TILA / TILANET - FP Gateway Editor
User Manual

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1 Introduction and preparation

The TILA / TILANET FP gateway editor enables projects for the FP gateways to be edited and to transfer them between the device and the PC. The clear interface makes the required settings and parameters easy to access without requiring a long introduction to the *TiXML* configuration language. TILA is intended for devices with mobile communications modems and you can use TILANET to configure devices that only have a LAN interface.

> **i** All projects for the FP gateways are written in the *TiXML* XML language variant. In order to write projects in this language directly, you require detailed knowledge of it. The FP gateway editor takes on this task for you by summarising the relevant options clearly in a graphical user interface.

Before you start working, the FP gateway must be connected to the power supply and, if necessary, to the telephone network and your PC. Also connect the PLC to the FP gateway. This is described in section 5 in this manual. Once you have connected the FP gateway, use the USB stick supplied as standard to install the FP gateway editor on your PC.

1.1 The program window

Restart the FP gateway editor (TILA). The program window is divided into several parts:
The left edge of the window contains the **options bar** with all elements that are required to edit the selected setting.
The bottom edge contains a **navigation bar**. You can use this to access all modules that are required for the project. Thematically related settings are combined in these modules. Each area that can be accessed via an icon in the navigation bar can be considered its own module. Note that some elements in the navigation bar are only displayed once a connection to the FP gateway has been established or a device has been selected for offline project planning.

Details displays short specifications for the element that is currently active.
The largest part of the window displays the settings that are currently being edited. **(Work area)**

You can also use the menu bar (directly below the header bar in the program window) to access the modules that are accessible via the navigation bar.

Furthermore, the following icons are displayed in the navigation bar and next to the input fields if required to advise you of errors in the project:

- Incomplete entry
- Incorrect entry
- Number of errors contained in a specific module

2 Connecting to the FP gateway

Click **[Connection]**[1] in the navigation bar to connect TILA to the FP gateway.
The connection module is intended to manage systems in a type of phone book. You can save connection templates for your installed systems including all parameters such as phone numbers and passwords.

The overview screen already contains a template for each connection type so that you only have to enter a few pieces of user-specific data.

First check the properties displayed in the table for the required connection to ensure that they are correct. If the settings are correct, select the corresponding connection and click **[Connect]** in the options bar.

In order to correct the settings if required, select the corresponding connection and click **[Edit]** in the options bar. You can enter all required settings for this connection type in the form that opens.

In order to create a template for a new connection, click the **[New]** button.
In both cases, the connection editor opens, in which you can define the connection's properties. You must first specify the type of connection that this should be, for example, whether it should be established to a local FP gateway or to a remote device via the telephone network.

The following sections describe the different types of connection and the settings required for these.

In order to find out which exact modems are connected to your PC, use the **[Find devices]** function. TILA then searches all COM ports on the PC for modems and displays these in the list of COM ports in **[Local Modem]**.
Standard modems such as modems in laptops are also displayed. These can only be used for remote connections to FP gateways.
In order to establish the connection, you must first make some settings.

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[1] Buttons in the TILA program interface are shown in bold and in square brackets in this manual.

As soon as the connection to the FP gateway is established, it can be disconnected at any time by clicking the [Disconnect] button. In order to disconnect a transmode connection, use the corresponding button in the transmode dialogue, which is displayed as soon as this type of connection was established.

2.1 FP Gateway – locally at the PC (only for older Tixi devices)

Select this option in **Connection** if you wish to configure an FP gateway that is connected directly to a COM port on the local PC.

2.1.1 Local Modem

Find devices

Use this button to have TILA search for modems that are connected to your local PC. Devices that are found are then displayed in the **Device** list box.

Device

Enter the PC COM port to which the FP gateway is connected here. If you have previously clicked [Find devices], the devices that are connected to the COM port are also displayed here.
This type of connection can only be established to FP gateways.

2.1.2 Authentication

Password

A password is required if the FP gateway has already been configured previously and provided with access protection. This field is only displayed if you have previously clicked the [Advanced] button.

Then click the [Connect] button to establish the connection between TILA and the FP gateway with the selected parameters.
The changes made to the template are saved to this template when connecting.

The connection status is indicated by the icon in the top right corner of the program window.
If the FP gateway editor cannot establish a connection to the

connected modem despite the settings being obviously correct, deactivating/activating the [Tools] > [Settings] > [Delay after opening the COM port] option can solve compatibility problems on some serial interfaces.

2.2 FP Gateway – via telephone line

Select this option in **Connection** if you wish to configure a remote FP gateway. To do this, you must connect a local, Hayes-compatible modem to your PC in order to establish a telephone connection to the remote FP gateway.

2.2.1 Local Modem (only for older Tixi devices)

Find devices

Use this button to have TILA search for modems that are connected to your local PC. Devices that are found are then displayed in the **Device** list box.

Local Modem
Select the PC COM port here that is used to connect TILA to the Tixi device.
Find devices
Device: COM13

Device

Enter the PC COM port to which the local modem is connected here.

The following fields are only visible if you have previously clicked the **[Advanced]** button:

Baud Rate

You can enter the connection speed between the PC and the local modem here.

Dialing method

The default setting is **Tone (MFV)**, which you should only change in justified exceptional circumstances.

Wait for Dial Tone

Select this checkbox if you have to wait for a dialling tone (free-line signal) on a telephone system before dialling.

AT Init

You can enter an alternative InitString for initialising the local modem here.
Examples (AVM-Fritz card):   `ATS31=8; S51=0; X0; E0` (analogue)
`ATS31=0; S51=0; X0; E0` (ISDN)
`ATS31=2; S51=0; X0; E0` (GSM)

2.2.2 Remote Modem

Telephone Number

Enter the telephone number that has to be dialled in order to reach the remote FP gateway's local modem here.

Remote Modem
Dial settings for reaching the remote modem.
Telephone Number: 12

2.2.3 Authentication

Password

A password is required if the FP gateway has already been provided with access protection. This field is also only displayed if you have previously clicked the **[Advanced]** button.

Authentication
If access to the device is being protected, you can fill in here the password.
Password:

Then click the **[Connect]** button to establish the connection between TILA and the FP gateway with the selected parameters. The changes made to the template are saved to this template when connecting.
The connection status is indicated by the icon in the top right corner of the program window.

Connected to remote modem

If the FP gateway editor cannot establish a connection to the remote GSM modem despite the settings being obviously correct, deactivating/activating the **[Tools] > [Settings] > [Delay after remote CONNECT]** option can solve compatibility problems with some mobile communications providers.

2.3 PLC – via telephone line

Select this option to connect the PLC control software on your local PC via a local modem and the telephone network to a remote controller that is connected to a remote FP gateway.
Note that this connection type requires an <u>external serial modem</u>. The modems integrated into laptops <u>cannot</u> be used for this.

2.3.1 Local Modem (only for older Tixi devices)

Find devices
    Use this button to have TILA search for modems that are connected to your local PC. Devices that are found are then displayed in the **Device** list box.

Device
    Enter the PC COM port to which the local modem is connected here. If you have previously clicked **[Find devices]**, the devices that are connected to the corresponding COM port are also displayed here.
The following fields are only visible if you have previously clicked the **[Advanced]** button:

Handshake
    Enter the handshake to the local modem, which should be used here.

Dialing method
    The default setting is **Tone (MFV)**, which you should only change in justified exceptional circumstances.

Wait for Dial Tone
    Only select this checkbox if you have to wait for a dialling tone (free-line signal) on a telephone system before dialling.
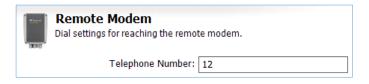
AT Init
    You can enter an alternative InitString for initialising the local modem here.
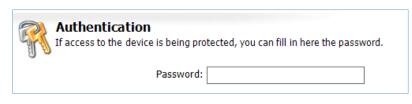
2.3.2 Remote Modem

Telephone Number
    Enter the telephone number that has to be dialled in order to reach the remote FP gateway's local modem here.

2.3.3 PLC

PLC
Select the remote FP gateway's COM port to which the controller is connected.

Baud Rate
Define the baud rate for communication between the control software and the controller.

The following fields are only visible if you have previously clicked the **[Advanced]** button:

Data Bits
Set the number of data bits for the serial connection between the control software and the controller here.

Parity
Choose between Odd, Even or None in order to specify the parity for the data format for the serial connection between the control software and the controller.

Stop Bits
Enter the number of stop bits for the serial connection between the control software and the controller here.

Handshake
Define the handshake between the remote FP gateway and the controller here.

Waittime
You can enter a time frame here, in which the FP gateway has time to switch over to a transparent connection to the PLC.

2.3.4 Authentication

Password
A password is required if the FP gateway has already been configured previously and provided with access protection. This field is only displayed if you have previously clicked the **[Advanced]** button.

Then click the **[Connect]** button to establish the connection between TILA and the FP gateway with the selected parameters. The changes made to the template are saved to this template when connecting.
The connection status is indicated by the icon in the top right corner of the program window.

If the FP gateway editor cannot establish a connection to the remote GSM modem despite the settings being obviously correct, deactivating/activating the **[Tools] > [Settings] > [Delay after remote CONNECT]** option can solve compatibility problems with some mobile communications providers.

2.4 PLC – local at the FP Gateway

Select this option to connect the PLC control software on your local PC via a local FP gateway to a controller that is connected to it. ("TransMode")
In order to find out which modems are connected to your PC, you can use the [Find devices] function. TILA then searches all COM ports on the PC for modems and displays these in the list of COM ports in **Device**.

2.4.1 Local Modem (only for older Tixi devices)

Device
Enter the PC COM port to which the FP gateway is connected here. If you have previously clicked [Find devices], the devices

that are connected to the corresponding COM port are also displayed here. This type of connection can only be established to FP gateways.
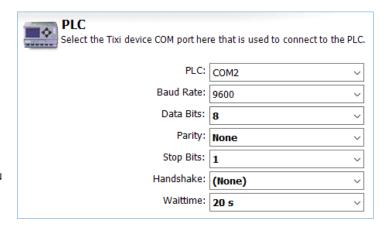
2.4.2 PLC

PLC
Select the FP gateway's COM port to which the controller is connected.

Baud Rate
Define the baud rate for communication between the control software and the controller.
The following fields are only visible if you have previously clicked the [Advanced] button:

Data Bits
Set the number of data bits for the serial connection between the control software and the controller here.

Parity
Choose between Odd, Even or None in order to specify the parity for the data format for the serial connection between the control software and the controller.

Stop Bits
Enter the number of stop bits for the serial connection between the control software and the controller here.

Handshake
Define the handshake between the FP gateway and the controller here.

2.4.3 Authentication

Password
A password is required if the FP gateway has already been configured previously and provided with access protection. This field is only displayed if you have previously

clicked the [Advanced] button.

Then click the [Connect] button to establish the connection between TILA and the FP gateway with the selected parameters.
The changes made to the template are saved to this template when

connecting. The connection status is indicated by the icon in the top right corner of the program window.

3 The project

If you click **[Project]** in the navigation bar, you access a general overview screen on which you can execute the various actions with the project. The options bar at the bottom left of the screen contains the following options:

Start
You can use this button to go to the home screen. From there, you can access a short introduction to TILA, establish a connection to the device (Button **[Online...]**) or select a device type manually if you wish to create the project without a connection to the device (Button **[Offline...]**).

New
Click here to create a new project.

New from template
In order to create a project from an existing template, use this option.

Load...
You can use this to load a project that is saved on the hard disk into TILA in order to edit it or to transfer it to the FP gateway.

Save as...
Use these options to save a project that you created to your computer's hard disk for later use. You can also save it as a template (file type `*.TiXLT`) that can be used again and again to create new projects.

Properties
Use this to access a screen on which you can store additional specifications for the edited project. These do not have any effect on functions are for informative purposes only.

Exit Program
This exits TILA.

Send Project
Sends the currently loaded or created project to the connected FP gateway. Note that any project already contained in the device will be overwritten. This option is only available when there is a connection to the FP gateway.

Read Project
Use this to load the project contained in the device into TILA in order to edit it further. This option is only available when there is a connection to the FP gateway.

Display Project Code
You can display the project in *TiXML* language here, in which it is saved on the device.

Display Project Structure
You can display the project as an XML tree structure here, which provides a clearer overview of the various sections.

Details
This field displays brief information regarding the function that is currently active.

4 General gateway settings

Click the **[FP Gateway]** button in the navigation bar to first make some device settings. We recommend working through the register in the left options bar sequentially.

4.1 FP gateway

You can first select the type of modem used if there is no connection between TILA and the device. (Offline project planning).

Selection of an FP Gateway
For an offline configuration the FP Gateway model can be set manually.

Product Series: HT6xx (Tixi.Gate LAN + LTE)
Product: HT671
Status: Not connected

Advanced >>

4.2 Phone Settings

You can use this menu item to edit all entries that apply to the telephone connection via which the FP gateway is connected.

