Ewon®
BY HMS NETWORKS

Flexy Family

HMS Connecting Devices™

Important User Information

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1   Preface

1.1   About This Document

This document describes all configuration parameters of the Ewon Flexy.

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

1.2   Document history

Version	Date	Description
1.0	2018-01-12	First release
1.1	2018-05-03	ADDED: WAN Fallback
1.2	2018-08-29	Added: NTP Client / Server Added: Anybus Bolt Configuration Added: Time Zone Added: Tag KPI Changed: Appendix SYS, TAGS, USER and COM regrouped into KB-0050 and KB-0052
1.3	2019-01-29	Changed: maximum number of values for the historical logging
1.4	2019-11-08	Added: *Data Management, p. 21* Added: Units parameter in *Tags Section, p. 9*
1.5	2020-05-06	Added: *HTTP Proxy, p. 49* Changed: *VPN, p. 29*

1.3   Related Documents

Document	Author	Document ID
Tag Quality	HMS	KB-0039-00
comcfg.txt	HMS	KB-0050-00
config.txt	HMS	KB-0052-00
Set up the LAN IP address of an Ewon device	HMS	KB-0064-00
Flexy & Cosy 131 – WAN Fallback	HMS	KB-1503-00
Programming Reference Guide	HMS	RG-0006-01
IO Servers	HMS	RG-0007-00
Export Block Descriptor	HMS	RG-0009-00

1.4   Trademark Information

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2 First Access

To display the web interface of the Ewon Flexy, open a web browser and target the IP address of the device which by default is 10.0.0.53.

If the IP address must be changed, follow the Set up the LAN IP address of an Ewon device document from the *Related Documents, p. 3*

2.1 Login

The first screen displayed is a login form. The factory predefined parameters to log in to the device are:

Ewon Default Credentials	
IP address	10.0.0.53
Login (case insensitive)	adm
Password (case sensitive)	adm

> **!** For security reasons, the password must be changed on first connection! This one can be changed by going to *Setup > Users*.

2.2 Language Selection

On first login, a windows appears and asks for the language of the interface: English, French, German or Italian.

This selection will also be asked after a reset level 2 which refers to a reset factory configuration.

To change the language of the web interface without performing a reset level 2, the *Language* parameter of the *comcfg.txt* file must be changed. To change it, go to *Setup > System > Storage > Tabular Edition > Edit COM cfg*. This method will change only the interface. If the messages from the event log should also reflect the language change then a reboot is necessary. A reboot can be done either by power off / on the device or by going to *Setup > Reboot*.

2.3 Wizards

The next step is the configuration of the Flexy.

After the login and the selection of the language, the device will propose to follow the wizards to configure the System, the Internet connection, the VPN connection and the Gateway.

The wizards are an easy, automatic and straightforward way of configuring the Flexy. It is not mandatory to follow the wizards as the configuration of the Flexy can also be set manually through the *config.txt* and *comcfg.txt* files.

A summary of each wizard is explained here under:

System Wizard	
User Setup	Configuration of the administrator user and the basic setting of the Flexy. Possibility to reset all system related fields to factory settings
Date & Time	Configuration of the date and time in a dedicated timezone of the Flexy. Possibility to enable the NTP client.
Connectivity overview	Configuration of the ports of the Flexy. Configuration of the Anybus Bolt as Wi-Fi access point.

Internet Connection Wizard

Internet Connection	Selection of the WAN interface. Possibility to reset all Internet related fields to factory settings.
WAN Connection	Configuration of the WAN interface (IP address, DNS, proxy).
Validate the Internet Connection	Test the WAN configuration.

VPN Connection Wizard

Talk2M Configuration	Link the Flexy to a Talk2M account. Possibility to test of the Talk2M connection.
eFive Configuration	Link the Flexy to an eFive. Possibility to test the custom VPN connection.

Gateway Wizard

PLC Gateway Configuration	Configuration of the IO port & server. This wizard is shown only if a COM extension card (serial or MPI) in inserted in the Flexy.

3　General Overview

The web interface is declined in four parts:
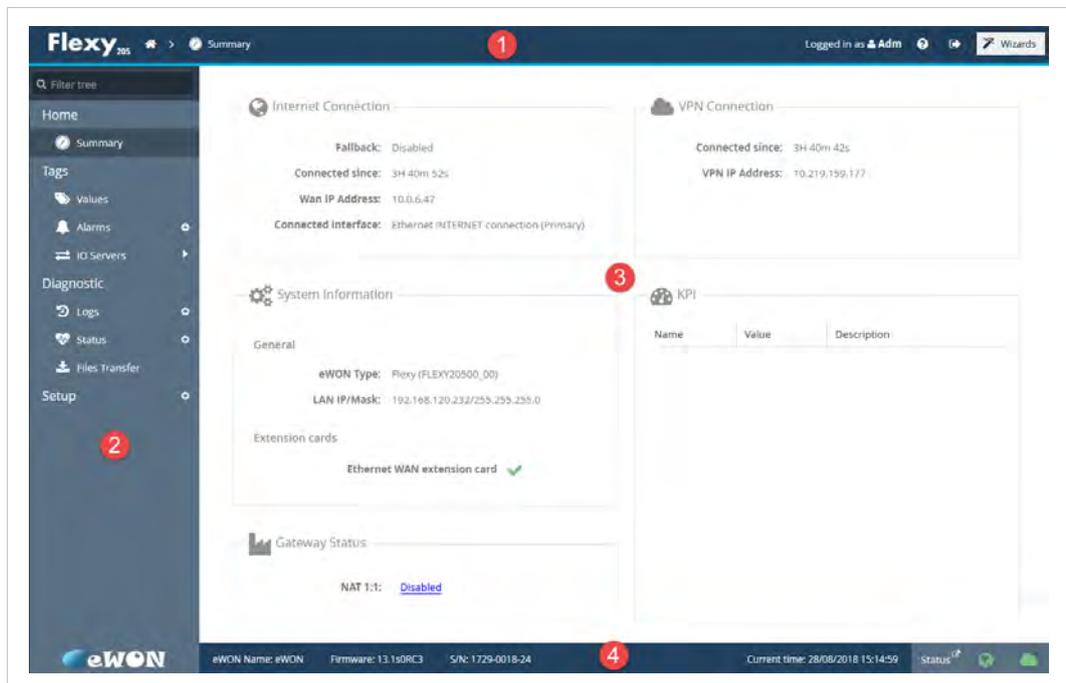
Fig. 1 　 **General Overview of the Web Interface**

Parts of the Web Interface	
Part #1	The header which always stays visible at the top of the interface. The information is always the same regardless the page displayed. Several elements are represented:
	• Logo of the Flexy.
	• Breadcrumb: path in the menu of the current view.
	• The current user.
	• A link to the support web page.
	• A link to log out.
	• A link to run the wizards.
Part #2	The menu to configure, monitor, ... the Flexy. Displayed as one or two columns depending the section.
Part #3	The actual content of the page.
Part #4	The footer which is always visible at the bottom of the interface. The information is always the same regardless the page displayed. Several elements are represented:
	• Name of the Flexy.
	• Version of the firmware.
	• Serial number of the Flexy.
	• Current time of the Flexy.
	• Status of the Internet and VPN connection.

4   Home Section

If it is not the first time access (check *First Access, p. 4*) or a reset level 2 hasn't been performed, the "Home" section is the screen displayed after the login form when users connect to the web interface of the Flexy.

4.1   Summary

The summary of Flexy status show the following information:

Internet Connection	
Fallback	The status of the WAN fallback feature. For more information about the WAN fallback, check the *Internet, p. 28*.
Internet Status	This field appears only if the Internet connection of the Flexy hasn't been configured.
Connected since	Elapsed time since the Flexy is connected to the Internet. This field doesn't appear if the Internet connection hasn't been configured.
WAN IP Address	IP address of the WAN connection. This field doesn't appear if the Internet connection hasn't been configured.
Connected interface	WAN interface used to connect the Flexy to the Internet. This field doesn't appear if the Internet connection hasn't been configured.
WiFi Status	The SSID of the the Wi-Fi network the Flexy is currently connected to. This field appears only if the Flexy is equipped with a Wi-Fi interface.
GSM Status	The name of the cellular operator, the signal strength and the cellular technology used. This field appears only if the Flexy is equipped with a cellular interface.
GSM data consumption	The cellular consumption of the Flexy (upload & download). This field appears only if the Flexy is equipped with a cellular interface.

VPN Connection	
Status	This field appears only if the VPN connection of the Flexy hasn't been configured.
Connected since	Elapsed time since the Flexy is connected to the VPN service. This field doesn't appear if the VPN connection hasn't been configured.
VPN IP Address	IP address of the VPN connection. This field doesn't appear if the VPN connection hasn't been configured.

System Information	
Current user	The user used to browser the web interface.
Ewon Type	The model of the device.
Serial Number	The serial number of the device.
Firmware Version	The current firmware version of the device.
Current time	The current time of the device.
LAN IP/Mask	The LAN IP address and subnet mask of the device. By default: 10.0.0.53/255.255.255.0
BOLT	The (host) name of the Bolt access point. A lock, representing the security, will appear near the name if a password has been provided to the Bolt Wi-Fi network.
Modem Type	The type of modem inserted in the Flexy.

Free Config Memory	The memory left for configuration.
Free Program Memory	The memory left for scripting.
Extension Cards	The name/type of extension card(s) inserted in the Flexy. If none, this section doesn't appear at all. This is a proof of recognition, not that the extension card(s) is currently being used.

Gateway Status	
NAT 1:1	Status of the NAT 1:1 Possibility to change this status by clicking on it.

KPI	
Name	This field shows the name of the selected tags
Value	This field shows the current value of the selected tags
Description	This field shows the description of the selected tags

4.2 Transparent Forwarding

To see this section in the menu, you need to:

- enable the transparent forwarding (see *Routing, p. 59*),

- disconnect and reconnect your Flexy WAN interface in case you just activated the transparent forwarding

Transparent forwarding	
Connect To	The target IP address the Flexy is forwarding requests.
Clear transp. forwarding	Clear the IP address to 0.0.0.0
Connect	Apply the configuration.

5 Tags Section

The "Tags" section contains 3 sub-sections:

- Values: configuration & monitoring of the real-time values of the tags.

- Alarms: monitoring of the tag alarms and checking the history of those alarms.

- IO Servers: configuration of the IO server(s) plugged in the Flexy.

All 3 sub-sections are described in the following chapters.

5.1 Values

The Flexy monitors and manages variables called tags which are produced by IO servers. The configuration of a tag defines its IO server and all its monitoring parameters such as alarm levels, historical logging...

The "Value" section is the area listing the tags and their values for monitoring but also configuration purposes.

The switch between monitoring and configuring is done via the "Mode" button in the upper left side of the page:

- Mode "View": this is the monitoring view.

- Mode "Setup": this is the configuration view.

5.1.1 "View" Mode

This mode which is the monitoring panel displays different types of information:

Tags displayed as "View"	
Pages	Allows the filtering of the tags based on the page they are linked to. By default: All, Default and System.
Tag Groups	Allows the filtering of the tags based on the group they belong to.
Filter	Allows the filtering of the tags based on their name.
Refresh button	Allows the refresh of the list.
Edit Value	Change manually the value of a tag. This can also be done by double-clicking the value of the tag.
Realtime Graph	Shows a graph with the current values of the tag. This button is shown only if a tag is configured to log real-time value.
Historical Logging button	Check the log of the tags which have the historical logging enabled.
Historical Graph	Shows a graphic of the tag values in a determined time interval. This button is shown only if a tag is configured to log historical data.
Alarms	Indicates if the alarm is set for the tag. By clicking on the icon, a redirection to the Alarm summary page is performed (check *Summary, p. 16*).
Historical Logging Table	Indicates if the historical logging is set for the tag.
Real-time Logging	Indicates if the real-time logging is set for the tag.
KPI	Indicates if the KPI is set for the tag.
Name	Indicates the name of the tag.
Status / Quality	Indicates how reliable and recent the tag value is.

More details in the Tag Quality document from the *Related Documents, p. 3*.

Value	Indicates the current value of the tag. This value can be modified by double-clicking on it.
Unit	Indicates the engineering unit of the tag.
Tag Description	Indicates the description of the tag.
Autorefresh	Indicates if the tags should be refresh automatically and on which time interval.

5.1.1.1 Real-time Graph

This area shows the real-time value of the selected tags as a graphic. This section appears only if a or some tags have been previously selected.

5.1.1.2 Historical Logging Table

This area shows the recorded values of the selected tags as a table where columns are the tag names and rows are the recorded timestamp with the corresponding values.

This table can be retrieved by viewing this section or by using the Export Block Descriptor (check the Export Block Descriptor from the *Related Documents, p. 3*.)

Parameters of the Historical Logging Table	
From ... To	The time frame for which the user wishes to display the logs of the selected tags.
Interval	The time frame division for the graphic.
Groups	Filter by group of tags
Include tags with HL disabled	Include tags that don't have historical logging activated but have previous logged data.

The historical logging table is linked to the IRCALL.BIN file. This one is an incremental recording of the logged data.

5.1.1.3 Historical Graph

This area shows the recorded values of the selected tags as a graphic. This section appears only if a or some tags have been previously selected.

Parameters of the Historical Graph	
From ... To ...	The time frame for which the user wishes to display the logs of the selected tags.

5.1.2 "Setup" Mode

This mode which is the configuration panel displays different types of information:

Tags displayed as "Setup"	
Pages	Allows the filtering of the tags based on the page they are linked to. Possibility to add another page to the list or delete one existing (right-click). By default: All, Default and System. Check *Creation of a Page, p. 12*.
Tag Groups	Allows the filtering of the tags based on the group they belong to.
Filter	Allows the filtering of the tags based on their name.
Refresh button	Allows the refresh of the list.
Add button	Add a new tag and configure it. If a tag is selected, the "Add" can become "Add as selected". Check *Creation or Modification of a Tag, p. 12*.
Edit	Edit the tag settings. This button is displayed only if a tag is selected.
Delete	Delete a tag. This button is displayed only if a tag is selected.
Configure Alarm actions	Set the parameters of a tag alarm. This button is displayed only if a tag is selected.
Historical Logging button	Check the log of the tags which have the historical logging enabled.
Alarms	Configure the actions the Flexy should perform when alarm is reached.
Historical Logging	Indicates if the historical logging is set for the tag.
Real-time Logging	Indicates if the real-time logging is set for the tag.
KPI	Indicates if the KPI is set for the tag.
Name	Edit the settings of the tag.
Type	Indicates the nature of the tag
IO Server	Indicates which IO server is linked to the tag.
Topic	Indicates which topic is set to the tag. Possible values for *MEM* tag: • [empty] • RET(entive): value will be remembered on reboot. Possible values for *Ewon* tag: • [empty] • SYS(tem): access to some of the system information. Possible values for *IO Server* tag: A, B or C
IO Address	Address of the tag linking the Flexy and the third-party device.
Status / Quality	Indicates how reliable and recent the tag value is. More details in the Tag Quality document from the *Related Documents, p. 3*.
Value	Indicates the current value of the tag.
Unit	Indicates the engineering unit of the tag.
Tag Description	Indicates the description of the tag.
Autorefresh	Indicates if the tags should be refreshed automatically and on which time interval.

5.1.2.1 Creation of a Page

Page definitions are used in the Flexy for two purposes:

- Restrict user rights to specific directories in the user defined web site.

- Organize tags in pages to ease viewing and restrict user access to specific tags.

A total of 10 user pages can be created.

When tags are defined in a specific page and the name of that page is modified, the same set of tags will belong to the renamed page and users allowed to see the former page will automatically see the renamed one.

If a page is deleted while containing tags, those ones will return to the default page. All the users who had access to that page only will have access to "Default" page.

Any text can be entered for the page name but if a page name is used for directory restriction, it must comply with the directory syntax.

5.1.2.2 Creation or Modification of a Tag

When creating a tag, multiple fields must be provided:

Tag Parameters: Identification

Tag Name	The name of the tag
	It will be used for any reference to the tag when using the export or script function. It will also be included in the alarm email / SMS.
	It cannot contain: spaces, "$" (dollar) character or """ (quote) character. It shouldn't contain "-" (minus) character if destined to be used in scripting.
	The maximum length for is limited to 64 characters.
Page	Allows the filtering of the tags and display them on a specific page
	The basic configuration offers choices between "Default page" or "System page". Customer pages can be created an will be automatically added to this list.
Tag Description	A free text to describe the meaning of the tag. This Information is included in the email sent on alarm.

