



Manual

SMS Message System

**for MPB 3200 / 3400 / 4400
and FG2**

Firmware V 2.01

Version:
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1. Initial Commissioning

1.1 Description

You can easily configure the SMS module via a USB interface and your default web browser (Firefox or Edge recommended):

- The device is recognized as a virtual drive. If autostart is disabled, start "**Setup.exe**" from the virtual CD drive.
- Start a web browser.
- Enter "**http://tcmobile**" or "**169.254.10.1**" in the address line.

Depending on the Windows operating system and web browser, different basic settings, security settings and access rights can make commissioning more difficult. It is not possible to set the parameters via the device. Therefore, you must manually change the settings on your PC.

The following obstacles may occur:

- Initial installation does not start automatically (see 1.2)
- Access via the web browser is not possible (see 1.3)
- The content is not displayed correctly in the web browser (see 1.4)

1.2 Initial installation does not start automatically

Possible causes:

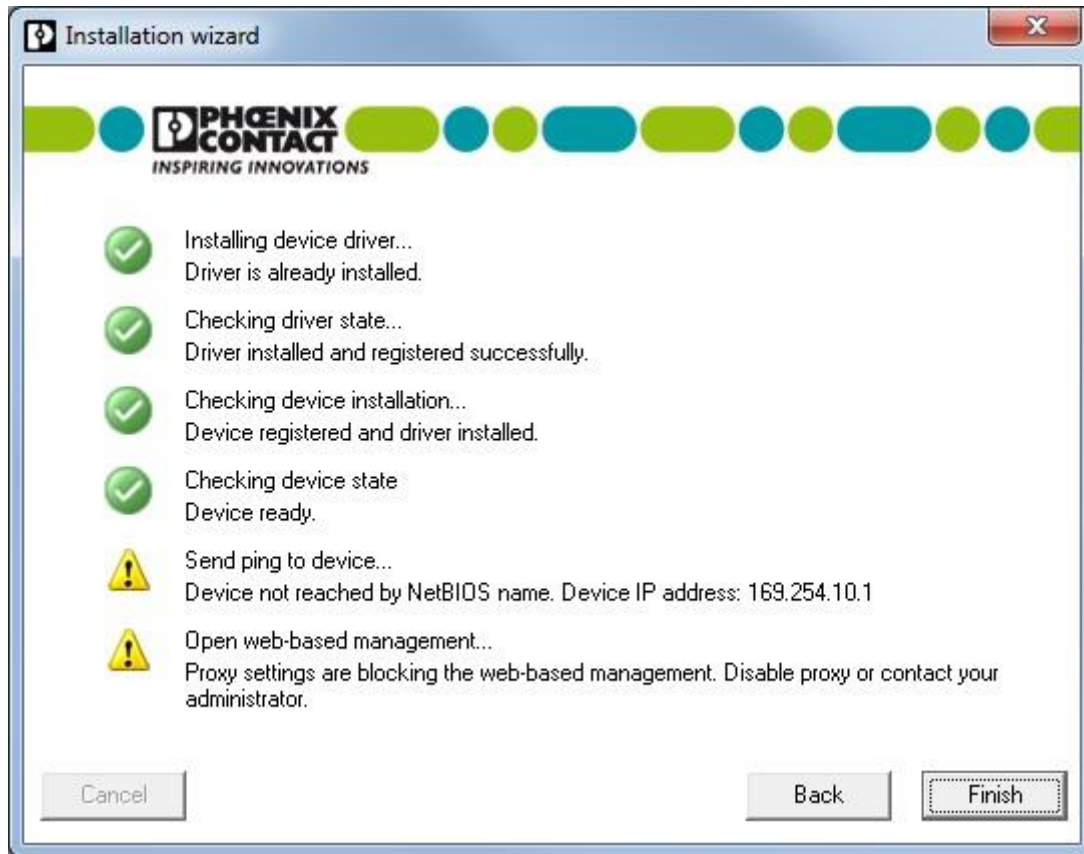
- You are using an outdated Windows operating system, or you are **not** using a Windows operating system.
- Autostart is not activated in the operating system.

Solution:

- Do not use an operating system of a version lower than Windows 7
- Go to "Start, Computer," and select the virtual disk.
- Start the "Setup.exe" from the virtual CD drive. The driver for the device will be installed.
- Follow the instructions in the installation wizard.

1.3 Access via web browser not possible

The driver is installed, but the website of the device does not automatically open in the web browser. Access via the standard web browser is not possible. For example, the installation wizard displays the following problems:



Possible cause 1:

The proxy settings prevent access to the device.

