Sending and Receiving SMS Messages via a SCALANCE M Router

SCALANCE M874/ M876, S7-1200/ S7-1500 CPU, S7-300/ S7-400/IM151-8 PN CPU / STEP 7 V15.1/ V1.1

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Table of contents

1 Library Overview

This document describes the "LSmsSR" block library. The block library provides you with tested code and clearly defined interfaces. They can be used as a basis for the task you want to implement.

The Library "LSmsSR" contains:

- The library "LSmsSR_S7_300_S7_400_IM151-8" with the function blocks "LSmsSR_SndSms" and "LSmsSR_RcvSms" for sending and receiving an SMS message to/ from SIMATIC S7-300/ S7-400 und IM151-8 PN CPUs using the SCALANCE M874/M876 router
- The library "LSmsSR_S7_1200_S7_1500" with the library blocks "LSmsSR_SndSms" and "LSmsSR_RcvSms" for sending and receiving an SMS message to/ from SIMATIC S7-1200/ S7-1500 CPUs using the SCALANCE M874/M876 router

The main focus of this document is to describe

- the use of the SMS blocks and
- the functionality implemented.

Furthermore, this documentation shows possible fields of application and helps you integrate the library into your STEP 7 project using step-by-step instructions

Validity of the library

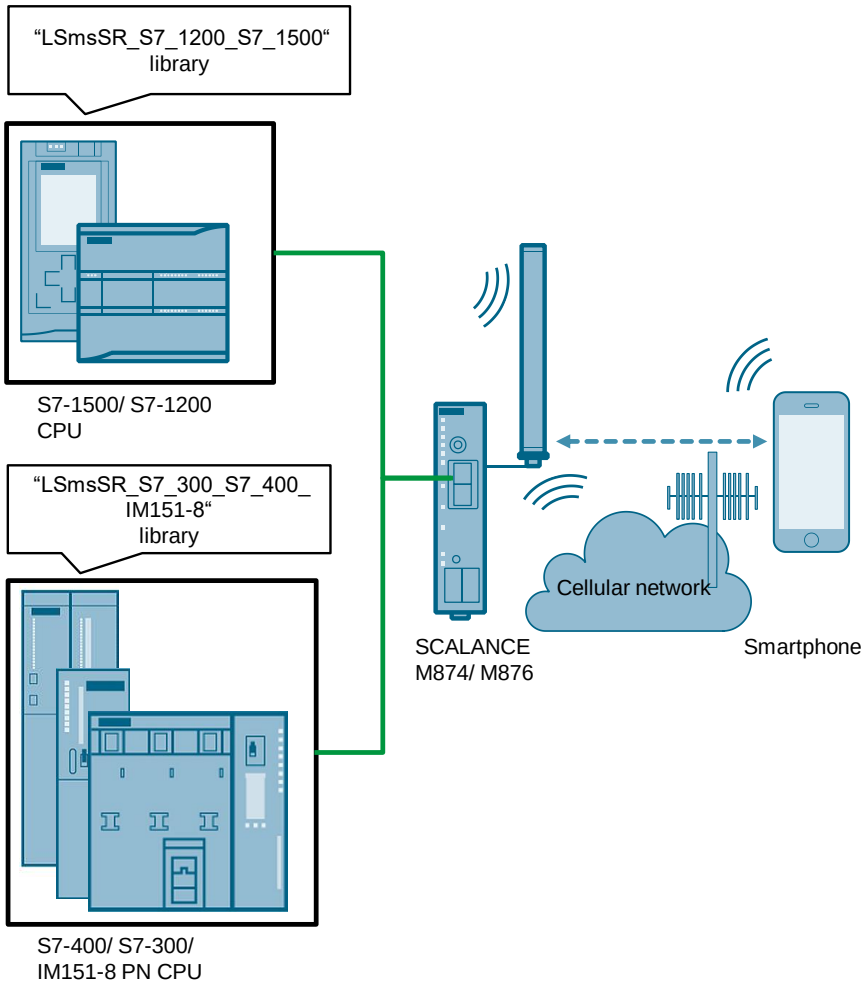
- SIMATIC S7-1200 CPUs V4.0 or higher
- SIMATIC S7-1500 CPUs V2.0 or higher
- SIMATIC S7-300 CPUs
  - CPU 31x-2 PN V3.1 or higher
  - CPU 31x-3 PN V3.2 or higher
- S7-400 CPUs with integrated Ethernet port on CPU
- IM151-8 PN CPUs V3.2 or higher
- SCALANCE M874/ M876 Firmware V4.1.1 or higher
- SIMATIC STEP 7 V15.1, Update 2

1.1 General information

The "LSmsSR" library allows you to execute the following functions:

- send customized messages (e.g., messages regarding your plant status) to a GSM-capable mobile device (SMS Relay Outgoing) via SMS using the SCALANCE M874/M876 router
- receive an SMS message from a GSM-capable mobile device (SMS Relay Incoming) using the SCALANCE M874/M876 router

Figure 1-1



1.2 Functions

Overview

The "LSmsSR_SndSms" and "LSmsSR_RcvSms" function blocks of the "LSmsSR_S7_1200_S7_1500" library are required for data exchange between a SIMATIC S7-1200/ S7-1500 CPU and the SCALANCE M874/M876 router.

The "LSmsSR_SndSms" and "LSmsSR_RcvSms" function blocks of the "LSmsSR_S7_300_S7_400_IM151-8" library are required for data exchange between a SIMATIC S7-300/ S7-400/ IM151-8 PN CPU and the SCALANCE M874/M876 router.

Core functions of the function blocks

- Send SMS message ("LSmsSR_SndSms")

  Send SMS message to GSM-capable mobile device via SCALANCE M874/M876.

- Receive SMS message ("LSmsSR_RcvSms")

  Receive SMS message from GSM-capable mobile device via SCALANCE M874/M876.

A temporary TCP/IP connection to the partner is established for each function:

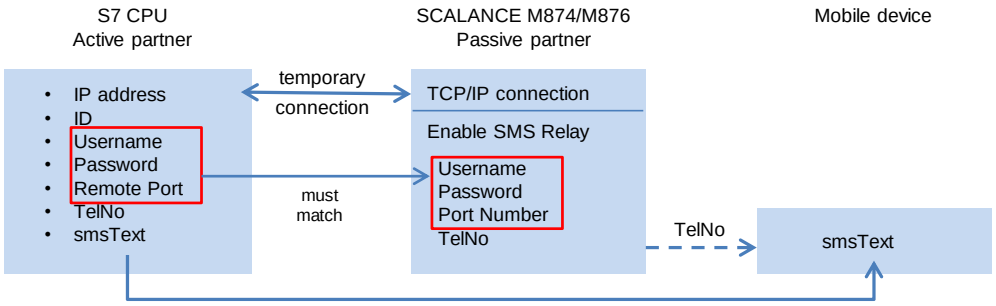
- "Send SMS message": Active connection establishment and termination by S7 CPU
- "Receive SMS message": Active connection establishment and termination by router.

"Send SMS message" sequences

For the "Send SMS message" function, the S7 CPU is the active partner. To send the SMS message, it establishes a connection to the router. The S7 CPU sends the SMS message to the router via this connection.

When the SMS message has been sent, the connection to the router is terminated.

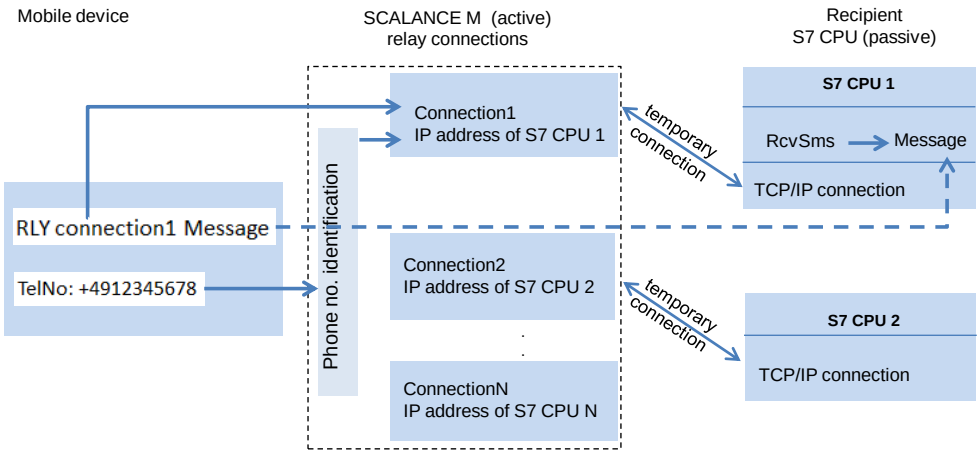
Figure 1-2



"Receive SMS message" sequences

For the "Receive SMS message" function, the S7 CPU is the passive partner. It passively waits for connection establishment by the router. When the router receives a command SMS message, it establishes a connection to the S7 CPU and sends the message to the CPU. When the SMS message has been received, the connection to the S7 CPU is terminated.