Tag Parameters: I/O Server Setup

Server Name	The IO server name is the data source of the tag name. Different data sources are available: MEM (virtual IO used by script function), Ewon (Ewon internal IO), MODBUS, OPCUA, NETMPI, SNMP, DF1, FINS, ABLOGIX, S73&400, S7200, HITACHI, MELSEC and BACNET.
	For details, refer to theIO Servers document from the *Related Documents, p. 3*.
Topic Name	It is used to apply a common configuration to several tags.
	Topic names are configured in the IO Servers (check IO Servers document from *Related Documents, p. 3*).
Address	This indicates the complete address syntax (path) required to reach the register inside the third-party device. To ease the writing of the polling destination, a Tag Helper is available and appears automatically as soon as text is typed in the field.
Type	Defines the nature of the tag:
	• Automatic: let's the Flexy decide the best nature of the tag. The decision depends on the IO server register / modifier type.
	• Floating Point: a single precision float precision format (IEEE float representation).
	• Boolean: a binary value.

- Integer: a 32-bit signed integer.

- DWord: a 32-bit unsigned integer.

- String: a character-based value.

Unit

Define the engineering units for the tag.

You can select the engineering unit inside the proposed list, or enter a custom unit.

To select a unit from the list, you can either:

- click on the right arrow to use the drop down list,

- type some characters into the field to filter the existing units and select the one you want.

To encode a custom text:

- select **<Custom Unit>** at the end of the list,

- encode the custom value inside the newly additional field.

A description for the unit is offered when hovering the question mark icon.

The filter also works on the description (e.g.: "degree" filters all units with degree in the description).

For the engineering units we use the defined *Unit list of OPCU foundation* based on the *UNITED NATIONS ECONOMIC COMMISSION FOR EUROPE CODES FOR UNITS OF MEASURE USED IN INTERNATIONAL TRADE*

Force Read Only

Allows the disabling of the "Update" function in the "View" mode of the "Values" section.

The tag is still read/write for BASIC scripting.

Ewon value

Defines the offset and scale factor to be applied to the IO value coming from the third-party device. The offset and scales are float values. The negative values are accepted.

The tag value will be: TAGval = IOSERVERval * scale + offset.

! Strings data type are currently in ASCII format and it is supported by "OPCUA", "S7" and "MEM" I/O servers. UTF-8 is not supported yet.

Tag Parameters: Alarm Setup

Alarm Setup	If enabled, the alarm will be generated.
Alarm Level Low	Low "warning" threshold value for alarm detection.
Alarm Level High	High "warning" threshold value for alarm detection.
Alarm Level LowLow	Low "danger" threshold value for alarm detection.
Alarm Level HighHigh	High "danger" threshold value for alarm detection.
Value Deadband	The deadband is the difference between the alarm level and the RTN level (Return To Normal).

E.g.: if the alarm value is 20°C with a deadband set to 1, the alarm is triggered when the temperature crosses this 20°C boundary. On the other hand, the alarm status will be RTN when the temperature passes below 19°C (because 20° - 1). |
Boolean Alarm Level	The alarm value of a boolean tag name. This is not applicable for analog tag name.
Activation Delay	The time in seconds for which the tag has to be out of threshold before the alarm tag is triggered.
Auto acknowledge on RTN	If checked, the alarm will be automatically acknowledged when the alarm state goes to RTN. Thus, the alarm is directly ended.
Alarm Hint	The information related to the alarm action. This Information will be included in the alarm email.

Tag Parameters: Historical Logging

Historical Logging	If enabled, the values of the tag will be logged in a circular file.
	This is a non-volatile logging. The data is stored in the flash file system. All the data is stored in the same file, the maximum number of values that can be saved is from ~314572 to ~996147, depending on the resources storage setup of the Flexy. When maximum size is reached, the oldest data will be erased first.
Logging Deadband	Defines the deadband of the incremental recording of the tag. Setting a negative value will disable it.
Logging Interval	Defines the interval, in seconds, for the tag recording. Setting *0* will disable it.
	Can be used at the same time as logging deadband.

Tag Parameters: Real-time Logging

Real-time Logging	If enabled, the values of the tag will be logged in memory.
	Real-time logging is different than historical logging because the data is saved in a circular memory buffer. The other difference is that incremental recording is not possible, only fixed interval recording can be performed.
Time Span	Defines the total logging window time in seconds.
Logging Interval	Defines the interval, in seconds, of the tag recording.

Tag Parameters: Tag Visibility

Published Value	The value published by the Flexy could be the same as the tag value or could be modified with a scale factor and an offset.
Modbus TCP visibility	If enabled, the tag will be visible.
	Each tag in the Flexy can be accessed through a Modbus TCP master.
Register	The address of the register, starting with 1.
	Only the register address has to be specified, the type of tag (coil, contact, input register or holding register) is obtained from the tag type (analog or boolean) and the tag read-only or read/write property (obtained from the IO server).
Use 32-bit format	If checked then 2 consecutive 16 bits registers will be reserved and the value will be an output as a 4 bytes IEEE float in those 2 registers (standard Modbus float representation).
	If the tag is published as integer it may need to be scaled to fit the 16 bits Modbus register. This operation will be applied to the tag value before publishing it.
SNMP visibility	If enabled, the tag can be seen by the SNMP manager.
KPI	If enable, the tag name, value and description will appear in the summary page.
OID	The base OID is already defined, the only parameter is the last part of the OID.
Tag groups	Allows the grouping of tags into group (from A to D).

5.1.2.3   Configuration of an Alarm Tag

The configuration of an alarm for a specific tag can be done either by clicking on the "Configure Alarm actions" button (when a tag has been selected) or on the alarm icon located in the tag row.

Send an Email

Email upon	Checks the alarm states triggering an email (ALM, ACK, RTN, END).
Format as short message	In some cases, it is useful to have the whole message sent in the subject field. For example: if the email should be routed as an SMS.

Email to	The list of "TO" email address(es). They must be seperated by "," (comma) or ";" semi-colon.
Email CC	The list of "CC" email address(es). They must be seperated by "," (comma) or ";" semi-colon.
Email Subject	The subject of the email (except if short message is selected).
Email Attachment(s)	The body text of the email. This text can include Export Block Descriptors inline (as text) or as attachment files. There can be as many attachments as required. Attachments to include in the email must follow the syntax: *&[EBD_1] &[EBD_2]* For example: *&[$dtRTGA_AN01$ftG] &[$dtEV$ftT]* will export real time data of "GA_AN01" tag as a graphic and the event log file as a text file.

Send an SMS	
SMS upon	Checks the alarm states triggering an email (ALM, ACK, RTN, END).
SMS Destination	The list of SMS recipient(s). See *SMS Recipient(s) Syntax, p. 67*.
SMS Subject	The content appearing at the beginning of the SMS message.

Transfer to FTP	
Put FTP upon	Checks the alarm states triggering an email (ALM, ACK, RTN, END).
Destination File Name	The name of the file to create on the distant FTP server. The name can contain path specification.
File Content	The file content can be static or dynamic. If a standard (static) text is put in this field, the file that will be transferred will receive that static text as content. If the file content has the following form, one (or more) file will be written with a dynamic content: [EXPORT_BLOC_DESCRIPTOR_1] [EBD_2]...The number of EBD is unlimited. If the "$fn" field is used with multiple EBD, the "Destination File Name" property must be empty.

Transfer to SNMP	
SNMP Trap upon	Checks the alarm states triggering an email (ALM, ACK, RTN, END).
Trap Subject	The specific text displayed in the trap event of the SNMP manager. The text string is limited to 256 chars. Traps are sent to all the hosts defined in the SNMP configuration web page configured to receive such traps.

The information sent in the SNMP trap on alarm trigger is the following:

Parameter	Definition	Composition
Param 0	The tag name.	Text [0...63]
Param 1	The alarm message based on the "trap subject" defined here above.	Text [0...63]
Param 2	The value of the tag in alarm mode.	Integer [32bits]
Param 3	The alarm status.	Integer
Param 4	The alarm type	Integer

5.2   Alarms

The "Alarms" section proposes two sub-sections:

- Summary: the real-time alarm of a tag. It represents the current status of an alarm for a tag.

- History: the log of all alarm actions. It shows a table of all alarm status for a tag.

5.2.1   Summary

This is the real-time alarm page listing all tag names currently in alarm state.

Summary of Current Tag Alarms	
Filter	Allows the filtering of the table based on the name of tags.
Acknowledge selection	Allows the acknowledgement of an alarm. This is available only if a tag alarm is selected.
Date	The time & day of the Flexy when the alarm has been triggered.
Name	The name of the tag. If an "Alarm hint" has been set in the tag configuration, it will be shown near its name.
Action / Date	The status of the tag alarm at a specific time.
UserAck	The name of the user who acknowledged the alarm.
Description	The description of the tag in alarm mode.

Types of Alarm	
ALM (HI)	The tag is in alarm mode. The current value is in warning high position.
ALM (HIHI)	The tag is in alarm mode. The current value is in insecure high position.
ALM (LO)	The tag is in alarm mode. The current value is in warning low position.
ALM (LOLO)	The tag is in alarm mode. The current value is in insecure low position.
ALM	The (boolean) tag is in alarm mode. The current value is out of defined threshold.
RTN	The tag returns to normal status. The current value has been previously outside the defined threshold and hasn't been acknowledge but is now inside the threshold.
ACK	The tag has been acknowledged. The current value is outside the defined threshold but a user has acknowledge the tag alarm.

5.2.2 History

The historical alarm screen is used to find the alarms generated in the past and know who acknowledged them. All the alarms are stacked from the top to the bottom.

Summary of Historical Tag Alarms	
Filter	Allows the filtering of the table based on the name of tags.
Items to display	The number of items to show on the current page. All other items will be hidden.
Date	The time & day of the Flexy when the alarm has been triggered.
Name	The name of the tag.
Status	The status (ALM, RTN, ACK pr END) of the tag alarm at a specific time.
Type	The type (LOLO, LO, HI, HIHI) of the tag alarm at a specific time.
UserAck	The name of the user who acknowledged the alarm.
Description	The description of the tag in alarm mode.

6   Diagnostic

The "Diagnostic" area is the place to go if an issue is encountered on the Flexy. This section is divided in 3:

- •   Logs: regroups all the logs the Flexy records.

- •   Status: regroups all the information of the current state of the Flexy.

- •   Files Transfer: allows the possibility to display / download several configuration / communications files of the Flexy.

6.1   Logs

The "Logs" section is the place where all recorded events can be displayed. It is divided in 3 sub-sections: Event Logs, Realtime Logs and Scheduled Actions.

6.1.1   Event Logs

This page displays the information recorded in the "Events.txt" file (check *Files Transfer, p. 26*).

On this page, the logged data are presented in reverse chronological order: recent events on the top, older ones at the bottom). The events are displayed in different colors to differentiate Error (red), Warning (orange) and Trace (black) events.

Event Logs Page Parameters	
Filter	Allows the filtering of the data. All 4 columns are taken into consideration.
Items to display	Allows the display of a limited number of items.
Class	Allows the filtering of the events based on their nature / category.
Level	Allows the filtering of the events based on their severity. The chosen level and the level(s) greater than this level are shown.
Time	The time & date when the event occurred.
Event	The ID of the event.
Description	The description of the event. Each description refers to a single event ID.
Originator	The interface that triggered an event log.
Autorefresh	If enabled, the list will be automatically refreshed at the defined time interval.

6.1.2   Realtime Logs

This page displays the debug information for different interfaces.

These logs are stored in RAM memory and are cleared on reboot.

> ❗ This logging is a time consuming task and thus will slow down the overall behavior of the Flexy. These debug interfaces should be activated and used only during the debugging process!

Real-time Logs Page Parameters

Filter	Allows the filtering of the data. All 5 columns are taken into consideration.
Items to display	Allows the display of a limited number of items.
Source	Allows the filtering of the events based on their interface.
Time	The time & date when the event occurred.
Source	The nature of the event.
Event	The description / content of the event.
Clock	The time in msec since the Flexy has booted.
Event Id	The ID of the event. Will always be unique unless first time configuration or until reset level 2.
Autorefresh	If enabled, the list will be automatically refreshed at the defined time interval.

6.1.3 Scheduled Actions

This page displays the states of the outgoing actions such as "sendmail", "putftp", ...

Only the last 20 scheduled and executed actions are maintained by the Flexy. The same information can be found in the "sstat.htm" file (check *Files Transfer, p. 26*).

Scheduled Actions Page Parameters

Filter	Allows the filtering of the data. All 6columns are taken into consideration.
Action ID	The ID of the action. Will always be unique unless first time configuration or until reset level 2.
Action Type	The nature of the action that was performed.
Status code	The code of the result. Three possible values: 0 (success), -1 (in progress) or >0 (ended with error).
Status text	The description of the result. Each status code refers to a status description.
Start time	The time & date the action started.
End time	The time & date the action ended. Will refer to "01/01/1970 00:00:00" if action is in progress.
Autorefresh	If enabled, the list will be automatically refreshed at the defined time interval.

6.2 Status

This page displays all the internal variables, counters representing the current live status of Flexy. These counters are organized in three main categories: System Counters, I/O Servers Counters and System Info.

All these counters are accessible within the "estat.htm" file (check *Files Transfer, p. 26*).

6.2.1 System Counters

Memory Information

Name	Description	Value (example)	Unit
TotalAllocated	The total memory allocated.	21934080	Bytes
NbFreeChunck	The number of free chuncks.	375	

Memory Information (continued)

Name	Description	Value (example)	Unit
NbFreeFastbinBlock	The number of free blocks in fast bin.	0	
MaxAllocSpace	The maximum allocated space.	0	Bytes
FastbinBlockSizeUsed	The fast bin block size used.	0	Bytes
TotalAllocSpace	The total allocated space.	21545696	Bytes
TotalFreeSpace	The total free space.	388384	Bytes
CouldTrim	The memory that could be trimmed.	74512	Bytes
TotalMemAvail	The total memory available.	60518400	Bytes
TcpIpAlloc	The TCP IP allocated memory.	0	Bytes
SocketAlloc	The sockets allocated.	34	
SnmpAlloc	The allocated memory for SNMP.	0	Bytes
CfgFreeMem	The free memory for the configuration.	521333	Bytes
PrgFreeMem	The free memory for the script execution.	505552	Bytes
ProgAvailMem	The free memory for script code.	261487	Bytes
DskUsrFree	The free space of the /usr partition.	24820	KBytes
DskUsrTotal	The total size of the /usr partition.	26188	KBytes
SDExtTotal	The total size of the SD card extension.	0	KBytes
SDExtFree	The free space of the SD card extension.	0	KBytes

NAT & IP Forwarding

Name	Description	Value (example)	Unit
FWNbMinCfgNodeA-vail	The minimum number of available configuration nodes.	0	
FWNbMinNatNodeA-vail	The minimum number of available NAT nodes.	0	
FWNoNatEntryCount	The missed number NAT entry.	0	
FWServiceNodeRecycle	The recycled service node.	0	
FWPortFwdNodeRecy-cle	The recycles port forward node.	0	
FWDropInOtherCount	The number of incoming packets dropped (other reason).	0	
FWDropOutOther-Count	The number of outgoing packets dropped (other reason).	0	
FWDropInInvalidCount	The number of incoming packets dropped (invalid packet).	0	
FWDropInFltCount	The number of incoming packets dropped (filtered).	0	
FWDropInFwdD-stErrCnt	The number of incoming packets dropped (invalid destination).	0	
FWPortFwdCount	The number of packets forwarded.	0	
FWDropOutInvalidCnt	The number of outgoing packets dropped (invalid packet).	0	
FWNatFwdCount	The number of NATed packets.	0	
FWNatTcpSend	The number of NATed TCP packets.	0	
FWNatUdpSend	The number of NATed UDP packets.	0	
FWNatIcmpSend	The number of NATed ICMP packets.	0	

VCom

Name	Description	Value (example)	Unit
VCOM1ComPortOpen	VCOM1: com port opened.	No	
VCOM1ComPortError	VCOM1: com port error.	No	
VCOM1TcpPortError	VCOM1: TCP port error.	No	
VCOM1ByteIn	VCOM1: serial bytes in.	0	
VCOM1ByteOut	VCOM1: serial bytes out.	0	
VCOM2ComPortOpen	VCOM2: com port opened.	No	

VCom (continued)

Name	Description	Value (example)	Unit
VCOM2ComPortError	VCOM2: com port error.	No	
VCOM2TcpPortError	VCOM2: TCP port error.	No	
VCOM2ByteIn	VCOM2: serial bytes in.	0	
VCOM2ByteOut	VCOM2: serial bytes out.	0	
VCOM3ComPortOpen	VCOM3: com port opened.	No	
VCOM3ComPortError	VCOM3: com port error.	No	
VCOM3TcpPortError	VCOM3: TCP port error.	No	
VCOM3ByteIn	VCOM3: serial bytes in.	0	
VCOM3ByteOut	VCOM3: serial bytes out.	0	
VCOM4ComPortOpen	VCOM4: com port opened.	No	
VCOM4ComPortError	VCOM4: com port error.	No	
VCOM4TcpPortError	VCOM4: TCP port error.	No	
VCOM4ByteIn	VCOM4: serial bytes in.	0	
VCOM4ByteOut	VCOM4: serial bytes out.	0	