4.2.1 Own Telephone Number

Country/Region

Select the country in which the FP gateway is located here. For GSM devices, enter the country of origin for the SIM card that is used here.

Own Telephone Number
The FP Gateway responds to incoming calls on this number

Country/Region: Germany (+49)
Area Code: 151
Phone Number: 12345678
Extension:
International Telephone Number: +49-151-12345678

Area Code

Enter your connections' area code (without the leading zero) or the network dialling code for the SIM card that is used here.

Phone Number

Enter the connection's actual phone number without any prefix into this field.

Extension

If you are operating the FP gateway on a private branch exchange, you can enter the required extension here. This ensures that calls within the private branch exchange are not routed via the exchange line.

International Telephone Number

This field displays the phone number that is composed of the aforementioned entries in international format.

MSN (only for ISDN devices)

Enter the MSN for the ISDN end device that is used here. On the main connection, this is the complete phone number (without prefixes), while this can just be the extension on private branch extensions.

The following options are only displayed if you are using a GSM device.

PIN

Enter the PIN for the SIM card used here.

SIM Card
PIN number of the SIM card in the FP Gateway.

PIN:

<< Advanced

Query Card Credit:

Query Card Credit

This string is used to query the remaining credit on a prepaid card. Change this entry if your mobile communications provider uses a different syntax. Please note that some mobile communications providers such as 1NCE do not allow the credit to be queried.

4.2.2 Dial Parameters

These options are only displayed if you use an FP gateway for the analogue telephone connection.

Dialing method
    Set tone or pulse dialling here.

If the applicable device must wait for a dialling tone before it can dial, also activate the **Wait for Dial Tone** option.

4.2.3 Redial

Dial Attempts
    Enter the number of dialling attempts in the event of a failure to send a message here.

Delay
    Enter the waiting time between the dialling attempts here.

4.2.4 SMS Settings

These options are only displayed if you use an FP gateway for the analogue or ISDN network.

SMS Provider
    Enter the SMS provider for sending acknowledgements for telecontrol. The entry that you must select here depends on the network on which the recipient of the acknowledgements is located.

Landline SMS receipt server
    Also select the country in which the server is located, via which you wish to receive landline SMS.

Further providers can be added in the "Options" module.

4.3 Dial Prefixes

On this screen, you can set those entries that are required to operate the FP gateway on private branch exchanges. Click the **[Advanced]** button in order to display all input fields.

4.3.1 PBX (Private Branch Exchange)

Local Call
    If a prefix is required for local calls, enter this here.

Long Distance Call
    This is generally the same prefix as for local calls.

Internal
    A prefix is not normally required for internal calls. If this is required, you can enter it here.

4.3.2 Long Distance Calls

International Call

> Enter the prefix that is required for an international connection here. This is 00 in most European countries. The default value should not be changed.

Long Distance Call

> This default value (0) is also valid in most European countries and should not be changed.

4.4 Sender Data

A sender address must be entered for every message type that is to be sent.

Automatic Numbers

> Activate this option in order to generate all entries apart from the e-mail address automatically from the entries stored in the telephone settings.
> If you are not using this option, enter the numbers *in international format* (e.g. +49-30-1234567) into the corresponding fields.

E-mail

> Enter the e-mail address here if you wish to send these types of messages.
> This e-mail address must match the outgoing mail server account!

4.5 Sender Location Texts

These location entries are attached to outgoing messages and make it easier for the recipient to assign the messages to a specific device.

(SMS and Pager)

> This text fulfils the same function for SMS and pager messages. However, it is limited to 20 characters and must not contain umlauts.

Sender Location text
(E-mail and Fax)

> The location text is attached to e-mail, express e-mail and fax messages, and can be any length. You can use it like a signature for the corresponding device.

Fax Header

> This is used for fax messages and as a sender ID for express e-mail messages.

Variables can also be inserted into location texts in the same way as in "normal" message templates.

4.6 Internet Access

In order to be able to send e-mail messages, access data is required for the internet, which you can enter here. You can obtain this data from your internet service provider.

4.6.1 Access data

Internet Access
Settings of the Internet Provider.

Activated:	☑
Access Type:	GPRS
Connection Type:	Permanent Connection
Warning:	Only TCP/IP communications (E-Mail, Webserver, TFTP, TiXML) are possible with GPRS permanent connection. SMS, fax, pager, express-e-mail, caller ID switching and remote dialing (configuration/Transmode) are not supported. Take care to use a SIM card with volume rate GPRS to avoid high connecting costs.
Connection Check:	all 5 minutes
Connection Check for Receiver:	
Echo Timeout:	10 seconds
Phone Number:	*99#
APN:	iot.1nce.net
User Name:	*
Password:	●
Confirm password:	●

Access Type
Should be set to GPRS for mobile communications connections.
For on-demand connections, enter the service provider's access number in international format here. For example, if you have to dial 0192658, enter +49-19-2658. Short access numbers (e.g. 22243) are also allowed when using GSM networks.

Connection Type
Permanent connection or connection as required

Connection Check
Cyclical check of the GPRS connection via ping (ICMP). Once per minute to once per day.

Connection Check for Receiver
IP address or DNS name for the receiver. The receiver must support ping (ICMP).

Echo Timeout
Select 5 s to 30 s.

Phone Number
*99# or *99***1# (depending on the provider)

APN
Enter your provider's APN here, e.g. iot.1nce.net

User Name
Enter the user name for internet access here.

Password
Enter the password for internet access. This entry must be repeated to prevent typos.

4.6.2 DNS-Server

Activate this option if the provider assigns IP addresses automatically, which is generally the case.

Otherwise, you must enter the address for the DNS server used. If in doubt, ask your internet provider.

4.7 E-mail Server

In order to send e-mail messages, an SMTP server (outgoing mail server) is also required. This sometimes requests authentication, for which you can use the access data for a POP3 mailbox. You can obtain this data from your internet service provider. All modern e-mail servers also work with TLS encryption.

SMTP Server
   The mail server name for outgoing messages.

Authentication
   For all modern servers, ESMTP should be selected here (with encryption).

User Name
   You can obtain the user name for ESMTP authentication from your e-mail provider.

Password
   Enter the corresponding password here.

TLS/SSL encryption method
   Generally, "Using STARTTLS" should be selected here.

E-Mail Sender
   The e-mail address that you entered in Sender Data is displayed here. The SMTP server entered must match this address.

If you click the **[Advanced]** button, you can also enter the mail server's port if this is not default port 25.

4.7.1 Authentication via ESMTP

If you use "ESMTP" as the SMTP authentication, additional entries are required.

User Name
   You can obtain the user name for ESMTP authentication from your e-mail provider.

Password
   Enter the corresponding password here.

4.7.2 Authentication via POP before SMTP

If you have selected "POP before SMTP" as the authentication, the access data for your POP3 mailbox is required here.

POP3 Server
   The server for incoming messages.

TLS/SSL encryption method
   Generally, "Using STARTTLS" should be selected here.

User Name
   The login name for your e-mail mailbox; its sender ID is to be used to send the messages.

Password
   Repeat the password entry for this e-mail mailbox.

If you click the **[Advanced]** button, you can also enter the mail server's port if this is not default port 25.

4.8 Ethernet settings

The Ethernet interface for the FP gateways can be used to communicate with Siemens S7-200/300/400/1200/1500 controllers or Modbus TCP devices.

Generally, you should <u>not</u> select the "Automatic (DHCP)" setting here; rather, you should enter an IP address.

A suitable subnet mask and a default gateway must be entered.

4.9 Date and time

You can set the batter-backed real-time clock for the FP gateway here as long as TILA is connected to the device.

Set the required time zone on the right side and click the **[Set device clock]** button to set the device's real-time clock to your PC's system time.

Alternatively, you can also set a time at the bottom on the right and transfer this to the device regardless of the PC system time by clicking the **[Set Time (manually)]** button.

In order to set the time zone in which the FP gateway is located, select this from the list box above the right calendar field and click the **[Set device clock]** button.

4.10 Access protection

Define a user name and password here. This access data must be entered to configure and control the FP gateway in order to protect it against unauthorised access.

Password local
> Enter the password for local access here, i.e. for the situation in which you wish to establish a connection between the FP gateway and TILA via a local RS232 interface.

Access protection
The FP Gateway can be protected against unauthorized access.
A password can be defined for every connection type.

Password local: password1
Password remote: password2

Password remote
> Enter a password to protect the device against unauthorised remote access here. This password also applies to the ADMIN user in the Siemens-TeleService software.

Note: You must also enter the passwords that you enter here if TILA is to establish a connection to a device with the corresponding parameter settings.

4.11 Extensions

If the FP gateway is *not* connected to TILA, you can enter these modules in [Extensions] (in the options bar) if you use them.

Note: If TILA is connected to the FP gateway, the modules are detected automatically and cannot be defined manually. Expansion modules are only available for FP gateways in the Hut-Line.

Type	Interfaces	LAN interfaces	IO Ports	TiXML Path
✓ HM27	2	0	6	
✓ XP84D	0		12	C42

In the options bar, click [Extensions] and then [Modem Modules] in order to display an overview of the modem modules that are already present in the project.

4.11.1 Adding a module

In order to add a new module to the project, click [New Module] in the options bar. You can enter the module's type and address in the form that opens subsequently:

Name
> Select the type of module used here.

TiXML Path
> Leave this at the default address of "C42" if you are not using more than one expansion module. In order to work with several expansions, advanced settings are required on the device itself; please contact the technical support department at FP InovoLabs GmbH in this case.

Modem Modules
Settings for the devices IO-Extensions.

Name: XP84D
Type: XP84D
Interfaces: 0
LAN interfaces:
IO Ports: 12
TiXML Path: C42

The "Type", "Interfaces" and "IO Ports" fields display the properties for the applicable module. These entries depend on the hardware and can therefore not be changed.

If you are in the overview of modem expansions and an expansion is highlighted in the table, you can also change, duplicate or delete the applicable entry. Use the corresponding entries in the options bar for this.

5   Making PLC settings

You can set all parameters for the connection between the FP gateway and the PLC here. If this supports several stations, these can also be set up.

5.1 PLC system

You can use **[Device PLC Communication]** to set some basic settings for the PLC connection.

Please note: TILA / TILANET only enables one interface to be set up currently. If you wish to configure several interfaces simultaneously, use TICO or WebTILA.

Device Interface

Enter the FP gateway interface to which the PLC is connected here.

PLC or Fieldbus System

Select the manufacturer of the PLC system used.

Type

You can enter the type of controller used here.

5.2 Gateway-PLC communication

After you have selected a controller, **[Device-PLC Communication]** displays further parameters that must be set specifically for the selected PLC.

These parameters are described for each PLC system in the following sections.

For information regarding the hardware's physical connection, see the graphics displayed in TILA and the hardware manual for the FP gateway.

If you click **[List of Stations]** in the options bar, a list of the stations that have already been created for the selected PLC type is displayed.

If the PLC used supports several stations, you can create these PLC stations, and duplicate, change or delete existing stations in this overview.

New station

Use this button to create a new station for the PLC connection that was defined previously.

Duplicate

If a station has already been set up and is selected in the overview, you can create a copy of this station (and edit it immediately). This can save time if you are creating several similar entries.

Change

Opens the selected entry in the station editor.

Delete

Deletes the selected entry from the FP gateway project.

5.2.1 ABB AC31 on RS232

The ABB AC31 can be connected using the FP gateway's COM1 or COM2 (RS232) interface. To do so, the following parameters must be set in **[Device PLC Communication]**:

Baud Rate
    Select the interface speed for the connection between the FP gateway and the PLC here.

Connection/Handshake
    Enter the handshake procedure that should be used here.

Click the **[Configure Stations...]** button and double-click to open the existing station. Settings that apply directly to the PLC that is connected are defined here:

Station Name
    Enter a name for the edited PLC station here. This makes particular sense if you use several PLC stations and wish to differentiate between them.

Station ID
    If the PLC used supports several stations on the same bus, you must use the station ID to differentiate between these. Therefore, enter a unique ID for each station.

Polling Rate
    Enter an interval in which the FP gateway queries the PLC connected for changed values here. To do this, enter a numeric value followed by **s** (seconds), **m** (minutes) or **h** (hours). For performance reasons, the actual query rate may differ from the value set.

Character Interval
    Enter the duration of the pause between the individual characters when sending here. To do this, enter a numeric value followed by **ms** (milliseconds), **s** (seconds), **m** (minutes) or **h** (hours).

Timeout
    Enter the connection timeout between the PLC and the FP gateway here. To do this, enter a numeric value followed by **ms** (milliseconds), **s** (seconds), **m** (minutes) or **h** (hours).

Message Interval
    Enter the duration of the pause between the individual messages when sending here. To do this, enter a numeric value followed by **ms** (milliseconds), **s** (seconds), **m** (minutes) or **h** (hours).

DWORD-Increment
    Enter the increment between two subsequent DWORD addresses here.

