

USER MANUAL

TWS1

Thermal Watch Sensor 1

TWR DIN

Thermal Watch DIN

TWR IR

Thermal Watch Receiver



PARALEC
energy solutions

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1. Abbreviations

Abbreviations	Definition
AP	Access Point
CB	Circuit Breaker
CHAP	Challenge-Handshake Authentication Protocol
CL_F	CL interface unit with Fiber Optic Network communication
CL_T	CL interface unit with Telecom Mobile Network communication
CL_W	CL interface unit with WiFi communication
DCG	Data Concentrator Gateway
DL	Downlink
DNP3	Distributed Network Protocol 3
EMC	Electromagnetic compatibility
FDU	Fiber Optic Distribution Unit
GW	Gateway
IEC	International Electrotechnical Commission
IMSI	International Mobile Subscriber Identity
IT	Information Technology (in "IT rack")
LBS	Load Break Switch
LED	Light Emitting Diode
LTE	Long Term Evolution
MCB	Molded Circuit Breaker
MCC	Mobile Country Code
MNC	Mobile Network Code
MTS	Manual Transfer Switch
OS	Operating System
PAP	Password Authentication Protocol
PLMN	Public Land Mobile Network
PSU	Power Supply Unit
RJ12	Registered Jack 12 (connector type)
RJ45	Registered Jack 45 (connector type)
RS485	Serial Modbus communication port
SPD	Surge Protection Device
SPF	Small Form-Factor Pluggable Fiber Optic

Abbreviations	Definition
SSID	Service Set Identifier
TW	Thermal Watch
TWR	Thermal Watch Receiver
TWR-DIN	Thermal Watch Receiver - DIN mounted module
TWR-IR	Thermal Watch Receiver - Infrared Receiver
TWS	Thermal Watch Sensor
UL	Uplink
UPC	Ultra Physical Contact (fiber optic connector polish)
VAC	Volts Alternating Current
VDC	Volts Direct Current
WebUI	Web User Interface
WIFI	Wireless Fidelity

2. General safety instructions






The instructions in this manual are not intended as a substitute for proper training or adequate experience in the safe operation of the equipment described.

Only competent technicians who are familiar with this equipment should install, operate, and service it.

A competent technician has these qualifications:

- **Is thoroughly familiar with these instructions.**
- **Is trained in industry-accepted high and low-voltage safe operating practices and procedures.**
- **Is trained and authorized to energize, de-energize, clear, and ground power distribution equipment.**
- **Is trained in the care and use of protective equipment such as arc flash clothing, safety glasses, face shield, hard hat, rubber gloves, clampstick, hotstick, etc.**

This manual may contain four types of hazard statements:

DANGER 	Indicates an imminently hazardous situation which, if not avoided, will result in death or serious injury.
WARNING 	Indicates a potentially hazardous situation which, if not avoided, could result in death or serious injury.
CAUTION 	Indicates a potentially hazardous situation which, if not avoided, may result in minor or moderate injury. Or indicates a potentially hazardous situation which, if not avoided, may result in equipment damage only.

3. Introduction

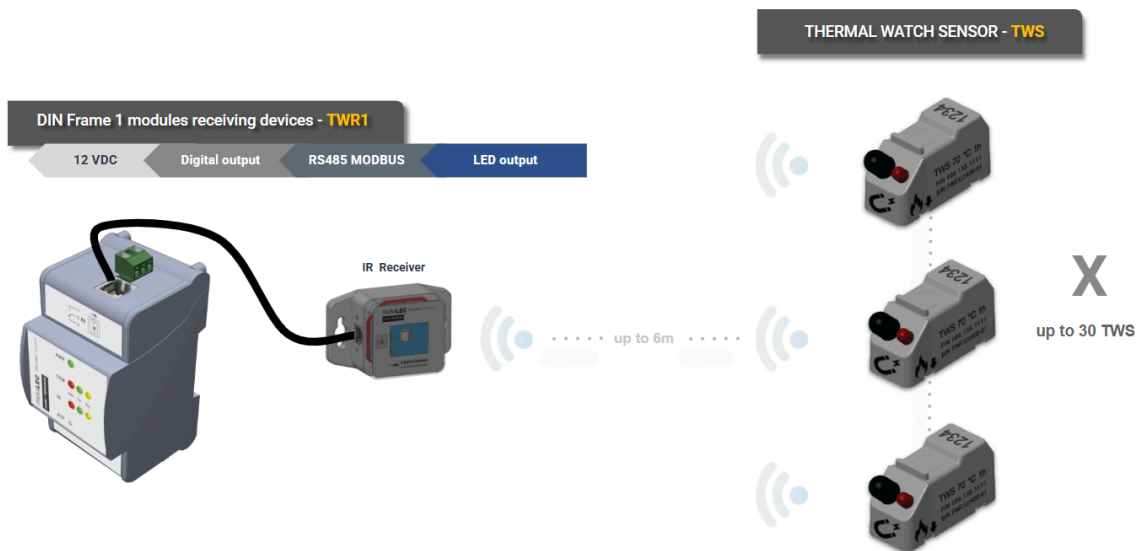
The Thermal Watch Sensor (TWS) are designed for monitoring low and high-voltage electrical connections, whether on a circuit breaker, a bus bar installed in an electrical switchboard or switchgears. It is available with two maximum temperature configurations and a 16mm form factor allowing the sensor to be installed on terminals as small as MCBs.

The device sends periodically and on alarm threshold the following informations:

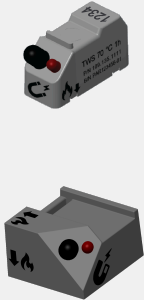

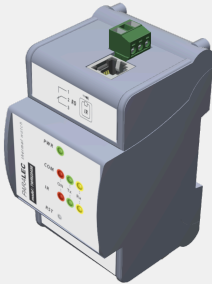

- Temperature
- Identification number
- Battery level
- Mode.

The device is powered by a high grade battery that lasts up to 10 years with 1h measurement cycles.

For commissioning and testing purposes the device can be operated with a magnet.

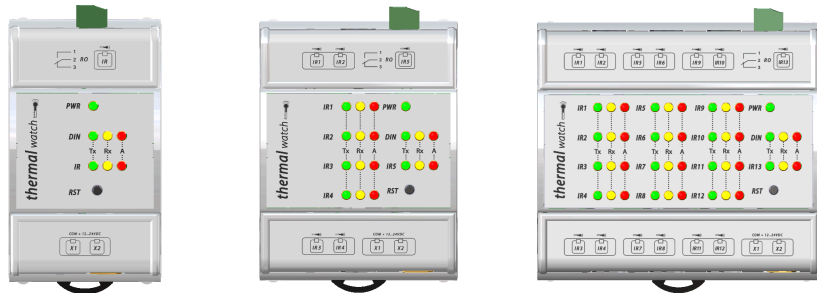


4. TW range components & features

Thermal Watch Sensor (TWS)	Thermal Watch Receiver - Infrared Receiver (TWR-IR)	Thermal Watch Receiver - DIN mounted module (TWR-DIN)	Data Concentrator Gateway (DCG)
Measures the temperature a point where it is installed	Communicates with the TWS through infrared, collects data of multiple TWS in the range	Connected to the TWR-IR through a RJ12 cable, the TWR-DIN collects and stores data.	A data concentrator that collects and render data from TWR-DIN
			
Exist in 2 form factors and 2 temperature range. Up to 85°C and up to 115°C.		Exists in 3 form factors, with 1, 5 or 13 connections to TWR-IR	

5. TWR-DIN family

	TWR-DIN1	TWR-DIN5	TWR-DIN13
Application	Isolated panels	MV circuit breakers Form 1, 2 panels	Large Form 3, 4 panels & MCC
Width	3x DIN MODULES 53mm	4x DIN MODULES 71mm	6x DIN MODULES 105mm
RJ45 terminals 8p8c for RS485 & 12..24VDC	2x IN / OUT	2x IN / OUT	2x IN / OUT



RJ12 terminals 6p6c for TWR-IR port	1x	5x	13x
NO/NC (3 terminals)	1x		
Power LED	1x		
Port ALARM LEDs	1x	5x	13x
General State LED	1x		

6. Technical characteristics

6.1. Technical characteristics TWR-DIN

Description	Details/Requirements		
IDENTIFICATION			
Model Name	TWR-DIN		
Part number	110.1_ _ . _ _ _		
Product Full Description	Thermal Watch DIN mounted receiver		
POWER SUPPLY / INPUT			
Supply voltage	12 - 24 VDC		
Maximum power consumption	DIN1 : 0.5W DIN5 : 1W DIN13 : 2W		
Wiring	Through RJ45 CAT6 see pin out in relevant paragraph		
Service life	10 years		
GROUNDING			
Wiring	No required		
SERIAL RS485 MODBUS			
Type	Through RJ45 CAT6 see pin out in relevant paragraph		
Maximum distance	200 meters		
Baud rate	up to 115 000		
Data Bits / Stop bits / Parity	8 / 1 / none		
Maximum	@12VDC : DIN1 = 30pcs in series / DIN5 = 15pcs / DIN13 = 7pcs @24VDC : DIN1 = 60pcs in series / DIN5 = 30pcs / DIN13 = 14pcs		
MECHANICAL			
DIN Frame #	3 Modukes	4 Modukes	6 Modukes
Dimensions	WIDTH mm 53 HEIGHT mm 102 DEPTH mm 63	WIDTH mm 71 HEIGHT mm 102 DEPTH mm 63	WIDTH mm 105 HEIGHT mm 102 DEPTH mm 63
Net weight	104g	152g	242g
IP rating	IP30		
Mounting type	Clip on DIN Rail 35mm		
Labels includes	Hardware version number, serial number, manufacturing batch		
Enclosure material	Polycarbonate/ABS		
ENVIRONMENT			
Ambient temperature	-20 to +70°C		
Storage temperature	-20 to +70°C		
Electromagnetic compatibility (EMC)			
Electrostatic discharge	EN 61000-4-2:2009 Performance B		
Power frequency magnetic fields	EN 61000-4-8:2010 Performance A		
Fast transients	EN 61000-4-4:2012 Performance B		

Injected currents (radio-frequency common mode)	EN 61000-4-6:2014 Performance A
Surges	EN 61000-4-5:2014 + AMD1:2027 Performance B
Emission	IEC 61000-6-4:2018 Class A