Figure 1-3



NOTE If a connection between the SCALANCE M router and the S7-CPU cannot be established, all SMS messages received by the router will be deleted.

1.3 Hardware and software requirements

Requirements for this library

To be able to use the functionality of the library described here, the following hardware and software requirements must be met:

Hardware

Table 1-1

Component	Article number	Number	Note
SCALANCE M874-3	6GK5874-3AA00-2AA2	1	Alternatively, you can use any variants of the SCALANCE M874 and M876 series.
SIMATIC S7-1200 CPU 1214C DC/DC/DC SIMATIC S7-1500 CPU 1513-1PN SIMATIC S7-300 CPU 315-2 PN/DP SIMATIC S7-400 CPU 414-3 PN/DP IM151-8 PN/DP CPU	6ES7214-1AG40-0XB0 6ES7513-1AL01-0AB0 6ES7315-2EH14-0AB0 6ES7414-3EM06-0AB0 6ES7151-8AB01-0AB0	1	Any S7-1200 CPU V4.0 or higher can be used. Any S7-1500 CPU can be used. Any S7-300 PN-CPU can be used. Any S7-400 PN-CPU can be used. (see Validity of the library)
ANTENNE ANT794-4MR	6NH9860-1AA00	1	GSM quad-band and UMTS and LTE (Europe)
SIMATIC Memory Card bzw. SIMATIC Micro Memory Card	6ES7954-8LF01-0AA0 Bzw. 6ES7953-8LP20-0AA0	1	Memory Card for the S7 CPU (S7-1200 optional) Memory Card for the S7-300 CPU
SIM card		1	

Software

Component	Article number	Number
STEP 7 Professional V15.1, Update 2	1	6ES7822-1AE05-0YA5

2 SCALANCE M874/M876 Configuration

In order for the router to send/receive SMS messages, make the following settings on the device's Web Based Management page:

- Enter the SMS service center
- Configure the access details for the cellular network
- Configure SMS Relay (Outgoing)
- Configure SMS Relay (Incoming)

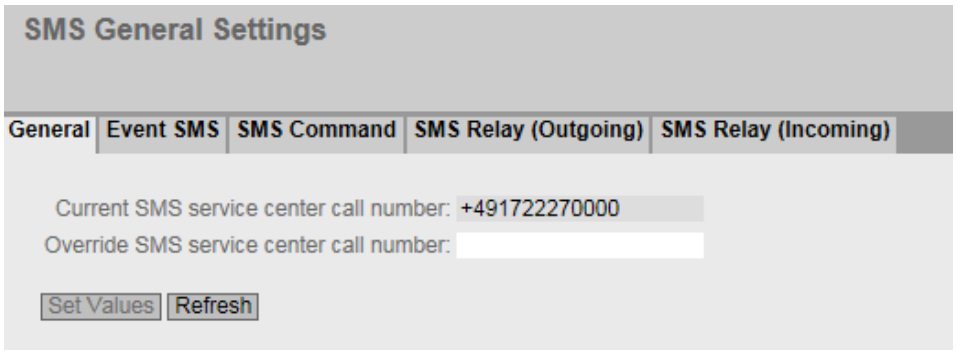
NOTE For a more detailed description of how to configure the SCALANCE M874/M876 router using Web Based Management, please refer to the device manual (see \3\).

2.1 Entering the SMS service center

To enable the router to send an SMS message, enter the short message service center (SMSC) of your mobile service provider or service provider.

With the router's WBM page ("System > SMS> General"), you can replace the default SMS service center call number by another one. This depends on your contract.

Figure 2-1



Note The SMSC number is only required for sending SMS messages. If you only want to receive SMS messages, this number is irrelevant.

2.2 Configuring the access details for the cellular network

Access to the cellular network and the mobile telecommunications services requires the following access parameters:

- SIM card PIN
- APN access data

To configure the access detail for the cellular network, proceed as follows

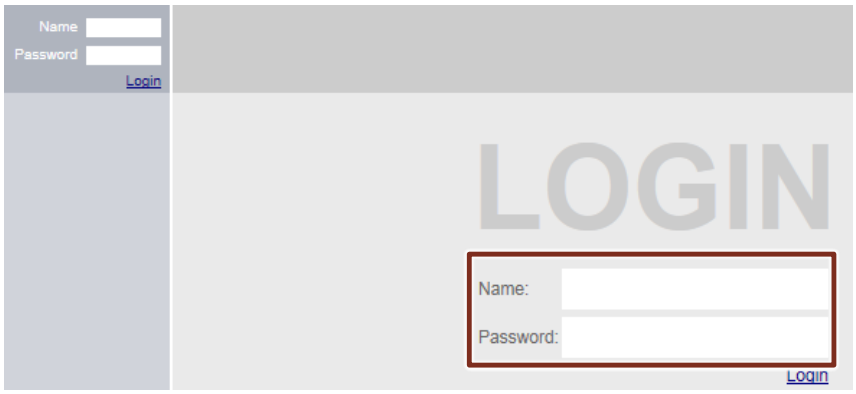
1. Open the router's WBM page.

   Note:

   In the address bar of the web browser, enter the IP address or the URL of the device.

2. Enter the name "admin" and the associated password.

   Figure 2-2



   Note:

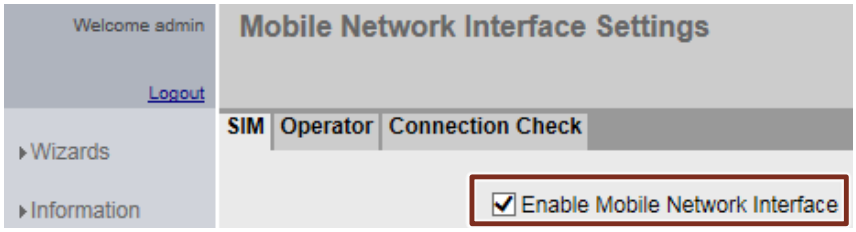
   When you log in for the first time or after "Restore Factory Defaults and Restart", enter

   - the default name "admin"
   - the default password "admin".

   The password needs to be changed after the first logon or after a "Restore Factory Defaults and Restart".

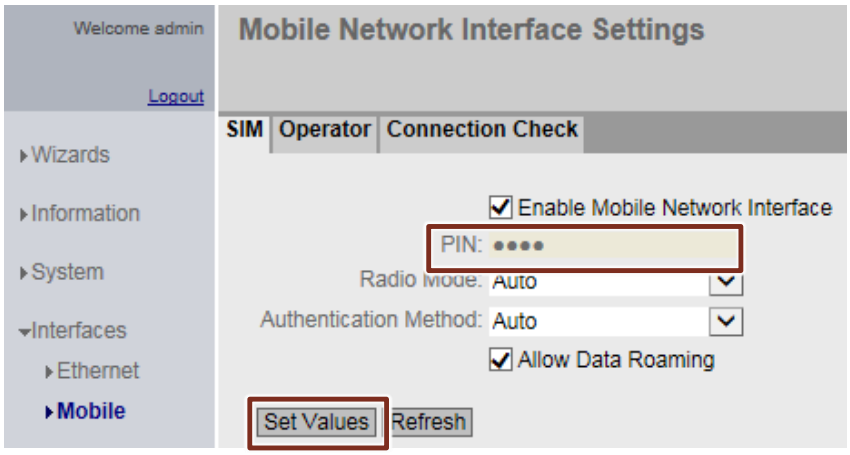
3. Click the "Login" button or confirm your entries with "Enter".
4. In the "SIM" tab of the WBM page of the SCALANCE M874/M876, enable the mobile network interface, "Interfaces > Mobile > SIM".

   Figure 2-3



5. Enter the SIM card PIN.

Figure 2-4

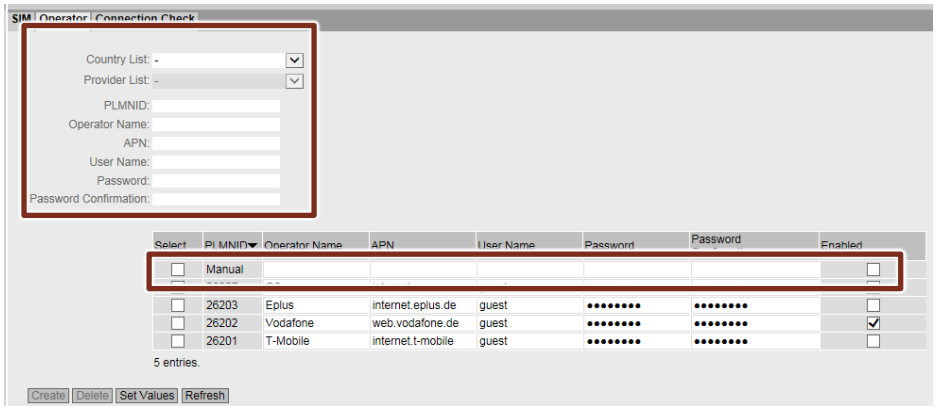


Note:

The PIN can be obtained from your mobile service provider.