Low Before High (DWord-Swap)
    Activate this option in order to send low words before high words.

Single Word Write
    Activate this option in order to write several word values individually. (Function Code 6)

Query collectively
    Enter whether several subsequent variables are to be queried block by block.

5.2.2 ABB AC31 on RS485

The ABB AC31 can be connected using the FP gateway's COM2 (RS422/485) interface.
To do so, the following parameters must be set in [Device PLC Communication]:

Baud Rate
Select the interface speed for the connection
between the FP gateway and the PLC here.

Connection/Handshake
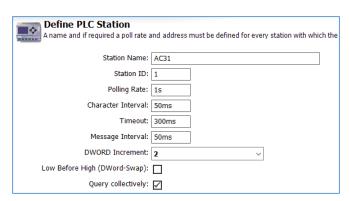Enter the handshake procedure that should be used here.

Click the [Configure Stations...] button and double-click to open the existing station. Settings that apply
directly to the PLC that is connected are defined here:

Station Name
Enter a name for the edited PLC station
here. This makes particular sense if you
use several PLC stations and wish to
differentiate between them.

Station ID
If the PLC used supports several stations
on the same bus, you must use the
station ID to differentiate between these.
Therefore, enter a unique ID for each
station.

Polling Rate
Enter an interval in which the FP gateway queries the PLC connected for changed values here. To
do this, enter a numeric value followed by **s** (seconds), **m** (minutes) or **h** (hours). The actual query
rate may differ from the value set.

Character Interval
Enter the duration of the pause between the individual characters when sending here. To do this,
enter a numeric value followed by **ms** (milliseconds), **s** (seconds), **m** (minutes) or **h** (hours).

Timeout
Enter the connection timeout between the PLC and the FP gateway here. To do this, enter a
numeric value followed by **ms** (milliseconds), **s** (seconds), **m** (minutes) or **h** (hours).

Message Interval
Enter the duration of the pause between the individual messages when sending here. To do this,
enter a numeric value followed by **ms** (milliseconds), **s** (seconds), **m** (minutes) or **h** (hours).

DWORD-Increment
Enter the increment between two subsequent DWORD addresses here.

Low Before High (DWord-Swap)
Activate this option in order to send low words before high words.

Single Word Write
Activate this option in order to write several word values individually. (Function code 6)

Query collectively
You can specify whether several subsequent variables are to be queried block by block here
(Caching).

5.2.3 ABB AC010 on RS232

The ABB AC010 can be connected using the FP gateway's COM1 or COM2 (RS232) interface. No further settings are required for the PLC connection itself.
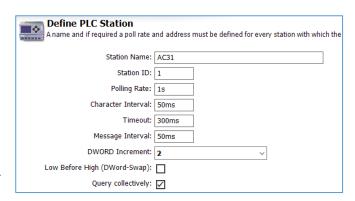
Click the **[Configure Stations...]** button and double-click to open the existing station. Settings that apply directly to the PLC that is connected are defined here:

Station Name

Enter a name for the edited PLC station here.

Polling Rate

Enter an interval in which the FP gateway attempts to query the PLC connected for changed values. To do this, enter a numeric value followed by **s** (seconds), **m** (minutes) or **h** (hours). The actual query rate may differ from the value set.

5.2.4 Allen Bradley Pico on RS232

The Allen Bradley Pico can be connected using the FP gateway's COM1 or COM2 (RS232) interface. No further settings are required for the PLC connection itself.

Click the **[Configure Stations...]** button and double-click to open the existing station. Settings that apply directly to the PLC that is connected are defined here:

Station Name

Enter a name for the edited PLC station here.

Polling Rate

Enter an interval in which the FP gateway queries the PLC connected for changed values here. To do this, enter a numeric value followed by **s** (seconds), **m** (minutes) or **h** (hours). The actual query rate may differ from the value set.

5.2.5   Berthel ModuCon on RS232

The Berthel ModuCon can be connected using the FP gateway's COM1 or COM2 (RS232) interface. To do so, the following parameters must be set in **[Device PLC Communication]**:

FP Gateway MPI address

Enter the FP gateway's MPI address here.

Highest Station (HSA)

Enter the highest station ID used on the bus here.

GUF

Enter the gap update factor for token ring systems here.

Click the**[Configure Stations...]** button and double-click to open the existing station. Settings that apply directly to the PLC that is connected are defined here:

Station Name

Enter a name for the edited PLC station here. This makes particular sense if you use several PLC stations and wish to differentiate between them.

Station ID

If the PLC used supports several stations on the same bus, you must use the station ID to differentiate between these. Therefore, enter a unique ID for each station.

Polling Rate

Enter an interval in which the FP gateway queries the PLC connected for changed values here. To do this, enter a numeric value followed by **s** (seconds), **m** (minutes) or **h** (hours). For performance reasons, the actual query rate may differ from the value set.

5.2.6 Carel PC2 Macroplus on RS232

The Carel PC2 Macroplus can be connected using the FP gateway's COM1 or COM2 (RS232) interface. To do so, the following parameters must be set in **[Device PLC Communication]**:
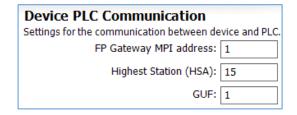
Baud Rate

Select the interface speed for the connection between the FP gateway and the PLC here.

Device PLC Communication
Settings for the communication between device and PLC.
Baud Rate: 1200
Handshake: (None)

Handshake

You can specify which handshake is used for the connection in this field.

Click the **[Configure Stations...]** button and double-click to open the existing station. Settings that apply directly to the PLC that is connected are defined here:

Station Name

Enter a name for the edited PLC station here.

Define PLC Station
A name and if required a poll rate and address must be defined for every station with which the
Station Name: PC2
Station ID: 1
Polling Rate: 1s

Station ID

If the PLC used supports several stations on the same bus, you must use the station ID to differentiate between these. Therefore, enter a unique ID for each station.

Polling Rate

Enter an interval in which the FP gateway queries the PLC connected for changed values here. To do this, enter a numeric value followed by **s** (seconds), **m** (minutes) or **h** (hours). For performance reasons, the actual query rate may differ from the value set.

5.2.7 Mitsubishi Alpha XL on RS232

The Mitsubishi Alpha XL can be connected using the FP gateway's COM1 or COM2 (RS232) interface. No further settings are required for the PLC connection itself.

Click the [Configure Stations...] button and double-click to open the existing station. Settings that apply directly to the PLC that is connected are defined here:

Station Name
Enter a name for the edited PLC station here.

Station ID
Enter the ID for the Alpha XL here.

Define PLC Station
A name and if required a poll rate and address must be defined for every station with which

Station Name: Alpha XL
Station ID: 0
Polling Rate: 1s

Polling Rate
Enter an interval in which the FP gateway queries the PLC connected for changed values here. To do this, enter a numeric value followed by **s** (seconds), **m** (minutes) or **h** (hours). For performance reasons, the actual query rate may differ from the value set.

5.2.8 Mitsubishi Melsec FX on RS232

The Mitsubishi Melsec FX can be connected using the FP gateway's COM1 or COM2 (RS232) interface. To do so, the following parameters must be set in [Device PLC Communication]:

Baud Rate
Select the interface speed for the connection between the FP gateway and the PLC here. We recommend 9600 bps.

Device PLC Communication
Settings for the communication between device and PLC.

Baud Rate: 9600
Connection/Handshake: (None)

Connection/Handshake
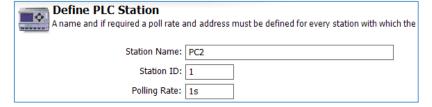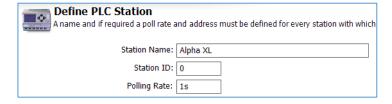You can specify which handshake is used for the connection in this field.

Click the [Configure Stations...] button and double-click to open the existing station. Settings that apply directly to the PLC that is connected are defined here:

Station Name
Enter a name for the edited PLC station here.

Define PLC Station
A name and if required a poll rate and address must be defined for every station with which

Station Name: MELSEC FX
CPU: FX1N/FX3G
Station ID: 0
Polling Rate: 1s

CPU
Select the CPU that you are using here.

Station ID
If the PLC used supports several stations on the same bus, you must use the station ID to differentiate between these. Therefore, enter a unique ID for each station.

Polling Rate
Enter an interval in which the FP gateway queries the PLC connected for changed values here. To do this, enter a numeric value followed by **s** (seconds), **m** (minutes) or **h** (hours). For performance reasons, the actual query rate may differ from the value set.

5.2.9 Mitsubishi Melsec FX Format 1 on RS232

The Mitsubishi Melsec FX Format 1 can be connected using the FP gateway's COM1 or COM2 (RS232) interface. To do so, the following parameters must be set in [Device PLC Communication]:

Baud Rate
Select the speed for the connection between the FP gateway and the PLC here. We recommend 9600 bps.

Connection/Handshake
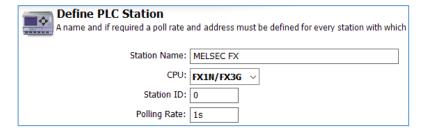You can specify which handshake is used for the connection in this field.

Click the [Configure Stations...] button and double-click to open the existing station. Settings that apply directly to the PLC that is connected are defined here:

Station Name
Enter a name for the edited PLC station here.

CPU
Select the CPU that you are using here.

Station ID
Enter the numeric ID for the edited PLC station here.

Polling Rate
Enter an interval in which the FP gateway queries the PLC connected for changed values here. To do this, enter a numeric value followed by **s** (seconds), **m** (minutes) or **h** (hours). For performance reasons, the actual query rate may differ from the value set.

5.2.10 Mitsubishi Melsec FX on RS485

The Mitsubishi Melsec FX can be connected using the FP gateway's COM2 (RS485/422) interface. To do so, the following parameters must be set in [Device PLC Communication]:

Baud Rate
Select the interface speed for the connection between the FP gateway and the PLC here. We recommend 9600 bps.

Connection/Handshake
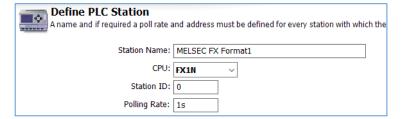Select the handshake procedure that is used here.

Click the [Configure Stations...] button and double-click to open the existing station. Settings that apply directly to the PLC that is connected are defined here:

Station Name
Enter a name for the edited PLC station here. This makes particular sense if you use several PLC stations and wish to differentiate between them.

CPU
Select the CPU that you are using here.

Station ID
If the PLC used supports several stations on the same bus, you must use the station ID to differentiate between these. Therefore, enter a unique ID for each station.

Polling Rate

> Enter an interval in which the FP gateway queries the PLC connected for changed values here. To do this, enter a numeric value followed by **s** (seconds), **m** (minutes) or **h** (hours). For performance reasons, the actual query rate may differ from the value set.

5.2.11 Mitsubishi Melsec FX Format 1 on RS485

The Mitsubishi Melsec FX can be connected using the FP gateway's COM2 (RS485/422) interface. To do so, the following parameters must be set in **[Device PLC Communication]**:

Baud Rate

> Select the interface speed for the connection between the FP gateway and the PLC here. We recommend 9600 bps
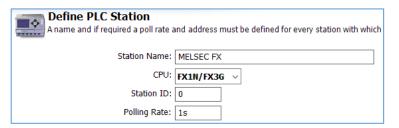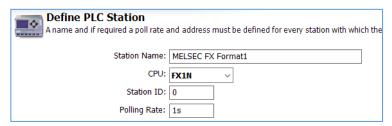
Device PLC Communication
Settings for the communication between device and PLC.
Baud Rate: 9600
Connection/Handshake: (None)

Connection/Handshake

> Select the handshake procedure that is used here.

Click the **[Configure Stations...]** button and double-click to open the existing station. Settings that apply directly to the PLC that is connected are defined here:

Station Name

> Enter a name for the edited PLC station here. This makes particular sense if you use several PLC stations and wish to differentiate between them.

Define PLC Station
A name and if required a poll rate and address must be defined for every station with which the
Station Name: MELSEC FX Format1
CPU: FX1N
Station ID: 0
Polling Rate: 1s

CPU

> Select the CPU that you are using here.

Station ID

> If the PLC used supports several stations on the same bus, you must use the station ID to differentiate between these. Therefore, enter a unique ID for each station.

Polling Rate

> Enter an interval in which the FP gateway queries the PLC connected for changed values here. To do this, enter a numeric value followed by **s** (seconds), **m** (minutes) or **h** (hours). For performance reasons, the actual query rate may differ from the value set.

5.2.12 Modbus ASCII on RS232

Devices that support the Modbus ASCII protocol can be connected using the FP gateway's COM1 or COM2 (RS232). To do so, the following parameters must be set in **[Device PLC Communication]**:

Baud Rate

> Select the interface speed for the connection between the FP gateway and the PLC here.

Device PLC Communication
Settings for the communication between device and PLC.
Baud Rate: 9600
Connection/Handshake: (None)
Dataformat: 8N1

Connection/Handshake

> You can specify which handshake is used for the connection in this field.

