDs stay active during 10 seconds.













• TekOn Configurator		X
File Tools Help		
Devices	Serial Port Configuration	ie i
 Transmitters 	Port Name COM12 -	
4 🛞 Head	COM3	e
THU1102	Baudrate COM3	<i>~</i>
S THP1217	Parity COM7 Refresh Serial Ports	Not Connected
THT1216 THP101	COM1	
THT201	Gateway Repeater Insmitter	
THU301	Measure 1	-
THT202	Measure 2	
THP102	Measure 3	
😁 THM501	Battery Voltage V	Unknown Model
 M DIN Rail M TDU1218 	Comm. Period s	and the set of the set of the
TDU1219	Transmitter ID	
TDU301	Wireless Network ID:	
4 💎 Wireless	Wireless Channel	
👹 WGW1104	×	
👹 WGW410		
DUOS	Read Write	
PLUS	Click on connection button to start	

06

Remove the cable from *DUOS MultiTemp Wireless Transmitter* side and reinsert it. This will access the device's configuration input window during 10 seconds.



³ You can check the device port name in the Device Manager menu in the Windows operating system.





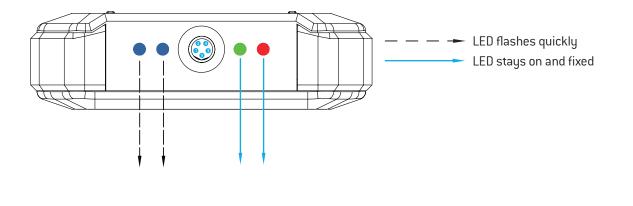
07

Click on *Connect* (9) button to enter configuration mode. These configurations are read automatically.

ile Tools Help				
le Tools Help				
evices	n in in the second			
evices Transmitters	Serial Port Configuration			
A C Head	Port Name COM12 •			
THU1102	Baudrate 19200 +			2
C THP1217	Parity None -	Refresh Seria	Basta	Configuration Mode
THT1216	the second se	Refresh Sena	FDITS	
O THP101	Gateway Repeater Trans	mitter		
M THT201				
THU301	Internal Temp.	22.0	°C	-
THP102	External Temp. 1/2/3/4/5	21.8 23.2	22.5 22.0 21.9	
🕲 THM501	Battery Voltage	10.6	v	-
🖉 🐴 DIN Rail	Comm. Period	10 s		DUOS MULTITEME
TDU1218	Transmitter ID	1		868MHz Sensor: TK9808
TDU1219	Wireless Network ID:	16777217		FW v2.0.1
TDU301 Wireless	Wireless Channel	13 🚔	1	HW v1.2
WGW1104		L		
WGW1104				
DUOS		Read	Write	
PLUS				
SERIAL	Read device successfully			

The status string at the bottom of the software window gives feedback on reading operations.

In configuration mode, *DUOS MultiTemp Wireless Transmitter* activates 4 LEDS: 2 blue LEDs flashes, red and green LEDs remains active and steady.





NOTE:

After reinserting the cable, you have 10 seconds to enter configuration mode by clicking on Connect () button, while blue LEDs flashes slowly.

When the 10 seconds window have been exceeded, blue LEDs are steady and it is no longer possible to enter configuration mode.

In that case, the cable must be removed from the transmitter and reinserted - step 3.



08

Configure *Wireless Network ID* and *Wireless Channel* previously obtained from the *Gateway*. The wireless connection between both devices is ensured by *Wireless Network ID* and *Wireless Channel* parameters.

Ensure that *Transmitter ID* is unique in the network. Each device must have a different *Transmitter ID*. Change it (if necessary) and take note to view the data later.

Click on *Write* button to update settings to the *Transmitter*.

TekOn Configurator			- D
ile Tools Help			
Devices	Serial Port Configuration		
Transmitters A Head	Port Name COM12 •		
THU1102	Baudrate 19200 +		>
THP1217	Parity None -	Refresh Serial Ports	Configuration Mode
THP101	Gateway Repeater Tran	smitter	
5 THU301	Internal Temp.	22.0 °C	
THT202 THP102	External Temp. 1 2 3 4 5	21.8 23.2 22.5 22.0 21.9	
M THM501	Battery Voltage	10.6 V	-
- DIN Rail	Comm. Period	10 s	DUOS MULTITEMP 868MHz
TDU1218	Transmitter ID	1	Sensor: TK9808
TDU1219	Wireless Network ID:	16777217	FW v2.0.1 HW v1.2
TDU301	Wireless Channel	13	HW VI.2
WGW1104			
WGW410		Read Write	
DUOS			
PLUS -	Writing Success		



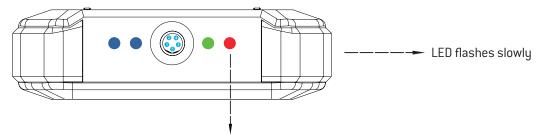
09

Click on the *Configuration Mode* () button to exit setup and start the equipment in normal operation mode.