6. Open the "Operator" tab: "Interfaces > Mobile > Operator". In "APN" enter the name of the mobile network operator. Check the "Manual APN" check box.

Figure 2-5



Note:

When the "Manual APN" check box is unchecked, the device automatically selects the appropriate access parameters from the list of mobile network operators. By factory default, the access details of four mobile network operators are set and activated. The manually configured APN will be ignored.

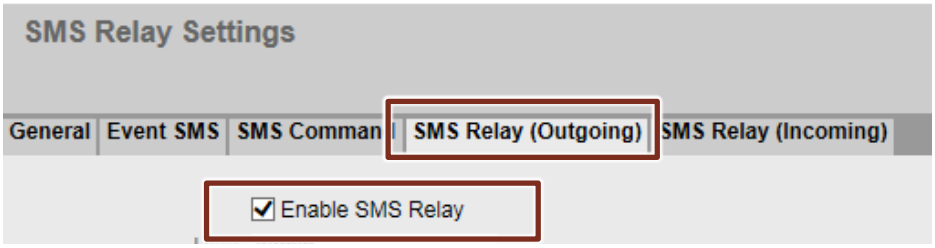
NOTE These access parameters can be obtained from your mobile network operator.

2.3 Configuring SMS Relay (Outgoing)

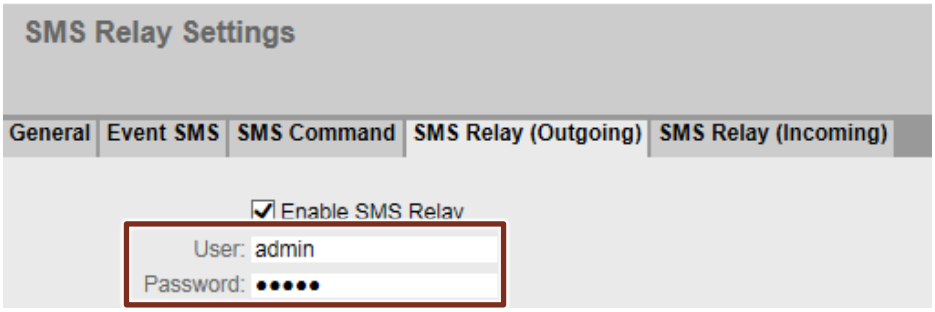
To enable the router to send an SMS message, make the following settings on the router's WBM page:

1. On the WBM page of the SCALANCE M874/M876, open the " System > SMS" menu.
2. Open the "SMS Relay (Outgoing)") tab.
3. Enable the sending of SMS messages from the local network.

   Figure 2-6



4. Enter the user name and password that must be included before the text is sent by SMS.

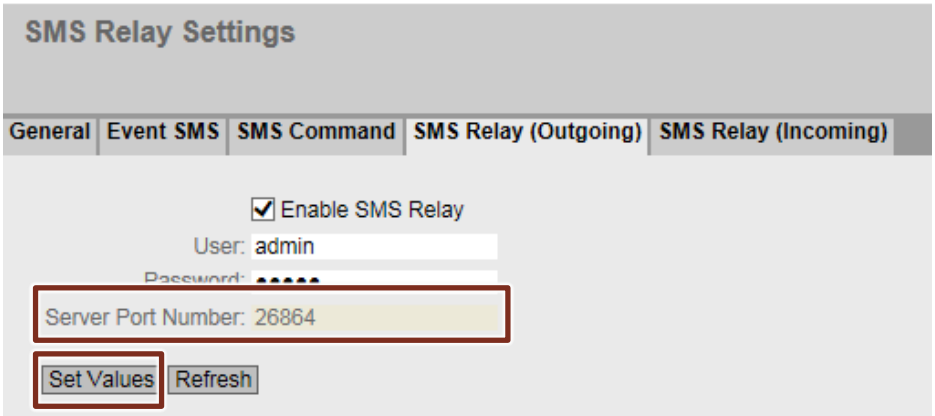


   Note:

   The user and password must match the values entered in the "username" and "password" "LSmsSR_typeSmsSnd"- parameters.

5. Enter the port on which the SCALANCE M receives the SMS message.

   Figure 2-7



   Note:

   This port number must match the port address entered in the "remotePort" "LSmsSR_typeSmsSnd"- parameter (here: 26864).

NOTE

At a given time, only one S7 CPU can establish a connection to the SCALANCE M router and send the SMS message.

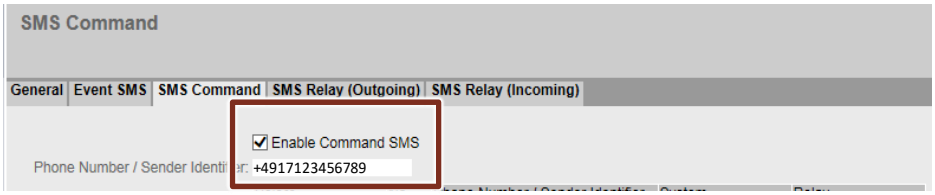
If multiple CPUs attempt to establish a connection to the SCALANCE M router at a given time, the escalation block is terminated with error:
16#000180A1:The specified connection or the port is already being used (Chapter 3.3).

2.4 Configuring SMS Relay (Incoming)

To enable the router to receive an SMS message and send it to the application, make the following settings on the router's WBM page:

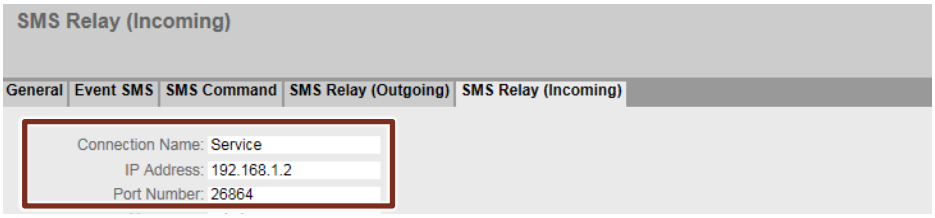
1. On the WBM page of the SCALANCE M, open the "System > SMS" menu.
2. Open the "SMS Command" tab.
3. Enable the function "Enable Command SMS".
4. Enter all phone numbers from which the router should receive a command SMS message.

   Figure 2-8

   For these phone numbers, check "Relay".
5. Open the "SMS Relay (Incoming)" tab "System > SMS > SMS Relay (Incoming)". Create a relay connection with
   - a unique name for the relay connection (Connection Name),
   - the recipient's IP address (IP address of the S7-CPU),
   - the port Number.

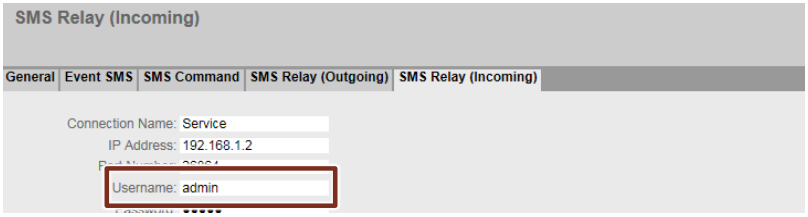
   Figure 2-9

   Note:
   - The connection name is entered in the command SMS message on the cellular device: **RLY Connection Name smsText.** In this way, you define to which recipient (CPU) the message will be relayed.
   - The port number must match the port address entered in the "localPort" "LSmsSR_typeRcvSnd"- parameter (here: 26864).

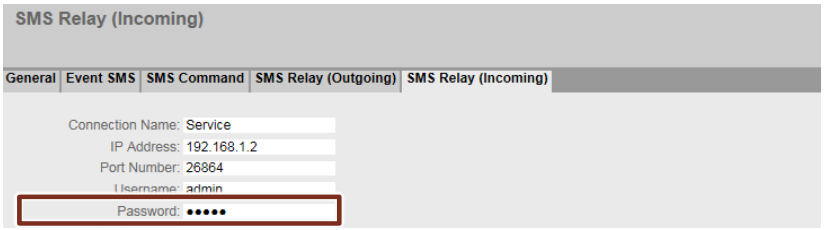
6. Enter the username to check the reception of the message. The username is entered in the frame.

   Figure 2-10



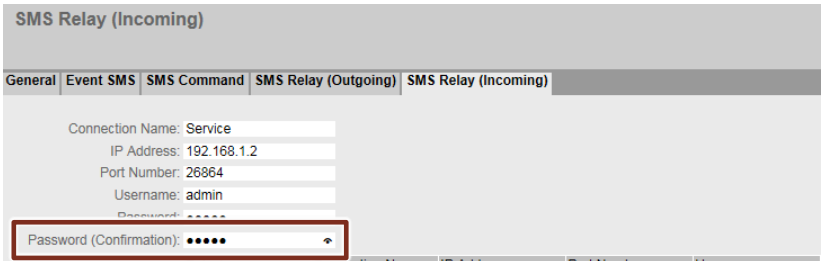
7. Enter the password associated with the username.

