# Manual

# SPIDERnet

## Message-Manager



## HPF GmbH – BO Chemnitz

# Contents

# Register of illustrations

# List of tables

# 1 Introduction

The Message Manager is the solution for a central message interface in the SPIDER automation network. All client messages and logs are taken in in this central place. The messages can be forwarded automatically via e-mail or SMS. You can save all messages and logs in files in order to track system processes. If a client receives a log or message, it will be immediately visualized in the user interface.
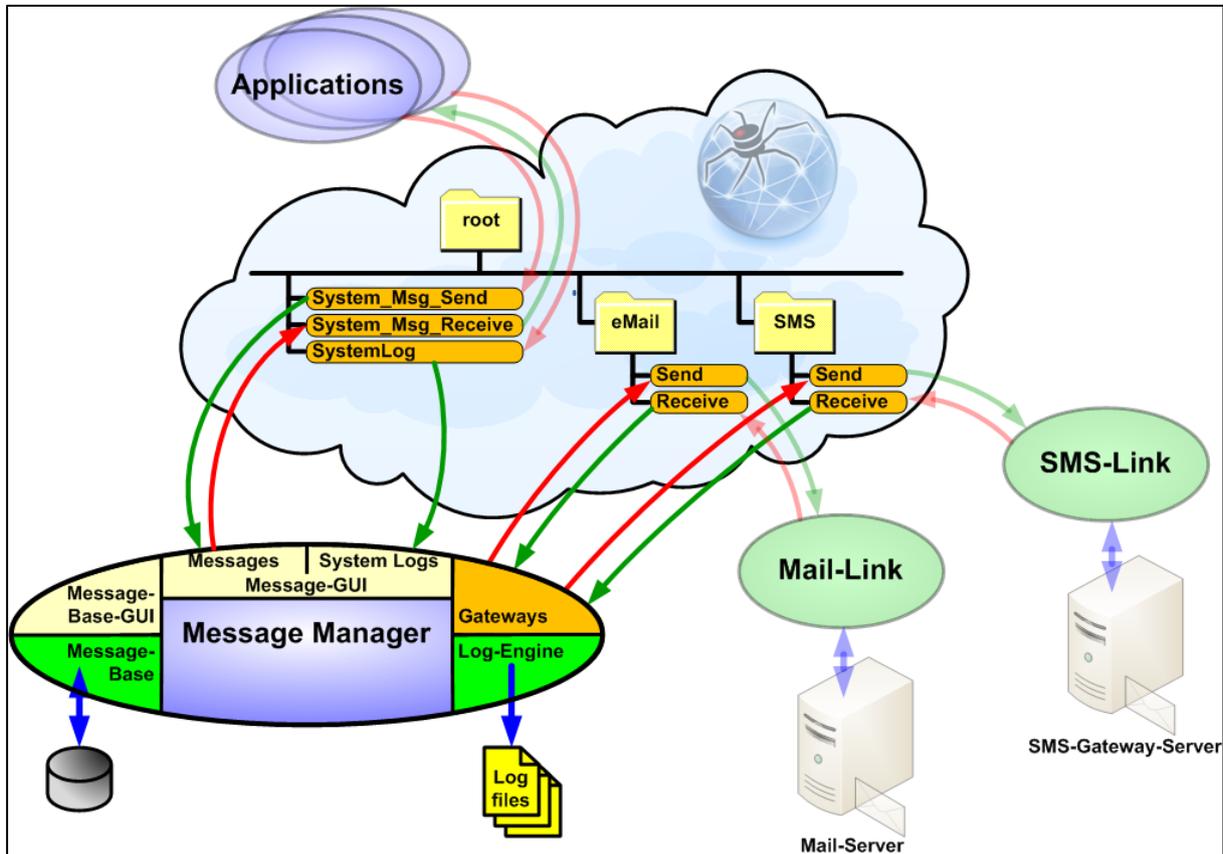


ill. 1 Integrate the Message Manager in SPIDERnet

# 2 Requirements

There has to be the Microsoft.NET Framework 3.5 installed on the host PC in order to perform Message Manager. In addition to that a SPIDER has to be active in the network which can be accessed by Message Manager. An application link (Mail-Link, SMS-Link) must be available so that e-mails and SMS can be sent.

