Ewon®
BY HMS NETWORKS

Flexy Family User Guide

HMS Connecting Devices™

Important User Information

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1   Preface

1.1   About This Document

This guide presents the features of the Ewon Flexy and explains briefly the steps to take to get a functional 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	2018-04-17	Changing scope of the document: Flexy 205 => Flexy Family
1.2	2018-08-29	Changed: List of IO servers Added: NTP Client / Server Added: Anybus Bolt Configuration Added: Time Zone Added: Tag KPI Added: String Tags Added: OPCUA
1.3	2019-06-12	Changed: Disclaimer
1.4	2019-10-03	Changed: Overall display

1.3   Related Documents

Document	Author	Document ID
Ewon Configured by SD Card	HMS	AUG-0062-00
eBuddy	HMS	AUG-0063-00
OPC UA Server	HMS	AUG-0064-00
Configure your Ewon using FTP	HMS	KB-0020-00
Email & text message (SMS) relaying using Talk2M	HMS	KB-0046-00
Alarm Email & SMS Templates	HMS	KB-0054-00
Publish Tags in SNMP	HMS	KB-0150-00
Publish Tags in Modbus TCP	HMS	KB-0184-00
IO Servers	HMS	RG-0007-00
Reference Guide: Flexy Family	HMS	RG-0008-00
Export Block Descriptor	HMS	RG-0009-00

1.4   Trademark Information

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2   Requirements

2.1   Hardware

This guide presents the features of the Flexy which can be combined with optional extension cards if needed.

Without extension cards, the Flexy provides Remote Access and Remote Data Services to Ethernet devices over the local Ethernet network.

Extension cards permit the Flexy to communicate to a wider range of field devices including USB and serial devices and to use additional Internet connectivity technologies such as Wi-Fi and cellular modems.

2.2   Software

The Flexy is configured through its web interface which is accessible with any modern web browser. The recommended platforms are:

•   Firefox 15 and higher.

•   Chrome 16 and higher.

•   Safari 11 and higher.

•   Edge 13 and higher.

eBuddy

The companion tool eBuddy assists with initial IP address configuration for the Flexy and with maintenance tasks such as upgrading firmware, creating/restoring backups...

Download eBuddy.

eCatcher

The companion tool eCatcher is needed if the Flexy will connect to the Talk2M infrastructure to allow remote access to its plugged in equipment.

Download eCatcher.

3   Get in Touch with the Flexy

3.1   Assigning an IP Address

The first communication with the Flexy can be established using the companion tool eBuddy (check *Software, p. 4* for more details about eBuddy).

To change the IP address of the Flexy:

1.   Connect the port labeled as **LAN** (port #1) of your Flexy.

     This can be done either to the computer point-to-point or through a network if the default IP of the Flexy, which is 10.0.0.53, will not conflict with another connected device.

2.   Start the eBuddy application.

     The application scans through the Ethernet adapter network and identifies the connected Ewon devices displaying the IP address, subnet mask and serial number.

     The utility also allows the modification of the default IP address without necessarily being in the same network range.

3.   Optional: Highlight the row representing the device to be modified

4.   Click on the button **Set IP** from the top bar menu or hit the F2 keyboard shortcut.

5.   If step 3 was skipped, indicate the serial number of the Flexy to be modified. Click **Next**.

6.   Enter the new IP address and its subnet mask. By clicking **Next**, eBuddy sends the commands to the Flexy to change its IP address and to reboot.

7.   Once the reboot completes, the Flexy will be accessible at its new IP address.

3.2   Accessing the Web Configuration Interface

The configuration of the Flexy can be done using its internal web pages.

While your computer is connected to a LAN port of the Flexy, open an Internet browser and enter the LAN IP address of the Flexy into the address field.

If your computer is not in the same network address range as the Flexy, the web interface can be reached using the *EZ DHCP* feature of eBuddy. For more information, refer to the eBuddy reference in *Related Documents, p. 3*.

Before beginning the configuration of the Flexy, authentication is required. The default login and password are both **adm**.

> ❗   For security reasons, the default password must be changed.

The password can be changed through the *System Wizard* described below.

At the first boot of the Flexy or after a reset level 2 and after successfully logging in, a prompt will appear to set the interface language.

After the interface language is selected, a wizard button appears which allows a quick configuration of the system and communication settings of the Flexy. On later connections, the configuration wizard is accessible through the *Wizards* button in the upper right corner.

4   Quick Launch Wizard

The *Quick Launch Wizard* makes it easy to configure the initial system and communication settings for the Flexy.
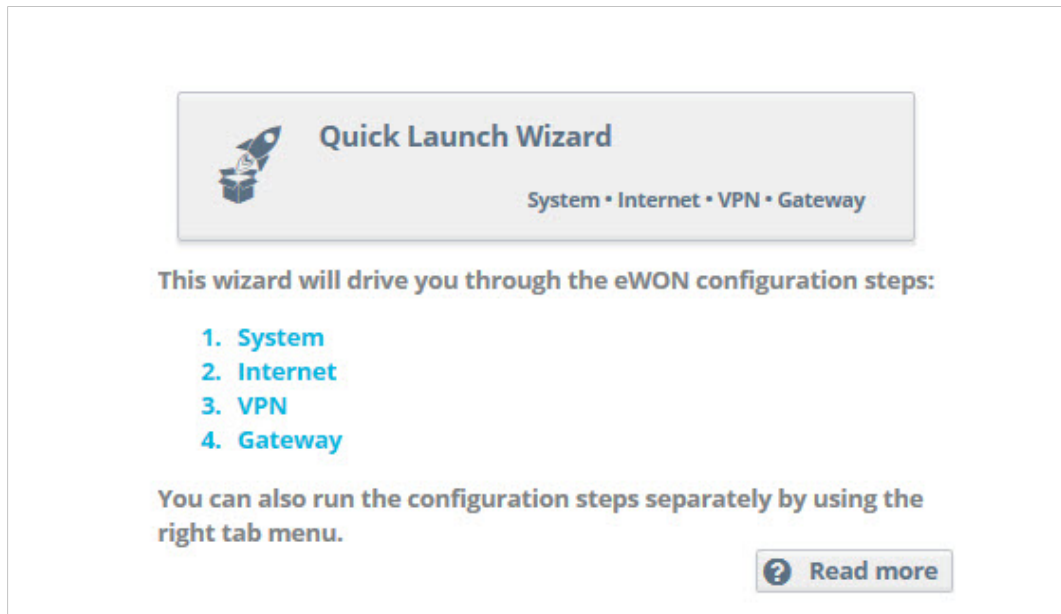

Fig. 1   Quick Launch Wizard Button

It passes sequentially through the *System Wizard*, the *Internet Wizard* and the *VPN wizard*:

- The *System Wizard* configures basic system settings such as the date & time and the default username & password.

- The *Internet Wizard* configures the WAN or Internet communication settings for the Flexy.

- Once the *Internet Wizard* is complete, the *VPN wizard* connects the Flexy to the Talk2M VPN infrastructure or to an eFive VPN server.

