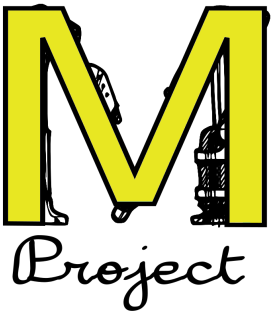

Morfeas WEB User Guide
Configuration

1 License

2 Change History

Jan 20,12022 : Sam Harry Tzavaras – Initial Work.

Contents

List of Figures

3 Introduction

This reference guide will introduce the utilities that are related to configuration of the Morfeas system and network.

The “Morfeas WEB” is published under the AGPLv3 or later.

4 Morfeas System Loggers

The Morfeas System Loggers utility is made to show information related to the Morfeas System’s components. It’s can be accessed for the Morfeas WEB front page by the button with this symbol.

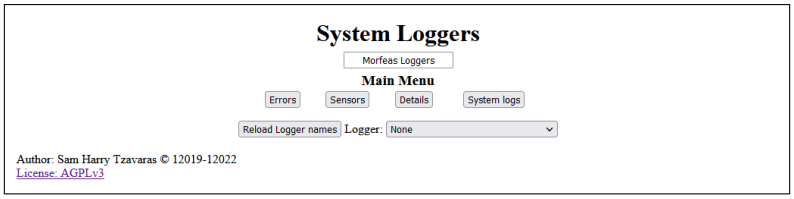

Figure 1: Morfeas System Loggers

At table 1 present the functionality of the utility’s tabs.

Tab Name	Purpose
Errors	Table with Sensors that reporting error.
Sensors	Table with all the available sensor.
Details	Table with report of component’s status.
System Logs	Loggers from Morfeas’ system components (Default).

Table 1: Morfeas System Loggers values

The “System logs” is the tab that shown by default at the opening of the utility. For the drop-down list at the bottom right it’s can be selected the logger of the component on interest. Each “Morfeas Component loggers”, is a human readable output (ASCI text) of the component. The “Reload Logger names” button refresh the list of components, by request from the device server. The Components of the “Morfeas system” configured from the “Morfeas System configuration” utility (section 6).

The “Details” tab shows all the status reports from the components. The “Sensors” tab present a list of the active sensors from all components. And the “Error” all the sensors that reporting error at status.

5 Morfeas ISO Channel Linker

The “Morfeas ISO Channel Linker” is an utility made to create ISO channels and link them with sensors. It’s can be accessed by the Morfeas WEB front page from the button with the anchor (🕉). At figure 2 shown an example of the “Morfeas ISO Channel Linker” utility.

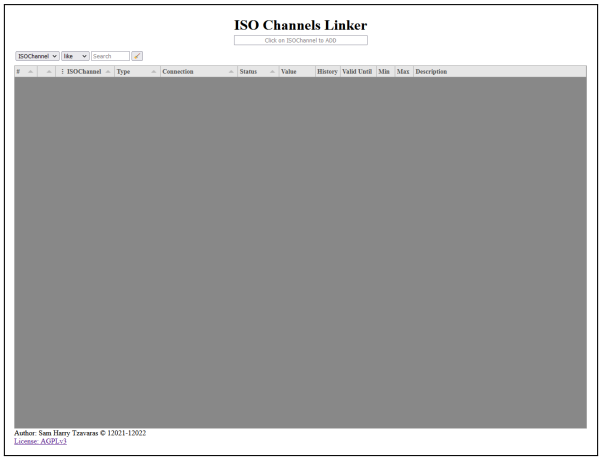

Figure 2: Morfeas ISO Channel Linker Utility

The utility window split in three sections: the status bar, the filters section, and the ISO Channels table.

The status bar show the last update date if at least one channel exist, or a message that informing the user to add channel(s).