# 3 Startup procedure

## 3.1 Start the Message Manager

You can start the Message Manager by double clicking *MessageManager.exe.*

The notification "Failed to initialize loging engine for Messages" appears while you carry out the initial startup. The notification appears because the log engine has not been configured yet. You can close the pop-up window by clicking the *OK* button.

Afterwards a dialog window opens and the question "Do you want to continue application without file logging capabilities, or to adjust settings?" appears. You have to answer with *Yes* in order to perform the configuration.

If SPIDER is not running on the same Computer, you will have to confirm another appearing notification with Yes.

## 3.2 Configuration of the SPIDER connection

Open the configurator to configure the SPIDER connection (right click on the Tray Icon → Edit Message base) and select the index-tab "Interfaces".
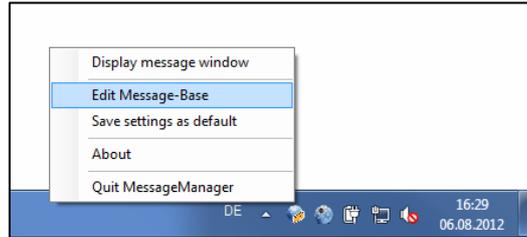


**ill. 2 Open the configuration menu**

Enter your SPIDER data into the "SPIDER connection" group. You can search for a SPIDER in the network by clicking the browse button.
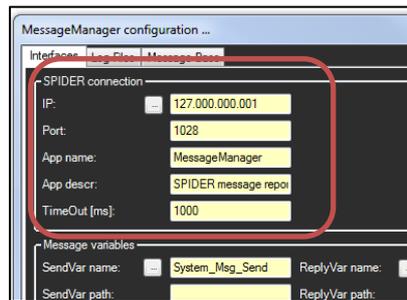


**ill. 3 SPIDER connection**

Afterwards you have to allocate names for the message variables and system log variables (as seen in ill. 4).



**ill. 4 Message variables and system log variables**

## 3.3 Configuration of sub-gateways

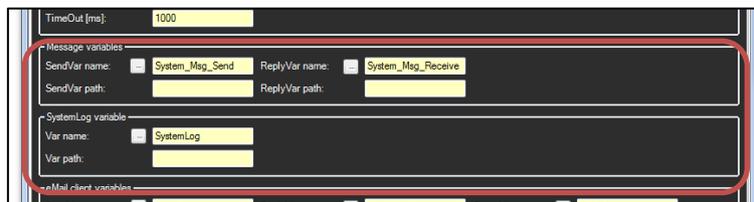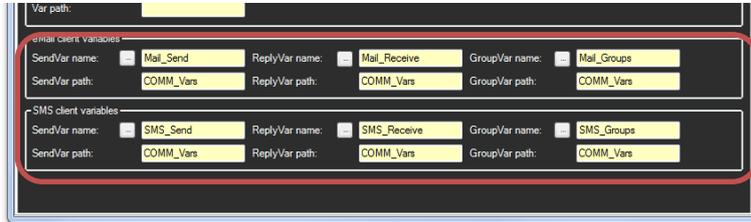Mail-Link and SMS-Link belong to the sub-gateways. You have to indicate their SPIDER variables in order to use them. Configure the SPIDER variables in the configuration menu Message-Base (right click Tray Icon → Edit Message-Base) in the index-tab interface, under the menu point "eMail client Variables" and "SMS client variables".



**ill. 5 Sub-gateways**

## 3.4 Configuration of the log engine

Open the configuration menu and select the index-tab "Log Files" to configure the log engine.

You can make all logfile settings for coming in messages on the send-message variable in the "Message log" group. The settings for the logfile are made via "SystemLog", which records all logs on the system log variable. You have to indicate the path and the file body name to save the logfile. The number of entries per file can be determined via "Items per file" button. You can furthermore determine the index of the first file via "File counter".

