



Installation Guide

IG 021 / Rev. 1.2

eWON Flexy PSTN Extension Card FLA 3501

This installation guide explains how to install the eWON Flexy PSTN Extension Card FLA 3501.





Table of Contents

- 1. Product Summary 3**
- 2. Safety, Environmental & Regulatory Information 4**
 - 2.1. Scope 4
 - 2.2. Safety warning 4
 - 2.3. ESD Damage Prevention 4
 - 2.4. Applicable Directives, Standards and Compliance 5
 - 2.4.1. Applicable European Directives 5
 - 2.4.2. Applicable Safety Standards 5
 - 2.4.3. FCC Compliance 5
 - 2.4.4. Certifications 5
- 3. Hardware Description 6**
 - 3.1. Mechanical Layout and Interfaces 6
 - 3.2. Extension Card Label 7
 - 3.2.1. Label Location and Information Included 7
 - 3.2.2. Part Number Structure for Extension Cards 7
 - 3.3. Front Panel LEDs 8
 - 3.4. Specifications of the PSTN Extension Card 8
 - 3.5. eWON Flexy Extension Cards Environmental Conditions 8
 - 3.6. Plugging the Extension Card into the Base Unit 9
 - 3.6.1. eWON Firmware compatibility 9
 - 3.6.2. Base Unit Slot Compatibility 9
 - 3.6.3. Extension Card Insertion 10
 - 3.6.4. Multiple PSTN Extension Cards 11
 - 3.6.5. Power Requirements 11
- 4. Powering On the Base Unit with its Extension Cards 12**
- 5. Check Card Detection on the Embedded Web Page 13**
 - 5.1. Connecting to the Embedded Web Server 13
 - 5.2. Detected Cards Displayed in the System Page 13
 - 5.3. Modem Information Displayed in the Info Page 13
- 6. eWON Configuration to work with a PSTN Card 14**
 - 6.1. PSTN Card detection 14
 - 6.2. eWON configuration to allow incoming PSTN connection 15
 - 6.3. Establishing PSTN connection between your PC and the eWON Flexy 15
- Revision 16**
 - Revision History 16



1. Product Summary

This Installation Guide describes the hardware of the **PSTN Extension Card FLA 3501** of the eWON Flexy family.

The eWON Flexy family is a range of modular industrial gateway/routers.

As the name eWON Flexy suggests, it has been designed to enable numerous different combinations of **Extension Cards** and **Base Units**. This Installation Guide focuses on an extension card which needs to be inserted in one of the Base Units in order to work.

The Base Units have their own Installation Guide IG-014-0-EN "eWON Flexy - Base Units". This guide addresses how the Extension Card integrates with the Base Units and we give some recommendations for its proper installation (see § [3.6 Plugging the Extension Card into the Base Unit](#)).

2. Safety, Environmental & Regulatory Information

2.1. Scope

This section addresses Safety, Environmental & Regulatory Information for the PSTN Extension Card FLA 3501. This Extension Card belongs to the same compliance frame as the Base Units. In the case of a telecommunication Extension Card, additional directives, standards and instructions apply.

2.2. Safety warning

- Caution -

FLA 3501 Extension Card has to be installed by a technician only.

The PSTN input terminal equipment shall be connected to protective earth of building.

To reduce the risk of electrical shock, disconnect telecommunication network from equipment prior to disconnecting power supply and to accessing internal parts.

To reduce risk of fire, use only N°26 AWG (0.13 mm²) or larger telecommunication line cord.

When the FLA3501 extension board is inserted inside a Flexy Base Unit, the whole device shall be installed in an additional enclosure providing fire, electrical and mechanical protection as per UL 60950-1 standard.

2.3. ESD Damage Prevention

- Caution -

Contains parts and assemblies susceptible to damage by electrostatic discharge (ESD). Always use ESD precautions when handling Extension Cards and the opened Base Unit.