Dataformat

> Set the data format used on the serial interface here.

Click the **[Configure Stations...]** button and double-click to open the existing station. Settings that apply directly to the PLC that is connected are defined here:

Station Name

> Enter a name for the edited PLC station here. This makes particular sense if you use several PLC stations and wish to differentiate between them.

Define PLC Station
A name and if required a poll rate and address must be defined for every station with which
Station Name: ASCII
Station ID: 1
Polling Rate: 1s

CPU

Select the CPU that you are using here.

Polling Rate

Enter an interval in which the FP gateway queries the PLC connected for changed values here. To do this, enter a numeric value followed by **s** (seconds), **m** (minutes) or **h** (hours). For performance reasons, the actual query rate may differ from the value set.

5.2.13 Modbus ASCII on RS485

Devices that support the Modbus ASCII protocol can be connected using the FP gateway's COM2 (RS485/422). To do so, the following parameters must be set in **[Device PLC Communication]**:

Baud Rate

Select the interface speed for the connection between the FP gateway and the PLC here.

Connection/Handshake

Select the handshake procedure that is used here.

Dataformat

Set the data format used on the serial interface here.

Click the **[Configure Stations...]** button and double-click to open the existing station. Settings that apply directly to the PLC that is connected are defined here:

Station Name

Enter a name for the edited PLC station here. This makes particular sense if you use several PLC stations and wish to differentiate between them.

CPU

Select the CPU that you are using here.

Polling Rate

Enter an interval in which the FP gateway queries the PLC connected for changed values here. To do this, enter a numeric value followed by **s** (seconds), **m** (minutes) or **h** (hours). For performance reasons, the actual query rate may differ from the value set.

5.2.14 Modbus RTU on RS232

Modbus RTU compatible devices can be connected using the FP gateway's COM1 or COM2 (RS232). To do so, the following parameters must be set in [Device PLC Communication]:

Baud Rate
> Select the interface speed for the connection between the FP gateway and the PLC here.

Connection/Handshake
> You can specify which handshake is used for the connection in this field.

Dataformat
> Set the data format used on the serial interface here.

Click the [Configure Stations...] button and double-click to open the existing station. Settings that apply directly to the PLC that is connected are defined here:
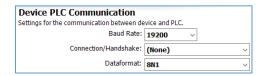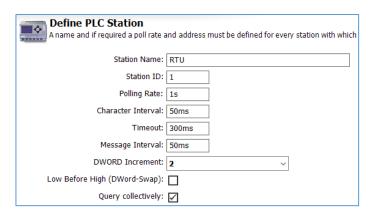
Station Name
> Enter a name for the edited PLC station here. This makes sense if you use several PLC stations and wish to differentiate between them.

Station ID
> If the PLC used supports several stations on the same bus, you must use the station ID to differentiate between these. Therefore, enter a unique ID for each station.

Polling Rate
> Enter an interval in which the FP gateway queries the PLC connected here. To do this, enter a numeric value followed by **s** (seconds), **m** (minutes) or **h** (hours). For performance reasons, the actual query rate may differ from the value set.

Character Interval
> Enter the duration of the pause between the individual characters. To do this, enter a numeric value followed by **ms** (milliseconds), **s** (seconds), **m** (minutes) or **h** (hours).

Timeout
> Enter the connection timeout between the PLC and the FP gateway here. To do this, enter a numeric value followed by **ms** (milliseconds), **s** (seconds), **m** (minutes) or **h** (hours).

Message Interval
> Enter the duration of the pause between the individual messages when sending here. To do this, enter a numeric value followed by **ms** (milliseconds), **s** (seconds), **m** (minutes) or **h** (hours).

DWORD-Increment
> Enter the increment between two subsequent DWORD addresses here.

Low Before High (DWord-Swap)
> Activate this option in order to send low words before high words.

Query collectively
> You can specify whether several subsequent variables are to be queried block by block here (Caching).

5.2.15 Modbus RTU on RS485

Modbus RTU compatible devices can be connected using the FP gateway's COM2 (RS485/422).
To do so, the following parameters must be set in **[Device PLC Communication]**:

Baud Rate
> Select the interface speed for the
> connection between the FP gateway and
> the PLC here.

Connection/Handshake
> Select the handshake procedure that is used here.

Dataformat
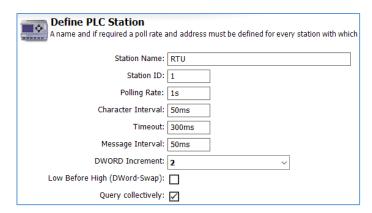> Set the data format used on the serial interface here

Click the **[Configure Stations...]** button and double-click to open the existing station. Settings that apply directly to the PLC that is connected are defined here:

Station Name
> Enter a name for the edited PLC
> station here. This makes sense if you
> use several PLC stations and wish to
> differentiate between them.

Station ID
> If the PLC used supports several
> stations on the same bus, you must
> use the station ID to differentiate
> between these. Therefore, enter a
> unique ID for each station.

Polling Rate
> Enter an interval in which the FP gateway queries the PLC connected here. To do this, enter a
> numeric value followed by **s** (seconds), **m** (minutes) or **h** (hours). For performance reasons, the
> actual query rate may differ from the value set.

Character Interval
> Enter the duration of the pause between the individual characters. To do this, enter a numeric
> value followed by **ms** (milliseconds), **s** (seconds), **m** (minutes) or **h** (hours).

Timeout
> Enter the connection timeout between the PLC and the FP gateway here. To do this, enter a
> numeric value followed by **ms** (milliseconds), **s** (seconds), **m** (minutes) or **h** (hours).

Message Interval
> Enter the duration of the pause between the individual messages when sending here. To do this,
> enter a numeric value followed by **ms** (milliseconds), **s** (seconds), **m** (minutes) or **h** (hours).

DWORD-Increment
> Enter the increment between two subsequent DWORD addresses here.

Low Before High (DWord-Swap)
> Activate this option in order to send low words before high words.

Single Word Write
> Activate this option in order to write several word values individually. (Function code 6)
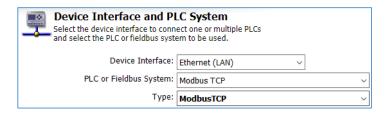
Query collectively
> You can specify whether several subsequent variables are to be queried block by block here
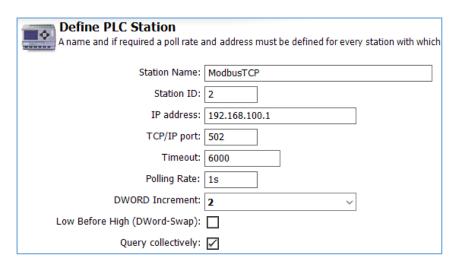> (Caching).

5.2.16 Modbus TCP on Ethernet

The Modbus TCP protocol can be configured for the Ethernet interface FP gateways.
Please make the following settings in **[Device Interface and PLC System]**:

Device Interface: Ethernet (LAN)

PLC or Fieldbus System: Modbus TCP
Type: ModbusTCP

Then click the **[Configure Stations…]** button.

Station Name: freely selectable

Station ID: do not change

IP address: IP address for the Modbus TCP device that is to be queried

TCP/IP port: Port (default: 502)

Timeout: 6000 (in milliseconds)

Polling Rate: e.g. 1s or 10s
  Enter an interval in which the FP gateway queries the PLC connected here. To do this, enter a
  numeric value followed by **s** (seconds), **m** (minutes) or **h** (hours). For performance reasons, the
  actual query rate may differ from the value set.

DWORD-Increment
  Enter the increment between two subsequent DWORD addresses here.

Low Before High (DWord-Swap)
  Activate this option in order to send low words before high words.

Query collectively
  You can specify whether several subsequent variables are to be queried block by block here
  (Caching).

5.2.17 Moeller Easy 400/600 on RS232

The Moeller Easy 400/600 can be connected using the FP gateway's COM1 or COM2 (RS232). No further settings are required for the PLC connection itself.

Click the **[Configure Stations…]** button and double-click to open the existing station. Settings that apply directly to the PLC that is connected are defined here:

Station Name
Enter a name for the edited PLC station here.

Polling Rate
Enter an interval in which the FP gateway queries the PLC connected here. To do this, enter a numeric value followed by **s** (seconds), **m** (minutes) or **h** (hours). For performance reasons, the actual query rate may differ from the value set.

5.2.18 Moeller Easy 500/700 on RS232

The Moeller Easy 500/700 can be connected using the FP gateway's COM1 or COM2 (RS232). No further settings are required for the PLC connection itself.
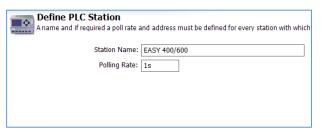
Click the **[Configure Stations…]** button and double-click to open the existing station. Settings that apply directly to the PLC that is connected are defined here:

Station Name
Enter a name for the edited PLC station here.

Polling Rate
Enter an interval in which the FP gateway queries the PLC connected here. To do this, enter a numeric value followed by **s** (seconds), **m** (minutes) or **h** (hours). For performance reasons, the actual query rate may differ from the value set.

5.2.19 Moeller PS4-200 on RS232

The Moeller PS4-200 can be connected using the FP gateway's COM1 or COM2 (RS232).
To do so, the following parameters must be set in **[Device PLC Communication]**:

Baud Rate
Select the interface speed for the connection between the FP gateway and the PLC here.

Click the **[Configure Stations…]** button and double-click to open the existing station. Settings that apply directly to the PLC that is connected are defined here:

Station Name
Enter a name for the edited PLC station here.

Station ID
Enter the station ID for the PLC used here. The default value is 3.

Polling Rate
Enter an interval in which the FP gateway queries the PLC connected here. To do this, enter a numeric value followed by **s** (seconds), **m** (minutes) or **h** (hours). For performance reasons, the actual query rate may differ from the value set.

5.2.20 Moeller Easy 800/MFD on RS232

The Moeller Easy 800/MFD can be connected using the FP gateway's COM1 or COM2 (RS232). To do so, the following parameters must be set in [Device PLC Communication]:

Baud Rate
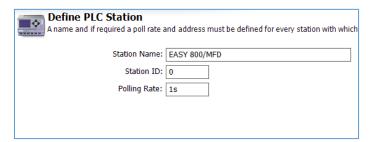Select the interface speed for the connection between the FP gateway and the PLC here. We recommend 9600 bps.

Handshake
Select the handshake procedure that is used here.

Click the [Configure Stations…] button and double-click to open the existing station. Settings that apply directly to the PLC that is connected are defined here:

Station Name
Enter a name for the edited PLC station here. This makes particular sense if you use several PLC stations and wish to differentiate between them.

Station ID
If the PLC used supports several stations on the same bus, you must use the station ID to differentiate between these. Therefore, enter a unique ID for each station.

Polling Rate
Enter an interval in which the FP gateway queries the PLC connected here. To do this, enter a numeric value followed by **s** (seconds), **m** (minutes) or **h** (hours). For performance reasons, the actual query rate may differ from the value set.

5.2.21 Moeller PS306/316 on RS232

The Moeller PS306/316 can be connected using the FP gateway's COM1 or COM2 (RS232). To do so, the following parameters must be set in [Device PLC Communication]:

Baud Rate
Select the interface speed for the connection between the FP gateway and the PLC here.

Click the [Configure Stations…] button and double-click to open the existing station. Settings that apply directly to the PLC that is connected are defined here:

Station Name
Enter a name for the edited PLC station here.

Station ID
Enter the station ID for the PLC used here. The default value is 3.

Polling Rate
Enter an interval in which the FP gateway queries the PLC connected here. To do this, enter a numeric value followed by **s** (seconds), **m** (minutes) or **h** (hours). For performance reasons, the actual query rate may differ from the value set.

5.2.22 Moeller PS4-341 on RS232

The Moeller PS4-341 can be connected using the FP gateway's COM1 or COM2 (RS232).
To do so, the following parameters must be set in [Device PLC Communication]:

Baud Rate
Select the interface speed for the connection between the FP gateway and the PLC here.

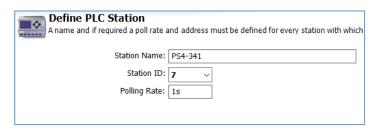Click the [Configure Stations...] button and double-click to open the existing station. Settings that apply directly to the PLC that is connected are defined here:

Station Name
Enter a name for the edited PLC station here.

Station ID
Select the station ID depending on the variable range that is monitored. For more information regarding this, see the Moeller documentation.

Polling Rate
Enter an interval in which the FP gateway queries the PLC connected here. To do this, enter a numeric value followed by **s** (seconds), **m** (minutes) or **h** (hours). For performance reasons, the actual query rate may differ from the value set.

5.2.23 Moeller PS4-416 on RS232

The Moeller PS4-341 can be connected using the FP gateway's COM1 or COM2 (RS232).
To do so, the following parameters must be set in [Device PLC Communication]:

Baud Rate
Select the interface speed for the connection between the FP gateway and the PLC here.