Based on the hardware configuration of the Flexy, the *Quick Launch Wizard* can also include the *Gateway Wizard* which assists in configuring communication to serial, MPI and USB devices. Each wizard can also be run independently through the menu options on the right hand of the Wizards page.

4.1   System Wizard

The *System Wizard* configures basic system settings.

The first screen of the *System Wizard* configures the name of the device and the default user settings. However, checking the **Erase all first** checkbox will erase all previously configured settings on the Flexy.

The **<Ewon name>** helps identify the Flexy for an application. The name appears in the footer of every web page and can be included in reports and alarm notifications.

The Flexy comes with an initial default user with username **adm** and password **adm**.

> ❗ For security reasons, it is required to change the default password for the **adm** user. This username and password can be changed in the *System Wizard*.

Additional users can be added from *Setup ▸ Users* menu. More information about adding additional users is described later in this document.

Click **Next** to proceed to the second screen.

The second screen of the *System Wizard* configures the date & time settings. For Talk2M communication, the date of the Flexy must be correct. Click on the Timezone or Datetime field icons in the to adjust the date. If typing the date & time directly into the field, be sure to format the value as shown.

With regard to the timezone option. it allows to configure the timezones including day saving time [DST] by clicking either on the arrow or the map icon.

> ⚠️ **Caution**
> Starting firmwre v13.1s0, the exported Ewon data (through EBD, Talk2M API or any other methods) with timestamps are by default exported in UTC!

To enable automatic date and time synchronization with an NTP server, check the **Enable NTP** checkbox and adjust the NTP synchronization settings as needed.
The default remote NTP server is `ntp.talk2m.com` but other NTP servers can be used.

Click **Next** to proceed to the next screen.

> ℹ️ *The following LAN / WAN ports attribution step of the System wizard applies only for the Flexy 205.*

The third screen of the *System Wizard* configures the attribution of the ports of the four ports switch. Click on a port to change its attribution.

If no Ethernet extension card is detected then ports #2, #3, and #4 can be configured to be either a LAN (local access) port or a WAN (Internet access) port. Port #1 will always remain a LAN port.

The attribution of a port can be easily recognized by its LED color:

• Orange for a WAN port.

• Green for a LAN port.

If an Ethernet extension card is detected, all four ports are set to LAN ports and are not configurable.

Click **Next** to save the system settings.

> ❗ If the attribution of the ports changed during the wizard, reboot the Flexy to apply the changes.

4.2 Internet Wizard

The Internet Wizard configures the WAN or Internet settings for the Flexy. The options available will depend on the specific hardware configuration of the Flexy.

The first screen selects the WAN interface that will be active.

Checking the **<Initialize Configuration>** checkbox will delete any existing WAN and VPN settings already configured.
From the drop down menu, select the WAN interface to configure and activate.

Click **Next** to begin the WAN interface configuration.

Subsequent screens will differ depending on the WAN interface selected.
Below are the steps for connecting the Flexy to an Ethernet network. Information about configuring other WAN interfaces is available in the General Reference Guide from the *Related Documents, p. 3*.

In the **<Address Setup>** section, select **DHCP** from the dropdown menu to have the Flexy receive an address automatically from the network or **Static** and then enter the network address settings manually.

If the network uses a proxy server and the Flexy will connect to Talk2M, check the **<Connect to Talk2M through Proxy>** checkbox.

Click **Next** to proceed to the next screen.

Check the **Enabled** checkbox to make a test connection to the Internet. If this network uses a proxy server or if port 80 is closed for outbound connections, leave this checkbox unchecked.

Click **Next** to apply the configuration changes.

If the wizard completes successfully, the Flexy is now connected to the local Ethernet network. If the wizards fails, check with the local network administrator for any special connection instructions.

4.3   VPN Wizard

The *VPN Wizard* configures the settings required to connect the Flexy with the Talk2M infrastructure or an eFive network.

The first screen of the *VPN Wizard* selects the VPN network to use. Information for connecting to an eFive network is available on www.ewon.biz/support.

To connect the Flexy to the Talk2M VPN infrastructure, click the **T2M (Configure Talk2M connectivity)** button.

Before proceeding with the Talk2M wizard, the Flexy must first be defined in eCatcher. Information about eCatcher and defining Ewon devices is available on .

On the next screen select the registration mechanism.

To register with an activation key, select **Register with Activation Key** and enter the appropriate activation key.
To register with an Ewon Name, select **Register with Ewon Name** and enter the Talk2M account name, the name of the Flexy on the account, and valid user credentials for this account.

Click **Next** to advance to the next screen.

If the network used for Internet access uses a proxy server, check the **Enable** checkbox in the **<Connect via HTTP Proxy>** section and enter the appropriate connection information for the proxy server.

Click **Next** to test and apply the Talk2M connection settings.

If the wizard completes successfully, the Flexy is properly configured for Remote Access through Talk2M. If the wizard fails, the Diagnosis section will give additional troubleshooting information.

4.4   Gateway Wizard

If the hardware configuration of the Flexy includes certain extension cards that allow communication with field devices over interfaces other than Ethernet, the Wizards might include the *Gateway Wizard*.

The *Gateway Wizard* configures any necessary communication parameters for these cards. For specific information about the hardware configuration of the Flexy, check the General Reference Guide from the *Related Documents, p. 3*.

5   Remote Access

The Flexy can be used to allow remote access to a wide variety of PLCs.

Under most circumstances, completing the *Quick Launch Wizard* successfully configures the Flexy for remote access. In addition, there may be additional configuration steps required in the programming software of the field device.

Specific documentation for remote access to different manufacturers' PLCs is available, check www.ewon.biz/support.

6   Create Tags and Monitor Values

The tags are variables monitored by the Flexy. The tag values can change over time and can come from a variety of data sources including external devices such as PLCs. These data sources are called IO Servers.

6.1   Available IO Servers

The Flexy supports data monitoring for many different data sources. The list of available IO servers include:

IO Server	Data Source
MEM	Internal memory tags
EWON	IO and internal system values of the Flexy
MODBUS	Modbus Devices (TCP and RTU)
OPC UA	Devices capable of handling the OPC UA protocol.
SNMP	SNMPv1 Devices
DF1 ABLOGIX	Allen-Bradley PLCs
FINS	Omron PLC
S73&400 S7200 S5-AS511 NETMPI	Siemens PLCs
HITACHI	Hitachi PLCs
MELSEC MITSUFX	Mitsubishi PLCs
BACNET	BACnet
UNITE	Schneider PLCs (UNITELWAY)

Some IO servers require specific extension cards and are not available if the current hardware configuration of the Flexy is not compatible.

The IO server configuration pages are available from *Tags ► IO Servers* menu. Select the appropriate IO server from the menu.

Detailed information about configuring the specific IO server for different external devices is available in the PLC area on www.ewon.biz/support and in the IO Servers reference from the *Related Documents, p. 3*.

6.2   Tag Management

Tags on the Flexy can be created and managed from *Tags ► Values* menu.

The values page has two modes:

•   The **<SETUP>** mode is for creating and deleting tags but also editing existing tag settings.

