

Remote Access for Schneider PLC(s)

APPLICATION NOTE

AUG-0038-00 2.3 en-US ENGLISH

Important User Information

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1 Preface

1.1 About This Document

This document explains in a few steps how to configure your Ewon device, your Talk2M account and the PLC software to access the Schneider for remote diagnosis and programming.

For additional related documentation and file downloads, please visit www.ewon.biz/support.

1.2 Document history

Version	Date	Description
1.0	2011-05-12	First release
2.3	2019-03-01	Added: Talk2M Easy Setup Changed: Nexw layout

1.3 Related Documents

Document	Author	Document ID
Ewon Configuration for Internet Access Using the Wizard	HMS	AUG-0019-00
Easy Commissioning via SD Card and USD Drive	HMS	AUG-0062-00
PLC Discovery through Talk2M	HMS	AUG-0070-00
WAN ConnectionFallback	HMS	KB-0286-00

1.4 Trademark Information

Ewon® is a registered trademark of HMS Industrial Networks SA. All other trademarks mentioned in this document are the property of their respective holders.

2 Requirements

2.1 Hardware

To complete this guide, you need the following items:

- an Ewon with VPN capabilities,
- Schneider PLC,
- a computer to configure the Ewon and the Schneider PLC.

2.2 Software

2.2.1 Ewon Related

The following pieces of software are needed to configure your Ewon:

- a modern web browser (min. version: Firefox 15, Chrome 16, Safari 6 and Edge 13),
- [eBuddy](#): Ewon configuration and maintenance utility.
- [eCatcher](#): Talk2M remote access utility. Version 6.4 or higher.

2.2.2 Schneider Related

- **PL7 PRO** software including the **XIP Driver** and/or **XWAY Drivers Manager**. The version of the software must allow the use of the TCP/IP interface (version 4.1 or higher).

3 Objective

The objective of this document is to guide you through the steps required to enable remote access of the Schneider.

The remote access setup is composed of 4 different parts:

- communication with the Ewon through the Internet,
- connection of your Ewon to the Schneider PLC,
- configuration of the PLC software so it can communicate through the Ewon,
- access to your PLC through the Internet.

If you connect to an Ewon for the first time, we recommend reading the “Quick Start Guide” document shipped with your Ewon.

4 Prepare your Ewon for Remote Access

The LAN IP address of your Ewon and of your PLC must be in the same IP range.

If you choose the Ethernet or Wi-Fi WAN interface to connect to the Internet, the Ewon requires a LAN IP address on the machine side and a WAN IP address on the network (remote site) side.

Before configuring your Ewon LAN IP address and by consequence, the IP address of your PLC, ask to your network administrators what is the specified company LAN network range used as WAN connection by the Ewon to connect to the Internet.

The LAN ports of your Ewon and thus the PLCs plugged in the Ewon must be in a range outside the ones used by the *Site LAN*.

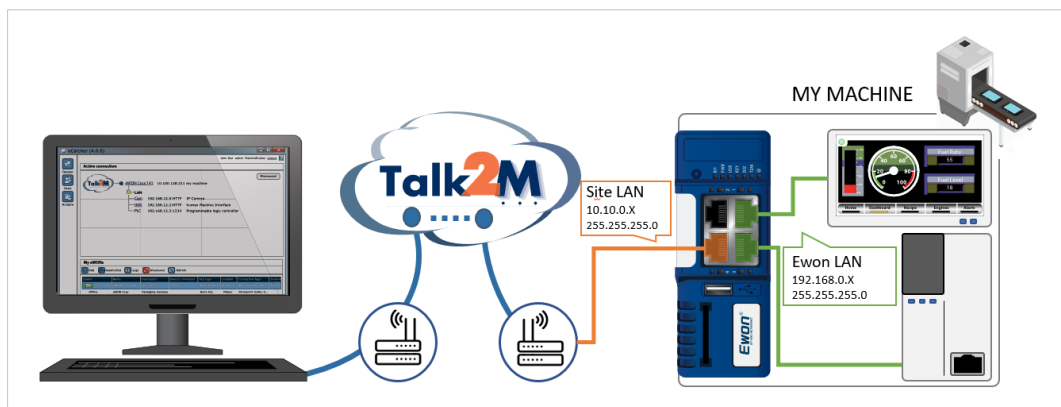


Fig. 1 IP ranges involved in an Ethernet / Wi-Fi network.

In the above example, we could select IP addresses in the **192.168.0.#** range for the Ewon LAN and PLCs since it does not overlap with the *Site LAN* range.

If you choose the cellular WAN interface to connect to the Internet, the Ewon requires only a LAN IP address compatible with the PLC IP address.

5 Configure your Ewon for Remote Access

This section explains how to configure the remote access of your Ewon through Talk2M service.

Before going through the configuration of your Ewon to set the remote access, we recommend reading the [Prepare your Ewon for Remote Access, p. 6](#).

5.1 Step 1: Create your Ewon in Talk2M

The first step consists in listing your Ewon inside your Talk2M account using the [eCatcher](#) software.



If you already created your Ewon in your Talk2M account, through eCatcher, you can skip this step and go to the next step.

To create your Ewon in Talk2M, apply the following procedure:

1. Connect your computer to the Internet.
2. Verify that you have an Internet connection.

For example: open your web browser and browse to your favorite web page.

3. Open eCatcher and log in to your Talk2M account.

If you don't have any Talk2M account, please follow the video tutorial "Create a Talk2M Account" available on the [Ewon elearning platform](#).

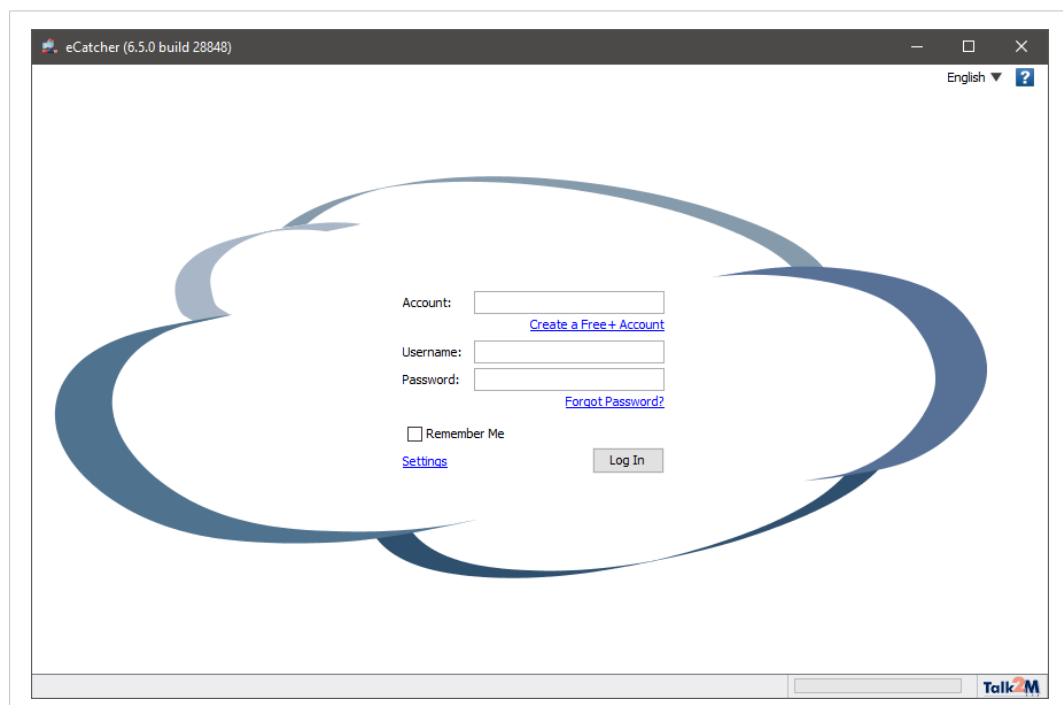


Fig. 2 Add an Ewon in eCatcher — 1

- On eCatcher's main interface, click the **+ Add** icon. A new window appears.

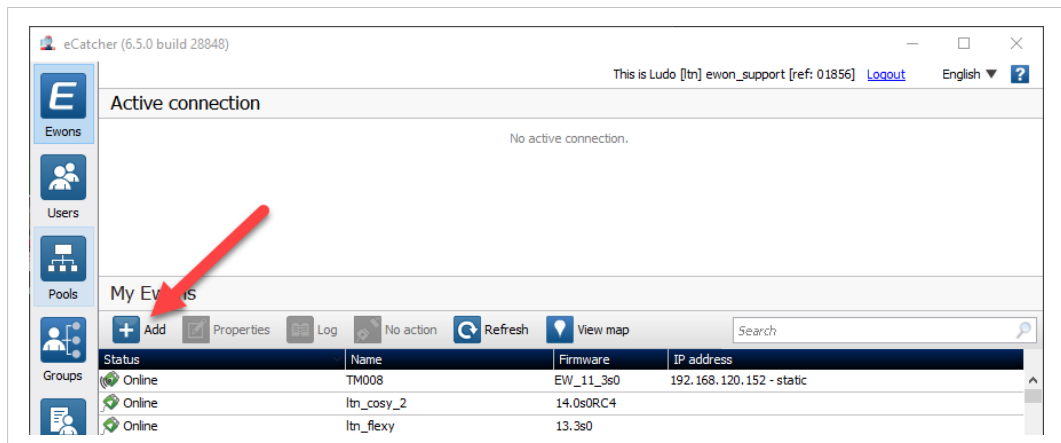


Fig. 3 Add an Ewon in eCatcher — 2

- Enter the name of your Ewon.

The Talk2M server displays this name to identify the remote connection to your Ewon

- Select the **Connection Type** to specify how your Ewon connects to the Talk2M server. You can choose between two possibilities:

- Permanent: for Ethernet, Wi-Fi or cellular models. Your Ewon stays permanently online.
- Triggered: only for cellular models. Your Ewon is offline (but still functional) until you wake it up with an SMS.

If you specify a triggered connection, then eCatcher asks for the phone number of your Ewon. The phone number allows Talk2M to send an SMS which wakes up your Ewon.

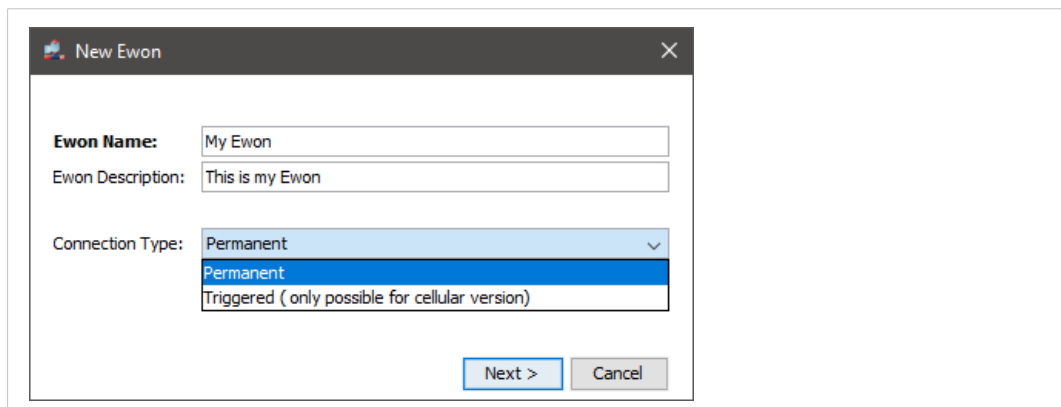


Fig. 4 Add an Ewon in eCatcher — 3

- Click **Next**.

- Enter custom information concerning your remote connection. You can use the **Custom Fields** to classify or filter your different remote connections (your different Ewons).

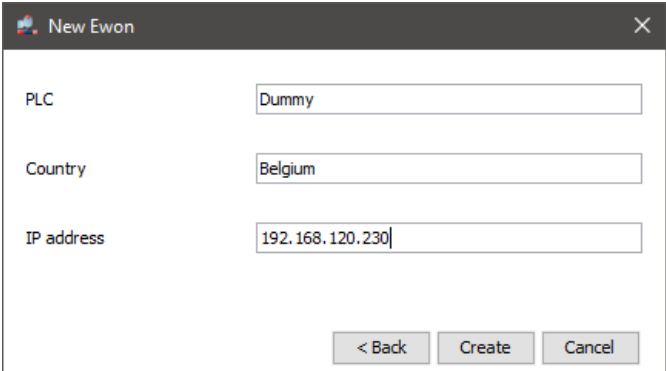


Fig. 5 Add an Ewon in eCatcher — 4

- Click **Create**.

The newly created Ewon is now linked to your Talk2M account.



If you have a Talk2M Pro account, you need to add the Ewon to a pool/group of Ewons before being able to create the new Ewon entry.

eCatcher displays the “Talk2M Connectivity” frame. Follow the [Step 2: Prepare the Configuration File, p. 9](#) to continue the configuration of the remote access.