Dataformat
Select the data format for the connection here.

Click the[Configure Stations...] button and double-click to open the existing station. Settings that apply directly to the PLC that is connected are defined here:

Station Name
Enter a name for the edited PLC station here.

Station ID
Select the station ID depending on the variable range that is monitored. For more information regarding this, see the Moeller documentation.
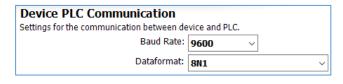
Polling Rate
Enter an interval in which the FP gateway queries the PLC connected here. To do this, enter a numeric value followed by **s** (seconds), **m** (minutes) or **h** (hours). For performance reasons, the actual query rate may differ from the value set.

5.2.24 Moeller XC/XVC on RS232

The Moeller XC/XVC can be connected using the FP gateway's COM1 or COM2 (RS232). To do so, the following parameters must be set in [Device PLC Communication]:

Baud Rate
Select the interface speed for the connection between the FP gateway and the PLC here.

Device PLC Communication
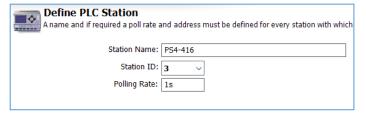Settings for the communication between device and PLC.
Baud Rate: 9600

Click the [Configure Stations...] button and double-click to open the existing station. Settings that apply directly to the PLC that is connected are defined here:

Station Name
Enter a name for the edited PLC station here.

Define PLC Station
A name and if required a poll rate and address must be defined for every station with which
Station Name: XC/XVC
Station ID: 7
Polling Rate: 1s

Station ID
Select the station ID depending on the variable range that is monitored.
For more information regarding this, see the Moeller documentation.

Polling Rate
Enter an interval in which the FP gateway queries the PLC connected here. To do this, enter a numeric value followed by **s** (seconds), **m** (minutes) or **h** (hours). For performance reasons, the actual query rate may differ from the value set.

5.2.25 SAIA PCD/PCS on RS232

The SAIA PCD/PCS can be connected using the FP gateway's COM1 or COM2 (RS232). To do so, the following parameters must be set in [Device PLC Communication]:

Baud Rate
Select the interface speed for the connection between the FP gateway and the PLC here.

Device PLC Communication
Settings for the communication between device and PLC.
Baud Rate: 19200
Handshake: (None)
Master: ☑

Handshake
You can specify which handshake is used for the connection in this field.

Master
Select whether the FP gateway is to act as a master or a slave here.

Click the [Configure Stations...] button and double-click to open the existing station. Settings that apply directly to the PLC that is connected are defined here:

Station Name
Enter a name for the edited PLC station here. This makes sense if you use several PLC stations and wish to differentiate between them.

Define PLC Station
A name and if required a poll rate and address must be defined for every station with which
Station Name: PCS/PCD
Station ID: 0
Polling Rate: 1s

Station ID
Enter the station ID used here.

Polling Rate
Enter an interval in which the FP gateway queries the PLC connected here. To do this, enter a numeric value followed by **s** (seconds), **m** (minutes) or **h** (hours). For performance reasons, the actual query rate may differ from the value set.

5.2.26 SAIA PCD/PCS on RS485

The SAIA PCD/PCS can be connected using the FP gateway's COM2 (RS485/422). To do so, the following parameters must be set in **[Device PLC Communication]**:

Baud Rate

Select the interface speed for the connection between the TAM and the PLC here.

Handshake

In this field, you must specify whether a 2-wire (half-duplex) or a 4-wire connection (full-duplex) exists.
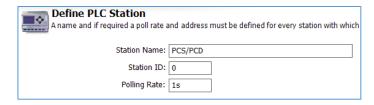
Master

Select whether the FP gateway is to act as a master or a slave here.

Click the **[Configure Stations...]** button and double-click to open the existing station. Settings that apply directly to the PLC that is connected are defined here:

Station Name

Enter a name for the edited PLC station here. This makes sense if you use several PLC stations and wish to differentiate between them.

Station ID

Enter the station ID used here.

Polling Rate

Enter an interval in which the FP gateway queries the PLC connected here. To do this, enter a numeric value followed by **s** (seconds), **m** (minutes) or **h** (hours). For performance reasons, the actual query rate may differ from the value set.

5.2.27 Siemens S7-200 on RS232

The Siemens S7-200 can be connected using the FP gateway's COM1 or COM2 (RS232). To do so, the following parameters must be set in [Device PLC Communication]:

Baud Rate
> Select the interface speed for the connection between the FP gateway and the PLC here.

Handshake
> Select the handshake procedure that is used here.

Master
> Activate this checkbox if the FP gateway is to act as the master.

FP Gateway PPI address
> Enter the FP gateway's PPI address here.

Highest Station (HSA)
> Enter the highest station ID used on the bus here.

GUF
> Enter the gap update factor for token ring systems here.

Repeats
> You can specify how often the communication attempt should be repeated in the event of an error here.

Click the [Configure Stations...] button and double-click to open the existing station. Settings that apply directly to the PLC that is connected are defined here:

Station Name
> Enter a name for the edited PLC station here. This makes sense if you use several PLC stations and wish to differentiate between them.

CPU
> Select the exact CPU type that you are using here.

Station ID
> If the PLC used supports several stations on the same bus, you must use the station ID to differentiate between these. Therefore, enter a unique ID for each station.

Polling Rate
> Enter an interval in which the FP gateway queries the PLC connected here. To do this, enter a numeric value followed by **s** (seconds), **m** (minutes) or **h** (hours). For performance reasons, the actual query rate may differ from the value set.

5.2.28 Siemens S7-200 on RS485

The Siemens S7-200 can be connected using the FP gateway's COM2 (RS485/422).
To do so, the following parameters must be set in **[Device PLC Communication]**:

Baud Rate
Select the interface speed for the connection between the FP gateway and the PLC here.

Handshake
Select the handshake procedure that is used here.

Master
Activate this checkbox if the FP gateway is to act as the master.

FP Gateway PPI address
Enter the FP gateway's PPI address here.

Highest Station (HSA)
Enter the highest station ID used on the bus here.

GUF
Enter the gap update factor for token ring systems here.

Repeats
You can specify how often the communication attempt should be repeated in the event of an error here.

Click the **[Configure Stations...]** button and double-click to open the existing station. Settings that apply directly to the PLC that is connected are defined here:
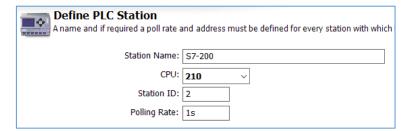
Station Name
Enter a name for the edited PLC station here. This makes sense if you use several PLC stations and wish to differentiate between them.

CPU
Select the exact CPU type that you are using here.

Station ID
If the PLC used supports several stations on the same bus, you must use the station ID to differentiate between these. Therefore, enter a unique ID for each station.

Polling Rate
Enter an interval in which the FP gateway queries the PLC connected here. To do this, enter a numeric value followed by **s** (seconds), **m** (minutes) or **h** (hours). For performance reasons, the actual query rate may differ from the value set.

5.2.29 Siemens S7-300/400-A on MPI

The Siemens S7-300/400-A can be connected using the FP gateway's MPI interface.
To do so, the following parameters must be set in **[Device PLC Communication]**:

Master
> Select whether the FP gateway is to act as a master or a slave here.

FP Gateway MPI address
> Enter the FP gateway's MPI address here.

Highest Station (HSA)
> Enter the highest station ID used on the bus here.

GUF
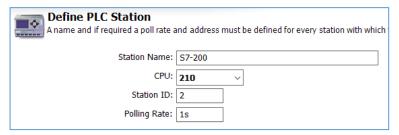> Enter the gap update factor for token ring systems here.

Repeats
> You can specify how often the communication attempt should be repeated in the event of an error here.

Click the **[Configure Stations...]** button and double-click to open the existing station. Settings that apply directly to the PLC that is connected are defined here:

Station Name
> Enter a name for the edited PLC station here. This makes sense if you use several PLC stations and wish to differentiate between them.
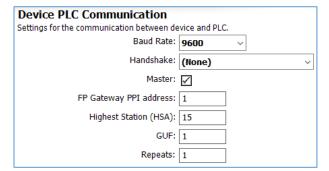
Station ID
> Enter the MPI address for the queried CPU (station) here.

Polling Rate
> Enter an interval in which the FP gateway queries the PLC connected here. To do this, enter a numeric value followed by **s** (seconds), **m** (minutes) or **h** (hours). For performance reasons, the actual query rate may differ from the value set.

5.2.30 Siemens S7-300/400/1200/1500 on Ethernet (LAN)

The Siemens S7-300/400/1200/1500 can be connected using the FP gateway's Ethernet interface.

Device Interface and PLC System
Select the device interface to connect one or multiple PLCs
and select the PLC or fieldbus system to be used.

Device Interface:	Ethernet (LAN)
PLC or Fieldbus System:	Siemens (AGLink)
Type:	S7-TCP/IP (AGLink)

Please make the following settings in **[Device PLC Communication]**:

Device Interface:	Ethernet (LAN)
PLC or Fieldbus System:	Siemens (AGLink)
Type:	S7-TCP/IP (AGLink)

Then click the **[Configure Stations...]** button.

Define PLC Station
A name and if required a poll rate and address must be defined for every station with which

Station Name:	S7-TCP/IP (AGLink)
CPU:	1200
Station ID:	2
IP address:	
Gateway address:	
Net mask:	255.255.255.0
TCP/IP port:	102
Rack:	0
Slot:	2
Type:	1: OP
Timeout:	6000
Polling Rate:	1s

Station Name:	freely selectable
CPU:	S7 type (200, 300/400, 1200)
Station ID:	do not change
IP address:	IP address for the controller
Gateway address:	IP gateway address
Net mask:	Network mask
TCP/IP port:	do not change (102)
Rack:	do not change (0)
Slot:	do not change (2)
Type:	do not change (1: OP)
Timeout:	6000 (in milliseconds)
Polling Rate:	e.g. 1s or 10s

Enter an interval in which the FP gateway queries the PLC connected here. To do this, enter a numeric value followed by **s** (seconds), **m** (minutes) or **h** (hours). For performance reasons, the actual query rate may differ from the value set.

5.2.31 M-bus devices

M-bus devices can also be connected to the alarm modem models Hx23-M. To do so, the following parameters must be set in [Device PLC Communication]:

Baud Rate
Select the interface speed for the M-bus here.

Timeout
Select the timeout that is to apply for an M-bus query here.

Click the[Configure Stations...] button and double-click to open the existing station. Settings that apply directly to the meter that is connected are defined here:
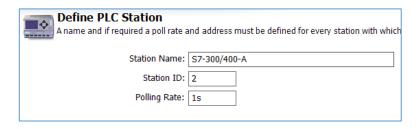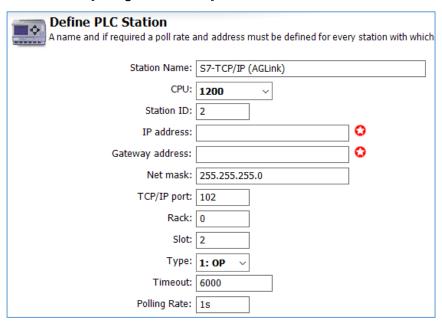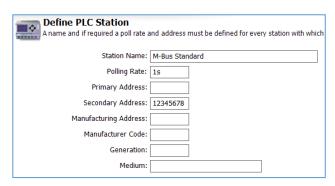
Station Name
Enter a unique name for the edited meter here.

Station ID
Enter the meter ID here.

Polling Rate
Enter an interval in which the FP gateway queries the meter here. To do this, enter a numeric value followed by s (seconds), m (minutes) or h (hours).

5.2.32 TixiBus devices on RS232

TixiBus compatible devices can be connected using the FP gateway's COM1 or COM2 (RS232). To do so, the following parameters must be set in [Device PLC Communication]:

Baud Rate
Select the speed for the connection between the FP gateway and the PLC here.

Handshake
You can specify which handshake is used for the connection in this field.

Master
Select "Master".

Click the [Configure Stations...] button and double-click to open the existing station. Settings that apply directly to the PLC that is connected are defined here:

Station Name
Enter a name for the edited PLC station here. This makes sense if you use several PLC stations and wish to differentiate between them.

Station ID
If the PLC used supports several stations on the same bus, you must use the station ID to differentiate between these. Enter a unique ID for each station.

Polling Rate
Enter an interval in which the FP gateway queries the meter here. To do this, enter a numeric value followed by s (seconds), m (minutes) or h (hours). For performance reasons, the actual query rate may differ from the value set.

5.2.33 TixiBus devices on RS485

TixiBus compatible devices can be connected using the FP gateway's COM2 (RS485/422). To do so, the following parameters must be set in [Device PLC Communication]:

Baud Rate
> Select the interface speed for the connection between the TAM and the PLC here.