Solutions:

- Install a second web browser on your PC, for example Firefox. When reinstalling Firefox, the proxy settings are generally not activated. Advantage: you do not have to change the configuration of your default web browser.
- Disable the proxy settings in your web browser.

Note:

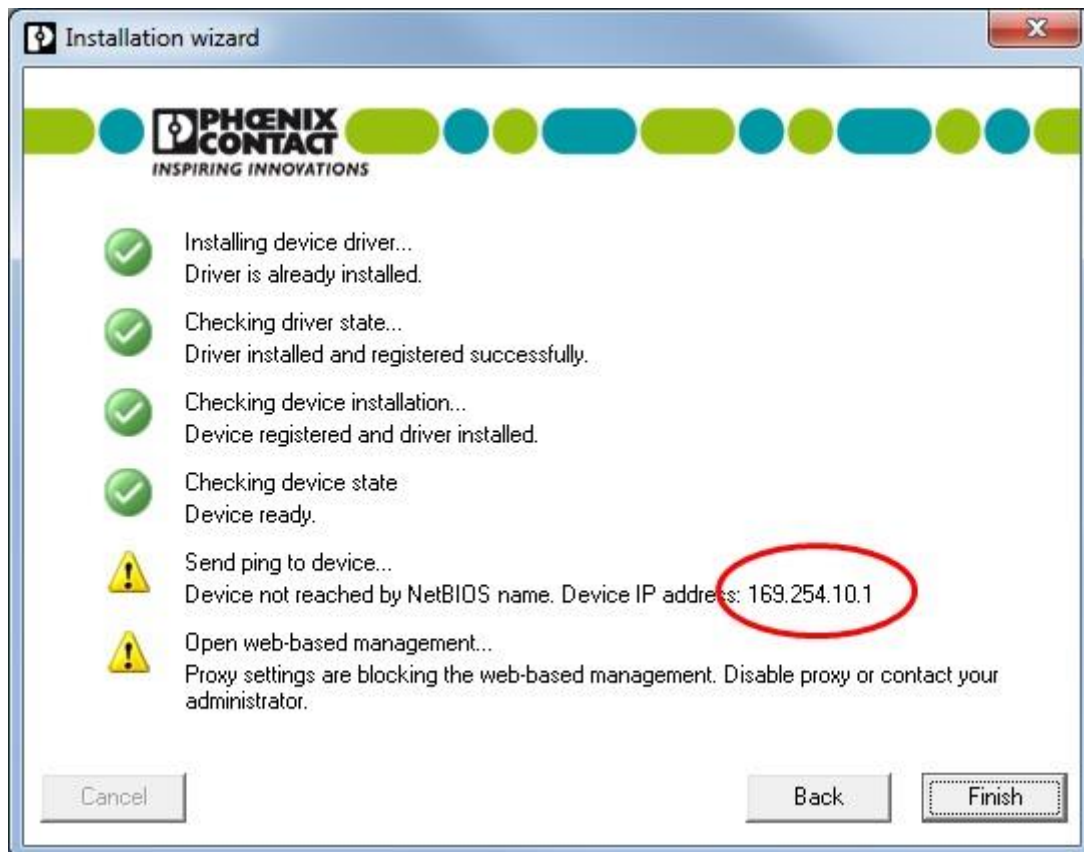
Reset the proxy settings after the configuration. Then you can use internet communication again.

Possible cause 2:

If you enter the NetBIOS name "**tcmobile**" in the address line, the web page will not open.
A security product, such as a firewall or a system setting, prevents access via the NetBIOS name.

Solutions:

- Enter the default IP address in the address line of the web browser: **169.254.10.1**
- If the default IP address 169.254.10.1 is already assigned on your computer, the device will automatically be assigned a different IP address. The installation wizard shows the new IP address during the driver installation.



1.4 The content is not displayed correctly in the web browser

Possible causes:

- You are using an outdated browser.
- The compatibility setting in Internet Explorer is incorrect. You may receive a script error message.

Solutions:

Use one of the following recommended web browsers:

- Firefox 20.0 or higher
- Google Chrome 33.0 or higher
- Opera 18.0 or higher
- Internet Explorer 8.0 or higher

In Internet Explorer, under "**Tools, Compatibility View Settings**" disable the following functions:

- Display intranet sites in Compatibility View
- Display all sites in Compatibility View