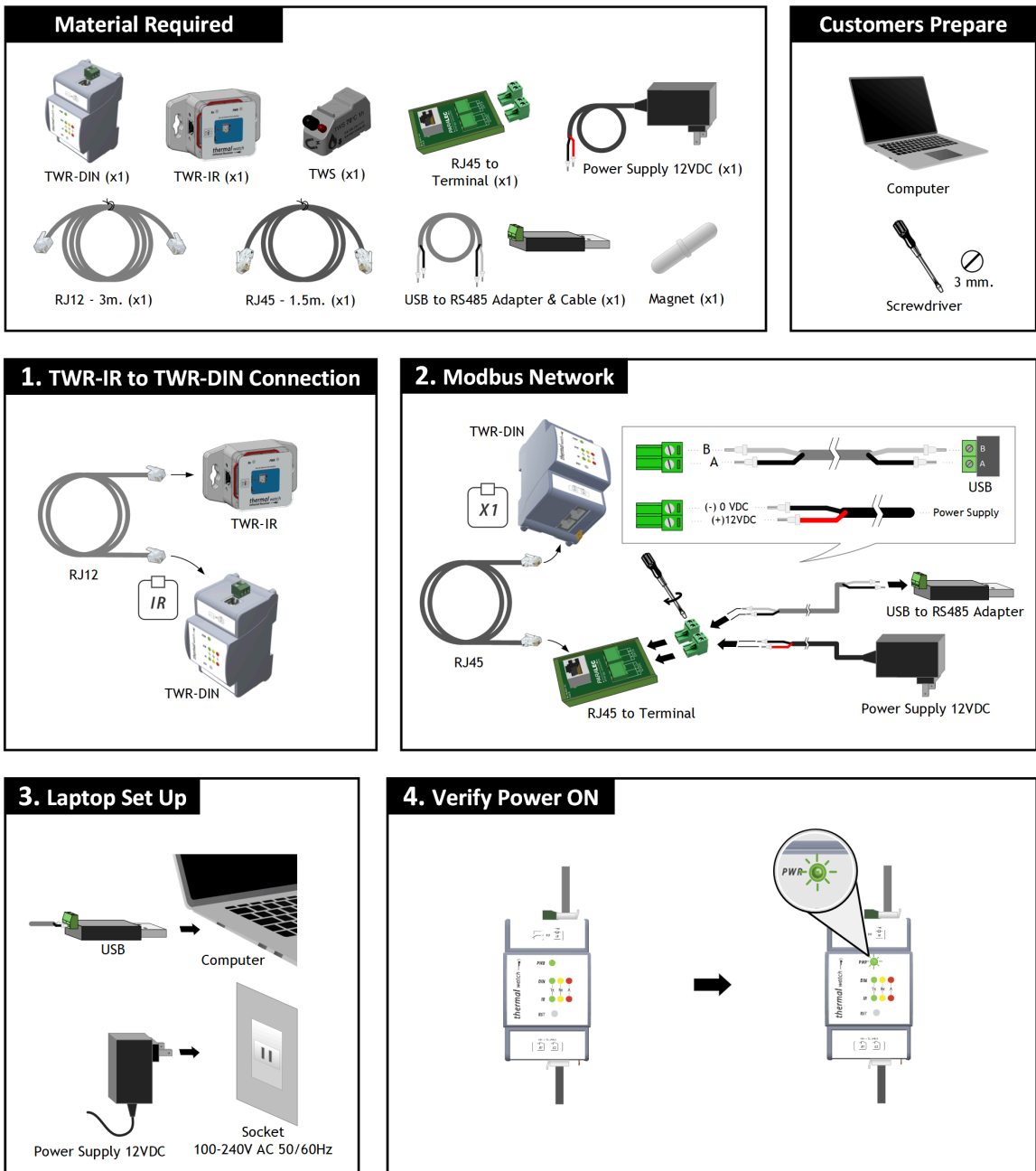
6.2. Technical characteristics TWR-IR

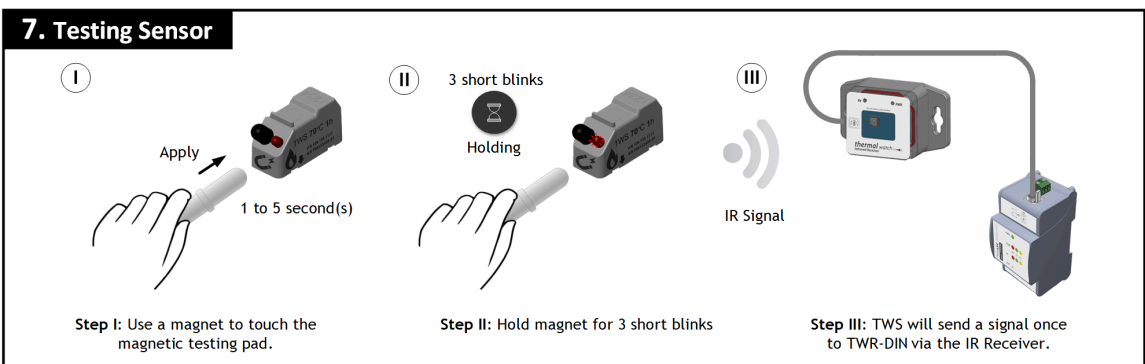
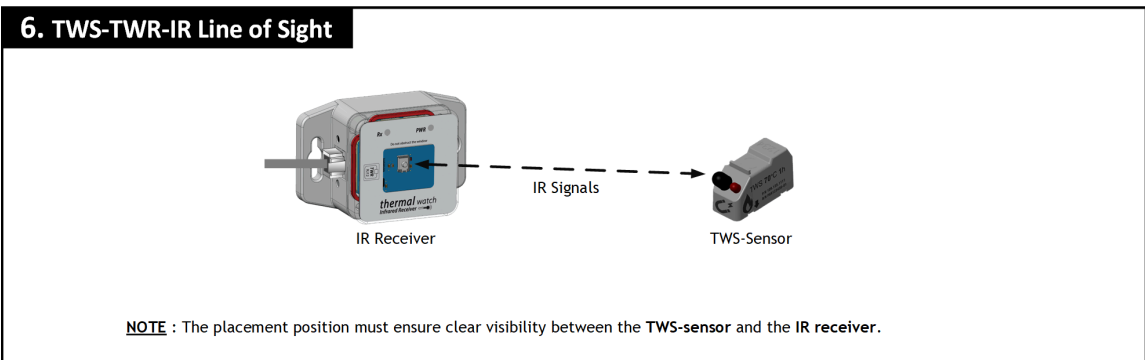
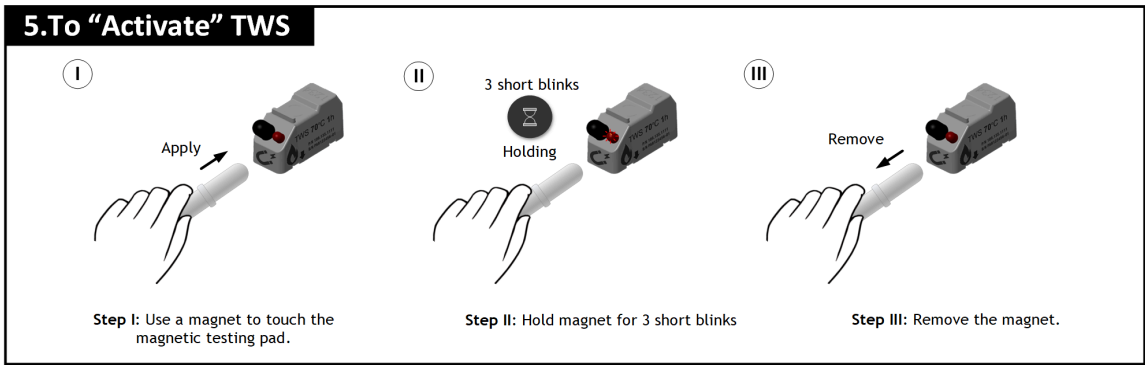
Description	Details/Requirements
IDENTIFICATION	
Model Name	TWR-IR
Part number	110.1__ . ___
Product Full Description	Thermal Watch IR Receiver
POWER SUPPLY / INPUT	
Supply voltage	12VDC supplied through RJ12 and TWR-DIN
Frequency	50Hz or 60Hz
Wiring	Through RJ12
Service life	10 years
GROUNDING	
Wiring	Not required
COMMUNICATION	
Type	Proprietary
Maximum distance	20 meters, more consult us
Cable	RJ12 6p6p
Cable power frequency withstand voltage	> 1000VAC
MECHANICAL	
Dimensions	WIDTH mm 81 HEIGHT mm 35 DEPTH mm 51
Net weight	69g
IP rating	IP30
Mounting type	Nuts and bolts
Labels includes	Hardware version number, serial number, manufacturing batch
Enclosure material	Polycarbonate
ENVIRONMENT	
Ambient temperature	-20 to +70°C
Storage temperature	-20 to +70°C
Electromagnetic compatibility (EMC)	
Electrostatic discharge	EN 61000-4-2:2009 Performance B
Power frequency magnetic fields	EN 61000-4-8:2010 Performance A

SPECTRAL HALF WIDTH	50nm (nanometer)
VIEWING ANGLE	12 degrees
MECHANICAL CHARACTERISTICS	
WEIGHT	3grs
DIMENSIONS	29 x 16 x 13.5 mm
PLASTIC CHARACTERISTICS	UL 94 H-B
MOUNTING SUPPORT	DIRECTLY ON ACTIVE PART VIA Zap Strap/Cable Tie
MEASUREMENT	
TEMPERATURE ACCURACY with dT/dt < 1°C/min @40°C	+/-5°C
TEMPERATURE MEASUREMENT RANGE	0°C to +120°C
ENVIRONMENT	
OPERATION AMBIENT AIR TEMPERATURE	-20°C to +125°C
STORAGE AIR TEMPERATURE	-20°C to +70°C
RELATIVE HUMIDITY	10%....100%
IP IEC 60529	IP68
OPERATING ALTITUDE	0.....2000m

7. Quickstart

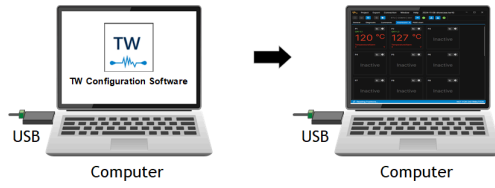
7.1. Putting things together





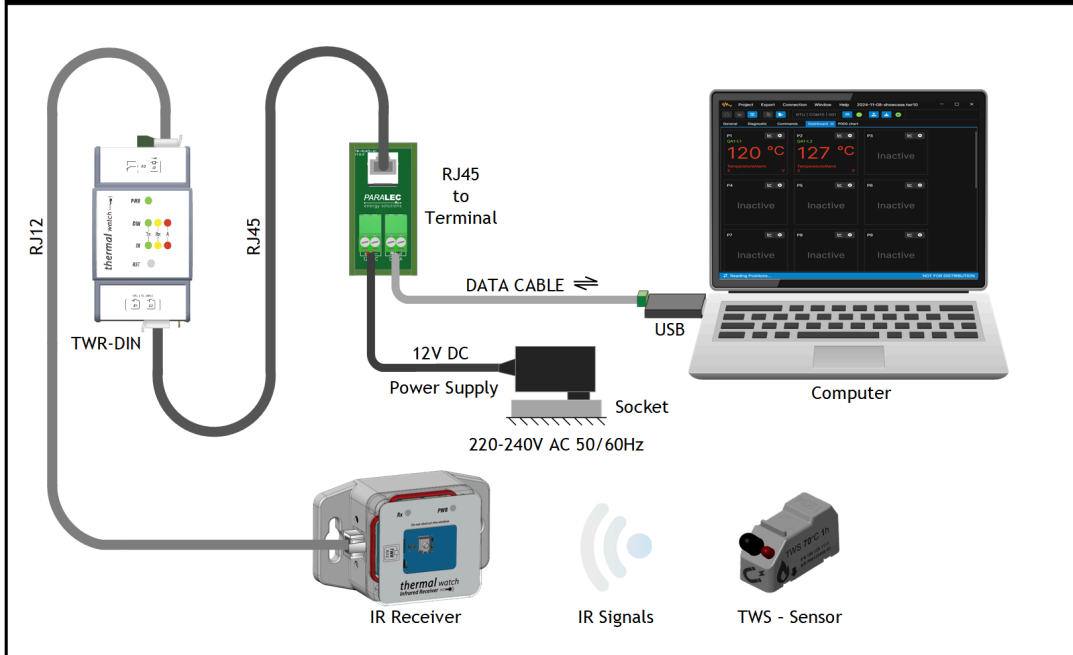
Note : If the magnet is held in position for more than one short blink, 28-bit transmissions will occur for successive short blinks. Long blinks commence after five short blinks. Be sure to remove the magnet before long blinks commence.

8. Open the TW Configuration Software



Please refer to the Operation Manual in Chapter 6.