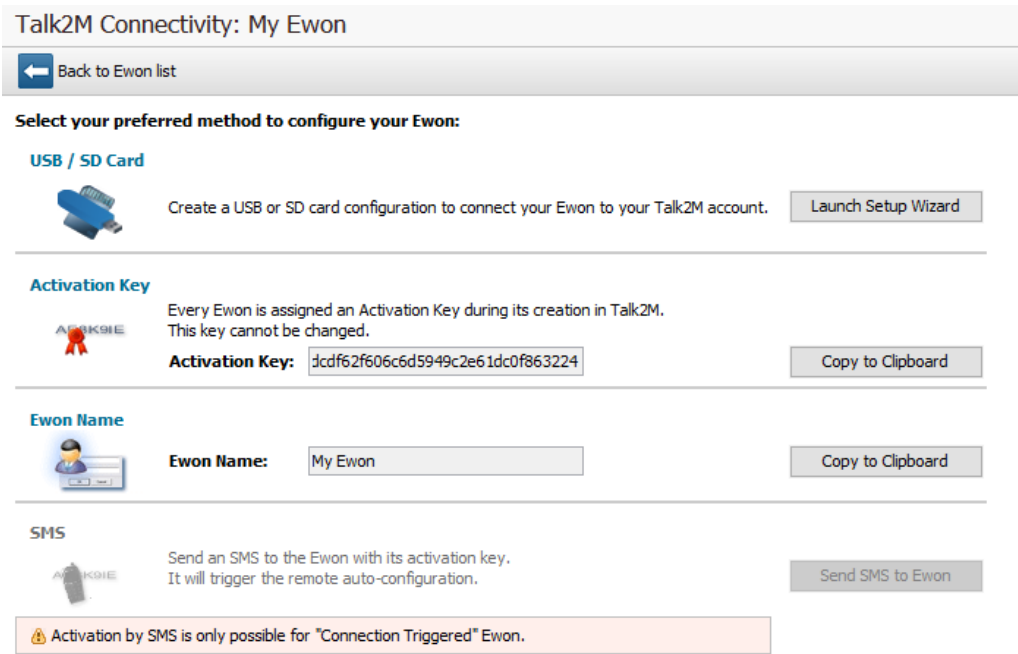


Fig. 6 Talk2m Connectivity in eCatcher

5.2 Step 2: Prepare the Configuration File

To access remotely your Ewon, you need to configure the Internet and the Talk2M VPN connection of your Ewon.

The configuration explained in this section uses the *Talk2M Easy Setup* feature embedded in the eCatcher (as of v6.4). If you wish to configure your Ewon through eBuddy and Ewon web interface, please refer to [Configure your Ewon for Remote Access using the Web Interface, p. 29](#) from the Appendix.

eCatcher offers the possibility to create a commissioning file which includes all the configuration parameters useful to configure such connections.

eCatcher stores the commissioning file on an SD card or a USB flash drive. You can then insert the SD card or USB flash drive in your Ewon which automatically applies the configuration parameters available on the SD card / USB flash drive.



To apply the following configuration, your Ewon must run (minimum) Ewon firmware version 13.2s0 for the USB drive and 11.0s0 for the SD card.



If you decide to use a USB flash drive combined with a Ewon Flexy, you need the Flexy USB extension card: FLB 3601.

Once eCatcher displays the “Talk2M Connectivity” frame, apply the following procedure:

1. Insert an SD card or USB flash drive in your computer. Make sure the card or the key is of FAT32 format.
2. Click the **Launch Setup Wizard** button of the **USB / SD Card** first row.
3. Select the WAN interface of your Ewon.
4. Depending on the interface you choose, different configuration fields are required:
 - Ethernet: WAN IP settings.
 - Wi-Fi: SSID settings.
 - Cellular: SIM card and APN settings.

For Ethernet and Wi-Fi, make sure to complete the advanced settings if necessary.

5. Click **Next**.
6. Set the LAN IP address of your Ewon. Check [Prepare your Ewon for Remote Access, p. 6](#) for more information.
7. Click **Next**.
8. Select the location where eCatcher should export the file.
9. Click **Save** twice to confirm the export.

The last screen is an explanation how to proceed with the SD card / USB flash drive and your Ewon. You can also follow [Step 3: Apply the Configuration File, p. 10](#).

5.3 Step 3: Apply the Configuration File



The following configuration works only if your Ewon hasn't been registered on Talk2M (or is not currently linked to a Talk2M account).

To configure your Ewon for remote access, apply the following procedure:

1. Make sure your Ewon is powered on.

2. Insert the SD card or the USB flash drive in your Ewon.

The Ewon detects the insertion in a very short period (5 seconds maximum) and you can visualize this detection by the quick orange blinking pattern of the USR LED (ON / OFF each 150 msec).

3. Wait for the Ewon to process the configuration files.

After the detection of your SD card or USB flash drive, comes the process of what inside. You can visualize the process of the files by the slow orange blinking pattern of the USR LED (ON / OFF each second).

4. Check the status of the USR LED.

After the process of the configuration files, your Ewon shows if it was able to apply the configuration. The result is as follows:

- solid green: success
- solid red: failure

5. Remove the SD card or the USB flash drive. The removal induces the reboot of the Ewon.

6. Within 2 minutes after the reboot, your Ewon should be online in eCatcher.

You can find a complete explanation on the Ewon easy commissioning with the “Easy Commissioning via SD Card and USD Drive” document from [Related Documents, p. 3](#).

5.4 Step 4: Connect to your Ewon Remotely

Now that the Ewon is connected to Talk2M, you can establish the remote connection to this Ewon.

Depending on the type of connection you set, the procedure changes.

5.4.1 Permanent Connection

To connect remotely to an Ewon tagged as permanent connection, follow the procedure:

1. Connect your computer to the Internet.
2. Verify that you have an Internet connection.

For example: open your web browser and browse to your favorite web page.

3. Open eCatcher (if not already opened).
4. Select the Ewon you just configured in the “My Ewons” list.

- Click the green **Connect** button displayed in the Ewon list menu to establish the remote connection. eCatcher is now attempting to establish a VPN connection to the Talk2M server.

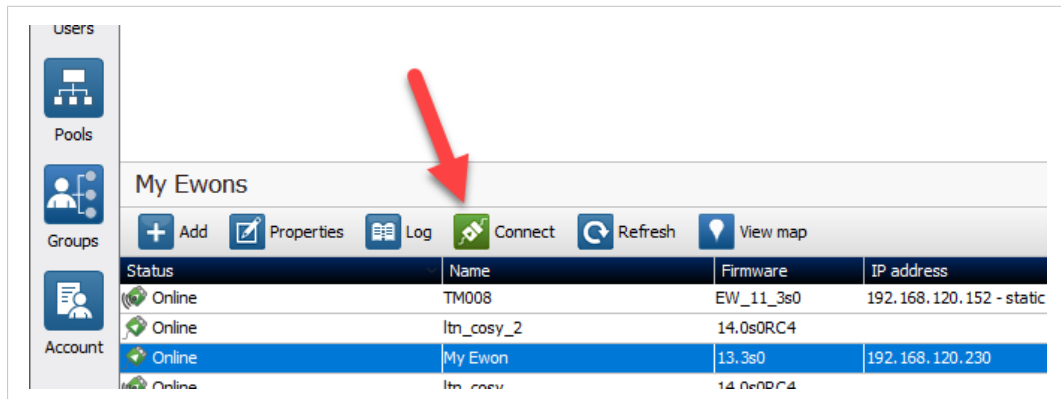


Fig. 7 Connection to an Ewon

- Once the VPN connection established, eCatcher displays the Ewon in the “Active connection” section.

The computer is now connected to the Ewon using the VPN tunnel and you can use the remote connection.

You can click the **IP address** link in the “Active Connection” section to display, in a web browser, the homepage of the Ewon web interface.

5.4.2 Triggered Connection

To connect remotely to an Ewon tagged as triggered connection, follow the procedure:

- Connect your computer to the Internet.
- Verify that you have an Internet connection.
For example: open your web browser and browse to your favorite web page.
- Open eCatcher (if not already opened).
- Select the Ewon you just configured in the “My Ewons” list.

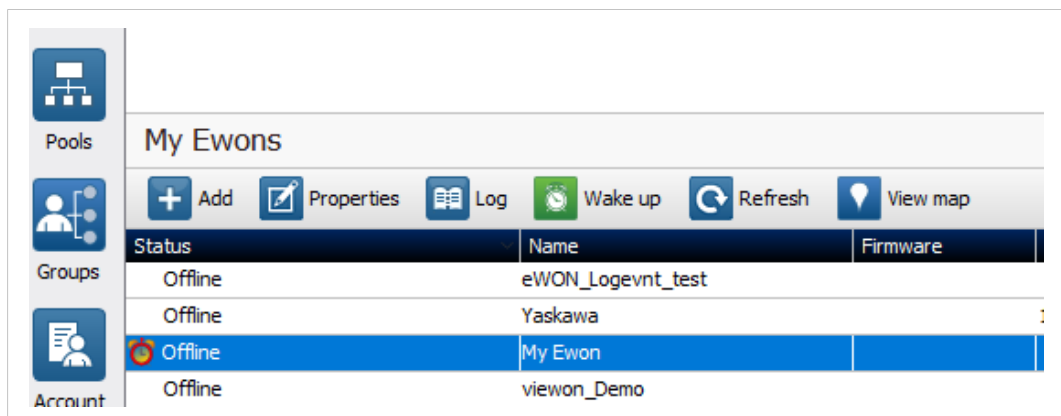


Fig. 8 Wake up your Ewon — 1

- Click the green **Wake up** button displayed in the Ewon list menu to wake up your Ewon. By doing so, eCatcher sends an SMS to switch your Ewon online.

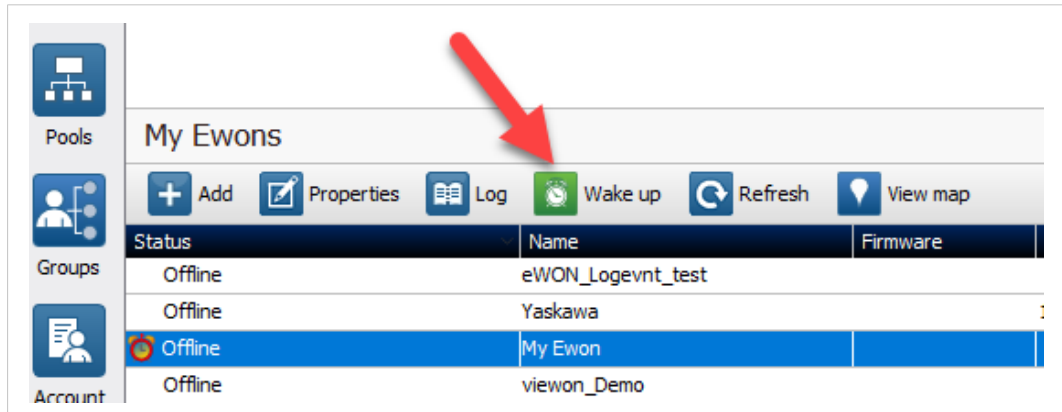


Fig. 9 Wake up your Ewon — 2

- Click the green **Connect** button (previously **Wake up** button) displayed in the Ewon list menu to establish the remote connection. eCatcher is now attempting to establish a VPN connection to the Talk2M server.

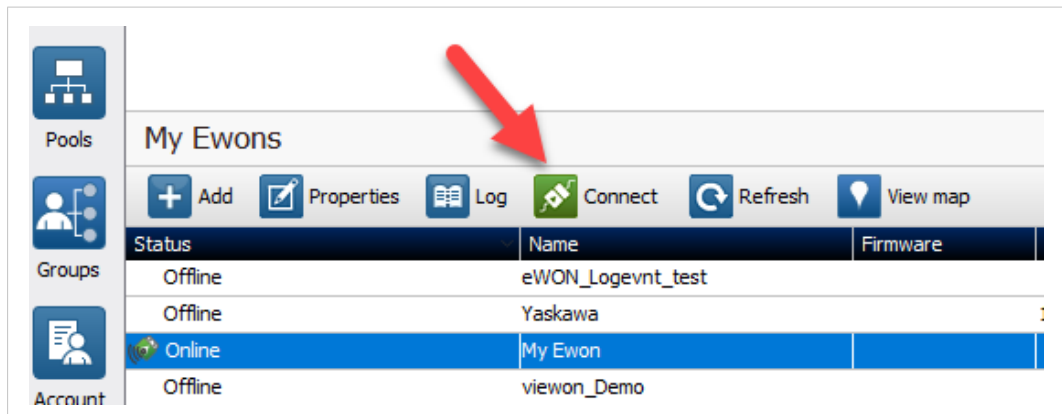


Fig. 10 Wake up your Ewon — 3

- Once the VPN connection established, eCatcher displays the Ewon in the “Active connection” section.



With your smartphone, you can also send the SMS “Talk2M_Connect” or “Talk2MConnect” to your Ewon to wake it up.

The computer is now connected to the Ewon using the VPN tunnel and you can use the remote connection.

You can click the **IP address** link in the “Active Connection” section to display, in a web browser, the homepage of the Ewon web interface.

5.5 Step 6: Terminate the Remote Connection



Before terminating the Talk2M VPN connection to the Ewon, it is mandatory to change the administrator password which is set by default to *adm*. Please refer to [Login security](#), p. 43.

To end the VPN connection and so the remote access to your Ewon, apply the following procedure:

1. Open eCatcher while you are remotely connected to your Ewon.
2. Click the red **Disconnect** button to terminate the remote access.
3. Optionally, leave a log message for future use.

You are now disconnected from your Ewon and can no longer use the remote access.



*By disconnecting, you terminate only the VPN tunnel. If you also want to send your Ewon offline (in case of a triggered Ewon), right-click on the Ewon in eCatcher and select **Go offline**.*

6 Link an Ewon to the PLC

The configuration of the Ewon can be slightly different if the connection between the PLC and the Ewon is Unitelway- or Ethernet-based.

You can combine both connection types without any problem.

For example: at the same time, you can connect to an Modicon TSX Micro & Premium using the Ewon Unitelway port and connect to a (or multiple) Modicon TSX Micro & Premium PLC(s) using the Ewon Ethernet port(s).