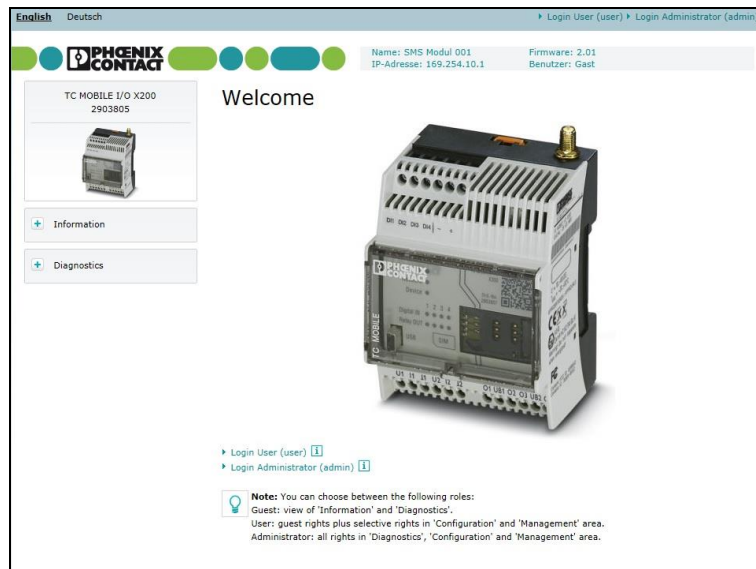
2. Configuration

2.1 General information

The configuration described here describes the inputs for the SMS module. Further setting options, which are not required for normal operation, are not explained in detail.

The configuration must be completed at the end with "**Save & Restart**"!

Open the configuration page by typing "**http://tcmobile**" or "**169.254.10.1**" in the address line in your web browser (preferably Firefox or Edge). The following page opens:



2.2 Language

In the upper left area, you have the option to switch between German and English. The changeover takes place immediately during operation.

2.3 Login

The following users are available:

- **Guest:** View of the tab "Information" and "Diagnostics" (without registration)
- **User:** Guest rights plus selective activation in the "Configuration" and "Administration" areas
- **Administrator:** All rights to "Diagnostics," "Configuration" and "Administration"

At the bottom you have the option to log in as user or administrator.

Default login for registering as a **user**:

User: **user** password: **user**

Default login for registering as **administrator**:

User: **admin** password: **admin**

The passwords can be changed as a registered administrator in the tab "**Administration**" under "**User Management**."

2.4 Access data

In the "Configuration" tab under "Access data," the SIM and e-mail configurations are carried out.

2.4.1 SIM configuration

In this field the PIN of the SIM card used in the SMS module is entered. To do this, activate the "**PIN required**" field and enter the SIM card PIN in the enabled field below. Further entries or settings are not necessary here.



The screenshot shows a configuration window with two tabs: "SIM configuration" (active) and "E-mail/App configuration". Under the "SIM configuration" tab, there are four rows of settings:

SIM configuration	
PIN required:	Enabled ▾
PIN:	1234 × ✓
Operator selection:	Automatically ▾
Operator:	26202 - Vodafone.de ▾

Note:

The PIN must be entered before initial operation and each time the SIM card is changed. Otherwise the SIM card may be blocked if an incorrect PIN is entered!

2.4.2 E-Mail configuration

To receive an e-mail notification, you will need a data SIM and an e-mail account with a provider such as: GMX, Gmail or T-Online. Make sure your email provider supports SSL encryption. STARTTLS is **not** supported by the SMS module.

You will find the required data for the e-mail configuration from your e-mail provider.
You can get the APN (Access Point Name) from your mobile service provider.

The screenshot shows a web interface for configuring email and app settings. At the top, there are two tabs: "SIM configuration" and "E-mail/App configuration", with the latter being the active tab. Below the tabs, a light blue box contains a lightbulb icon and a note: "Note: You need the APN configuration, if you want to send e-mails or use the smartphone app." Below this, the "APN configuration" section is shown with fields for "APN (Access Point Name)", "Authentication" (set to "Disabled"), "Username", and "Password". The "E-mail configuration" section follows, with fields for "Senderaddress", "Server", "Encryption" (set to "SSL Encryption"), "Port" (set to "465"), "Authentication" (set to "Disabled"), "Username", and "Password". At the bottom, another light blue box contains a lightbulb icon and a note: "Note: The name of the device is automatically inserted in the subject line of the e-mails."

Example configurations (see 4.3)

The registered e-mail address functions as the sender address for the SMS module and can be used for several modules at the same time. The recipients of the e-mail are entered under "**Contacts**" (see 2.5).

Note:

In some cases, your e-mail account at your ISP may have to be activated for sending and receiving e-mails with an external program such as Outlook. This is mandatory because the SMS module functions like such an external program for sending an e-mail.

2.5 Contacts

Under the menu item "**Contacts**," a list of recipients is created to receive a notification in case of failure. To create a new contact, click on the "**New**" button and enter the required data. Click on "**OK**" to accept the new contact.