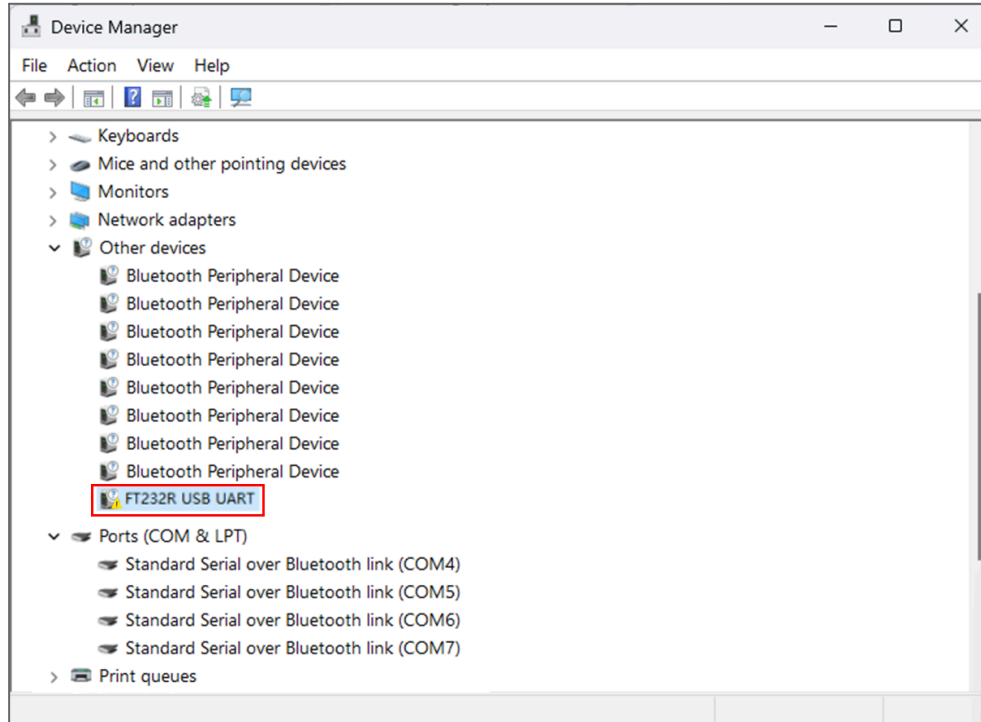
Communications



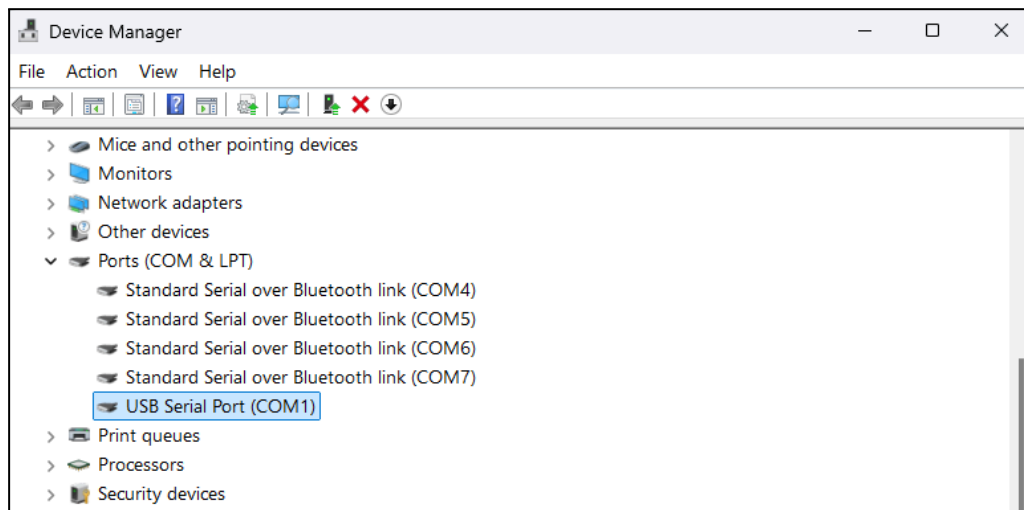
7.2. Installation of USB to RS485 Driver

Follow these steps to install the driver:

1. Connect the module to the host PC, check Device Manager, if the device is listed with the yellow exclamation mark, it means that the driver was not installed.



2. Download the driver from [VCP Drivers](#), unzip, and install it.
3. After installing, you can find that the mark disappeared and a COM device is listed.

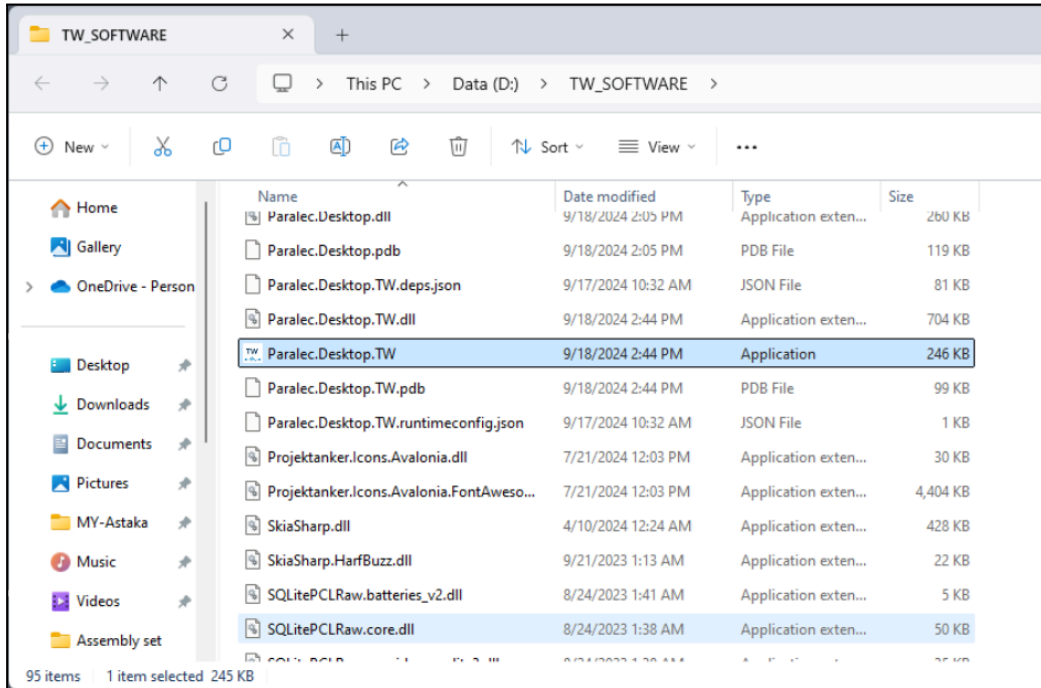


7.3. Installation of TW configuration software

Follow these steps to install the software:

1. Install an additional Microsoft Windows component: [.NET Runtime 8.0.x](#)
2. Download a zip-file with TW software from the provided link.

3. Unzip program files to the desired location.
4. Launch the program file:
./<installation location>/Paralec.Desktop.TW.exe



7.4. Create (open) project

All the configuration parameters and fetched history data can be saved into the project file. So, it makes possible offline access to the downloaded data offline later. Each installed TWR-DIN should be associated with a related project file.

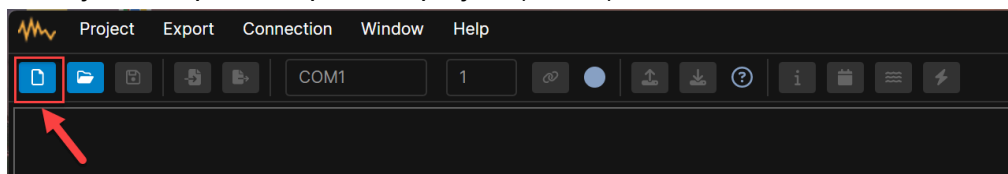
The project folder contains 2 files:

- .twr10 - project file that includes information about TWR-DIN configuration
- .db - database file that stores all data downloaded from the device

The project name should relate to the installation of TWR-DIN. For example;
<Location>-<Section Code>-<Feeder Code>

Open or create a project related to the certain TWR-DIN device:

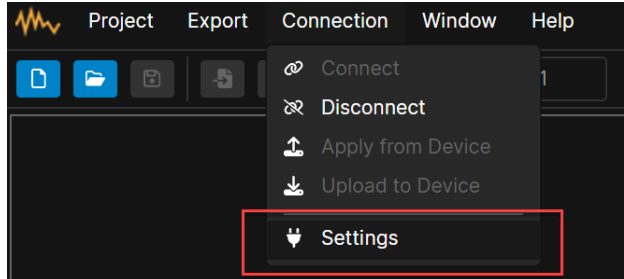
1. Project -> Create -> Enter name and location of folder for TW projects
2. or Project -> Open -> Open TW project (.twr10)



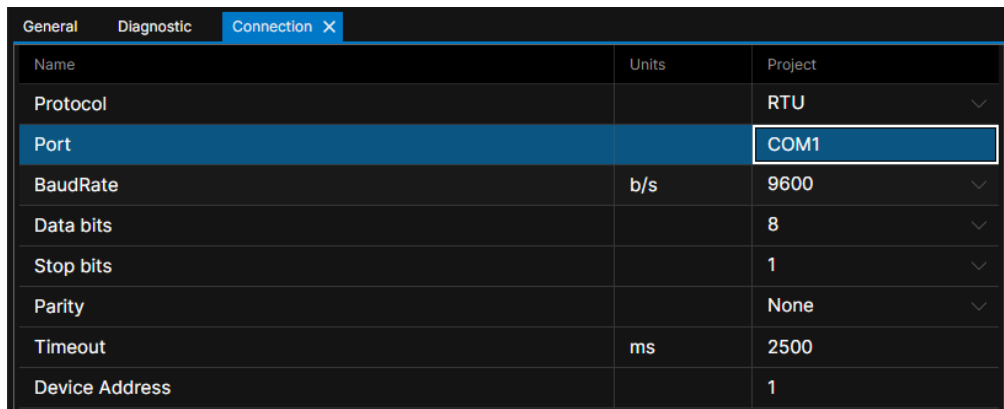
7.5. Set connection parameters

Follow these steps to set connection parameters:

1. Open Connection Settings menu: Connection -> Settings



2. Set Serial Port parameters (normally Port name and Device Address should only be adjusted).



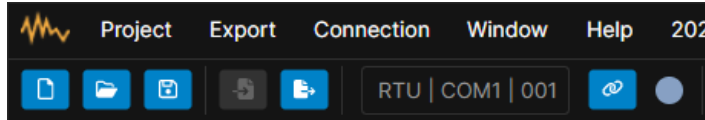
The following parameters can be set:

Parameter Name	Note
Protocol	<ul style="list-style-type: none"> • RTU • RTU over TCP (not implemented) • TCP (not implemented)
Port	Write the Serial Port name that is used for communication
Baudrate	By default TWR-DIN uses 9600 b/s
Data bits	TWR-DIN supports only 8 data bits
Stop bits	TWR-DIN supports only 1 stop bits
Parity	Parity check
Timeout	Set at least 3000 ms to ensure the stable connection
Device Address	The Modbus Unit ID (address) of the device (1 by default)

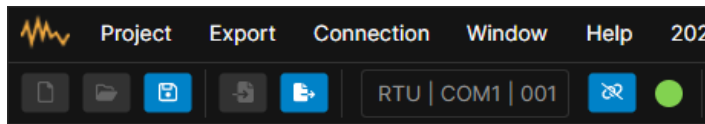
7.6. Establish connection with the device

Follow these steps:

1. Check connection parameters (especially port name and the device address)
2. Click “Connect” button



3. Wait until the Connection Status Icon becomes clear green.



4. If the device connected for the first time to the opened project the program asks to accept associating device Serial Number with the project database. Click “Yes” if this device should be associated with this project. It is made to prevent downloading the data from the device to the wrong project (database).
5. Check the parameters values in the Diagnostic tab (Windows -> Diagnostics) or other live-views that have a green color. If the values are not fetched yet or there is a connection issue they will be gray.

ID	Name	Unit	Device
DS01	System Time		2025-12-19 05:24:14.515
DS02	Application Status		OK
DS03	System Status		RCN
DS04	Relay Status		ON
DS10	Communication Config Timestamp		2025-12-18 09:13:03.078
DS11	General Config Timestamp		2000-01-01 00:00:00.238
DS12	Receivers Config Timestamp		2000-01-01 00:00:00.394
DS13	Sensors Config Timestamp		2025-12-15 11:32:40.316
CC01	Uptime		5375043
CC02	Data Records Count		35
CC03	Data Records Layer		0
CC04	System Log Count		68
CC05	System Log Layer		0

7.7. Check device time

To ensure the right timestamps of measurement the device time has always been synchronized.