Handshake
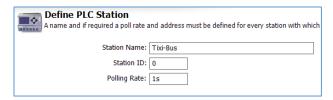> Specify whether a 2-wire (half-duplex) or a 4-wire connection (full-duplex) exists here.

Master
> Select "Master".

Click the[Configure Stations...] button and double-click to open the existing station. Settings that apply directly to the PLC that is connected are defined here:

Station Name
> Enter a name for the edited PLC station here.

Station ID
> If the PLC used supports several stations on the same bus, you must use the
> station ID to differentiate between these. Enter a unique ID for each station.

Polling Rate
> Enter an interval in which the FP gateway queries the meter here. To do this, enter a numeric value followed by **s** (seconds), **m** (minutes) or **h** (hours). For performance reasons, the actual query rate may differ from the value set.

5.2.34 VIPA on RS232

The VIPA with GreenCable can be connected using the FP gateway's COM1 or COM2 (RS232). To do so, the following parameters must be set in [Device PLC Communication]:

FP Gateway MPI address
> Enter the FP gateway's MPI address here.

Highest Station (HSA)
> Enter the highest station ID used on the bus here.

GUF
> Enter the gap update factor for token ring systems here.

Click the[Configure Stations...] button and double-click to open the existing station. Settings that apply directly to the PLC that is connected are defined here:

Station Name
> Enter a name for the edited PLC station here.

Station ID
> If the PLC used supports several stations, you must use the station ID
> to differentiate between these. Therefore, enter a unique ID for each station.

Polling Rate
> Enter an interval in which the FP gateway queries the meter here. To do this, enter a numeric value followed by **s** (seconds), **m** (minutes) or **h** (hours). For performance reasons, the actual query rate may differ from the value set.

5.2.35 VIPA on MPI

The VIPA can be connected using the FP gateway's MPI interface. To do so, the following parameters must be set in **[Device PLC Communication]**:

Master
    Select whether the FP gateway is to act as a master or a slave here.

FP Gateway MPI address
    Enter the FP gateway's MPI address here.

Highest Station (HSA)
    Enter the highest station ID used on the bus here.

GUF
    Enter the gap update factor for token ring systems here.

Repeats
    You can specify how often the communication attempt should be repeated in the event of an error here.

Click the**[Configure Stations...]** button and double-click to open the existing station. Settings that apply directly to the PLC that is connected are defined here:

Station Name
    Enter a name for the edited PLC station here. This makes sense if you use several PLC stations and wish to differentiate between them.

Station ID
    Enter the MPI address for the queried station here.

Polling Rate
    Enter an interval in which the FP gateway queries the PLC connected here. To do this, enter a numeric value followed by **s** (seconds), **m** (minutes) or **h** (hours). For performance reasons, the actual query rate may differ from the value set.
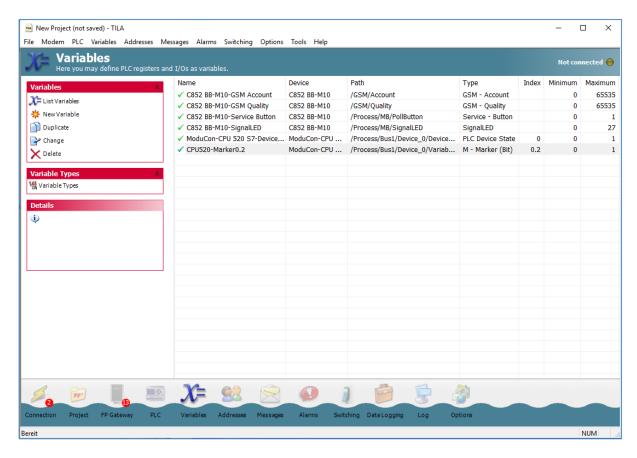
6 Variables

In order to be able to read and write the values for the variables set up in the PLC using the FP gateway, these must be set up in the PLC's program and in the FP gateway.

6.1 Variables overview

If you click **Variables** in the navigation bar, you access a tabular overview of the variables that were set up, which is virtually empty at first. The variables that have already been created automatically there depend on the type of FP gateway that is used.

The following options are available in the options bar:

List Variables
Goes back to the overview of variables set up in the project.

Variable Types
Here, you can access an overview of the variable types that are available for the PLC that was set up.

New Variable
Use this button to create a new variable in the TiXML project.

These buttons are only displayed in the options bar *after* variables have been created:

Change
Opens the selected entry in the variables editor. This option is not available for system variables.

Delete
Deletes the selected entry from the FP gateway project.

Duplicate

    If a variable has already been set up and is selected in the overview, you can create a copy of this variable (and edit it immediately). This can save time if you are creating several similar entries.

Read Variables

    Reads the variable's values out and displays them in the overview if TILA is connected to the FP gateway.

6.2 Adding variables

Use the[New Variable] button to access the overview in the variables editor. Here, you can also set the parameters for the variables set up in the PLC in the FP gateway.
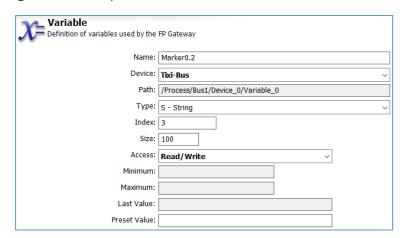These parameters may differ depending on which PLC you use.

Name

    This is freely selectable and is used to reference the variable in the project.

Device

    This is the device or module that provides the variable. If a PLC is connected to the FP gateway, this is generally a PLC station.

Type

    This refers to the variable type, not the PLC. You can choose between inputs and outputs, etc. here for example. The available variable types depend on the type of PLC that is set up.

Index

    This field is only displayed once you have selected a variable type; you can assign the index used in the PLC to the variable here.

Access

    If the variable has write and read rights, you can limit these here. In some protocols, caching for variables can also be selected.

Size

    The maximum length for a string can be entered in this field, but only for string variables.

Minimum, Maximum

    Once you have selected a variable type, these fields display the value range for the variable. These entries are for information only.

Last Value

    If the variables set up in the FP gateway project and the PLC have already been queried by the FP gateway, the last read value for the variable is displayed here. These entries are also for information only.

Preset Value

    Enter the variable value that is to be used "pro forma" if the actual value is not yet available when starting. The value is written to the PLC when the modem starts.

Formatting

    Depending on the variable type that was set up, you can define different options for variable formatting here. These additional format strings are used if the variables are sent in the message texts.

Note

You can enter a purely informative description of the variable for a better overview in the project here.

Click the **[OK]** button to complete the entry and to return to the variable overview. You can use the **[New Variable]** button to create further variables from there.

6.3 Output formatting for variables

In order to influence the display of the variable values when they are displayed in TILA and in message texts, you can enter additional options for formatting these values. To do this, select the required format option from the **Formatting** list box:

Binary (0,1)

This converts the value received from the PLC into a binary value.
Example: Original value = 12345, formatted value = 11000000111001

Decimal (0...9)

This option generates a decimal number from the value supplied by the PLC.
Example: Original value = 12345, formatted value = 12345

Octal (0...7)

You can use this formatting to convert the value supplied by the PLC into an octal value.
Example: Original value = 12345, formatted value = 30071

Hex (0...9, A...F)

This option converts the value supplied by the PLC into a hexadecimal value.
Example: Original value = 6844, formatted value = 1ABC

Hex, small (0...9, a...f)

This has the same effect as the Hex formatting (0-9, A-F), apart from the difference that the letters in the hex value are lowercase rather than uppercase.
Example: Original value = 6844, formatted value = 1abc

Logical Alternative

You can use this to have different texts output instead of the actual value depending on whether the value supplied by the PLC is "true" or "false" as defined by boolean logic.
The text used for "false" is output if this value is 0 and the text "specified" for "true" is output in all other cases.

Fixed Point

This is the option with the widest range of possibilities to influence the format of the values that are output. The following settings are available:

Sign

Select "Always" to always output the sign or "only if negative" to specify it explicitly only for negative values.

Output Length

Define the number of digits to which the value that is output is filled. In order to use this option sensibly, you must select "Zeros" as the **Fill Character** . In order to retain the number of digits of the original value, select "dynamic" as the output width.

Fill Character

If you have specified a fixed output width, select "Zeros" here.

Decimal separator

If you specify a number of decimal places in the next field, select which character is to be used as the decimal separator in this field.

Decimal places

In order to provide the whole numbers supplied by the PLC with a fixed number of decimal places, enter this here.

Thousand Separator

Larger numbers may be easier to read if there is a thousand separator between every three digits. Select whether this should be a point, a comma, an apostrophe or nothing here.

String

You can enter a preceding (prefix) and a following text (suffix), as well as the string length here.

You have the option to specify a **preceding text** and a **following text** that is set in front of or behind the converted value in the output for each format option (apart from the logical alternative).
Note that only the **Logical Alternative** format option makes sense for PLC bit variables; the other options are therefore only offered for word and longer variables.

7 Address Book

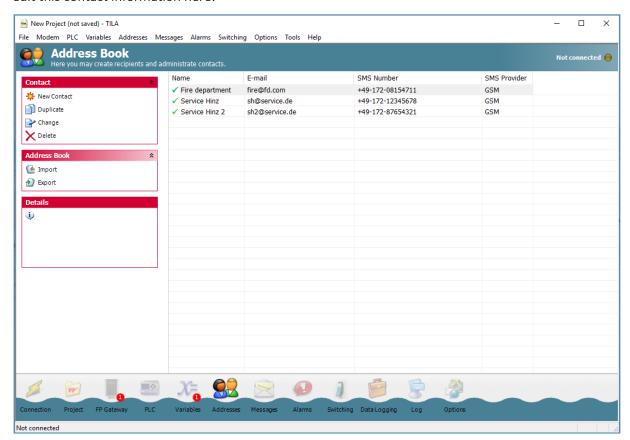Click the **[Addresses]** button in the navigation bar to create the recipients for the alarm messages that are to be sent by the FP gateway.

7.1 Contact overview

If you click **[Addresses]** in the navigation bar, you access a tabular overview of the contacts (recipients) that were set up, which is empty at first. As soon as contacts have been set up, you will see options to edit this contact information here:

New Contact

Use this button to access the contact editor, in which you can enter recipient addresses for different message types.

Duplicate

If an address has already been set up and is selected in the overview, you can create a copy of this address (and edit it immediately).

Change

Clicking this button opens the selected entry in the contact editor.

Delete

Click here to delete the selected contact from the address book.

Import

You can use this button to import address books that you saved as XML files using the **[Export]** option. Note that you should only import those address books that were exported from TILA.

Export

This function enables you to save the address book for the current project as an XML file. You can therefore use it again for later projects without having to re-enter it.

Click the **[New Contact]** button to access the contact editor to create a new entry.

7.2 Adding addresses

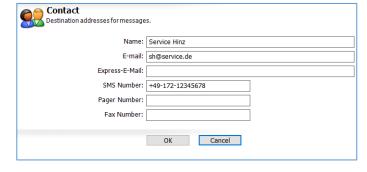You can enter recipients for notifications and the corresponding addresses in the contact editor.

Name

This name is used to reference the contact as a recipient in the FP gateway project. It is freely selectable.

E-mail

Enter an address for internet e-mails here if you wish to use this message type.

Express-E-Mail

If the applicable recipient is to receive express e-mails, enter the address for this here.

SMS Number

Enter a recipient number for SMS messages here. This is normally a mobile phone. Ensure that you enter the number in international format unless it is a short access number.

SMS Provider

Select the mobile communications provider for the applicable recipient or the service centre to be used (landline).

Pager Number

Enter the phone number for a pager here if an alarm message is to be sent to such a recipient.

Fax Number

Enter a fax number here if you wish to alert the contact by fax message. Ensure that you enter the number in international format.

Click **[OK]** to complete the entries and to return to the contact overview.
You can use the **[New Contact]** button to create further contacts from there.
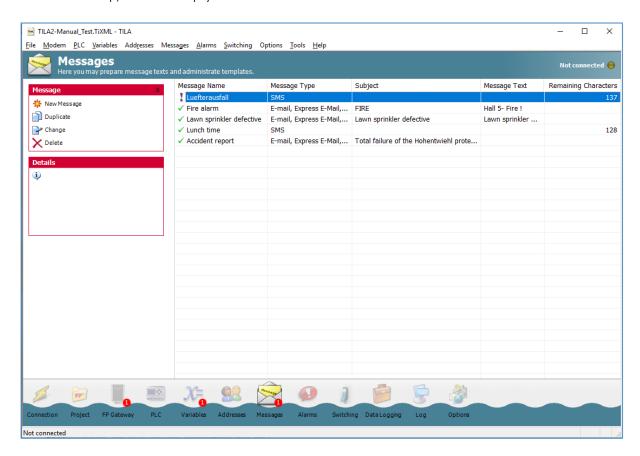
8 Messages

Click the [Messages] button in the navigation bar to prepare message templates to be sent as alarm messages.