•   The **<VIEW>** mode is for monitoring and changing tag values.

6.3   Tag Creation

In **<SETUP>** mode on the *Tags ► Values* page, tags can be added by clicking on the **Add** button.
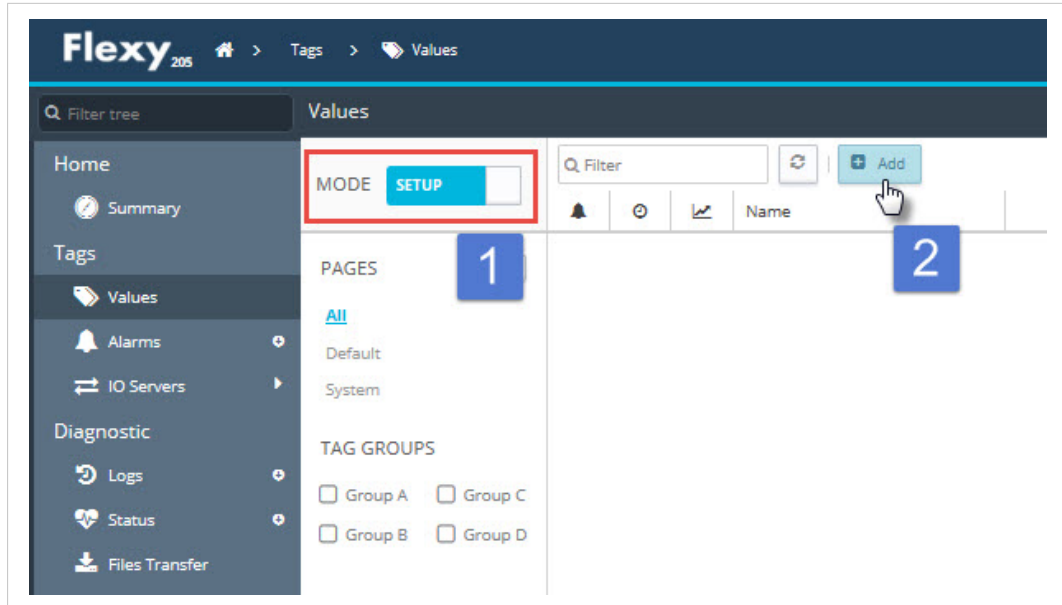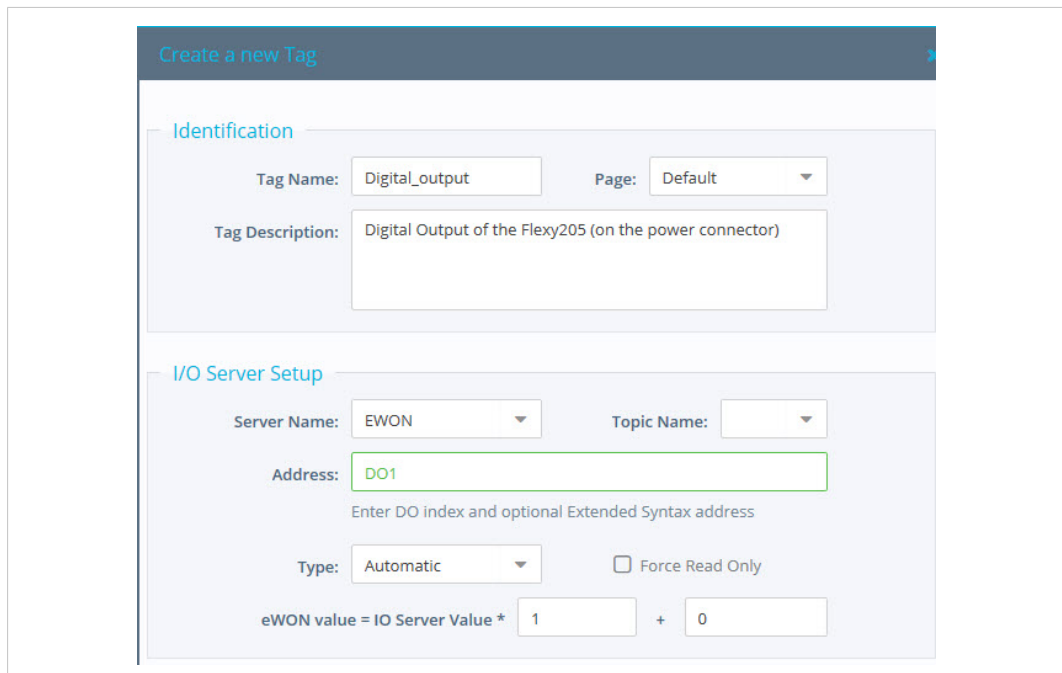
Fig. 2   Change from VIEW to SETUP Mode to Create a Tag.

On the *Tag Setup* screen, there are several key fields that identify a tag and its data source.

Every tag must have a **<Tag Name>** which uniquely identifies the tag on the Flexy. An optional **<Tag Description>** can be used to provide additional information about this tag.

The **<Server Name>**, the **<Topic Name>** and the **<Tag Address>** identify the variable and data source to monitor with a tag.

Below are examples of a tag for monitoring the onboard digital output of the Flexy, a tag for a Siemens PLC and a memory tag.
Examples of creating tags for the different IO servers are available in the PLC area on www.ewon.biz/support and in the IO Servers reference from the *Related Documents, p. 3*.

Fig. 3   Tag Creation — DO.

Fig. 4   Tag Creation — MEM.

Fig. 5   Tag Creation — Siemens.

The Flexy supports different data types for tags: **<Floating Point>**, **<Boolean>**, **<Integer>**, **<DWord>** and **<String>**. If the **<Automatic>** data type is selected, the Flexy will store the tag value in a default data type based on the IO server and tag address as described in the General Reference Guide from the *Related Documents, p. 3*.

> ⚠️ 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.

Once the tag is configured, click **Add Tag** to create the tag.

6.4   Monitor Tags

6.4.1   Tag Display

The **\<VIEW\>** mode of the *Tags ► Values* page shows the last read value for the tags.

The contents of the page refreshes at the rate shown in the **\<Autorefresh\>** field in the bottom of the page.
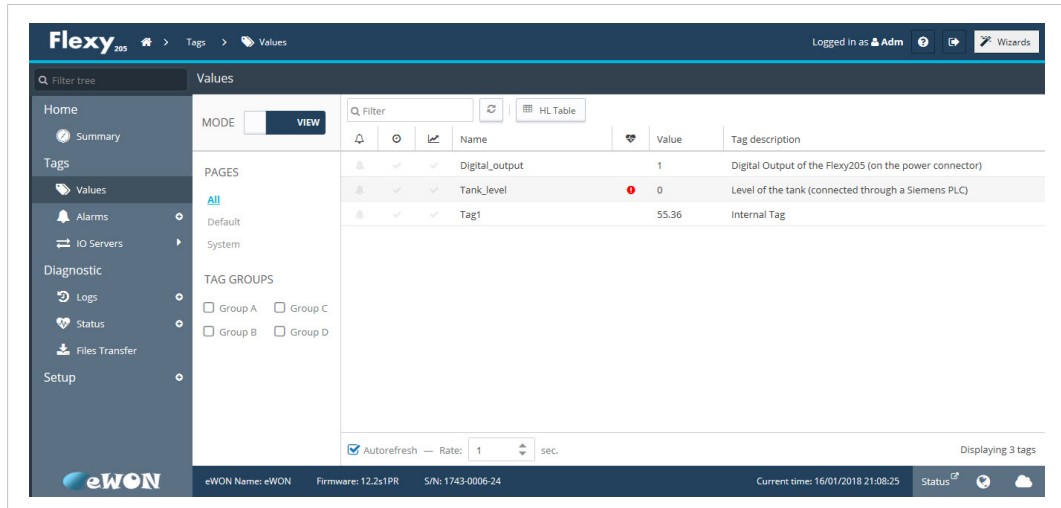

Fig. 6   VIEW mode of the Tags Page.