Data Management

Name	Description	Value (example)	Unit
MdspOnboarded	Is the Ewon onboarded on the Mindsphere® platform.	No	
MdspNbPushed	Number of times a push request has been sent to Mindsphere® platform.	0	
MdspNbValuesPushed	Number of values pushed to Mindsphere® platform.	0	
MdspNbAlarmPushed	Number of times an alarm request has been sent to Mindsphere® platform.	0	
MdspNbAlarmsPushed	Number of alarms pushed to Mindsphere® platform.	0	
MdspTokenRenewal-Date	Last time the token was renewed.	01/01/1970 00:00:00	
MdspCSRenewalDate	Last time the client secret was renewed.	01/01/1970 00:00:00	

6.2.2   I/O Servers Counters

Unitelway

Name	Description	Value (example)	Unit
UTEComPortError	Com port error.	No	
UTEResynchCount	Resynchronization count.	0	
UTEInvalidChecksum	Invalid checksum.	0	
UTETxNoAckNack-Count	No ACK or NACK count.	0	
UTETxNackCount	Number of transmitted NACK.	0	
UTERxNackCount	Number of received NACK.	0	
UTEMaxTxTryCount	Number of max transmissions retry.	0	
UTERxTimeoutCount	Number of received timeout.	0	
UTETxTimeoutCount	Number of transmissions timeout.	0	

DF1

Name	Description	Value (example)	Unit
DF1ComPortError	Com port error.	No	
DF1ResynchCount	Resynchronization count.	0	
DF1InvalidChecksum	Invalid checksum.	0	
DF1TxNoAckNack-Count	No ACK or NACK count.	0	

DF1 (continued)

Name	Description	Value (example)	Unit
DF1TxNackCount	Number of transmitted NACK.	0	
DF1RxNackCount	Number of received NACK.	0	
DF1MaxTxTryCount	Number of max transmissions retry.	0	
DF1RxTimeoutCount	Number of received timeout.	0	
DF1TxTimeoutCount	Number of transmissions timeout.	0	

EthernetIP

Name	Description	Value (example)	Unit
EIPCommandsReceived	The command that were received.	0	
EIPCommandsSent	The command that were sent.	0	
EIPRepliesReceived	The replies that were received.	0	
EIPRepliesSent	The replies that were sent.	0	
EIPRepliesSentErrs	The errors of the replies that were sent.	0	
EIPErrUnhandledCmd	The command that were not handled.	0	
EIPErrBadData	The bad data.	0	
EIPErrBadSessionID	The bad session ID.	0	
EIPErrUnSupportedRev	The revision that is not supported.	0	
EIPErrBadTargetID	The bad target ID.	0	

Modbus

Name	Description	Value (example)	Unit
MBSComPortError	The com port error.	No	
MBSInvalidCrc	The invalid CRC.	0	
MBSFrameErr	The frame error.	0	
MBSInvalidFn	The invalid function.	0	
MBSBuffTooSmall	The buffer is too small.	0	
MBSWrVfyErr	Verification of the write permission failed.	0	
MBSOpenSockErr	There is an "open socket" error.	0	
MBSCnxSockErr	There is an "connect socket" error.	0	
MBSRdTcpErr	There is an "read TCP" error.	0	
MBSWrTcpErr	There is an "write TCP" error.	0	
MBSInvTransact	An invalid transaction ID.	0	

S5 AS511

Name	Description	Value (example)	Unit
S5OpenComError	Open COM error summary.		
S5PortErrorCount	The number of com ports with the "open" error.		
S5NakReceived	The number of NAK received.		
S5FrameError	The number of frame errors received.		
S5ReadTimeout	The number of timeout received.		
S5SequenceError	The number of invalid sequence received.		
S5PlcError	The number of registered errors received from the third-party device.		

FINS

Name	Description	Value (example)	Unit
FINSComPortError	The com port error.	No	
FINSUnsolMsgs	The number of unsolicited FINS messages received.	0	
FINSInvalidFCS	The number of invalid hostlink checksum received.	0	
FINSFrameError	The number of invalid hostlink frames received.	0	

FINS (continued)

Name	Description	Value (example)	Unit
	The number of write TCP errors.		
FINSWriteTcpError	The number of read TCP errors.	0	
FINSReadTcpError	The number of write TCP errors	0	
FINSWriteUdpError	The number of write UDP errors.	0	
FINSReadUdpError	The number of read UDP errors.	0	
FINSTcpFinsError	The TCP FINS protocol error.	0	
FINSTcpErrorSend	The number of TCP FINS frame error notifications received.	0	
FINSCmdError	The number of invalid FINS messages received.	0	

FINS Gateway

Name	Description	Value (example)	Unit
FINSGWWriteTcpError	The number of write TCP errors.	0	
FINSGWReadTcpError	The number of read TCP errors.	0	
FINSGWWriteUdpError	The number of write UDP errors.	0	
FINSGWReadUdpError	The number of read UDP errors.	0	
FINSGWTcpFinsError	The TCP FINS protocol error.	0	
FINSGWTcpErrorSend	The number of TCP FINS frame error notifications received.	0	
FINSGWCmdError	The number of invalid FINS messages received.	0	
FINSGWTransError	The number of FINS transaction failures.	0	

EthernetIP Gateway

Name	Description	Value (example)	Unit
EIPGWCommandsReceived	The commands received.	0	
EIPGWCommandsSent	The commands sent.	0	
EIPGWRepliesReceived	The replies received.	0	
EIPGWRepliesSent	The replies sent.	0	
EIPGWRepliesSentErrs	The replies sent errors.	0	
EIPGWErrUnhandledCmd	The command that was not handled.	0	
EIPGWErrBadData	The bad data.	0	
EIPGWErrBadSessionID	The bad sessions ID.	0	
EIPGWErrUnSupportedRev	The revision that is not supported.	0	
EIPGWErrBadTargetID	The bad target ID.	0	

PPI

Name	Description	Value (example)	Unit
PPiComPortError	The com port error received.	No	
PpiNackRcvd	The number of PPI NACK messages received.	0	
PpiInvalidFcs	The number of invalid PPI checksums received.	0	
PpiRxTimeout	The number of PPI timeouts.	0	
S7PpiS7CmdSent	The number of PPI S7 commands sent.	0	
S7PpiS7CmdRcvd	The number of PPI S7 commands received.	0	
PpiInvalidFramesRcvd	The number of PPI invalid frames received.	0	

ISOTCP

Name	Description	Value (example)	Unit
IsoTcpCS7CmdSent	The number of ISOTCP S7 commands sent.	0	
IsoTcpCS7CmdRcvd	The number of ISOTCP S7 commands received.	0	
IsoTcpCReadErr	The number of read TCP errors.	0	
IsoTcpCWriteErr	The number of write TCP errors.	0	
IsoTcpCInvalidFra-mesRcvd	The number of ISOTCP invalid frames received.	0	

ISOTCP Gateway

Name	Description	Value (example)	Unit
IsoTcpGS7CmdSent	The number of ISOTCP S7 commands sent.	0	
IsoTcpGS7CmdRcvd	The number of ISOTCP S7 commands received.	0	
IsoTcpGReadErr	The number of read TCP errors.	0	
IsoTcpGWriteErr	The number of write TCP errors.	0	
IsoTcpGInvalidFra-mesRcvd	The number of ISOTCP invalid frames received.	0	
IsoTcpGTransFailed	The number of S7 transactions that failed.	0	

Hitachi

Name	Description	Value (example)	Unit
HiComPortError	The com port error received.	No	
HiNakFrameErr	The number of Hitachi NACK received with the frame error.	0	
HiNakParityErr	The number of Hitachi NACK received wit the parity error.	0	
HiNakInvalidSum	The number of Hitachi NACK received with the invalid sum.	0	
HiNakRcvBufErr	The number of Hitachi NACK received with the receive buffer error.	0	
HiNakRcvTimeOvfl	The number of Hitachi NACK received with the receive timer overflow.	0	
HiNakProtErr	The number of Hitachi NACK received with the protocol error.	0	
HiNakAsciiErr	The number of Hitachi NACK received with the ASCII error.	0	
HiNakOverRErr	The number of Hitachi NACK received with the run overflow error.	0	
HiInvalidSum	The number of Hitachi serial sum error.	0	
HiFrameErr	The number of Hitachi serial frames error.	0	
HiResynch	The number of Hitachi serial resynchronization.	0	
HiRxTimeOut	The number of Hitachi serial frames receive timeout.	0	
HiTxTimeOut	The number of Hitachi serial frames transmit timeout.	0	
HiTcpPacketsSent	The number of Hitachi TCP packets sent.	0	
HiTcpPacketsRcvd	The number of Hitachi packets received.	0	
HiUdpPacketsSent	The number of Hitachi UDP packets sent.	0	
HiUdpPacketsRcvd	The number of Hitachi UDP packets received.	0	

Mitsubishi FX

Name	Description	Value (example)	Unit
MiFxComPortError	The com port error received.	No	
MiFxNackRcvd	The number of Mitsubishi NACK received.	0	
MiFxProtErr	The number of Mitsubishi protocol errors.	0	
MiFxRxTimeout	The number of Mitsubishi messages timeouts that have been received.	0	
MiFxTxTimeout	The number of Mitsubishi message timeouts that were transmitted.	0	

MELSEC

Name	Description	Value (example)	Unit
MiMcTcpCmdSent	The number of Melsec TCP commands that were sent.	0	
MiMcTcpCmdRcvd	The number of Melsec TCP commands that were received.	0	
MiMcTcpReadErr	The number of Melsec read TCP errors.	0	
MiMcTcpWriteErr	The number of Melsec write TCP errors.	0	
MiMcUdpCmdSent	The number of Melsec UDP commands that were sent.	0	
MiMcUdpCmdRcvd	The number of Melsec UDP commands that were received.	0	
MiMcUdpReadErr	The number of Melsec read UDP errors.	0	
MiMcUdpWriteErr	The number of Melsec write UDP errors.	0	

Bacnet

Name	Description	Value (example)	Unit
BacnReadCount	The number of Bacnet tags that were read.	0	
BacnWriteCount	The number of Bacnet tags that were written.	0	
BacnErrorCount	The number of Bacnet errors.	0	

6.2.3 System Info

Info

Name	Description	Value (example)	Unit
SerNum	The serial number of the Flexy.	1729-0018-24	
FwrVersion	The current firmware version.	786434	
CodeName	The code name.	12.2s1	
FwrDnlDate	The date when the firmware was uploaded to the Flexy.	01/01/1970 00:00:00	
ModemExtInfo	The extended information of the modem.		
SIFMacAddrL	The MAC address of the LAN interface.	00:00:00:00:00:00	
SIFMacAddrW	The MAC address of the WAN interface.	00:00:00:00:00:00	
SIFMacAddrWifi	The MAC address of the Wi-Fi interface.	00:00:00:00:00:00	

Status

Name	Description	Value (example)	Unit
PppIp	The allocated PPP IP address.	0.0.0.0	
TfIp	The current IP transparent forward address.	0.0.0.0	
VpnIp	The allocated VPN IP address.	0.0.0.0	
PppClIn	The PPP accumulated incoming traffic.	0	Bytes
PppClOut	The PPP accumulated outgoing traffic.	0	Bytes
ADSLOperStatusTxt	The ADSL line status.		
ADSLLocRemSNRTxt	The ADSL local/remote SNR.		dB
ADSLUpDnSpeedTxt	The ADSL up/down speed.		kbps
ADSLWanStatusTxt	The ADSL WAN status.		
ADSLLocalIp	The ADSL local IP address.	0.0.0.0	
ADSLRemoteIp	The ADSL remote IP address.	0.0.0.0	
ADSLDNS1	The ADSL primary DNS.	0.0.0.0	
ADSLDNS2	The ADSL secondary DNS.	0.0.0.0	

System

Name	Description	Value (example)	Unit
MbPartNum	The motherboard part number.	FLEXY205_00	
MbSerNum	The motherboard serial number.	1729-0018-24	

System (continued)

Name	Description	Value (example)	Unit
MbExtInfo	The motherboard extended information.	PType:0, MTID:901	
Xb1PartNum	The extension card #1 part number.		
Xb1SerNum	The extension card #1 serial number.		
Xb1ExtInfo	The extension card #1 extended information.		
Xb2PartNum	The extension card #2 part number.		
Xb2SerNum	The extension card #2 serial number.		
Xb2ExtInfo	The extension card #2 extended information.		
Xb3PartNum	The extension card #3 part number.	[Will never be used]	
Xb3SerNum	The extension card #3 serial number.	[Will never be used]	
Xb3ExtInfo	The extension card #3 extended information.	[Will never be used]	
Xb4PartNum	The extension card #4 part number.	[Will never be used]	
Xb4SerNum	The extension card #4 serial number.	[Will never be used]	
Xb4ExtInfo	The extension card #4 extended information.	[Will never be used]	

6.3   Files Transfer

It is possible to open or download the files located in the root folder of the Flexy:

File name	Description
Events.htm	The events log represented as a table.
sstat.htm	The scheduled status represented as a table.
estat.htm	The system status represented as a table.
rt_alm.txt	The real-time alarms.
inst_val.txt	The instantaneous values displayed as text.
inst_val.bin	The instantaneous values displayed as binary.
events.txt	The events log.
hst_alm.txt	The history of alarm tags.
var_lst.txt	The list of variables and their details in a text file.
var_lst.csv	The list of variables and their details in a csvfile.
program.bas	The BASIC program scripting.
ewonfwr.edf	The firmware file.
dump.ppp	The PPP dump file.
config.bin	The system configuration file of the Flexy as binary file.
config.txt	The system configuration file of the Flexy as text file.
comcfg.txt	The communication configuration file of the Flexy as text file.
ircall.bin	All historical logs.
backup.tar	Backup file of the Flexy.
irc_#	The historical log of the tags set up in the Flexy where "#" is the name of the tag. There will be as many "irc_#" as there are tags in the Flexy.

7   Setup

This area defines all the Flexy settings. General setup, communication parameters, memory allocation... all those parameters are configured under this section.

7.1   Wizards

The wizards are the easiest & quickest way to configure the Flexy.

It can be either fully run by clicking the "Quick Launch Wizard" or run section by section by clicking on the right side menu.

7.1.1   System

This wizard configures the general settings of the Flexy:

Step 1: User Setup	
Erase all first	The Flexy will be set back to factory default.
Ewon name	The name of the Flexy. This is different then the name given to the device in the Talk2M account.
Username	The login of the administrator.
Password	The password of the administrator.
Retype-Password	The confirmation of the password.

Step 2: Date and time	
Timezone	Sets the Ewon Flexy in a specific timezone.
Configure update of clock	The method to set the time of the Ewon Flexy: • Manually: the time is manually set by the user. • Update clock via NTP (default): the time retrieves automatically its time from a remote NTP server.
NTP Server address	The URL of the remote NTP server. By default, "ntp.talk2m.com is set." This field is shown only if "Update clock via NTP" is selected.
Update interval	The time interval used to update the clock. This field is shown only if "Update clock via NTP" is selected.
Datetime	The date and time set manually. This field is shown only if "Manually" is selected

Step 3: LAN/WAN Configuration	
LAN/WAN ports attribution	Attribution of the ports: LAN (green) or WAN (red). Port #1 is always a LAN port.

> **!** If the LAN/WAN port attribution has been changed, it is mandatory to reboot the Flexy before proceeding any further.

7.1.2 Internet

This wizard configures the Internet connection settings of the Flexy.

Step 1: Internet connection

Initialize configuration	The Flexy will be set back to factory default in regards of Internet settings, including the Talk2M configuration.
Interface	The selection of the WAN interface.

Step 2: Ethernet WAN Connection

Address Setup	The selection how the WAN IP address should be set up: Static, BootP or DHCP. Default value: DHCP
	Based on the above choice, different fields should be completed:
	• IP address: the desired IP address on the network (for static only).
	• Subnet mask: the desired subnet on the network (for static only).
	• Default gateway: the gateway on the network (for static and bootp only).
DNS Setup	Primary and secondary DNS. Manual settings available only for static and bootp configurations.
HTTP Proxy	Indicates if the Flexy is behind a proxy.

Step 2: WiFi WAN Connection

Network selection	Selection how the network name should be set.
Network name	The SSID of the Wi-Fi network.
	If "List" is selected in the previous field, this will be a dropdown field proposing automatically nearby Wi-Fi network. If "Manual" is selected in the previous field, this will be a text field that needs to be filled manually with the Wi-Fi network name.
Passphrase	The password of the Wi-Fi network.
Security	The level of security for the Wi-Fi network. This field appears only if "Manual" is selected.
WiFi WAN connection	The selection how the WAN IP address should be set up: Static, BootP or DHCP. Default value: DHCP
	Based on the above choice, different fields should be completed:
	• IP address: the desired IP address on the network (for static only).
	• Subnet mask: the desired subnet on the network (for static only).
	• Default gateway: the gateway on the network (for static and bootp only).
DNS Setup	Primary and secondary DNS. Manual settings available only for static and bootp configurations.
HTTP Proxy	Indicates if the Flexy is behind a proxy.