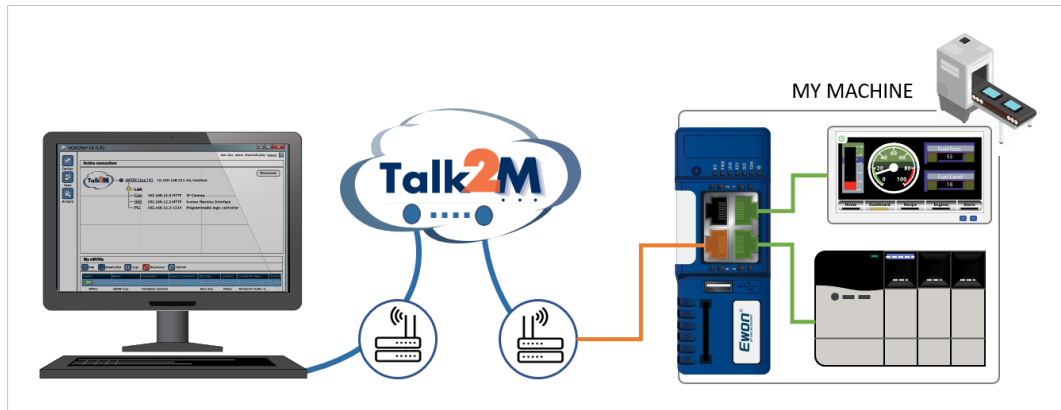


Fig. 11 Serial and Ethernet links between Ewon and Schneider

6.1 Serial (Unitelway) Port Configuration

The serial port between the Ewon and the Schneider is based on the Unitelway protocol.

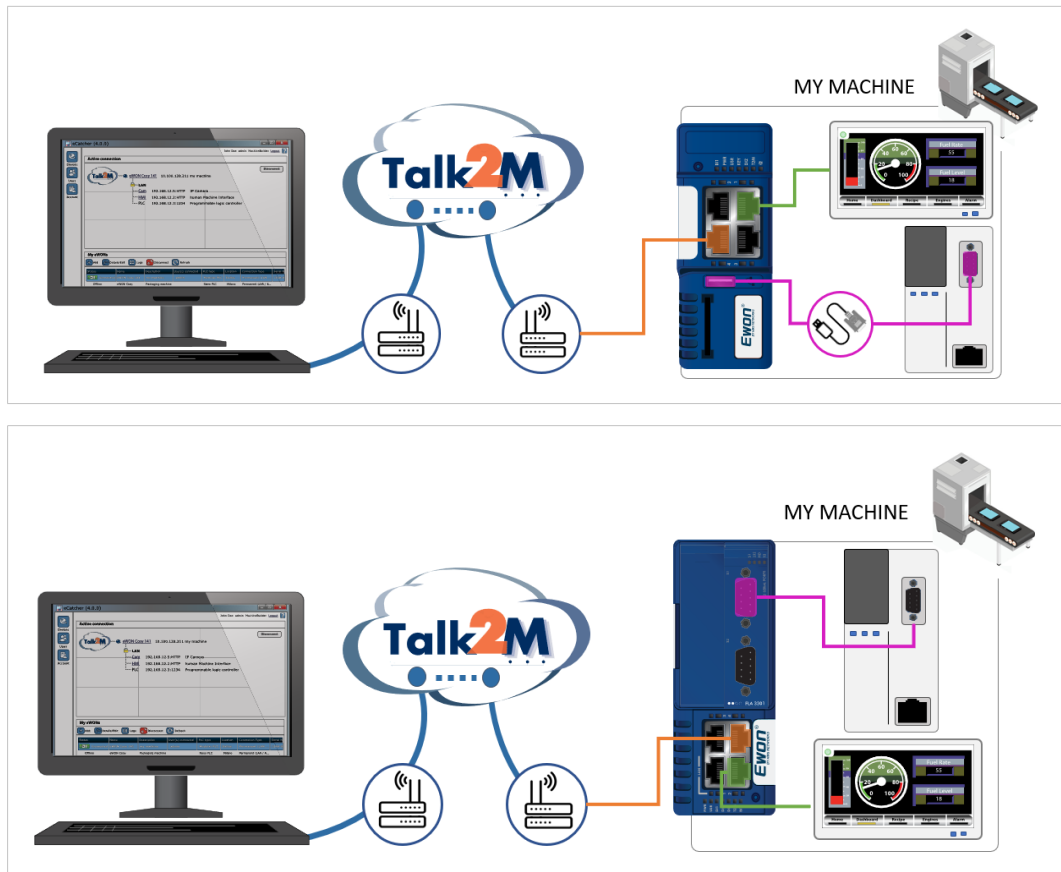


Fig. 12 Unitelway protocol

To configure the serial port of the Ewon, follow the procedure:

1. Set the serial port dip switch of the Ewon to RS485 mode (1 ON and all others OFF):
 - On a Flexy 102 or 202: the built-in serial port is by default set to RS232. You can configure this serial port through the web interface of the Ewon.
 - On a FLA 3301 Flexy extension card: both serial ports are by default set to RS232. You can configure the serial port on top through the dip switch located behind the port.
2. Go to the web interface of your Ewon either using eCatcher (refer to [Step 6: Connect to Your Ewon Remotely, p. 38](#)) or by a local point-to-point connection to the LAN port of the Ewon.
3. Go to **Tags > IO servers**.
4. Select the IO server corresponding to your PLC type: **Unite**

5. Set the **Baudrate, Parity, Stop Bits, HW Mode** and **Master Response Timeout** parameters as defined in your PLC:

It is recommended to have the option *Force Unitelway V2* checked. You should uncheck only if you use older PLC-series and facing communication problems.

In most cases, you can leave the *AD0* field empty, which is the default behavior (and is equivalent to 4).

Introduce the XWAY address of the Ewon — which is a set of two numbers — in the *XWAY Network.Station* field. This address needs to match the addresses configured in the XIP Driver.



For the Unitelway link communication parameters, the corresponding fields in the PL7 PRO interface are part of the hardware configuration.

6. Click on **Update** to save the settings.

To end the configuration of the serial port, connect the Unitelway port of the Ewon to your PLC using the “TSX CX 100” cable (mini-DIN connector in TER at the PLC side – see [Types of Unitelway Cable, p. 45](#)).

6.2 Ethernet Port Configuration

As of Ewon firmware 13.2s1, your Ewon embeds a feature called *PLC Discovery*.

The *PLC Discovery* allows the automatic detection of PLC(s) linked to an Ewon on the network while you are connected through Talk2M even if the PLC and the Ewon are not in the same IP range.

For more detail, please refer to the “PLC Discovery through Talk2M” from the [Related Documents, p. 3](#).

The *PLC Discovery* does not prevent you from configuring the Ewon and the PLC to be in the same IP range. The Ewon and the PLC in the same IP range is a requirement to make the remote access successful.

In most cases, it is no longer necessary to set the Ewon as gateway in the PLC. However, if you need to do so, please refer to [Ewon as the PLC Gateway, p. 40](#).

7 PLC Software Mapping

7.1 Understand XIP

XIP is one of the Ethernet protocols used by Schneider. The Ewon provides a gateway allowing communication between *XIP* and *Unitelway*.

To use XIP, you need to set up the *PL7* software. The routing flow can be described as follows:

For both serial and Ethernet protocols

The *PL7* software is configured to address the PLC as if it is connected by Ethernet, even when it is connected through a serial link.

The *PL7* software sends a request through the XIP driver installed on the PC.

The PLC replies to the Ewon request in the corresponding format: *XIP* or *Unitelway* depending on the local interface.

The Ewon forwards then the answer to the address of the XIP driver on the PC.

For serial protocol

The Ewon picks the packet from the configured address and converts it in *Unitelway* before forwarding it.

From a computer perspective (*XIP* driver), the Ewon is seen as an *XWAY* master. From the PLC perspective, the Ewon is seen as a *Unitelway* client.

7.2 XIP Driver Configuration for Serial Connection

If your Ewon it is still connected as described in [Step 6: Connect to Your Ewon Remotely, p. 38](#), temporarily disconnect the VPN link. If you discard doing so, you may face routing issues with the *XWAY Drivers Manager*.

1. Start *XWAY Drivers Manager*.
2. Select the **XIP Driver tab** from the *Drivers Management Properties* window.

Click on **Configuration**.

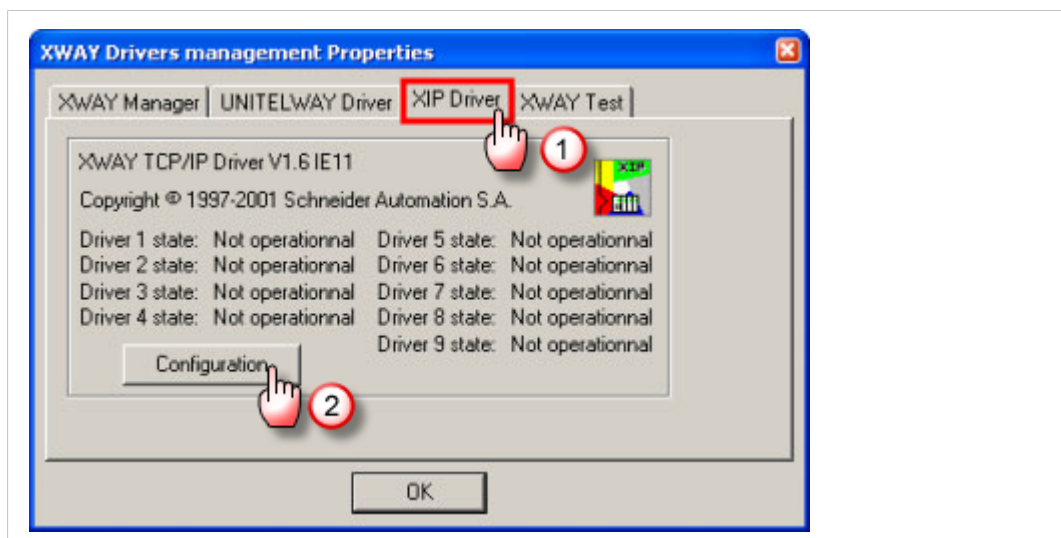


Fig. 13 XWAY Drivers management – 1

- Set the **XWAY address** as defined in the IO server of your Ewon (refer to [Serial \(Unitelway\) Port Configuration, p. 15](#)), and the **LAN IP address** of your Ewon in *New remote host*.
Click on **Add**, then on **Save**.

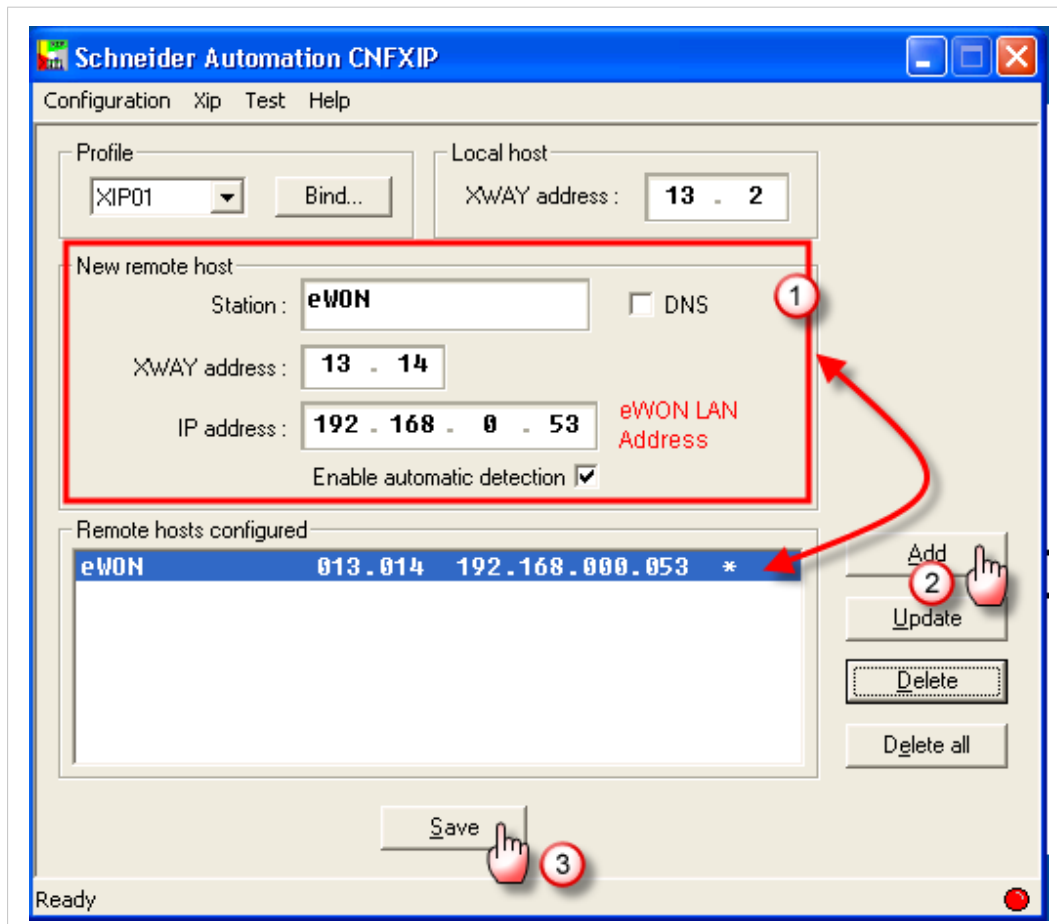


Fig. 14 XWAY Drivers management – 2

In our example, the defined *Profile* is **XP01** and the *Local Host* ▶ *XWAY address* is **13.2** related to the address the PC (XIP driver).

The *XWAY address* of the *Local host* is not that important, it just needs to be in the same range as the *XWAY address* of the Ewon (from the *New remote host*).

- Click on **Start** from the *XIP* menu.