If the Flexy is unable to read a tag, an red error icon will appear in the tag quality column. Hovering over the icon will display information about why the tag is not being read properly.
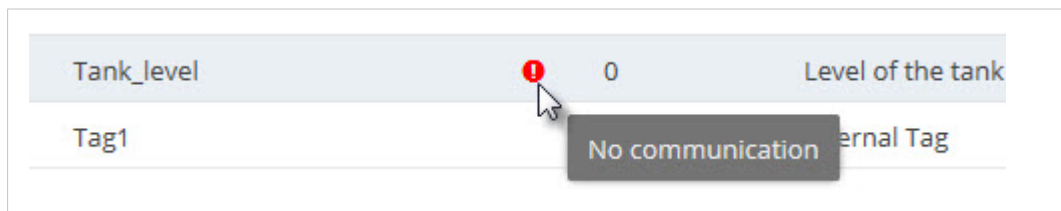

Fig. 7   Error on Tag.

6.4.2   Modify the Tag Value

Most tags can be both read from and written to. If a tag is configured to be read-only, a lock icon will appear next to the tag value.
Otherwise, a tag value can be edited by double clicking on it or highlighting the tag and selecting **\<Edit Value\>**. The changes to all edited tags will be written to the PLC when the **\<Apply\>** button is pressed.

7   Alarm Management

The Flexy makes it easy to monitor current alarms, to acknowledge alarms, to notify users throughout the alarm cycle and record past alarm events.

7.1   Configure Alarm Settings for a Tag

Alarming is configured on a tag by tag basis.

On the tag configuration page of the *Tags ▶ Values* web page in **<SETUP>** mode, check the **Alarm Enabled** box to expand the alarm setup area.
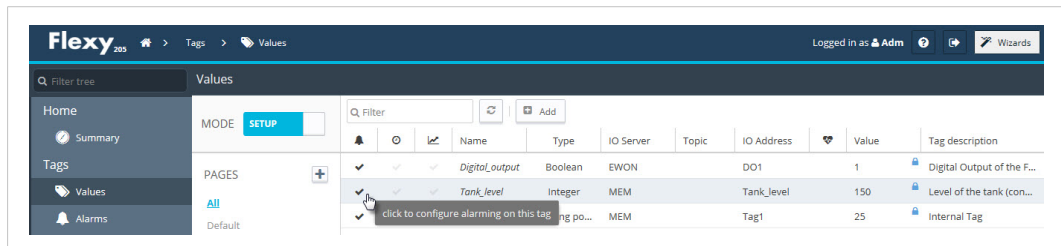

Fig. 8

For boolean tags, use the **<Boolean Alarm Level>** field to specify which tag state triggers an alarm.

For analog tags, four **<Alarm Level>** thresholds are available: **<Low>**, **<High>**, **<LowLow>** and **<HighHigh>**.

The optional alarm hint gives users additional information about this alarm. This hint can appear in alarm notifications.

More information about all the alarm configuration fields is available in the General Reference Guide from the *Related Documents, p. 3*.

Once an alarm is enabled for a tag, a check will appear in the **<Alarm Enabled>** column of the *Tags ▶ Values* page in **<SETUP>** mode.

7.2   Alarm Display

When a tag is in an alarm state, an alarm icon will appear for the tag in the **<Alarm Level>** column of the *Tags ▶ Values* page in **<VIEW>** mode.

When the alarm cycle completes, the icon will disappear.

7.3   Alarm Summary

Clicking on the alarm icon will load the **<Alarm Summary>** page. The **<Alarm Summary>** is also accessible from *Tags ▶ Alarms ▶ Summary*.

The **<Alarm Summary>** page shows all the currently active alarms and their current alarm cycle states.

Alarms can also be acknowledged from the **<Alarm Summary>**.

Fig. 9   Alarm Summary Page

7.4   Alarm History

The **<Alarm History>** shows the full alarm cycle of both currently active alarms and past alarms. The **<Alarm History>** is accessible from *Tags ▸ Alarms ▸ History*.

7.5   Alarm Actions

For every tag with alarms enabled, the Flexy can be configured to perform different actions when the alarm cycle state changes.

The actions include sending email, putting a file on an FTP Server and sending an SNMP traps. If the hardware configuration of the Flexy includes a modem extension card, it can send SMS messages as well.

To configure alarm actions for a tag, on the *Tags ▸Values* page in **<SETUP>** mode, select the tag and press the **Configure Alarm actions** button or click the check in the **<Alarm Enabled>** column.

Information about configuring SMS, FTP and SNMP actions is available in the General Reference Guide from the *Related Documents, p. 3*.

To configure email alarm notifications, begin by selecting those alarm cycle states that should trigger a notification:

- **<ALM>**: when an alarm is raised

- **<ACK>**: when an alarm is acknowledged

- **<RTN>**: when an alarm has returned to a normal state

- **<END>**: When the alarm cycle is finished (**<ACK>** and **<RTN>**)

Next complete the **<Email to>**, **<Email CC>** and**<Email Subject>** fields.

Free text included in the **<Email Attachments>** field will appear in the body of the alarm email message. Files generated by Export Block Descriptors can also be attached to the email message. Export Block Descriptors are explained later in this document.

7.5.1   Configure SMTP Server Settings

Before any email notifications can be sent, the Flexy must have a working Internet connection and it must be configured to communicate with an SMTP server.
SMTP server configuration settings are found under *Setup ▸System ▸Main ▸Net services ▸SMTP (mails)*.