Step 2: GSM modem

SIM PIN	The PIN code of the SIM card. This field can be left empty if no PIN code is needed.
Country	The country of the SIM card provider
Provider	Name of the SIM card provider

APN List	The Access Point Name [APN] of the cellular service provider. This is mandatory for the Flexy to have access to the Internet. A customer APN is also possible.
Username	The username provided for the APN by the cellular service provider. This field can be left empty.
Password	The password provided for the APN by the cellular service provider. This field can be left empty.
Triggered	The Flexy by a wake-up SMS and/or an outgoing actions.
Maintain connection	TheFlexy will establish a connection each time it drops.

Step 3: Validate your internet connection	
Internet connection test	If enabled, the Flexy performs an Internet test to a remote server. By default, it is enabled.

7.1.2.1 WAN Fallback

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

If configured, the Flexy will switch 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 Flexy & Cosy 131 – WAN Fallback from the *Related Documents, p. 3*.

7.1.3 VPN

This wizard configures the VPN connection settings of the Flexy.

The VPN connection can either be the link with Talk2M or to a custom VPN server.

7.1.3.1 Talk2M Connection

Talk2M	
Register with ACTIVATION KEY	The link will be established between the Flexy and Talk2M using the activation key or the global activation key.
Register with Ewon NAME	The link will be established between the Flexy and Talk2M using different informations: the account name, the Ewon name (in the Talk2M account), the Talk2M username and the Talk2M user password.

Proxy config	
Connect via HTTP proxy	If enabled, the Talk2M connection will be using the proxy connection (previously indicated in the Internet wizard). Different fields should be completed: • Authentication method to the proxy server. • Proxy server IP address: the IP address of the proxy server. • Proxy server port: the port used by the proxy server. • Username: the username to authenticate. Not shown if "Proxy without authentication is selected" • User password: the password of the above user to authenticate. Not shown if "Proxy without authentication is selected"

Advanced parameters	
Force to TCP	If enabled, the Flexy will be forced to use TCP to communicate to Talk2M.

7.1.3.2   eFive

Ewon Account parameters	
Server Address	The IP address of the eFive.
VPN Username	The username of a user in the eFive.
VPN Password	The password of the same user in the eFive.
CA Certificate	The complete CA certificate.
Protocol	The selection of the procotol: TCP or UDP. By default: UDP.
Port	The port used by the eFive. By default: 1194.

7.1.4   Gateway

This wizard is shown only if specific extension cards are available in the Flexy: Serial FLA 3301 or MPI FLC 3701.

PLC Gateway configuration	
Select the COM port to configure	The selection of which port will be used and what is the gateway linked to that port.
Gateway Configuration	The parameters configuration of the gateway itself.

7.2   BASIC IDE

The Flexy understand the BASIC scripting. This is the area where such scripts can be created, modified, erased, tested, debugged, ...
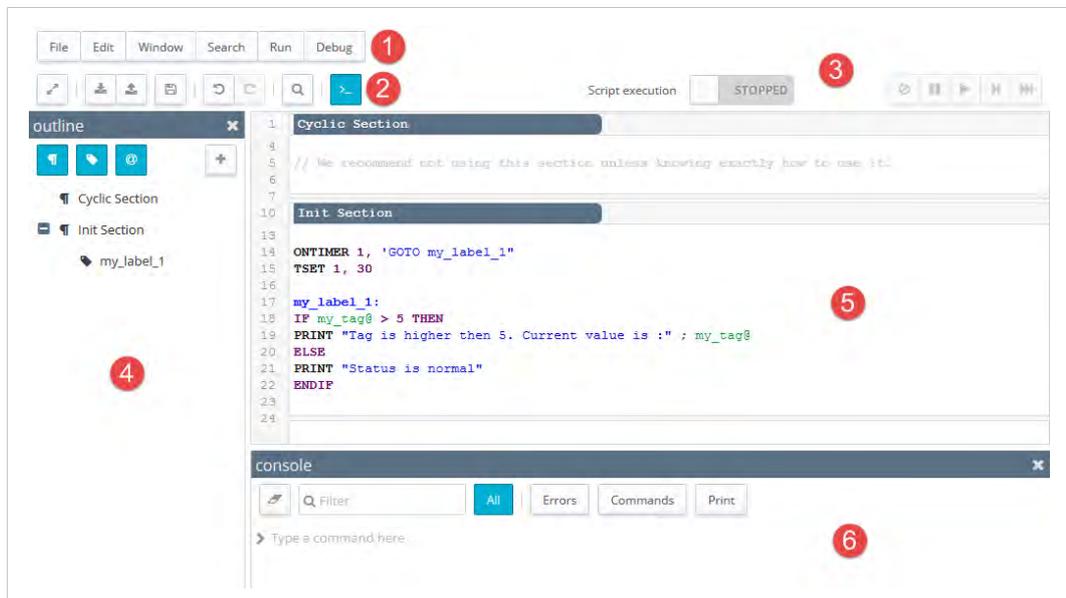

Fig. 2   The BASIC IDE

Label	Description
1	The top menu bar containing multiple actions: • File: possibility to save, autosave, import & export. • Edit: possibility to undo or redo. • Window: possibility to customize the interface. • Search: possibility to find terms based on pattern. • Run: possibility to interact with the flow. • Debug: debug panel.
2	Shortcuts of label #1: • Fullscreen. • Export, import and save. • Undo & redo. • Search. • Display console for debug.
3	Shortcuts for debug panel: • Control the script execution. • Abort, pause, play, ... Available only when script is running.
4	Panel to control (display, create or delete) the sections and labels names.

Label	Description
5	The script code divided per section. By default, two sections are present: • Cyclic: the script written inside this section is executed cyclically. The cycle time is not pre-determined and is based on the duration of the script itself. • Init: the script written inside this section is executed once, at the boot of the Flexy.
6	The debug panel: • Clear: erase all the content of the panel. • Filter: select which info should be displayed. • Command: possibility to execute manually a command.

The entire BASIC documentation library that explains how it works, the different features, the commands list, ... is available in the Programming Reference Guide document from the *Related Documents, p. 3*.

7.3 Users

The" Users" area allows the management of the list of authorized users.

Different login procedures use this list as reference to authorize / deny access. Those are:

• The access to web interface.

• The access to FTP access.

• The access to a user defined page which is based on a Basic Access authentication.

The default view is the one displaying all users and their attributes configured in the Flexy.

> ! The password of the "adm" user must be changed to differ from "adm".

Default View of Users Page	
Filter	Allows the filtering of the users based on all columns except "Rights".
Refresh button	Allows the refresh of the list.
Add	Allows the creation of a new user.
Configure	Edit the information and permissions of a user. This button is shown only if a user has been selected.
Delete	Delete a user. This button is shown only if a user (other than "adm") has been selected.
User Login	The username.
First Name	The first name of the user.
Last Name	The last name of the user.
Rights	The type of permissions granted to the user.
informations	Custom description about the user.

7.3.1 Creation or Modification of a User

7.3.1.1 Identification

Identification	
First Name	The first name of the user. This is an optional field.
Last Name	The last name of the user. This is an optional field.
User Login	The username.
Password	The password.
Confirm Password	The confirmation of the password.
Information	A custom content. This is an optional field.

7.3.1.2 Rights

Tag Page allowed

The pages are created in the "Values" section (check *Creation of a Page, p. 12*). Those pages contain a defined set of tags thus this parameter limits the number of tags the user can access / see.

Possible Values for "Tag Page allowed" Parameters	
Label	**Access description**
All	Access to all tag pages is granted.
Default	Only the "Default" page is accessible.
System	"Default" and "System" pages are accessible.
My-custom-page	"Default" and "My-custom-page" pages are accessible.

Users will always have access to the "Default" page (even if not selected) which is also the value set by default.

User Directory allowed

When the "user" website is built, HTML (or SHTM) pages can be placed directly in it or in subdirectories.

Considering the FTP directory structure, the root directory of the user defined website is "/usr". Every user has access to that directory and is considered as the default directory.

Possible Values for "Tag Page allowed" Parameters	
Label	**Access description**
All	Access to all content & subdirectories in root directory is granted.
Default	Only the root directory "/usr" is accessible.
System	"Default" and "System" directories are accessible.
My-custom-directory	"Default" and "My-custom-directory" directories are accessible.

> **ℹ** *When a subdirectory of the root directory "/usr" is accessible, all the subdirectories of this specific subdirectory are accessible as well.*

If the pages list (check *Creation of a Page, p. 12*) must be a reflection of the subdirectories list in the "/usr" root directory, it is the responsibility of the user to create the same pages as the directories in the FTP structure otherwise the security setup will not be applied.

Global user rights

Label	Description
View IO	Allows the access to the tags values screen (check *"View" Mode, p. 9*).
Force outputs	Allows the modification of the Flexy outputs.
Acknowledge alarms	Allows the acknowledgement of the alarms.
Change configuration	Allows the access to the configuration part of the Flexy
FTP server access	Allows this user to access the Flexy FTP server.
Ewon File access [EBD]	Allows the access to the file transfer page (check *Files Transfer, p. 26*). Allows the user to retrieve files (containing Export Block Descriptor) from the Flexy with HTTP requests using */rcgi.bin/ParamForm?AST_Param=$$...EBD...*
Java Forms access	Allows the access to the Java forms.
Control Java JVM	Allows this user to control the Java JVM.
Upgrade FW	Allows this user to upgrade the Flexy.

7.4 System

The "System" area allows the configuration of all system parameters of the Flexy. This section has a high impact on the behavior of the Flexy, mainly from a communication point of view.

It is divided in 3 subsections:

- Main
- Communication
- Storage

7.4.1 Main

This section defines the global settings such as the identification info, the net services and the diagnosis parameters.

7.4.1.1 General

7.4.1.1.1 Identification

Control	Description
Ewon Identification	The name of the Flexy. This information is added in each e-mail alarm notification.
General Information	A free text proving a simple way to add extra information about the Flexy or its environment.
User defined home page	When a user defined website is used, the home page of the Ewon web site can be replaced by a user defined web page. If the default homepage is a viewON synopsis, "viewON synopsis"" must be selected and the name of the synopsis should be indicated in the next text box. If the default homepage is a classical HTML page, "http://your_device_ip/usr" must be selected and the name of the page should be indicated in the next text box.
Enable user page security	If a user website is defined, the default user login page is not displayed and there is no session. This checkbox enables the security when the user wants to access a user-defined page.

7.4.1.1.2 Language

Control	Description
Language	Selection of the language for the web interface. A reboot is required for the change to be fully applied.

7.4.1.1.3   Alarms

Control	Description
Action retriggered interval	The alarm action (email, SMS, PUTFTP, trap SNMP) is triggered permanently, based on the specified time interval, as long as the alarm state is ALM. The trigger cycle is stopped by an acknowledge (ACK) or a return to normal (RTN). Default value: 86400 seconds. The value 0 disables the triggering cycle feature.
Retry action	This parameter defines the number of times the action will be retried in case of errors. The value of this number must be greater than 0.
Action retry interval	This parameter defines the time interval (in seconds) between two retry attempts if an error occurred. The value for this parameter must be greater than 9.
Email Alarm Template	A free text and / or functions (check *Configurable Fields for Email and SMS, p. 70*). This is used to customize the content of the emails used during alarm notifications. The template will be applied to the alarm notification of all tags but will be ignored as soon as a single character is inserted in the alarm setup of the tag itself. The template is not applied if the checkbox "Format as Short Message" is selected for the email notification in the alarm setup of the tag itself. That is why this function is not available if SMS are sent using the Talk2M email notification service.
SMS Alarm Template	A free text and / or functions (check *Configurable Fields for Email and SMS, p. 70*) can be introduced to customize the contents of the SMS. The default SMS layout is ignored as soon as a single character is present in this field. The template will be applied to the alarm notification of all tags.

7.4.1.1.4   Date & Time

The settings displayed are the same than the ones proposed in the system wizard.

Check *System, p. 27*

> **!**   Updating the time might result in duplicated points stored in a non-chronological order in the files of the Flexy (alarms, events and historical).

7.4.1.1.1   Planner

The "Planner" can be used to do some actions at a fixed time or a fixed interval. These actions are the same as the tag alarm actions which are:

- Send an email.

- Send an SMS.

- Put a file on a FTP server.

- Send an SNMP trap.

Global Parameters	
Control	**Description**
Try action	The number of times the action will be retried in case of errors. Default value is 0.
Action retry interval	The time interval between two actions attempts if an error occurred. The value for this parameter must be greater than 9.

Planner configuration table	
Control	**Description**
Timer Interval	Defines when the action will be executed. The syntax is the following: *mm hh dd MMM DDD*. The action will be triggered when the time of the Flexy matches the 5 parameters.
Type of Actions	The nature of the actions which can be: email, SMS, FTP or trap
Edit	Allows the modification of the task.

Planner configuration table (continued)

Control	Description
Force	Allows the manual trigger of the action.
Last Run	The date & time of the last execution of the action(s).

7.4.1.1.1.2 Timer Interval Settings

The timer interval of the planner must respect a syntax: *mm hh dd MMM DDD* where all 5 parameters are mandatory and represent:

mm	The minutes parameter which is a number between 0 and 59.
hh	The hours parameter which is a number between 0 and 23.
dd	The days parameter which is a number between 1 and 31.
MMM	The months parameter which is either: • A number between 1 and 12 where 1 is January and 12 is December. • A month name abbreviation: jan, feb, mar, apr, may, jun, jul, aug, sep, oct, nov, dec.
DDD	The day of the week parameter which is either: • A number between 1 and 7 where 1 is Monday and 7 is Sunday. • A day name abbreviation: mon, tue, wed, thu, fri, sat, sun.

When used together, the "dd" and the "DDD" parameters are considered as an *OR* operation: every *dd* of the month or *DDD*.

In addition, there are some operators to specify multiple date/time:

*	All possible values. For example: an * in the "hh" time field would be equivalent to every hour.
,	A list of values. For example: "1,3,4,7,8" (no space allowed inside the list).
-	A range of values For example: "1-6" which is equivalent to "1,2,3,4,5,6".
/	Used to skip a given number of values. For example: "*/3" in the "hh" time field is equivalent to "0,3,6,9,12,15,18,21".

Example 1: Task Planner

```
* * * * *
// Runs every minutes.
0 * * * *
// Runs every hour.
0 0 * * *
// Runs every day at midnight (00:00)
*/15 * * * *
// Runs every 15 minutes.
15 7 1 1 *
// Runs at 7:15, the first of January. Equal to "15 7 1 jan *"
15 8 * * 1
// Runs at 8:15, each Monday. Equal to "15 8 * * mon"
0 8-18 * * 1-5
// Runs every hour between 8:00 and 18:00
// on every working day (Monday to Friday)
0 6,7,8,17,18,19 * * *
// Runs at 6, 7, 8, 17, 18 and 19 o'clock, every day.
```

```
* * 13 * fri
// Runs every minutes, each Friday
// OR the 13th of the month (and not only on the Friday 13th).
```

7.4.1.1.1.3   Actions Configuration for Planner

This panel is very similar to the *Configuration of an Alarm Tag, p. 14*.

Send an Email	
Email upon	If enabled, the planner will send an email when requested.
Format as short message	In some cases, it is useful to have the whole message sent in the subject field. For example: if the email should be routed as an SMS.
Email to	The list of "TO" email address(es). They must be seperated by "," (comma) or ";" semi-colon.
Email CC	The list of "CC" email address(es). They must be seperated by "," (comma) or ";" semi-colon.
Email Subject	The subject of the email (except if short message is selected).
Email Attachment(s)	The body text of the email. This text can include Export Block Descriptors inline (as text) or as attachment files. There can be as many attachments as required. Attachments to include in the email must follow the syntax: *&[EBD_1] &[EBD_2]* For example: *&[$dtRTGA_AN01$ftG] &[$dtEV$ftT]* will export real time data of "GA_AN01" tag as a graphic and the event log file as a text file.

Send an SMS	
SMS upon	If enabled, the planner will send an SMS when requested.
SMS Destination	The list of SMS recipient(s). See *SMS Recipient(s) Syntax, p. 67*.
SMS Subject	The content appearing at the beginning of the SMS message.

Transfer to FTP	
Put FTP upon	If enabled, the planner will send a file when requested.
Destination File Name	The name of the file to create on the distant FTP server. The name can contain path specification.
File Content	The file content can be static or dynamic. If a standard (static) text is put in this field, the file that will be transferred will receive that static text as content. If the file content has the following form, one (or more) file will be written with a dynamic content: [EXPORT_BLOC_DESCRIPTOR_1] [EBD_2]...The number of EBD is unlimited. If the "$fn" field is used with multiple EBD, the "Destination File Name" property must be empty.