Note:

In order to specify which fault messages are to be sent to the respective contacts, the corresponding check marks must be set for **DI1 - DI4** (see 2.6).

The screenshot shows a web interface titled 'Contactlist' with a sub-header 'Editing contacts via SMS'. Below this is a table with the following columns: No., Name, Number e-mail, DI1, DI2, DI3, DI4, AI1, AI2, and two icons (a clock and a person). The first row contains the data: 1, Mustermann, +123456789, and checkmarks for DI1, DI2, DI3, and DI4. Below the table are three buttons: 'Edit', 'New', and 'Delete'.

No.	Name	Number e-mail	DI1	DI2	DI3	DI4	AI1	AI2		
1	Mustermann	+123456789	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

2.6 Inputs (message texts)

In the standard template, the fault messages issued by the traffic signals are preset. However, these texts can be customized. The text "**# DEVICE_NAME #**" may **not** be changed. This is the placeholder for the name of the SMS module and is used for identification if you have several SMS modules in use.

The screenshot shows a configuration window for 'Thresholds via SMS'. It has tabs for DI1, DI2, DI3, DI4, AI1, and AI2. The 'DI1' tab is active. The configuration for 'Configuration digital input DI1' includes: 'Alarm trigger' set to 'Positive edge' (with a waveform icon), 'Waiting period' set to '1' 'Seconds'. Below this is a section 'Text for positive edge' with a 'Message text' field containing '# DEVICE_NAME #: Low Voltage' and a 'Remaining characters for SMS' indicator showing '114'. A note at the bottom states: 'Note: You must select the participants to be informed in the contactlist'.

Assignment of the message texts:

- DI1 = battery warning
- DI2 = red light defective
- DI3 = transmission error (with FG2 "emergency stop activated")
- DI4 = collective fault
- AI1 = battery empty (MPB only)

Note:

Please note that special characters (e.g.: | ~ @ \$ % & ') and language-specific letters (e.g. âçèéë) are not always transmitted correctly as a SMS message. Therefore, use only the numbers (1 to 9), letters of the Latin alphabet (A to Z and a to z) and common punctuation marks (.,:;!?). Also avoid the characters '#' and '*' because these characters are used in the GSM area for the setting of special functions!

2.7 Name, time, restart

This tab allows the name of the SMS module to be changed and the time to be set.

2.7.1 Name


The name of the device is used for unique identification, especially if you have several SMS modules in use. The default is "**SMS module 001**" and can be changed as desired. However, the name may not exceed 32 characters.









The screenshot shows a web-based configuration interface with a teal header bar containing four tabs: 'Name', 'Date and time', 'Time correction', and 'Restart via SMS'. The 'Name' tab is selected. Below the tabs, the section is titled 'Name'. It contains a label 'Name of the device:' followed by a small blue information icon 'i'. To the right is a text input field containing the text 'SMS-Modul 001'. Below the input field are two blue links: '▶ Insert serial number' and '▶ Insert IMEI number'.

2.7.2 Date and time

In this area the date and time can be corrected. This is required if the SMS module was without supply voltage for several days.

Name	Date and time	Time correction	Restart via SMS
Date and time			
Date and time format:	YYYY-MM-DD, 24h ▾		
Date and time of device:	2000-01-01 00:01:32		!
Date and time of local PC:	2018-07-13 19:10:09		Accept
Date and time manually:	<input type="text"/>		Accept
 Note: You must manually change from standard time to daylight saving time and back.			

It is also possible to set an **"automatic time correction."** For this, the telephone number of the SIM card in the SMS module must be entered and the configuration activated.

Name	Date and time	Time correction	Restart via SMS
Telephone number of this device:  <input type="text"/>			
Automatic time correction 			
Configuration: Disabled ▾			
Time correction via SMS 			
Configuration: Disabled ▾			
Authorization:  Everyone has permission ▾			
SMS command  <input type="text" value="TIME"/>			
Acknowledgement after successful time correction:  Insert variables:			
<input type="text" value="Time correction performed successfully"/>			
Remaining characters for SMS: 122			

2.7.3 Restart via SMS

If this configuration is activated, the SMS module can be restarted with the SMS command "**RESTART.**" The whole command must be written in capital letters and must not contain any additional characters. It is still possible to specify who is allowed to trigger a restart by assigning the corresponding authorization. When selecting "**Everyone has permission**" anyone who knows the phone number of the SMS module can trigger a restart. When selecting "**Only contacts have permission,**" anyone who is in the contact list can trigger this function.