If the Flexy is configured for Talk2M connections, using the Talk2M Email and SMS relay as the SMTP server is recommended.
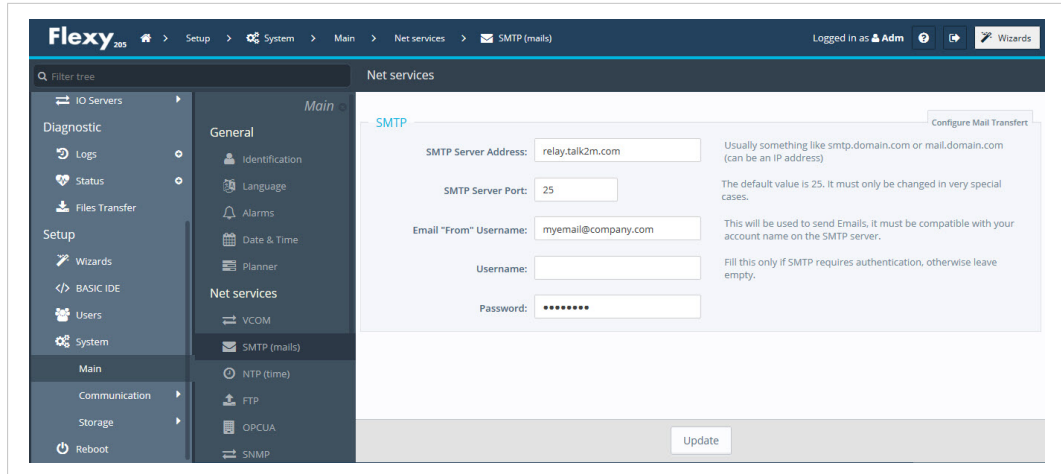
Fig. 10   Example of SMTP Server Settings.

More information about using the Talk2M Email and SMS relay is available in the Email & text message (SMS) relaying using Talk2M reference from the *Related Documents, p. 3*.

Information about configuring connections to different SMTP servers is available in the General Reference Guide from the *Related Documents, p. 3*.

7.5.2   Email Notification Layout

When the Flexy sends out an email notification, it will contain the following information: the name of the tag created, the level, the status and the alarm action or alarm hint.
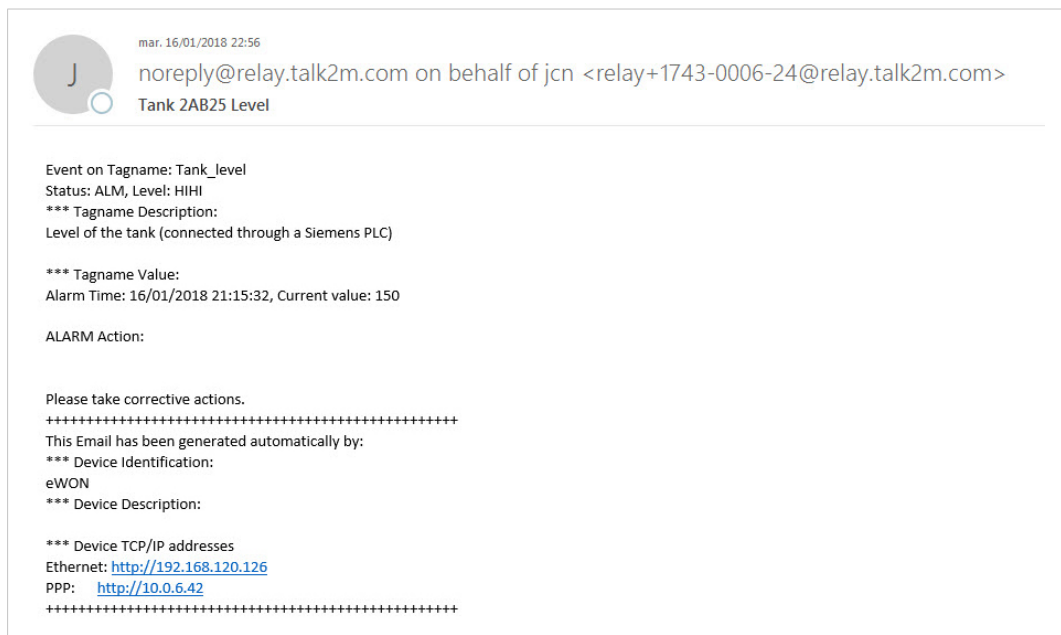
Fig. 11   Example of Mail Received on Tag Alarm.

If different information is needed, the email contents can be customized using the Email and SMS Alarm Templates. Information about alarm notification customizations is available in Alarm Email & SMS Templates from the *Related Documents, p. 3*.

8   Real-time Logging

Real-time logging records how a tag value changes over time.

Tag values are logged in a circular buffer in volatile memory at regular intervals to show trends over a user defined period of time. Since the values are only stored in memory, they are lost after a reboot.

8.1   Real-time Logging Configuration

To enable real-time logging, check the box marked **<Real Time Logging Enabled>** on the tags configuration page.

The **<Time Span>** field contains the size of the logging window in seconds. By default, it is 600 seconds.

The **<Logging Interval>** field specifies how frequently the values should be recorded. The default value is every 10 seconds.

Once real-time logging is enabled, a check will appear in the real-time logging column for this tag.

8.2   Real-time Graph

The real-time logging information can be viewed as a graph from the *Tags ▶ Values* page in **<VIEW>** mode. Select the tag to view and press the **RT. Graph** button.
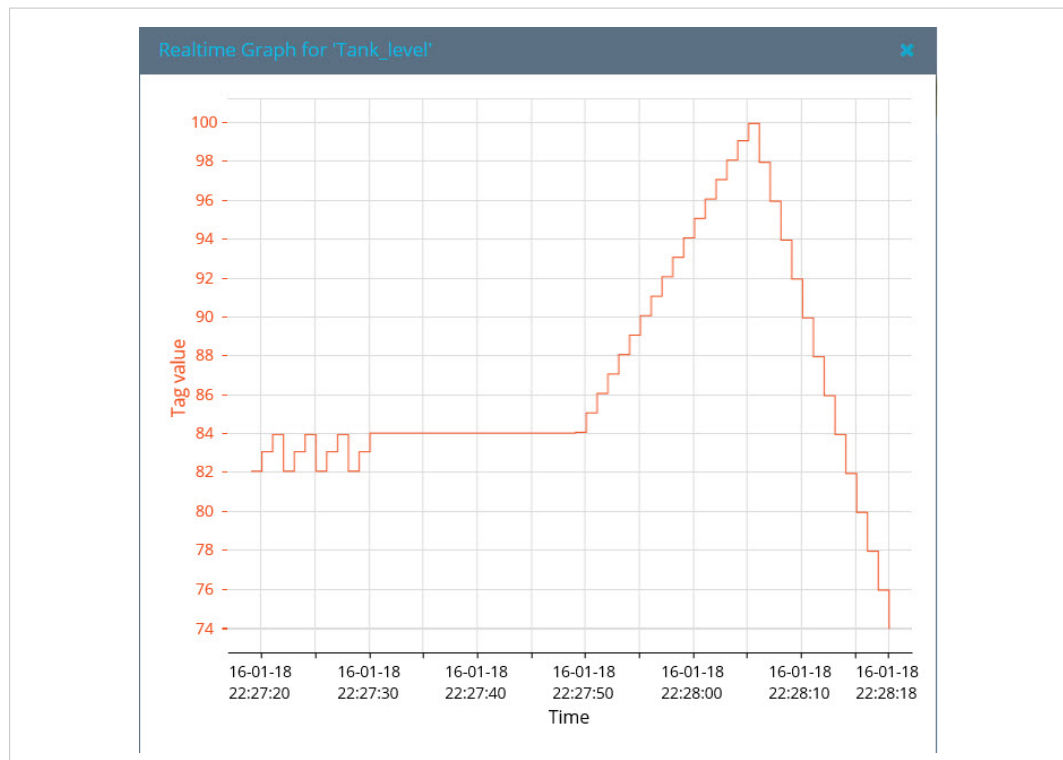

Fig. 12   Real-time Graph

9 Historical Logging

Historical logging stores tag changes for a longer period in a first-in-first-out file in flash file system. Since the values are stored in non-volatile memory, they are not lost after a reboot.