   Figure 2-11



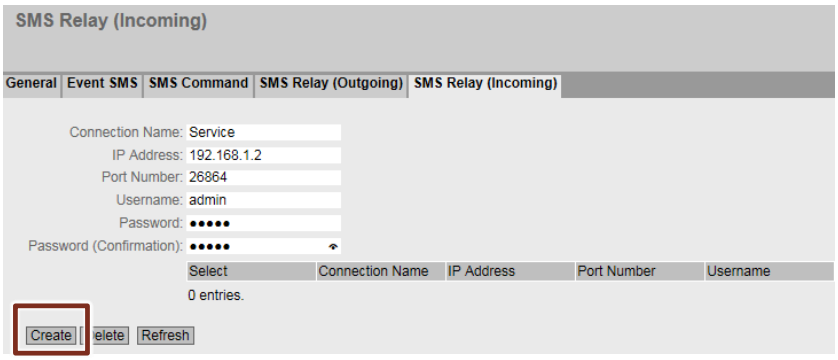
8. Repeat the password to confirm it.

   Figure 2-12



9. Use "Create" to create the new relay connection.

   Figure 2-13



NOTE For a more detailed description of how to configure the SCALANCE M874/M876 router using Web Based Management, please refer to the device manual (see \3\).

3 Function Blocks of the "LSmsSR" Library

Introduction

The Library "LSmsSR" contains the function blocks and the data types for sending and receiving an SMS message to/ from S7-CPUs:

- S7-300, S7-400, IM151-8 PN CPUs:
  use the function blocks and the data types from the "LSmsSR_S7_300_S7_400_IM151-8" folder
- S7-1200, S7-1500 CPUs:
  use the function blocks and the data types from the "LSmsSR_S7_1200_S7_1500" folder.

3.1 The "LSmsSR_SndSms" library block

Introduction

The "LSmsSR_SndSms" FB is used for sending an SMS message via the SCALANCE M routers.

3.1.1 Call and parameter interface

The following figure shows the call interface of the "LSmsSR_SndSms" library block.

Figure 3-1

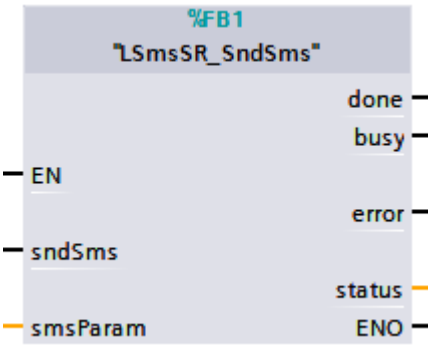


Table 3-1

	Name	Data type	Description
Input	sndSms	Bool	Starts the send process. Reacts only to a positive edge.
InOut	smsParam	"LSmsSR_typeSmsSnd" PLC data type	Parameters required for sending an SMS message (see Chapter 3.1.4).

Output	done	Bool	Set when sending has successfully completed. Only valid for one cycle. Default value: FALSE.
	busy	Bool	If the "LSmsSR_SndSms" block is busy sending, busy=TRUE. busy is set to FALSE as soon as the above sending has completed successfully or with an error.
	error	Bool	Provides feedback if an error occurs while executing a routine. Only valid for one cycle. Default value: FALSE
	status	Dword	When error = TRUE: Returns the status to narrow down the cause of the error (see Chapter 3.3). Only valid for one cycle.

3.1.2 Format of an SMS message to the SCALANCE M router

The router receives an SMS message from an S7 CPU that is transmitted in a frame via the TCP/IP connection. The frame matches the following format:

```
Username#Password#CommandCode#Seq-Num;Phone number;smsText:
```

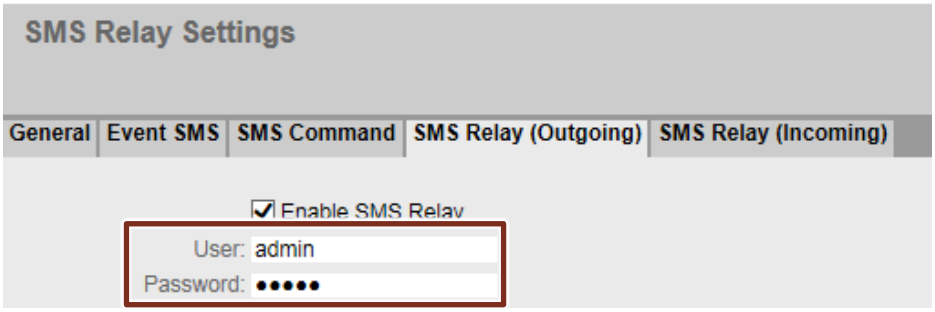
1. Username

   User name to check the send permission of an SMS message.

   Maximum of 10 characters.

   Note:
   This user name must match the user name entered in WBM.

   Figure 3-2



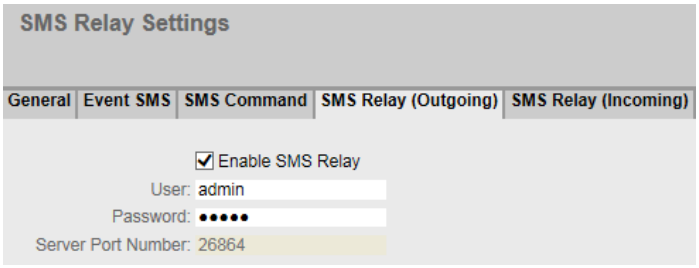
2. Password

   Password associated with the user name.

   Maximum of 10 characters.

   Note:
   This password must match the password entered in WBM.

   Figure 3-3



3. CommandCode

   Command for sending SMS messages from the local network. The default value "105" must not be changed.

4. Seq-Num

   The sequence number is used to assign multiple requests at the same time. The function is currently not supported.

5. Phone number

   SMS message recipient's phone number with a maximum of 40 characters.

6. smsText

   SMS message text with a maximum of 160 characters.

NOTE For a more detailed description of how to configure the SCALANCE M874/M876 router using Web Based Management, please refer to the device manual (see \3\).

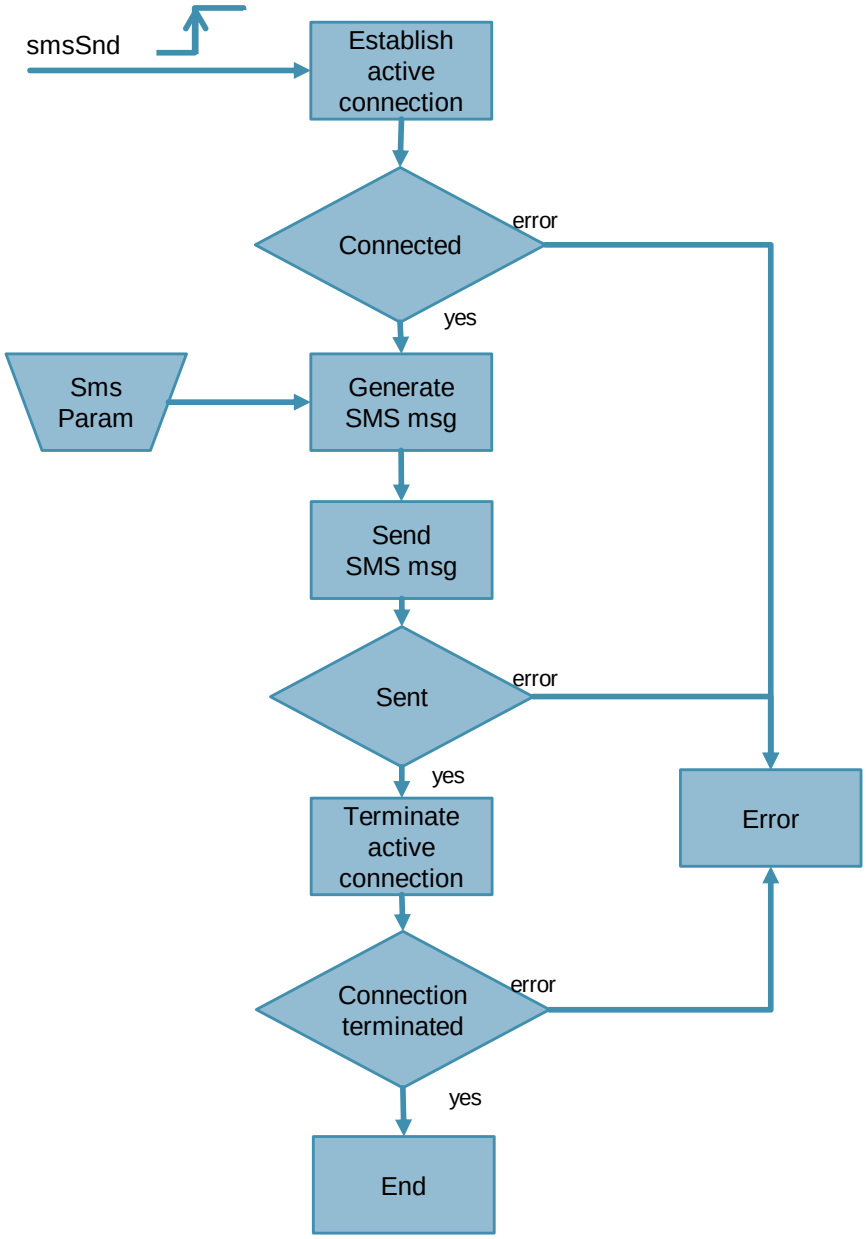
3.1.3 Description of the "Send SMS message" function

To send an SMS message, the application has to establish a TCP/IP connection to the router via the Ethernet interface.

