



WebdynSunPM Manual



Démarrage Rapide



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1 Safety Instructions

Failure to follow these instructions may result in damage to the equipment and pose a danger to people.

1.1 Electrical Connection

Warning

All wiring work must be performed by a qualified electrician

The gateway is a Class III electrical device. It operates in the low-voltage safety circuit (TBTS) range (<50 V); power must be supplied via a safety transformer that provides reliable galvanic isolation between the primary and secondary windings.

Warning

The gateway may be damaged by electrostatic discharge (ESD)

1.2 Environment

The installation and environmental requirements are as follows:

- Protection rating: IP20
- Operating temperature: -5...40°C
- Relative humidity: 25–75% RH
- Storage temperature: -20...+85°C
- Pollution level: 2

It must be installed in an environment with the appropriate level of protection.

Warning

This equipment is not suitable for use in areas where children may be present

Warning

Do not install the equipment near a heat source

Warning

Do not install the equipment at a height greater than 2 meters.

1.3 Chemical agent

Warning

Do not use any solvents or chemicals to clean the concentrator.



2 Unboxing

2.1 Contents

The WebdynSunPM gateway comes with:

- An angled SMA antenna for the modem (taped to the back of the product)
- A battery (already installed in the product)

Warning

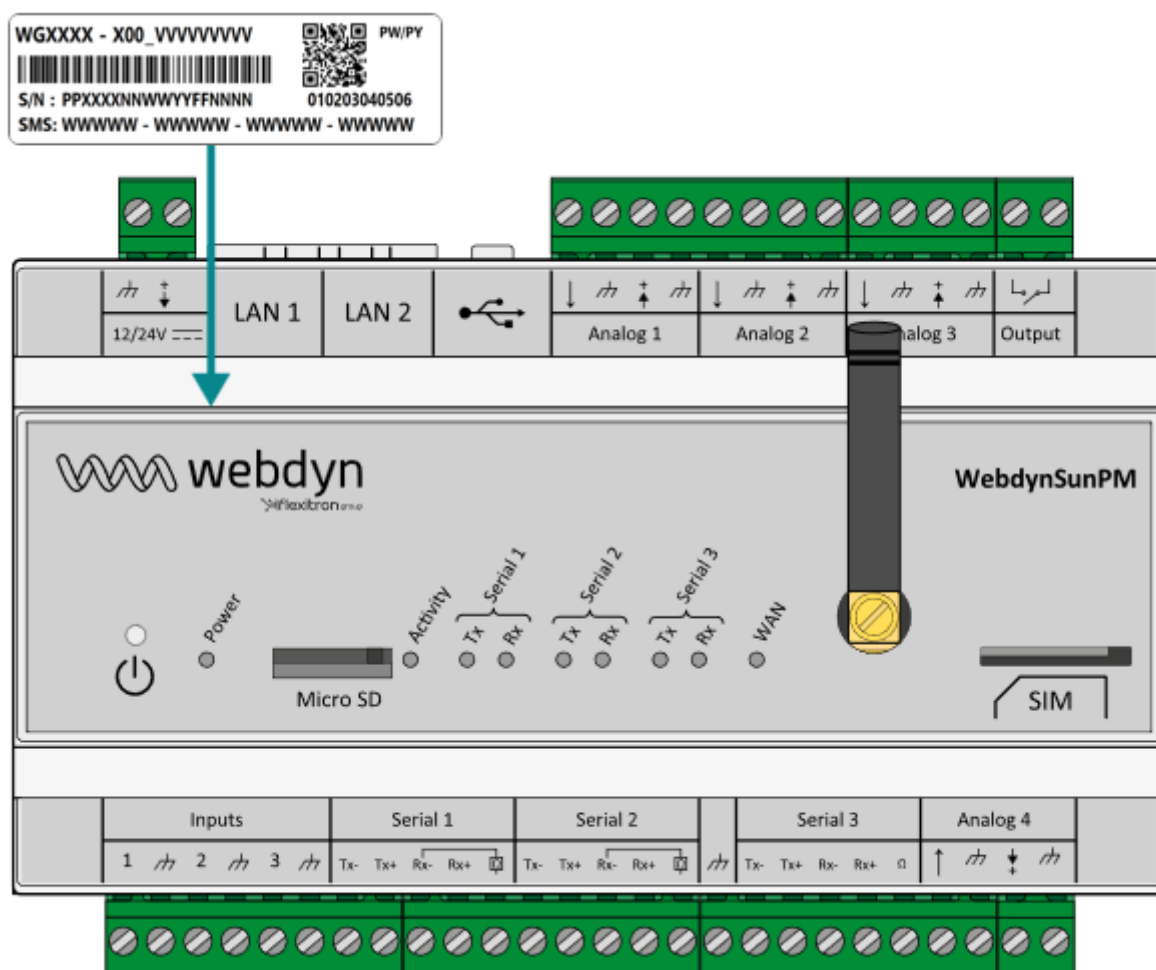
No SIM card is included with the gateway

Note

The power supply is sold separately

2.2 Identification

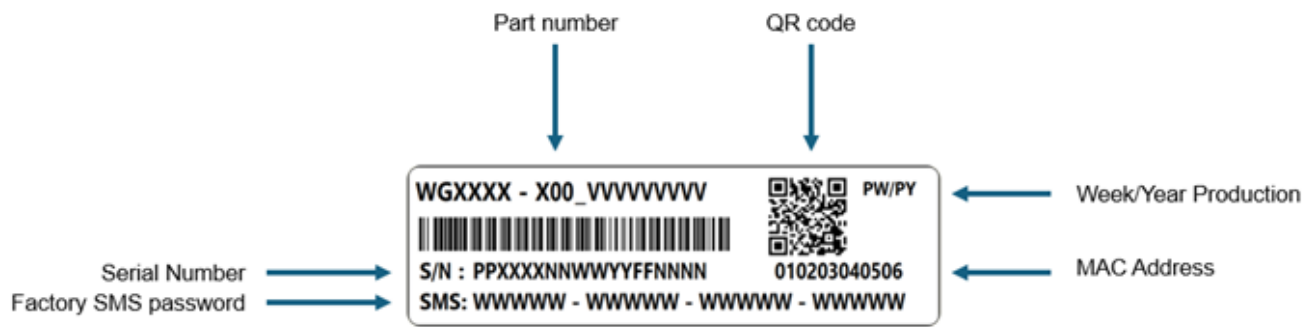
The product identification label is affixed to the gateway.



front with label



The information on the label is as follows:



sticker detail

- **Part number:** Sales Reference
- **PW/PY:** Date of manufacture in week/year format
- **S/N:** Serial number
- **Factory SMS Password:** Factory default password for SMS encryption
- **MAC Address:** MAC address of the network card

The barcode contains the following information:

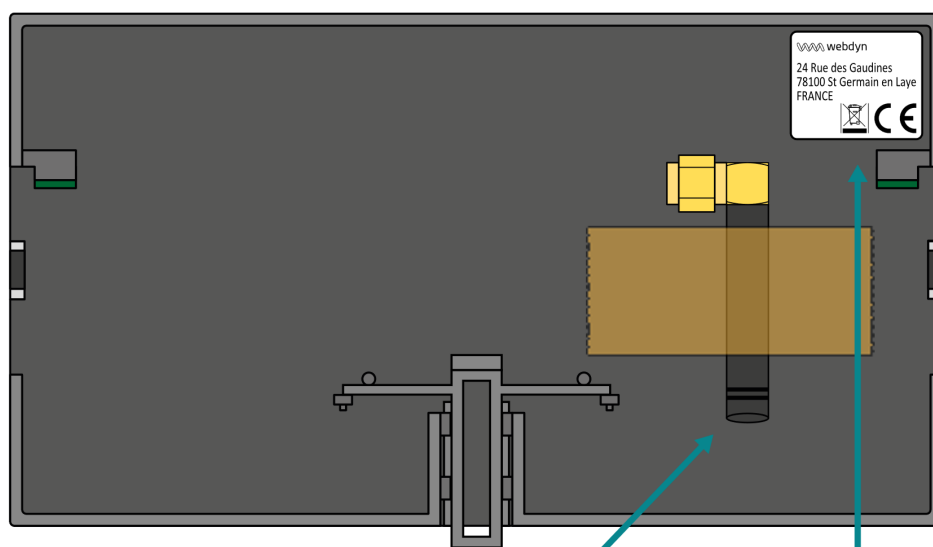
S/N

The QR code contains the following information:

S/N;IMEI;SMS_factory_password

Additional information can be found on the back of the gateway:

- Manufacturer's Name
- Manufacturer's Address
- Regulatory Markings



Antenne SMA coudée pour le modem

Étiquette CE du produit

back label



3 Installation

3.1 DIN-rail mounting

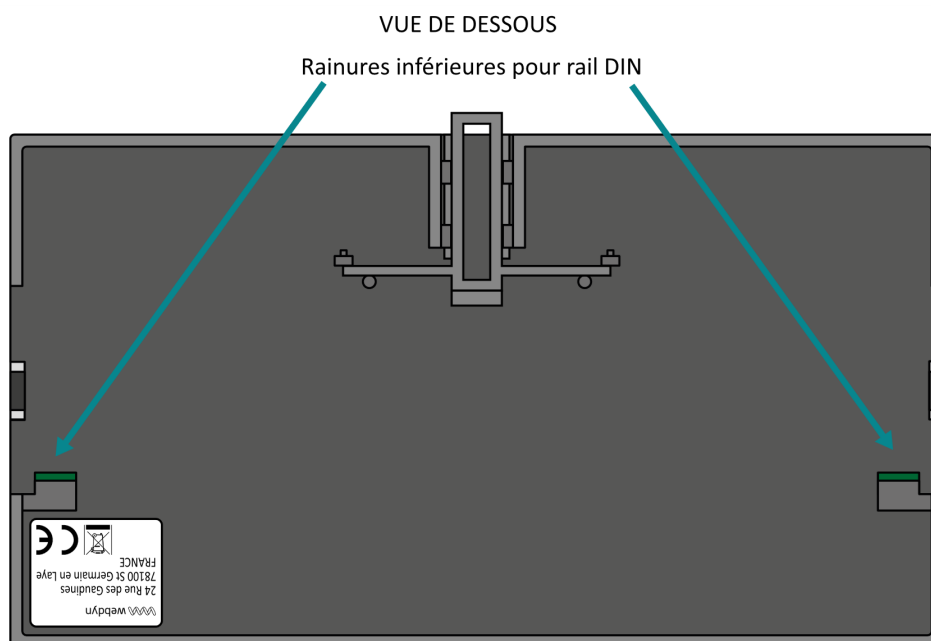
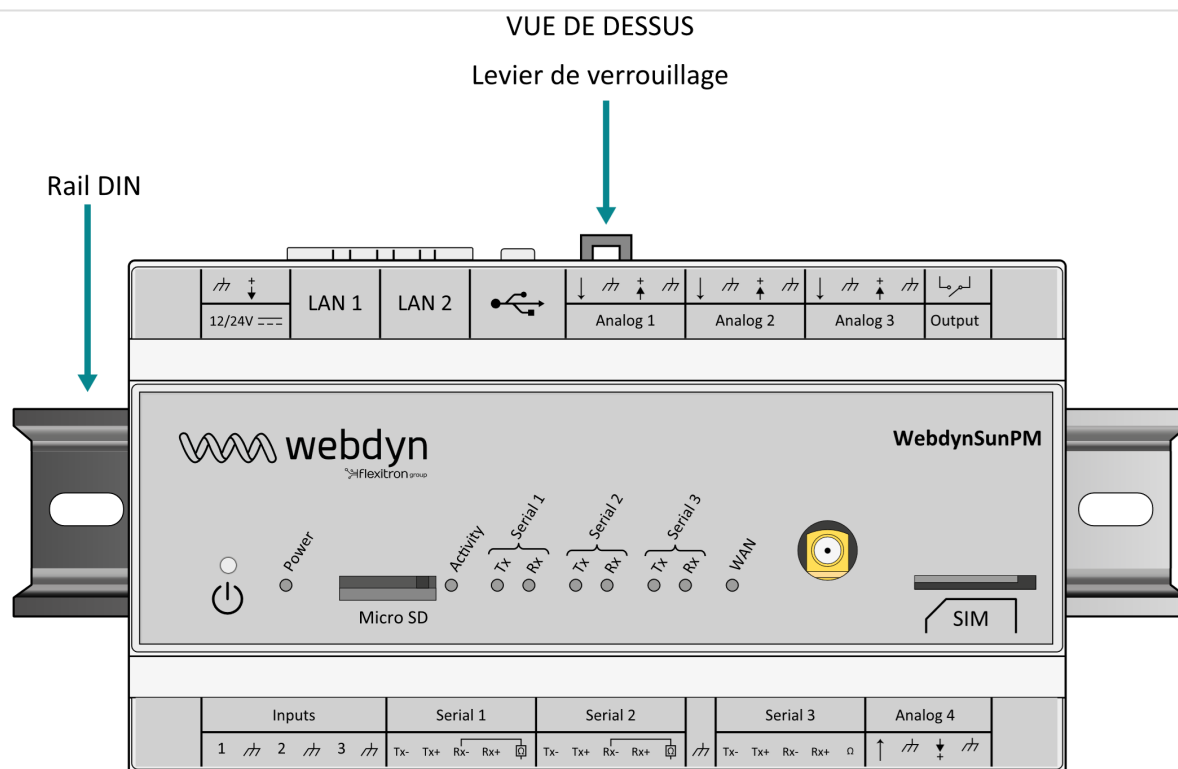
Warning

Before performing any assembly or disassembly work, make sure that:

- The gateway is not powered
- The antenna is removed from the back of the case

Warning

Opening the case is not permitted



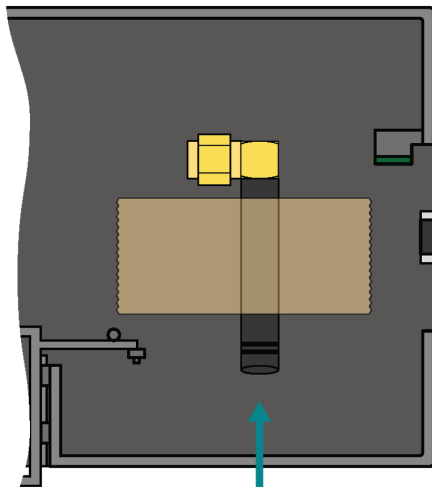
The gateway is mounted on or removed from the DIN rail by operating the locking lever with a flathead screwdriver

3.2 Antenna

Proper antenna connection is essential to ensure the best possible cellular signal quality available at that location.