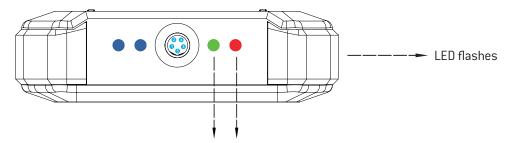
TekOn Configurator e Tools Help								
e roois riep								
evices	Serial Port Co	nfiguration						
Transmitters	Port Name	COM5 ·						
THU1102	Baudrate	19200 -						9
THP1217 THT1216	Parity	None *	Refres	h Seri	al Ports			Not Connected
THP101 THT201	Gateway Re	epeater Tran	smitter					
THU301	Internal Ter	mp.	.22	0	°C			
THP102	External Ter	mp. 1 2 3 4 5	21.8	23.2	22.5	22.0	21.9	
THM501	Battery Vol	tage	10.	6	v			-
🖌 📢 DIN Rail	Comm. Per	iod	10	10 s			DUOS MULTITEMP 868MHz	
TDU1218	Transmitter	D	1	*				Sensor: TK9808
TDU1219	Wireless N	etwork ID:	16777	217				FW v2.0.1 HW v1.2
A S Wireless	Wireless Ch	annel	13	*				PIVV V 1.2
WGW1104								
👹 WGW410			Rea	d	W	rite		
DUOS								
PLUS								

After this procedure:

• The *Transmitter* awaits connection to the *Gateway*, when only the red LED flashes;



• The *Transmitter* is connected via wireless and its data is available in the *Gateway*, when the red and green LEDs flash.





NOTE:

If the green LED does not flash, communication has not been established. 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). The *Transmitter LEDs* remain active during 1 minute. After this period, all LEDs shut down in order to optimise battery life.

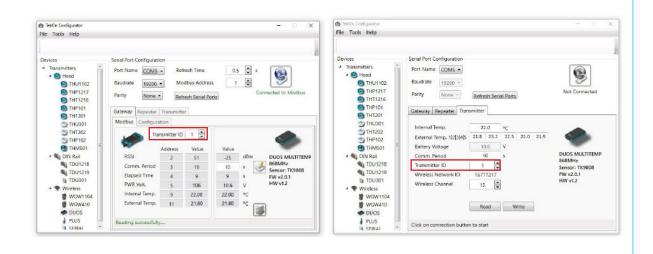
To reset the transmitter, the batteries should be removed, during - at least - 50 seconds (in sleep mode) or instead, as the transmitter has a magnetic switch, a magnet can be used to reset it by passing the magnet close to the transmitter's front side in the blue LED's area.



03 CHECK WIRELESS COMMUNICATION BETWEEN DUOS TRANSMITTER AND GATEWAY

01

Place the two windows of Tekon Configurator software devices side by side, in order to analyse communication between both devices.



02

Select the configured *Transmitter ID* in the *Gateway* window. After this, it is possible to access the address window of the *Transmitter* in analysis.

The communication between devices is successfull when the *Communication Period* field is in compliance with its duration cycle. Therefore, as soon as the cycle duration has finished, it will turn back to 0.

Communication does not occur if the *Elapsed Time* field presents a higher value than the *Communication Period* field.

In the following example, it was established that the temperature monitoring cycle (or *Communication Period*) is 10 seconds. Therefore, the *Elapsed Time* field will turn back to 0 as soon as it reaches 10 seconds and the analysed parameters (in this case, the temperature) will be updated in accordance with ambient conditions.

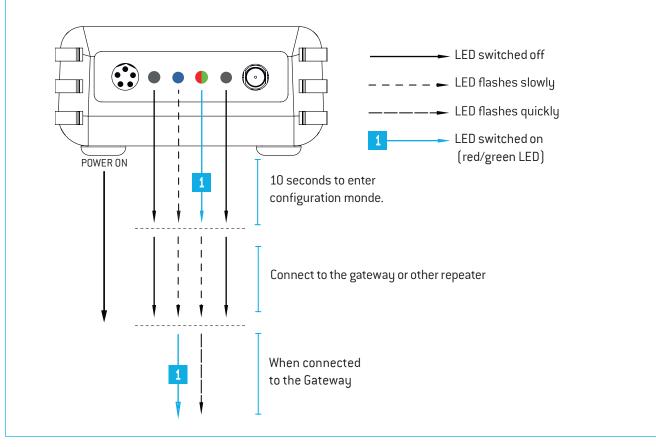
You can define the communication period of the *Transmitter* in the write field by clicking on the *register* (J button.







Check the device connection through the LEDs indication.





step 04	CONNECT AND CONFIGURE DUOS WIRELESS REPEATER
03	Open <i>Tekon Configurator Software</i> and select the menu <i>DUOS >> Repeater</i> .