Via this TCP/IP connection, the application sends the target parameters and the message text to the router, which then sends the information as an SMS message (see Chapter 3.1.2).

For TCP/IP communication, the "LSmsSR_SndSms" library block internally uses the "TCON", "TSEND" and "TDISCON" instructions.

Figure 3-4



3.1.4 "LSmsSR_typeSmsSnd" PLC data type

The "LSmsSR_typeSmsSnd" PLC data type contains the parameters for ‘Send SMS message’.

To start up the application, this data type is used in a global data block that is linked to the "smsParam" InOut parameter of the function block.

Figure 3-5

S7-300/ S7-400/ IM151-8 PN/DP CPUs

LSmsSR_typeSmsSnd		
	Name	Data type
1	ipAddress	DWord
2	deviceId	Byte
3	remotePort	Int
4	username	String[10]
5	password	String[10]
6	telNo	String[40]
7	smsText	String[160]

S7-1200/ S7-1500 CPUs

LSmsSR_typeSmsSnd		
	Name	Data type
1	ipAddress	DWord
2	interfaceId	HW_ANY
3	remotePort	UInt
4	username	String[10]
5	password	String[10]
6	telNo	String[40]
7	smsText	String[160]

1. ipAddress

   IP address of the partner (SCALANCE M).

2. deviceId (S7-300/ S7-400/ IM151-8 PN CPUs) (see \4\)/ interfaceId (S7-1200/ S7-1500 CPUs)

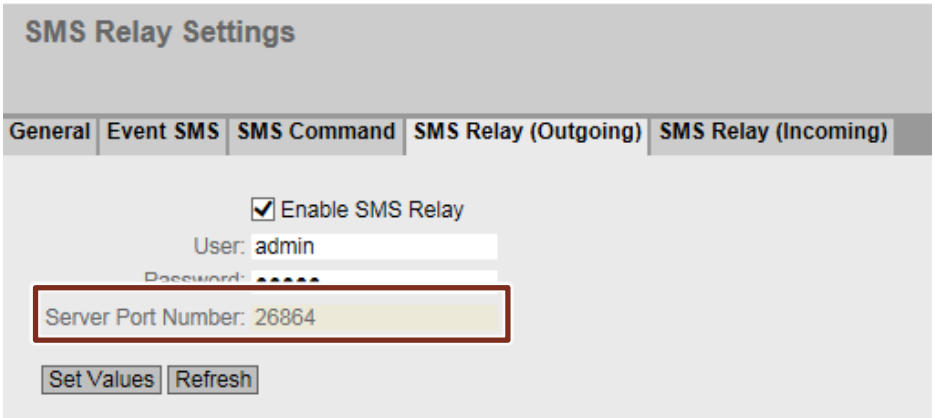
   Local_device_id/ Hardware identifier of the local Ethernet interface of the S7-CPU.

3. remotePort

   Port number of the remote connection partner (here: of the SCALANCE M874/M876 router).

   Note:
   This number must match the address entered in WBM (SMS Relay Outgoing).

   Figure 3-6

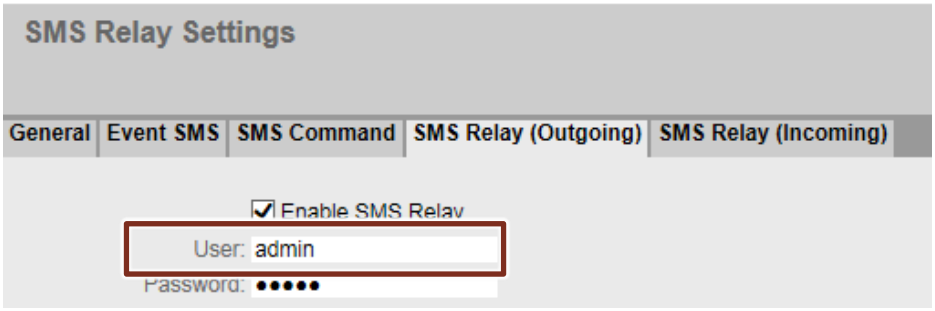


4. Usename

   User name to check the send permission of an SMS message.

   Note:
   This user name must match the user name entered in WBM (SMS Relay Outgoing).

   Figure 3-7

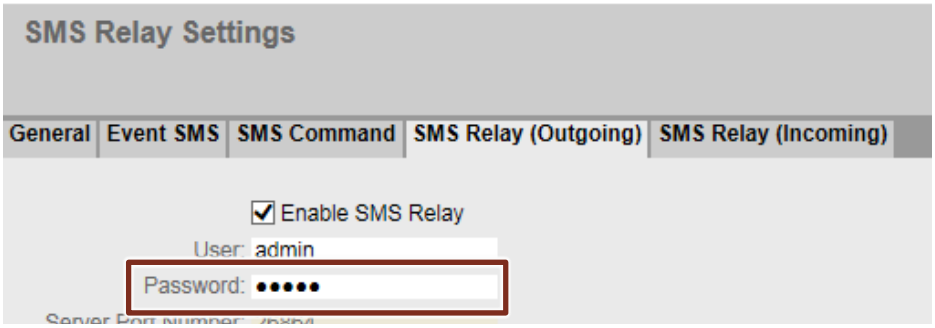


5. Password

   Password associated with the user name.

   Note:
   This password must match the password entered in WBM (SMS Relay Outgoing).

   Figure 3-8



6. telNo

   SMS message recipient’s phone number.

7. smsText

   SMS message text

3.2 The "LSmsSR_RcvSms" library block

Introduction

The "LSmsSR_RcvSms" FB is used for receiving an SMS message via the SCALANCE M routers.

3.2.1 Call and parameter interface

The following figure and table show the call interface of the "LSmsSR_RcvSms" library block.

Figure 3-9

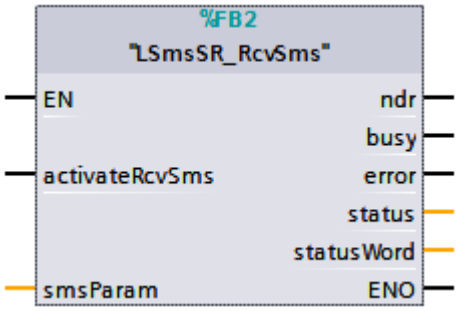


Table 3-2

Name		Data type	Description
Input	activateRcvSms	Bool	TRUE: Activates the reception of SMS messages. FALSE: Deactivates the reception of SMS messages.
InOut	smsParam	"LSmsSR_typeSmsRcv" PLC data type	Parameters required for receiving an SMS message (see Chapter 3.2.4).
Output	ndr	Bool	Signals that a new SMS message has been received. Only valid for one cycle.
	busy	Bool	If the "LSmsSR_RcvSms" block is busy receiving, busy=TRUE. busy is set to FALSE as soon as the above receiving has completed successfully or with an error.
	error	Bool	Provides feedback if an error occurs while executing a routine. Only valid for one cycle. Default value: FALSE
	status	Dword	When error = TRUE: Returns the status to narrow down the cause of the error (see Chapter 3.3). Only valid for one cycle.

3.2.2 Format of an SMS message to the SCALANCE M router

The router receives an SMS message from a cellular device in the following format:

```
RLY Connection Name smsText
```

- RLY: SMS relay command
- Connection Name: variable, according to the configuration
- smsText: SMS message text

NOTE Only one space is required between the words.

The message is sent to the S7-CPU in a frame via the TCP/IP connection with this connection name in the following format:

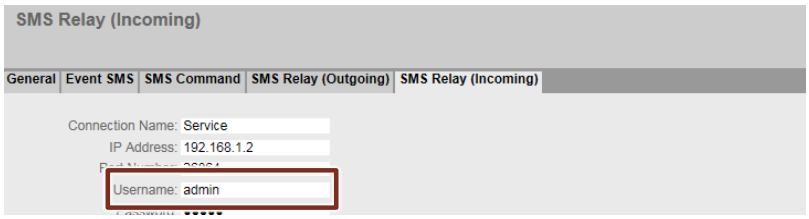
```
Username#Password#CommandCode#Seq-Num;Phone number;smsText:
```

1. Username

   User name to check the reception of the message.

   Maximum of 10 characters.