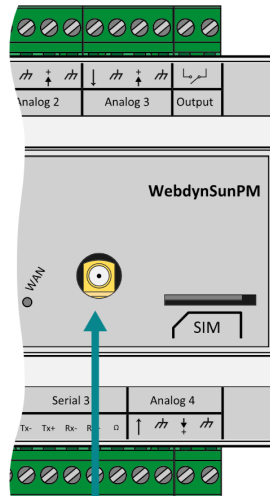


Vue de derrière

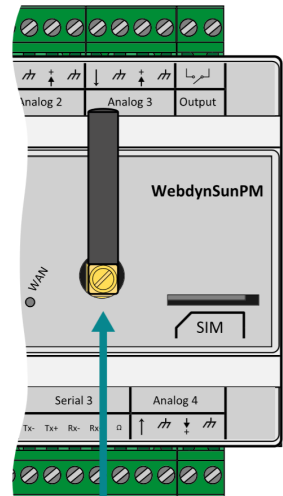


Antenne SMA coudée
pour le modem

Vue de devant



Connecteur SMA



Antenne modem fournie
(à monter)

Antenna

✓ **Tip**

To ensure good 4G signal reception:

- At least 20 cm of open space around the cabinet
- Do not place the gateway in a metal cabinet
- Do not place the gateway in the basement

If the product is installed in a metal enclosure or cage—a location that does not allow for proper signal reception—it is recommended to use a remote antenna

! **Warning**

The remote antenna must be compatible with the connector and the frequencies supported by the gateway

! **Warning**

The end user must ensure that their installation with remote antennas complies with current EMC standards.

x **Danger**

An antenna must always be connected to prevent damage to the gateway.



3.3 SIM Card

The SIM card is inserted into the dedicated slot on the front of the device.

Warning

Please insert the SIM card in the correct orientation

3.4 Environment

The gateway is a device designed to be installed in an electrical enclosure that provides protection against the elements, splashes, and dust.

Tip

It is strongly recommended that the gateway be installed in an enclosure under a shelter that protects it from sunlight and backflow from equipment such as inverters.

4 Wiring

Danger

Before performing any wiring work, make sure the gateway and the electrical system are de-energized

4.1 Connectors

The gateway comes pre-installed with female cable connectors. These are screw-type cage terminals that require a flathead screwdriver for M3 screws.

The features are listed below:

Feature	Specifications
Connector Type	Screw-Cage Terminal Block
Cross-sectional area for a single-strand cable	0.05...2.5 mm ²
Cross-sectional area for multi-strand cable	0.05...1.5 mm ²
Maximum/Recommended Torque	0.6/0.5 Nm
Stripping	7.5 mm

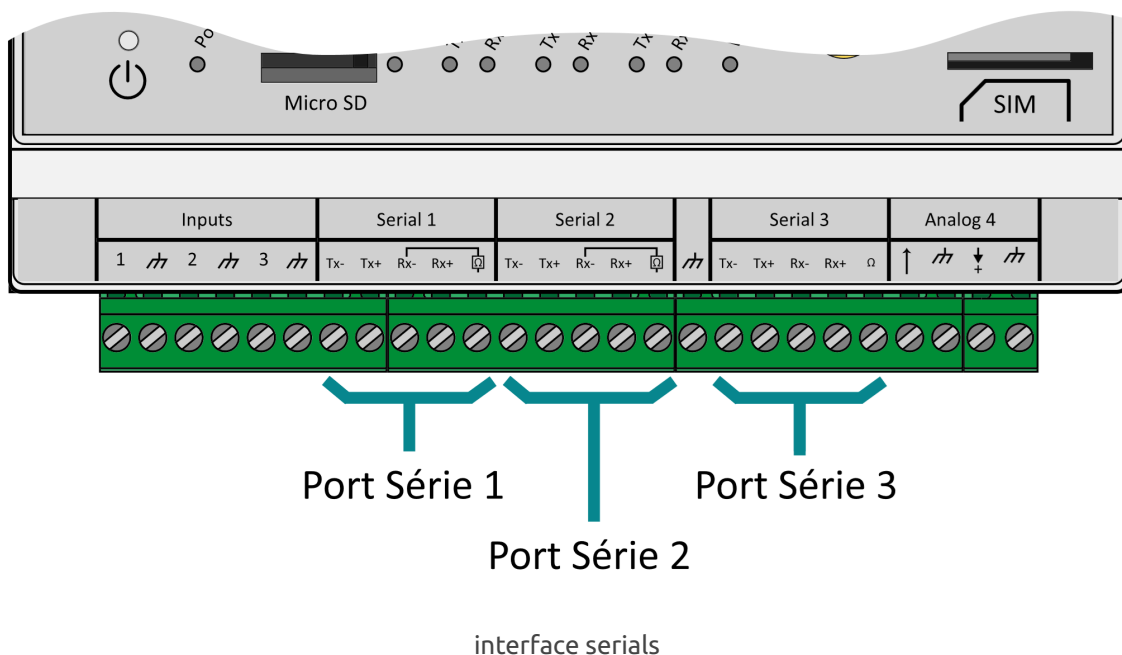
Note

If multiple cables need to be inserted into the cable cage, the use of ferrules is recommended



4.2 RS485/422 Serial Connection

The gateway is equipped with three RS485/422 serial ports. Each connection supports both half-duplex (2-wire) and full-duplex (4-wire) modes.

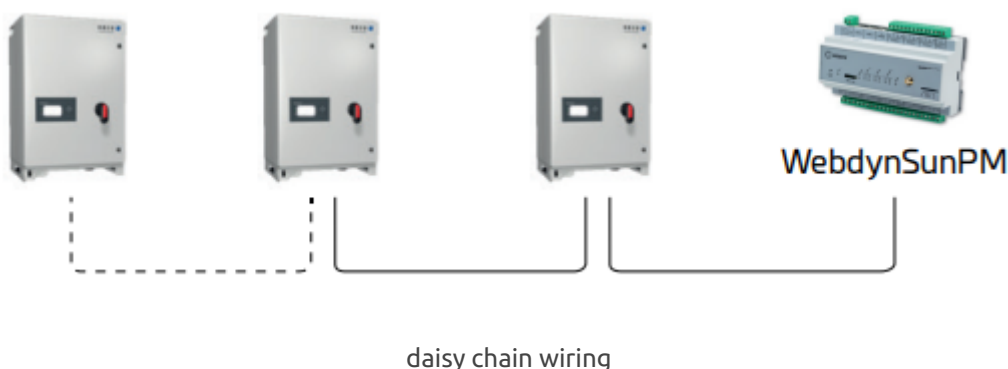


! Warning

Special care must be taken when wiring serial connections. Be sure to follow the recommendations and best practices for this type of connection regarding shielding, termination, and cabling topology. For more information on the RS485/RS422 standards and equipment cabling, please refer to the EIA-485 and EIA RS-422-A standards.

4.2.1 "Daisy-Chain" Topology

The serial connection is wired exclusively using **Daisy-Chain**. Each device is connected one after the other.



! Warning

Star wiring is prohibited



4.2.2 Cable Type

When choosing the type of cable, there are three distinct scenarios to consider, which are:

- For installations requiring short cable lengths and free from electrical interference, use a 2-pair 6/10 rigid shielded cable.
- For larger installations where the cable length does not exceed 500 m, use a 2-pair 8/10 rigid shielded cable.
- When the cable length exceeds 500 m—and especially in the event of electrical interference—use a shielded cable with two pairs of 0.34 mm² cross-section.