To check the device time:

1. Open Diagnostic tab: Window -> Diagnostic.
2. Check the value of the parameter DS01 "System Time". It displays the current time of the device in UTC format.

General		Diagnostic X	
ID	Name	Unit	Device
DS01	System Time		2025-12-19 05:24:14.515
DS02	Application Status		OK
DS03	System Status		RCN
DS04	Relay Status		ON
DS10	Communication Config Timestamp		2025-12-18 09:13:03.078
DS11	General Config Timestamp		2000-01-01 00:00:00.238
DS12	Receivers Config Timestamp		2000-01-01 00:00:00.394
DS13	Sensors Config Timestamp		2025-12-15 11:32:40.316
CC01	Uptime		5375043
CC02	Data Records Count		35
CC03	Data Records Layer		0
CC04	System Log Count		68
CC05	System Log Layer		0

If the device time is not correct then it should be synchronized manually:

1. Open Commands tab: Windows -> Command
2. Click "Execute" on the command EX01 "Synch time"

General		Diagnostic		Commands X	
ID	Name	Unit	Project		
EX01	Synch Time			Execute	
EX02	Reboot Device			Execute	
EX03	Reset Alarms			Execute	
EX04	Restore Defaults			Execute	
EX05	Erase Data Records			Execute	
EX06	Erase System Log			Execute	
EX07	Register Sensor			Execute	

3. Check if the time is synchronized with the PC under the Diagnostic tab.

7.8. Set up main configuration parameters

Ensure that device is configured properly according to the needs:

1. Open Configuration tab: Windows -> Configuration.
2. Set required parameters

The screenshot shows the Configuration tab in the Paralec software. The table below represents the data visible in the interface.

ID	Name	Unit	Device	Project
Communication				
SP01	Baudrate	b/s	9600	9600
SP02	Data Bits		8	8
SP03	Stop Bits		1	1
SP04	Parity		None	None
SP05	Address		1	1
SP06	Receiver Timeout	ms	1000	1000
SP07	Receiver Retries		3	3
System				
GC01	Relay Output Mode		Normal ON	Normal ON
GC02	Relay Output Triggers		All	All
GC03	Button Reset		ON	ON
GC04	System Alarms Auto-Reset		ON	ON
GC05	Application Alarms Auto-Reset		OFF	OFF
GC06	Discard Unchanged Data		OFF	OFF
GC07	Duplicates Timeout	ms	1000	1000
GC08	Ambient Recording Interval	minutes	60	60
GC20	Time Synch Alarm		ON	ON
GC21	Connection Alarms		ON	ON
GC22	Battery Alarms		ON	ON
Application				
GC30	Enable Surface Temperature Alar		ON	ON
GC31	Enable Ambient Temperature Ala		ON	ON
GC32	Enable Relative Humidity Alarms		ON	ON
GC33	Enable Dew Point Alarms		OFF	OFF
GC34	Enable Surface Dew Alarm		OFF	OFF

Reading Sensors [0-14] NOT FOR DISTRIBUTION

7.9. Set up binding to positions

Follow these steps:

1. Open Dashboard tab: Windows -> Sensor.
2. Click on the gear icon to bind a sensor to this position.

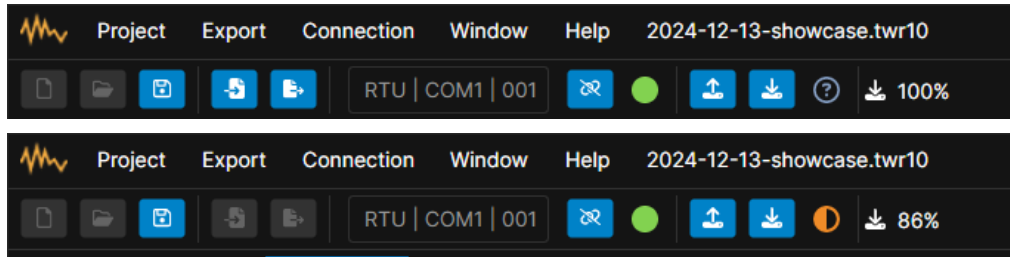
The screenshot displays the 'Sensors' configuration window in the Paralec software. The top section shows three sensor cards labeled S001, S002, and S003, each with a status of 'unset' and a gear icon for configuration. A red arrow points to the gear icon on the S001 card. Below this, the configuration table for S001 is shown, listing various parameters and their current values.

ID	Name	Unit	Device	Project
SC00	Name			
SC01	Identifier		0	0
SC02	Tx-Interval	minutes	120	120
SC03	Use Hardware Threshold		ON	ON
SC04	High Temperature	°C	70	70
SC05	Low Temperature	°C	3	3
SC06	Temperature Hysteresis	°C	3	3
SC07	Enable High Temperature Alarm		ON	ON
SC08	Enable Low Temperature Alarm		OFF	OFF
SC10	Low Dew	°C	5	5
SC11	Dew Hysteresis	°C	3	3
SC12	Enable High Dew Alarm		OFF	OFF
SC13	Enable Low Dew Alarm		OFF	OFF

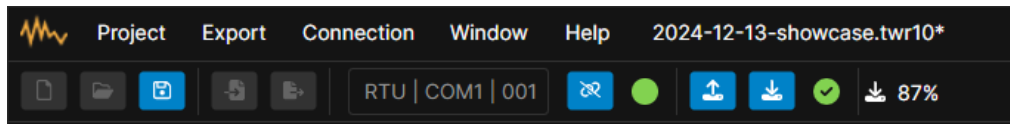
7.10. Upload configuration parameters to the device

Ensure that device is configured properly according to the needs:

1. Check the "Data Synchronization" indicator on the right side of the toolbar. If there is a difference between the configuration parameters between the device and project this indicator will be orange. If configuration is not fetched yet or connection is not established then this indicator will be gray.

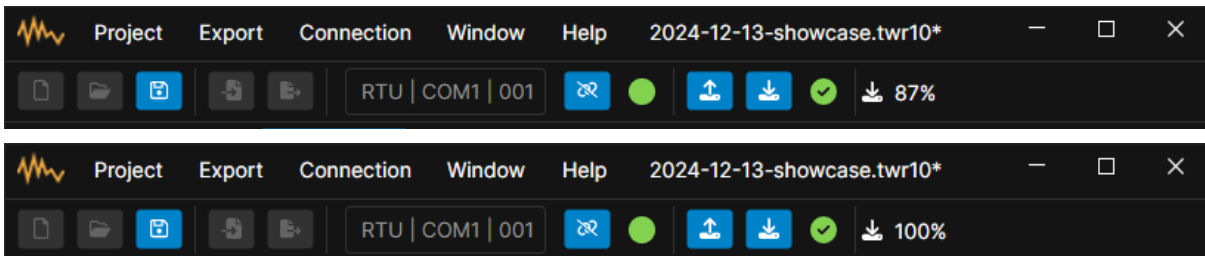


2. Accept configuration parameters
 - a. If you need parameters in the project to match the device configuration click "Apply from device" button (arrow up icon)
 - b. If you need parameters in the device to match the project click "Upload to Device" button (arrow down icon)
3. Make sure that the "Data Synchronization" indicator on the right side of the toolbar is green with a mark icon inside.



7.11. Download all records from the device

If the software is connected to the device it automatically downloads all recorded data from the device. The progress is displayed on the right side of the toolbar. Make sure that all data is downloaded (100%) before analysing the measurements history.



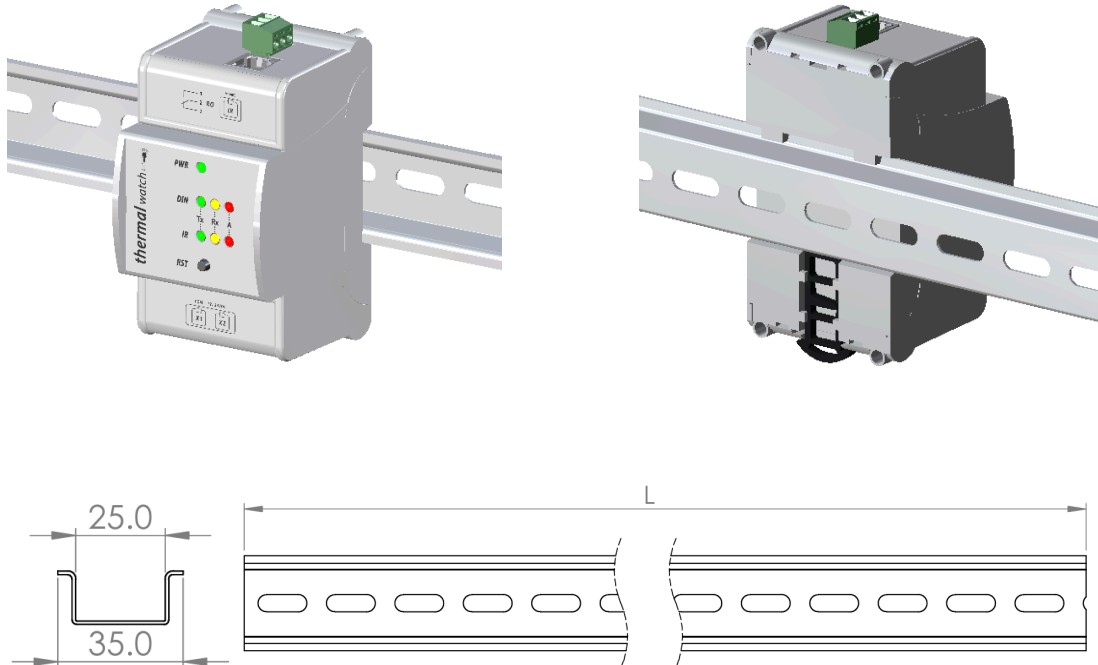
7.12. Disconnect from the device and save the project.

1. Click on the "Connection" button again to disconnect from the device.
2. Don't forget to save the project if configuration parameters were changed.

8. Installation

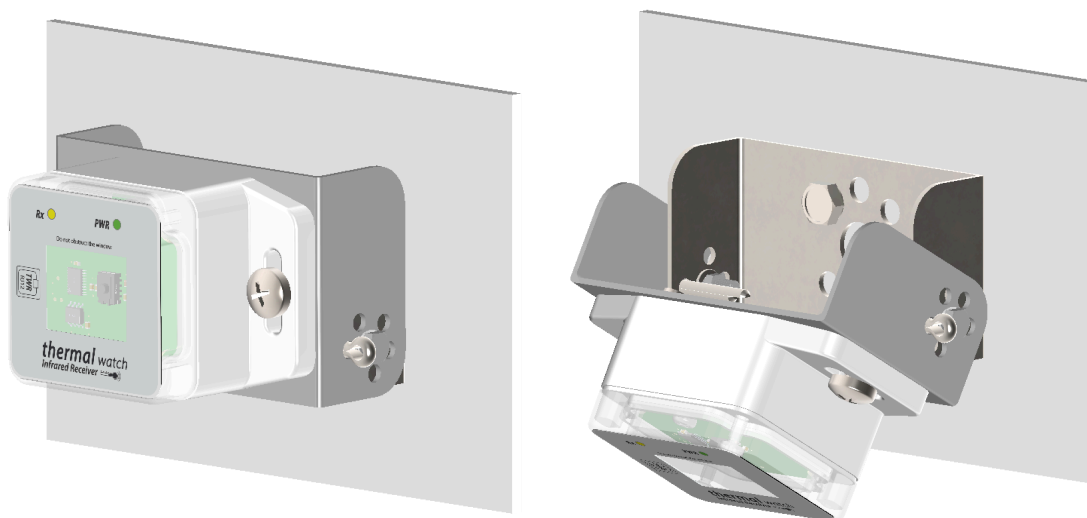
8.1. TWR-DIN Installation

The TWR-DIN device is mounted on a standard 35 mm DIN rail.






8.2. TWR-IR Installation

The TWR-IR device is mounted using an adjustable mounting bracket. The bracket allows the installation angle to be set to 90°, 75°, 60°, 45°, or 30° to suit the application.