Transfer to SNMP	
SNMP Trap upon	If enabled, the planner will send an SNMP trap when requested.
Trap Subject	The specific text displayed in the trap event of the SNMP manager. The text string is limited to 256 chars. Traps are sent to all the hosts defined in the SNMP configuration web page configured to receive such traps.

Because the planner is using the BASIC command *SENDTRAP*, two parameters are actually received by the SNMP manager:

- The "Trap Subject" described here above.

- An integer which is submitted by the *SENDTRAP* BASIC command which, in this case, will always be 30000.

7.4.1.2 Net Services

The Flexy has two modes of operation when it comes to its Internet connectivity features:

- A server mode such as a web server and an FTP server

- A client mode such as an email client, an FTP client and an NTP client.

In the server mode, the Flexy is waiting for a client to connect (through his web browser or FTP client).

In the client mode, the Flexy needs to connect to a server. For this connection, the minimum to provide is the IP address of the server and the port number for the required service. Sometimes a username and a password are also required.

> **(i)** *Except in some special cases, the port number is usually the default value suggested by the Flexy. This chapter is used to define the client mode configuration of the Flexy.*

7.4.1.2.1 VCOM

The Flexy supports two kinds of VCOM mode and an additional mode which is not exactly classified as a VCOM mode although it has the same purpose.

RAW TCP	This is a basic mode where the computer opens a TCP/IP socket to the Flexy on a predefined port. This socket is used to exchange data from and towards the serial port Flexy.
	The serial port configuration (baud rate, parity, etc.) must be defined in the configuration of the Flexy. The serial port signals (RTS, DTR, etc.) are not exchanged between the computer and the Flexy.
	This mode can also be used to create simple TCP/IP applications that need to communicate through the serial port of the Flexy, as the only requirement is to open a TCP/IP socket on the Flexy.
TELNET RFC 2217	In addition to the RAW mode, this mode allows the remote control of the serial port on the Flexy. Each configuration change performed on the computer virtual COM port is automatically applied to the serial port of the Flexy.
	It is also possible to change the modem line status which means that the RTS/CTS, DTR, DCD (etc.) levels of the physical port of the Flexy are reflected on the computer virtual port and vice-versa.
	This protocol is called TELNET RFC 2217 because it has been standardized and described in an RFC specification which means that any client supporting the RFC 2217 protocol can use the Flexy as a virtual port server.
Modbus TCP and Modbus RTU Gateway	Although it is possible to use this technology to transfer almost any type of data through the virtual serial port, some protocols require special handling for efficient operation. Modbus RTU is one of these protocols and VCOM technology cannot be correctly combined with that protocol. For Modbus RTU communication, it is recommended to use eVCOM software and use the Flexy as a Modbus TCP to Modbus RTU gateway.

All serial ports can be used for VCOM:

- The COM1 is always the serial port 1 of the Flexy.

- The COM2 is always the modem port even if there is no modem present on the Flexy, the COM2 exists but is useless. It should only be used for debug purposes because when it is used by VCOM, it is not available for PPP or SMS communication.

- The COM3, if present, is linked to the serial port 2 (SER2).

- The COM4, if present, is linked to the serial port 3 (SER3).

VCOM Parameters: General

Control	Description
COM port	The selection of the COM port that will be configured.
Port Type	The port type: *Raw TCP*, *Telnet RFC 2217* or *Disabled*.
TCP Port	The TCP/IP port allowing the communication between the computer and the Flexy serial port. If multiple VCOM are defined on the same Flexy, they must all use a different TCP/IP port.
Poll Signal Interval	The scan rate. This parameter is only used in TELNET RFC 2217 mode. The Flexy will scan the modem port for changes in modem line input levels (CTS, DSR, DCD, RING). Default value: 100msec.
Debug	The recording of debug info for VCOM. When activated, this function slows down the overall performance of the Flexy. All debug info will be accessible in the *Diagnostic > Logs > Realtime Logs* menu.

VCOM Parameters: Access Management

Control	Description
Always accept new clients	If checked, the Flexy will close existing connections and accept the new connection. When a computer is connected to the Flexy, a socket is opened between both devices. As the computer switches off, the Flexy doesn't know if the socket should be closed or not. When the computer tries to connect again, the Flexy will refuse the connection. This option is provided in order to avoid that situation. This means that if a computer is connected to the VCOM port and another computer tries to connect, the new computer connection will replace the first one.
Stop IO Server	As a new VCOM connection is established, if the port is the same as the one used by an IO server, that specific IO server will be stopped. Only applies for MITSUFX, HITACHI and S5-AS511 IO servers.
Inactivity Timeout	The amount of time the Flexy will wait before closing the VCOM socket in case of communication inactivity.

VCOM Parameters: Line Parameters

Control	Description
Baud Rate	The baud rate of the communication setup. This will be permanent on RAW TCP mode but considered as a "initialization" parameter on TELNET RFC 2217 as it is more likely the computer virtual port will change it.
Data Size	The data size of the communication setup.. This will be permanent on RAW TCP mode but considered as a "initialization" parameter on TELNET RFC 2217 as it is more likely the computer virtual port will change it.
Parity	The parity of the communication setup.. This will be permanent on RAW TCP mode but considered as a "initialization" parameter on TELNET RFC 2217 as it is more likely the computer virtual port will change it.
Stop Bit(s)	The stop bit of the communication setup.. This will be permanent on RAW TCP mode but considered as a "initialization" parameter on TELNET RFC 2217 as it is more likely the computer virtual port will change it.
HW Mode	"Hardware Mode" represents the hardware behavior of the serial link. Available values are: • HalfDuplex. • Default value: FullDuplex with HardWare handshaking. • FullDuplex with no handshaking. This mode cannot be controlled remotely by RFC 2217.

When using the modem port for VCOM, the following must be considered:

- Modem serial port is normally owned by PPP.

- If an SMS transfer is in progress and a VCOM client tries to connect, the VCOM connection will fail.

- If a VCOM client is connected and an SMS must be sent, the SMS sending will fail.

- When an SMS transfer or a VCOM connection ends, the PPP is again the owner of the modem serial port.

7.4.1.2.2 SMTP (Mails)

Control	Description
SMTP server address	The IP address (and not the domain name) of the SMTP server which the email notification will be sent to. It is possible to send mails towards an Exchange server when the Flexy is located inside an Intranet, providing the IMC (Internet Mail Connector) ad-in is installed on the Exchange Server and this service is configured to accept incoming mails sent by the Flexy.
SMTP Server port	The port used by the SMTP server. Default value: 25.
Email "From" User name	The name of the Flexy email account, recognized and authorized by the SMTP server. This will appear in the "from" field of the message sent. For instance: *ewon@compuserve.com*.
Username	The username for SMTP authentication. Leave empty if no authentication is required.
Password	The password for SMTP authentication. Leave empty if no authentication is required.

7.4.1.2.3 NTP Server

Control	Description
Enable NTP Server	Sets the Ewon Flexy as an NTP server to its LAN devices.

To activate the NTP relay, both NTP client and NTP server must be enabled.

7.4.1.2.4 FTP

Control	Description
FTP server address	The IP address or URL of the FTP server. This will be used by the *PUTFTP* command (from alarm action or BASIC script command).
FTP server port	The port used by the FTP server. Default value: 21.
User name	The username for the FTP client authentication.
Password	The password for the FTP client authentication.
Use Passive Mode	If checked, all FTP transactions are performed in passive mode.

7.4.1.2.5 OPCUA

General	
Control	**Description**
Enable OPCUA Server	If enabled, the OPCUA server of Flexy will be running.
OPCUA Server Port	The port used by the OPCUA server. Default value: 48020.
Groups of tags to publish	The group(s) of tags that will be published to the OPCUA client.
Login Type	The type of login the OPCUA server will be using. Default value: Username/Password.
OPCUA export type	The method used by the OPCUA server to export the tags and how they should be recognized by the OPCUA client. Default value: Export TAGs by name.

Certificates Management	
Control	Description
Status	The current status of the certificate.

Certificates Management (continued)

	Four status possible:
	• Rejected (default)
	• Trusted
	• Own
	• Auth
Name	The name of the certificate and the FTP path of its storage.
Details	The content of the certificate.
Start Date	As of when the certificate is valid.
End Date	When the certificate expires.

7.4.1.2.1 SNMP

7.4.1.2.1.2 Communities

Communities, inserted in each SNMP communication transfer, are defined by a name and are linked to a set of permissions: read and/or write.

Up to five different communities can be set up in the Flexy.

Usually, two standard communities are created: "public" and "private". The first one is defined by a read-only permission, the second is defined by a read and write permission.

Control	Description
Community name	The name of the community.
Read	Grant the read permission.
Write	Grant the write permission.

7.4.1.2.1.3 Hosts

The Flexy acts as an agent sending or receiving traps to/from a SNMP manager.

A MIB file describing the SNMP structure and OID of the Flexy is available on www.ewon.biz/support.

Control	Description
Accept SNMP from any host	If checked, any SNMP manager is granted permission to browse the SNMP tree of the Flexy. If unchecked, only the IP addressed of the managers defined here under with the "Allow Access" parameter checked will be granted access.
Host IP Address	The IP address of the SNMP manager that will receive or send the SNMP traps.
Community	The community name the manager is communicating on.
Trap	If checked, the Flexy will send the SNMP traps triggered by an alarm, a planner... to the SNMP manager.
Allow Access	If checked, the SNMP will be granted access to the Flexy. Depending on the permissions of the community the manager is based on, it will be able to read and/or write.

Traps can be sent based on 4 different triggers:

System	On each power on, the Flexy sends a "ColdStart" trap which identification, called "Specific" is 0. After a manual reboot, the Flexy sends an additional trap right before the "ColdStart" trap which identification is 3.
BASIC scripting	The Flexy sends a trap using the *SENDTRAP* command. Check the Programming Reference Guide from the *Related Documents, p. 3* for content specification.

Planner	Based on a timer, the Flexy uses the BASIC command *SENDTRAP* to send out traps. Check the *Planner, p. 35* for content specification.
Alarm event	Once an alarm tag is triggered and if it was configured to do so, the Flexy sends out the SNMP traps. Check *Configuration of an Alarm Tag, p. 14* for content specification

7.4.1.2.4 Data Management

This section offers two configuration possibilities:

DataMailbox

Control	Description
Server URL	The URL of the server which the data will be sent to. Default value (locked): ewondata.talk2m.com
Upload interval	The time interval used by the Flexy to send the data.
Select tag group(s)	The group(s) of tags that will be sent to the server. If none is selected, all (groups of) tags will be sent.

Custom

Control	Description
Ewon Data Management ID	The Flexy identifier specified on the eSyncDM server. This field is mandatory.
Password	The password to access the Flexy account on the server.
Server URL	The address and port of the eSyncDM server. It can be an IP address or an URL. If port is omitted, 80 will be used. Default value: ewondata.talk2m.com
Upload interval	The time interval in minutes between each upload of data. If set to 0, the "Advanced data transfer schedule" or "Upload upon alarm" will be used.
Advanced data transfer schedule	Defines when the action will be executed. The syntax is the following: *mm hh dd MMM DDD*. The action will be triggered when the time of the Flexy matches the 5 parameters. Check *Planner, p. 35* for more information on the timer syntax.
Selected Group(s)	The group(s) of tags that will be sent to the server. If none is selected, all (groups of) tags will be sent.
Upload on alarm	If selected, the upload will also be triggered when one of the tags of the selected groups triggers an alarm.

7.4.1.3 Accessories

The following configuration panel is displayed only if a Bolt device is detected on the local network.

7.4.1.3.1 BOLT/AWB

This section allows the configuration of the Bolt access point.

Two displays of the Bolt configuration are possible:

Simplified view:

Bolt/AWB detection	
Control	**Description**
Scan LAN for Bolt/AWB devices	By clicking the "Scan LAN for Bolt/AWB devices" button, the Flexy scans its LAN ports to detect any Bolt devices.

Bolt/AWB generic configuration

Control	Description
Enable Bolt/AWB configuration	If enabled, the configuration panel of the Bolt will appear.
SSID	The name of the Wi-Fi network that will be broadcasted to access the Flexy and its LAN devices.
Password	This fields sets the password to protect the Wi-Fi network.

Detailed view:

Bolt/AWB detection

Control	Description
Scan LAN for Bolt/AWB devices	By clicking the "Scan LAN for Bolt/AWB devices" button, the Flexy scans its LAN ports to detect any Bolt devices.

Bolt/AWB generic configuration

Control	Description
Enable Bolt/AWB configuration	If enabled, the configuration panel of the Bolt will appear.
SSID	The name of the Wi-Fi network that will be broadcasted to access the Flexy and its LAN devices.
Security	The security level applied to the Flexy: • None • WPA/WPA2 PSK
Password	If "Security" field is different than *None*, this fields sets the password to protect the Wi-Fi network.
DHCP Server	This sets if a DHCP server should exist and which device should it be: • DHCP server on Bolt: the Bolt device is used as DHCP server. • DHCP server on this device: the Flexy is used as DHCP server. • None: there is no DHCP server.
DHCP start IP	The DHCP server can distribute IP addresses starting from the one indicated in this field. This field is available if "DHCP Server" is different than *None*.
DHCP end IP	The DHCP server can distribute IP addresses until the one indicated in this field This field is available if "DHCP Server" is different than *None*.
Check DHCP IP range	By clicking this button, the Flexy checks if the IP range determined by "DHCP start IP" and "DHCP end IP" is available.

Bolt/AWB specific configuration

Control	Description
Hostname	Give the Bolt a symbolic name.
Bolt LAN IP	Give the Bold device an IP address.
Check LAN IP	Checks if the IP address if valid and available.

7.4.1.4   Diagnosis

This section allows the configuration of how the Flexy displays the reports giving the user the ability to diagnose quickly and efficiently.

7.4.1.4.1   Events Logging

Level of Reporting	
Level	**Target**
Trace	The 3 types of levels will be logged for an event.
Warning	Only Warning and Error will be logged for an event.
Error	Only Error will be logged for an event.

Event Class	
Initialisation	The level of monitoring for events concerning the Flexy boot.
Configuration	The level of monitoring for events concerning the Flexy configuration.
IO Server	The level of monitoring for events concerning the IO Servers managed by the Flexy.
Modem Communication	The level of monitoring for events concerning the modem communications (incoming and outgoing) of the Flexy.
IP Communication	The level of monitoring for events concerning the IP communications of the Flexy.
Serial Communication	The level of monitoring for events concerning the serial communications of the Flexy.
Kernel	The level of monitoring for events concerning the kernel of the Flexy.
Web Interface	The level of monitoring for events concerning the web interface of the Flexy.
Security	The level of monitoring for events concerning the security of the Flexy.
Other Applications	The level of monitoring for events concerning the features that are distinct from all the one that are listed above.

7.4.1.4.2   PPP Dump

> **!** This configuration is volatile which means that the "dump.ppp" file will be cleared each time that the Flexy is rebooted.

The "dump.ppp" file containing the logged data can be used in different cases:

- Sent as an attachment in an e-mail or by using the *$dtPP* Export Block Descriptor.

- Found in the FTP root directory, it can be downloaded locally or send to another FTP server.

- Opened and analyzed by using a tool dedicated in analyzing TCP frames.

Control	Description
Clear log now	The manual trigger to clear the "dump.ppp" file.
Log Incoming call	Logs communications when the Flexy is acting as a PPP server.
Log Outgoing call	Logs communication when the Flexy is acting as a PPP Client (connects to a server).
Log Size (bytes)	The number of bytes allocated to log PPP communications. When the log is full, the logging process stops but the communication is still active. The maximum log size is 1MB.
Append to log	If checked, the log will not be cleared between different connections and logs. If unchecked, the log must be manually cleared by using the "Clear Log now" button.
Log following connections	Only the *N* next connections will be logged. The number of connections will be decreased each time a new connection is logged. When the last connection has been logged, the counter will be set to -*1* to prevent further connections to be logged. When the value of this counter is 0, all connections are logged. The counter can be set manually to -1, in order to suspend connection logging. If the log buffer must be released then the Log Incoming call and the Log Outgoing call options should be disabled. In case multiple connections should be logged, the "Append data" option should be checked.

7.4.1.4.3 Debug

Serial communication	
Control	**Description**
Debug COM (1..4)	The debug mode of the serial COM ports (1 to 4 depending on the number of serial ports available). All the debug information is available in the real-time log. Following modes can be selected: • No debug (default value): no debug information logged. • HEX on RX/TX: Log hexadecimal data received and transmitted. • HEX and ASCII on RX/TX: Log hexadecimal and ASCII data received and transmitted. • HEX and ASCII (no timeout): Log hexadecimal and ASCII data received and transmitted, without timeout information (clearer log).

Other Settings	
Control	**Description**
Error Debug	Append hex location data to logged events. For debugging purpose only

7.4.2 Communication

This section Includes all the communication settings of the Flexy. These settings are separated from the "Main" settings and even stored separately to be able to format the Flexy flash file system without affecting the communication settings.