Restart via SMS

Restart device via SMS

Configuration: Disabled

Authorization: Everyone has permission

Structure of the SMS command

SMS command: RESTART

Confirmation after successfully restarting the device

Acknowledgement: TC Mobile I/O is restarted

Remaining characters for SMS: 134

An SMS is sent as confirmation if the restart was successful.

2.8 Status messages

Various status messages of the SMS module can be configured here. The following messages are set at the factory:

- SMS at the start of the device
- Status inquiry via SMS

Periodic status messages

Periodic Status Messages

Send periodic messages: Every week

Time to send: At 0:00 clock, every Monday

Message text: Periodic status message: digital inputs=#DIGITAL_INPUTS#

Remaining characters for SMS: 104

Note: You must select the participants to be informed via sms/e-mail in the contactlist (set checkmark at the clock symbol). If no participant is selected, this function is deactivated.

Note: These events are not processed following the reporting chain.

2.8.1 Periodic status messages

If you want to receive a status message regularly, you can make the settings here.

Note:

You must select the participants to be notified in the contact list (check the clock icon). This function is disabled if no participants are selected.

2.8.2 SMS in case of power failure / start of the device

As soon as the SMS module has been configured and a SIM card is in the device, an SMS with the name of the module and the text **"Ready for operation!"** is sent to the selected recipient after the voltage supply has been connected.

The **"SMS in case of power failure"** is not enabled in the standard template. If this function is required, activate the function with a check mark.

Disadvantage:

An SMS is then sent at each power failure, even when the battery is changed (if you work without a battery switch box or with just one battery). Even if the SMS module has been deactivated, the SMS will still be sent (see 7).

Periodic status messages

SMS upon power failure

Status queries via SMS

Recipient of the status message: ⓘ

Please choose... ▾

Send SMS upon power failure ⓘ

☐ Send message upon shutdown/power failure

Message text: ⓘ

▶ Insert variables:

#DEVICE_NAME#
Power Fail!

Remaining characters for SMS: 116

Send SMS at Start of Device ⓘ

☒ Send message upon start of device

Message text: ⓘ

▶ Insert variables:

!#DEVICE_NAME#
Started!

Remaining characters for SMS: 118

💡

Note: This SMS message is sent once to the recipient selected above. It is not possible to send an e-mail, as the energy consumption is higher.

Note:

This message can be sent only to the one recipient selected in the upper area.

2.8.3 Status inquiry via SMS

An SMS can be used to query the status of the message inputs. To do this, send an SMS message with the word "STATUS" to the telephone number of the SMS module. The SMS module then sends back a message with all states of the individual inputs (faults).

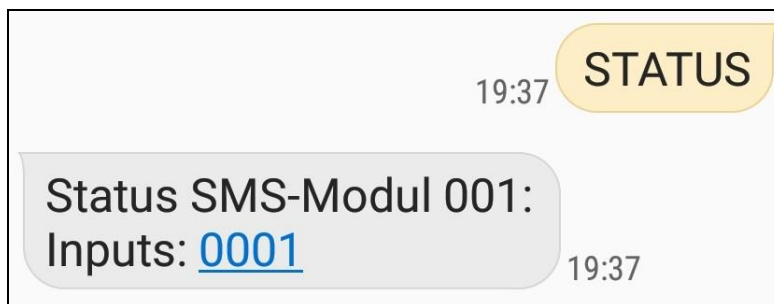
The screenshot shows a web interface with three tabs: 'Periodic status messages', 'SMS upon power failure', and 'Status queries via SMS'. The 'Status queries via SMS' tab is active. It contains a form with the following fields:

- 'Status queries via SMS:' with a dropdown menu set to 'Enabled, only contacts have permission'.
- 'SMS command' with a text input field containing 'STATUS'.
- 'Text for the feedback message:' with a text area containing 'Status: #DEVICE_NAME#;' and 'Inputs: #DIGITAL_INPUTS#'. To the right of this field is a link 'Insert variables:'.
- 'Remaining characters for SMS:' with a value of '95'.

Below the form is a note: 'Note: The contents of the status message (inputs and outputs ...) can be defined using variables.'

In the standard template, only contacts are allowed to query the status.

The incoming SMS appears like this on a mobile phone / smartphone:



The name of the SMS module is displayed. The 4-digit number sequence is used to inform whether a fault and which fault exists.

- 0 means no fault
- 1 means fault

Assignment of inputs from left to right:

- Input 1: Battery warning
- Input 2: Red light defective
- Input 3: Transmission error (pedestrian system FG2 "Emergency stop activated")
- Input 4: Collective fault

Note:

- The SMS may contain only the word **STATUS**.
- It may not be preceded by empty spaces.
- Only **uppercase letters** may be used.

