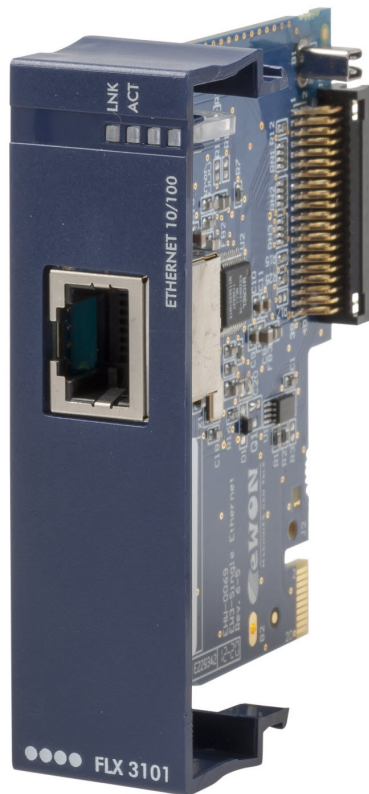


eWON Flexy  
Single Ethernet Extension Card  
FLX 3101  
**Installation Guide**



**Contents**

This installation guide explains how to install the eWON Flexy Single Ethernet Extension Card FLX 3101.

<b>1. Product Summary.....</b>	<b><u>3</u></b>
<b>2. Safety, Environmental &amp; Regulatory Information.....</b>	<b><u>4</u></b>
2.1 Scope.....	<u>4</u>
2.2 ESD Damage Prevention.....	<u>4</u>
2.3 Applicable Directives, Standards and Compliance.....	<u>4</u>
2.3.1 Applicable European Directives.....	<u>4</u>
2.3.2 Applicable Safety Standards.....	<u>4</u>
2.3.3 FCC Compliance.....	<u>5</u>
2.3.4 Certifications.....	<u>5</u>
<b>3. Hardware Description.....</b>	<b><u>6</u></b>
3.1 Mechanical Layout and Interfaces.....	<u>6</u>
3.2 Extension Card Label.....	<u>7</u>
3.2.1 Label Location and Information Included.....	<u>7</u>
3.2.2 Part Number Structure for Extension Cards .....	<u>8</u>
3.3 Front Panel LEDs.....	<u>8</u>
3.4 Ethernet Port Specifications.....	<u>9</u>
3.5 eWON Flexy Extension Cards Environmental Conditions.....	<u>9</u>
3.6 Plugging the Extension Card into the Base Unit.....	<u>10</u>
3.6.1 Base Unit Slot Compatibility.....	<u>10</u>
3.6.2 Extension Card Insertion.....	<u>11</u>
3.6.3 Multiple Ethernet Extension Cards.....	<u>11</u>
3.6.4 Power Requirements.....	<u>12</u>
<b>4. Powering On the Base Unit with its Extension Cards.....</b>	<b><u>13</u></b>
<b>5. Check Card Detection on the Embedded Web Page.....</b>	<b><u>14</u></b>
5.1 Connecting to the Embedded Web Server.....	<u>14</u>
5.2 Detected Cards Displayed in the System Page.....	<u>14</u>
Revision history.....	<u>15</u>

## 1. Product Summary

The present Installation Guide describes the hardware of the **Single Ethernet Extension Card FLX 3101** of the eWON Flexy family.

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

As the name eWON Flexy suggests, it has been designed to enable numerous different combinations of **Extension Cards and Base Units**. The present Installation Guide is focusing on an extension card which, as such, needs to be inserted in one of the Base Units in order to work. The Base Units have their individual Installation Guide IG-014-0-EN "eWON Flexy - Base Units". The present guide addresses shortly how the Extension Cards integrate the Base Units and we give some recommendations to mount them (see § [3.6 Plugging the Extension Card into the Base Unit](#)).

## 2. Safety, Environmental & Regulatory Information

### 2.1 Scope

The present heading addresses Safety, Environmental & Regulatory Information for the Single Ethernet Extension Card FLX 3101. This Extension Card is basically belonging to the same compliance frame than the Base Units.