8.1 Message overview

If you click [Messages] in the navigation bar, you access a tabular overview of the message templates that were set up, which is empty at first.

As soon as messages have been created, you will see the following options here:

New Message
> Use this button to access the message editor, in which you can compose templates for different message types.

Duplicate
> If messages have already been set up and one is selected in the overview, you can create a copy of this message (and edit it immediately). This can save time if you are creating several similar templates.

Change
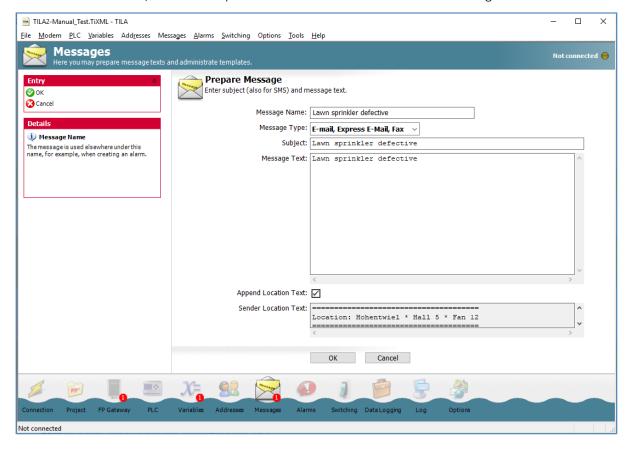> Clicking this button opens the selected entry in the message editor.

Delete
> Click here to delete the selected message from the address book.

Click the [New Message] button to access the message editor to create a new entry.

8.2 Adding messages

You can compose message templates from all required entries in the message editor. You can also insert references here, which are replaced with the variable values when sending.

Message Name
> This name is used to identify the message template in the project. It is freely selectable.

Message Type
> Select the method that is to be used to send the message here. A different template is required for fax, e-mail and express e-mail messages than for SMS or pager messages.

Subject
> Enter a subject for fax, e-mail and express e-mail messages here. This field is not displayed if you have selected "SMS" or "Pager" as the message type.

Message Text
> Enter the message text here. Add line breaks manually by pressing ENTER. Note that no umlauts or line breaks are permitted for pager and SMS messages.

Append Location Text
> Activate this option in order to attach the location text to the message.

Remaining Characters
> This field indicates the remaining number of characters for the message text (only for SMS/pager). Note that this counter does not consider variable references.

8.2.1 Inserting an acknowledgement code

If the message is to be acknowledged by the recipient, an acknowledgement code must be inserted; message sending is only considered to be confirmed once the message with this acknowledgement code is sent back from the recipient to the device. To do this, the acknowledgement code must be in the message subject (except for SMS).

In order to insert an acknowledgement code into the message, place the cursor on the **Subject** field (for SMS templates: in the **Message Text**), *right-click* there and select the **Modem > Alarm cascade > Confirmation code** entry from the context menu that is displayed.

8.2.2 Inserting variable references

In order to insert variable references in the message text or subject, right-click the intended location in the text and select the required variable from the context menu that is displayed. Both the system variables that the FP gateway generates automatically (which are under the FP gateway's short designation in the context menu) and the variables from a controller can be inserted if the controller is already defined in the project.

The variable values for a controller are in the context menu under the station designation that you entered in the project for the PLC.

Click **[OK]** to complete the entries and to return to the message overview.
You can use the **[New Message]** button to create further messages from there.
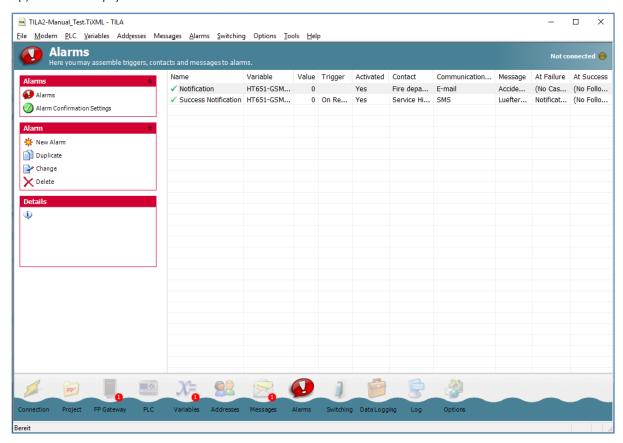
9 Setting up alarms

Click the [Alarms] button in the navigation bar to compile the previous entries for alarms.

9.1 Alarm overview

If you click [Alarms] in the navigation bar, you access a tabular overview of the alarms that were set up, which is empty at first.

As soon as alarms have been created, you will see the following options here:

New Alarm
   Use this button to access the alarm editor, in which you can compile all entries for an alarm.

Change
   Clicking this button opens the selected entry in the alarm editor.

Delete
   Click here to delete the selected entry from the list.

Duplicate
   If an entry has already been created and is selected in the overview, you can create a copy of this (and edit it immediately). This can save time if you are creating several similar entries.

Test Alarm
   This option enables you to trigger the selected alarms as a test without the condition that is set for this (e.g. PLC variable) actually having to change.

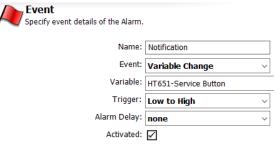Click the [New Alarm] button to access the editor to create a new entry.

9.2 Adding an alarm

In this module, you can compile an alarm from the trigger, recipient, message type and nature. As you have already prepared all of the alarm elements, you only need to select the finished individual parts here.

9.2.1 Event

Enter the way in which the alarm is to be triggered here.

If this is to occur as part of a **Variable Change**, you must select the variable that is to be monitored and the **comparison type** or the **change** ("**Trigger**").

The following options are available:

Low to High

If you select this comparison type, the alarm is triggered as soon as the specified variable changes from low to high. This option is only available for bit variables.

High to Low

This option causes the alarm to be triggered when the variable changes from high to low and is also only available for bit variables.

(Note: The FP gateway's I/Os are "high" when open and "low" when closed.)

Any Change

Select this option to trigger the alarm in the event of any change to the variable, regardless of the direction. This comparison type is also only available for bit variables.

Threshold Range

This option can be selected for byte, word, and D-word variables, and required a lower and upper threshold to be entered. The alarm is triggered if the variable value is within the range defined in this way and/or leaves it depending on the selected type of change.

Equal (=)

Enter an exact value for this, which the variable must adopt in order to trigger the alarm.

Not equal (<>)

Enter an exact value for this. As soon as the applicable variable's value deviates from this, the alarm is triggered.

Greater than (>)

This option triggers the alarm as soon as the variable exceeds the specified value.

Lower than (<)

This option triggers the alarm as soon as the variable falls short of the specified value.

Bitmask

Enter a value to define a bit mask. The alarm is triggered as soon as one of several of the alarm value's bits corresponds to the bit mask defined by the specified value.

Activated

The alarm is triggered when the specified condition occurs only if this checkbox is selected.

Alarm Delay

Enter a time frame during which the specified condition must be met in order that the alarm is actually triggered.

As the **Event**, you can also select **Alarm Cascade**; in this case, you can select one of these as an alarm's subsequent alarm, for which acknowledgement is required.

If you do not wish to have the alarm triggered automatically, select the **Manually** option as the trigger. In this case, you can only trigger the alarm from TILA by using the **[Test Alarm]** button in the alarm overview.

9.2.2 Alarm destination

Assign a recipient to the alarm message here, by selecting one of the address book contacts that you created previously.

Furthermore, you must select the method that is to be used to transmit the message here.

As the transmission method ("Communication Medium") , you can only select those for which an address was also created in the contact that you selected previously.

9.2.3 Message

Define which of the messages that you defined previously is to be sent to the specified contact.

Here, you can only select those messages that match the transmission method selected in **Event**.

9.2.4 Alarm Cascade

In **Alarm Cascade**, you can define what is to occur if a message cannot be delivered or if it is delivered but not confirmed by the recipient by sending back to the device.

At Failure

> Select an alarm here, which is to be triggered if the alarm that was just processed is not completed successfully. Here, you can also specify whether sending the message is only to be considered successful if the recipient acknowledges receipt.

Message Confirmation

> If you activate this option, the message does not just have to be delivered without errors, but sent back to the FP gateway by the recipient as a sign of acknowledgement and this must occur within the time frame specified in **Confirmation Timeframe**. Otherwise, the subsequent alarm is triggered. This option requires a message that contains an acknowledgement code.

Confirmation Timeframe

> Select a time frame here, within which the message complete with acknowledgement code must be sent back from the recipient to the FP gateway so that the subsequent alarm is not triggered.

At Success

> Select an alarm here, which is to be activated if the alarm that was just processed is completed successfully.
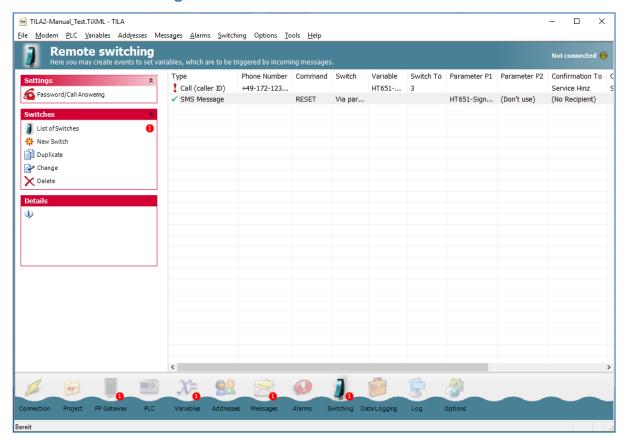
After you have defined all of the alarm's elements, click **[OK]** to confirm your entries and to return to the overview. If you have selected the "Create New Alarm" option in **At Failure** or **At Success**, you will return to the alarm module after clicking **[OK]**, in order to create this subsequent alarm.

10 Remote switching

Click the **[Switching]** button in the navigation bar to set up an access via which you can use incoming messages or calls to switch FP gateway variables or variables for a PLC that is connected.

10.1 Remote switching overview

If you click **[Switching]** in the navigation bar, you access an overview of the switches that were set up, which is empty at first. As soon as switches have been created, you will see the following options here:

Password/Call Answering
Use this button to access a screen on which you can define call acceptance and a password for switching access. You must activate call acceptance if you use incoming messages for remote switching or wish to use remote access to the FP gateway or the PLC; this is not required for switching via Caller ID.
The password applies globally to the FP gateway project. Click **[List of Switches]** to return to the overview and access the options:

List of Switches
You can use this button to return to the overview at any time.

New Switch
Use this button to access the editor, in which you can compile the entries for remote switching.

Duplicate
If switches have already been set up and one is selected in the overview, you can create a copy of this switch (and edit it immediately).
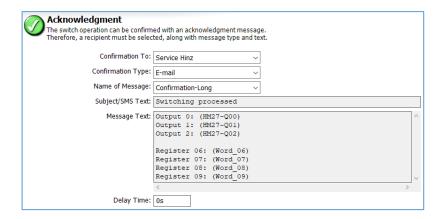
Change

Clicking this button opens the selected entry in the remote switching editor.

Delete

Click here to delete the selected switch from the project.

Click the [New Switch] button to access the access editor to create a new entry.

10.2 Adding switches

In the access editor, you can configure a switching access by entering the trigger, the variable to be switched and, if required, a recipient and a message for confirming the switching process.

Type

Specify whether the switching process is to be triggered by the phone number (caller ID) of an incoming calls (that is not answered) or by an incoming message (express e-mail or SMS). You must set different settings for a switching access via caller ID than for one via an incoming message.

10.2.1 Switching access via caller ID

Phone Number

Enter the number exactly as it is transmitted by the telephone connection.
Note that the modem will recognise calls from this number but will not answer them.
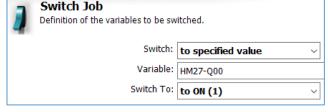Remote configuration is therefore no longer possible from the connection specified here.

Switch

You can only enter "to specified value" here, as no variable values can be transmitted via caller ID.
If you enter "Confirmation as status request" here, you can trigger message sending instead of a switching process. To do this, only enter the recipient, the message type and the message to be sent.

Variable

Enter the variable to be switched here.

Switch To

Here, you can enter the value that is set when a call is received from the specified number.
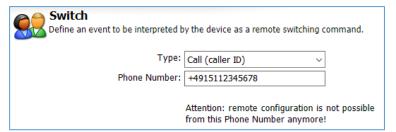
Confirmation To

If the switching process is to be confirmed, enter the recipient for this here.

Confirmation Type

This is the message type for the confirmation message.

Name of Message

Select a template that is to be sent as the confirmation here.

Delay Time

Enter how long the system is to wait after triggering the switching process before it sends the confirmation message, so that this actually contains the changed values.

If you have specified a message for confirmation, a preview is displayed below the input fields. Click [OK] to complete the entries and to return to the access overview.
You can use the[New Switch] button to create further accesses from there.