Logging can be triggered by events such as significant data value changes, on a simple interval basis or a combination of the two.

9.1 Historical Logging Configuration

To enable historical logging, check the box marked **Historical Time Logging Enabled** on the tags configuration page. Then select the criteria to use trigger logging.

The **<Logging Deadband>** field triggers logging when the tags value changes by a particular amount. For example, a logging deadband of 2 means that a tag will be logged when the value changes by 2 or more. A negative value in the logging deadband field disables logging on value change.

The **<Logging Interval>** field triggers time based logging. For example, a logging interval of 60 means that the tag will be logged every 60 seconds. A logging interval of 0 disables time based logging.

Once enabled, a check will appear in the historical logging column for this tag.

9.2 Historical Logging Graph

To see the historical log in a graph from the *Tags ► Values* page in **<VIEW>** mode, select the tag or tags to graph. Multiple tags can be selected using either "Ctrl-click" or "Shift-Click".

Select the time interval to display and press the **Update Graph** button.

9.3 Historical Logging Table

To see the historical log in a table from the *Tags ► Values* page in **<VIEW>** mode, press the **HL Table** button. Select the time interval to display.
Use the **<Groups>** checkboxes to limit which tags are included in the table then press the **Update** button.
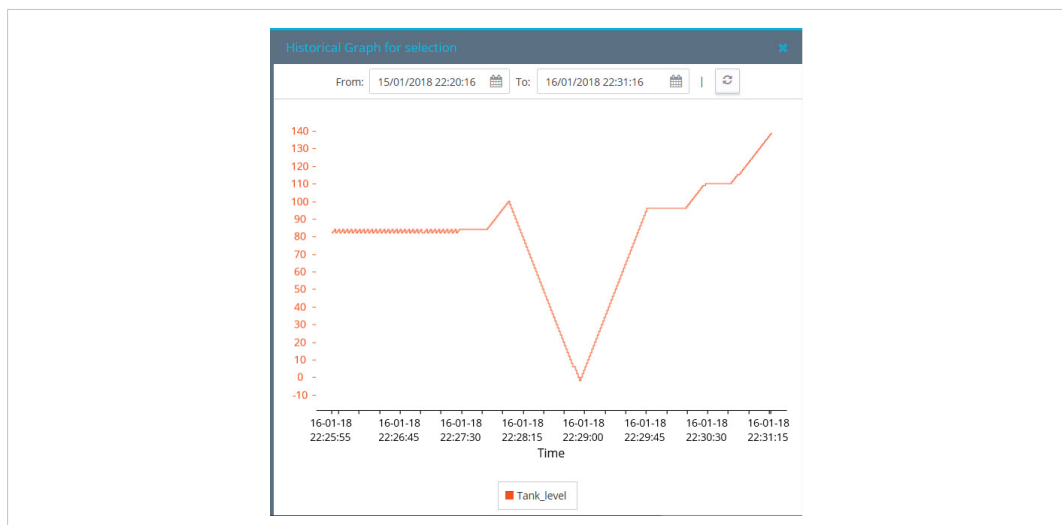

Fig. 13   Historical Logging Graph.

10   Files Transfer Page

Many of the files on the Flexy including the current tag values, the Alarm Summary, the Alarm History, and Historical Logs are available to download from *Diagnostic ▸ Files Transfer*. More information about all the available files is in the General Reference Guide from the *Related Documents, p. 3*.

11 Task Planner

With the Task Planner, the Flexy can perform different actions at specified times or at fixed intervals.

These actions are the same as tag Alarm Actions and include sending an email, sending an SMS, putting a file on an FTP server and sending an SNMP trap.

To specify a task planner entry, begin by describing the times or frequency when the action should occur in the timer interval field. The time is entered in "crontab" format as described in the General Reference Guide from the *Related Documents, p. 3*.

Example of CRON based format	
Example	**Meaning**
* * * * *	will do an action every minute
0 * * * *	will do an action every hour
0 0 * * *	will do an action every day at midnight (00:00)
*/15 * * * *	will do an action every 15 minutes
15 7 1 1 *	will do an action at 7:15, the first of January. Equal to '15 7 1 jan *'
15 8 * * 1	will do an action at 8:15, each Monday. Equal to '15 8 * * mon'
0 8-18 * * 1-5	will do an action at every hour between 8:00 and 18:00 on every working day (Monday to Friday)
0 6,7,8,17,18,19 * * *	will do an action at 6, 7, 8, 17, 18 and 19 o'clock every day
* * 13 * fri	will do an action at every minutes on each Friday OR the 13th of the month (and not only on the Friday 13th)

Once the timer interval has been specified, select the **Edit** button to specify the action or actions that should occur. Check the **Enable** checkbox for each desired actions and complete the action configuration in the same fashion as the alarm actions described above.

For example: to configure a file to be put on an FTP server, check the **Enable** checkbox for the **<Put FTP upon>** action. In the **<Destination>** field, enter the file to create on the destination FTP server. The file name can include a path specification. In the **<File Content>** field, enter either free text or enter one or more Export Block Descriptors. Export Block Descriptors are explained later in this document.
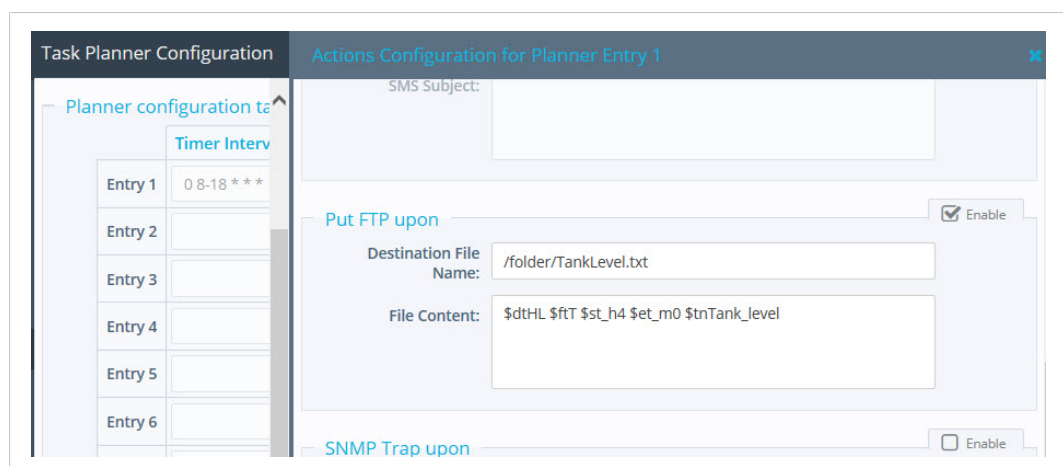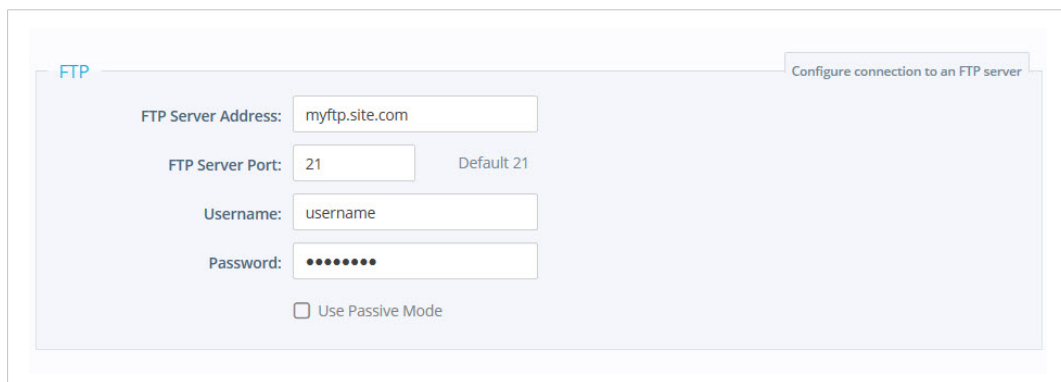