RS485 wiring on the gateway side:

- Strip about 4 cm of insulation from the RS485 communication cable.
- Trim the shielding down to the cable jacket.
- Strip the wires to a length of about 6 mm

4.2.3 120-ohm termination

To ensure proper operation of the data bus, an RS485 bus must be terminated at both ends with a 120-ohm *terminator*. The gateway can be installed either at the end or in the middle of the bus. The gateway includes a 120-ohm resistor that can be activated and is indicated on the connector with the Ω logo.

4.2.4 2-wire RS485 wiring (half-duplex)

This is the most common way to use the RS-485 standard. A single pair of wires is used for both transmitting and receiving data.

Connector	Description
Tx+	Differential Pair (+)
Tx-	Differential pair (-)
Rx+	Differential Pair (+)
Rx-	Differential pair (-)
GND	Common

! Warning

Tx+ and Rx+ must be connected.

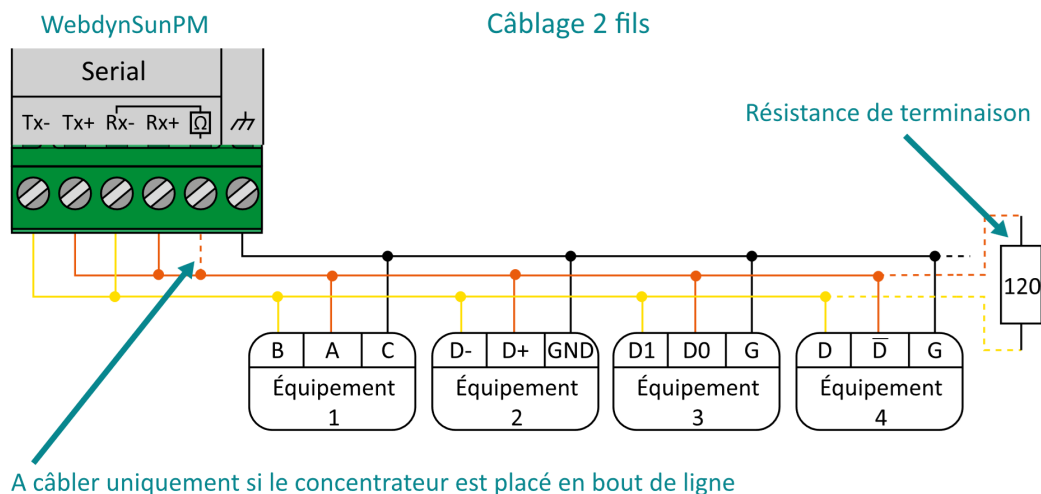
Tx and Rx must be connected.

i Note

Make sure the **common** wire is connected to each piece of equipment. If it is not, the equipment must be properly grounded in accordance with the manufacturer's recommendations for each piece of network equipment. This requirement necessitates the use of an additional wire, which, although it does not participate in the communication process, is essential for ensuring the electrical integrity of the network devices.

Note

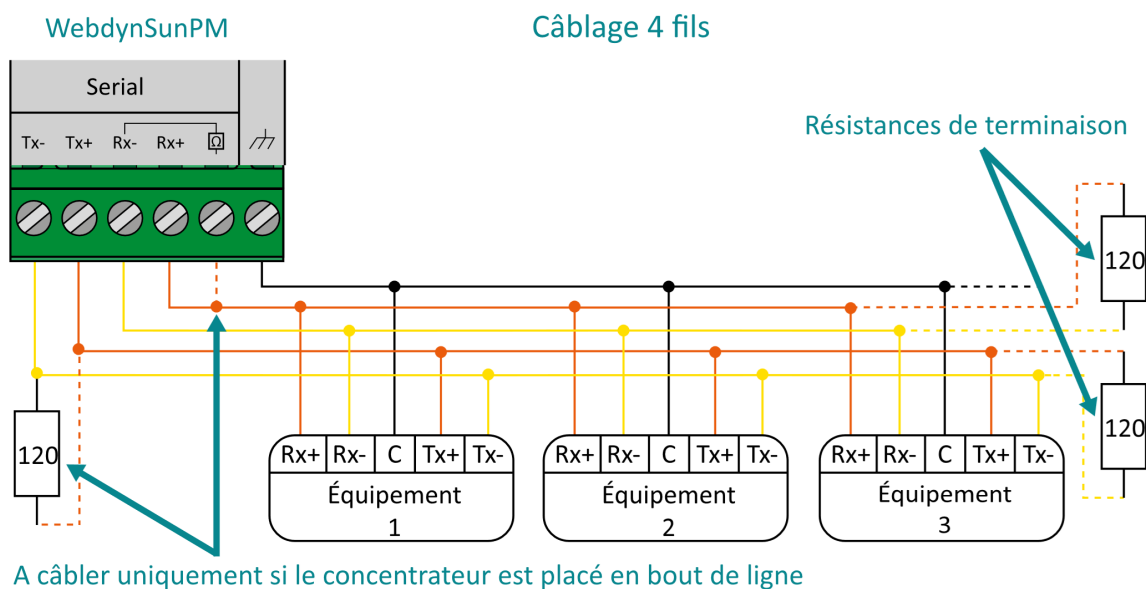
Different RS485 devices use different notations to indicate the correct connection configuration for differential communication pairs. The following figure shows some of the notations used.



serial 2wire wiring

4.2.5 4-wire RS485 wiring (full-duplex)

Two pairs of wires are used for communication. One pair of wires is used for transmission (gateway → devices), and the other pair is used for reception (devices → gateway).



serial 4wire wiring

Note

Make sure the **common** wire is connected to each piece of equipment. If it is not, the equipment must be properly grounded in accordance with the manufacturer's recommendations for each piece



of network equipment. This requirement necessitates the use of an additional wire, which, although it does not participate in the communication process, is essential for ensuring the electrical integrity of the network devices.

4.2.6 Shielding

The serial link must be shielded to eliminate electromagnetic interference and prevent coupling with the differential communication pair.

The shielding must:

- Be connected to the functional ground
- Be continuous along the entire length of the bus

To prevent the formation of **ground loop**, the shielding is usually connected to ground at **single point**.

Note

When the gateway is installed in the middle of the bus, be sure to maintain continuous shielding

4.2.7 Distance

The distance of the serial connection depends, in particular, on the baud rate used.

Baud rate (bps)	Typical Maximum Distance
9600	~1,200 m
19,200	~1,000 m
38,400	~800 m
57,600	~600 m
115,200	~400 m

Other factors also affect the maximum distance; it is recommended to reduce the communication speed when the distance is significant.