### 2.2 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

### 2.3 Applicable Directives, Standards and Compliance

The Extension Card described in the present 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.

#### 2.3.1 Applicable European Directives

The Extension Card described in the present Installation Guide is in conformity with the following EC directives:

- RoHS Directive 2011/65/EU
- EMC Directive 2004/108/EC

#### 2.3.2 Applicable Safety Standards

The Extension Card described in the present Installation Guide is in conformity with the following safety standards:

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

### 2.3.3 FCC Compliance

The Extension Card described in the present Installation Guide complies with Part 15 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.

### 2.3.4 Certifications

The Extension Card described in the present Installation Guide has been certified by authorized bodies:

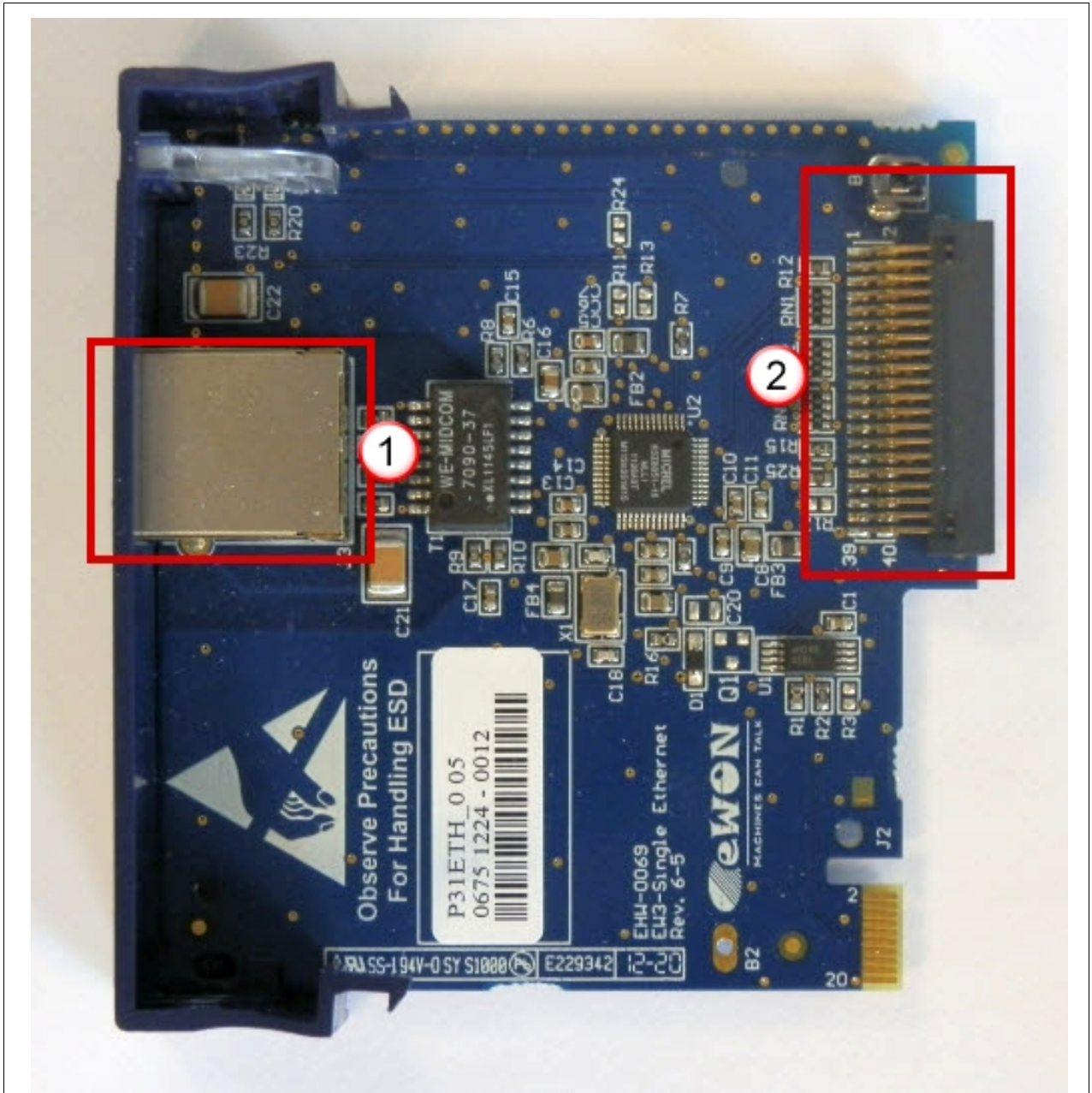
- UL Certificate Of Compliance (COC) # E350576
- CB certificate # DK-29479-M1-UL