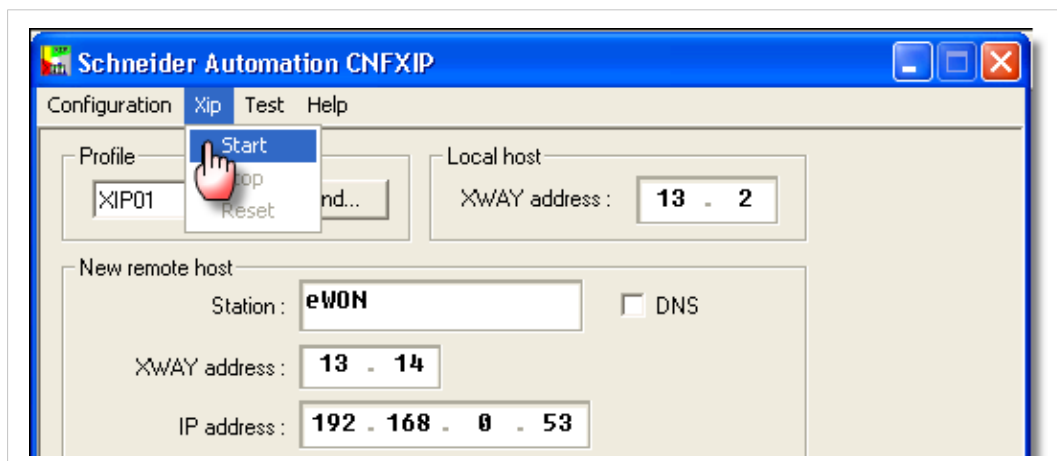


Fig. 15 XWAY Drivers management – 3

5. Select **ICMP Ping** in the *Test* menu.

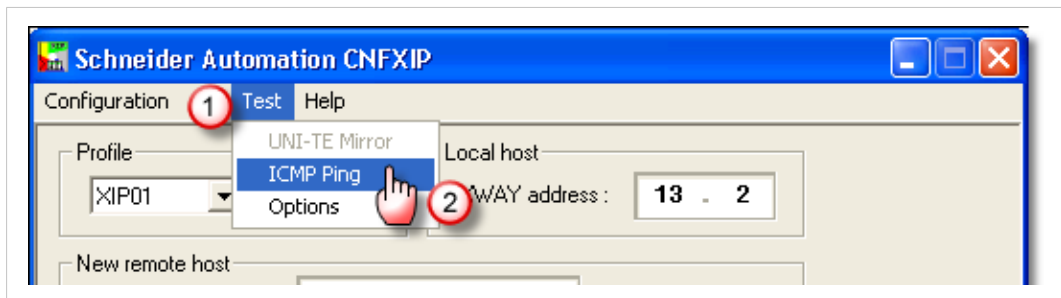


Fig. 16 XWAY Drivers management – 4

6. Click on **Ping**.

You should get the confirmation that the Ewon is physically responding (if not, please refer to [Troubleshooting, p. 27](#)).

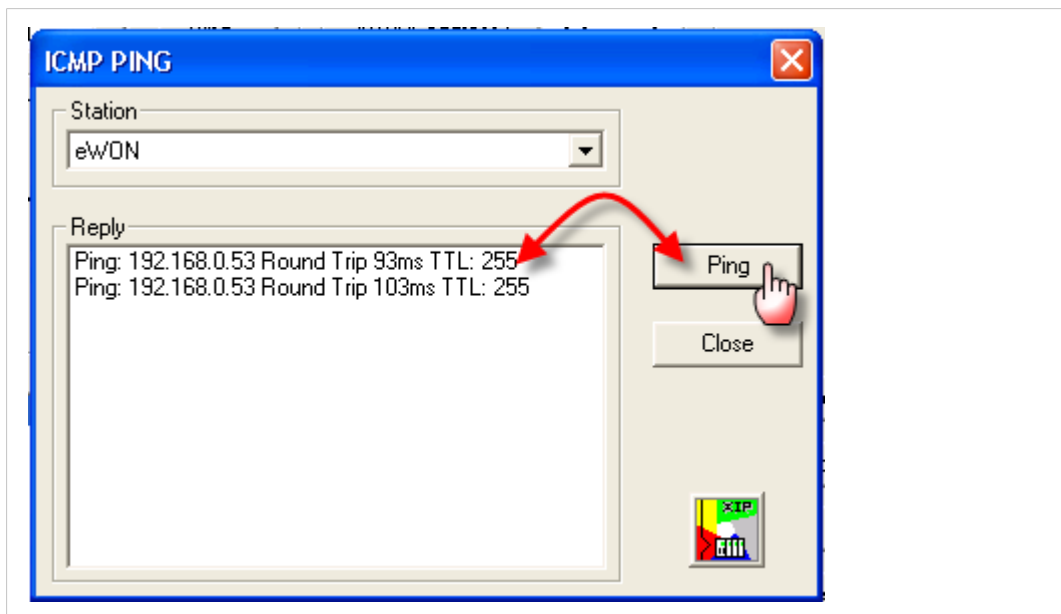


Fig. 17 XWAY Drivers management – 5

7. The XIP protocol connection should be tested by sending a mirror request to the PLC. To do this, close the **ICMP Ping** window and the **CNFXIP** window, and return to the **XWAY Drivers Management** window.
 - Select the **XWAY Test** tab.
 - Select **XIP** in the driver name drop down box.
 - Set the *Remote Address* to **13.14**. This is the Ewon XWAY address (refer to [Serial \(Unitelway\) Port Configuration, p. 15](#)).
 - Click on **Connect**, then click on **Start**.

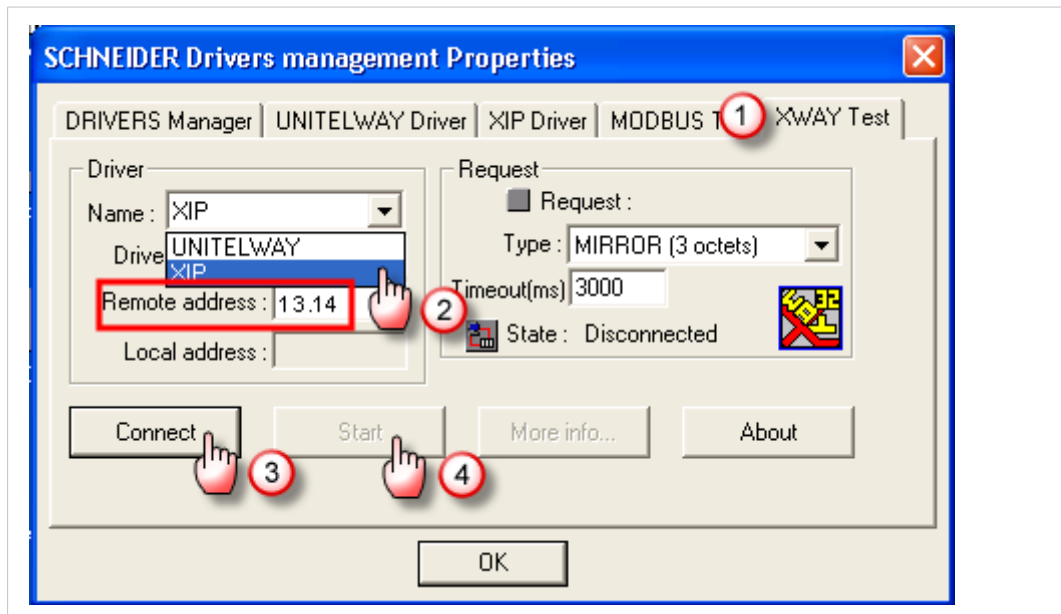


Fig. 18 XWAY Drivers management – 6

8. Click on **Stop** if you see the *Request* counter increasing quickly.

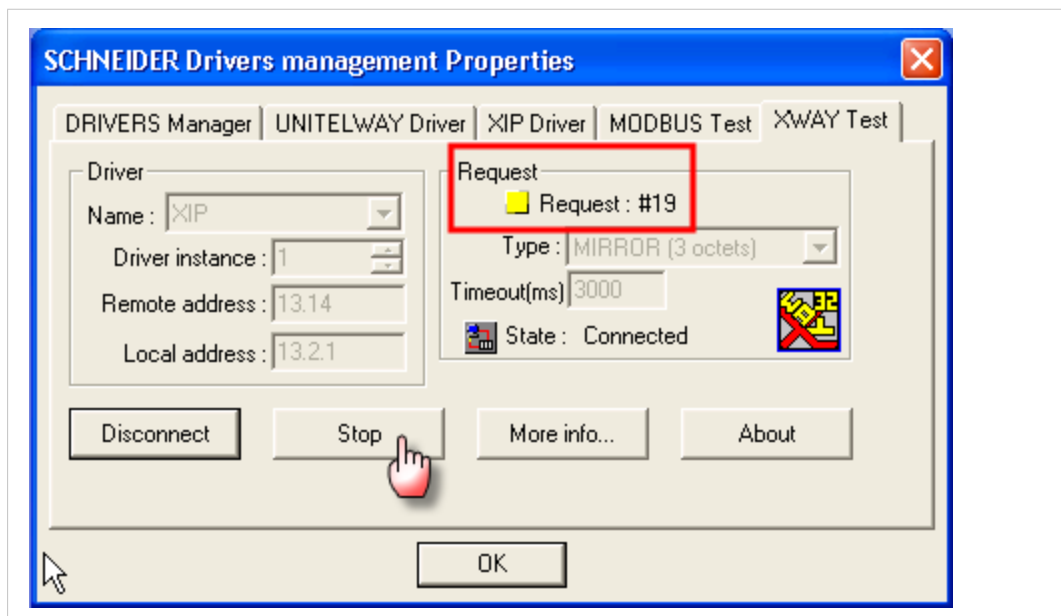


Fig. 19 XWAY Drivers management – 7

You are done configuring the PLC software mapping for a serial connection.

7.3 XIP Driver Configuration for Ethernet connection

If your Ewon it is still connected as described in [Step 6: Connect to Your Ewon Remotely, p. 38](#), temporarily disconnect the VPN link. If you discard doing so, you may face routing issues with the *XWAY Drivers Manager*.

1. Start *XWAY Drivers Manager*.
2. Select the **XIP Driver tab** from the *Drivers Management Properties* window.

Click on **Configuration**.

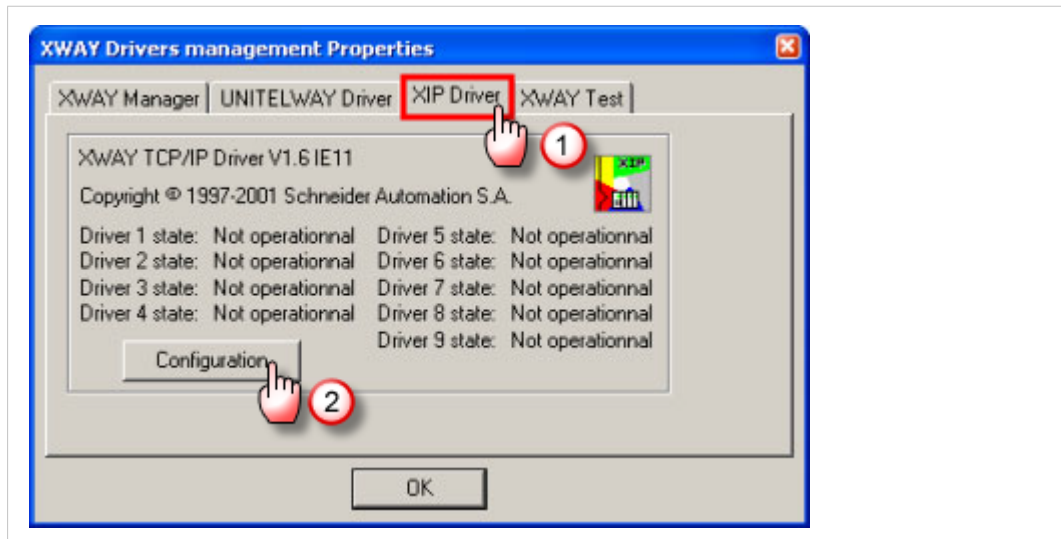


Fig. 20 XWAY Drivers management – 1

- Set the **XWAY address** and the **LAN IP address** of your Schneider PLC (refer to [Ethernet Port Configuration, p. 17](#)) in *New remote host*.

Click on **Add**, then on **Save**.