The Extension Card described in the present Installation Guide is a module exposing both sides of an electronic printed circuit board. Therefore, it is packed in antistatic ESD bags. In order to avoid ESD damage, the product must be handled with the necessary precaution including:

- Grounded ESD protective work surface
- Personnel grounding

2.4. Applicable Directives, Standards and Compliance

The Extension Card described in this Installation Guide complies with the R&TTE directive 1999/5/EC and the FCC regulations.

The Extension Card described in this Installation Guide belongs to class A Information Technology Equipment (ITE). In a domestic environment this product may cause radio interference in which case the user may be required to take appropriate measures.

2.4.1. Applicable European Directives

The Extension Card is in conformity with the following EC directives:

- RoHS Directive 2011/65/EU
- EMC Directive 2014/30/EU
- RE directive 2014/53/EU(*)

(*) When applicable, the product conforms to the corresponding R&TTE articles:
RF spectrum efficiency: Art 3(2); EMC: Art. 3(1)(b); Safety: Art. (3)(1)(a)

2.4.2. Applicable Safety Standards

The Extension Card is in conformity with the following safety standards:

- IEC/EN 60950-1
- UL 60950-1
- CSA-C22.2 No 60950-1-07

2.4.3. FCC Compliance

The Extension Card complies with Part 15 and 68 of the FCC Rules. Operating is subject to the following two conditions:

- This device may not cause harmful interference, and
- This device must accept any interference received, including interference that may cause undesired operation.

2.4.4. Certifications

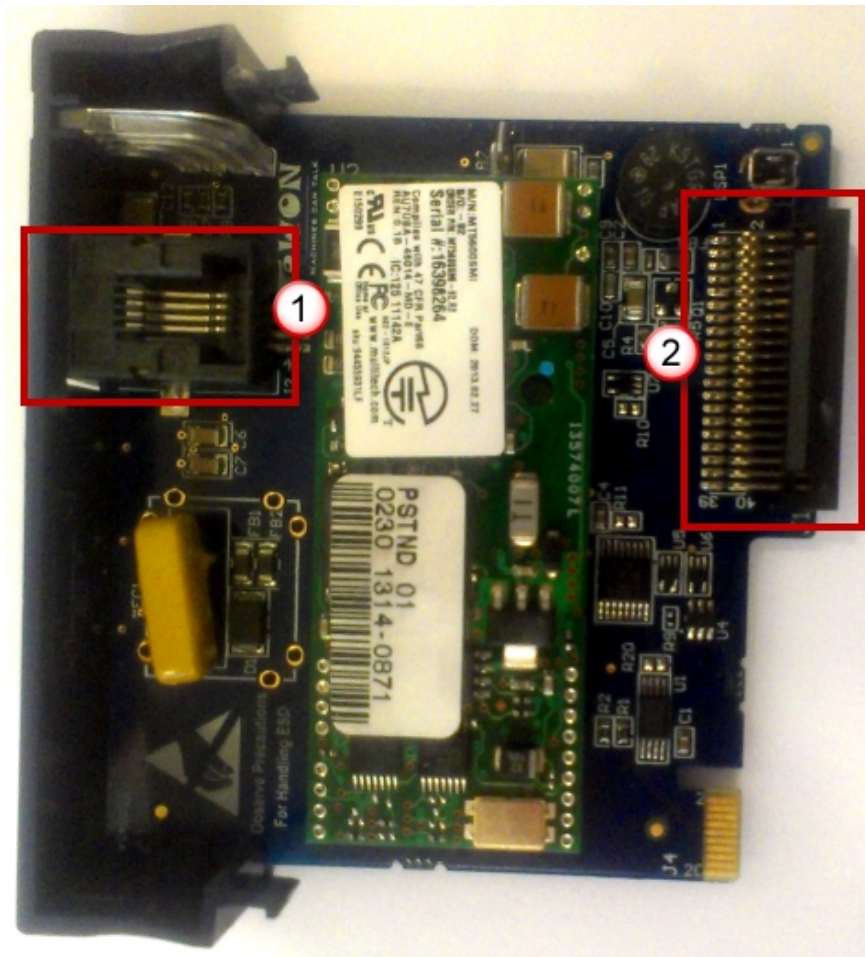
The Extension Card has been certified by authorized bodies:

- UL Certificate of Compliance (COC) # 20160502-E350576
- CB certificate # DK-53957-UL

These certificates can be downloaded as PDF files on the eWON Support web site:
<http://ewon.biz/support/docs/flexy>

3. Hardware Description

3.1. Mechanical Layout and Interfaces



1 PSTN cable connector

2 Backplane connector

3.2. Extension Card Label

3.2.1. Label Location and Information Included

The identification label of the extension cards is placed on the solder side of the PCB.