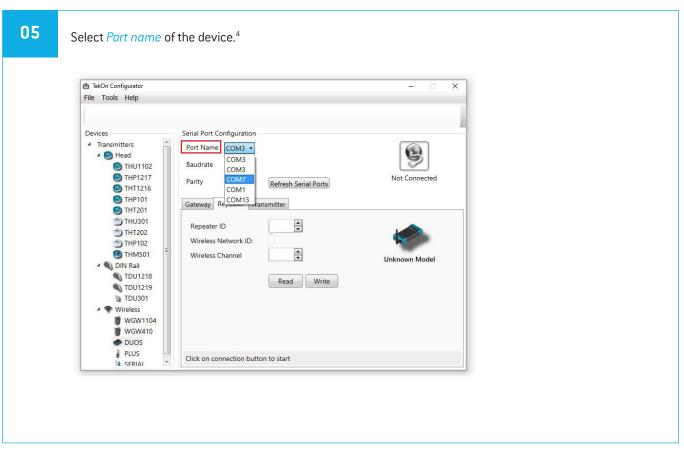
File Tools Help		
Devices	Serial Port Configuration	
	Port Name COMI • Baudrate 19200 • Parity None • Refresh Serial Ports Gateway Repeater Transmitter Repeater ID • Wireless Network ID: Wireless Channel • Read Write	Not Connected
PLUS	Click on connection button to start	

04

Click on *Refresh Serial Ports* button.

TekOn Configurator		- 🗆 X
File Tools Help Devices	Serial Port Configuration	
	Port Name COM3 • Baudrate 19200 • Parity None • Refresh Serial Ports Gateway Repeater Transmitter Repeater ID • Wireless Network ID: Wireless Channel • Read Write	Unknown Model
PLUS SFRIAI	Click on connection button to start	





06

Remove the cable from *Repeater* and reinsert it. After reinserting the cable you have 10 seconds to enter configuration mode by clicking on the *Connect* []] button, while the blue LED flashes slowly.





NOTE:

When the 10 seconds have been exceeded, the blue LED remains steady and it is no longer possible to enter *Configuration mode*. In that case, the cable must be removed from Repeater and reinserted.

⁴ You can check the device port name in the Device Manager menu in the Windows operating system.

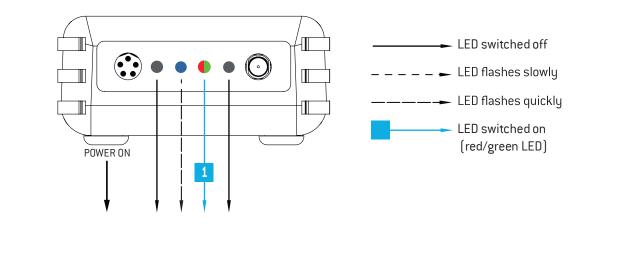




07

Click on the *Connect* (9) button to verify the device's configuration data.

TekOn Configurator		– 🗆 🗙
File Tools Help		
Devices	Serial Port Configuration	
 Transmitters Bead THU1102 	Port Name COM13 - Baudrate 19200 -	S
 THP1217 THT1216 THP101 	Parity None * Refresh Serial Ports	Configuration Mode
 THT201 THU301 	Gateway Repeater ID 201	•
 THT202 THP102 	Wireless Network ID: 16777217	
C THM501	Wireless Channel 13	Repeater 868MHz
 DIN Rail TDU1218 TDU1219 TDU301 	Read Write	FW v1.3.0 HW v1.0
✓ ♥ Wireless ₩GW1104		
WGW410 DUOS PLUS		
SERIAL T	Read device successfully	





80

Make sure that *Wireless Network ID* and *Wireless Channel* in the *Repeater* window have the same values as the ones that were obtained in the *Gateway* configuration window.