The filter section, is filtering the ISO channels table, accordingly to the command from the user. The filtering command is specified from the two drop-down lists and the text input field. The first drop-down is selecting the column that the filtering will applied. The second drop-down select the filter type; for most of the columns (except “Min” and “Max”) is “like” and “regex”. The “Like” filter type is filter and show all the elements in the specified column, that contains the word in the search field, and similarly the “regex” the fields that agree with the regular expression phrase. For “Min” and “Max” the filter type change to a set of numerical comparing orders. The button with the broom clean the filter.

The ISO Channels table is the configuration and presentation tool of the “Morfeas ISO Channel Linker” utility. It consist by 12 columns, with data for each ISO Channel. The first column (from left) is show the order number of the ISO Channel. The second column show with a color (table 2) the status of each ISO Channel. The third column contain the ISO Channel’s name. The forth and fifth contains the Connection type and path of the sensor that anchored to the ISO Channel. Continue the sixth show the status of the anchored sensor, seventh the current value. The eighth (History) contains a historical graph of past values of the sensors value, this graph show two minutes in past. Next column show (if supported) the last valid date of the sensor. The last three columns is the attributes of the ISO Channel; “Min”, “Max” and ISO Channel’s description.
Columns up to sixth can be shorted using the arrow at column name. The shorting can be restored by clicking the filter clean button (broom).

Color	**Explanation**
Green	Okay
Orange	Calibration not valid
Red	Sensor warning
Black	OFF-Line/Disconnected

Table 2: Colors status

5.1 Add a new ISO Channel

To add a new ISO Channel the ISOChannels menu can be used (figure 3) or the shortcut **Ctrl+Alt+A**.

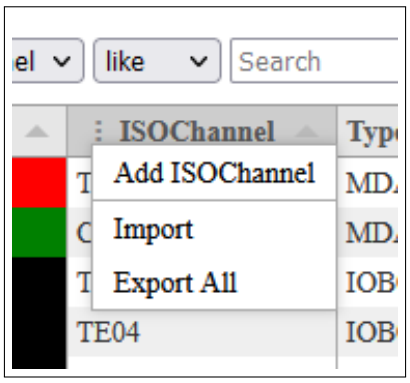

Figure 3: ISOChannel's column menu

By giving the "Add ISOChannel" command (from menu or shortcut) a new window with the "Link Creator" will appear (figure 4).

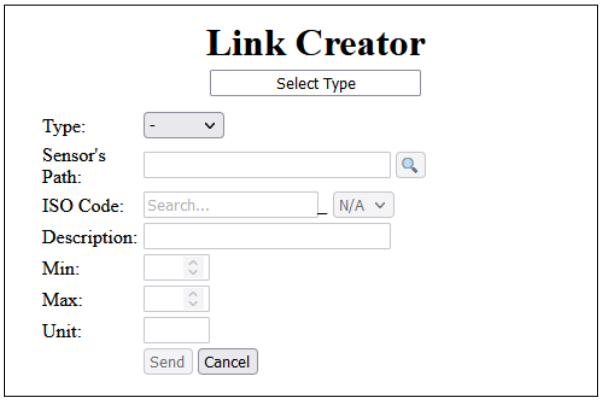

Figure 4: ISO Channel Link Creator

The "Link Creator" window request from the user to enter the information and attributes that related to the ISO Channel. That's are: Type, Sensor's Path, ISO Code, Description, Min, Max and Unit.
The "Type" entry is determinate the type of the sensor. The "Sensor's Path" is the logical path to the sensor, this determinated accordingly to the type of it. For example for SDAQ type the path is constructed like "CAN-f.Addr:XX.CH:XX". In any case the "Link Creator" will provide a hint related to the "Type", or a message in case that no devices are available. If the entry of "Sensor's Path" is invalid will become red. Also at the right of the "Sensor's Path" entry is a button with a magnification glass on, where if it clicked will open the "Device Search" utility window (figure 5). The "Device Search" utility provide a tree with the available sensors of the selected "Type". Any valid selection from the "Device Search" utility will fill the "Sensor's Path" entry.

The "ISO Code" entry is specified the name of the ISO Channel. The utility also hinting and autofill this and the following entries with values from the "ISO Standard". However, in manual entry the user is responsible to fill all the entries.