   Figure 3-10

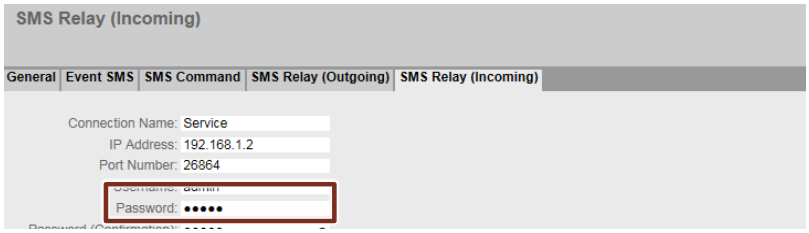


2. Password

   Password associated with the user name.

   Maximum of 10 characters.

   Figure 3-11



3. CommandCode
4. Command for receiving SMS messages from the local network. The default value "105" must not be changed.
5. Seq-Num

   The sequence number is used to assign multiple requests at the same time. The function is currently not supported.

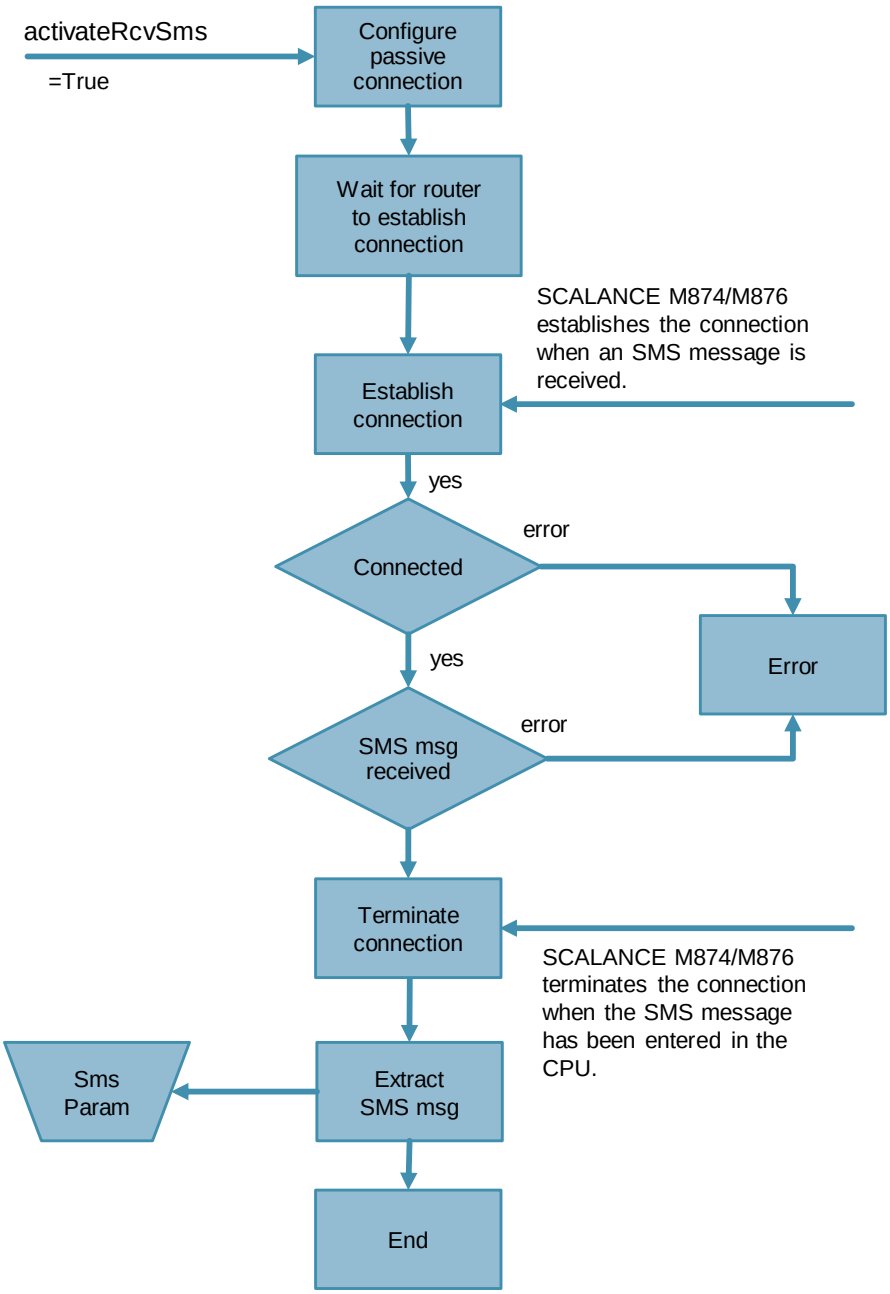
6. Connection Name
   SMS message recipient’s connection name with a maximum of 40 characters.
7. Phone number
   SMS message sender’s phone number.
8. smsText
   SMS message text with a maximum of 160 characters.

NOTE For a more detailed description of how to configure the SCALANCE M874/M876 router using Web Based Management, please refer to the device manual (see \3\).

3.2.3 Description of the "Receive SMS message" function

Applications can also receive SMS messages via the router's Ethernet interface. To do this, the router must establish a TCP/IP connection to the application on the Ethernet interface. The router receives a command SMS message (**RLY Connection Name smsText**) and sends the received message (see Chapter 3.2.2) to the application. For TCP/IP communication, the "LSmsSR_RcvSms" library block internally uses the "TCON", "TRCV" instructions.

Figure 3-12



3.2.4 "LSmsSR_typeSmsRcv" PLC data type

The "LSmsSR_typeSmsRcv" PLC data type contains the receive data.

To start up the application, this data type is used in a global data block that is linked to the "smsParam" InOut parameter of the function block.

Figure 3-13

S7-300/ S7-400/ IM151-8 PN/DP CPUs

LSmsSR_typeSmsRcv		
	Name	Data type
1	deviceId	Byte
2	localPort	Int
3	rcvTelNo	String[40]
4	rcvMessage	String[160]

S7-1200/ S7-1500 CPUs

LSmsSR_typeSmsRcv		
	Name	Data type
1	interfaceId	HW_ANY
2	localPort	UInt
3	rcvTelNo	String[40]
4	rcvMessage	String[160]

1. deviceId (S7-300/ S7-400/ IM151-8 PN CPUs) (see \4\)/ interfaceId (S7-1200/ S7-1500 CPUs)

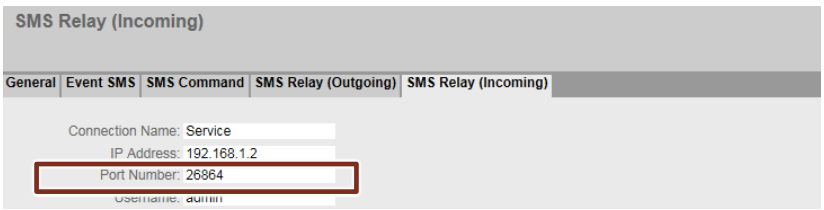
   Local_device_id/ Hardware identifier of the local Ethernet interface of the S7-CPU.

2. localPort

   Port number of the local connection partner (here: of the S7-CPU).

   Note:
   This number must match the address entered in WBM (SMS Relay Incoming).

   Figure 3-14



3. rcvTelNo

   SMS message sender’s phone number.

4. rcvMessage

   SMS message text received.

3.3 Status and error displays

For error diagnostics, evaluate the "LSmsSR_SndSms" and "LSmsSR_RcvSms" "status" output. By reading the "status" output of the function block, you are provided with information on logical errors and error messages that may occur during the communication between the controller and the router.

The error message structure is such that the first word indicates the block that triggered this message. For example, error message 16#00**01**80A3 was triggered by "TCON" instruction. The following tables provide a list of possible error messages.

"LSmsSR_SndSms" errors

Figure 3-15

Status	Meaning	Remedy / notes
16#0001xyzx	"TCON" error message (active)	For a description of the communication errors, please refer to the STEP 7 Online Help.
16#0011xyzx	"TSEND" error message	
16#0111xyzx	"TDISCON" error message	
16#00008101	Previous job not yet complete. (You have started a new send operation, although busy was still active.)	
16#00008102	Watchdog timer alarm.	Make sure that • the IP address entered in the "ipAddress" parameter is identical to the IP address of the SCALANCE M874/M876. • the S7-1200/S7-1500 CPU is physically connected to the SCALANCE M874/M876.
16#00008103	"smsText" contains the forbidden character ":".	Change "smsText"
16#00008104	"smsText" contains the forbidden character ";".	
16#00008105	"smsText" contains the forbidden character "#".	
16#00008106	"telNo" contains the forbidden character "x".	Change "telNo"

"LSmsSR_RcvSms" errors

Table 3-3

Status	Meaning	Remedy / notes
16#0010xyzx	"TCON" error message (passive)	For a description of the communication errors, please refer to the STEP 7 Online Help.
16#0110xyzx	"TRCV" error message	

4 Working with the Library

This chapter consists of instructions for integrating the "LSmsSR" library into your STEP 7 V15.1 project and instructions for using the library block.