evices	Serial Port Configuration	
THU1102 THP1217 TH1216 TH71216 TH701 TH701 TH701 TH702 TH702 TH702 TH702 TH702 TH702 TH702 TH702 TH702 TH702 TH702 TH702 TH702 TH702 TH702 TH702 TH701 TH701 TH701 TH701 TH701 TH701 TH701 TH701 TH701 TH701 TH701 TH701 TH701 TH701 TH701 TH701 TH701 TH701 TH701 TH701 TH701 TH701 TH701 TH701 TH701 TH701 TH701 TH701 TH701 TH701 TH701 TH701 TH701 TH701 TH701 TH701 TH701 TH701 TH701 TH701 TH701 TH701 TH701 TH701 TH701 TH701 TH701 TH701 TH701 TH701 TH701 TH701 TH701 TH701 TH701 TH701 TH701 TH701 TH701 TH701 TH701 TH701 TH701 TH701 TH701 TH701 TH701 TH701 TH701 TH701 TH701 TH701 TH701 TH701 TH701 TH701 TH701 TH701 TH701 TH701 TH701 TH701 TH701 TH701 TH701 TH701 TH701 TH701 TH701 TH701 TH701 TH701 TH701 TH701 TH701 TH701 TH701 TH701 TH701 TH701 TH701 TH701 TH701 TH701 TH701 TH701 TH701 TH701 TH701 TH701 TH701 TH701 TH701 TH701 TH701 TH701 TH701 TH701 TH701 TH701 TH701 TH701 TH701 TH701 TH701 TH701 TH701 TH701 TH701 TH701 TH701 TH701 TH701 TH701 TH701 TH701 TH701 TH701 TH701 TH701 TH701 TH701 TH701 TH701 TH701 TH701 TH701 TH701 TH701 TH701 TH701 TH701 TH701 TH701 TH701 TH701 TH701 TH701 TH701 TH701 TH701 TH701 TH701 TH701 TH701 TH70 TH701 TH70 TH70 TH70 TH70 TH70 TH70 TH70 TH70	Port Name COM13 • Baudrate 19200 • Parity None • Refresh Serial Ports Gateway Repeater Transmitter Repeater ID 201 • Wireless Network ID: 16777217 Wireless Channel 13 • Read Write	Configuration Mode Configuration Mode
WGW1104 WGW410 DUOS PLUS	Read device successfully	



NOTE:

If there is more than one *Repeater* in the network, make sure that the *Repeater ID* is unique in order to avoid network conflict.

09

Change configuration fields (if necessary) and click on *Write* (button to update the *Repeater ID* parameter.

1 TekOn Configurator File Tools Help		- 🗆 X
Devices	Serial Port Configuration	
Transmitters Mead THU1102 THP1217 THT1216	Port Name COM13 Baudrate 19200 Parity None Refresh Serial Ports	Configuration Mode
© THP101 © THP101 © THT201 © THT202 © THM501 © THM501 © DIN Rail © TDU1218 © TDU1218 © TDU1219 © TDU301 ■ Wireless © WGW1104 © WGW410 ● DUOS	Gateway Repeater Transmitter Repeater ID 201 🗶 Wireless Network ID: 16777217 Wireless Channel 13 🖉 Read Write	Repeater 868MHz FW v1.3.0 HW v1.0
PLUS SFRIAI	Writing Success	





Click on the *Configuration Mode* () button to exit the setup programme.

TekOn Configurator File Tools Help		- 🗆 ×
Devices	Serial Port Configuration	
▲ Transmitters ▲ ● Head ● THU1102 ● THP1217 ● THP1217 ● THP1217 ● THP1217 ● THP101	Port Name COM13 - Baudrate 19200 - Parity None - Refresh Serial Ports Gateway Repeater Transmitter	Configuration Mode
 THT201 THU301 THT202 THP102 THM501 DIN Rail TDU1218 TDU1219 TDU301 Wireless WGW1104 WGW410 DUOS 	Repeater ID 201 Wireless Network ID: 16777217 Wireless Channel 13 Read Write	Repeater 868MHz FW v1.3.0 HW v1.0
PLUS SFRIAI	Read device successfully	

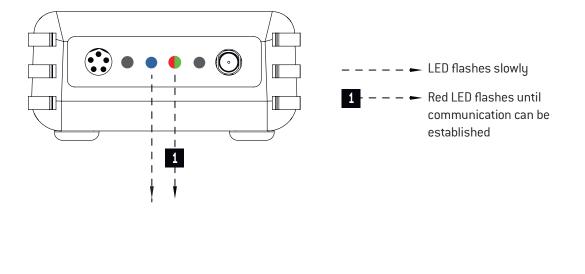


NOTE:

In order to establish communication between the Repeater and the Gateway, make sure that both devices are at a distance of at least 3 meters or remove the antenna from the repeater (in case both devices are near each other). These procedures will guarantee communication quality.

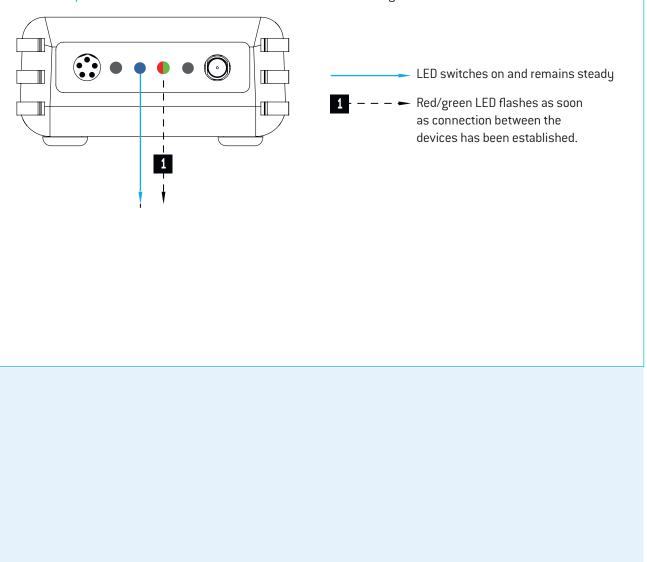
At this moment, it is possible to check if:

• The *Repeater* is trying to connect to the network when the red LED flashes every second.