ⓘ *The displayed interface might be different than the one described in this document as it depends on the hardware configuration of the Flexy.*

7.4.2.1 General

This section allows the configuration of the local interfaces:

• The serial or MPI ports (if available).

• The Ethernet LAN (always present).

• The USB ports (if available).

7.4.2.1.1 Serial Ports

This panel allows the configuration of the hardware communication mode of the serial communication port. It is shown only if a (or multiple) 2 serial ports extension card - FLA 3301 is plugged in the Flexy.

The physical COM port of the Flexy can be configured as:

• An RS232 port.

• An RS485 port.

• An RS422 port.

The parameters of the COM ports are automatically adjusted.

Control	Description
IO Port # (COM: #)	The serial communication port for third-party device connection. • **RS232 Full Dup. Pol. OFF***: configured as RS232 port in Full-Duplex & polarization disabled. • **RX4XX Full Dup. Pol OFF***: configured as RS485/422 port in Full-Duplex & polarization disabled. • **RX4XX Half Dup. Pol OFF***: configured as RS485/422 port in Half-Duplex & polarization disabled. • **RX4XX Half Dup. Pol ON***: configured as RS485/422 port in Half-Duplex & polarization enabled. • **Don't Setup**: No configuration will be applied. A "*" (star) behind an option means it must be configured manually using dip switch.

The serial port detection order is from upper left to bottom right. Following this path, it would render:

• IO Port 1: the serial port (named S1) of the most left extension card.

• IO Port 2: the serial port (named S2) of the most left extension card.

• IO Port 3: the serial port (named S1) of the most right extension card.

• IO Port 4: the serial port (named S2) of the most right extension card.

The port #1 of a FLA 3301 requires the port configuration to be done by dip switch. By doing so, the dip switch settings will overrule the software configuration.

The port #2 of a FLA 3301 is always in RS232.

> ℹ️ *If an extension cards of modem type (FLB 3204 / 3205 / ...) is available, a PPP port and an AT port field will appear. These ones can only be set to "Don't setup".*

7.4.2.1.2 Eth1 LAN

This section may vary its content based on the fact if a WAN connection is available, (un)set up and/or (in)active. In the case there is, the default gateway and DNS settings are set inside the WAN interface.

Here is the list of parameters that will be added if there is no WAN interface detected:

• The "Default gateway" field from the "Address Setup" table.

• The whole "DNS Setup" table.

Address Setup	
Control	**Description**
Address Setup	The method of IP addressing: • Static: the manual configuration of all network parameters • BootP: some parameters are already set by the BootP server. • DHCP: all parameters are set automatically by the DHCP server.
IP address	The IP address of the Flexy on the LAN side. The IP address can only be changed in the "Static" address setup mode.
Subnet mask	The Ethernet subnet mask used to determine the address range of the LAN connection.
Default gateway	The IP address of the Ethernet server gateway used to forward information to other networks.

DNS Setup

Control	Description
DNS Setup	If enabled, the DNS will take into consideration the following settings. This field is shown only if the IP addressing method is set to DHCP. It is checked by default.
Primary DNS IP address	The IP address of the primary Domain Name Server of the network.
Secondary DNS IP address	The IP address of the secondary Domain Name Server of the network.

DHCP Config

Control	Description
Network Name	On a DHCP network, devices can be reached by name instead of IP address. Thanks to the DNS Synchronization (RFC 4702), this network name (also called Fully Qualified Domain Name, or FQDN) is sent to the DHCP server during DCHP request negotiation and will trigger an update of the DNS. The network name can only contains characters a-z,-,0-9. It is common to all network interface (LAN, WAN, Wi-Fi...). This field is shown only when the IP addressing method is *DHCP*.

BootP: TCP/IP Bootstrap Protocol

Forcing the Flexy to ask its IP address to a BootP Server is possible. Only the IP address and network mask are given by the BootP server (this one must comply with the RFC-1048).

At each startup, the Flexy will asks its IP address to the BootP Server.

If the Flexy didn't receive an IP address from the BootP server, a new attempt will be performed at increasing interval (1 minute interval max.) endlessly.

While waiting for its IP address, the Flexy is in startup phase and thus is not reachable! During this time, the USR LED will blink continuously with the following pattern: short red light + pause + long green light + pause

Fixing a BootP Error

Method 1	Push on the reset button will skip the BootP request so will it skip the duplicate IP test. The Flexy will then use the IP address which is configured in the Ethernet configuration page
Method 2	Perform a second level reset to force the Flexy to come back to its default IP address: 10.0.0.53. A second level reset erases all the configuration!

DHCP: Dynamic Host Configuration Protocol

When configured to use DHCP, the Flexy gets all the IP parameters from the DHCP server.

At the end of the DHCP request, the USR LED will blink with the following pattern during 2 seconds: short green light + short pause

If the Flexy doesn't find any DHCP server, after 45 seconds, it will set:

- On the WAN interface: the IP address 169.254.0.53 with subnet mask 255.255.0.0.

- On the LAN interface: the IP address 169.254.1.53 with subnet mask 255.255.0.0

Fixing a DHCP Error

Method 1	Use eBuddy to set another IP address to the Flexy. This action disables the DHCP mechanism and put the Flexy in the "static" address setup mode.

7.4.2.1.3 USBIP

This panel allows the configuration of the hardware communication mode of the USB to IP communication port. It is shown only if a (or multiple) USB ports extension card - FLB 3601 is plugged in the Flexy.

Control	Description
USBIP setup	If enabled, the USB devices plugged in the Flexy will be accessible.
Log level	The level of the logs. Default value: 0. Possible values: 1 for some logs; 2 for full logs.
Start port	The port range to start from for shared devices. First USB device will be shared on the indicated start port, the second one will be shared on N+1.
Password	The password protecting the USB device. If set, the USB device will no longer be shown in eCatcher.

7.4.2.2 Networking

This section defines the Internet connection, VPN connections, routing, ... all communications parameters.

7.4.2.2.1 Internet Connection

> ℹ️ *The Flexy embeds wizards which simplify the Internet connection configuration and which should be enough for a standard and simple use of the Flexy. Check for more details.*

7.4.2.2.1.2 Main setup

This page is refreshed every 15 seconds.

Internet Status	
Control	**Description**
Button "Connect / Disconnect"	The label of the button: • Connect (greyed): Displayed if no Internet access has been defined. No action can be performed. • Connect: Displayed if the Internet access is configured, but is currently not connected. A click on the button triggers a connection. • Disconnect: the Flexy is currently connected. Clicking the button triggers a disconnection. If the "maintain connection" option is active, the connection will re-etablish automatically.
Internet Connection Status	The status of the Internet connection.

Internet access	
Control	**Description**
Network connection	The interface used by the Flexy to connect to the Internet: • No Internet access • Modem Connection • Ethernet WAN connection (or ADSL) • Wi-Fi WAN connection
Maintain connection	If checked, a permanent connection to Internet will be established. The Flexy monitors the connection and re-establishes it if interrupted.

Publish WAN IP address

Control	Description
Publish IP address	The possibility to enable (or disable) the publication of the WAN IP address of the Flexy.
Re-publish interval	Set the time interval for the publication cycle of the WAN IP address.

"On demand" Internet connection

Control	Description
Dial On Demand	The possibility for third-party devices to require the Flexy to connect to the Internet and get access to the it through the Flexy. If selected, the Flexy will try to connect to the Internet each time a connection will be required (i.e. packets to send). Those fields allow either the exclusion or the acceptance of the IP addresses ranges allowed or denied to use this "Dial On Demand". Default value: Refuse all requests.

7.4.2.2.1.3 HTTP Proxy

This panel allows the configuration of the proxy server if the Flexy must connect to the Internet through a proxy server.

A summary box is available, listing which service inside the Flexy is using the HTTP proxy feature.

Control	Description
HTTP Proxy	If enabled, the Flexy will connect to a proxy server.
HTTP Proxy mode	The authentication method to connect to the proxy server: Default value: Proxy with basic authentication. Possible values: • Proxy with basic authentication • Proxy with NTLM authentication • Proxy without authentication
Proxy server IP address	The IP address of the proxy server. The IP address is required. Do not use the proxy server name.
Proxy server port	The port of the proxy server.
User	A valid user for the authentication.
Password	A valid password combined with a valid user (see above).

7.4.2.2.1.4 Eth2 WAN

This section is shown only if a Ethernet WAN interface is available for the Flexy.

Address Setup

Control	Description
Address Setup	The method of IP addressing: • Static: the manual configuration of all network parameters • BootP: some parameters are already set by the BootP server. • DHCP: all parameters are set automatically by the DHCP server. The MAC address is also indicated.
IP address	The IP address of the Flexy on the WAN side. This field can only be changed in the "Static" address setup mode.
Subnet mask	The Ethernet subnet mask used to determine the address range of the WAN connection. This field can only be changed in the "Static" address setup mode.
Default gateway	The IP address of the Ethernet server gateway used (generally) to connect to the Internet. This field is locked for "DHCP" address setup mode.

DNS Setup

Control	Description
DNS Setup	When using the "DHCP" address setup mode, if the checkbox is checked, this section will be automatically generated by the DHCP server.
Primary DNS IP address	The IP address of the primary Domain Name Server of the network or ISP.
Secondary DNS IP address	The IP address of the secondary Domain Name Server of the network or ISP.

DHCP Config

Control	Description
Network Name	On a DHCP network, devices can be reached by name instead of IP address. Thanks to the DNS Synchronization (RFC 4702), this network name (also called Fully Qualified Domain Name, or FQDN) is sent to the DHCP server during DCHP request negotiation and will trigger an update of the DNS. The network name can only contains characters a-z,-,0-9. It is common to all network interface (LAN, WAN, Wi-Fi...). This field is shown only when the IP addressing method is *DHCP*.

7.4.2.2.1.5 Modem Cellular – Interface

This section is shown only if a (GPRS, 3G, 4G...) modem WAN interface is available for the Flexy. The submenus depend on the detected modem type.

This page is refreshed every 15 seconds.

Connection Status

Control	Description
Modem Detected	The textual description of the detected modem. The text: "Internal" followed by the modem type / speed.
Network	If the Flexy is connected to a network, this field indicates: • The name of this network. • The type of connection: "Home network" or "Roaming." • The technology used to connect to this network. • The signal strength (graphical and numeral representation).

Configuration

Control	Description
GSM PIN Code	The PIN code of the SIM card inserted in the Flexy. This field can be left empty if a PIN code is,'t required. If the Pin Code is false, an error appears in the "Network" field.
Operator selection	The selection of the available GSM operators. Possibilities are: • Automatic (default value): connection with the default settings of the SIM card. • Others Operators: force a connection with the selected operator. If the chosen operator is not available, no connection will be triggered.
Wireless Network	The selection of the GSM network type. Possibilities vary based on the model of the extension card inserted: • 4G max. • 3G max. • 2G max.

Outgoing Configuration

Control	Description
Enable Data Connection	Enables the data connection through a cellular network.
Access Point Name	The APN used for the mobile network access.

Outgoing Configuration (continued)

Control	Description
Username	The value for "username" provided by the mobile network provider (default value empty).
Password	The value for "password" provided by the mobile network provider (default value empty).

Modem Config String

Control	Description
show advanced configuration	If checked, the advanced configuration as string commands can be configured.
Modem Init String	This string is used to configure and to initialize the modem. Clearing this string will result in applying a well known default initialization string.

7.4.2.2.1.6   Modem Cellular – Outgoing – Global

PPP Outgoing Connection

Control	Description
PPP Outgoing Connection	If checked, it allows the configuration of outgoing data connection through a cellular network.
Dial and connection timeout	The global time allowed for the whole establishment of the PPP link to be active. This means modem call, modem negotiation, PPP negotiation and logon. This time includes all trials on each server.
Enable protocol compression	If checked, enables the compression negotiation request when an outgoing call occurs. This includes all compression modes known by the Flexy PPP engine (Van Jacobson, header compression,...).
Delay between dialout retries	The time the Flexy will wait before retrying to establish the outgoing communication in case of a previous unsuccessful attempt.
Idle time before hanging up	The time after which the Flexy will hang up if no data transfer occurs on the PPP link between the Flexy (any type of PPP packet) and a remote host (computer). There is also the selection between "Check incoming" or "Check outgoing" to target the monitored traffic. This is the same parameter as for incoming connection.
Max outgoing call duration	The maximum amount of time of the outgoing call. Once reached, the Flexy stops the PPP communication.
Hang up if no outgoing action after	When a PPP link is triggered by an outgoing action (not by DialOnDemand), the interruption of the line: • can be forced immediately after the actions. Parameter should be set to 0. • can occur after a defined period of time. Parameter should be higher than 0. The PPP link will be closed after the defined period of time even if transfers are in progress. The Idle time before hanging up is always active.
Select next server in case of error	The behavior of the next call to a server when the previous one. Possibilities are: • Use last valid server. • Always return to server 1. • Use only server 1 (default value). • Use only server 2.
Reboot modem after	This parameter should be considered as a Watchdog parameter. To avoid the Flexy to stay stuck due to any modem reason, this parameter forces a new detection of the modem after the defined number of outgoing calls failure.
Minimum GPRS connection duration	The time in seconds that will be compared to the time taken by the cellular dial-out connection. If it is shorter than the defined time, the connection is considered as error. Default value: 4. If set to -1, this time is not tested. This field is available only for cellular modem.
Reset GPRS modem after	The maximum number of cellular connection error accepted before the modem is reset. Default value: 5. This field is available only for cellular modem.
Allocated Budget	The allocated time budget for outgoing calls.

PPP Outgoing Connection (continued)

Control	Description
	When a communication initiated by the Flexy is in progress, the current period budget (remaining time) is reduced. When all the time budget is used, the outgoing call is dropped.
Reset budget period	The time during which the allocated budget can be used. Once the budget period is reached, a new period begins, initiated to this value. The "Allocated budget" is also reset to its own defined value. The reset budget period is restored to its value each time one of the three configuration fields is modified.
Current period budget	This is the remaining call budget for the current period expressed in hours:minutes:seconds. A new budget can be provided which will restart a new reset period.
Volume IN/OUT – Info Reset	Information: counters representing the volume of bytes transmitted (IN and OUT) A reset of these counters can be performed.

7.4.2.2.1.7 Modem Cellular – Outgoing – Server 1 & 2

Two different servers can be set up for the modem outgoing connection which ensures a fallback for the PPP link in case a server is down. The following parameters are the same for both servers (1 and 2).

By default, the primary server is always dialed first. If the connection cannot be established, the Flexy tries the second server. If it fails, then it toggles back to the primary server. This is done until the dial-out timeout parameter is reached.

Server access setup

Control	Description
Connection type	The dial-up type: "Remote access connection" or "GPRS". With cellular type, the server phone number will be hidden (unused). This field is available only for cellular modems.
Username	The login for the modem connection establishment.
Password	The password linked to the above login for the modem connection establishment.
Require secure authentication (CHAP)	If checked, the Flexy explicitly requests "CHAP" authentication for the modem connection. If the other side cannot do "CHAP", the connection will not be established. If unchecked, "PAP" (clear text password) is used.

7.4.2.2.1.8 Modem PSTN – Interface

This section is shown only if a (PSTN) modem WAN interface is available for the Flexy. The submenus depend on the detected modem type.

This page is refreshed every 15 seconds.

Connection Status

Control	Description
Modem Detected	The textual description of the detected modem. The text: "Internal" followed by the modem type / speed.

Modem Config String

Control	Description
show advanced configuration	If checked, the advanced configuration as string commands can be configured.
Modem Init String	This string is used to configure and to initialize the modem. Clearing this string will result in applying a well known default initialization string.

7.4.2.2.1.9 Modem PSTN – Incoming

This menu is available only if a PSTN extension card FLA 3501 is plugged in to the Flexy.

PPP Incoming Connection

Control	Description
PPP Incoming Connection	If checked, it allows the configuration of incoming PPP connection.
Ewon PPP server IP address	The PPP server Internet protocol (IP) address of the Flexy. This IP address should be used to connect to the Flexy using an RAS connection.
PPP client IP address	The IP address the Flexy will allocate to the RAS client to establish the communication.
Enable protocol compression	If checked: enables the compression negotiation request when an incoming call occurs. This includes all the compression modes known by the Flexy PPP engine (Van Jacobson, header compression,...).
Use incoming for outgoing	If checked: no external event, such as alarm email, will drop the line when an incoming call is undergoing in order to initiate a new connection. If an alarm has to be sent through the PPP connection (FTP, email, ...), the current PPP link will be used. If this box is unchecked and an email has to be sent while the connection has been established by a user to browse the web interface, if the email can be sent through the Ethernet link, the PPP link will not be dropped. An SMS alarms will always drop the line.
Number of rings before modem answers	The number of rings before the Flexy answers. Default value: 1.
Idle time before hanging up	The time of communication inactivity (without data transfer) on the PPP link between the Flexy (any type of PPP packet) and a remote host (computer) before the line is dropped. There is also the selection between "Check incoming" or "Check outgoing" to target the monitored traffic. This is the same parameter as for outgoing connection.
Reset Ewon if no incoming connection after ...	This parameter should be considered as a Watchdog parameter. To avoid Flexy to stay stuck due to any modem reason, this parameter forces a reboot if no incoming connection was performed after *xxx* hours since the last connection.