4.2.8 Maximum number of devices

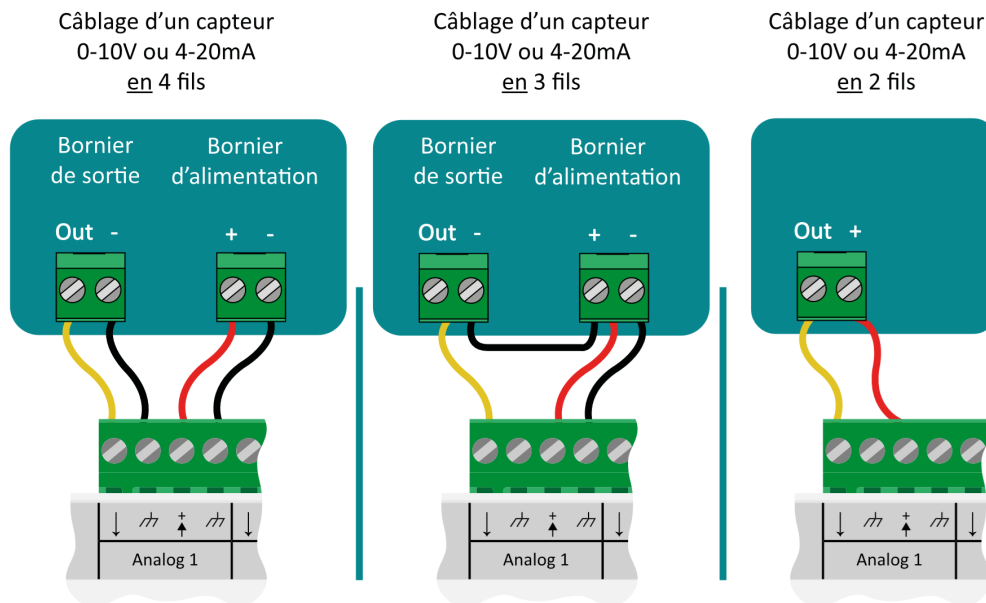
The RS-485 standard specifies a maximum load of **32 Unit Loads (UL)** per bus segment. Each device connected to the bus has an input load expressed in UL (for example, **1 UL, 1/2 UL, 1/4 UL or 1/8 UL**, depending on the transceiver used). The sum of the loads of all connected devices must not exceed 32 UL. Although modern transceivers theoretically allow for the connection of more nodes, it is generally recommended to limit an RS-485 link to 32 devices to ensure reliable communication.

Note

The gateway's load is 1/8 UL

4.3 0-10V or 4-20mA analog inputs

Analog inputs can be 4-, 3-, or 2-wire. The following are the connection diagrams:



analog input wiring

Note

The voltage available at the sensor terminal block is the same as that of the power supply unit used to power the gateway. The maximum power available for all sensors combined must not exceed 7 watts.

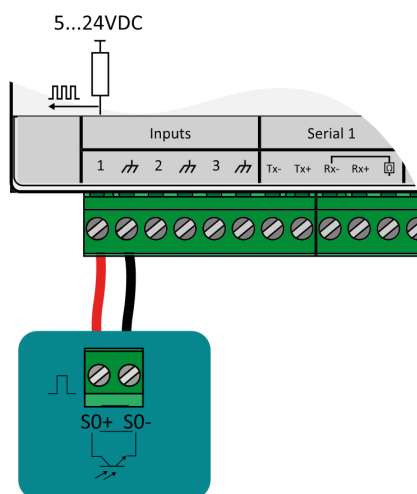
Danger

Do not apply a voltage greater than 12V or a current greater than 24mA

4.4 S0 pulse inputs or dry-contact inputs

Pulse Input Wiring

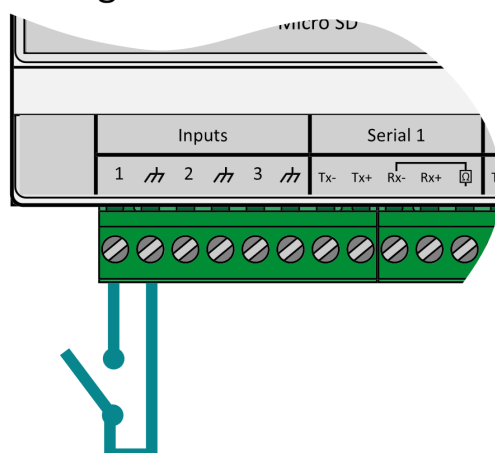
Câblage d'une entrée en S0



pulse input

Dry contact input Wiring

Câblage d'une entrée en TOR



dry contact

4.5 Relay Output

The relay output has the following characteristics:

Feature	Value
Maximum voltage	24V
Maximum current	1A

! Warning

The relay must not be used to control heavy loads.



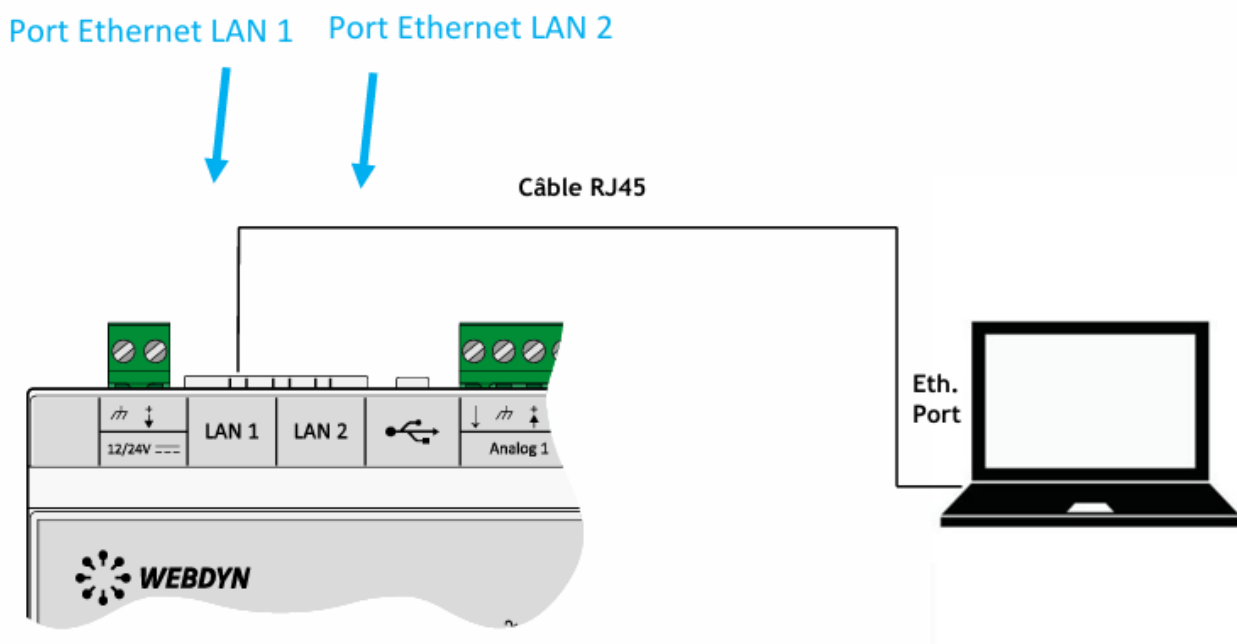
5 First Startup

The gateway is shipped with its factory settings, so you must configure it locally in order to operate it remotely.

5.1 Logging In to the Web Interface

First, you need to connect the WebdynSunPM to your computer's Ethernet port.