The different parts of the label are described below:




PN	Part Number: identifies the type of the card. Description see 3.2.2 Part Number Structure for Extension Cards
SN	Serial Number Structure of the Serial Number 1111-2233-0001-44 1111 = MTID (product related) 2233 = Year Week 0001 = sequential mfg order 44 = product type
Min. FW.:	Minimum required firmware version of the eWON.
Marks	CE, UL,... certificate number and logos if applicable.

3.2.2. Part Number Structure for Extension Cards

FLA 3501_00				
FL	FL is the prefix for the extensions of the eWON Flexy family	Only FL (constant)		
A	1 alphabetic sign (CAP) Defines the slots of the base module in which the extension can be inserted. See also § 3.6.2 Base Unit Slot Compatibility	A	2 first slots only	●●○○
		B	2 last slots only	○○●●
		X	In any slot	●●●●
3501_00	PSTN Extension Card. The suffix _00 is used for software options.			

3.3. Front Panel LEDs

Item	Mark	Function	Picture
1	STAT	Green ON = Modem is online	
2	ACT	Blinking when activity on transmission line	
3 & 4		(Not used)	

3.4. Specifications of the PSTN Extension Card

Item	Value(s)
Protocol	V.92
Data rate	56kbps
Connector	RJ11 / 6p4c

3.5. eWON Flexy Extension Cards Environmental Conditions

Characteristic	Value
Operating temperature	0 to +70 °C
Storage temperature	-40 to +70 °C
Relative humidity	20 to 90% non-condensing
Operating altitude	Up to maximum 2000m
Storage altitude	Up to maximum 3000m

3.6. Plugging the Extension Card into the Base Unit

3.6.1. eWON Firmware compatibility

Before inserting the Extension Card into the Base Unit, verify if your eWON Flexy is running the required firmware supporting the new extension card. The required firmware version is indicated on the label of the extension card. For example: *Min. FW.: 8.0* (see § 3.2.1 Label Location and Information Included)

3.6.2. Base Unit Slot Compatibility

The **PSTN Extension Card** (FLA 3501) must be inserted in one of the **“A” slots of the Base Unit**.

Explanation:

The Flexy Base Units feature two type of slots. The A slots are the two first slots starting from the left. The B slots are the two last slots. Some cards fit in A and B slots. Some do not. Cards that fit only one type of slot have a mechanical mistake-proof security.



The reference code of the Extension Cards includes a letter that defines their compatibility either with “A” slots, “B” slots or both:

- **FLA** xxxx - designates cards that fit into “A” slots
- **FLB** xxxx - designates cards that fit into “B” slots
- **FLX** xxxx - designates cards that fit into both “A” and “B” slots

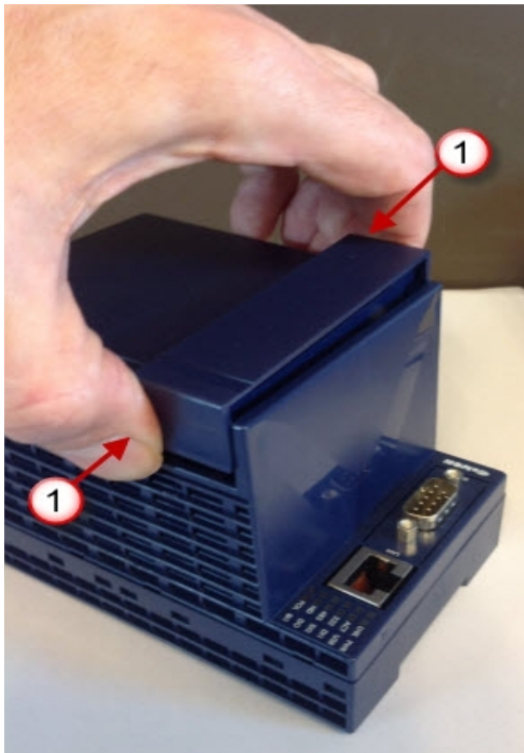
In addition to the card reference, each type of extension card bears a visual compatibility symbol on its front panel. The visual symbols are shown in the table below:

●●○○	2 first slots only (A)
●●●●	In any slot (X)
○○●●	2 last slots only (B)

3.6.3. Extension Card Insertion

Please wait 30 seconds after powering off the equipment before inserting (or removing) an extension card. This is to avoid possible damage to the Base Unit and Extension Card.

Remove the slot filler of the location where you want to insert the new card. To do this, press on both ends of the cover, note that the hooks are off-centered like shown on the pictures.



- | | |
|---|--------------------------------------------------------------------------------------------|
| 1 | Hooks to be pressed are off-centered – press while pulling upwards |
| 2 | This metal tag soldered on the PCB acts as mistake-proof security (mating stop in housing) |

Insert the Extension Card carefully and slide it down until the hooks are **clicking**. Make sure the card is completely inserted. **DO NOT insist** if you feel some resistance when trying to insert the card. It probably means you are trying to insert the card in a wrong slot. In such case, check slot compatibility of the relevant Extension Card.

- Note -

If an extension card is inadvertently forced in a wrong slot, the Base Unit will detect it and will NOT complete its BOOT process. Therefore, the unit will not be accessible through its LAN interface. The slot error is returned by the USR LED. (red ON 1sec, OFF 0.5 sec).

3.6.4. Multiple PSTN Extension Cards

The eWON Flexy firmware currently supports only **one** PSTN Extension Card of type FLA3501. The boot process of the Base Unit includes an automated detection of the inserted Extension Cards. This detection is done sequentially, slot per slot starting from the left to right. Only the first detected PSTN card (the most left one) will be taken into account by the Flexy firmware. An additional card of the same type will be ignored.

On the contrary to what happens when it is inserted in a wrong slot, a PSTN card in excess will not alter proper operation of the Base Unit and other Extension Cards.

3.6.5. Power Requirements

The internal power converter of the eWON Flexy Base units has been dimensioned to cover a broad range of different combinations of Extension Cards. Users should make sure the total power demand of the Extension Cards does not exceed the capabilities of the Base Unit. That is why the notion of "Energy Points" has been introduced.

The Installation Guide IG-014-0-EN "eWON Flexy - Base Units" includes a section giving the **Available Energy Points** of each type of Base Unit.

The power requirements of each Extension Card is expressed in **Energy Demand Points**. This number is meant to check whether the balance with the **Available Energy Points** of a given Base Unit with Extension Cards is OK or not.

	PSTN Extension Card FLA 3501
Energy Demand Points	2

The Installation Guide IG-014-0-EN "eWON Flexy - Base Units" includes examples of practical power balance calculations.

4. Powering On the Base Unit with its Extension Cards

When the Base Unit is powered on, it takes approximately 25 seconds for the unit to go through its self-test procedure. The slots in which the extension cards have been inserted and their type are detected during this process.

If the boot process completes normally, you should observe the following LED status

- Base Unit **USR** flashing green slowly
- Extension Card None

- Note -

If the USR LED of the Base Unit flashes RED, it might be because the Extension Card was improperly inserted (for example in a wrong slot).

5. Check Card Detection on the Embedded Web Page

The eWON Flexy Extension Card requires no software configuration. It is automatically detected by the Base Unit when it boots.

5.1. Connecting to the Embedded Web Server

Configure the network parameters of your configuration PC to encompass the IP range of the eWON LAN.

Connect the PC to one of the LAN port of the eWON Flexy.

Open your Internet browser and access the eWON Flexy internal Web page by entering the LAN IP address in the URL field (the default address is <http://10.0.0.53>).

