

Access Omron PLCs through an existing Talk2M connection



1.Objective.....	3
2.Hardware and software requirements.....	3
2.1 Hardware requirements.....	3
2.2 Software requirements.....	3
3.Network diagram	4
4.Opening the VPN tunnel.....	5
5.PLC software mapping configuration	7
6.Accessing your PLC through CX-Programmer.....	11
Revision history.....	13

1. Objective

The objective of this document is to access remotely an OMRON PLC assuming that configuration tasks have been done (*).

Accessing an existing setup remotely implies the following steps :

1. Opening the VPN tunnel
2. Mapping the PLC with your OMRON®i software
3. Accessing your PLC through the Internet

(*) as per AUG-036-0-EN (Remote Access for OMRON PLCs)

[http://wiki.ewon.biz/@api/deki/files/908/=AUG-036-0-EN-\(Remote_Access_for_Omron_PLCs\).pdf](http://wiki.ewon.biz/@api/deki/files/908/=AUG-036-0-EN-(Remote_Access_for_Omron_PLCs).pdf)

2. Hardware and software requirements

2.1 Hardware requirements

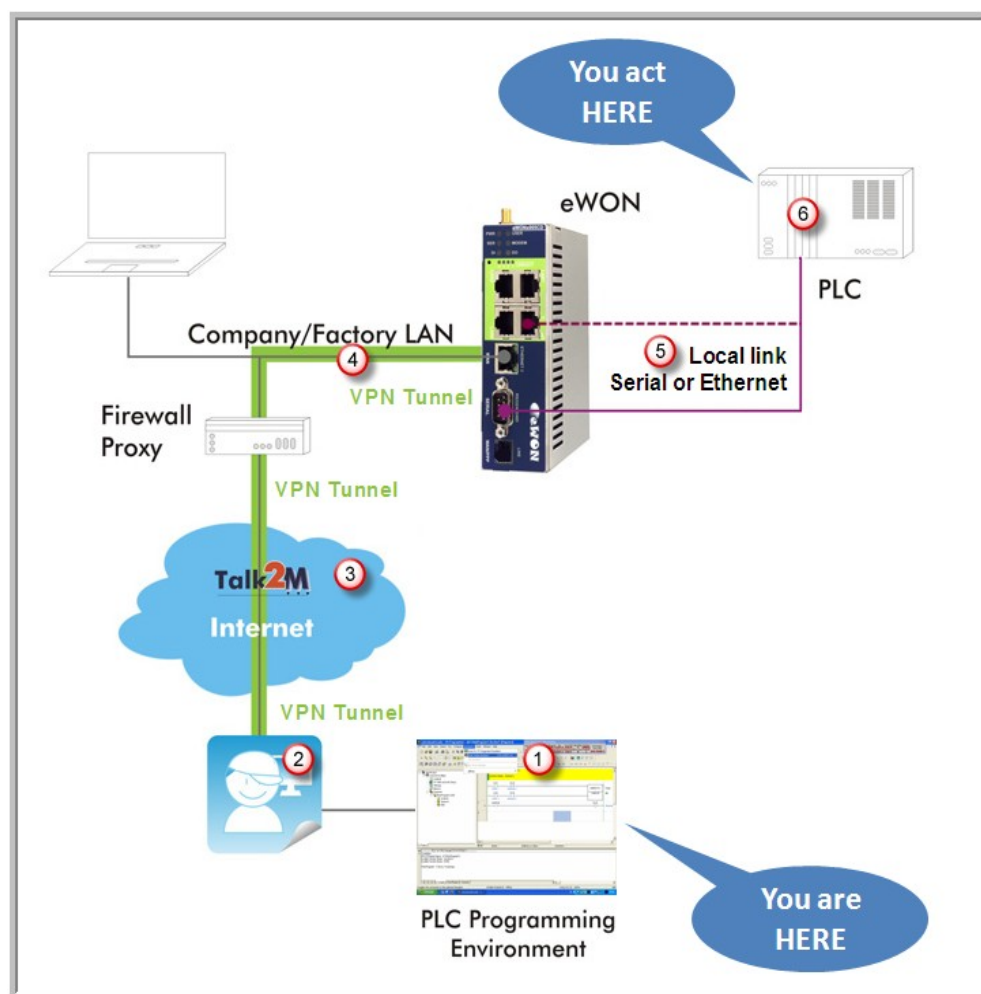
In order to follow this guide you'll need:

- ◆ PC suitable to connect to the Internet
- ◆ Internet connection
- ◆ Configured remote setup including eWON and OMRON PLC.