• The *Repeater* is connected to the wireless network when red and green LEDs flash.







01 Connect DUOS WIRELESS IoT GATEWAY 01 Change the switch pin to Normal Mode. Plug the ethernet cable that follows with your gateway to the device's input and to your network. 02 Your DUOS IoT GATEWAY physical connection should look like this.



WIFI



The access through this interface only allows the configuration and consultation of DUOS IoT GATEWAY. Unable to send data to the cloud over this channel.

The DUOS IoT GATEWAY appear with an SSID with the following configuration *WGW4IoT-hostname*. By default, the devices follow with the SSID *WGW4IoT-<serialnumber>*

n	2
U	3

Connect to the wifi network that comes from your gateway.

Use the password *bresimar* to login.

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	Wi-Fi
Ativar ou desativar	
Wi-Fi	
WI-FI+ Experiencia de Internet otimi	zada Desativado 🗦
Redes disponíveis	
BRESIMAR	
WGW4IoT-Tekon	(î.
OpenWrt	ିଲ
WGW4IoT-DUOS@TEK	0N 휾
DOMBRESIMAR	(i) (i)

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DUOS IoT GATEWAY has a fixed IP address assigned to be accessed via mobile phone, tablet or pc (through Wi-Fi). The interface designed to interact with the device can be accessed through its fixed IP (192.168.128.1) or its SSID address (http://Tekon). The factory-defined and configurable access data are:

- Login: admin

- Password: admin



NOTE:

This password and username must be changed to improve the security level.



NOTE:

After a power-on cycle, the first access to the gateway may have a long time waiting time and should not be confused with a lack of response.



NOTE:

SSID address access is only possible until it is changed. After the change, you must access by the user-defined SSID.

04

Check your network credentials. Click on *Settings* >> *IP Network* tab.

By default, your gateway has a static ethernet IP address for the network (192.168.100.1). You can choose to keep this IP address or activate the DHCP feature to be assigned a dynamic IP address by the network.

Communication Module	Users 1	Data Import/Export	Network	Cloud Service	5	Monit System			
IP Network Table									
Show 10 + entries							Search:		
Interface 11 1	DHCP	IP Address	11.0	Netmask		Gateway	MAC Address	11	
eth0 [Disabled	192.168.100.1	4	255 255 255 0		192.168.0.250	40.83.60.02.10:40		CZ Manage
10 GI	Disabled	127.0.0.1	3	255.0.0.0			00.00.00.00.00.00		
ra0 (Disabled	192 168 128 1		255.255.255.0			40 a3:6b:c2:1c:4a		
								-	s 1 Next
Showing 1 to 3 of 3 entries	5							Previou	s Next
	5	pt.pool.ntp.org						Previdu	s 1 Next
NTP	5	pt pool nip.org						Previdu	E Update
NTP Peer	5	pt pool ntp.org						Previdu	
NTP Peer CC Test	5	pt.pool ntp.org						Freviou	
NTP Peer C¢ Test	5	pt pool ntp.org						Freviou	
NTP Peer CC Test Proxy Configuration	5	pt pool ritp.org						Freviou	
NTP Peer © Test Proxy Configuration HTTP Proxy	5	pt pool ritp.org						Fieldu	



05	To enable the option to get an dynamic IP address assigned by your network, click on <i>Manage</i> button.
	Communication Module Users Data ImportExport Network Cloud Services Mont System
	IP Network Table
	Show 10 • entries Search:
	Interface II DHCP II IP Address II Netmask II Gateway II MAC Address
	ellilo Disabled 192.188.100.1 255.255.0 192.168.0.250 40.a3.66.c2.1c.4c IZ Manage
	lo Disabled 127.0.0.1 255.0.0.0 00.00.00.00.00.00
	ra0 Disabled 192.168.128.1 205.235.235.0 40.a3.66.c2.1c.4a
	Showing 1 to 3 of 3 entries Previous 1 Next
	NTP
	NTP Peer pt pool ntp org
	C Test
	Proxy Configuration



A pop-up window will show up. Click on the validation box, next to the *DHCP* label to enable the option and click on the *Update* button to save the changes. You will be redirected to the previous page.