The "Unit" entry is some of the values of the "Type" entry will autofilled with the value that the sensor reporting.

If all the entries is validly filled the "Send" button will become available, and on click will send and the ISOChannel.

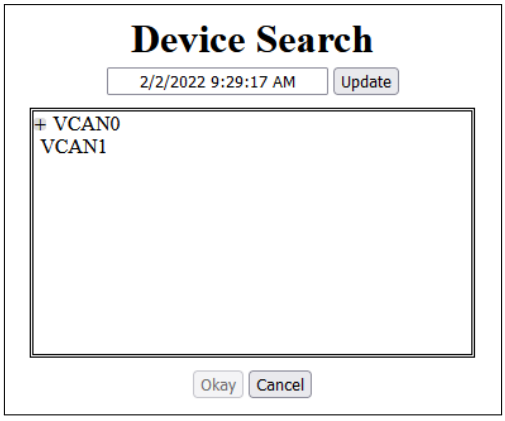

Figure 5: Device Search utility

5.2 Edit an ISO Channel

The request of edit for an ISO Channel can be done by two ways. Either by double click on the ISO Channel name, or by right click (figure 6) on the ISOChannel name and then click "Edit".

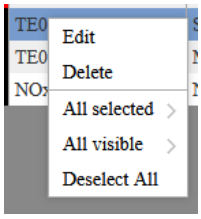

Figure 6: ISO Channel Right Click menu

After the request of ISO Channel Edit, a new window (figure 7) with the "Edit Link" utility will open. The field that are available for edit are: Description, Min, Max, and Calibration date, calibration period, unit, if are specified from sensor type. Also, if the ISO Channel that is under edit was in "OFF-Line/Disconnected" state the Sensor's Path will be also available.

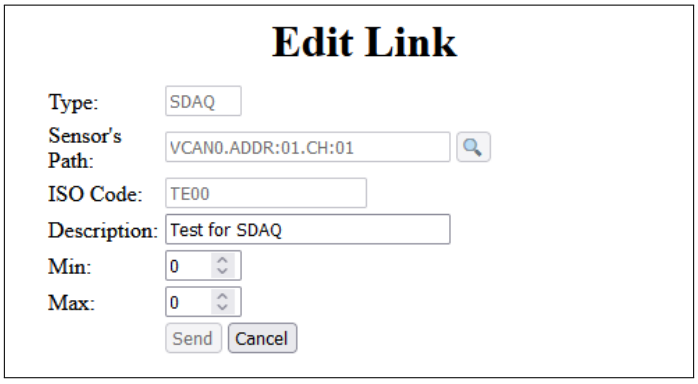

Figure 7: ISO Channel Edit Link Utility

5.3 Delete ISO Channel(s)

The deletion of one ore more ISO Channel from the table done in two ways, by selection and as group. The by selection deletion done doing right click on the ISO Channel name that going to be deleted and select “Delete”.

The “As group” deletion, done in two ways, by selected group and by visible group. The selection of a group required first to make a selection group by clicking on the ISO Channel’s row. Then right click on any table’s row, click on “All selected” and then “Delete”. Un-selection done by hitting “**ESC**” key, or clicking on the filter clean button (broom).

The deletion of visible group have purpose to delete all the visible ISO Channel rows of the table. Suppose that some filter have been applied before, then right click on some row, click ”All visible” and then “Delete”.

In any case, before of a deletion request a verification message will appear.

5.4 Export ISO Channels

Exporting functionality of the Morfeas ISO Channel Linker Utility is the creation of an JSON file, that contains the ISO Channels of the table or a selection. This file will save in the local computer by the browser.

To export all the ISO channels, use the menu of the ISO Channel column (figure 3), and Click “Export All” or the shortcut **Ctrl+Alt+E**. To export a selection of ISO channel it can use either a the “All visible” (in combination with filtering), or the “All selected” (by have did a click selection) from the right click menu of the ISO Channel table (figure 6).

For each case the exported file will be named accordingly to the selected operation together with the created date.