These certificates can be downloaded as PDF files on the eWON Support web site:

[http://wiki.ewon.biz/Support/07\\_Documentations/Official\\_documents](http://wiki.ewon.biz/Support/07_Documentations/Official_documents)

### 3. Hardware Description

#### 3.1 Mechanical Layout and Interfaces



①	Ethernet Port Connector RJ45 - 10/100 Base-T
②	Back-plane 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 left hand side (solder side of the PCB).



The different parts of the label are described below:

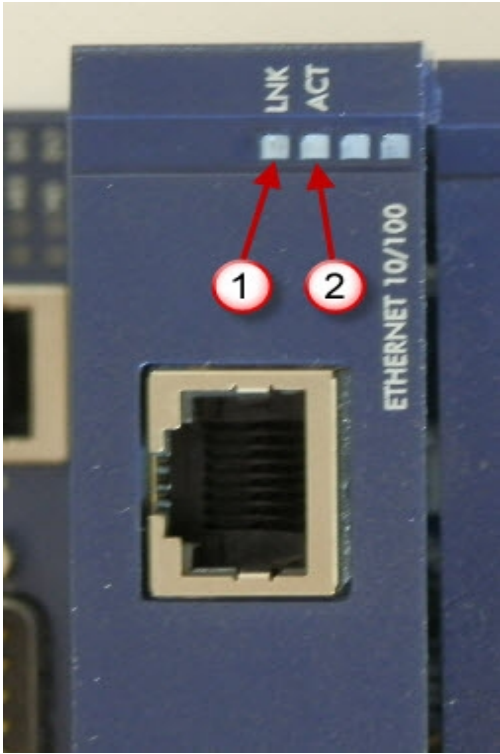
	<b>PN</b>	<b>Part Number:</b> identifies the type of the card. Description see <a href="#">3.2.2 Part Number Structure for Extension Cards</a>
	<b>SN</b>	<b>Serial Number</b> Structure of the Serial Number 1111-2233-0001-44  1111 = MTID (product related) 2233 = Year Week 0001 = sequential mfg order 44 = product type
	<b>MAC</b>	<b>MAC-Address</b> of the Ethernet card
	<b>Marks</b>	CE, UL,... certificate number and logos if applicable.

3.2.2 Part Number Structure for Extension Cards

FLX 3101\_00

<b>FL</b>	FL is the prefix for the extensions of the eWON Flexy family	Only FL (constant)		
<b>X</b>	1 alphabetic sign (CAP) Defines the slots of the base module in which the extension can be inserted. See also § 3.6.1 Base Unit Slot Compatibility.	A	2 first slots only	●●○○
		B	2 last slots only	○○●●
		X	In any slot	●●●●
<b>3101_00</b>	Single Ethernet Extension Card. The suffix _00 is used for software options.			