The Logfile generation will be activated by putting a tick by the "Activate file log" field.
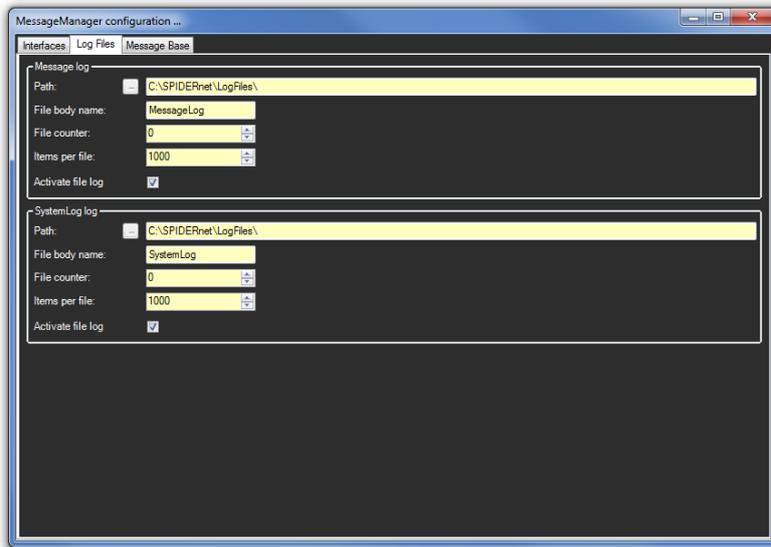


**ill. 6 "Log Files" menu**

# 4 OPERATION

## 4.1 USER WINDOW

The user window appears after starting Message Manager. All message logs and system logs are shown in this window. Here you can confirm a message by the user, if you need to.

The user window is in the foreground and cannot be covered by other programs. You can turn this option on/ off by clicking the right mouse button in the window (Top most on/ off).

You can close the window by clicking the *X* button, while the Message Manager keeps running in the background. You can display the window anytime by clicking on the Tray Icon (right mouse click → Display message window).

You can save the window settings (size, position,...) via right click on the Tray Icon → Save settings as default.

## 4.2 EDITOR FOR THE MESSAGE DATABANK

You can find the message databank editor in the configurator (right mouse click on the Tray Icon → Edit Message-Base) under the index-tab "Message-Base".

### 4.2.1 BASIC OPERATION

You can call up a context menu by right clicking the relevant content (MessageBase, DeviceGroup, Device or message). The menu offers you functions such as for example "Create", "Delete", "Copy" and "Rename".
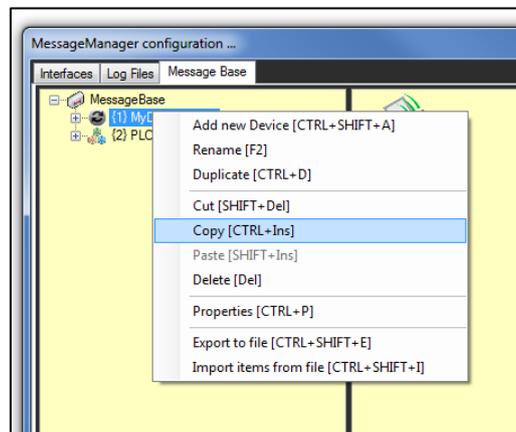


**ill. 7 Context menu message databank editor**

### 4.2.2 IMPORT / EXPORT OF MESSAGES

Standard settings are already provided for several components in the Message Manager. The *.msg file contains those settings. You can import them directly (right mouse click → Import items from file).

You can use the export function (right mouse click → Export to file) to create a back-up or to transmit an available configuration to another system. Using the export function it depends on which content you choose (cf. table 1).

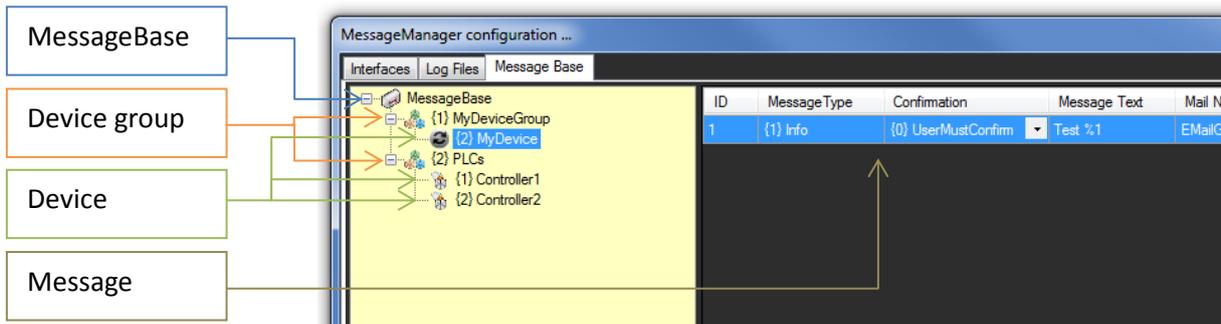| Selected object | Export |
|---|---|
| **Single message** | Single message (incl. path) |
| **Device** | Device with all messages |
| **DeviceGroup** | Device group with all devices and messages |
| **MessageBase** | Everything |