Fig. 14   Task Planner Settings for FTP.

11.1 Configure FTP Server Settings

Before any files can be put on an FTP server through the Task Planner, the Flexy must have a working Internet connection and it must be configured to communicate with an FTP server.

FTP server configuration settings are found under *Setup ►System ►Main ►Net services ►FTP*.

Fig. 15   FTP Server Configuration.

More information about configuring the Task Planner and communicating with an FTP server is available in the General Reference Guide from the *Related Documents, p. 3*.

12   Tag Publishing

In addition to polling tags from external devices, the Flexy can publish tag values.

With this feature, external software and devices can read tag values from the Flexy. The Flexy supports tag publishing tag values over Modbus TCP, SNMP, and OPCUA. Check the *Related Documents, p. 3* for more info on publishing those protocols.

13   Data Management

The Flexy supports exporting data to a variety of data management platforms. If the Flexy is configured to connect to Talk2M, the Talk2M API (feature of Talk2M) makes it easy to share data with many different platforms.

Fig. 16   Data Management for Talk2M API, Live data and KPI's.

13.1   Talk2M API

To configure the Flexy to send data to the Talk2M API, navigate to *Setup* ▶ *System* ▶ *Main* ▶ *Data Management*.

1.   Select the **Talk2M API** option from the dropdown menu

2.   Select the **Historical data** option

3.   Use the **Select tag group(s)** checkboxes to restrict which tags should be included. Leaving them all unchecked will include all tags.

4.   In the **<Upload interval>** field, enter how frequently data should be sent to the Talk2M API.

5.   Press the **Update** button to save the configuration.

More information about Talk2M API and other data export methods is available on www.ewon.biz/support.

13.2   Live data and KPI's

To configure the Flexy to publish the KPI's in the M2Web portal and the Live data, navigate to *Setup* ▶ *System* ▶ *Main* ▶ *Data Management*

1.   Select the **Talk2M API** option from the dropdown menu

2.   Select the **Live data and KPI's** option

3.   Use the **Select tag group(s)** checkboxes to restrict which tags should be included. Leaving them all unchecked will include all tags.

4.   Press the **Update** button to save the configuration.

14 NAT 1:1

Under some circumstances, devices on the WAN or VPN network of the Flexy could need access to devices on the LAN network of the Flexy. By enabling the NAT 1:1 feature, addresses on one network can be mapped to addresses on the other. Once the addresses are mapped, devices on the LAN network of the Flexy can be accessed without complex networking changes.

The NAT 1:1 feature is enabled from *Setup ►System ►Communication ►Networking ►Routing*. Check the **Enabled** checkbox in the NAT 1:1 section to enable it and expand the mapping table.

From the **<Mapping>** dropdown menu, select NAT 1:1 on WAN or NAT 1:1 on VPN as appropriate.

LAN device addresses and their corresponding mapped addresses on the other network should be encoded in the route table.

Before configuring the NAT 1:1 feature, check with the local IT manager about which IP addresses are available and can be used and reserved for the NAT 1:1 feature of the Flexy. As these IP addresses are not assigned by the DHCP server, address conflicts can occur.

Instructions for configuring NAT 1:1 for the Flexy are available in the General Reference Guide from the *Related Documents, p. 3*.

15   Custom Web Pages

The Flexy has a web server to host its own internal web pages. In addition, the Flexy can support user created web pages.

The Flexy can host custom HTML pages including special forms and server side includes that allow users to display and interact with tags and other data of the Flexy. Information about building custom web pages is available from our developer.ewon.biz.

Alternatively, the viewOn companion tool is a graphical development environment for creating animated HMI pages for the Flexy. Using the built in graphical objects and animations, users can easily create dynamic webpages even with no previous web development experience.

ViewON and information about getting started with ViewON is available on www.ewon.biz/support.

The Flexy can be configured to display a custom web page as its homepage instead of its standard homepage. The user defined home page is set from *Setup ►System ►Main ►General ►Identification*.

16   Backup and Restore

Backups can be created and restored using the eBuddy companion tool.

To create or restore a backup:

1.   Open eBuddy and select Backup/Restore from the menu bar.

2.   On the following window, select backup or restore and click **Next**.

3.   On the **<Ewon Identification>** window, specify the serial number or IP address of the appropriate Flexy and enter its appropriate administrator credentials.

4.   When creating a backup, select a filename and location to save the backup file in the **<Filename>** field.

     To restore a backup, select the backup to restore.

5.   Click **Next** to complete the process.

The backup is saved as a .tar file. This file contains the /usr directory, a comcfg.txt file, a config.txt file, and a program.bas file.

17 Other Configuration Mechanisms

The Flexy can be configured through its web interface or by restoring a backup of a previously saved configuration with eBuddy. In addition, the Flexy can be configured through other mechanisms including FTP and using an SD card.

17.1 FTP

Every Flexy can be used as both an FTP server and an FTP client.

This allows data and configuration files to be retrieved and loaded by FTP on to the Flexy. When a correctly named configuration file is put on the Flexy by FTP, it will analyze the file. If the syntax of the file is correct, it will perform the corresponding configuration changes.

Configuration files that can be loaded onto the Flexy include the comcfg.txt file, the config.txt file, the program.bas file and the contents of the /usr directory including custom web pages.

- The config.txt file contains general information about the Flexy including the various IO server settings and all tags and users.

- The comcfg.txt file contains the communication settings for the Flexy including its LAN IP address and its Internet connection settings.

- The program.bas file contains any BASIC scripts from the Flexy.

If changes are made to one of these files and then the file is put on the Flexy using FTP, those changes will be applied to the Flexy.