2.2 Software requirements

- ◆ **eCatcher** – VPN tunneling utility
<http://support.ewon.biz/software.htm>
- ◆ **Talk2M** – have a valid user account at disposal
- ◆ **CX-Programmer** – OMRON PLC programming console

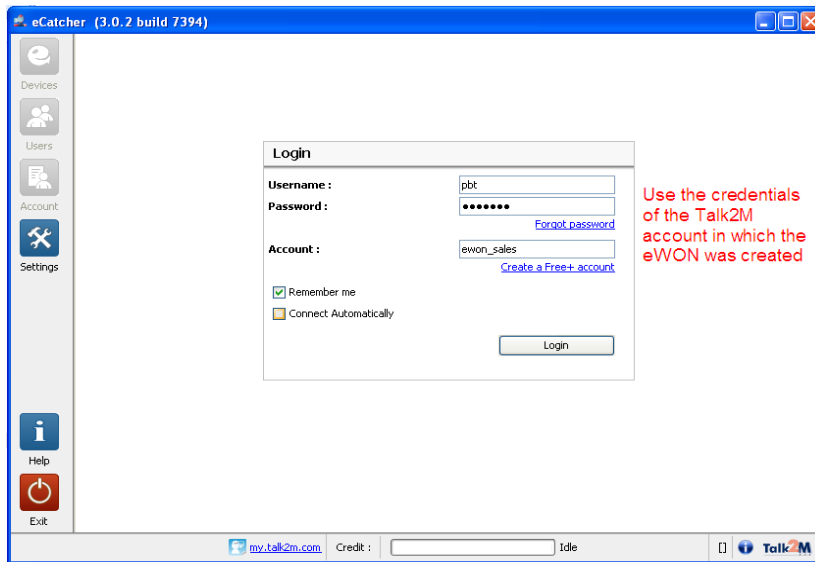
3. Network diagram



1. From a computer running your PLC programming software you will interact with a PLC in the field just as if you were using a point-to-point connection
2. Using the local gateway to Internet and the eCatcher software, you will “see” the eWON as part of your local network
3. You will create your VPN tunnel on the Internet using your Talk2M account
4. This will allow you to seamlessly pass the remote firewall and safely reach the eWON using the local LAN
5. The eWON will allow you to access the PLC transparently, indifferently whether it is hooked using the serial or the Ethernet link
6. You take control over the remote PLC

4. Opening the VPN tunnel

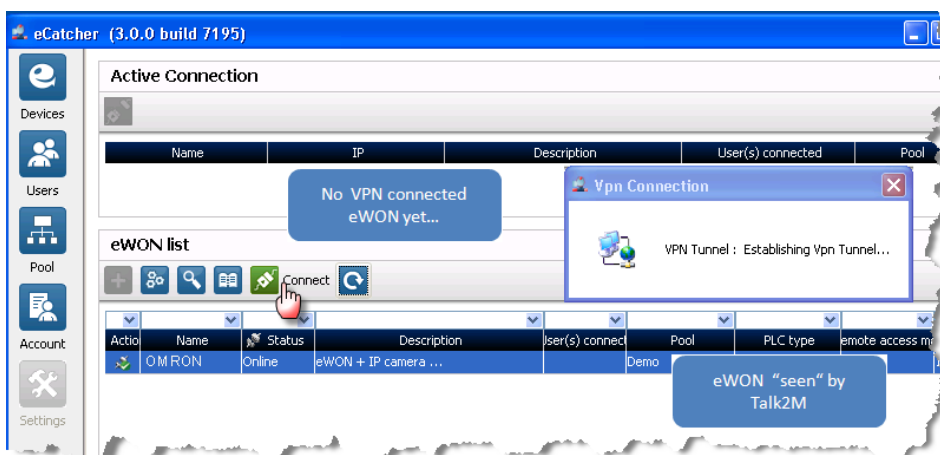
1. Make sure you have installed the eCatcher application from <http://support.ewon.biz/softwares.htm>.
2. Start your eCatcher application, login using the credentials of the Talk2M account in which the eWON was created:



3. The application shows the eWON available for tunneling (*). At this point you only “see” the ones available on your account but you do not yet have the VPN connection required to access the PLC.