3. Configuration Export / Import

The "**Administration**" tab takes you to the "**Configuration Export / Import**" menu.

Configuration export/import

Export, save Configuration to file

File name :	<input type="text" value="ConfigurationFile.ee"/>
Info tag :	<div>Description of the configuration: <div></div></div>

Export

Import, load configuration from file

Follow these steps:

- Choose file (search).
- The file is read and the data is entered into the configuration.
- To transfer the data to the device, click 'Save & Reboot'.

File name :	<div><div></div><div>Durchsuchen...</div></div>
Info tag :	<div></div>

Settings:

Save & Reboot

3.1 Export file

Here, the configuration data can be saved in a file on your PC. Enter a file name and, if necessary, a description (e.g. construction site) in the corresponding fields.

The file name may not exceed 20 characters.

By clicking on "**Export**" you can select the location on your PC and save the file.

Note:

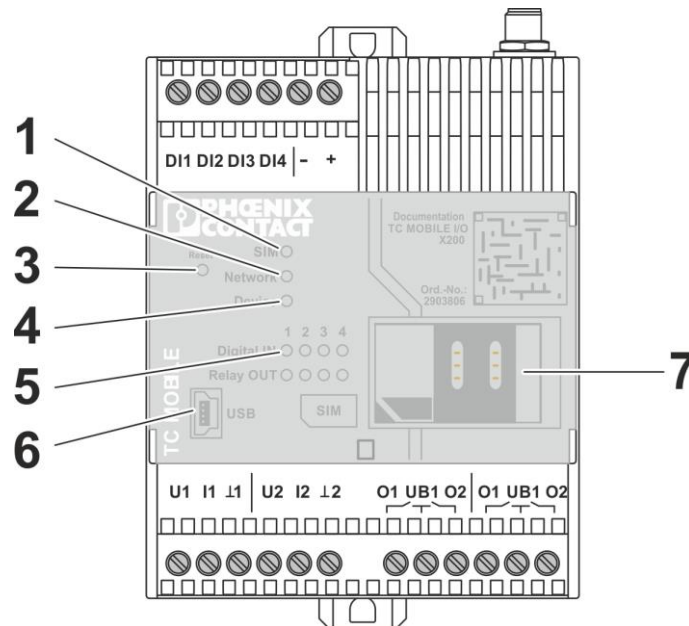
Please make sure that the file extension **.ee** is not deleted. Otherwise, you will receive the error message that the file name is invalid.

3.2 Import file

You can import a previously exported file or the factory standard template. Use the "**Browse**" button to select the desired file on your PC. With "**Save & Reboot**" you transfer them to the SMS module. Thereafter, the reboot takes place, during which the connection to the SMS module is briefly interrupted.

4. Miscellaneous

4.1 Displays and controls



1 SIM	Green on Orange on Orange flashing Red on	SIM card operational SIM card not inserted Module is waiting for PIN SIM card error
2 Network	Green on Orange on Orange flashing Red on	Connection available, very good field strength Sufficient field strength Poor field strength No connection
3 Reset button	Hold down for three seconds to clear all data in the device!	
4 Device	Green on Orange on Orange flashing Red on	Voltage supply via power supply unit or traffic signal Voltage supply only via USB (configuration only) Firmware update Hardware error
5 Inputs	Green on Green off	Fault signal from traffic signal is present There is no fault
6 USB interface	Only for configuration	
7 Mini SIM card		

Note:

If you press the reset button for three seconds, the factory standard template in the module is also deleted. Then you will have to load this template or a file you have saved.

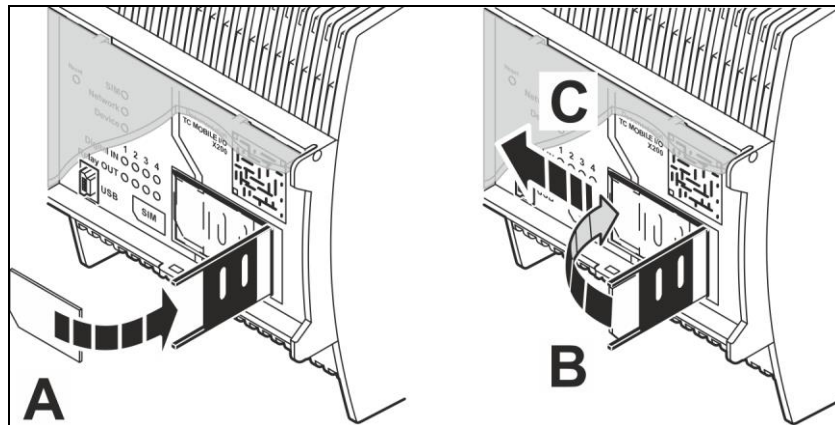
4.2 Inserting the SIM Card

ATTENTION:

Switch the device off before you change the SIM card!