3.3 Front Panel LEDs

Item	Mark	Function	Picture
①	<b>LNK</b>	<p style="text-align: center;">ON</p> <p style="text-align: center;">Link ETH 10/100 present</p> <p style="text-align: center;">+ Speed indication Green = 100 Mbps Amber = 10 Mbps</p>	
②	<b>ACT</b>	<p style="text-align: center;">Flashing Green</p> <p style="text-align: center;">Packets transfer activity</p>	



### 3.4 Ethernet Port Specifications

Characteristic	Value
Ethernet Port	10/100Mbps
Default IP mode	Static
Default IP address (WAN)	10.1.0.53
Default Subnet Mask	255.255.255.0

### 3.5 eWON Flexy Extension Cards Environmental Conditions

Characteristic	Value
Operating temperature	-25 to +70 °C
Storage temperature	-40 to +70 °C
Relative humidity	10 to 95% 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 Base Unit Slot Compatibility

The **Single Ethernet Extension Card** (FLX 3101) can be inserted in **all 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 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

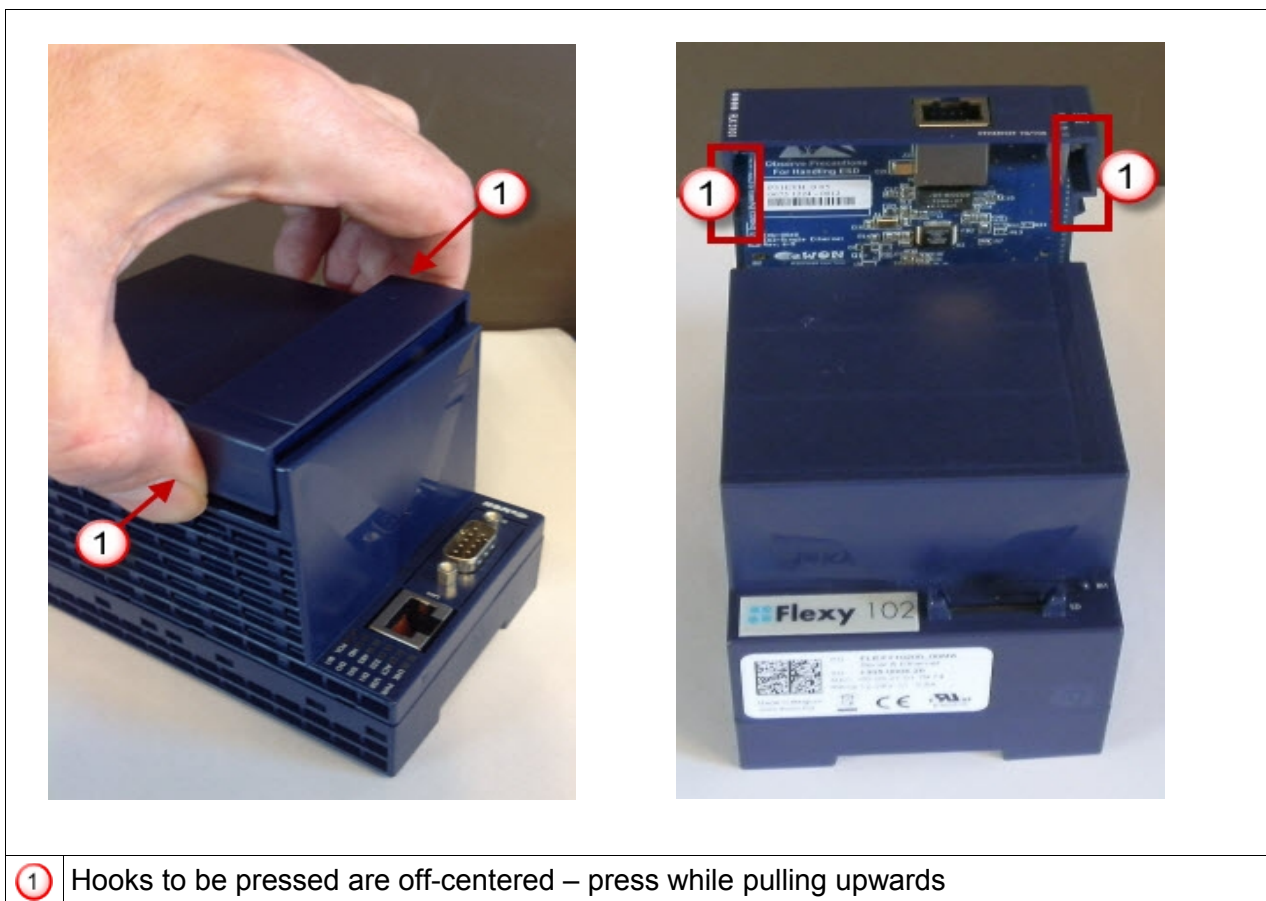
In addition to the card reference, each type of extension card bears a visual compatibility symbol on its front panel. The visual symbols are shown in the table below:

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

### 3.6.2 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 (1) are out-centered like shown on the pictures.



Insert the Extension Card carefully and slide it down until the hooks are **clicking**. Make sure the card is completely inserted.

### 3.6.3 Multiple Ethernet Extension Cards

The eWON Flexy firmware supports up to **one** Ethernet Extension Card of type FLX 3101.

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 Ethernet card (the most left one) will be taken into account by the Flexy firmware. Additional cards of the same type will be ignored. Contrary to slot-specific cards inserted in a wrong slot, Ethernet cards in excess do not alter proper operation of the Base Unit and other Extension Cards.

### 3.6.4 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.

	Ethernet Extension Card FLX 3101
Energy Demand Points	1

The Installation Guide IG-014-0-EN “eWON Flexy - Base Units” includes practical examples of 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	<b>USR</b>	flashing green slowly
Extension Card	<b>LNK</b>	OFF (the ETH connection is <b>disabled</b> by default)

## 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>).

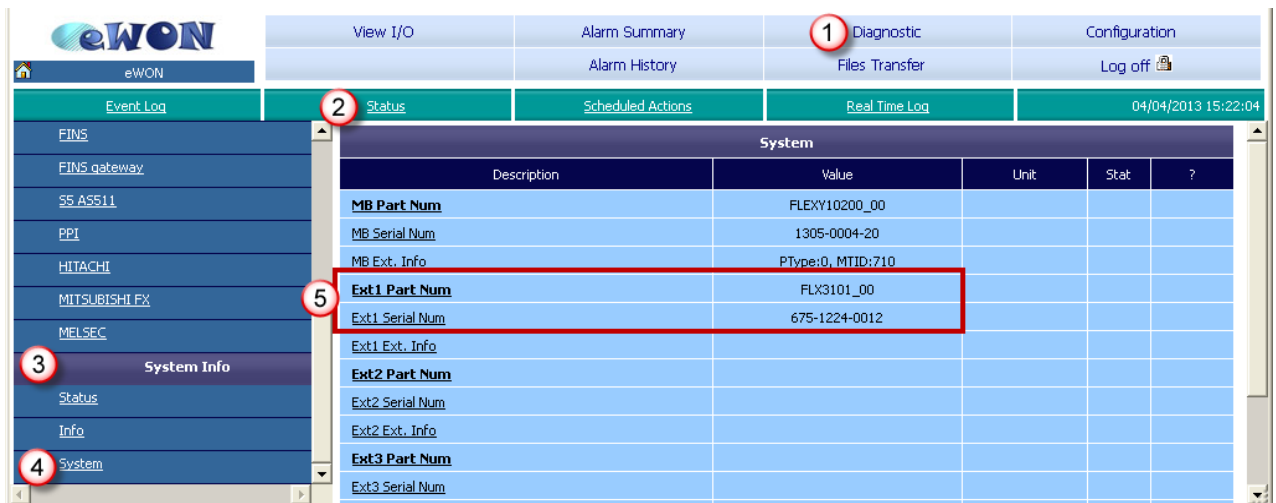
The default login is: adm  
with password: adm

### 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 detected card appears in the eWON **System** hardware configuration page like shown below. The path to the **System** hardware configuration page showing the cards detected by the Base Unit is: **Diagnostic (1) > Status (2) > System Info (3) > System (4)**. The screen capture below gives an example of an FLX 3101 extension card that has been detected in slot 1 (5).



## Revision history

<b>Revision Level</b>	<b>Date</b>	<b>Description</b>
1.0	05/07/13	Initial version
1.1	21/11/13	Official product release version

Document build number: 101

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