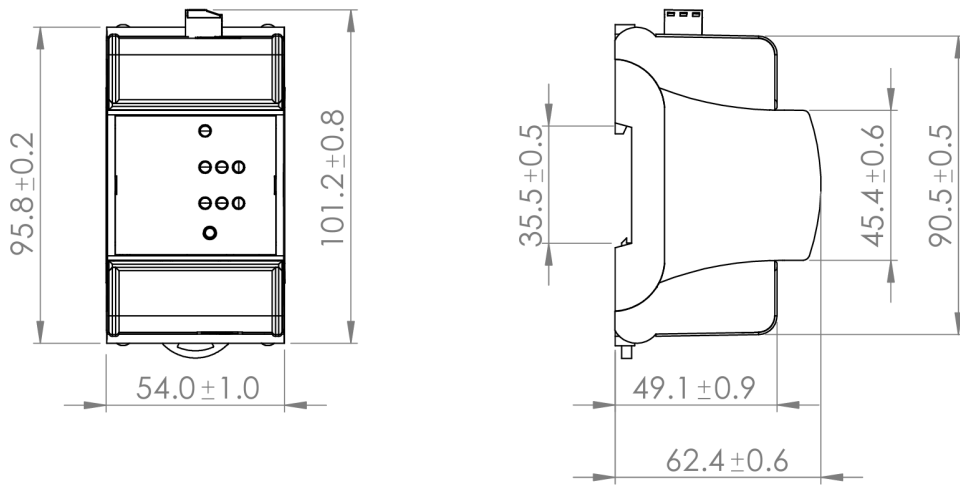


8.3. Safety rules

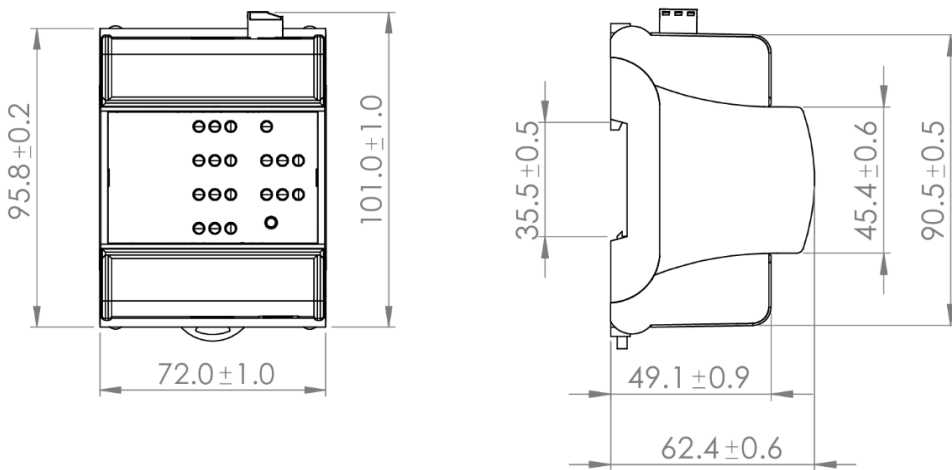
DANGER 	Isolate and ground lines prior to installation De-energize parts Contact with hazardous voltage will cause death or severe personal injury. Follow all locally approved safety procedures when working around high and low-voltage lines and equipment.
WARNING 	Wear personal protective equipment!
CAUTION 	Check all fittings after installation Check the correct earth connection with a continuity tester!

8.4. Product Dimensions

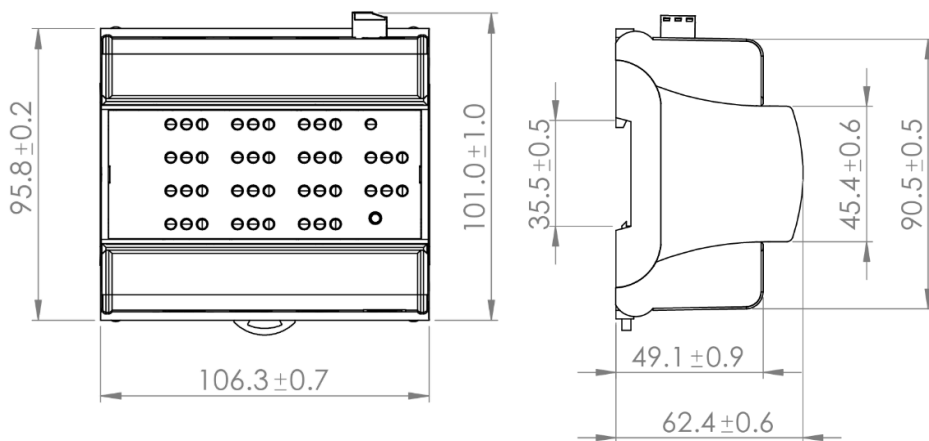
8.4.1. TWR-DIN1 Dimensions



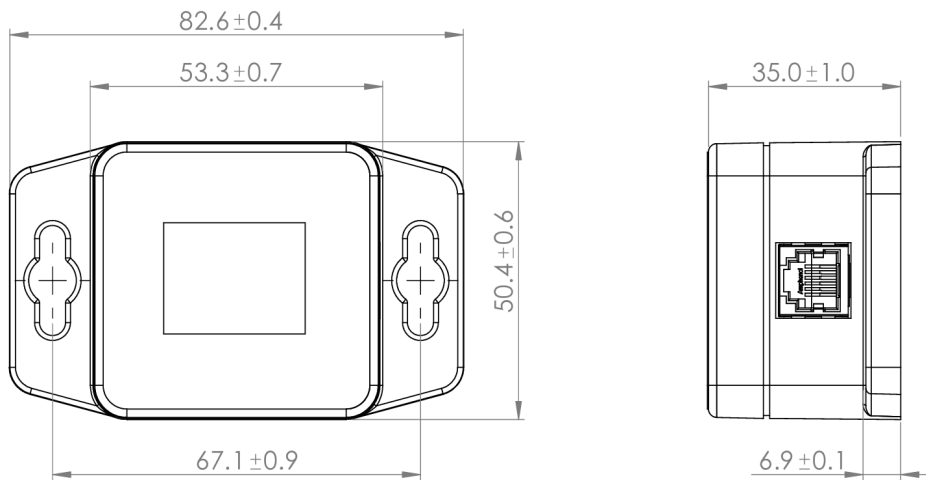
8.4.2. TWR-DIN5 Dimensions



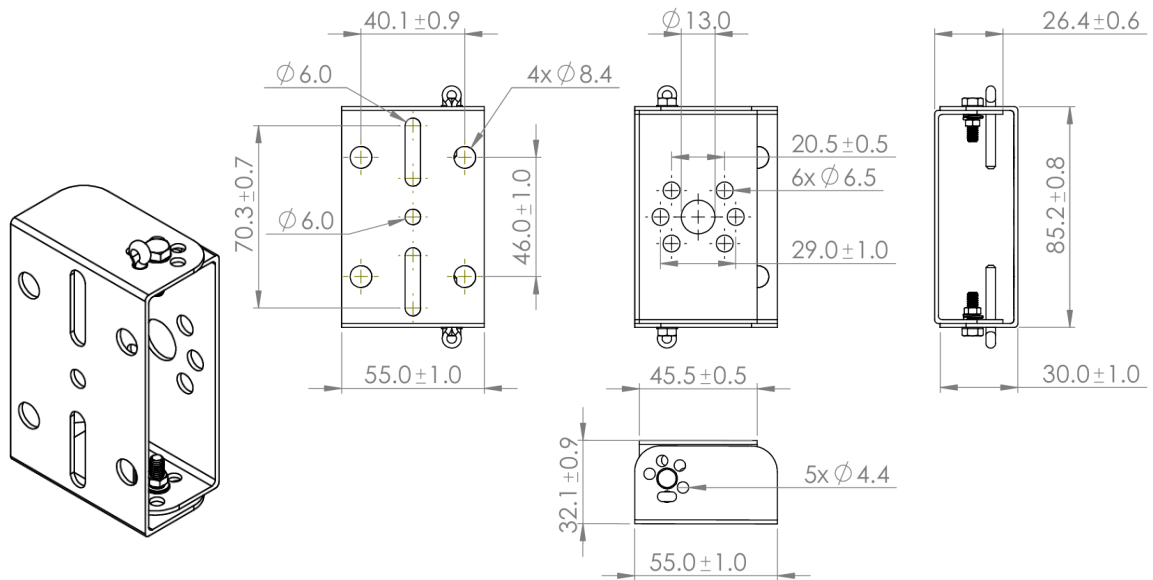
8.4.3. TWR-DIN13 Dimensions



8.4.4. TWR-IR Dimensions



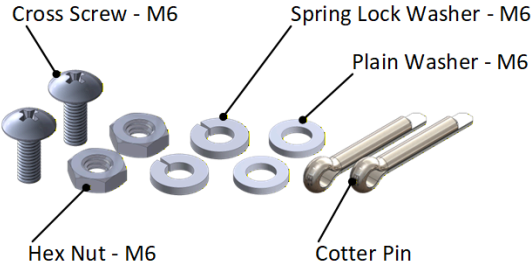
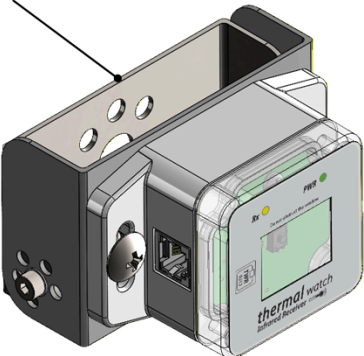
8.4.5. TWR-IR Rotation bracket dimensions



8.5. Mounting

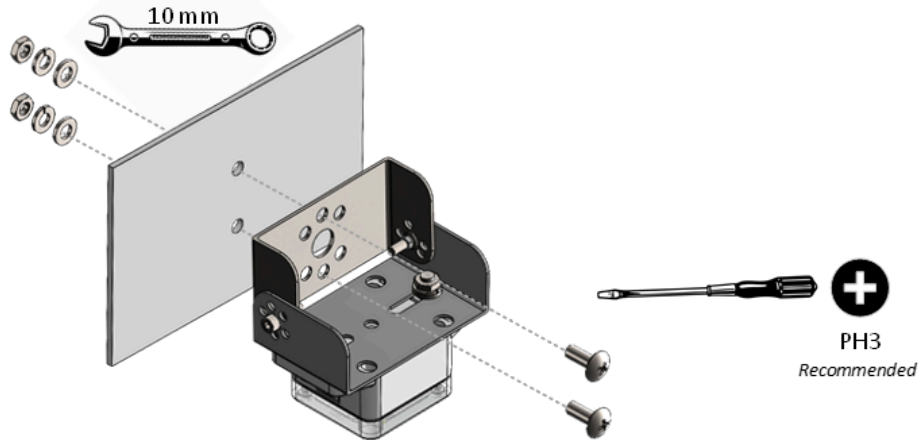
8.5.1. Materials Required for TWR-IR and Rotation Bracket

TWR-IR and Rotation Bracket

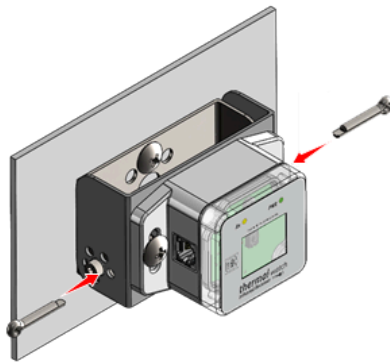


8.5.2. TWR-IR in panel with rotation bracket

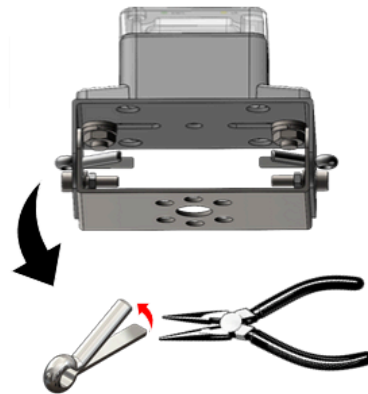
- 1** Attach the rotation bracket to the mounting plate using the supplied hardware. Tighten securely with a 10 mm wrench and Phillips screwdriver.