Additional information about configuring the Flexy with FTP is available in Configure your Ewon using FTP from the *Related Documents, p. 3*.

17.2 SD Card

The Flexy includes an integrated SD card reader.

An SD card can be used to upgrade or downgrade the firmware of the Flexy, restore a backup made through eBuddy, register a Flexy to a Talk2M account using a Talk2M Global Registration key and to modify communication settings with a comcfg.txt file.

Information about modifying a Flexy using an SD card is available in Ewon Configured by SD Card from the *Related Documents, p. 3*.

18   Export Block Descriptors

Export Block Descriptors can be used to export data from the Flexy.
For example:, they can be used with Alarm Actions or Task Planner entries to include information such as historical logs and current tag values inside or attached to an email.

An Export Block Descriptor is a string of characters describing the data to export using a predefined syntax. Typically the Export Block Descriptor includes information about:

•   Which data to export (Event log, Historical logging, etc.)

•   How to format the exported data (Binary, Text, HTML table, Graph)

•   The start time

•   The end time

•   Which tags are concerned

•   …

For example: the following Export Block Descriptor will extract the historical logging of the last 4 hours of tag **<A1>** and represent the result in text format: `$dtHL $ftT $st_h4 $et_m0 $tnA1`.

If this Export Block Descriptor is added to the email for the alarm notification, then the user will receive an alarm notification containing the historical data of the last 4 hours in a text format. This will allow the user to make a more precise analysis of the alarm situation.

For a detailed explanation about the use of the Export Block Descriptor please refer to the Export Block Descriptor reference in the *Related Documents, p. 3*.

19   Scripting

The Flexy supports custom programs using scripting language similar to BASIC with many specific extensions. With scripting, users can:

- Create customized reports.

- Let users acknowledge alarms by SMS.

- Dynamically adjust communication parameters such as the Internet interface.

- Push data to an external web server on a scheduled basis.

Information about programming on the Flexy as well as a large library of code examples is available on developer.ewon.biz.

20   User Management

At initial configuration, a Flexy has a single user with username **<adm>**. This user has full administrator rights on the Flexy.

However, the Flexy 205 can support multiple users with their own unique user rights.

Users are added, modified, and deleted from *Setup ▶Users*. To add a user, press the **Add** button.

Users are required to have a User Login which is unique to this user and a password. Other **<Identification>** fields are optional.

In the **<Rights>** section, select the user rights that are right for this user's role. For example: if this user should be able to see tag values and acknowledge alarms but should not be able to change the configuration of the Flexy, make sure that **<View IO>** and **<Acknowledge Alarms>** are checked and **<Change Configuration>** is unchecked.

Fig. 17   Creation of a User with Limited Access.

More information about managing users and about specific user rights is available in the General Reference Guide from the *Related Documents, p. 3*.

21 Troubleshooting

The Flexy provides a number of tools for quickly troubleshooting problems that may occur.

21.1 Summary Page

The Summary page shows at a glance information about the health and status of the Flexy. Its current Internet connection and VPN connection status, date and time, and firmware versions are all displayed.
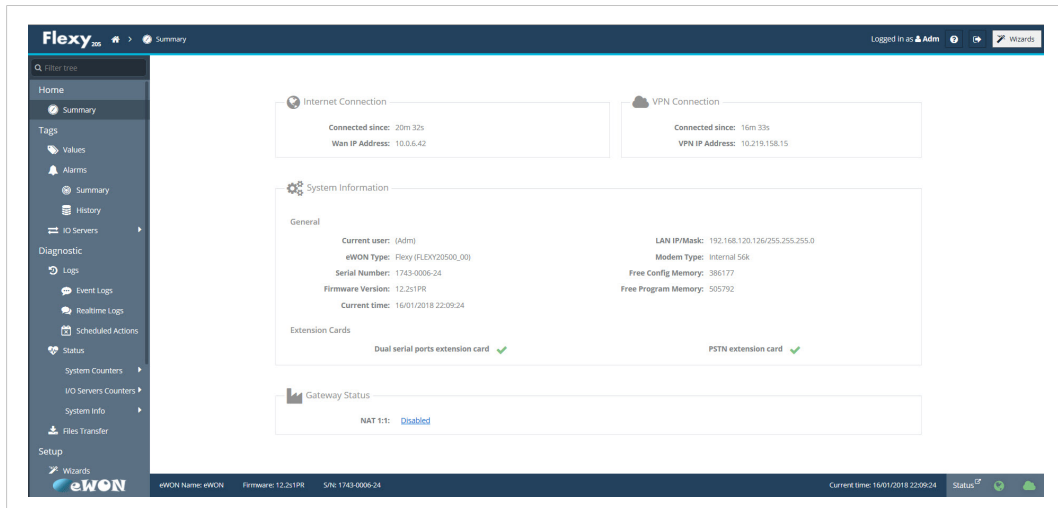

Fig. 18   Troubleshooting Summary Page is the Homepage.

21.2 Event Log

The Event Log records significant system events on the Flexy.

Events are given one of three severity levels: **\<Error\>**, **\<Warning\>** or **\<Trace\>** and color coded correspondingly.
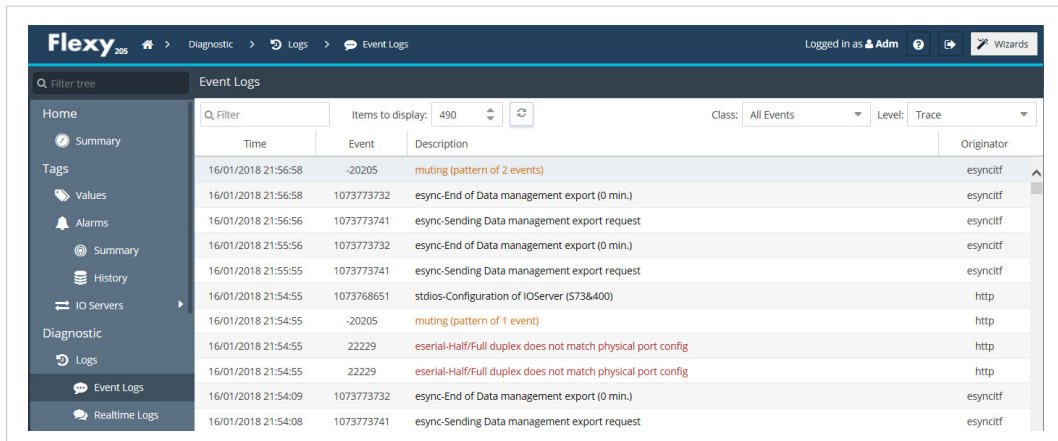

Fig. 19   Troubleshooting through Event Logs.

Each event also includes an event number or error code. Information about these error codes and the most common causes is available on www.ewon.biz/support.

21.3   Scheduled Actions

The Scheduled Actions log shows the states of the last 20 outgoing actions like SendMail, putFTP, getFTP, NTPSyncro, SendSMS, and SNMPTrap.

If an error occurs during an action, the Scheduled Actions record will include an error code to help identify the source of the problem.

Fig. 20   Troubleshooting of Scheduled Actions.

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