5.5 Import ISO Channels

The import of JSON file with ISOChannels can be done either from the ISOChannels column menu (figure 3) or by the shortcut **Ctrl+Alt+I**. a new window with the import utility will be appeared (figure 8).

Figure 8: ISO Channel Import Utility

From the import utility you select the file to be import by the “Browse” button. After the user’s selection the validation procedure will start and the result of it will print in the logger. In case that the validation pass with success the “Upload” button will become available.

6 Morfeas System configuration

The “Morfeas System configuration” utility can be accessed from the Morfeas WEB front page from the button with the Morfeas core configuration logo ( ).

The “Morfeas System configuration” utility have three tabs, that are: “Morfeas System”, “ISOStandards”, “Up/Down Load”. With the “Morfeas System” tab the user can manipulate the components of the Morfeas system. The “ISOStandards” tab, print in a table the current ISOStandards file that is loaded in the server. The “Up/Down Load” tab have the necessary utilities for download the current ISOStandard and upload a new one. Also to get/set the Morfeas configuration and ISOChannels using the Morfeas bundle files (mbl).

At the following subsections will be introduced the operation for each tab of the utility.

6.1 “Morfeas System”

At the figure 9 shown an example of the “Morfeas System” tab. The left side have a tree with the currently configured components of the Morfeas system. The Morfeas System can have up to 16 components, from them one is always occupied by the Morfeas OPC-UA component, so 15 of them are used configurable.

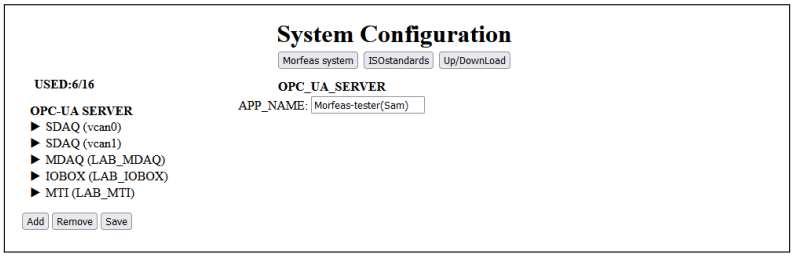

Figure 9: Morfeas System configuration

Bellow the components tree are three buttons with command that are for manipulation of the components. That are: “Add”, “Remove”, “Save”.

The “Add” button can add a new components, when it is press will show a new window with the “Add Component” utility (figure 10). The “Add Component” utility required from the user to choose what type of component will be added, together with the necessary options.

The “Remove” button will remove from the tree the component which is selected (except from the Morfeas OPC-UA. Which can not be removed).

The “Save” button will send and apply the modification to the server.

The right section of the “Morfeas System” tab, contains the configuration options of the selected component. For any change there to be applied need to be saved before with the “Save” button.

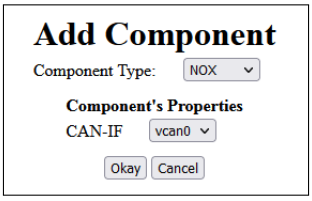

Figure 10: Morfeas System add component

6.2 “ISOStandards”

The “ISOStandards” tab show an instance of the current ISOStandard file as table. The table have five columns with titles: “NAME”, “DESCRIPTION”, “UNIT”, “MAX”, “MIN”. Every row of the table contains the field data of each ISO Standard, sourced from the ISOStandards file. The ISOStandards file is a XML file structured as shown at listing 1.

Listing 1: Structure of ISOstandard file

```
<?xml version="1.0" encoding="UTF-8"?>
<root>
  <points>
    <ISOStandard_name_tag> <!-- Up to 20 Characters -->
      <description>Description of ISOStandard</description>
      <unit>Default Unit</unit>
      <max>Maximum value</max>
      <min>Minumum value</min>
    </ISOStandard_name_tag>
    ....
  </points>
</root>
```

6.3 “Up/DownLoad”

The “Up/DownLoad” (figure 11) is the last tab of the “Morfeas System configuration” utility. It have purpose to the allow the user to upload and download the ISOStandards file and the Morfeas system configuration in mbl file form.