Make sure that there is no connection to the PC via the USB cable, the connecting cable is not connected to any traffic signal or power supply unit and if necessary the internal battery is disconnected.

- Open the housing cover.
- Slide the SIM card cover to the right and then open it.
- Slide the SIM card into the holder with the contact surface facing down. Pay attention to the position of the angled corner.
- Close the cover for the SIM card. Slide it to the left.
- Close the housing cover.
- Protect the SIM card with a multi-digit PIN code.



















4.3 Sample configurations for e-mail delivery

These examples show the configuration for the email providers GMX, Gmail and T-Online. Carry out the e-mail configuration with one of the sender addresses of the corresponding e-mail provider. The addresses shown here are for example purposes only.

The APN data is not entered in these examples. Please contact your mobile service provider to request this information.

Configuration example for "GMX"

SIM configuration		E-mail/App configuration	
 Note: You need the APN configuration, if you want to send e-mails or use the smartphone app.			
APN configuration 			
APN (Access Point Name):	<input type="text"/>		
Authentication:	Disabled 		
Username:	<input type="text"/>		
Password:	<input type="password"/>		
E-mail configuration			
Senderaddress: 	<input type="text" value="sms-modul@gmx.net"/>		
Server: 	<input type="text" value="mail.gmx.net"/>		
Encryption: 	SSL Encryption 		
Port: 	<input type="text" value="465"/>		
Authentication: 	Enabled 		
Username:	<input type="text" value="sms-modul@gmx.net"/>		
Password:	<input type="password" value="*****"/>		
 Note: The name of the device is automatically inserted in the subject line of the e-mails.			

Configuration example for "Gmail"

SIM configuration		E-mail/App configuration	
Note: You need the APN configuration, if you want to send e-mails or use the smartphone app.			
APN configuration			
APN (Access Point Name):	<input type="text"/>		
Authentication:	Disabled		
Username:	<input type="text"/>		
Password:	<input type="password"/>		
E-mail configuration			
Senderaddress:	<input type="text" value="sms-modul@gmx.net"/>	✓	
Server:	<input type="text" value="smtp.gmail.com"/>	✓	
Encryption:	SSL Encryption		
Port:	<input type="text" value="465"/>		
Authentication:	Enabled	✓	
Username:	<input type="text" value="sms-modul@gmx.net"/>	✓	
Password:	<input type="password" value="*****"/>	✓	
Note: The name of the device is automatically inserted in the subject line of the e-mails.			

Configuration example for "T-Online"

SIM configuration		E-mail/App configuration	
Note: You need the APN configuration, if you want to send e-mails or use the smartphone app.			
APN configuration			
APN (Access Point Name):	<input type="text"/>		
Authentication:	Disabled		
Username:	<input type="text"/>		
Password:	<input type="password"/>		
E-mail configuration			
Senderaddress:	<input type="text" value="sms-modul@gmx.net"/>	✓	
Server:	<input type="text" value="securesmtp-t-online.de"/>	✓	
Encryption:	SSL Encryption		
Port:	<input type="text" value="465"/>		
Authentication:	Enabled	✓	
Username:	<input type="text" value="sms-modul@gmx.net"/>	✓	
Password:	<input type="password" value="*****"/>	✓	
Note: The name of the device is automatically inserted in the subject line of the e-mails.			

4.4 Emergency battery

The SMS module is equipped with an emergency battery that supplies the module with voltage to send an SMS for about 2 minutes after a power failure. After this time, the integrated electronics automatically switch off the battery to save energy and protect the battery.

Note:

The battery must be fully charged to ensure this function. This is achieved if the SMS module is connected to a voltage source (traffic signal or power supply unit) for approx. 10 hours.

5. Operation on MPB / FG2

5.1 Commissioning

The SMS module with active mobile card is plugged into the corresponding socket on the signal head or in the case of the pedestrian signal system the type FG2 on the control unit. The SMS module receives the supply voltage as well as the individual control commands via this socket.

After the system has been plugged in and switched on, the warning lights in the module housing and in the pushbutton located on the front panel flash for approx. 30 seconds (login to SMS server). The SMS system then sends a switch-on message to the selected recipient.

Thereafter, the warning light flashes every 3 seconds (power indicator). If a fault is indicated (SMS is sent), the indicator lamp lights up for 5 seconds.