7.4.2.2.1.10 Modem PSTN – Outgoing – Global

PPP Outgoing Connection

Control	Description
PPP Outgoing Connection	If checked, it allows the configuration of outgoing PPP connection (dial-up).
Dial and connection timeout	The global time allowed for the whole establishment of the PPP link to be active. This means modem call, modem negotiation, PPP negotiation and logon. This time includes all trials on each server.
Enable protocol compression	If checked, enables the compression negotiation request when an outgoing call occurs. This includes all compression modes known by the Flexy PPP engine (Van Jacobson, header compression,...).
Delay between dialout retries	The time the Flexy will wait before retrying to establish the outgoing communication in case of a previous unsuccessful attempt.
Idle time before hanging up	The time after which the Flexy will hang up if no data transfer occurs on the PPP link between the Flexy (any type of PPP packet) and a remote host (computer). There is also the selection between "Check incoming" or "Check outgoing" to target the monitored traffic. This is the same parameter as for incoming connection.
Max outgoing call duration	The maximum amount of time of the outgoing call. Once reached, the Flexy stops the PPP communication.
Hang up if no outgoing action after	When a PPP link is triggered by an outgoing action (not by DialOnDemand), the interruption of the line: • can be forced immediately after the actions. Parameter should be set to 0. • can occur after a defined period of time. Parameter should be higher than 0. The PPP link will be closed after the defined period of time even if transfers are in progress. The Idle time before hanging up is always active.
Select next server in case of error	The behavior of the next call to a server when the previous one. Possibilities are: • Use last valid server. • Always return to server 1. • Use only server 1 (default value). • Use only server 2.

PPP Outgoing Connection (continued)

Control	Description
Reboot modem after	This parameter should be considered as a Watchdog parameter. To avoid the Flexy to stay stuck due to any modem reason, this parameter forces a new detection of the modem after the defined number of outgoing calls failure.
Allocated Budget	The allocated time budget for outgoing calls. When a communication initiated by the Flexy is in progress, the current period budget (remaining time) is reduced. When all the time budget is used, the outgoing call is dropped.
Reset budget period	The time during which the allocated budget can be used. Once the budget period is reached, a new period begins, initiated to this value. The "Allocated budget" is also reset to its own defined value. The reset budget period is restored to its value each time one of the three configuration fields is modified.
Current period budget	This is the remaining call budget for the current period expressed in hours:minutes:seconds. A new budget can be provided which will restart a new reset period.
Volume IN/OUT – Info Reset	Information: counters representing the volume of bytes transmitted (IN and OUT) A reset of these counters can be performed.

7.4.2.2.1.11   Modem PSTN – Outgoing – Server 1 & 2

Two different servers can be set up for the modem outgoing connection which ensures a fallback for the PPP link in case a server is down. The following parameters are the same for both servers (1 and 2).

By default, the primary server is always dialed first. If the connection cannot be established, the Flexy tries the second server. If it fails, then it toggles back to the primary server. This is done until the dial-out timeout parameter is reached.

Server access setup

Control	Description
Server phone number	The complete phone number of the server. A "," (coma) can be used to insert a pause.
Username	The username of the ISP login for PPP link establishment.
Password	The password linked to the above login for PPP link establishment.
Require secure authentication (CHAP)	If checked, the Flexy explicitly requests "CHAP" authentication for the modem connection. If the other side cannot do "CHAP", the connection will not be established. If unchecked, "PAP" (clear text password) is used.

7.4.2.2.1   VPN Connection

This section allows the configuration of the Flexy as a VPN Client or a VPN Server.

> ℹ️ *The Flexy embeds wizards which simplify the Internet connection configuration and which should be enough for a standard and simple use of the Flexy. Check* Wizards, p. 27 *for more details.*

7.4.2.2.1.2   Main setup

This page is refreshed every 15 seconds.

VPN Status

Control	Description
VPN Status	The status of the VPN connection which either: • Not connected. • VPN IP Address + elapsed time since connected

VPN Use Conditions

Control	Description
VPN Use Conditions	During an Internet connection the Flexy can: • Disable the VPN capacity. • Listen for incoming VPN from client. The Flexy acts as a VPN server. • Establish outgoing VPN to server. The Flexy acts as a client of a VPN server.

7.4.2.2.1.3 Global

Internet connection proxy

Control	Description
Internet connection Proxy	If the Internet access requires a proxy connection, the VPN (and only VPN) is able to use it. Possibilities are: • No proxy. • Proxy with basic authentication. • Proxy with NTLM authentication. • Proxy without authentication. The Talk2M wizard is also able to configure/detect the proxy settings.
Proxy address	The IP address of the proxy server. This can't be the name.
Proxy port	The port of the proxy server.
Proxy authentication	The username and password required to access the proxy server.

Talk2M

Control	Description
Talk2M PRO Account name	The Talk2M Pro account name used by the Flexy. During the Talk2M wizard execution, if an activation key has been used instead, this field will be empty.
Talk2M Access Server Address	The name or IP address of the Talk2M Access Server used by the Flexy. This should always be "talk2m_pro" unless indicated otherwise.

Advanced settings

Control	Description
Diagnosis level	The level of diagnosis reported in the real-time log. Possibilities are: • None. • Low. • Medium. • High. This will significantly slow down the general behavior of the Flexy This should be used for debugging purpose only.
Port In	The TCP port number that is being listened by the Flexy for all incoming VPN traffic. Default value: 0 which corresponds to port 1194. If the value is different from 0, only this defined port will be used for incoming VPN traffic.
Port Out	The TCP port number used to send all outgoing VPN traffic. Default value: 1194.
'Keep alive' interval	The interval of time (in seconds) the Flexy will consider before sending a short packet to maintain the connection opened.
VPN Driver Mode	The VPN driver mode. Possibilities are: • TAP • TUN
VPN Protocol	The VPN protocol. Possibilities are: • UDP • TCP

7.4.2.2.1.4 Incoming

VPN activation rule

Control	Description
Listen for Incoming VPN Connection	If checked, the Flexy will listen for incoming VPN connection when Internet connection is active.

Incoming VPN connection paramters

Control	Description
Passphrase	The passphrase that will be used as certification for the incoming connection.
VPN IP addresses config	The selection how the VPN IP address is set: • Automatic: the IP addresses are automatically set. • Manual: the IP addresses are defined statically with the 2 following parameters.
Local VPN IP address	The IP address manually set to the Flexy. The "VPN IP addresses config" must be set to *Manual*.
Remote VPN IP address	The IP address set to the remote device. The "VPN IP addresses config" must be set to *Manual*.

7.4.2.2.1.5 Outgoing

The outgoing VPN connections can cover 3 situations:

• Build a VPN connection between 2 Ewon devices.

• Connect to a VPN server/network.

• Connect to an eFive VPN server.

VPN activation rule

Control	Description
Establish VPN Connection	If checked, the Flexy will allow outgoing connection for the VPN interface.

Remote VPN WAN address or name

Control	Description
Remote VPN WAN address or name	Depending on the use of the VPN communication (situations): • Talk2M defined: set automatically if the Talk2M wizard has been run. Must be selected if the Flexy should be using the Talk2M VPN connection. • Defined manually: must be chosen if the VPN connection is not going through the Talk2M service.
Primary Server	The address or name of the primary VPN server. This field is shown only if the "Remote VPN WAN address or name" field is set to *Defined manually*.
Secondary Server	The address or name of the secondary VPN server. It is called if the primary server fails. This field is shown only if the "Remote VPN WAN address or name" field is set to *Defined manually*.

Connect to Other Ewon

Control	Description
Passphrase	The passphrase that will be used as certification for the outgoing connection.
VPN IP addresses config	The selection how the VPN IP address is set: • Automatic: the IP addresses are automatically set. • Manual: the IP addresses are defined statically with the 2 following parameters.
Local VPN IP address	The IP address manually set to the Flexy. The "VPN IP addresses config" must be set to *Manual*.
Remote VPN IP address	The IP address set to the remote device. The "VPN IP addresses config" must be set to *Manual*.

Connect to VPN Server (not Talk2M)	
Control	**Description**
Remote VPN WAN address or name (in previous table)	Set to *Defined manually*.
Private key	The private KEY.
Ewon Certificate	The certificate for the Flexy.
CA (Certificate Authority) CERTIFICATE	The CA certificate.

Connect to VPN Server (Talk2M)	
Control	**Description**
Remote VPN WAN address or name (in previous table)	Set to *Talk2M defined*.
Private key	The private KEY. This field is automatically filled if the Talk2M wizard has been run.
Ewon Certificate	The certificate for the Flexy. This field is automatically filled if the Talk2M wizard has been run.
CA (Certificate Authority) CERTIFICATE	The CA certificate. This field is automatically filled if the Talk2M wizard has been run.

Connect to eFive VPN Server	
Control	**Description**
Remote VPN WAN address or name (in previous table)	Set to *Defined Manually*.
Username	The user of the VPN account. This field is automatically filled if the eFive wizard has been run.
Password	The password of the VPN account. This field is automatically filled if the eFive wizard has been run.
CA (Certificate Authority) CERTIFICATE	The CA certificate of the eFive VPN Server. This field is automatically filled if the eFive wizard has been run.

7.4.2.2.6 Publish IP address

When the Flexy connects to the Internet (automatically or by CallBack) , it probably receive a different IP address at each connection. It may be

required to inform you of its new WAN address

Publish by Email	
Control	**Description**
Email destination address	If checked, the Flexy will send an email notification to the defined destination address each time it receives an new IP address.

Publish by dynamic DNS	
Control	**Description**
Dynamic DNS Provider	The selection of the Dynamic DNS provider. Each provider has a specific set of parameters which will be automatically configured when the provider is selected. Possibilities are: • Disabled • No-Ip.com • DynDns.org • Ods.org • Tzo.com • EasyDns.com • Dyns.cx • ZoneEdit.com
Dynamic DNS Username	The username of the Dynamic DNS provider.
Dynamic DNS password	The password for the Dynamic DNS server linked to the username.
Dynamic DNS Host name	The host name for the Dynamic DNS server.
Dynamic DNS Domain name	The domain name for the Dynamic DNS server. This one can be different from the "Dynamic DNS Provider" field if the provider has multiple domain names for the same service.
Debug connection	If checked, the Flexy will record debug info about DynDns negotiation in the real-time log web page.

7.4.2.2.7   Callback

Callback setup	
Control	**Description**
Callback enabled	If checked, the Flexy callback feature is enabled. It means that an external event can trigger the Flexy to call a given phone number and establish a PPP link. This allows the call to be paid by the phone line of the Flexy, with its allocated budget. This also ensures more security if the callback is reaching a private server. Outgoing calls must be enabled in the dialup configuration.
Callback delay	The time interval defining how long the Flexy will wait before dialing out, once it has been triggered. This is useful to release the phone line or perform any other action. Default value: 30.
Wait for user login for	The time interval defining how long the Flexy will wait for the user to log-in, once it has been triggered. If there is no login, the call is dropped. This delay must be greater than the sum of the callback delay and the call establishment. Default value: 1200.
Dialup account	The selection of the server used for callback. Possibilities are: • User's request account: cannot be chosen when the trigger mode is "Ring" as the Flexy does not know the server data at that time. • Primary dialup server (default value). • Secondary dialup server.
Publish IP address	The publication of the IP address once the Flexy is connected to the Internet.
Callback mode	The selection which type of callback should be triggered. Both options are mutual exclusive from another. • On RING: when the Flexy receives an incoming call, it triggers its callback task (under following conditions). • On user's request: the user can request a callback to a defined server as the Flexy accepts the incoming calls. Once set to "On user's request", the actions take place on the homepage of the web interface. The callback starts by using the "Callback" button and closes by using the "Close PPP Connection" button. The delay is the time interval respected by the Flexy before initiating the callback. Specific callback parameters can be set per user in the "config.txt" file.

Callback setup (continued)

Control	Description
Number of RINGS	The number of rings needed before the Flexy callback function is triggered. This number is always added by 2: assuming that a value of 3 has been inserted, the callback is triggered if someone calls and let the phone ring 5 times.
Plus number of RINGS then On Hook	The number of rings that are necessary to avoid the callback trigger. To call the Flexy directly (without triggering the callback), it is the sum of both "Number of RINGS" and "Plus number of RINGS then On Hook" that is taken into consideration. For example: "Number of RINGS" is 3 and "Plus number of RINGS then On Hook" is 5, the user will need to wait 8 rings before the Flexy picks up.

7.4.2.2.8   Routing

The changes apply in this section will be taken into consideration only on the next WAN connection.

Special rules

Control	Description
Route all gateway traffic through VPN	If enabled, the Flexy routes ALL gateway traffic (expect static routes) through the active VPN interface. If unchecked, the traffic could take the VPN route or the WAN route.

NAT and TF (Transparent Forwarding)

Control	Description
Apply NAT and TF to connection	The possibility to enable the Network Address Translation (NAT) and Transparent Forwarding (TF). Possibilities to choose on which interfaces this NAT and TF will be used are: • on LAN (Plug'n Route) • on VPN • on WAN • disabled
Enable transparent forwarding	Allows the transparent forwarding feature of the Ewon. This field is shown only if the previous field is different from "disabled".

When you activate the transparent forwarding, a new menu appears in the *Home* section. To configure the transparent forwarding, see *Transparent Forwarding, p. 8*.

Static routes table

Control	Description
Destination & Mask	The destination IP address and the mask represent a range of addresses that must be routed through a specific gateway. For example: Destination =192.168.1.0 & Mask=255.255.255.0 correspond to the range of addresses between 192.168.1.0 and 192.168.1.255.
Gateway	The IP address of the gateway that must be used to route the range of addresses defined by Destination/Mask. The gateway address must be accessible by the Flexy meaning it must be in the IP range of the WAN or LAN interface.
Hops	The number of hops to reach the destination using the given route. This parameter will define the priority of the routes. The Flexy local routes (routes that do not require the emission of a packet through an interface) have a 0 hop metric. A route where the destination can be reached through the interface has a 1 hop metric. The higher the metric is, the lower the route's priority will be.
Clear	The possibility to erase and remove the route.

NAT 1:1	
Control	**Description**
NAT 1:1	If checked, the NAT 1:1 feature will publish one device (from the Flexy LAN network) to another network with a different IP address. The activation of this feature with an active Talk2M connection will enable the IP forwarding between WAN-LAN (which is not the default behavior). Modifications of this table are effective only on the next WAN connection.
Mapping	The interface which will be used by the NAT 1:1.
Device IP (LAN)	The LAN IP address used by the third-party device on the LAN side of the Flexy.
Mapped IP (WAN)	The WAN IP address which will be used by the Flexy to represent the same third-party device on its WAN side.
Nickname	The name given to this NAT 1:1 rule.
Clear	The possibility to erase and remove the route.

7.4.2.2.9   Proxy

The "Proxy" is similar to the transparent forwarding but it would forward only some ports.

The main advantage of the proxy implementation is that the destination device of the proxy rule must not define the Flexy as its gateway.

Proxy Configuration	
Control	**Description**
Proxy Configuration Enabled	If enabled, the proxy feature ill be active. The proxy operation can be switched on or off at any time without the need of a reboot. Any change in the configuration is applied as soon as the configuration is changed.
Idle connection timeout	Each time a client opens a connection to the proxy, the connection is kept opened until the client explicitly closes it or until this timeout is elapsed without data being transferred on the socket. This is required if a client is for example switched off while the connection is active, the connection will be dropped and the memory recovered after the timeout is elapsed.
Maximum connections per proxy entry	The maximum number of connections that can be opened at a given time on a proxy port for each proxy entry.
Proxy External Interface (EXT)	The interface concerned by the proxy rules. Possibilities are: • WAN • PPP incoming • VPN
Protocol	The type of protocol used by the proxy to the given server. These protocols are handled differently and must be specified in the configuration. Possibilities are : • Disabled • UDP • TCP • FTP Although FTP is TCP, it must be specified. The FTP proxy will work for passive and active connections. If this field is set to "disabled" then the full proxy entry will be disabled.
Direction	The proxy of the Flexy is completely symmetric, it can work in both directions. Possibilities are : • Disabled • EXT to LAN: the proxy transfers from the outside to a LAN device. For example: the user wants to proxy from the EXT to the LAN in order to access a device on the LAN that has not the Flexyas gateway. • LAN to EXT: the proxy transfers from a LAN device to the outside. For example: a LAN device can also connect to a server on the EXT without having the Flexy as gateway.