You can use the LAN1 or LAN2 port to connect to the web interface of the product.



pc lan connection

The gateway's web interface can be accessed at the following addresses:

- **LAN1:** <https://192.168.1.12>
- **LAN2:** <https://192.168.2.12>

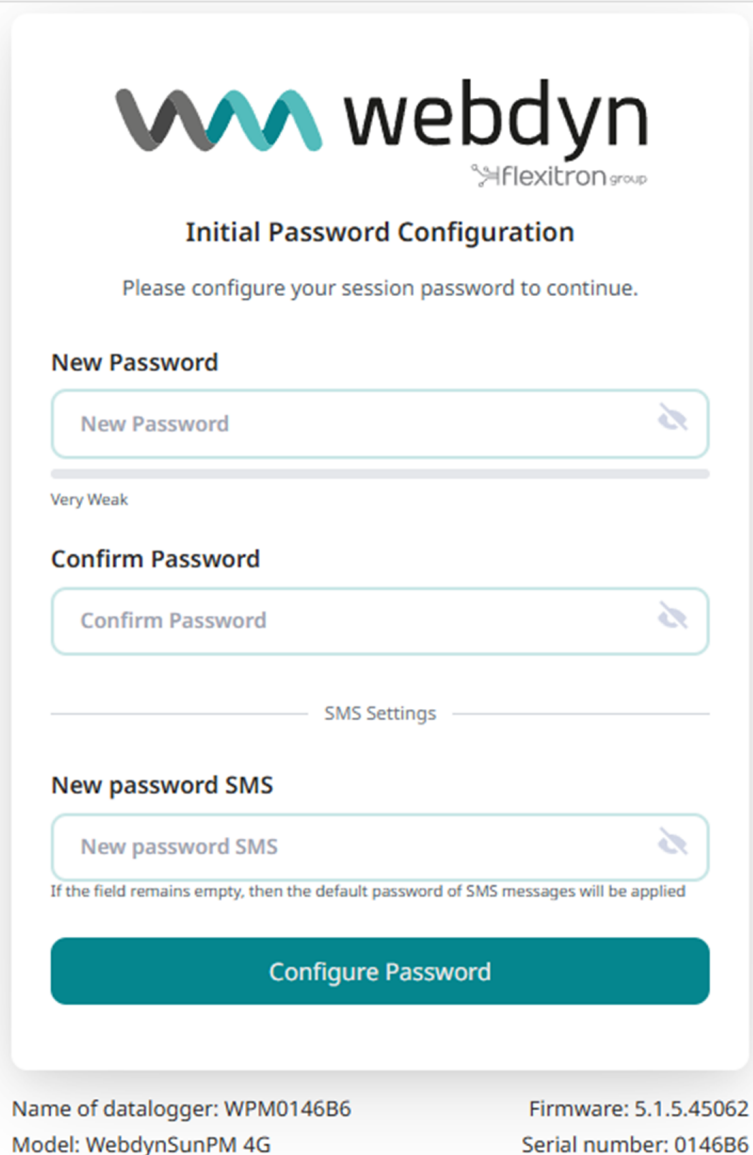
! Warning

When connecting to the gateway via the HTTPS protocol, the browser may display a security warning. This message appears because the gateway uses a self-signed certificate. The first time you connect, you'll need to access your browser's advanced settings and manually approve the security exception to allow access to the interface.

! Warning

The gateway remains accessible locally via unsecured connections at the following addresses: <http://192.168.1.12> for LAN1 and <http://192.168.2.12> for LAN2, but only if no gateway has been configured in the LAN settings.

If the connection is established, the login page appears



 **webdyn**
flexitron group

Initial Password Configuration

Please configure your session password to continue.

New Password

New Password 

Very Weak

Confirm Password

Confirm Password 

SMS Settings

New password SMS

New password SMS 

If the field remains empty, then the default password of SMS messages will be applied

Configure Password

Name of datalogger: WPM0146B6 Firmware: 5.1.5.45062
Model: WebdynSunPM 4G Serial number: 0146B6

first connection

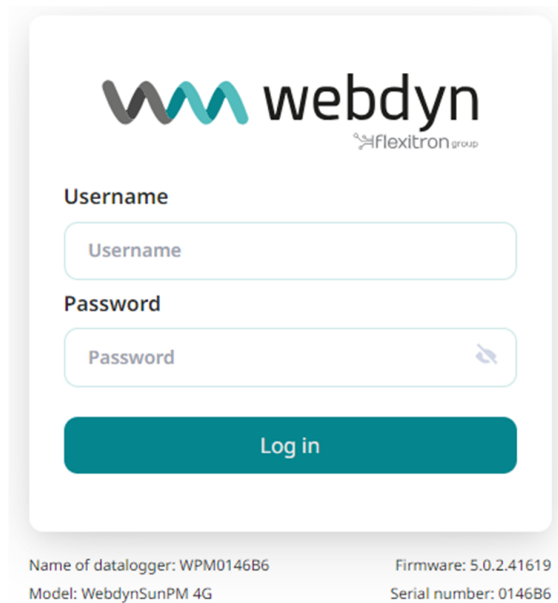
You are then asked to:

- Set the password for accessing the **(MANDATORY)** interface
- Set the SMS encryption password **(OPTIONAL)**

The strength of the access password is indicated and must have a minimum score of 4, calculated as follows:

- 8 characters +1
- 12 characters +1
- At least a number plus 1
- At least one +1 symbol
- Mixed case +1

A login window appears:



The image shows a login interface for the webdyn device. At the top is the webdyn logo with the tagline 'flexitron group'. Below the logo are two input fields: 'Username' and 'Password'. The 'Username' field has a placeholder text 'Username'. The 'Password' field has a placeholder text 'Password' and a small eye icon to toggle visibility. Below these fields is a teal 'Log in' button. At the bottom of the interface, there is a table with device information:

Name of datalogger: WPM0146B6	Firmware: 5.0.2.41619
Model: WebdynSunPM 4G	Serial number: 0146B6

login

- **Username:** userhigh
- **Password:** Password set

! Warning

If the page does not load, you will need to change your computer's IPv4 settings. Administrator privileges are required to make these changes

5.1.1 Changing the IP Address in Windows 10

To change your computer's IP address, right-click the network icon in the lower-right corner of your taskbar, then click **Network Parameters**

Click on **Change adapter settings** in the **Advanced network configuration** submenu:

État

Statut du réseau



Vous êtes connecté à Internet

Si vous disposez d'un forfait de données limitées, vous pouvez configurer ce réseau en tant que connexion limitée ou modifier d'autres propriétés.

 Ethernet 14.33 Go
Depuis ces 30 derniers jours

Propriétés

Consommation des données

 Afficher les réseaux disponibles
Affichez les options de connexion qui vous entourent.

Paramètres réseau avancés

 **Modifier les options d'adaptateur**
Affichez les cartes réseau et modifiez les paramètres de connexion.

 Centre Réseau et partage
Décidez des contenus que vous souhaitez partager sur les réseaux auxquels vous vous connectez.

 Résolution des problèmes réseau
Diagnostic et réparation des problèmes réseau.