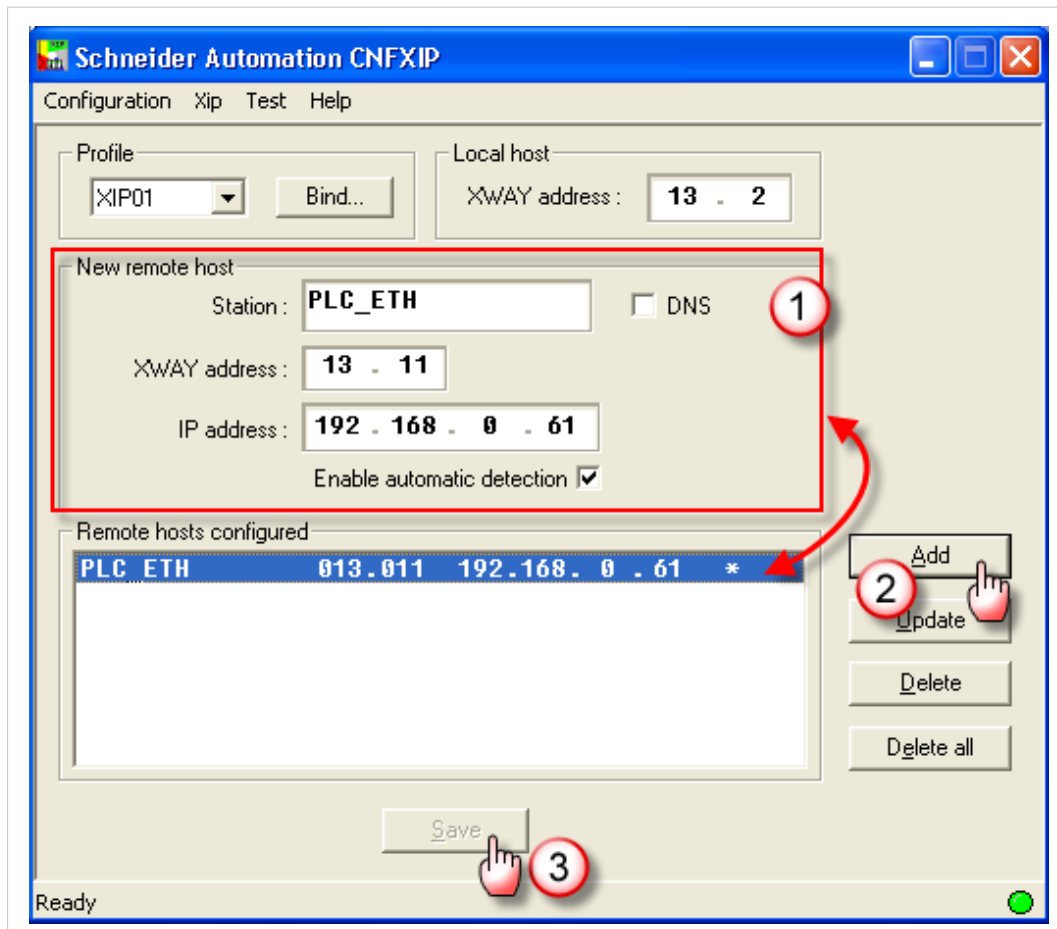


Fig. 21 XWAY Drivers management – 2

In our example, the defined *Profile* is **XP01** and the *Local Host* ► *XWAY address* is **13.2** related to the address of the PC (XIP driver).

The *XWAY address* of the *Local host* is not that important, it just needs to be in the same range as the *XWAY address* of the Ewon.

You are done configuring the PLC software mapping for an Ethernet connection.

8 PLC Remote Access

Before going through this chapter, you must go through the [Link an Ewon to the PLC, p. 15](#) chapter.

Your PLC and your Ewon are physically connected either by *Unitelway* or by Ethernet connection.

The steps below are the same for both connection types:

1. Establish the remote connection to your Ewon based on the explanation of [Step 6: Connect to Your Ewon Remotely, p. 38](#).
2. Start PL7 PRO® once you are connected to your Ewon through Talk2M.
3. Open your project and select **Define PLC Address** from the *PLC* entry in the menu.

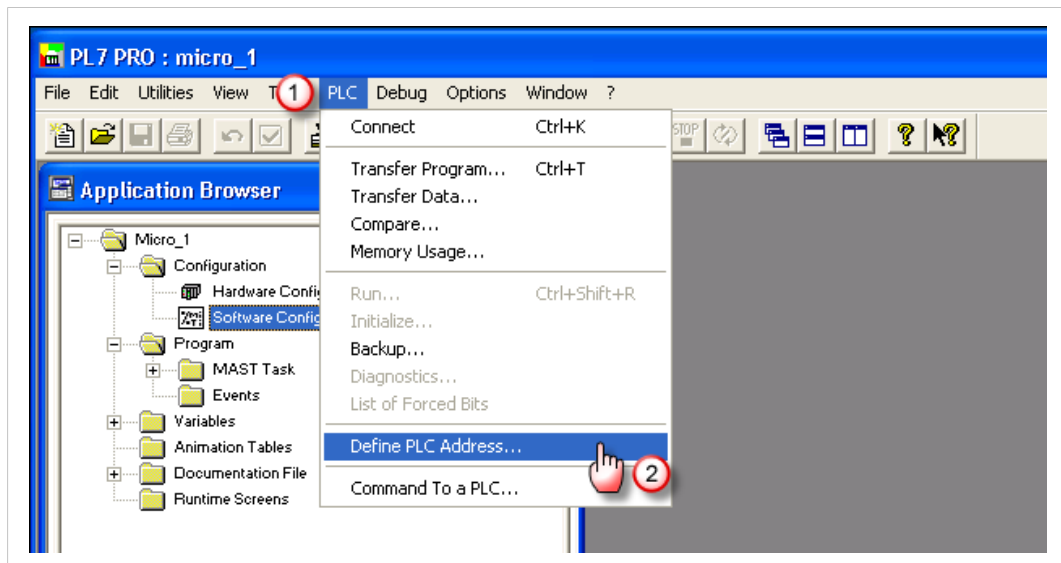


Fig. 22 PLC remote connection — PLC address 1

4. Configure the sub-window for *XIP*.

Set the **Remote Address** depending on the type of connection you use:

- Serial connection:
 - Select the **driver profile** corresponding to the one defined in XIP configuration (e. g.: in our example: *XP01*).
 - Set the **XWAY address** of the Ewon (refer to [Serial \(Unitelway\) Port Configuration, p. 15](#)).

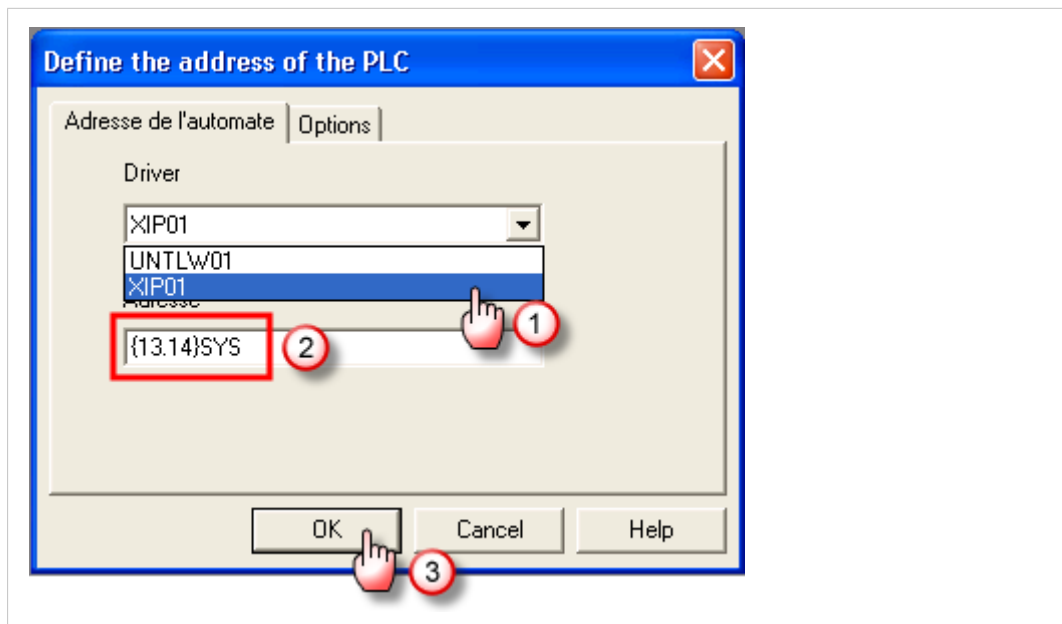


Fig. 23 PLC remote connection — PLC address 2

- Ethernet connection:
 - Select the **driver profile** corresponding to the one defined in XIP configuration (e. g.: in our example: *XP01*).
 - Set the **XWAY address** of the PLC (refer to [Ethernet Port Configuration, p. 17](#)).

Click on **OK**.

5. Click on **Connect** from the PLC entry of the main menu.

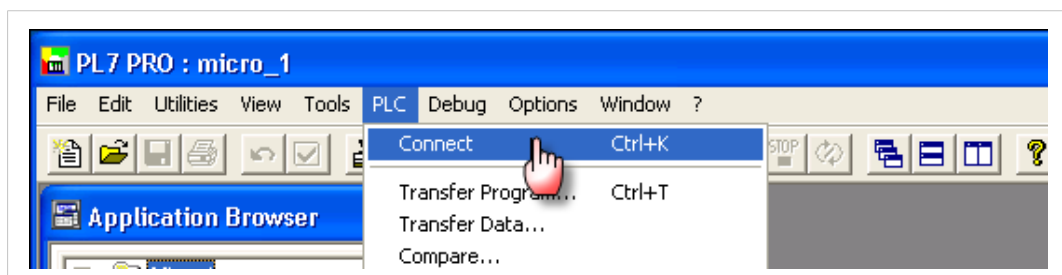


Fig. 24 PLC remote connection — active connection

- Verify the communication in the status bar where you should see **ONLINE**.
A progress bar may be displayed if you download/upload your project file.

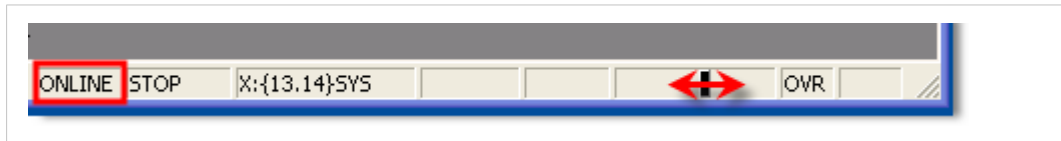


Fig. 25 PLC remote connection – status

If this is not the case, check [Troubleshooting, p. 27](#).

As soon as the connection is established, you can work in remote programming mode.

Once you finished the remote programming with PL7 PRO[®], go offline in the PL7 PRO[®] software and terminate the remote connection to your Ewon as explained in [Step 7: Terminate the Remote Connection, p. 39](#).

9 Troubleshooting

9.1 Cannot reach the PLC through its Unitelway port?

If you cannot reach the serial PLC connected to the Ewon then verify the following items:

- Check the serial dip switch positions of the Ewon which should be all *OFF* for RS232). See [Serial \(Unitelway\) Port Configuration, p. 15](#).
- Make sure you are not connected through VPN tunnel when mapping your PLC with *XWAY Driver Manager*. Establish the tunnel only after you configure and started the XIP driver.
Check that you use an *XIP* driver, not the *Unitelway* one, and that this driver is started – it should run in the background.
- Check the IO server configuration in your Ewon which concerns the *Unite* and associated protocol settings. See [Serial \(Unitelway\) Port Configuration, p. 15](#).
- Open the Ewon *Event Log* located at **Main Menu > Diagnostic > Event Log** to check for error messages.
- Check if the PLC has the correct IP address in *XWAY Driver Manager*. Use either the Ewon LAN IP address or the Ewon VPN IP address.

9.2 Cannot reach the PLC through Ethernet?

If you cannot reach your PLC through Ethernet, it might be because of the following reasons:

- You did not reboot the PLC after you modified the IP address and/or the gateway.
- Make sure you are not connected through VPN tunnel when mapping your PLC with *XWAY Driver Manager*. Establish the tunnel only after you configure and started the XIP driver.
Check that you use an *XIP* driver, not the *Unitelway* one, and that this driver is started – it should run in the background.
- There is a possible mismatch between your Ewon's current IP address and the LAN IP address of your Ewon recorded in the Talk2M account.

Check these settings in eCatcher and, if necessary, modify them. To do so, select your Ewon in eCatcher and hit the **Properties** button, then click on the **Modify LAN subnet** button.

Disconnect and reconnect to your Ewon in eCatcher to apply the modification.

To verify if the Ewon device PLC connection port and the Ewon device IOserver are correctly configured you can create a Tag inside the Ewon device which will poll a register on the PLC. If the polling succeeds, this indicates that the PLC connection is working correctly

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A Configure your Ewon for Remote Access using the Web Interface

This section explains how to configure the remote access of your Ewon through Talk2M with the help of eBuddy and Ewon web interface.

Before going through the configuration of your Ewon to set the remote access, we recommend reading the [Prepare your Ewon for Remote Access, p. 6](#).

A.1 Step 1: Set the LAN IP Address of your Ewon

Once you have selected your IP addresses, you can start configuring your Ewon.

In our example, the Ewon is set to LAN IP address 192.168.0.53. This address fits into the PLC range and does not interfere with the *Company LAN*.

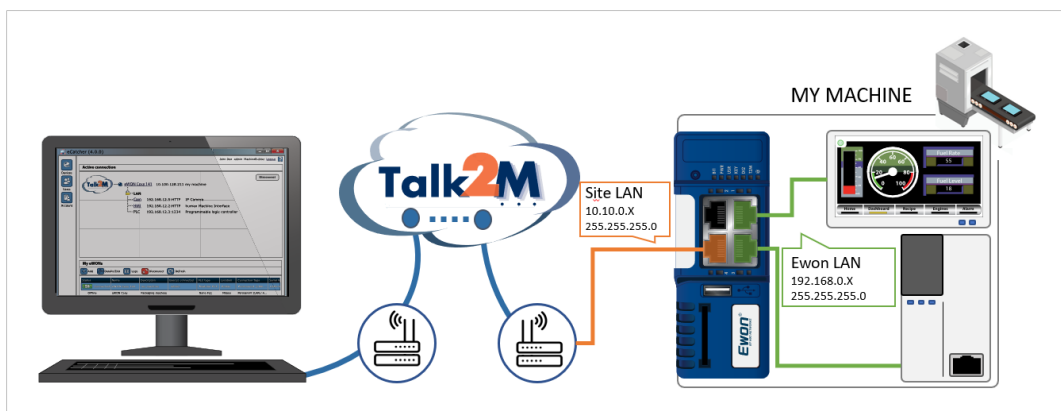


Fig. 26 Example of IP addresses involved

In this step, there is no constraint on the IP range of your computer.

To configure the LAN IP address of your Ewon:

1. Link your computer to the LAN port of your Ewon.

Usually, this link is made through the company network but It can also be made with a point-to-point link.