table 1 Breakdown export

### 4.2.3 Compile messages

The following structure has to be available in order to compile a message:



ill. 8 MessageBase structure

The MessageBase contains at least one DeviceGroup. Each DeviceGroup contains at least one Device and each Device contains at least one message.

If such a structure doesn't exist, you can compile it the following way:

Add a device group

Open the context menu by clicking the right mouse button on MessageBase and select "Add new DeviceGroup". A device group will be added. You can rename the device group (F2) and customize the identifier.

Add a device

Select "Add new device" in the context menu of the device group. A new device will be compiled. You can now add messages to the device.

Add a message

Click the right mouse button in the message window or the device node and select "Add Message".

### 4.2.4 Options for messages

There are the following configurable options for each message:

- ID
  - numerical value
  - dynamic range -2.147.483.648 to 2.147.483.647
- MessageType
  - determines the message type
    - 0-Unspecified
    - 1-Info
    - 2-Warning
    - 3-Danger
    - 4-Exception
- Confirmation
  - determines the type of confirmation
    - 0-UserMustConfirm: is shown in the message window until the user confirms
    - 1-AutoConfirm: automatic confirmation
- Message Text
  - Message text which is shown in Logfile, message window and SMS or e-mail
  - You can define a placeholder for optional texts. It is being marked by "%" and a numerical value (as seen in chapter 6).
- Mail and/or SMS notification
  - You have the additional option to send messages via e-mail or SMS (cf. chapter 4.2.5)

### 4.2.5 Forwarding messages to sub-gateways

If you want to forward a message while you are on the move, you have the option to send it to sub-gateways. They include SMS and e-mail gateways. You have to determine an addressee group for the gateway you want to use in the message configuration in order to leave a message via one of the two gateways.
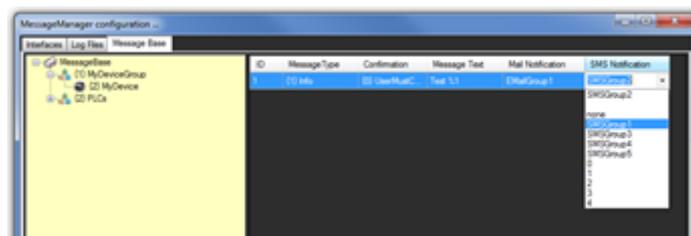


**ill. 9 Select the addressee group**
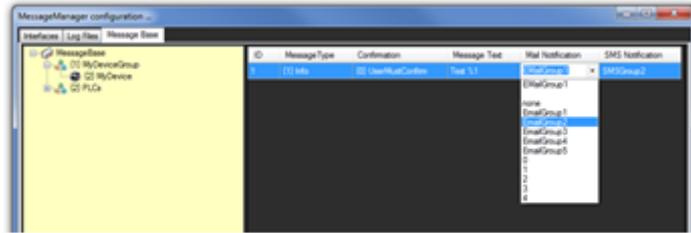
**ill. 10 Select the addressee group**

You have to configure the addressees in the current client program (MailLink/ SMSLink).