[Afficher les propriétés du matériel et de la connexion](#)

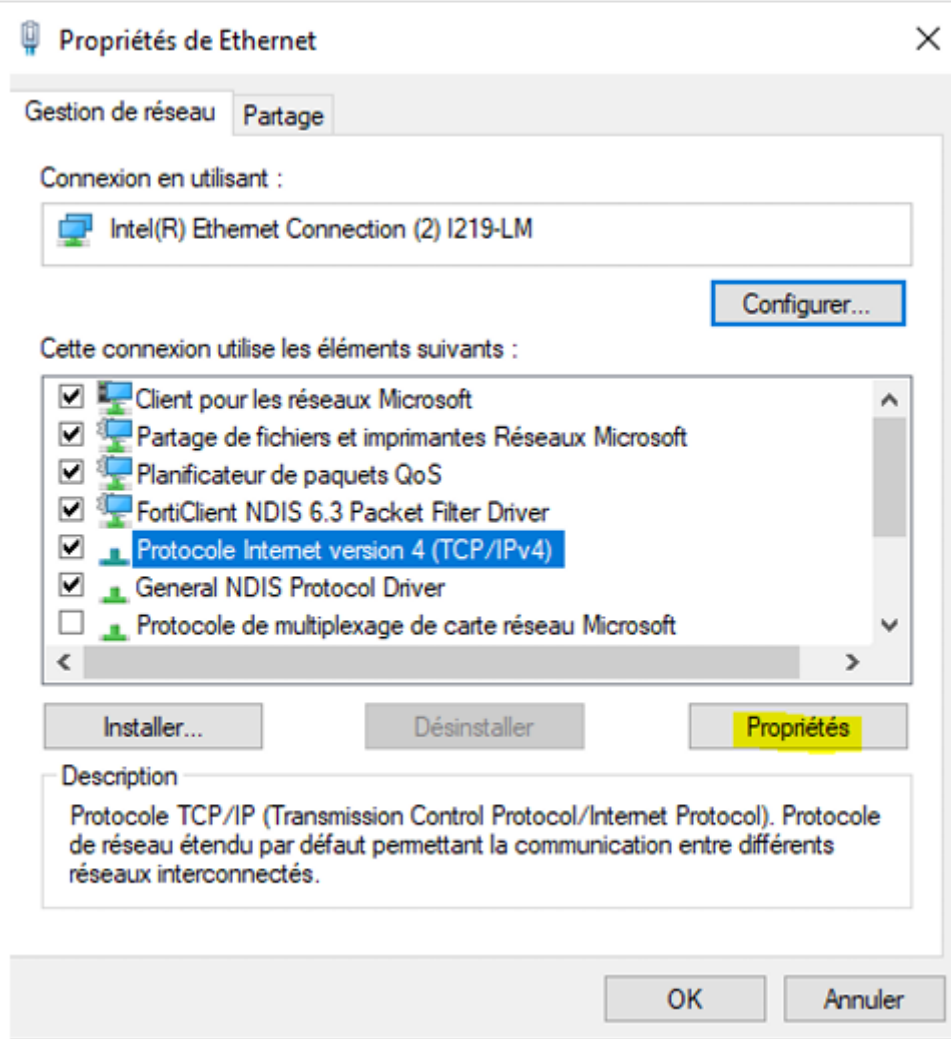
[Pare-feu Windows](#)

[Réinitialisation du réseau](#)

win 10 network

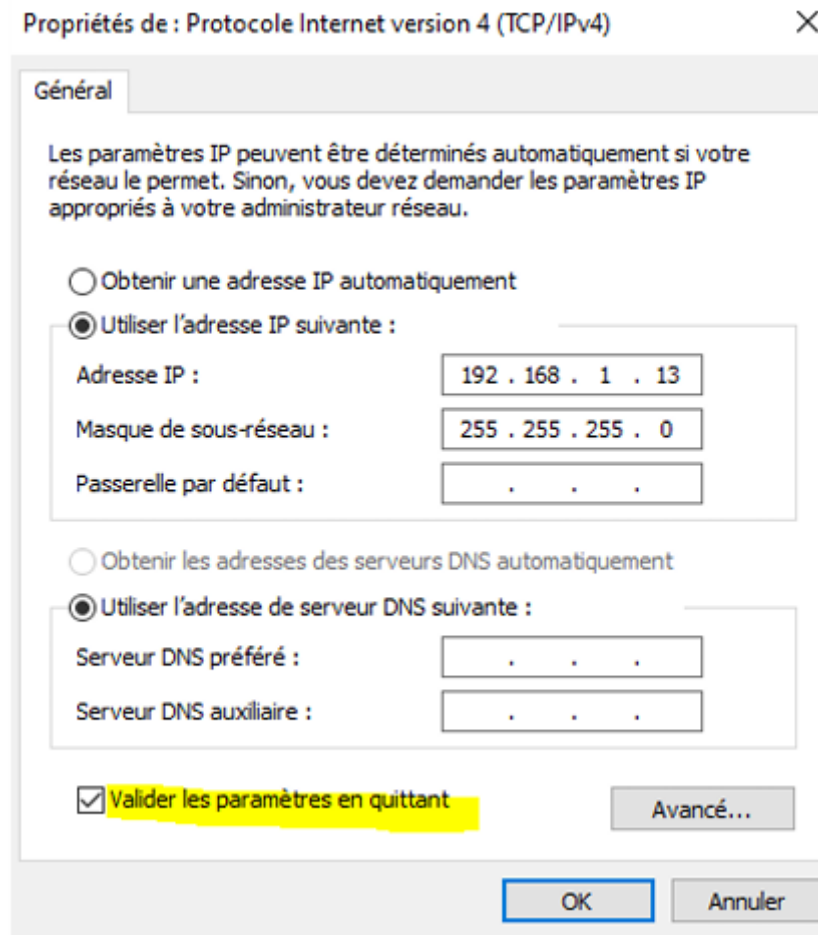
The network interfaces page will appear; right-click on the Ethernet interface, then select **Properties**.

The interface properties page appears; click **Internet Version 4 (TCP/IPv4)**, then **Properties**:



win 10 tcpip

The IP address configuration page appears:



win 10 tcpip 2

- Select the **Use IP Address** parameter
 - Enter the desired IP address (**192.168.1.x** for LAN1 or **192.168.2.x** for LAN2)
 - Subnet mask: **255.255.255.0**

Check the **Save on exit** box, then click **OK**

5.1.2 Changing the IP Address in Windows 11

To change your computer's IP address, right-click the network icon in the lower-right corner of your taskbar, then click **Network Parameters**

Click **Ethernet**, then click the **Change** button on the Ethernet interface:



Version 1.0

Manual Démarrage Rapide



Réseau non identifié
Pas de connexion Internet

^

Paramètres d'authentification

Modifier

Connexion limitée
Certaines applications peuvent fonctionner différemment afin de réduire l'utilisation des données lorsque vous êtes connectés à ce réseau.
Définir une limite de données permettant de contrôler la consommation des données sur ce réseau

Désactivé ☐

Attribution d'adresse IP :
Adresse IPv4 :
Masque IPv4:

Manuel
192.168.1.15
255.255.255.0

Modifier

Attribution du serveur DNS :

Automatique (DHCP)

Modifier

Fabricant :
Description :
Version du pilote :
Adresse physique (MAC) :

Intel
Intel(R) Ethernet Connection (13) I219-V
12.19.0.16
04:42:1A:AF:83:21

Copier

win 11 network

The configuration page will appear. Enable IPv4, then enter the IP settings:

Modifier les paramètres IP

Certains de ces paramètres sont gérés par votre organisation.

Manuel

IPv4

☒ Activé

Adresse IP

192.168.1.15

Masque de sous-réseau

255.255.255.0

Passerelle

DNS préféré

DNS sur HTTPS

Désactivé

Autre DNS

Enregistrer

Annuler

win 11 tcpip

- Enter the desired IP address (**192.168.1.x** for LAN1 or **192.168.2.x** for LAN2)
- Subnet mask: **255.255.255.0**

Click on **Save**



5.2 Quick Setup

A configurator is available on the home page to quickly configure the gateway and guide the installer.