4.1 Integrating the library into STEP 7

The following table shows the steps required to integrate the "LSmsSR" library into your STEP 7 V15.1 project. After integrating the library, you can use the blocks of the "LSmsSR" library.

NOTE The following section assumes that a STEP 7 project exists.

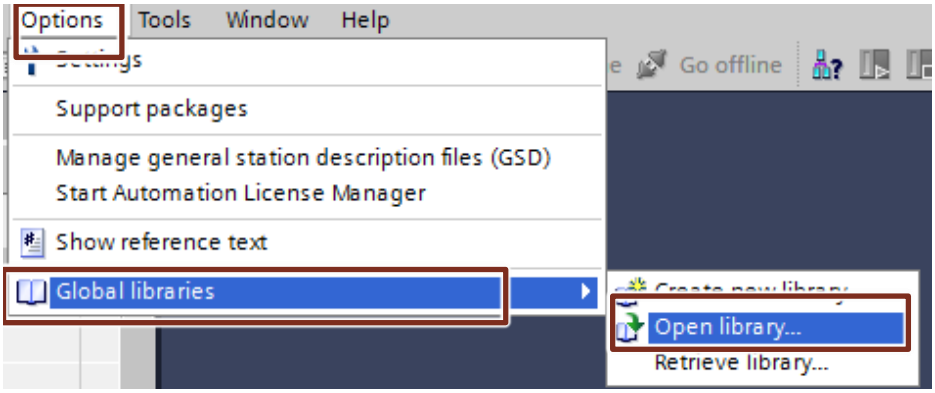
1. The library is available on the HTML page from which you downloaded this document (\2\). Save the "54361177_SMS_SCALANCE_M _LIB_V15_V11.zip" library to your hard drive.
2. Unzip the library.

4.2 Integrating the library block into STEP 7

The following table shows the steps required to integrate the elements of the "LSmsSR" library into your STEP 7 V15.1 project. After integrating these elements, you can use the blocks of library.

1. Open the existing STEP 7 V15.1 project.
2. In the toolbar of the "Global libraries" palette, click "Open global libraries" or, in the "Options" menu, select "Global libraries > Open global library".

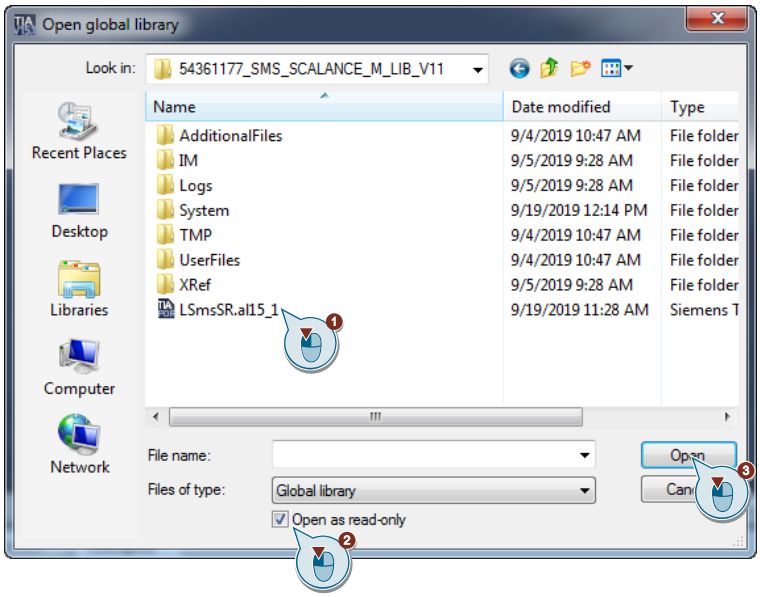
Figure 4-1



3. The "Open global library" dialog box opens.

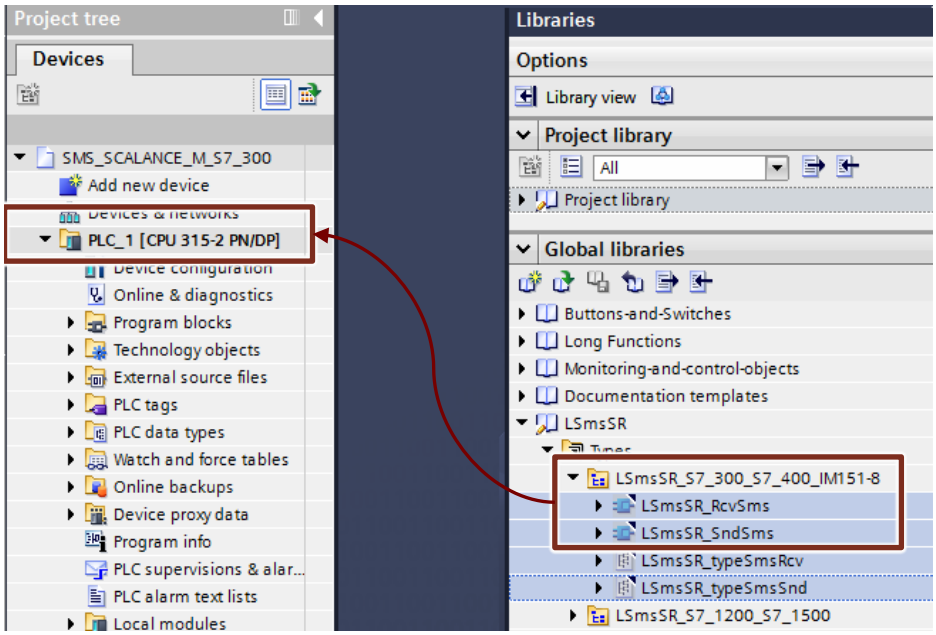
4. Select the following global library: "LSmsSR.al15_1"

Figure 4-2



5. The "LSmsSR" library opens.
6. Use drag and drop to move the "LSmsSR_SndSms" and "LSmsSR_RcvSms" function blocks to the "Program blocks" folder of the S7-CPU.

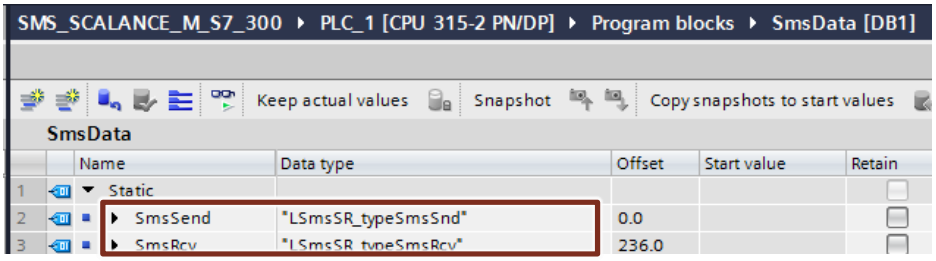
Figure 4-3



7. The "LSmsSR_typeSmsSnd""and "LSmsSR_typeSmsRcv" PLC data types are automatically copied to the "PLC data types" folder.

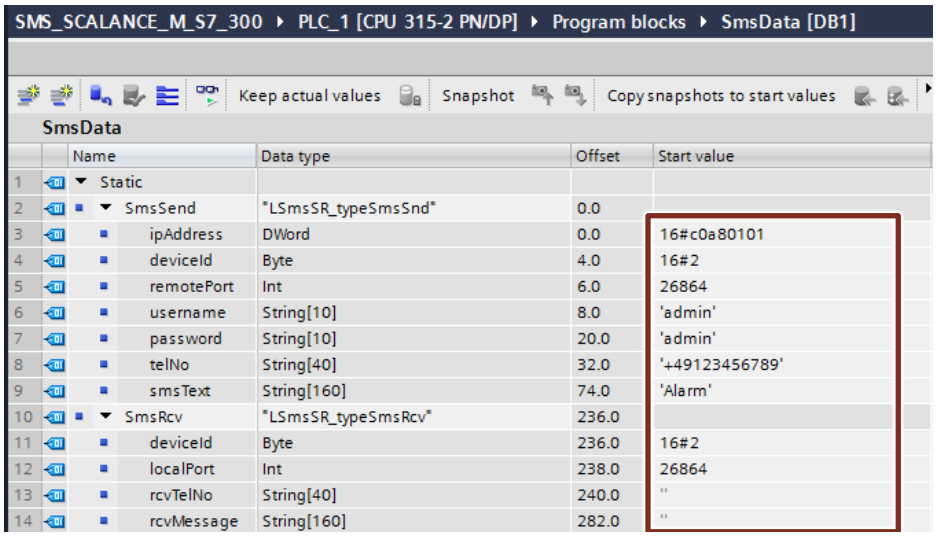
8. Create a new global data block with the following parameters:
   - the "LSmsSR_typeSmsSnd" or "LSmsSR_typeSmsRcv" PLC data type
   - the input parameters for the call in OB1
   - the output parameters for the call in OB1

Figure 4-4



9. Assign values to all parameters necessary for sending/receiving (see Chapter 3.1.4 / Chapter 3.2.4):
   - ipAddress
   - interfaceId
   - remotePort
   - username
   - password
   - telNo
   - smsText