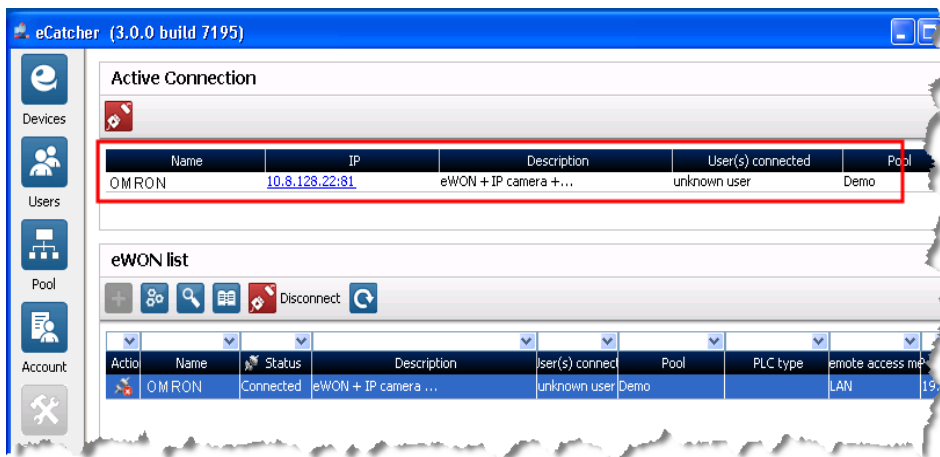
(*) Only eWON that are “online” (green icon) are “ready” for tunneling. An eWON with no icon or with red icon is not online. It can be either a GPRS/EDGE device that first needs to be waked up or a device that is simply not available for the moment.

4. Make sure your eWON is “online”, select it and click **Connect** to create the VPN tunnel:



...wait a couple of seconds for Talk2M to create the route. As soon as the route is created, the connected eWON appears in the upper part of the window:

4. Opening the VPN tunnel



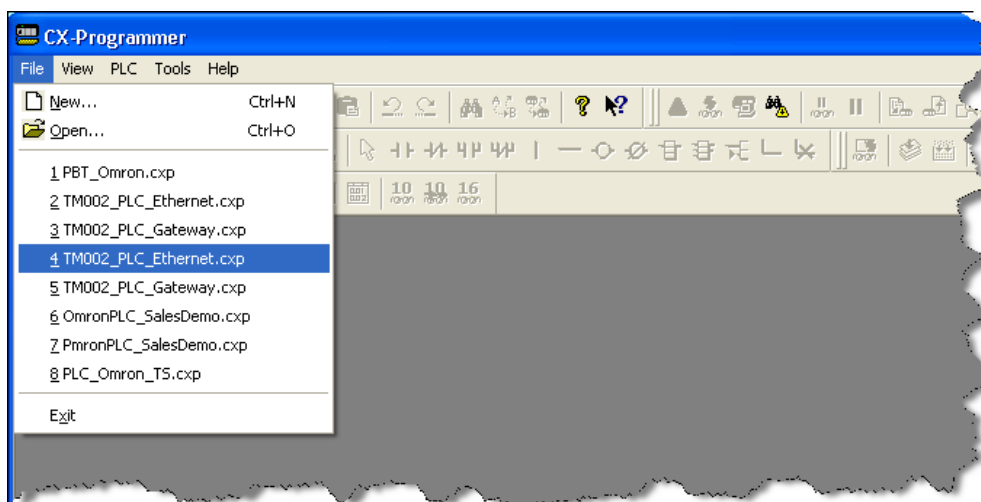
5. You are now connected to the eWON through the VPN tunnel.

5. PLC software mapping configuration

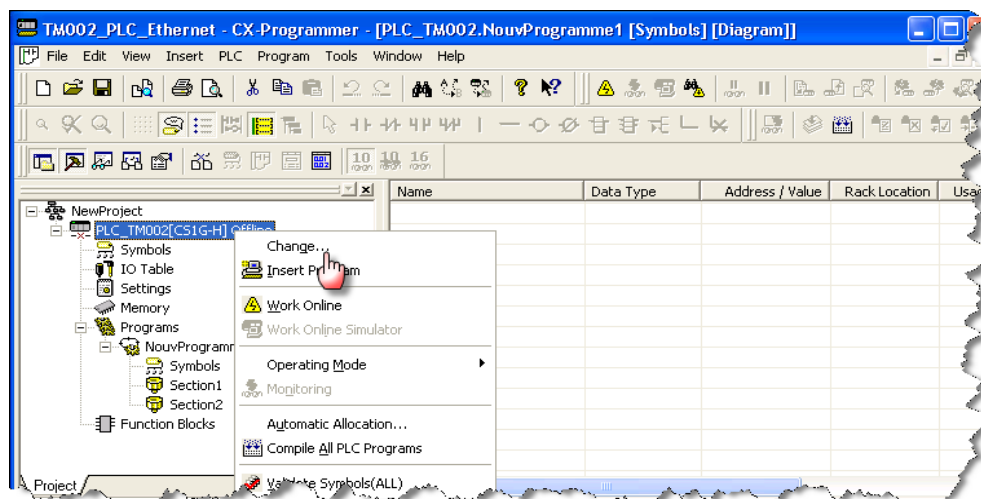
If the PLC is connected to the eWON using its serial link, then you need to apply on your project the modification shown hereunder to allow the remote connection.