IP Network Table		Interface	eth0			
Show to T en	Ines	DHCP IP Address	192 168 100 1		Search	
etn0	Enabled	Netmask	255 255 255 0		ess 2.1c.4c	II EX Manage
10	Disabled	Gateway	192 168 0 250		0.00.00	
ta0 Showing 1 to 3 of 3 e	Disabled	MAC Address	40 a3 6b c2:1c.4c		2.1c,4a	Previous 1. Next
NTP				Close Dupdate		
NTP Peer		pt.pool.ntp.org				
o; Test						Update



Write down the IP address of your device's ethernet port. It will be needed later.





CONFIGURE A PROXY SERVER (OPTIONAL)

LIICK (on the <mark>Upda</mark>	ate butto	on to save	the change	es.				
	Interface [1	DHCP	IP Address	11 Netmask	Gateway	11 MAC Address	п		
	eth0	Disabled	192.168.100.1	255.255.255.0	192.168.0.250	40.83.66.c2.1c.4c.		⊯ Manage	
	ю	Disabled	127.0.0.1	255.0.0.0		00:00:00:00:00:00			
	ra0	Disabled	192.168.128.1	255 255 255 0		40 a3 65 c2 1c:4a			
	Showing 1 to 3 of 3 en	tries					Previous	1 Next	
	NTP								
	NTP Peer		pt pool ntp.org						
	O ₀ ^e Test							🖹 Update	
	Proxy Configuration	6							
	HTTP Proxy								
	HTTPS Proxy								



NOTE:

The proxy address must consider the full path configuration like in the example: 'http://my.proxy.com:9000' or 'https://my.secure.proxy.com:9000'





ACCESS TO DUOS GATEWAY IOT THROUGH ETHERNET

08	The connection to DUOS IoT GATEWAY through Ethernet is made using your web browser. You can access by the hostname (http:// <hostname>) or via IP address (http://<192.168.100.1>). The default login credentials are: - Login: admin - Password: admin</hostname>
	A har annue that that that that that that the second
	Sign in
	Usersame Pasa word Pasa word P



NOTE:

DUOS IoT GATEWAY access credentials displayed by default can be edited in *Settings* » *Users* menu.



09



TRANSMITTER ACTIVATION

At login, the graphical interface displays the transmitters that are connected to the network. The first presentation of the devices connected to the network is through a vertical listing [1]. To get an overview of your system, at the bottom of the main page, you will find information about the activity and links established [2].

Show to • eth	ics.	Bearch:	
Hub ID	Name		Status
1	NA		0 v
Showing 1 to 2 of 2 ent			Previous 1 Next
Status Overview		Batava	Previous 1 Next
Status Overview Notwork		Gateway	Previous 1 Next
Status Overview	(Gatoway Ujitme 3-17 Coud Service: Active (Taken Claust)	Prevous 1 Next



The transmitters are listed in ascending numerical order. By default, the name appears with "N/A" until it is edited and reset. The *Hub ID* field match to the Transmitter ID field defined in Tekon Configurator over the transmitter configuration.

10

Click on the *Hub ID* field of the transmitter to activate. You will be redirected to the selected transmitter page, select the *Properties* tab [1], in the *Status* property, choose the *Active* state [2] and click on the *Update* button [3] to save the change.

Sensor Hub - 1 [1]		
	Modbus	
Properties		
Name		
System id	1:0:0:0	
Network Id	1:0:0:1	
Firmware Version	3.0.0	
Refresh Time (seconds)	16	
Status	UNDEFINED	. (2)
Description	UNDEFINED ACTIVE INACTIVE	
Synchronize to Cloud	Ŭ#	
		Chelde 🗄 Lipidate (3)





The transmitter is activated. Transmitter information available for all the interfaces.



If you would like to send data from this transmitter to Tekon IoT Platform, set the *Synchronize to Cloud* field to *On* mode and save the changes. We will return to this subject shortly.

11

- In the "Properties" tab, fill in the fields:
- "Name" and "Description" according to your preference;
- "Refresh Time" according to the intended transmitter communication period;

Save the changes in the Update button.

Measurements Properties Modb	15	
Properties		
Name	DUOS MultiTemp 868MHz	
System Id	1-0-0.8	
Network Id	1:0:0:1	
Firmware Version	1.0.0	
Communication Period (seconds)	10	
Status	ACTIVE	•
Description		
Synchronize to Cloud	Off	
		Detete 🖺 Update



The transmitter is configured.



		CONNECTION 1	TO TEKON IOT	PLATFORM	
12	In the DUOS IoT GATEW/	Y page, go to <i>Setting</i>	s >> Cloud Servic	es.	
	Tekon to Carteway MONE SCHOOL A Settings Connectuation Module Users Date in Tekon Cloud Server URL	STRAINE SETTAND SATEENANT Methods Clauf Services Mark Inter-Viet 18. Jaksonsteetrasics com/	it Sjelen	1 AMM-	
	API Kay Status CG, Text Createntials Tekon Cloud - Sensor hubs cont Show 10 v ordneo Hub ID Nam f E Showing 1 to 2 of 2 er	e UCS MultTemp 860MHz	Blatus Dired Byronemication Off	I Nañésér Druskotlak Search Provious T P P P P P P P P P P P P	

13

In a new browser page, access your Tekon IoT Platform and go to *Settings >> Administration*.