Fig. 27 Connect the computer indirectly to the Ewon though Company LAN

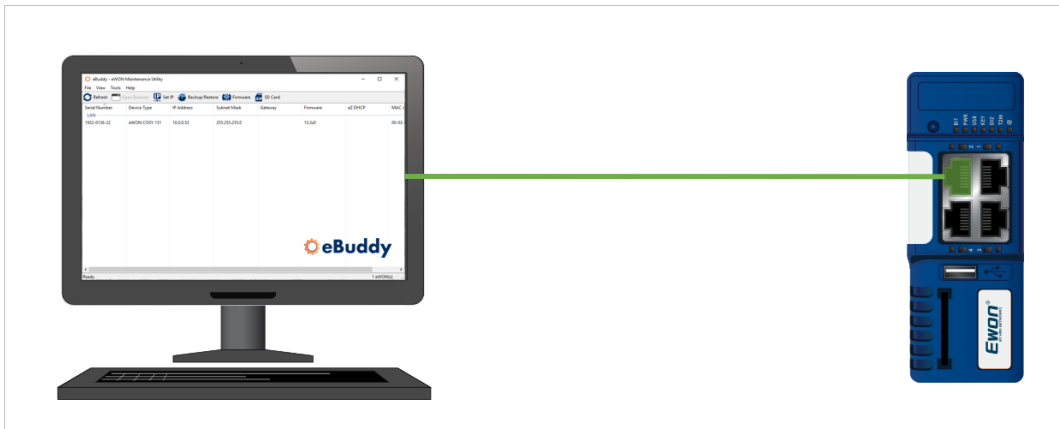


Fig. 28 Connect the computer directly to the Ewon

2. Open eBuddy.

eBuddy can display your Ewon in its list even if your computer has a different network address range than your Ewon.

3. Highlight (click on) your Ewon in the eBuddy list.

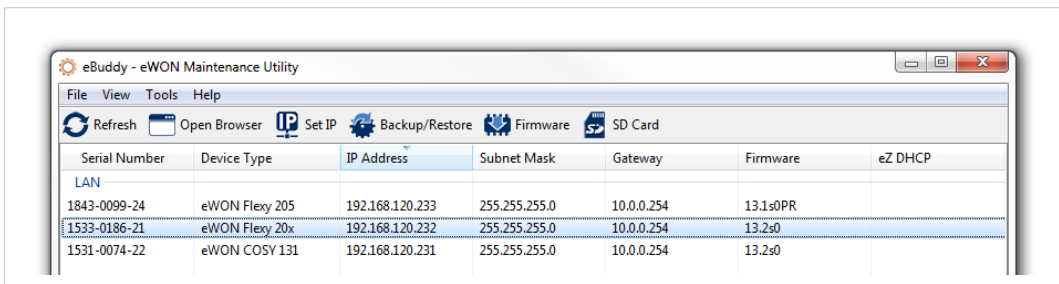


Fig. 29 eBuddy — Selection of the Ewon

- Click the **Set IP** button.

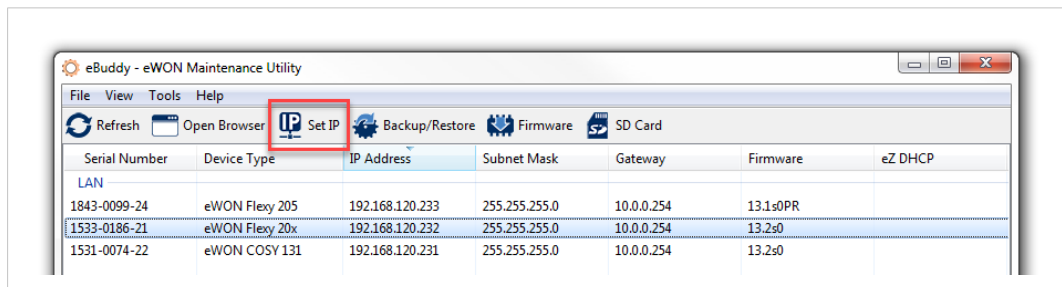


Fig. 30 eBuddy — Set IP button

- Set the **Serial Number** of your Ewon if the field is empty.

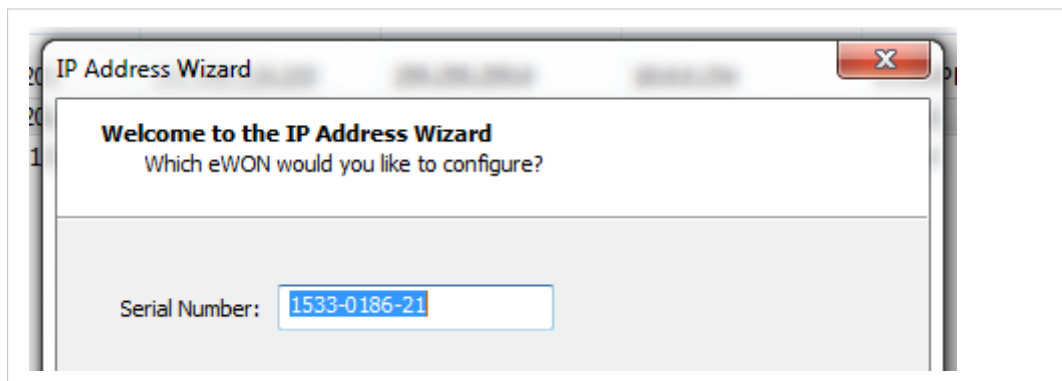


Fig. 31 eBuddy — Serial number field

If you don't know your Ewon's serial number, you can look it up on the right side of the Ewon itself.

- Click **Next**.
- Set the new LAN IP address and Subnet Mask of your Ewon, based on [Prepare your Ewon for Remote Access, p. 6](#).

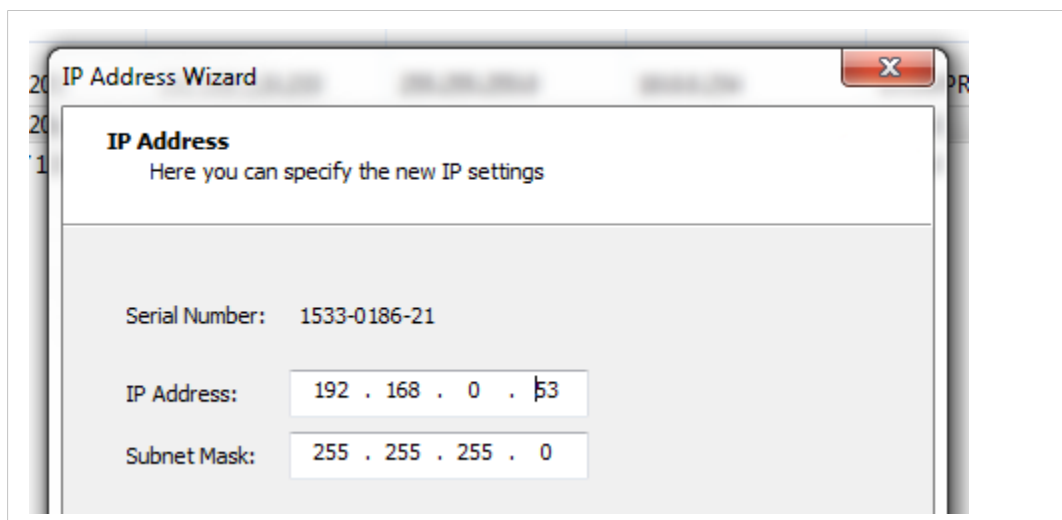


Fig. 32 eBuddy — LAN IP address and Subnet mask

- Click **Next**.

9. Wait until the Ewon reboots.

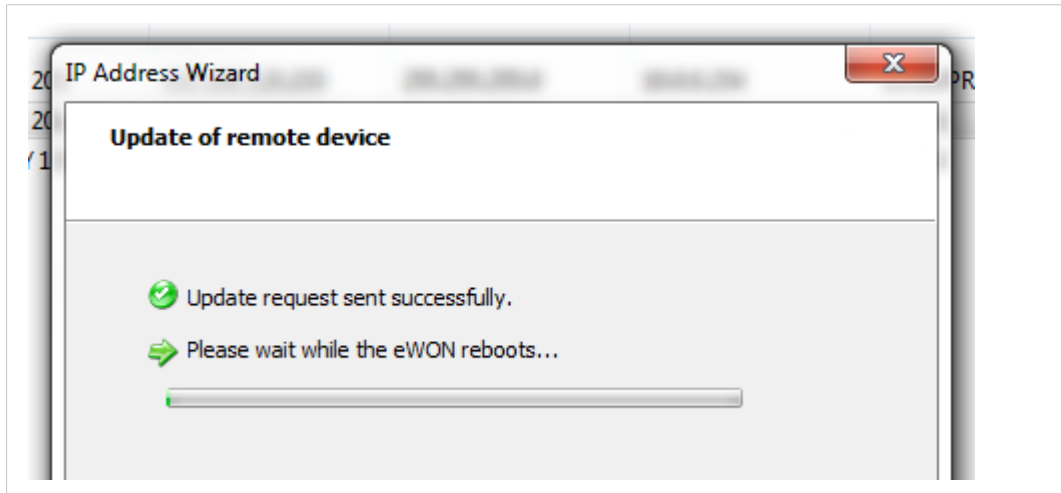


Fig. 33 eBuddy — Reboot of the Ewon

10. Click **Finish**.

A.2 Step 2: Configure the Ewon Internet Connection

To configure the Internet connection of your Ewon, follow these steps:

1. Link your computer to the LAN port of your Ewon.
Usually, this link is made through the company network but It can also be made with a point-to-point link.
2. Open **eBuddy** (if not already open).
3. Highlight the **Ewon** you want to connect to.
4. Right-click on this Ewon.
5. Select **Open in browser**.
6. Log in to your Ewon.
7. Click the **Wizard** button in the top right corner.
8. [Recommended] Go through the System wizard before setting the Internet connection.
The system wizard lets you change the password of the administrator but also sets the date & time of the Ewon.
Click the **System** button in the right-side menu and follow the different steps.
9. Click the **Internet** button in the right-side menu.
10. Select the WAN interface of your Ewon. The propositions displayed are based on the model of your Ewon



WAN refers to Wide Area Network which is the network covering a broad external area using the Internet infrastructure. It is opposed to LAN referring to Local Area Network which is restricted to internal networks.

To continue the Internet step-by-step guide, select your interfaces:

- [Ethernet Connection, p. 33](#);
- [Wi-Fi Connection, p. 33](#);
- [Cellular Connection, p. 34](#).

A.2.1 Ethernet Connection

1. Make sure the WAN port of the Ewon is physically connected to the company network.
The LED dedicated to WAN traffic activity doesn't blink yet as the WAN connection is not yet defined.
2. Click **Next**.
3. Select the network management protocol:
 - static;
 - BootP;
 - DHCP.

We recommend using **DHCP**. This way, your Ewon receives an IP address and Internet access automatically from host.

4. Click **Next**.
5. **Enable** the Internet connection test.
6. Click **Next**.

The last step of the Internet configuration consist in a communication test.

The *Online IP Check* performed during the connectivity test aims at validating the WAN IP address by reaching a specific domain on Internet on a specific port.

If your network parameters are correct, this test should end up successfully.

If the Internet connection test is not successful, then go back through the previous configuration steps and recheck all settings for compatibility and accuracy.



*Your network firewall should allow connections to *.talk2m.com on port 80. Otherwise, the Online IP Check fails.*

More information about the configuration of your Ewon for Internet access using the wizard can be found in the [Related Documents, p. 3](#).

A.2.2 Wi-Fi Connection

1. Click **Next**.
2. Enter the name of the Wi-Fi network (SSID) and its password.
3. Select the network management protocol:
 - static;
 - BootP;
 - DHCP.

We recommend using **DHCP**. This way, your Ewon receives an IP address and Internet access automatically from host.

4. Click **Next**.
5. **Enable** the Internet connection test.
6. Click **Next**.

The last step of the Internet configuration consist in a communication test.

The *Online IP Check* performed during the connectivity test aims at validating the WAN IP address by reaching a specific domain on Internet on a specific port.

If your network parameters are correct, this test should end up successfully.

If the Internet connection test is not successful, then go back through the previous configuration steps and recheck all settings for compatibility and accuracy.



*Your network firewall should allow connections to *.talk2m.com on port 80. Otherwise, the Online IP Check fails.*

More information about the configuration of your Ewon for Internet access using the wizard can be found in the [Related Documents, p. 3](#).

A.2.3 Cellular Connection

1. Click **Next**.
2. Enter the information related to the SIM card and the APN.
3. Click **Next**.
4. Select the connection type:
 - Maintain connection: your Ewon is permanently connected.
 - Triggered: you must wake up your Ewon by sending an SMS so it initializes the connection.
5. Click **Next**.
6. Set the call budget if the connection type is set **triggered**:
 - Idle time: the amount of time before the Ewon shuts down the connection if there is no traffic from/to the Ewon.
 - Call duration: the amount of time the Ewon stays online before closing the outgoing connection.
7. Click **Next**.

The *Online IP Check* performed during the connectivity test aims at validating the WAN IP address by reaching a specific domain on Internet on a specific port.

If your network parameters are correct, this test should end up successfully.

If the Internet connection test is not successful, then go back through the previous configuration steps and recheck all settings for compatibility and accuracy.



*Your network firewall should allow connections to *.talk2m.com on port 80. Otherwise, the Online IP Check fails.*

More information about the configuration of your Ewon for Internet access using the wizard can be found in the [Related Documents, p. 3](#).

A.2.4 WAN Fallback

If another WAN interface is available, a popup appears at the end of the Internet wizard and offers to configure this secondary WAN interface.