Note:

The signal head with SMS control must be programmed as **traffic light 1** (MPB 4400) and in the traffic light systems MPB 3200 / MPB 3400 as **traffic light S**. Only then can messages from the entire traffic light system be transmitted.

If the SMS module is not in operation at traffic light 1 or traffic light S as it should be, only the faults of those traffic lights at which the SMS module is plugged in, are evaluated.

6. Output of Fault Messages

6.1 Battery warning

If the battery voltage falls below approx. 11.1 V (or 11.5 V at FG2) in the display during operation, the SMS module outputs the fault message **"Battery warning"** to the registered recipients.

If the system shuts down due to insufficient battery voltage, **"Collective fault"** is sent by the SMS module.

Note:

If a transmission fault is reported instead of a collective fault after a previously sent battery warning, this may be due to the following reasons:

- At one of the traffic lights: batteries too weak, required range in radio mode is no longer possible.
- At traffic light 2 (traffic light E at MPB 3200 / MPB 3400) in radio mode or traffic lights 2, 3 ... in cable mode and FG2: batteries empty, controller has switched off signal outputs due to undervoltage.

6.2 Red light fault

If a shutdown occurs during operation due to a red-light defect, the SMS module transmits to the registered recipient a **"Red light fault."**

6.3 Transmission error

If a shutdown occurs during operation due to a fault in the transmission of data (radio link / cable connection), the SMS module sends **"Transmission error"** to the registered recipient.

Note:

If data transmission is resumed and the system is stable for more than 10 minutes, the registered recipient is automatically informed by SMS that the transmission is OK again.

6.4 Emergency stop actuated

The registered recipients receive the SMS message **"Emergency stop actuated"** if "emergency stop" is actuated on the type FG2 traffic signal in the controller.

6.5 Collective fault

If other errors occur during operation (e.g. yellow or green status), the SMS module sends the fault message "**Collective fault**" to the registered recipients.

6.6 Battery empty (MPB only)

If an additional checkmark "**All**" under the menu item "**Contacts**" is marked, then all entered receivers receive the Text Message at voltage of approx. 10.2V "**Battery empty**".

Note:

The above-mentioned fault texts are based on the standard template.

Fault messages are sent only after the initial auto-start was unsuccessful because the system repeatedly attempts automatic restart, depending on the type of fault.

7. Deactivating the SMS Module

7.1 MPB 3200, 3400 and 4400

With the button on the front panel, the SMS module can be deactivated for service (e.g. battery replacement) or for test purposes (e.g. test of red light monitoring). The following variants are available:

- The SMS module can be switched between **"active"** and **"inactive"** with the button on the front panel. The status is then displayed via the LED in the button and in the module housing.
- Press the button once to deactivate the SMS module (LED on).
After 15 minutes, the SMS module is automatically activated again.
If the SMS module is disconnected from the traffic light **during this 15 minutes**, it will remain deactivated until it is reconnected.

Note:

If the SMS module is deactivated, no messages are evaluated and sent.

7.2 FG2

In the case of the traffic signal type FG2, the SMS module is not deactivated, instead the output of the SMS commands from the controller is temporarily switched off. By pressing the **"Menu"** button on the keyboard you access the **"Service menu"** from which you can then select the item **"SMS output."** Here you can deactivate the SMS output for 15 or 60 minutes. A detailed description can be found in the manual for the traffic signal type FG2.

7.3 LED indicators

LED permanently **"OFF"**
LED permanently **"ON"**
LED **"flashes"** every 3 seconds
LED **"lights up"** for 5 seconds

LED **"flashes"** for 30 seconds

The module is de-energized or the internal battery is empty.
The module has been deactivated, faults are not evaluated or sent.
The module is activated, faults are evaluated and sent.
The module has detected a fault and transmitted it to the SMS server.
The SMS module requires this approx. time to dial into the mobile network. Please refer to the indicator elements on the modem (see 4.1) to determine when the module is actually connected.

Note:

These states are indicated by the LEDs in the module housing as well as in the front panel (by the button) of the traffic signals MPB 3200, 3400 and 4400.

8. Appendix

8.1 Technical data

Operating voltage:	10-15V/DC
Power consumption:	approx. 80 mA
Emergency battery:	approx. 2 minutes with the battery fully charged
Four separate interference channels	

8.2 Supported mobile networks

Dual-band GSM modem for D and E networks

8.3 Housing dimensions

Width:	200 mm
Depth:	250 mm
Height:	250 mm (including antenna)
Weight:	approx. 4 kg

8.4 Accessories

Item	Order No.
USB cable for programming	MP4196U
Adapter cable for connection to the FG2 controller	FÜE560



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