+ Instein All D (the statistice) (0,)KISS QUALINEE	2 19895		Codd net find any information for the following dataset is a	
	8			
	Humidity	Temperature =	Conter = [10] -310471 o mocroso da m	
			, dan-merang attachi aa	



step

05 CONNECT DUOS WIRELESS INT GATEWAY

Click on the view option to see the <i>gateway</i> user dat	ta and copy the API key.	
	O SETTINGS - O LOO O LANDUAGE	COUT
View user	EPERSONAL AREA	
User details	ADMINISTRATION CONFIGURATION	
A		
Name		
galavary		
Ukeniane		
ganesy		
Profile Gateway		
Ensi		
No dela		
Cxtiphose No deta		
Company No data		
Communication details	_	
Apit kery And always this shart with difference the		
	•	

- 4	

In the DUOS IoT GATEWAY page, fill in the fields:

- "Server URL" with your Tekon IoT Platform address;
- "API Key" with the Api key previously copied;

Change the *Status* field value to *On*.

Settings		
Communication Module Lisers Data Import/Export Network	Cloud Services Maril System	
Tekon Gloud		
Server URL http://sol7.8.fekonole	r waies.com/	
API Key dor lations of the state	e473-2803864/1292	
Stutue		
Ø₿ Test Credentials		🗆 Malichte Credentiais 🔄 Update
Tekon Cloud - Sensor hubs configuration		
Show ra 🖌 outries		Search:
Hub ID Name	Statue	
f DUOS MultiTemp B68MHz	Cloud Synchronization Off	٠
Showing 1 to 2 of 2 entries		Previous 1 Next



16

step

You can test the credentials declared. Click on *Test Credentials* button to test the credentials authenticity. If the credentials are authentic, a success message will show next to the button.

You can validate the credentials. This step will ensure data the credentials entered are authentic. Click on the *Validate Credentials* checkbox.

Click on *Update* button to save the changes. If *Validate Credentials* is checked, the configured data is stored only if valid. Pay attention to the received message.

ttings			
ermunication Module - Usera - Data Imp	eert/Export Network Cloud Services	s Maril System	
Tekon Cloud			
Sorver URL	http://lat18.takanalactronics.com/		
API Key	defailate //de-ddef all21 202064	2002	
Status	Cin		
😋 Test Crodentials 🖌 🖌 Authencicat	ion Ok		Validate Credentials
Tekon Cloud - Sensor hubs config	puration		
Show 10 ~ entries			Search:
		Statue	
Hub ID Name			*
1 DU	IOS MultiTemp 868MHz	Cloud Synchronization Off	•
		Cloud Synchronization Ciff	Previous 1 Next



Your DUOS GATEWAY IoT is now connected to your Tekon IoT Platform instance.



0

step CONNECT DUOS WIRELESS IOT GATEWAY

ATTACH TRANSMITTER DATA TO TEKON IOT PLATFORM 17 Access to your Tekon IoT Platform, click at the Datasources menu and the button (🔊) to edit the datasource where you want to send the transmitter data. rekun ARD 📾 DATASOURCES 🌲 ALARMS - 🔳 DATA DAS **\$** 58 ¢ tasources • / s 0005-00 MS15 PLUS 5 PLUS SS Tests (NS 20 * 18

Copy the API key from the datasource and go back to your DUOS IoT GATEWAY page. On the page, select the transmitter you want to match, fill in the API Key field with the copied value.

You can test and validate the credentials, as explained in the step 16.

Click on Update button to save the changes.

Communication Module Users De	la Import/Esport Network Claud Services Manif System	
Tekon Cloud		
Server UPL	http://kd18.lekonelectronics.com/	
API Kay	delabor Pite-Atter and 2003062-002	
of test Gredentials ✓ Auther Tekon Cloud - Sensor hubs o	Information Ok	Valdate Crodentalis Valdate Valdate Crodentalis
Tekon Cloud - Sensor hubs o		2 Valdato Crosentais
Tekon Cloud - Sensor hubs o show to v entries Hub ID	anfiguration	er Valctato Credentials Siearute
Tekon Cloud - Sensor hubs o show to v entries Hub ID	ronfiguration Name DUCG Multiformp BOOMIz	Valtato Crocentrals Search







NOTE:

The message "Cloud Synchronization On" will only be visible if you have activated the option "Synchronize to Cloud" in the "TRANSMITTER ACTIVATION" step to activate your transmitter. If you did not perform the validation, the message "Cloud Synchronization Off" will be displayed in the "Status" field.



Your transmitter is now connected to your Tekon IoT Platform.