If configured, the Ewon switches automatically to this secondary WAN interface in case the primary interface fails.

The configuration of the secondary WAN interface is a replay of the Internet wizard where the proposed settings are based on this second WAN interface type.

More info on the WAN Fallback in the “WAN ConnectionFallback” from [Related Documents, p. 3](#).

A.3 Step 3: Create Your Ewon in Talk2M

This step consists in listing your Ewon inside your Talk2M account using the [eCatcher](#) software.



If you already created your Ewon in your Talk2M account, through eCatcher, you can skip this step and go to the next step.

To create your Ewon in Talk2M, apply the following procedure:

1. Connect your computer to the company LAN.
2. Set the network parameters of your computer to **DHCP enabled**. An IP address is automatically provided from the DHCP server of the company network.
3. Verify that you have an Internet connection. For example: open your web browser and browse to your favorite web page.
4. Open eCatcher if your Internet connection works.
5. On eCatcher's main interface, click the **+ Add** icon. A new window appears.
6. Enter the name of your Ewon. The Talk2M server displays this name to identify the remote connection to your Ewon
7. Select the **Connection Type** to specify how your Ewon connects to the Talk2M server. You can choose between two possibilities:
 - Permanent: for Ethernet, Wi-Fi or cellular models. Your Ewon stays permanently online.
 - Triggered: only for cellular models. Your Ewon is offline (but still functional) until you wake it up with an SMS.

If you specify a triggered connection, then eCatcher asks for the phone number of your Ewon. The phone number allows Talk2M to send a n SMS which wakes up your Ewon.
8. Click **Next**.
9. Enter custom information concerning your remote connection. You can use the **Custom Fields** to classify or filter your different remote connections (your different Ewons).
10. Click **Create**.

The newly created Ewon is now linked to your Talk2M account.

eCatcher displays the "Talk2M Connectivity" frame. Follow the [Step 4: Retrieve the Talk2M Activation Key, p. 35](#) to continue the configuration of the remote access.

A.4 Step 4: Retrieve the Talk2M Activation Key

Up to now, we only added the Ewon in your Talk2M account but we didn't configure the Ewon to connect to the Talk2M server.

One way to enable the link between your Ewon and the Talk2M server is with the activation key. The activation key allows the Ewon to retrieve the VPN keys and certificates useful to establish the VPN connection.

Continue the [Step 3: Create Your Ewon in Talk2M, p. 35](#) and, in the "Talk2M Connectivity" frame, get the activation key by proceeding as follows:

1. Click the **Copy to Clipboard** button from the **Activation Key** row.

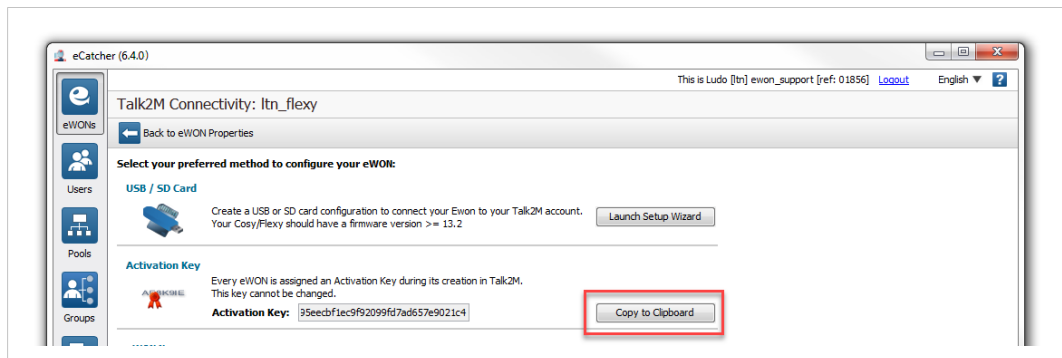


Fig. 34 eCatcher — Activation key

If you are not in the “Talk2M Connectivity” frame but in eCatcher’s main window instead, follow this process to retrieve the activation key:

1. Select your Ewon in the “My Ewons” list.
2. Click the **Properties** button.

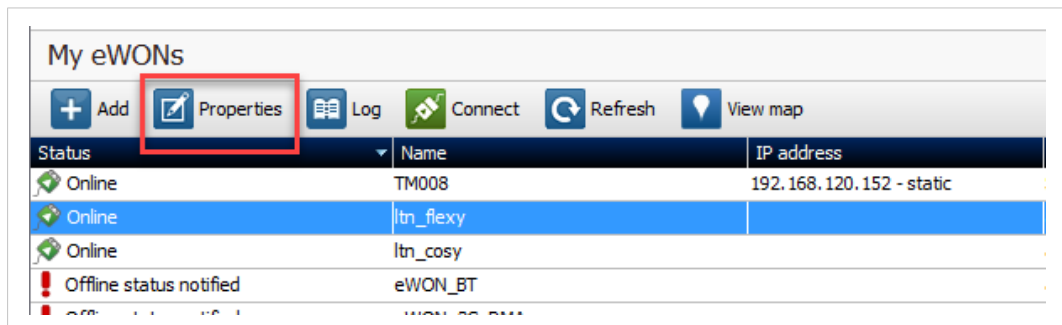


Fig. 35 eCatcher — Properties of an Ewon

3. Click the **Talk2M Connectivity** button.

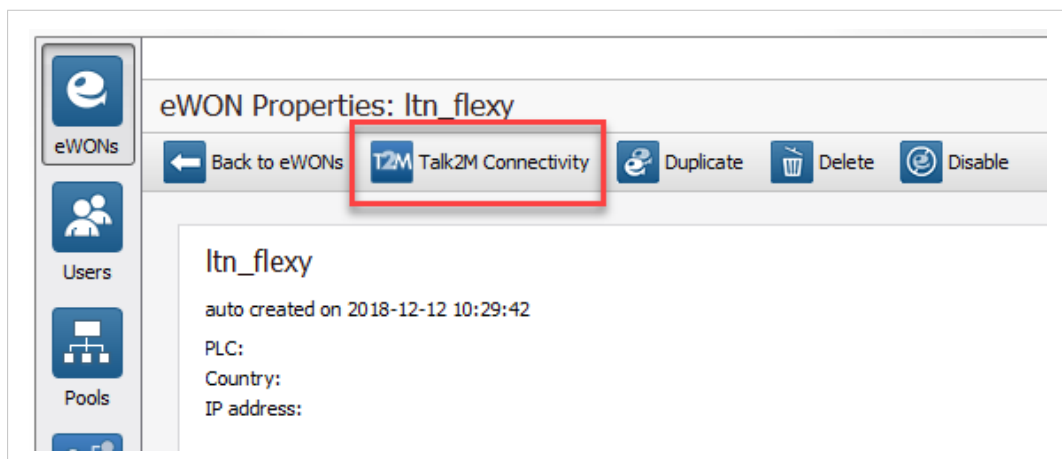


Fig. 36 eCatcher — Talk2M Connectivity

4. Click the **Copy to Clipboard** button from the **Activation Key** row.

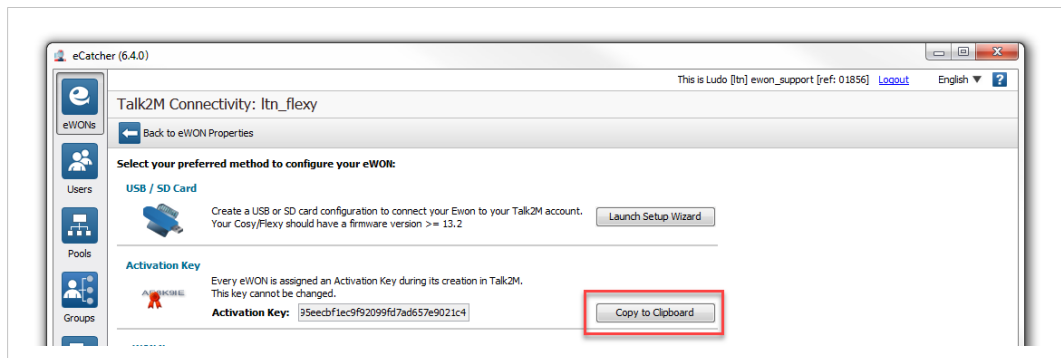


Fig. 37 eCatcher — Activation key

A.5 Step 5: Connect Your Ewon to Talk2M

To configure the Ewon Talk2M connection, follow the steps below:

1. Configure the network parameters of your computer to fit into the IP range of your Ewon LAN.
If you need help to do this, please refer to [Google](#)[®].
2. Connect your computer to a LAN port of your Ewon.
3. Open your web browser and target the Ewon internal web page by browsing the LAN address you configured in [Step 1: Set the LAN IP Address of your Ewon, p. 29](#).
In our example, that would be: `http://192.168.0.53`.
4. Click the **Wizard** button in the top right corner.
5. Click the **Talk2M – VPN** button.
6. Click the **T2M** button.
7. Insert the activation key copied from [Step 4: Retrieve the Talk2M Activation Key, p. 35](#).
8. Click **Next**.
9. Set the advanced configuration if needed. The advanced settings concern:
 - the use of a proxy for the WAN connection,
 - the obligation to use TCP packets instead of UDP for the WAN connection.
10. Click **Next**.

The last step of this wizard is the Talk2M registration and so the establishment of the VPN tunnel between your Ewon and Talk2M. The following tests are performed:

- the Ewon tests the different connections needed to reach the Talk2M server (UDP/TCP, HTTP with/without proxy),
- the Ewon connects to the Talk2M server and retrieves the VPN keys,
- once the keys retrieves, the VPN tunnel is established.

The result is displayed on the wizard page. Click **Finish** to end the wizard.

Your Ewon now appears online in eCatcher.

A.6 Step 6: Connect to Your Ewon Remotely

Now that the Ewon is configured to connect to Talk2M, you can establish the remote connection to this Ewon.

Depending on the type of connection you set, the procedure changes.

A.6.1 Permanent Connection

To connect remotely to an Ewon tagged as permanent connection, follow the procedure:

1. Connect your computer to the company LAN.
2. Set the network parameters of your computer to "DHCP enabled". An IP address is automatically provided from the DHCP server of the company network.
3. Verify that you have an Internet connection. For example: open your web browser and browse to your favorite web page.
4. Open eCatcher (if not already opened).
5. Select the Ewon you just configured in the "My Ewons" list.
6. Click the green **Connect** button displayed in the Ewon list menu to establish the remote connection. eCatcher is now attempting to establish a VPN connection to the Talk2M server.
7. Once the VPN connection established, eCatcher displays the Ewon in the "Active connection" section.

The computer is now connected to the Ewon using the VPN tunnel and you can use the remote connection.

You can click the **IP address** link in the "Active Connection" section to display, in a web browser, the homepage of the Ewon web interface.

A.6.2 Triggered Connection

To connect remotely to an Ewon tagged as triggered connection, follow the procedure:

1. Connect your computer to the company LAN.
2. Set the network parameters of your computer to "DHCP enabled". An IP address is automatically provided from the DHCP server of the company network.
3. Verify that you have an Internet connection. For example: open your web browser and browse to your favorite web page.
4. Open eCatcher (if not already opened).
5. Select the Ewon you just configured in the "My Ewons" list.
6. Click the green **Wake up** button displayed in the Ewon list menu to wake up your Ewon.
By doing so, eCatcher sends an SMS to switch your Ewon online.
7. Click the green **Connect** button (previously **Wake up** button) displayed in the Ewon list menu to establish the remote connection. eCatcher is now attempting to establish a VPN connection to the Talk2M server.
8. Once the VPN connection established, eCatcher displays the Ewon in the "Active connection" section.

The computer is now connected to the Ewon using the VPN tunnel and you can use the remote connection.

You can click the **IP address** link in the "Active Connection" section to display, in a web browser, the homepage of the Ewon web interface.

A.7 Step 7: Terminate the Remote Connection



Before terminating the Talk2M VPN connection to the Ewon, it is mandatory to change the administrator password which is set by default to *adm*. Please refer to [Login security, p. 43](#).

To end the VPN connection and so the remote access to your Ewon, apply the following procedure:

1. Open eCatcher while you are remotely connected to your Ewon.
2. Click the red **Disconnect** button to terminate the remote access.
3. Optionally, leave a log message for future use.

You are now disconnected from your Ewon and can no longer use the remote access.



*By disconnecting, you terminate only the VPN tunnel. If you also want to send your Ewon offline (in case of a triggered Ewon), right-click on the Ewon in eCatcher and select **Go offline**.*

B Ewon as the PLC Gateway

If the *Plug'n'Route* function does not work or apply in your configuration, then you need to disable the *Plug'n'Route* feature in the Ewon and configure manually the Ewon LAN IP address as default gateway in the configuration of the PLC.

To disable the *Plug'n'Route* function, open the Ewon web interface and follow these steps:

- Click on **System**.
- Click on **Communication**.
- Click on **Routing**.
- Select **NAT and TF disabled** from the *Apply NAT and TF to connection* field.
- Click the **Update** button.
- Reboot the Ewon.