If your PLC is connected to the eWON using an Ethernet connection, then you do not need to configure something special in your project. Leave the default settings and only adapt the “Response Timeout” if you connect to the eWON using a slower connection (modem connection, etc.).

1. Once the Talk2M VPN tunnel towards the eWON is established by eCatcher, start CX Programmer and open the relevant PLC project:

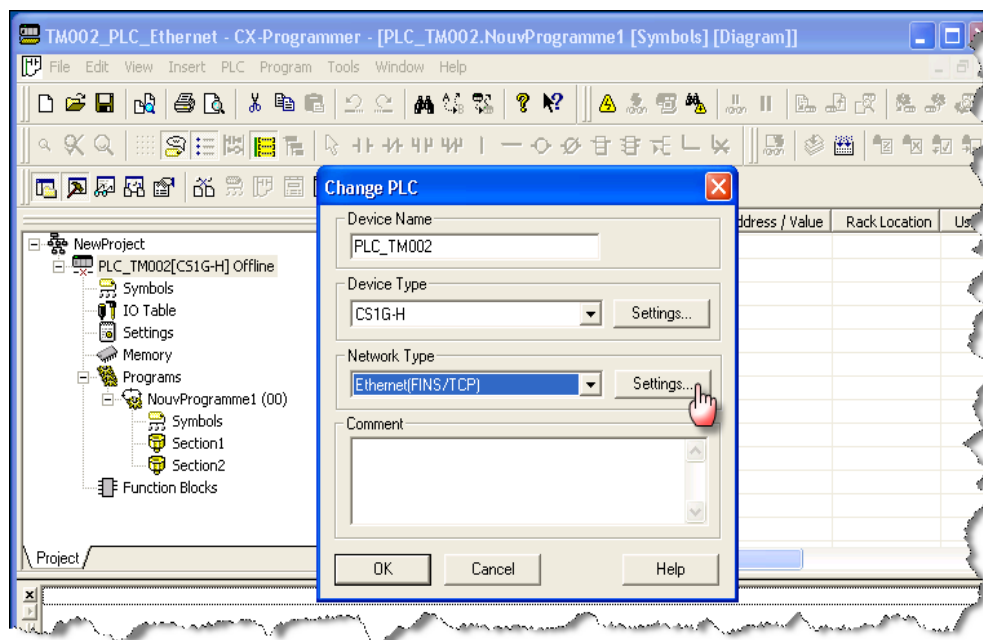


2. Select and right-click the main PLC entry in the tree and select the **Change** option.



5. PLC software mapping configuration

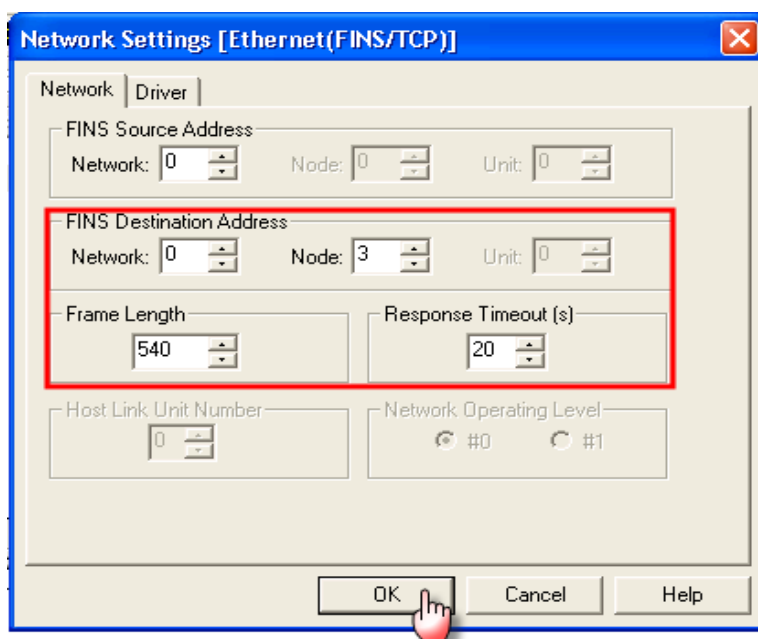
3. As shown below, for the network type, select **Ethernet(FINS/TCP)**.
Note: If your PLC is connected to the eWON using an Ethernet connection, then **Ethernet** or **Ethernet(FINS/TCP)** can be used for the Network Type.
Once the Network type selected, click on the **Settings** button next to the **Network Type** field.