The default

- login is adm
- password is adm

- Warning -

*For security reasons, changing the default password **adm** is absolutely required.*

*To change the **adm** password, from the menu bar, click on **Configuration, Users Setup** and double click on the **adm** entry to edit its parameters. Enter the new password twice and click **Save**.*

5.2. Detected Cards Displayed in the System Page

The **System** page allows to check the status of the system including detected Extension Cards. To access the system status summary, click on **Diagnostic (1) > Status (2) > System Info (3) > System (4)**. The screen capture below gives an example of an FLA 3501 extension card that has been detected in slot 2 (5).

5.3. Modem Information Displayed in the Info Page

Extended information about the modem - including manufacturer, type and modem firmware version - is available in the **Info** page. The path to the **Info** page is: **Diagnostic (1) > Status (2) > System Info (3) > Info (4)**.

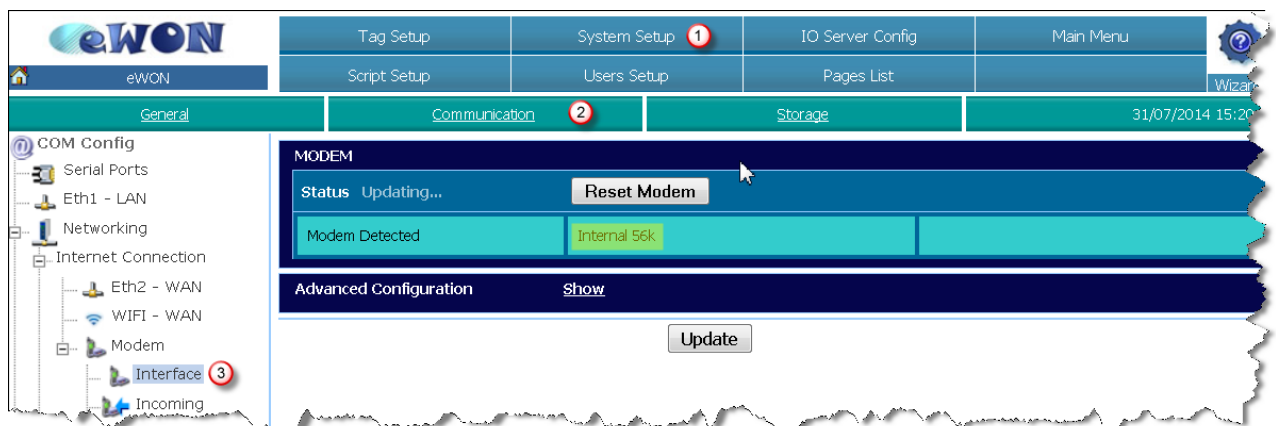
6. eWON Configuration to work with a PSTN Card

- Preliminary note -

The initial configuration of the Internet access of the eWON is usually done using the configuration wizard. Since firmware 8.0, this wizard includes the PSTN option and specific settings. Under this chapter, we show the manual configuration using the standard Web interface.

6.1. PSTN Card detection

Follow **Configuration > System Setup (1) > Communication (2) > Networking > Internet Connection > Modem > Interface (3)** to check if the modem is correctly detected by the Flexy.