10.2.2 Switching access via incoming message

Type

Specify whether the switching process is to be triggered by the phone number (caller ID) of an incoming calls (that is not answered) or by an incoming message (express e-mail or SMS).

Command

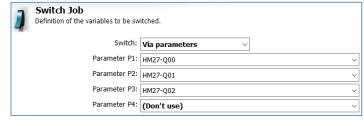Enter a command here (in capitals), which must also occur in the subject of the triggering message.

Preview

The subject line of the triggering message must look as follows. You must replace the parameters specified as "P1", "P2", etc. with the values that are to be set in the message.

Switch Job

You can either enter "to specified value" or "Via parameters" here. The parameters that are to be entered in the message are shown by P1-P4 in the preview.

If you enter "Confirmation as status request", you can trigger message sending instead of a switching process. To do this, enter the recipient, the message type and the message template.

Parameters

You can select up to 4 variables from this field, which the message is to set to a value (P1-P4).

Confirmation To

If the switching process is to be confirmed by a message, enter its recipient here.

Confirmation Type
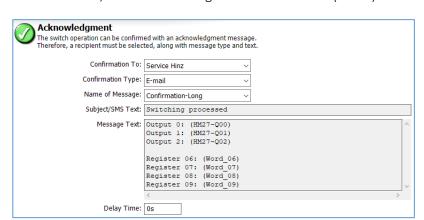
The confirmation type.

Name of Message

The template for the confirmation message.

Delay Time

Enter how long the system is to wait after triggering the switching process before it sends the confirmation message, so that this actually contains the changed values.

If you have specified a message for confirmation, a preview is displayed. Click [OK] to return to the overview.
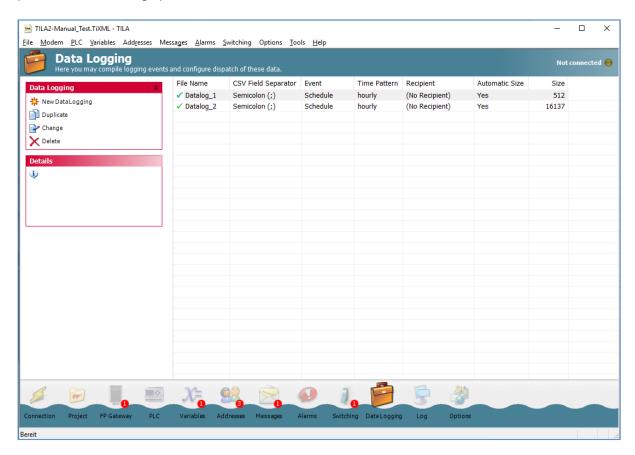
11 Data Logging

The FP gateway enables the data from a controller that is connected to it, such as the variable and register values, to be recorded regularly and to send this recording as an Excel spreadsheet (in CSV format) for example. To do this, the controller must be defined in the TiXML project and the variables to be recorded must have been created there.

11.1 Data logging overview

As soon as these prerequisites have been met, click the[Data Logging] button in the navigation bar to set the settings required for recording and for sending the data. You access a tabular overview that is empty at first. As soon as at least one data logging process has been created, the options bar provides you with the following options:

New Data Logging

Use this button to access the editor, in which you can compile all entries for logging the variables.

Duplicate

If one data logging process has already been set up and is selected in the overview, you can create a copy of this data logging process (and edit it immediately). This can save time if you are creating several similar data logging processes.

Change

Clicking this button opens the selected entry in the editor.

Delete

Click here to delete the selected data logging process from the TiXML project.

Readout

If TILA is connected to the FP gateway, you can use this button to read out the log file saved in the modem manually without sending it in a message. If the contents of a log file are displayed in the work area, you can click **[Save...]** in the options bar to save it as a CSV file.
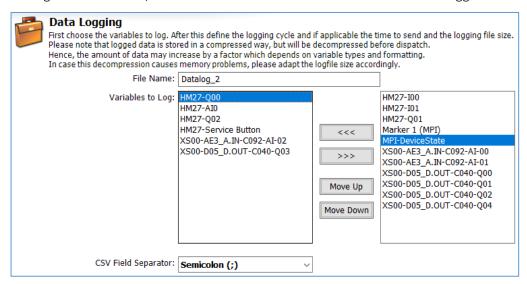
Test dispatch

> This option enables you to trigger sending the selected log file as a test without the condition that is set for this (e.g. PLC variable) actually having to change.

First use the**[New Data Logging]** button to create one of these and to edit it in the editor.

11.2 Adding data logging processes

In the "Data Logging" module, you can specify the PLC from which data is to be recorded, how large the log file is and when, how and where it is to be sent. A maximum of six loggers can be defined.

File Name

> Enter a name for the data logging process here, which you can use to differentiate between it and any other data logging processes that have been created. This name plus the date will be used as the file name for e-mail attachments.
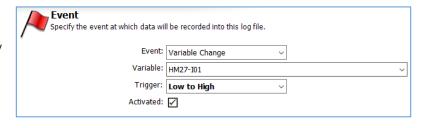
Variables to Log

> Select the variables to be logged here by highlighting them in the right window and then clicking the **[<<<]** button. In order to stop recording variables, select them in the left window and click the **[>>>]** button. You can use the **[Move Up]** and**[Move Down]** buttons to adjust the sequence of the selected variables in the log file.

CSV Field Separator

> Select which character is to be used as a separator in the CSV files that are sent as e-mail attachments here.

Event

> You can control the occasions on which an entry is written into the log file here. You can either have this triggered by variable changes or use a regular time pattern.

Variable

> If you wish to have a variable change trigger writing to the log file, enter this here.
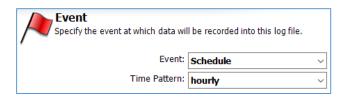
Trigger

> If you wish to have a variable change trigger writing to the log file, select the change to the variable that is to trigger the entry in the log file.

Activated

> If you deactivate this checkbox, the specified variable change does not cause an entry in the log file.

If you wish to have a time pattern trigger writing to the log file, select "Schedule" as the **Event**. You can select a range of intervals in **Time Pattern**.

If you have selected "Manually" as the **Event**, you can trigger writing entries to the log file using a button in the options bar or via the context menu.
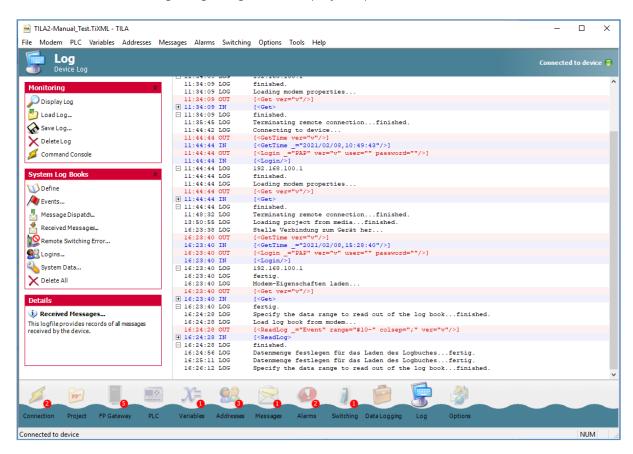
12 System Log Books

Click the **[Log]** button in the navigation bar to access the system log books. Here, you can view, save and load a log of the communication between TILA and the FP gateway.

Furthermore, you have access to the **[System Log Books]** in the options bar, in which messages regarding event processing, message sending and other processes in the device are saved. Simply click the name of a log file (e.g. "Events...") to view its contents and to save if required.

12.1 Log monitor

Click the **[Display Log]** button in the options bar to display the data transmitted between the PC and the device. The data sent by TILA to the FP gateway is shown in red and the FP gateway's responses are shown in blue. Messages regarding successful project uploads, etc. are shown in black.

Click the name of a log file in the options bar to read out its contents. As soon as this has been done, all entries are displayed in the TILA work area; the options bar then contains the **[Save]** button that you can use to save the contents that are displayed into a file. The following options are also available:

Load Log

> If you have saved the log of a previous session on the PC's hard disk, you can load it into the log monitor again and display it here.

Save Log

> Click here to save the log to your PC's hard disk.

Delete Log

> This deletes the current log display.

The **[Command Console]** option is intended as an aid to support for FP InovoLabs technical support. Some longer data records are shortened in the log view. These are indicated by a small box with a plus sign. Click the box to expand the display to the full length or to shrink it again.
If errors occur, they have a red background. These error entries can also be expanded to display additional information.

12.2 Gateway log books

Click the **[System Log Books]** > **[Define]** option to access a screen with settings for the FP gateway's internal system log files. In addition to the file size for the various log files, you can also specify whether errors, OK messages or everything should be logged and how comprehensively here.

Events
    This log file contains recordings of triggered events such as alarm messages or switching variables as a result of incoming messages.

Message Dispatch
    This log file notes all specifications for the result of message sending.

Incoming Messages
    Information regarding incoming messages is recorded here.

Failed Incoming Calls
    This logs errors that occur during telecontrol via incoming messages or calls.
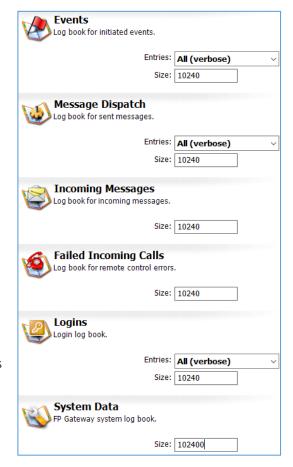
Logins
    This log file saves all alarm messages and login attempts on the FP gateway.

System Data
    The device's internal system data is saved here. This is mainly intended for support from FP InovoLabs technical support.

Delete All
    Click this button to delete all log files saved in the modem.

Click the name of a log file under **[System Log Books]** in the options bar to display its contents. In order to return to the log monitor, use the **[Display Log]** button at the very top of the options bar.

13 The options module

Click the **[Options]** button in the navigation bar to access the options module. Here, you can define further SMS service centres for sending and receiving messages, and set the connection timeout.

13.1 SMS gateways for sending

This contains a list of predefined SMS service centres (SMS gateways for sending) via which the FP gateway can send short messages. If you wish to use a service centre that is not in the list, you can use the **[New SMS Provider]** button (in the options bar) to add it.

Name
Enter a name for the gateway here.

Phone Number
Enter the gateway's access number here. The corresponding provider can inform you of the format that is used.

Phone Number Format
The phone number format that is used depends on the corresponding provider.

Type of Gateway
Enter the type of gateway used here.

Network Type
Select whether this is an analogue or an ISDN gateway here.

Script
You can also obtain information regarding the script type used by the gateway from the corresponding provider.

13.2 Landline SMS receipt

You can select the SMS service centre via which the FP gateway should receive short messages (New Landline SMS receipt sender). Some European countries are already predefined with the phone numbers used there.
If you wish to use the device in a different country, in the **Country** list box, select the "Other" entry and enter the phone number(s) in the corresponding field or fields.

13.3 Connection

You can define the connection timeout for transmissions between TILA and the FP gateway here. If the default thirty seconds are not sufficient, e.g. to read larger log files out of the device, select a higher value here.

14 Appendix

14.1 Automatically created system variables

Depending on the device type used, TILA may create some system variables that relate to the FP gateway itself. Note that not all of these variables are available for all device types.

Variable	Meaning
GSM Account	This variable saves the remaining credit on a prepaid card. You can use this value as a trigger to send a notification in the event of low credit for example.
Service Button	You can use this variable to query the status of the "Service" button that is located on the FP gateway.
DeviceState	If a PLC protocol was defined, this variable specifies whether there is a connection between the FP gateway and the controller.

14.2 Other system variables

You can use the context menu to insert these variables into message templates. They are replaced with the corresponding current value when sending the message.

Variable	Meaning
Event	Various specifications are available here, which relate to the event that triggers sending the message.
Alarm Cascade	Insert an acknowledgement code into your message template in order to confirm an alarm simply by sending back (only express e-mail and SMS).
Date & Time	You can use this point to select various syntaxes in which a time stamp can be inserted into the messages.
Hardware	You can select hardware-specific specifications such as the file system size or the firmware version here.
System	These specifications relate to an incoming message that has triggered an event. You can define the sender of the incoming message for example in this way.

14.3 Special functions

In addition to the functions for creating projects, TILA also provides these options that can be accessed via the menu bar:

14.3.1 Factory reset

A factory reset deletes all data apart from the SIM PIN from the FP gateway, which also includes log files in addition to the actual project; therefore, use this function with care.
This option is available in the menu bar under [Modem] > [Factory Reset]. However, note that it is only available if TILA is connected to an FP gateway.

14.3.2 Language change and dialogue boxes

You can also change the program interface's language between German and English, and control the display for dialogue boxes (e.g. after a successful project upload).
The settings for this are available in the menu bar under [Tools] > [Settings].
If you have deactivated dialogue boxes using their "Do not show this message again" checkbox and wish to undo this, this dialogue field contains a list of all deactivated dialogue boxes along with the option to reactivate them.