The ISOStandards file that will be uploaded must have be structured as shown at listing 1. The file selected by the “Browse” button at the ISOStandard Up/DownLoad section. After of a successful selection the file will be validated against the standard, and after of a successful validation will be ready to be Upload to the server. For download of the current ISOChannels file from the server the Download button of the ISOStandard Up/DownLoad section can be used.

The “Morfeas Bundle Up/Download” section of the “Up/DownLoad” tab used to get and/or set the configuration of the Morfeas system. This done by the mbl (Morfeas BundLe) files, which are a custom made format file that contain the Morfeas system’s components and them configuration together with the lastly configured ISOChannels, in a single archived file.
A mbl file can be selected by the “Browse” button at the “Morfeas Bundle Up/Download” section, and be Uploaded to the server by the “Upload” button.
The “Download” button of the “Morfeas Bundle Up/Download” section download to the local system a new mbl file (Named as Hostname_Date-of-creation).

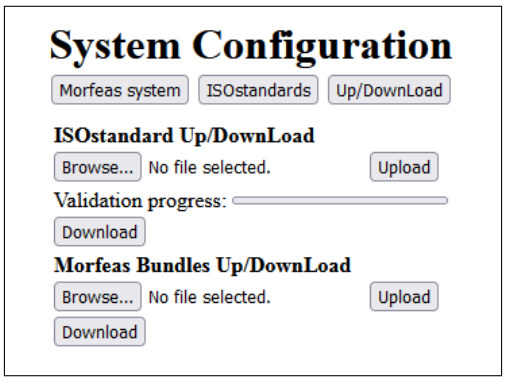

Figure 11: Morfeas System Up/DownLoad

7 Network configuration

The network configuration utility is accessed by the front page of the Morfeas WEB from the button with this ⇿ symbol. At figure 12 shown an example of the network configuration utility.

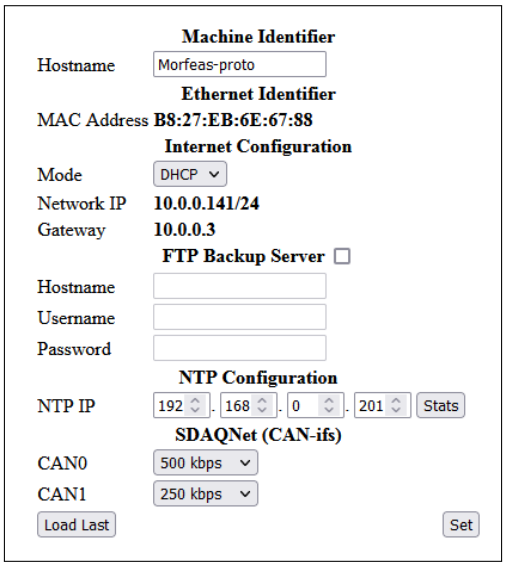

Figure 12: Morfeas WEB Utility for Network Configuration

Value	Purpose
Hostname	Name for discovery services (avahi, samba, etc)
MAC Address	Identifier of the Ethernet interface
Mode	Internet address configuration mode (Static, DHCP)
Network IP Gateway	IP address and subnet range bits (In static mode only) Gateway's IP address (In static mode only)
FTP Backup server Hostname/IP Username/Password	Hostname/IP of the Backup FTP server Credentials of the R/W account for FTP Backup server
NTP IP	IP address of the local network time protocol server
SDAQNet(CAN-ifs)	Configuration of the bitrate for each available native can-if

Table 3: Network configuration values

At table 3 present the values and purpose of the configuration fields of the utility. The Backup FTP server if it's be activated required three variables, Hostname/IP, Username and Password of the dedicated R/W FTP account. This functionality, attempt to save in the FTP server backups (in mbl files) of the "Morfeas System", in every change of the OPC-UA nodeset or when any new Morfeas component is added or modified.

The two buttons at the bottom of the utility window(Load last, Set), have purpose to send the current configuration to the device (Set), and reload the last configuration from the device (Load Last).