4. Configure the **Settings** wizard, **Network** tab

If your PLC is connected to the eWON using the serial link then configure the Network parameters as shown in the following picture:

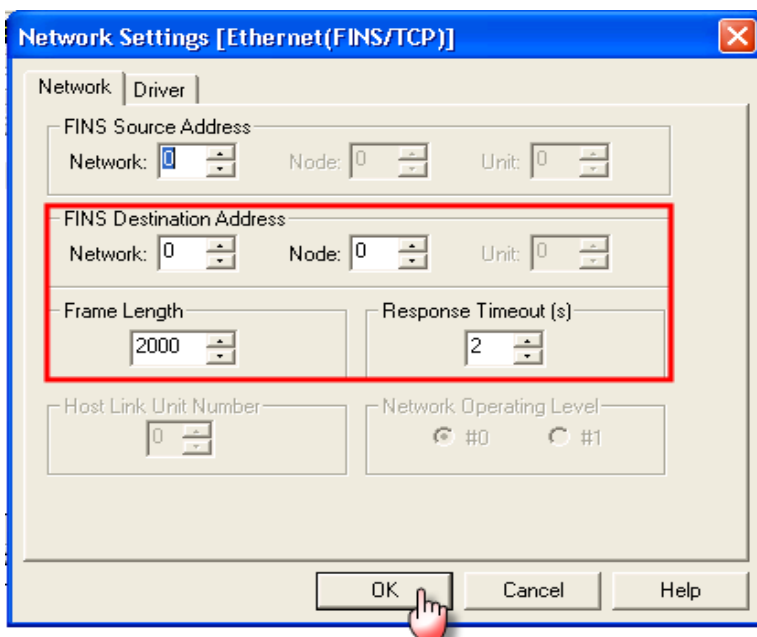
5. PLC software mapping configuration



Set the **Destination Node** to 3 (matching **Hostlink Unit** is 2).
Set the **Destination Network** to 0 (same as **FINS Serial Network**).
Set the **Max Frame Length** to 540
Set the **Response Timeout** to 20

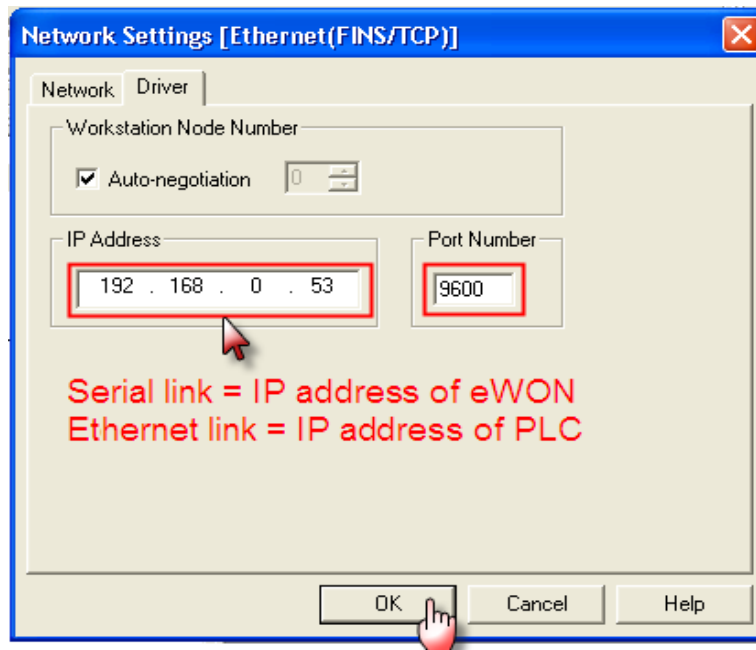
The example above shows conservative settings used for PSTN modems for the Frame Length and Response Timeout parameters. Usually you can set less conservative values there.