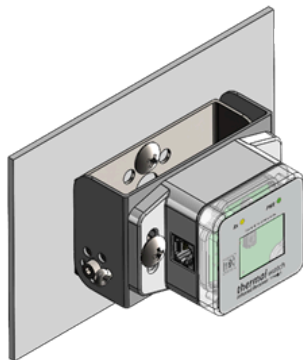
- 2** Set the TWR-IR to the desired angle and insert the cotter pin to lock the position.



- 3** Bend the cotter pin ends using needle-nose pliers to secure the bracket.



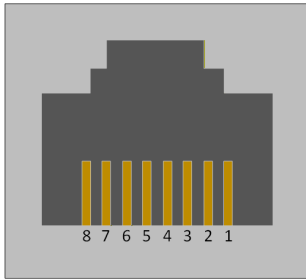
- 4** Confirm the TWR-IR is firmly mounted and all fasteners are fully tightened.



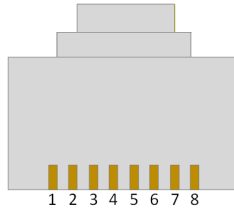
9. Connections

9.1. TWR-DIN - RJ45 connectors and Power Supply

RJ45 specifications



RJ45 Female Connector



RJ45 Male Connector

RJ45 Connector PIN Assignments

PIN 1 : A , Tx	PIN 5 : + , 12V
PIN 2 : B , Rx	PIN 6 : - , GND
PIN 3 :	PIN 7 :
PIN 4 :	PIN 8 :

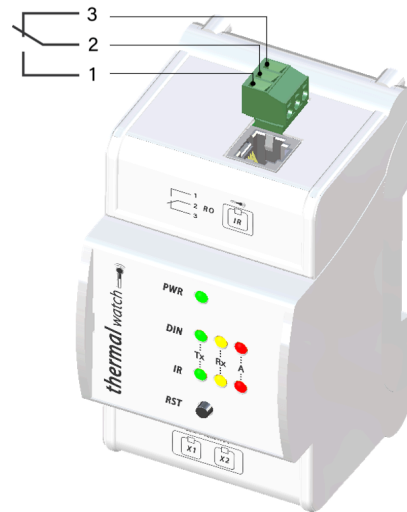
The device shall be supplied with a 12 to 24 VDC power supply, with a tolerance of ± 1 volt.

- Higher voltage may result in damage to the power input.

9.2. TWR-DIN - Dry contact output connection

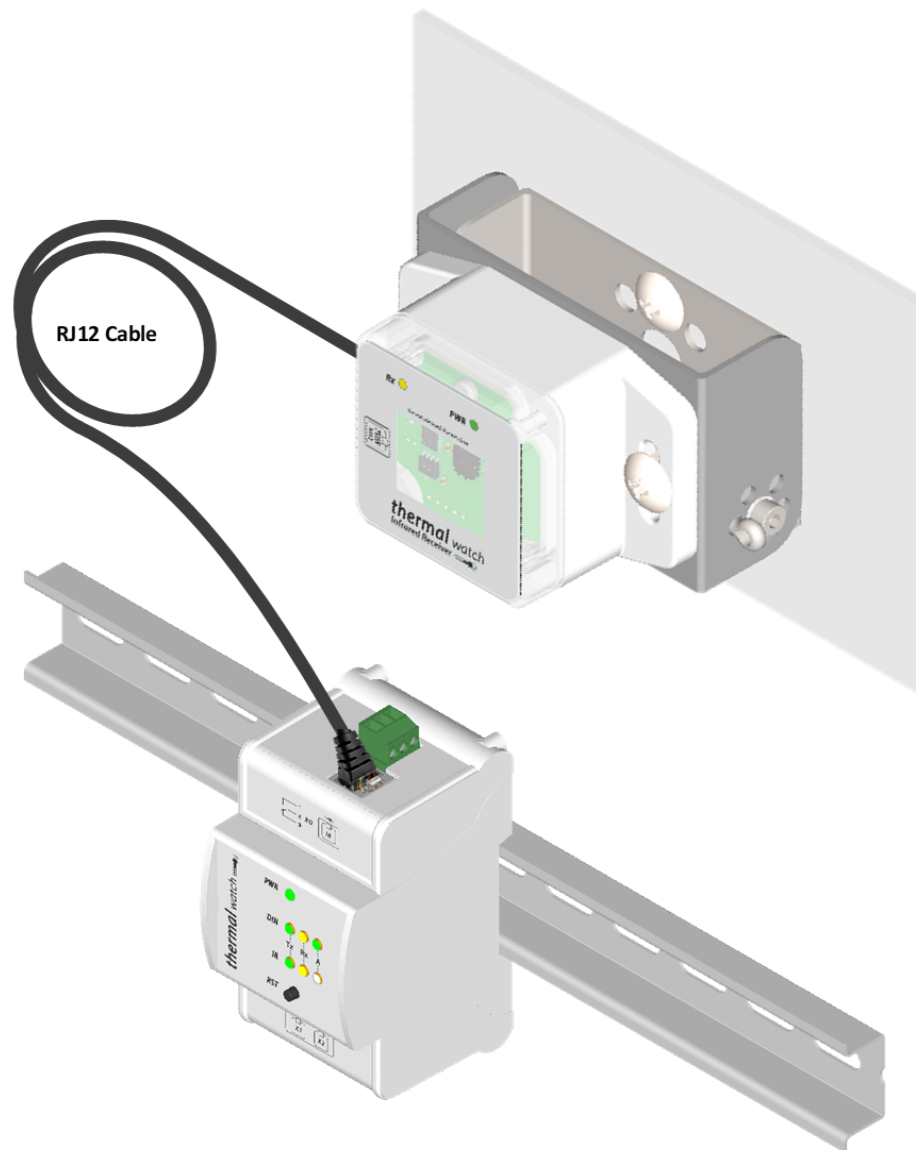
When an output is required, the terminals below shall be used for the output dry contact.

Pole	Function (Dry Contact Output Mode)
1	Dry Contact – NO
2	Dry Contact – COM
3	Dry Contact – NC



9.3. Connecting TWR-DIN with TWR-IR

The TWR-IR is connected to the TWR-DIN via an RJ12 cable. Ensure that the RJ12 connector is securely plugged into the communication port of both devices.

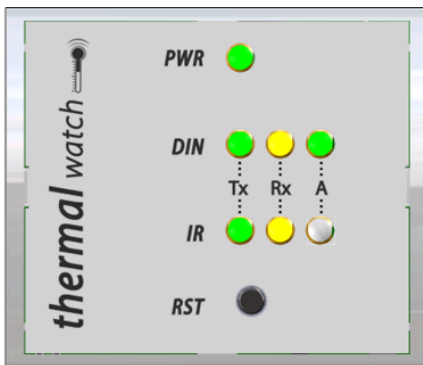


Note : Check the green Power LED to confirm that the device is powered on.

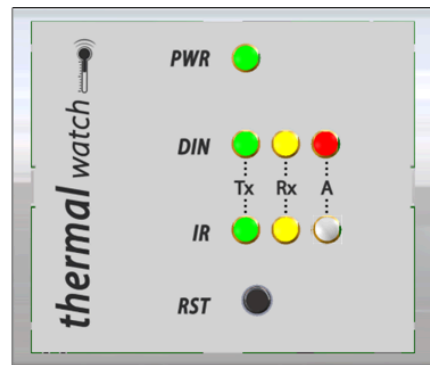
10. TWS operation modes

11. LEDs

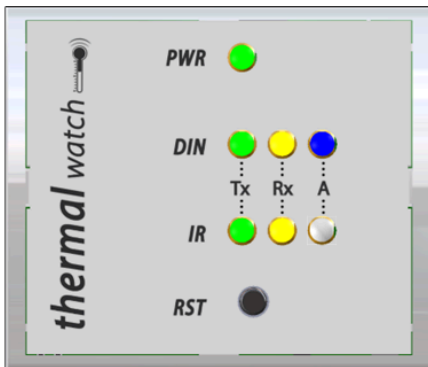
The LED features 3 colors: RED, BLUE, GREEN



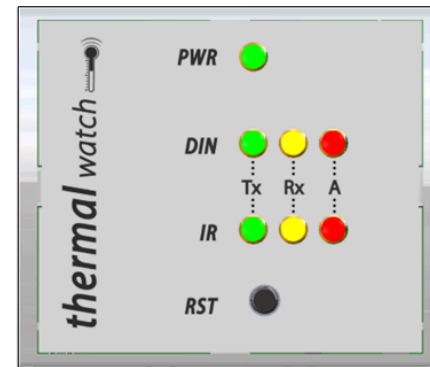
- Normal



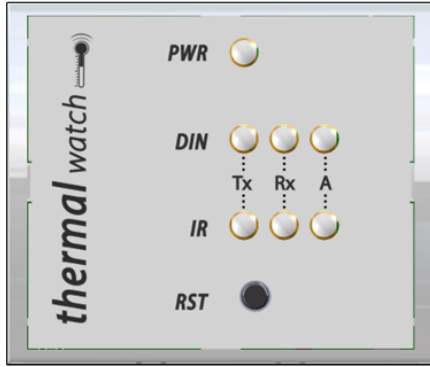
- Alarm



- Register Sensor / Reboot



- TWR-IR connection lost



- No power supply

12. Communication

12.1. RS485 Modbus

12.1.1. MODBUS default communication parameters

Unless specified otherwise during delivery or indicated on the device, the communication parameters are:

ID	Name	Unit	Device	Project
Communication <ul style="list-style-type: none"> SP01 Baudrate b/s 9600 9600 SP02 Data Bits 8 8 SP03 Stop Bits 1 1 SP04 Parity None None SP05 Address 1 1 SP06 Receiver Timeout ms 1000 1000 SP07 Receiver Retries 3 3 				

12.1.2. MODBUS table

The MODBUS table is available at the following link:

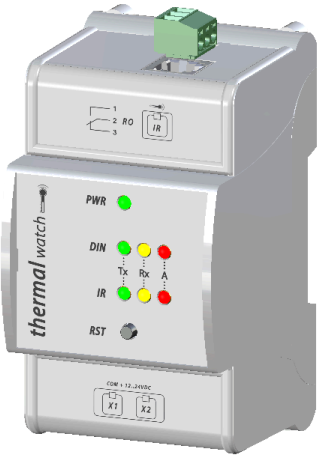

[https://www.paralec.com/QR/TW%20-%20Modbus%20Tables%20v1.0%20\(1\).pdf](https://www.paralec.com/QR/TW%20-%20Modbus%20Tables%20v1.0%20(1).pdf)

You can also scan the QR code below for quick access.