The configurator consists of 6 steps:

- **"Network"**: Allows you to configure the Ethernet and modem interface,
- **"Server"**: Allows you to configure the connection to remote servers,
- **"Serial"**: Allows you to configure the serial ports on the gateway,
- **"Detect or add device"**: Allows you to add or detect devices connected to the gateway,
- **"Control"**: Enables the services on the gateway,
- **"Change password"**: Allows you to change the web interface password.

For the initial setup, the essential steps are network configuration and server configuration.

6 Configuring Network Interfaces

The first step is to configure the interfaces—either the mobile network or the LAN1/2 Ethernet interfaces, as desired.

Note

The mobile network is reserved exclusively for remote connections, while the LAN1/2 Ethernet interfaces can also be used to collect data from Modbus TCP devices

6.1 Ethernet (local)

From the **Network>Local** tab, the interface allows you to configure the two Ethernet interfaces (LAN1 and LAN2) available on the gateway. These Ethernet interfaces allow the gateway to be part of two different Ethernet networks.

The screenshot shows the WebdynSunPM web interface. The top header includes the logo, version (V5.2.2.d3f55ae94 (4G)), and navigation links for Modem, Ethernet, Server 1, Server 2, Serial 1, Serial 2, and Serial 3. On the right, there are buttons for 'Guides' and 'Quick Setup', and a timestamp '2026-06-02 10:49:00'. The left sidebar contains a menu with 'Dashboard', 'Network' (expanded), 'Local' (selected), 'Mobile', 'Monitoring' (expanded), 'Serial', 'Device', 'Server', 'Control', and 'System'. The main content area is titled 'Local network' and shows a list of interfaces: 'Lan 1' and 'Lan 2'. The 'Lan 1' configuration panel is active, displaying fields for IP (192.168.30.12), Netmask (255.255.255.0), Gateway, DNS1, and DNS2. Below these fields is an information box with a warning icon stating: 'Information: You are currently connected on a personal network via HTTP. If you configure a gateway, HTTP will be disabled for security reasons. You will only be able to connect to the device using HTTPS. After saving the settings, you will need to connect at the following address: https://172.20.33.102'. At the bottom of the panel are 'Ping', 'Cancel', and 'Save' buttons.

network page



Web Interface	<UID>_daq.csv	Description
IP	ip	IP Address
Netmask	mask	Subnet mask
Gateway	gateway	Gateway Address
DNS 1	dns1	DNS Server 1
DNS 2	dns2	DNS Server 2

A button labeled **Ping** allows you to test connectivity to the gateway.

! Warning

Depuis FW 5.1.5

If a gateway is configured, the web server can only be reached via HTTPS on that interface

6.2 Mobile (modem)

From the **Network>Mobile** tab, the interface allows you to configure the modem to establish a remote connection. You must first insert the SIM card.



Version 1.0

Mobile network

PIN code configuration

PIN code

PIN code

PIN code status

PIN code OK

Cancel

Save

Modem configuration

APN

iot.1nce.net

Authentication type

None

APN login

APN login (if required)

APN password

APN password (if required)

DNS

DNS (if required)

SMS server

SMS server (if required)

Cancel

Save

Modem information

Model

EG915U (2G/4G)

Firmware version

EG915UEUABR03A01M08_01.209.01.209

IMEI number

861076086420161

MSISDN number

901405125410413

Network type

4G

RSSI

Excellent

Carrier name

Orange F

dBm

-53

IP address

100.75.99.53

CSQ

30

Current DNS

8.8.8.8

Current SMS server

+882285000016868

Refresh

mobile page

Web	<UID>_daq.csv	Description
PIN code	pine	PIN
APN	apn	Name of the APN
Authentication Type	authentication	Type of authentication with the carrier (optional, depending on the carrier):
APN Login	login	Your mobile carrier's username (optional, depending on the carrier)
APN password	password	Your mobile carrier's password (optional, depending on the carrier)
SMS server	server	SMS messaging center. (optional)
DNS	DNS	DNS server (optional)



The different PIN statuses are as follows:

- **Pin Code OK:** The modem can access the SIM card
- **Pin code Required:** The SIM card is waiting for a code
- **Unknown:** Various modem errors
- **PUK code required:** The SIM card is locked
- **SIM card not inserted:** No SIM card inserted

Note

If no APN is specified, no IP connection is possible. Only SMS

Using SMS commands, you can configure the product remotely, provided that a SIM card is inserted and there is no PIN code. A specific application note is available.

Modem information is also available:

- **Firmware version:** Modem software version
- **IMEI number:** Unique modem identification number
- **MSISDN number:** Identification number of the inserted SIM card
- **Network Type:** Type of network to which the modem is connected (2G/3G/4G).
- **RSSI:** Indication of the modem's receive power level
- **Carrier name:** Operator Name
- **dBm:** Signal level
- **IP Address:** IP address
- **CSQ:** Received signal level between 0 and 31
- **Current DNS:** The DNS address currently used by the modem connection.
- **Current SMS server:** SMS messaging center currently in use.

The **Refresh** button forces the modem information to be updated, which is useful when the SIM card has just been inserted.

7 Configuring SFTP/FTP/WebDAV Servers

Using an FTP/SFTP/WebDAV-HTTPS server is the preferred solution for the remote configuration and operation of equipment.

Note

The use of FTP servers is not recommended for security reasons.

The gateway allows you to configure two remote servers.

If only one server is used, it can be configured as either Server 1 or Server 2, depending on the desired behavior.

- **Server 1:** primary server.
- **Server 2:** backup server.

The main server allows you to:

- Creating and modifying the configuration
- Order Shipping
- Alarm Reception
- Submitting and updating files



The backup server serves solely as a replica of the files stored on the main server.

No configuration changes or commands can be performed through this server.

7.1 Authentication and Security

Each server must be accessible using:

- a username
- a password.

Warning

SSH key authentication is not available.

The server can be hosted on any type of server (Windows, Linux, etc.). The important thing is that its address be accessible to the gateway using the configured network interface (Ethernet or modem).

Configuration serveur SFTP

Parameter	Specifications
Key Encryption Algorithm	ssh-rsa
Key exchange (KEX)	diffie-hellman-group-exchange-sha256
Encryption (ciphers)	aes128-ctr or aes256-ctr .
MAC (integrity)	hmac-sha2-256 or hmac-sha2-512 .
Compression	none

Configuration serveur WebDAV (HTTPS)

Parameter	Specifications
Protocol	WebDAV over HTTPS (https://)
Port	443 by default; can be configured if the server uses a different port
Authentication	Username and password
TLS Certificate	Valid server certificate for the configured address
Required Methods	HEAD, GET, PUT, DELETE
HTTP Metadata	The server must provide the Last-Modified and Content-Length headers for the files

7.2 Tree Structure

It should be noted that the gateway does not create the server directory structure. Therefore, you must manually create all directories. By default, at a minimum, the following directories must be present on the server:



File type	Default Folder
Configuration	/CONFIG
Alarms	/ALARM
Newspapers	/LOG
FW Update File	/BIN
Certificates	/CERT
Data Files	/DATA
Command Files	/CMD
Definition File	/DEF
Scripts	/SCRIPT

i Note

These directories must have read, write, delete, and create permissions for the configured user