Note: If your PLC is connected to the eWON using an Ethernet connection, then keep the default Network settings (Network:0, Node:0) and just increase the Response Timeout parameter. An example of Ethernet connection settings is shown below:



5. PLC software mapping configuration

5. Now open the **Driver** tab of the same wizard:



Select **Automatic Negotiation**.

The **IP Address** will differ depending on the connection used between the PLC and the eWON:

- ◆ Serial Link: Enter the LAN IP address of the eWON (e.g.: 192.168.0.53).
- ◆ Ethernet Link: Enter the IP address of the PLC.

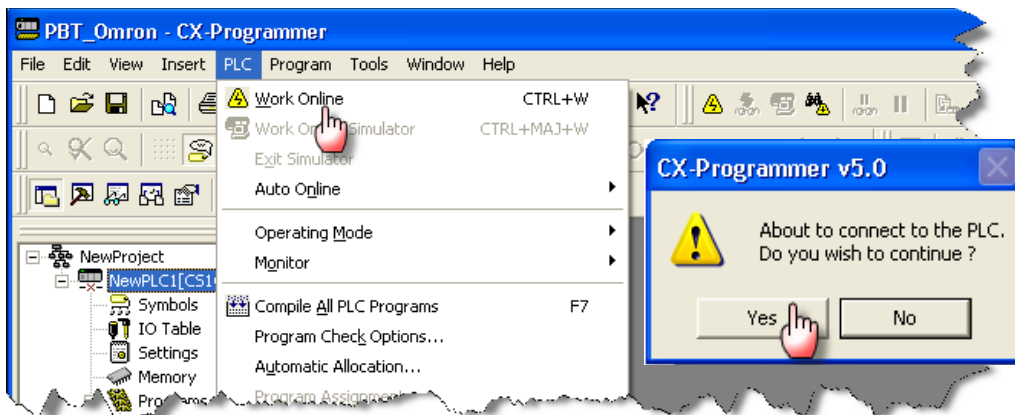
In both cases set the **TCP Server Port** to 9600.

6. Click on **OK** when finished.

7. Your PLC software is now mapped to the PLC.

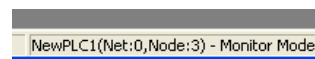
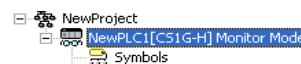
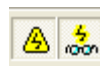
6. Accessing your PLC through CX-Programmer

1. Select **PLC** and **Work Online** from the CX Programmer main menu and click **Yes** on the warning window

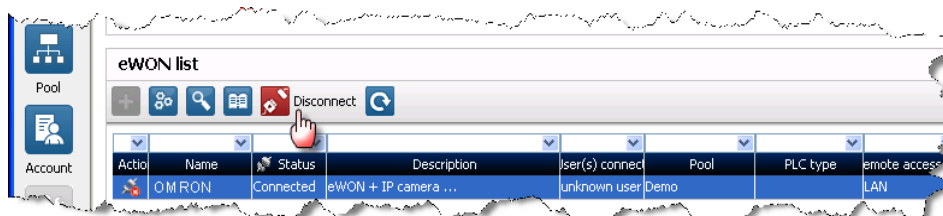


2. Allow enough time for the connection to actually take place, especially when using a serial and/or modem connection since the throughput may be relatively slow.
3. As soon as the connection is working, it appears at different places in the CX Programmer interface:

- In the toolbar (online buttons pressed)
- In the project tree (*Monitor Mode*)
- In the status bar below (*Monitor Mode*)



4. You can now work in remote programming mode.
5. Once you finished your work with CX Programmer :
 - Select “Work Offline” and close CX programmer
 - Close the Talk2M connection (VPN tunnel) by clicking **Disconnect** in eCatcher.



6. Accessing your PLC through CX-Programmer

- **Note:** If the eWON is connected to the Internet using a GPRS/Edge modem, you may want to disconnect it to save connection costs. To close the line, you have to use the **Go offline**



button which is displayed on the context menu when you right-click the eWON in the eWON list.

- End of Accessing your PLC through CX-Programmer

Revision history

Revision Level	Date	Description
1.0	09/09/11	First issue
1.1	04/10/11	Modification of chapter 5: PLC software mapping configuration

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Document build number: 21

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