NOTE:

Perform a reboot in the gateway. Remove the *DUOS RS485-USB* cable on the gateway port and reconnect it.

VERIFY COMMUNICATION WITH TEKON IOT PLATFORM

19

To verify if the information acquired by the transmitter is effectively reaching your Tekon IoT Platform, click on the Datasources menu and check the date of the latest communication between the platform and the transmitter. This log will tell you if the communication process is on or not.

	ASHBOARD 🚔 DATASOURCES 🌲 ALARMS - 📑 DATA	•).		Ф SETTINGS - 🖱 LOGO
tasources				
				+ Addition
			asach	
lame -	Date +	Communication =	Variables state =	
105 002 BUSMHE - TESTE ACV	06/23/2819 11:11:57 AM +01:00			· /
สาร	60/28/2819 12:15:33 PM +61:08	- * A		
.05.5				• /
JUS 55	86/17/2819 2:48:09 PM +01:00	O orres		- /
iste INSIS Andrá		(* M)	(
a •				
				7
		E 200 BESMIL RITORICES 5.4		
		a num archent an (garba) pe		



DATA COMMUNICATION OVER MODBUS TCP/IP								
20				0 1			^P communication. s communications.	
	(iii) Televe la T Gateway Sensor Hu	HOME SENSOR NETWORK		analyze ar	nd select th	∎e Modbus Hol	ding Registers tab.	
	Modbus holding reg Register Variable Transmitar Model Probe Sessor Model		Register Address 0 1	Register Value 0x00000E 0x000005	Register Type Hilding Register Hilding Register	Register Format UNT16 UNT16		
	RSS Communication Period Elapsed Time Batheyr Voltage FW Vendon Major I Mino	-20:891 10s 10s 0v 7. 1.0	2 3 4 5	0x00028 0x00001E 0x00001FF 0x0000000 0x0000000	Haiding Register Haiding Register Haiding Register Haiding Register Haiding Register	UNTIG UNTIG UNTIG UNTIG UNTIS_UNTIB		
	FW Version Revision HW Version Mejor I Min- Internal Temperature External Temperature S1 External Temperature S1	22.0 °C 21.80 °C	7 8 9 11	0x000000 0x000402 0x42480000 0x42308000 0x62308000	Heiding Register Heiding Register Heiding Register Heiding Register Heiding Register	UMT16 UMT3_UMT8 FLOAT32 FLOAT32 FLOAT32		
	External temperature SS External Temperature SS External Temperature SS	22.50 ℃ 22.00 ℃	13 15 17 19	0x613F81264 0x613F8126 0x613SFDF4 0x40780900	Haiding Register Haiding Register Haiding Register	FLOAT32 FLOAT32 FLOAT32	-	

21

- In this page, you have the selected transmitter modbus scheme.
- (1): variable names;
- (2): current value recorded;
- (3): modbus address;
- (4): register value;
- (5): register type;
- (6): register data type; Sensor Hub - 40

Measurémenté Properties	Modbus Holding registers				
Modbus helding registers	(2)	(3)	(4)	(5)	(6)
Register Variable	Actual Value	Register Address	Register Value	Register Type	Register Format
Transmitter Model	DUOS MULTITEMP	0	0W00000E	Holding Register	UINT16
Probe Sensor Model	MULTI_TK9606	1	0x000005	Holding Register	UINT16
RSSI	-20dBm	2	0x000025	Holding Register	UINT16
Communication Period	10s	3	0x00001E	Holding Register	UINT16
Elapsed Time	104	4	0w0DFFFF	Holding Register	LIINT 16
Battery Voltage	0v	5	00000000	Holding Register	UINT16
FW Version Major Minor	1.0	6	0x000100	Holding Register	UNIT8_UINT8
FW Version Revision	0	7	00000000	Holding Register	LINT16
HW Version Major Minor	4.2	8	0x000402	Holding Register	UINTS_UINTS
Internal Temperature	22.0 °C	9	0x42480000	Holding Register	FLDAT32
External Temperature S1	21.80 °C	11	0x423C8000	Holding Register	FLOAT32
External Temperature S2	23.20 °C	13	OWC1BE7EFA	Holding Register	FLDAT32
External Temperature S3	22.50 °C	15	0x413F8106	Holding Register	FLOAT32
External Temperature S4	22.00 °C	17	0MC138FDF4	Holding Register	FLOAT32







NOTE:

In this example we used the transmitter / hub 1. The first modbus address of its variables starts at 0. To find the modbus address calculation formula defined for DUOS IoT GATEWAY, please refer the datasheet on Tekon Electronics website.



To access to the records via Modbus TCP/IP in real time, you must use a program developed for this purpose, external to Tekon Electronics.



- DUOS IoT GATEWAY IP;
- Port: 1502;



REVISION HISTORY	
VERSION	
E01B	

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