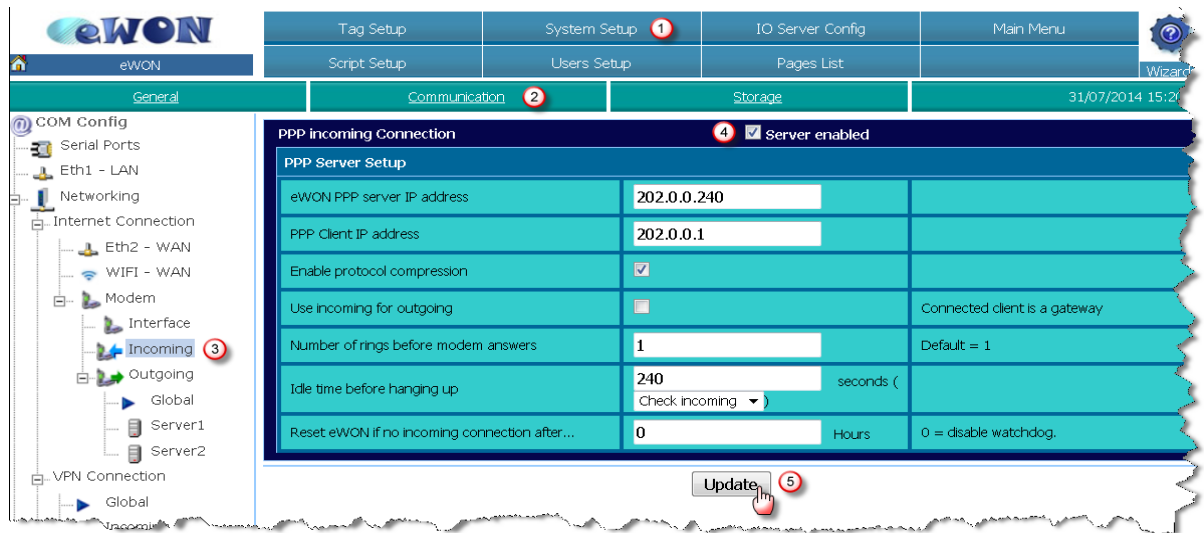


Additionally this page also provides you an easy way to reset your modem through the "Reset Modem" button.

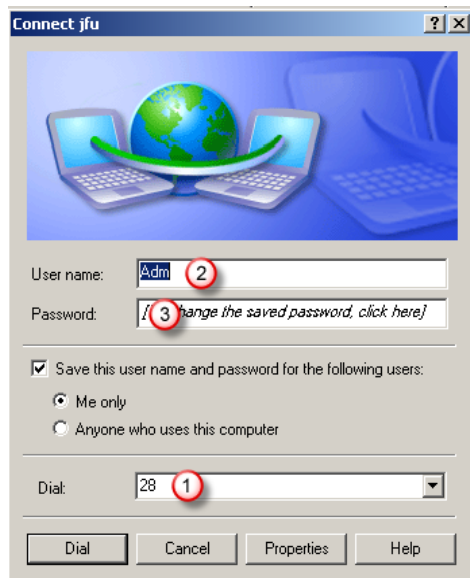
The Advanced Configuration section allows you to modify the modem Init String if required.

6.2. eWON configuration to allow incoming PSTN connection

The default configuration of the eWON for a PSTN modem card is to accept incoming connections. However if it is not the case, go in the menu **Configuration > System Setup (1) > Communication (2) > Networking > Internet Connection > Incoming (3)**. Select the "Server enabled" option (4) and click "Update" (5).



6.3. Establishing PSTN connection between your PC and the eWON Flexy



Create a new Dial Up connection on your PC. Inside the connection window, enter the eWON phone number, and a valid username and password of the eWON.

- Note -

For PSTN connections the password and the username are CASE SENSITIVE. If you use the default "adm" user for the PSTN connection establishment, then you'll need to use the username **Adm** (with a capital a).



Revision

Revision History

Revision Level	Date	Description
1.0	15/05/2015	First released version
1.1	18/11/2015	New template
1.2	27/07/2016	Update of Legal References

Document build number: 18

Note concerning the warranty and the rights of ownership:

The information contained in this document is subject to modification without notice. Check <http://ewon.biz/support> for the latest documents releases.

The vendor and the authors of this manual are not liable for the errors it may contain, nor for their eventual consequences.

No liability or warranty, explicit or implicit, is made concerning the quality, the accuracy and the correctness of the information contained in this document. In no case the manufacturer's responsibility could be called for direct, indirect, accidental or other damage occurring from any defect of the product or errors coming from this document.

The product names are mentioned in this manual for information purposes only. The trade marks and the product names or marks contained in this document are the property of their respective owners.

This document contains materials protected by the International Copyright Laws. All reproduction rights are reserved. No part of this handbook can be reproduced, transmitted or copied in any way without written consent from the manufacturer and/or the authors of this handbook.

eWON sa