Proxy Configuration (continued)

Control	Description
	EXT to LAN or *LAN to EXT* are possible as long as the server has a fixed IP address that can be entered in the proxy configuration If this field is set to "disabled" then the full proxy entry will be disabled.
Incoming port	The port number listened by the Flexy. For example: if the Flexy must forward ports on a web server targeting port 80 and the client will connect to theFlexy on port 8080 then the "incoming port" is 8080 and the "Destination port" is 80.
Destination port	The Flexy will connect to this port number when it receives a connection from the proxy client. This port will be the server port on device with the "Destination IP address".
Destination IP address	The Flexy will connect to this IP address belonging to a server when it receives a connection on its proxy port. If the "Destination IP address" is set to 0 then the full proxy entry will be disabled.

7.4.2.2.10   Security

WAN Protection

Control	Description
WAN Protection level	The level of protection on the WAN interface. This indicates which protocols can go through the WAN connection. Possibilities are: • Discard all traffic excepted VPN and initiated traffic (such as outgoing email or PUTFTP). • Discard all traffic excepted VPN and initiated traffic and ICMP (Ping). • Allow all traffic on WAN connection (no protection) (default value).
WAN IP Forwarding	If disabled, the LAN traffic cannot be forwarded to the Ethernet WAN interface. Default value: checked.

VPN Protection

Control	Description
VPN Protection	If enabled, all packets will be filtered and only the packets satisfying one of the 3 "Allowed Rules" will be transmitted to the destination.
Source IP	The source IP address which is allowed to reach the LAN. Only one IP address could be encoded. However there are special values: • 0.0.0.0: disables the rule. • 255.255.255.255: allows ALL source IP addresses.
Destination IP range start	The start range of the destination IP addresses reachable. There are special values: • 0.0.0.0: replaces the LAN or VPN IP addresses of the Flexy. • 255.255.255.255: allows any destination IP addresses.
Destination IP range end	The end range of the destination IP addresses reachable.
Destination Port	The ports allowed. Multiple port values are separated by "," (comma). There is a special value: 65535 to allow ALL ports.

> **!** If the Flexy takes advantage of the Talk2M VPN connection, it is recommended to use the eCatcher build-in feature: Talk2M Firewall. This one eases the configuration of access per user.

Transparent Forwarding

Control	Description
Require authentication	If checked, the Flexy accepts only to forward packets coming from the user who initiated the communication.

7.4.2.2.11 IP Services

This section allows the redefinition of the standard ports used by the Flexy.

The modification will be effective only after a reboot.

HTTP Web server	
Control	**Description**
Primary HTTP port	Allows the redefinition of the primary TCP port of the Flexy. Default value: 80.
Secondary HTTP port	Allows the redefinition of the secondary TCP port of the Flexy. This port is never forwarded when "Transparent Forwarding" is enabled. This port is used to reach the web interface of the Flexy. Default value: 81.

FTP Server	
Control	**Description**
TCP command Port	Allows the redefinition of the TCP command port from the FTP server of the Flexy. Default value: 21.

7.4.2.3 Manage Config

7.4.2.3.1 Security

Sensitive data protection	
Control	**Description**
Encrypt sensitive data	If enabled, sensitive data will be encrypted (passwords, PIN code). Fields value will appear as dots in the setup pages of the web interface. Password values are encrypted in configuration files. If unchecked, sensitive data are readable (setup pages and configuration files).

eBuddy security	
Control	**Description**
eBuddy needs authentication	If checked, an IP address change request from eBuddy is authorized only with user authentication. The user will need the "Change Configuration" permission activated.

7.4.2.3.2 Default Config

Using this menu, the Flexy can return to its default (factory) communication configuration. This doesn't modify anything else in the other configurations such as tags, users, script... All communication settings will be reset, only the LAN IP address will remain unchanged.

This option requires a reboot of the Flexy (software or hardware).

This COM configuration is saved in a special flash file system which means that a level 1 reset of the Flexy doesn't erase this configuration. Formatting the Flexy is made possible while ensuring that the communication will still be active afterwards.

7.4.3 Storage

This section is used to set up how the memory resources from the Flexy must be used.

The Flexy stores configuration and recorded data in its flash memory. Its flash memory is divided into areas of different sizes that can be erased and reformatted individually during a partitioning operation.

Model	Physical Flash Size	User Memory
Flexy	128 MB	35 MB

7.4.3.1   Memory Settings

The selection of a particular partition depends on the specific needs of the application.

Changing the current attribution implies formatting the available space. This means that all data except the communication settings will be erased.

The current configuration is displayed in red.

As long as the Flexy hasn't been rebooted, the previous configuration remains applied. After the reboot, the new desired configuration is active.

Flash Memory zone	Circular	Description
/usr size	No	This partition uses a different file system, allowing the creation of a larger number of files and the use of a larger total flash memory. This file system is also very robust in case of power lost during the time when operations are performed on the files. This partition can be used through the FTP server, custom web pages or using the BASIC scripts of the Flexy.
Recording size	Yes	This partition contains circular data: • Events logging • Alarm history logging Each of those files receives a predefined maximum amount of memory size. When the space is full then the older data is erased to free some for the new data.
Number of events	Yes	The maximum records of the "Event log".
Number of alarms hist.	Yes	The maximum records of the "Alarm history".

The circular type of files has 2 sizes: a standard size and a maximum size. When the maximum size is reached, the oldest 64K of data are erased and the new data starts to be written. This means that the actual size of data that has to be considered for a circular file is the standard size because the maximum size is not permanent.

Formatting the flash file system means erasing all the data in these files.

Other Storage Partitions			
Flash Memory zone	Size	Circular	Description
System Config (except COM config)	256 KB	No	The system configuration contains: • System setup • Pages setup • IO Servers setup • Tags setup • Users setup
Program	128 KB	No	The (BASIC) script program.

Other Storage Partitions (continued)

Flash Memory zone	Size	Circular	Description
Communication Config	64 KB	No	The communication configuration regroups all the configuration information that appears in the "ComCfg.txt" file. The communication configuration needs to be saved in a distinct block in order to allow the Flexy to format any other data without risking to loose contact with the device (Ethernet IP address, PPP configuration etc.). This configuration uses a fixed memory size and is stored with a special mechanism that prevents loosing the configuration even if the power is suddenly lost during the configuration update. The only risk is to loose the last modification made after last save occurred.
Retentive values	64 KB	No	A fixed flash memory block that contains the retentive values. Each time a retentive value changes, a record is written in the flash memory. The record is 12 bytes long. This file is also erased when the flash file system is formatted. The flash memory can be erased/written minimum 100K times. Each time a retentive value is written, its record is read back and content is verified. In case of error, the error code 20517 – "Write retentive failed" is generated. It indicates that the flash memory is probably dead. The dimension of that block does not need to be modified.

7.4.3.2 Erase & Format

Format All partitions

Control	Description
Format All partitions	If checked, it will result in formatting "/usr" and "/sys" partitions.
Format /sys partition	If checked, it will result in formatting "/sys" partition.
Format /usr partition	If checked, it will result in: • Formatting only "/usr" if "/sys" is not stored in it. • Formatting both "/usr" and "/sys" if the storage configuration with "/sys" has been set to *0*.

Erase config files

Control	Description
Erase config	If checked, it will result in erasing the Flexy configuration except for its communication information (comcfg.txt). Clicking on "Execute" after having selected this checkbox will disconnect the user from his current Flexy session.
Erase program	If checked, it will result in erasing the BASIC script file "program.bas" of the Flexy.

Format Historical Recording File System

Control	Description
Format all files	If checked, it will result in erasing the 3 files stored by the internal history of the Flexy (the three following checkboxes).
Erase Historical Recording file	If checked, it will result in erasing the binary format "ircall.bin" file that contains the binary values of all the tags defined in the Flexy.
Erase Events file	If checked, it will result in erasing the text format "events.txt" file that contains the history of all of the (maximum) 762 last events that have been logged in the Flexy.
Erase Alarms History file	If checked, it will result in erasing the text format "hst_alm.txt" file that contains the history of the alarms for the tags defined in the Flexy.

Clear scheduled action

Control	Description
Clear pending actions	If checked, it will result in erasing the actions from the "sstat.htm" file that are completed (successfully or not). "sstat.htm" is a virtual file which means that its information are stored in the volatile memory of the Flexy. Clearing this file does not impact the memory file system.

Confirm operation	
Control	**Description**
Password required	The password is required to confirm the modifications.

7.4.3.3 Tabular edition – System Config

The configuration parameters of the Flexy can also be accessed under a tabular format. This section targets the general settings, users, IO servers... Everything that is not linked to communication.
All the parameters found in this section are the ones listed in the "config.txt" (refer to *Related Documents, p. 3*).

System Cfg	
Control	**Description**
Filter	The keyword to find in the whole list of parameters. The keyword can be from the "Name" or the "Value" columns.
Save	The button to save the new modifications. Multiple modifications can be done before saving them all.
Clear	The button to discard the modifications. If multiple modifications were made, by hitting this button, all of them will be discarded.
Name	The name of the parameter.
Value	The value of the parameter. This value can be changed by double-clicking on it.

7.4.3.4 Tabular edition – COM Config

The configuration parameters of the Flexy can also be accessed under a tabular format. This section targets the communication settings.
All the parameters found in this section are the ones listed in the "comcfg.txt" (refer to *Related Documents, p. 3*).

ComCfg	
Control	**Description**
Filter	The keyword to find in the whole list of parameters. The keyword can be from the "Name" or the "Value" columns.
Save	The button to save the new modifications. Multiple modifications can be done before saving them all.
Clear	The button to discard the modifications. If multiple modifications were made, by hitting this button, all of them will be discarded.
Name	The name of the parameter.
Value	The value of the parameter. This value can be changed by double-clicking on it.

7.4.3.5 Features

There are some options/restrictions available on the firmware. To activate those features, an "enable code" must be inserted.

This is currently not used.

7.5 Reboot

This section allows the reboot of the Flexy.

There are 2 ways to perform a reboot:

- From the "Reboot" menu of the web interface.

- By using the *REBOOT* BASIC command.

Some special operations like "Upgrade the firmware of the Modem" requires a reboot with the "BootOp" parameter set to a specific value. This special operation field should be used to select which boot operation should be done. Currently, only the "Modem Upgrade" value is available.

A   SMS Recipient(s) Syntax

The Flexy is capable of sending SMS to multiple contacts when tag alarms, BASIC scripting, ... trigger the event. The configuration of such contacts must respect a defined syntax.

To reach an SMS recipient, an SMS server must be called and the correct protocol must be used. The server phone number depends on the network operator and the protocol used will be one of the 2 standard "UCP" or "TAP" protocol.

To introduce a pause in the number composition, the "+" (plus) should be used in the number.

The Flexy uses the character encoding "GSM 03.38" to send out SMS.

A table with the SMS protocols and server phone numbers is available on www.ewon.biz/support.

Special case for users from France:

As "UCP" and "TAP" server is not available in France, the InfoZ protocol is available for devices embedding an analog modem. In that case, the server phone number is 0. If a number has to be dialed to access the network, it can be entered before the 0.

Example:

- If 9 must be dialed to leave PABX the syntax is: *0407886633,ifz,90*

- If a pause is required to leave the PABX, the syntax is: *0407886633,ifz,9+0*

A.1   Syntax

The syntax of the recipients must respect the following syntax:

```
DDDD,TTT,MMM[,PPP]
```

Label	Values	Description
DDDD	The destination phone number	
TTT	The protocol type. It must be one of the followings:	
	ucp	It is possible to add a word datasize and parity specification. The generic syntax is *ucpDP*: • D (datasize) is *8* or *7*. • P (parity) is *n* for none, *o* for odd or *e* for even. Default value: *ucp8n*
	tap	It is possible to add a word datasize and parity specification. The generic syntax is *tapDP*: • D (datasize) is *8* or *7*. • P (parity) is *n* for none, *o* for odd or *e* for even. Default value: *tap8n*
	gsm	
	ifz	
MMM	The server phone number.	The length is 40 characters maximum. For more information, please check with the local network provider. If the previous field "TTT" is "GSM" or "IFZ", the server must be set to *0*.
PPP	The password that is sometimes required by the network provider.	The length is 30 characters maximum.

> **!** Passwords are case sensitive.

When defining a phone number with a modem the "," (comma) is often used to insert a pause during the dialing operation. As the Flexy uses the coma as a separator, the pause dial sign is replaced by a "+" (plus).

For example: *0+0407886633* would dial a 0, then insert a 1 second pause, then dial 0407...

The GSM protocol attribute can be used to send the SMS directly through the GSM network without using an SMS server. In this case, a server wouldn't even be needed. This is valid only if the Flexy embeds a GSM or GPRS modem.

Examples of Sending SMS	
0407886633,ucp,0475161622,-proximus	The UCP protocol requires the use of a password. In this case, the password is "proximus". See in the above table for the word datasize and parity specification
0407886633,tap,0475161621	The TAP protocol does not require to enter a password. See in the above table for the word datasize and parity specification
0407886633,gsm,0	This syntax should be exclusively used to send an SMS from a Flexy that embeds a GSM modem (TAP or UCP protocols should not be considered).
0407886633,ifz,0	The syntax to send an SMS from a PSTN modem in France.
0495112233,gsm,0;0495445566,gsm,0	The syntax to send multiple SMS.

Benelux only: SEMASCRIPT

It is possible to send Semascript / SemaDigit to a Semaphone inside of the Benelux area by using the Belgacom server.

If a user wants to send a semadigit to number 0498373101... He must call the server at phone number 0458500001 (0+0458500001 if the first dial is 0 and wait for a pause).

Only the last 7 digits of the semaphone destination number should be kept and the TAP protocol with "7e1" must be used:

• "Normal" statement: *sendsms "8373101,tap7e1,0458500001","0498373101"*

• If the Flexy is behind a PABX and 0 must be dialed first use: *sendsms "8373101,tap7e1,0 +0458500001","0498373101"*

France only: ALPHAPAGE

It is possible to send ALPHAPAGE messages to ALPHAPAGE pagers in France by using the "emessage" server (http://www.emessage.de/en/index.html).

The used protocol is TAP. The operating mode is the same as for SEMASCRIPT:

If a user wants to send an ALPHAPAGE message to number 0612345678... He must call the server at phone number 0836601212 (0+0836601212 if you must first dial a 0 and wait a pause)

Only the last 7 digits of the alphapage destination number should be kept and TAP protocol with "7e" must be used:

• "Normal" statement: *sendms "2345678,tap7e,0836601212"*

• If the Flexy is behind a PABX and 0 must be dialed first use: *sendms "2345678,tap7e,0 +0836601212"*

A.1.1   Message Service Center

In some situations, the message service center must be specified in a GSM modem. To send out an SMS, the modem will send the message to the short message service center (SMSC) of the operator. The Service Center address (dial number) is normally automatically detected by the modem.

If needed, the Message Service Center address can be forced using the following syntax: *phone number,gsm,message service centre number*

For example: *"0407886633,gsm,0"* would become *"0407886633,gsm,0032123456789"* where "0032123456789" is the address (dial number) of the Service Center.

> **!** Do not use the "+" (plus) prefix syntax for the Service Center address. The Flexy will replace the "+" (plus) sign by a "," (comma) sign and thus will fail. Instead, *"0032123456789"* should be used.

B   Configurable Fields for Email and SMS

The list of dynamic variables that can be inserted in an email or SMS sent upon alarm triggering is explained hereunder:

Device Related Information

Email	SMS	Description
<#EWONIDENTIFICATION#>	<#EWONIDENTIFICATION#>	The name of the device. Configured in *Setup > System > Main > General > Identification*
<#EWONINFORMATION#>	N/A	The general information of the device. Configured in *Setup > System > Main > General > Identification*
<#ETHERNETIPADDRESS#>	N/A	The LAN IP address of the device.
<#PPPIPADDRESS#>	N/A	The WAN IP address of the device.
N/A	<#TAGUSERID#>	The user who acknowledge the alarm.

Tag Related Information

Email	SMS	Description
<#TAGNAME#>	<#TAGNAME#>	The name of the tag. *Tags > Values*
<#TAGDESCRIPTION#>	<#TAGDESCRIPTION#>	The description of the tag. *Tags > Values*
<#ALARMSTARTTIME#>	<#ALARMSTARTTIME#>	The date & time when the alarm started.
<#TAGVALUE#>	<#TAGVALUE#>	The value of the tag when the alarm was triggered.
<#ALARMSTATUS#>	<#ALARMSTATUS#>	The status of the alarm: ALM, ACK, RTN or END.
<#ALARMTYPE#>	<#ALARMTYPE#>	The type of the alarm: LoLo, Lo, Hi, HiHi.
<#ALARMHINT#>	<#ALARMHINT#>	The hint of the alarm. Configured in *Tags > Values*

Message Content

Email	SMS	Description
<#MAILCONTENT#>	See note below	The content to send on alarm. *Tags > Values*

ⓘ *The content of the field "Subject" is always included in the notification. It will be the subject for email notifications and the body for SMS notifications.*

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