12.2. Wifi

RJ45 PIN OUT specifications : TWR-DIN & ELFIN RS485 Wifi

		
PIN	RJ45 - TWR-DINx	RJ45 - Elfin RS485 to Wi-Fi
1	A, Tx	
2	B, Rx	
3		
4		Reload
5	VCC	A+
6	GND	B-
7		VCC
8		GND

12.3. Cellular network

Work in progress

13. Configuration

13.1. User parameter

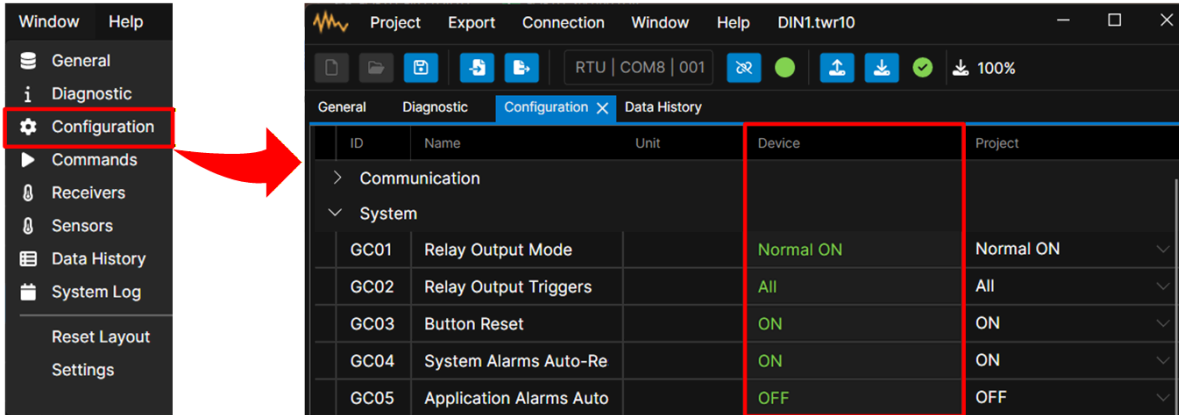
Basic parameters that shall/can be set by user via communication (preferably MODBUS) are:

Code	Name	Default	Note
SP01-SP07	Modbus RTU parameters	See section 11.1	Communication settings must match the Modbus bus configuration.
GC01	Relay Output Mode	Normal ON	Conditions of Relay Output activation: <ul style="list-style-type: none"> • Normal ON – relay is energized when no alarm is present there is no alarms • Normal OFF – relay is energized when an alarm is present • Disabled
GC02	Relay Output Triggers	All	Selects which alarm types can activate the relay output. <ul style="list-style-type: none"> • All – Triggered by all alarm sources. • None – Relay is not triggered by any alarm. • Application Only – Triggered only by application alarms.
GC03	Button Reset	ON	Enables manual alarm reset via the device button.
GC04	System Alarms Auto-Reset	ON	Automatically clears system alarms when the alarm condition returns to normal.
GC05	Application Alarms Auto-Reset	OFF	Automatically clears application alarms when the alarm condition returns to normal.
GC06	Discard Unchanged Data	OFF	Prevents transmission or logging of data if no value change is detected.
GC07	Duplicates Timeout	1000 ms	Time window used to filter duplicate events or messages.
GC08	Ambient Recording Interval	60	Defines the sampling and recording interval for ambient measurements.
GC20	Time Synch Alarm	ON	Generates an alarm when time synchronization fails or is lost.
GC21	Connection Alarms	ON	Generates an alarm when communication or network connection is lost.
GC22	Battery Alarms	ON	Generates an alarm when battery level is low or battery fault is detected.
GC30	Enable Surface Temperature Alarms	ON	Enables alarms related to surface temperature thresholds.
GC31	Enable Ambient Temperature Alarms	ON	Enables alarms related to ambient temperature thresholds.
GC32	Enable Relative Humidity Alarms	ON	Enables alarms related to relative humidity thresholds.
GC33	Enable Dew Point Alarms	OFF	Enables alarms based on calculated dew point conditions.
GC34	Enable Surface Dew Alarm	OFF	Enables alarms when surface temperature approaches or falls below dew point.

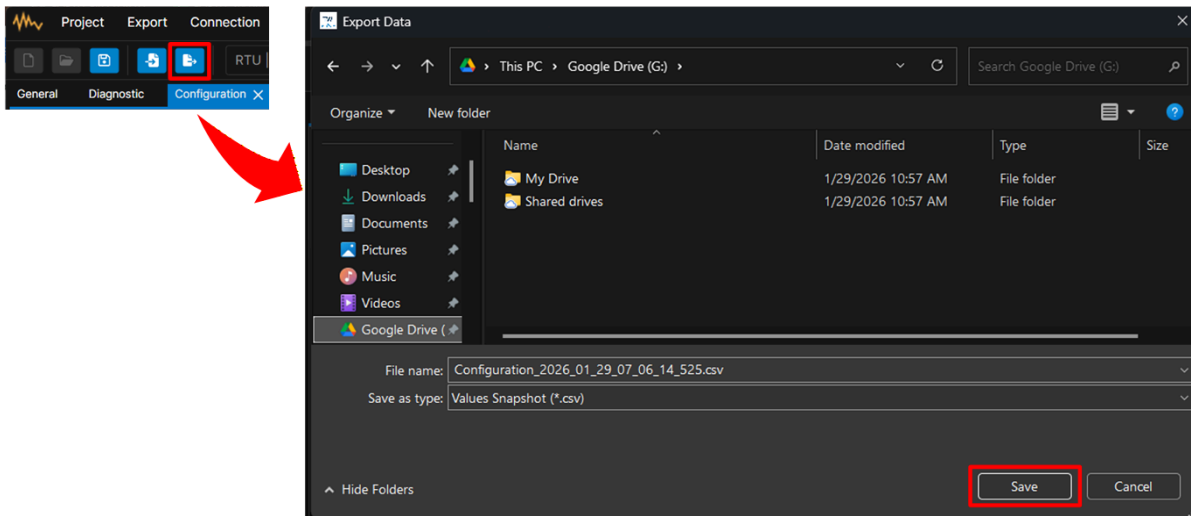
13.2. Saving configuration and data

See section 12.1 for the definition of parameters.


- To access the configuration menu: Window -> configuration.

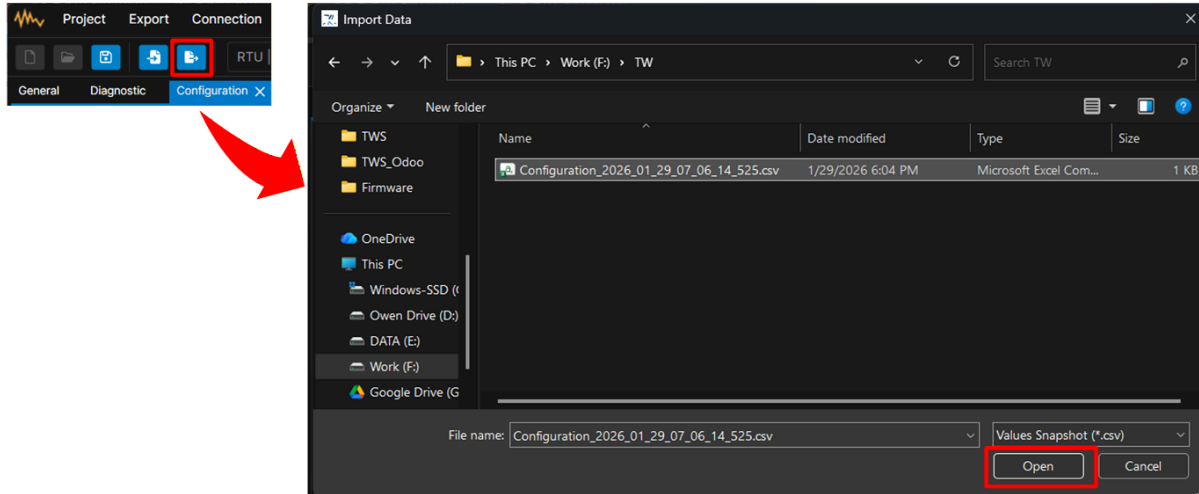


- To save the configuration: click on export icon  on tool bar -> save the configuration file.

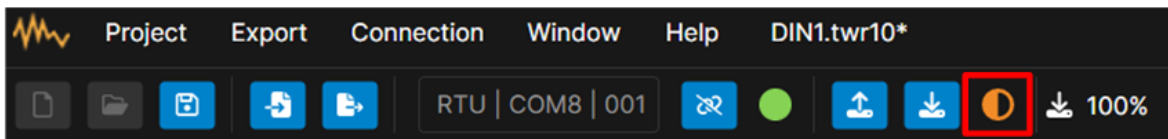



13.3. Upload configuration

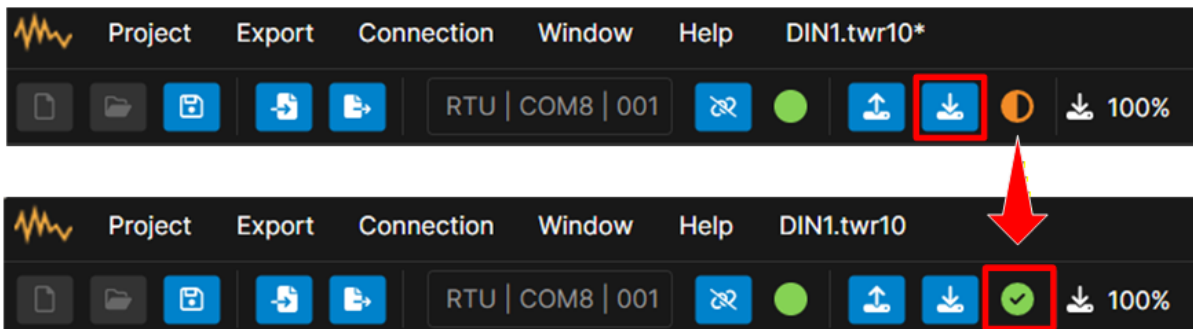
To upload the configuration file: click on import icon  on tool bar -> save the configuration file-> open



The software has a feature to compare the parameters between the device (TWR-DIN) and the computer (project file) and notify users if the parameters are not matching. The configuration indicator will indicate in ORANGE.



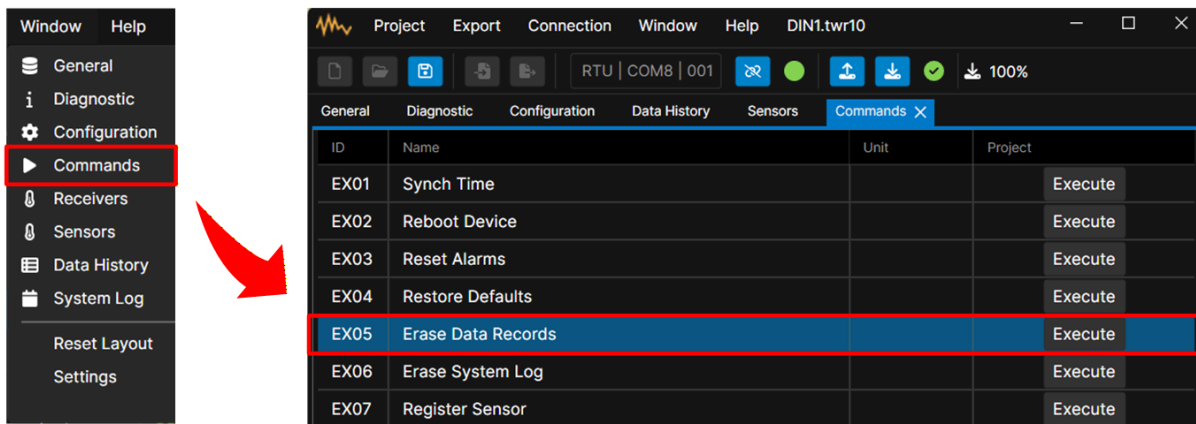
To apply the configuration changes: click on upload button . The configuration indicator will indicate GREEN.



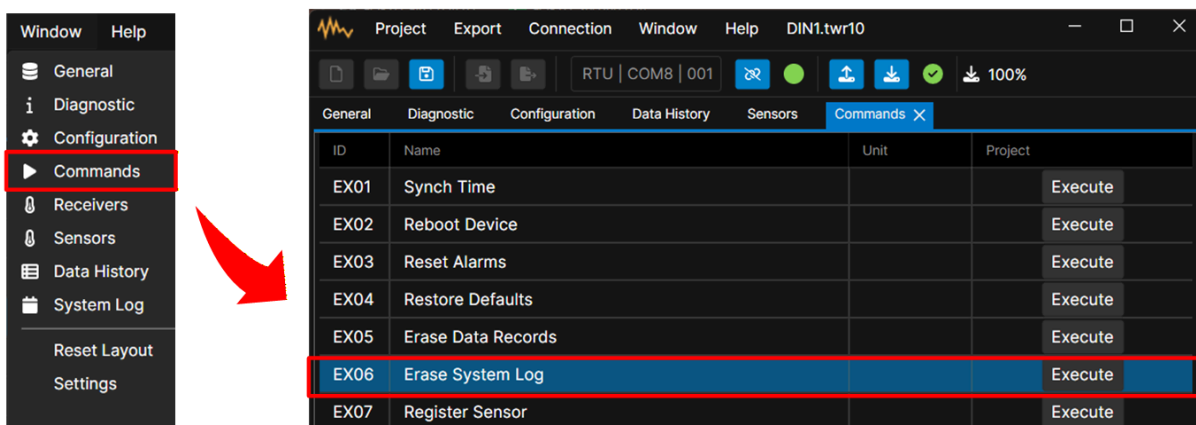
13.4. Reset and erase data

The device comes with pre-loaded test data to allow users to verify its functionality and confirm it passed routine tests. This test data should be cleared before the device is installed to avoid confusion with actual operational data.