You can additionally administer the rights for the gateway use on the different levels (Device, Device group, MessageBase). Choose the needed level node and click the right mouse button to enter the context menu. The menu item *Properties* allows you to manage your rights. The rights are valid for all components below the chosen node.
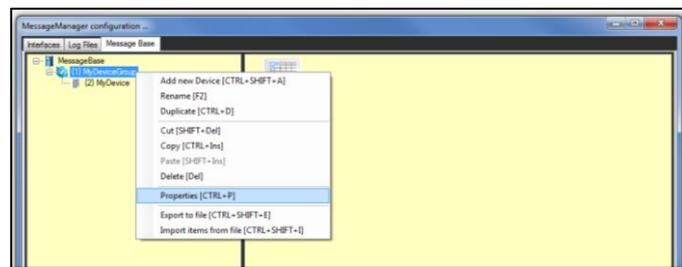


**ill. 11 Context menu of the device group**
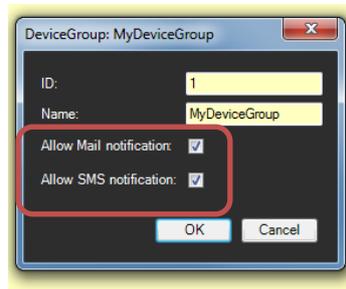


**ill. 12 Gateway rights management**

# 5 Message Manager interface

The following interface is being provided with the Message Manager.

The messages that are written on the sending variable of the Message Manager have to meet the following format requirements:

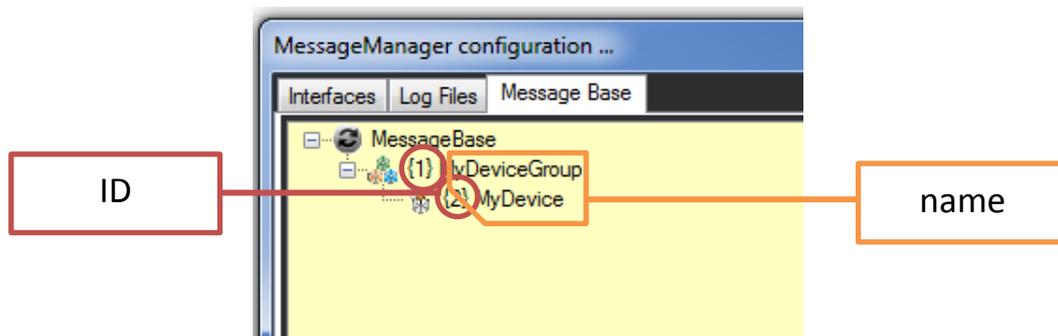<GUID>~<DeviceGroup-ID>~<Device-ID>~<Message-ID>~<Opt.Text1>~<Opt.Text2>~<Opt.TextN>

The tilde (~) functions as separator for all information blocks.

GUID
GUID stands for Globally Unique Identifier. It complies with the source identifier. Therefore messages can be allocated to a specific sender.

DeviceGroup ID
A device group consists of a name and an ID. The following illustration shows how to find the ID.



**ill. 13 ID and name of the device group and the device**

Device-ID
A device consists of a name and an ID. The illustration (ill. 13) shows where you can find the ID.

Message-ID
Each message has an ID. It is listed in the beginning of a message.

Optional texts
Each message can have any number of optional texts. You can add them after the message, separated by a tilde (~).

SPIDERnet

# 6 Example

The heating control on a PLC wants to send out a notification about overstepping the limited temperature and inform the user about the current temperature and the relevant heating circuit number. In this case the user predetermined the following settings in the Message Manager:

- Device-group-ID:     1 = PLCs
- Device-ID:             0 = Heater circuit control

The heater circuit control has to publish its messages under the Device-group-ID 1 and the Device-ID 0. The user defined the number 13 as temperature limit for a notification in case of overstepping. There will be created a message with the number 13 in Device-group 1, in device 0 with the following text:  "Overstepped temperature in the heating circuit %1! Current temperature: %2". The entries "%1" and "%2" are to be seen as placeholders for optional texts which are sent within the clients message.

The Client would characterize the message string with the following values:

- Client identifier:        any GUID
- Device-group-ID:      1
- Device-ID:              0
- Message-ID:            13
- Opt. text 1:             „7"
- Opt. text 2:             „103.56°C"

The message string would then be the following:

 „any GUID~1~0~13~7~103.56°C"

According to the definition: "Overstepped temperature in the heating circuit %1! Current temperature: %2", the final message in the Message Manager would be the following:

"Overstepped temperature in the heating circuit 7! Current temperature 103.56°C"