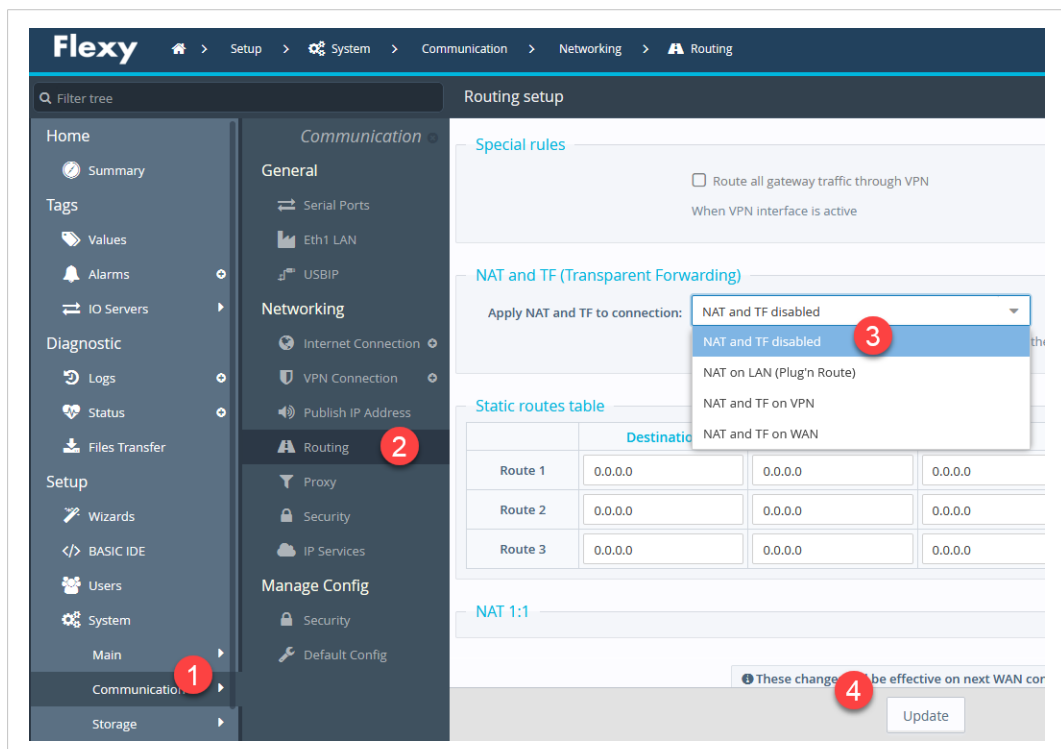


Fig. 38 Routing path in Ewon

B.1 PL7 PRO

1. Connect your PC, set with a fixed IP in the IP range of Ethernet card module of the PLC. Schneider Ethernet modules feature a web server allowing to change the IP configuration.
2. Open a web browser and type the PLC IP address in the URL field.
3. Click the **Online Configuration** link.

4. Enter the **login** and **password** to access this page.

If they have not been changed, the default values are **USER** for both login and password.

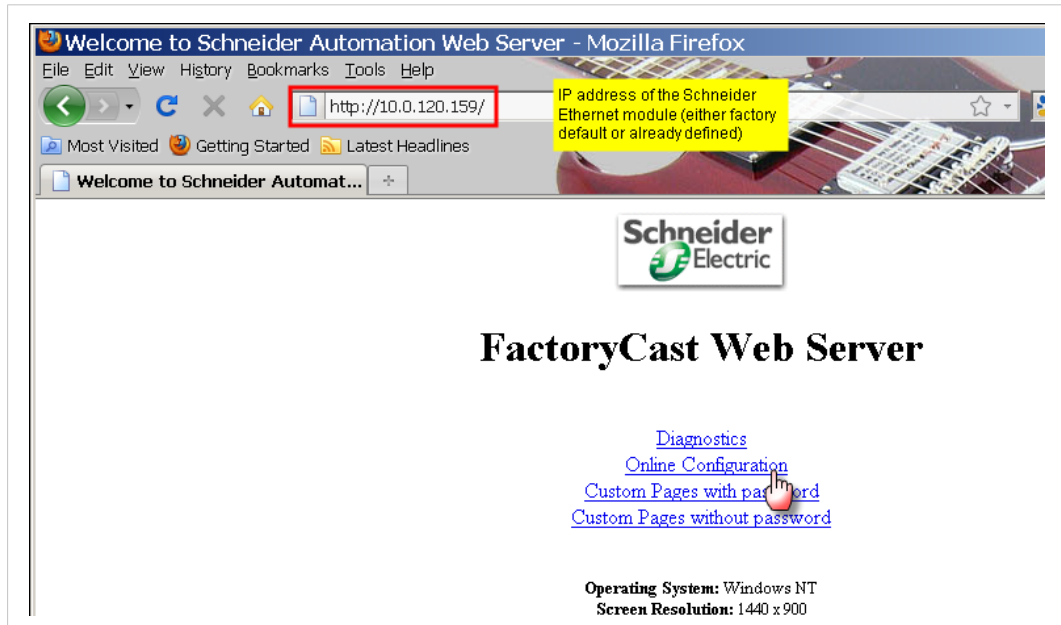


Fig. 39 Schneider web server – Online Configuration

5. Configure the **IP address** of the PLC module and set the Ewon LAN IP address as **Gateway address**.

Check the **XWAY Address** of the module.

Remember that the IP addresses of the Ewon and the Ethernet module have to be in the same range (e.g.: in our example *192.168.X.X*).

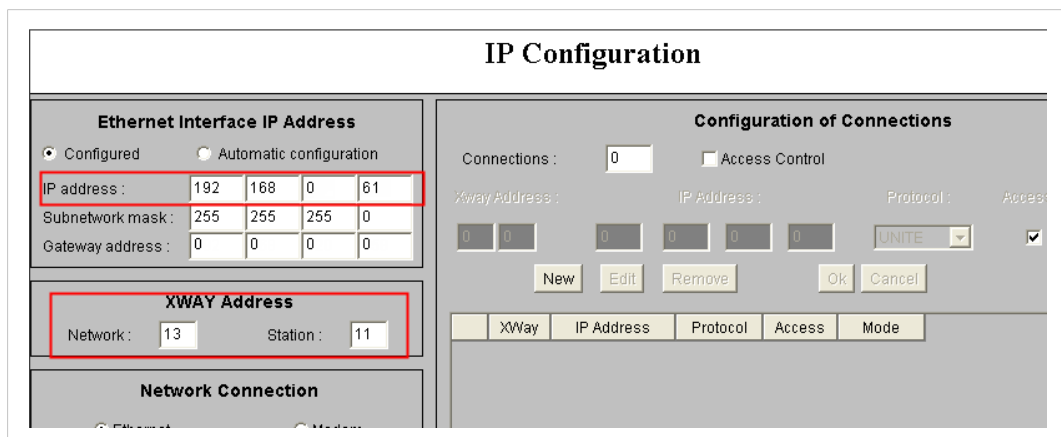


Fig. 40 Schneider web server – IP address

6. Click on **Apply**.

The server asks for the configuration password, the default password is **USER**

7. Reboot the Ethernet card after sending the new parameters. To do this, go back to the home page and click the **Reboot** link. You are asked for a password: **USER**.

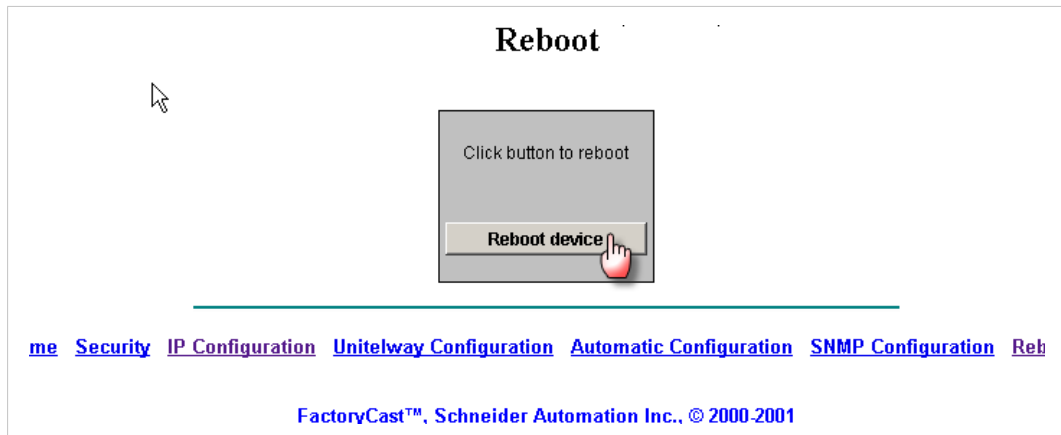


Fig. 41 Schneider web server – Reboot

8. Physically link the PLC to the Ethernet LAN port of your Ewon.




The XWAY address configured should not be changed as it is the address of the Ethernet card of the PLC, and not the one of the Ewon.

C Security Aspects

C.1 Login security

It is required to modify the login and password of the default administrator which are both *adm*.

 *The default adm administrator can be modified but not deleted.*

C.1.1 For Ewon Cosy

To modify the default administrator, follow these steps:

- Log in to the Ewon web interface.
- Click on **Wizards** in the upper right corner.
- Click on **System**.

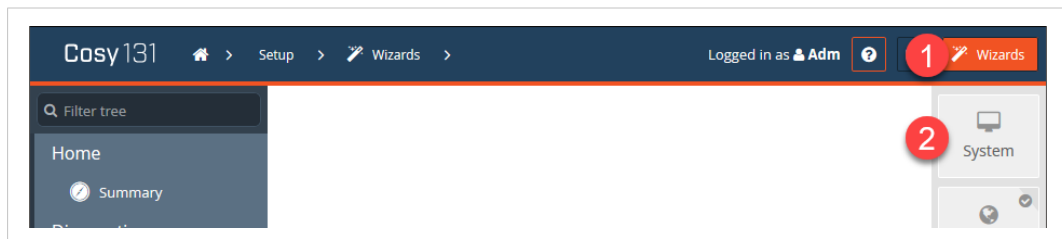


Fig. 42 Change administrator password — 1

- Set the new password for the Adm user.

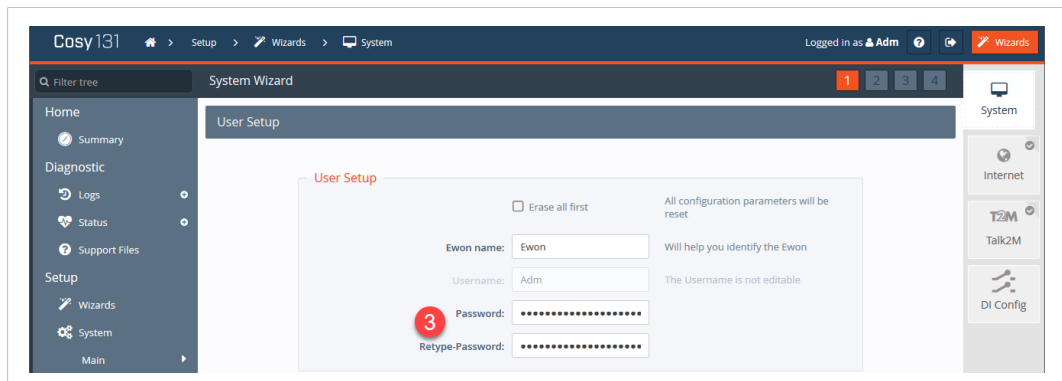


Fig. 43 Change administrator password — 2

- Click on **Next**.
- Follow and end the rest of the wizard to apply the new configuration.

C.1.2 For Ewon Flexy

To modify the default administrator, follow these steps:

- Log in to the Ewon web interface.
- Click on **Setup**.
- Click on **Users**.
- Click on **Adm** user.
- Click on **Configure**.

- Set the new password.
- Click on **Update User**.

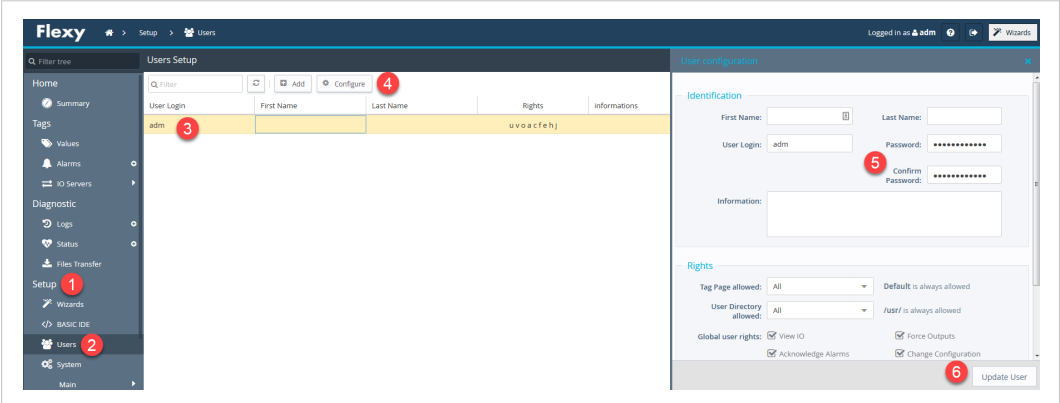


Fig. 44 Modification of administrator password

D Types of Unitelway Cable

As serial cable, you can use the standard *TSX CX 100* cable from Schneider Electric®.

Note that the present manual is assuming you are using an RS485 connection. RS232 cables also exist and can be used, but the dip switches have to be configured accordingly (see [Serial \(Unitelway\) Port Configuration, p. 15](#)).

HMS is proposing a compatible cable: *P/N EW40906* (length: 2 meters) which is valid for PLC Schneider Micro®, Premium and Twido®.

MiniDIN PIN	Schneider Signal Name	eWON Signal Name	eWON SUBD9 PIN
1	D(B)	A+	DB9 pin 3: A+
2	D(A)	B-	DB9 pin 8: B-
3			
4			
5			
6			
7	GND	GND	DB9 pin 5: GND
8			
Connector Shield			

Table 1: Schneider cable pinout

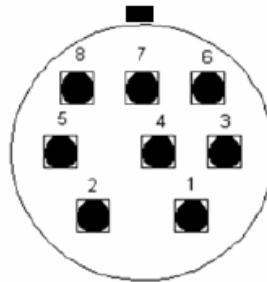


Fig. 45 Unitelway cable