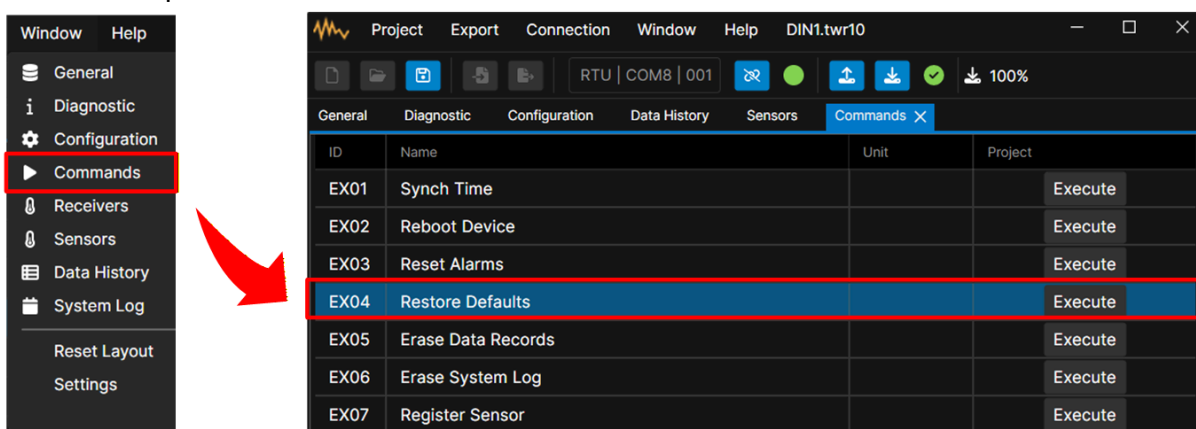
To reset the counter: Window -> Command->Execute command “EX05” (Erase Data Records). The device will show the attention box asking if the user still wants to continue the process.



To reset the logs: Window -> Command->Execute command “EX06” (Erase System Log). The device will show the attention box asking if the user still wants to continue the process.

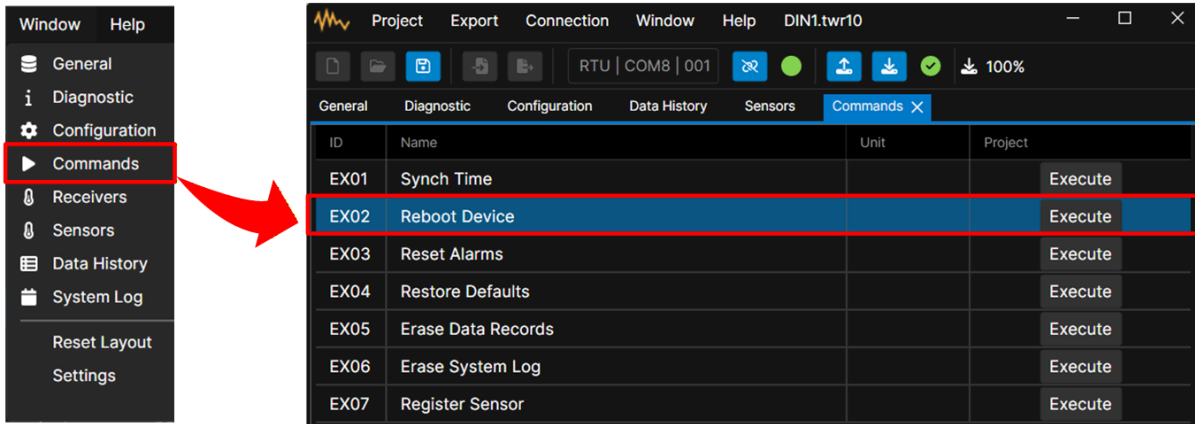


To reset the device configuration: Window -> Command->Execute command “EX04” (Restore Defaults). The device will show the attention box asking if the user still wants to continue the process.



13.5. Reboot Device

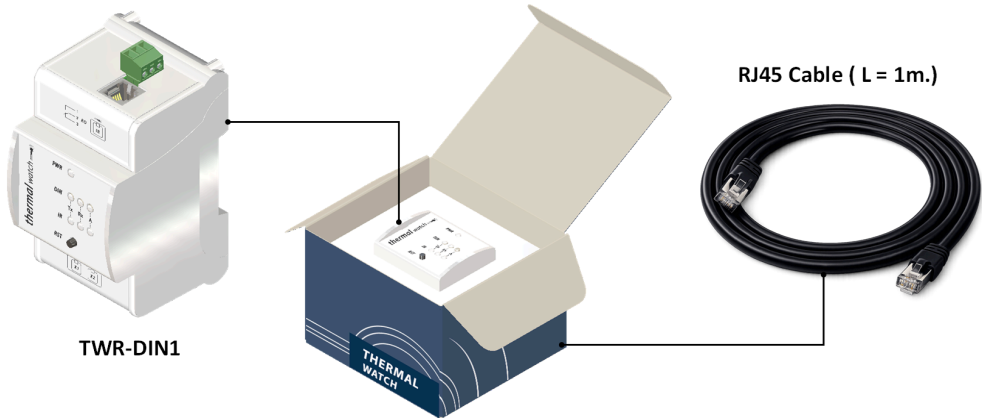
In case the configuration was made, after applying the new configuration to the device, the device needs to be rebooted to apply the configuration. OR if the user wants to manually reboot the device.



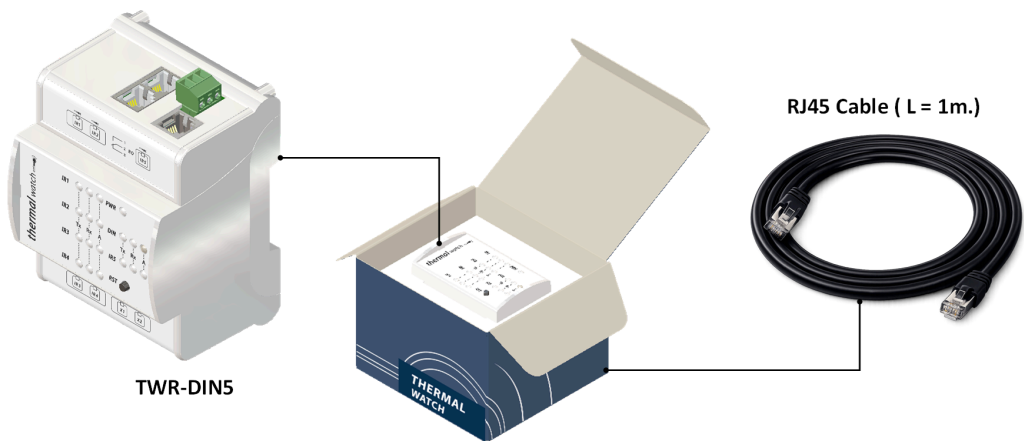
To reboot the device: Window -> Command->Execute command “EX02” (Reboot Device).The device will show the attention box asking if the user still wants to continue the process.

14. Packaging and References

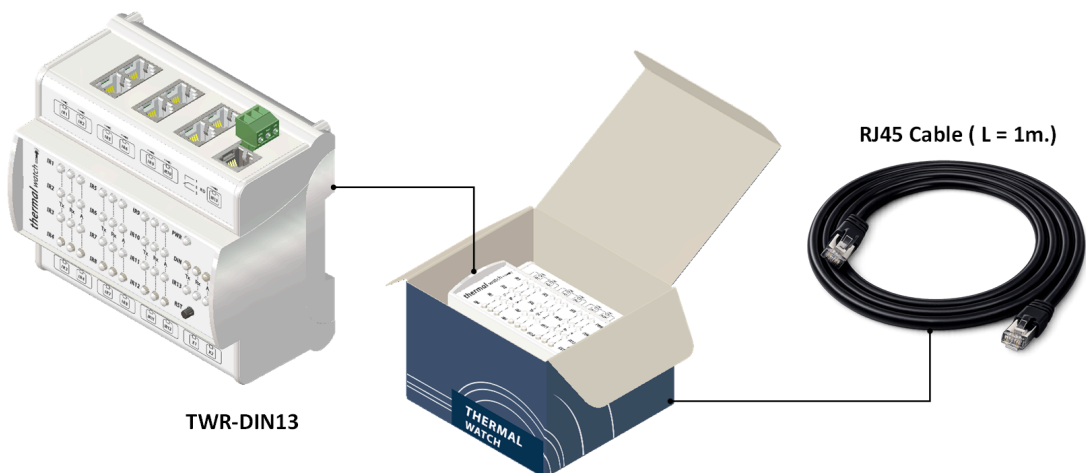
13.1 TWR-DIN1



13.2 TWR-DIN5



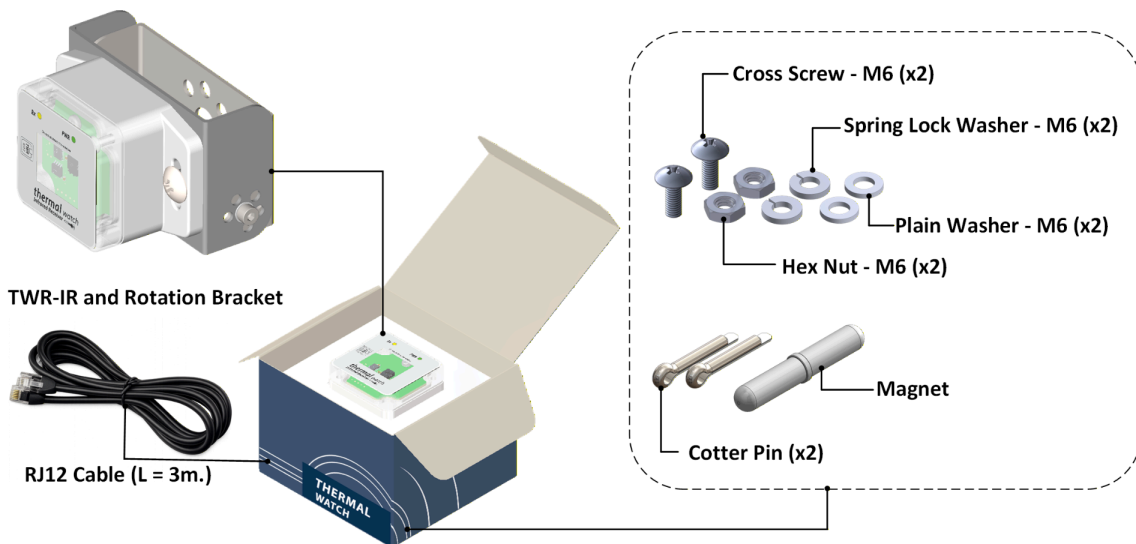
13.3 TWR-DIN13



13.4 TWR-IR



13.5 TWR-IR with Bracket



15. Maintenance

Work in progress

16. Troubleshooting

Work in progress

17. Certification / Performance & Type Tests

- **IEC 61010-2010** - Safety requirements for electrical equipment for measurement, control, and laboratory use
- **UL94-V0** - global standard for safety flammability of plastic materials used in devices and appliances
- **EN 61000-6-5:2015** - Electromagnetic compatibility (EMC) - Part 6-5: Generic standards - Immunity for equipment used in power station and substation environment
- **IEC 61000-6-4:2018** - Electromagnetic compatibility (EMC) - Part 6-4: Generic standards - Emission standard for industrial environments

18. Contact

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