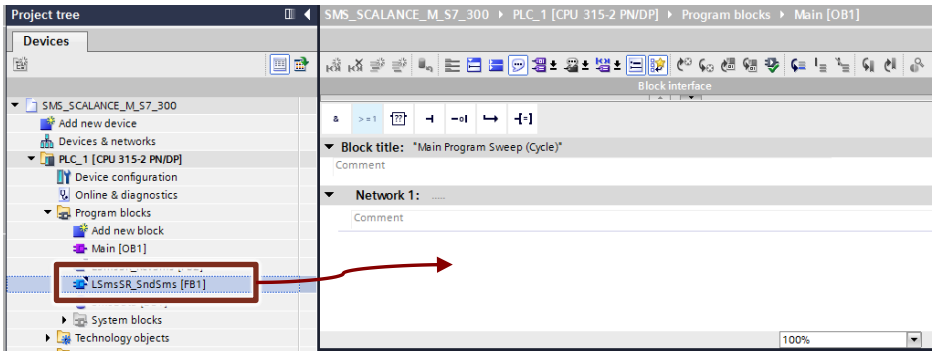
Figure 4-5



10. Save and compile the newly created data block.

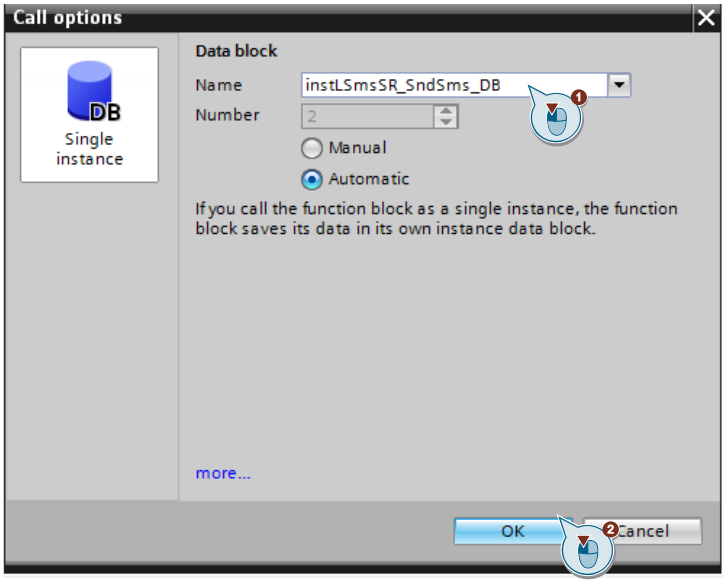
11. In the "Program blocks" folder of your device, open the OB1 organization block and use drag and drop to move the "LSmsSR_SndSms" or "LSmsSR_RcvSms" function block to any network.

    Figure 4-6



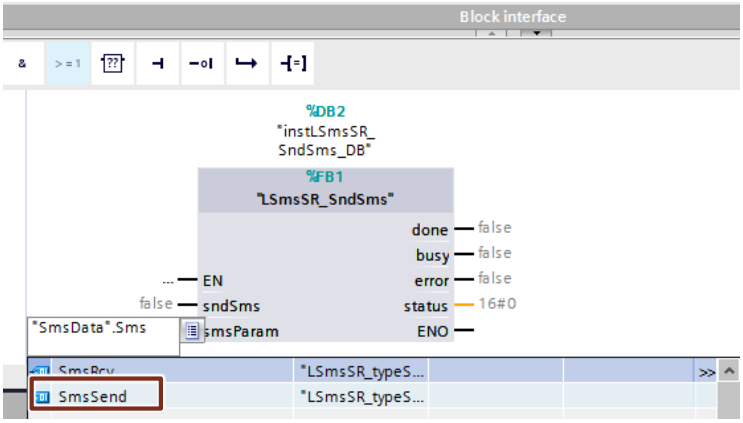
12. Specify the name of the associated instance data block. Click "OK" to exit the dialog box.

    Figure 4-7



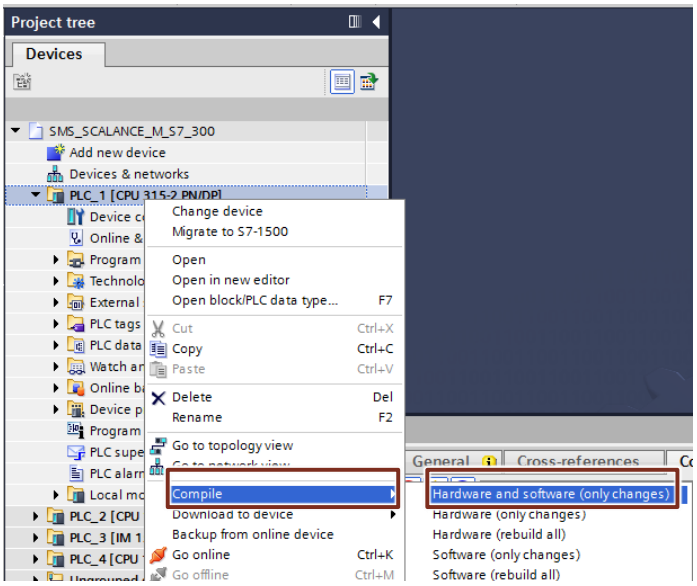
13. Assign values to all necessary parameters. Use values from the newly created data block.

    Figure 4-8

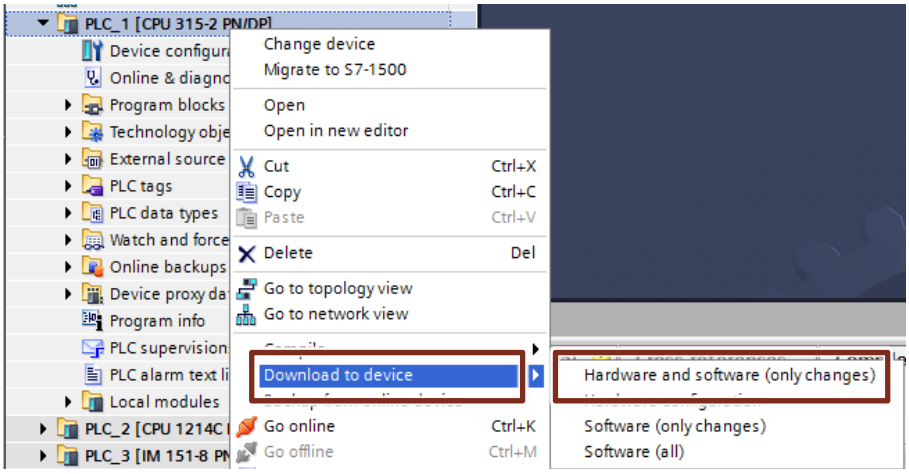


14. Compile the hardware and software of the S7 station: In the Project tree, right-click the device and select the "Compile > Hardware and software (only changes)" menu.

    Figure 4-9



15. Download the new project to your controller.



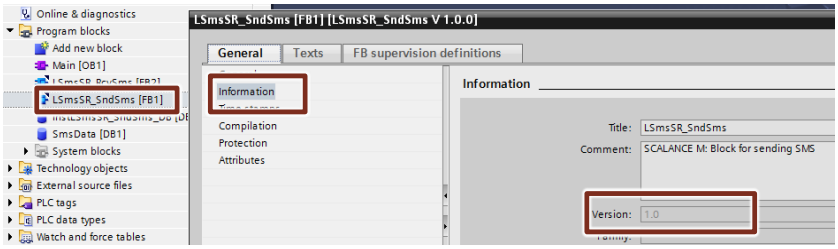
4.3 Updating the "LSmsSR" library

The following guide shows you

- how to check whether the library is up to date and
- how to integrate a newer version of the "LSmsSR" library into your
- STEP 7 project.

1. Open TIA Portal and compare the current version number of each element of the library with the latest version from the Industry Online Support portal.
2. In the Project tree, right-click the blocks of the library. In the context menu, select the "Properties" option.
3. In the "Properties" window that is displayed, select the "Information" tab.

   Figure 4-10

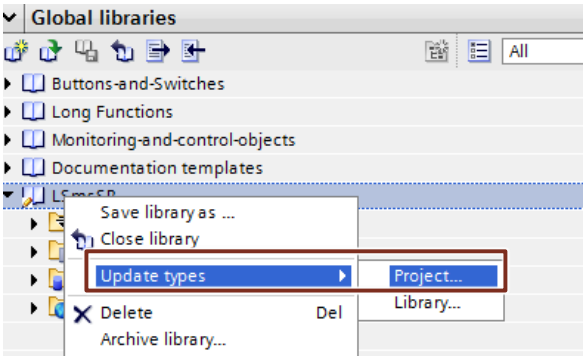


4. If you want to update the library, integrate the latest library as described in Chapter 4.2.
5. Open the new library as described in Chapter 4.2, Steps 1 through 3.
6. In the Project tree, right-click the blocks of the library.

   Update the elements of the project

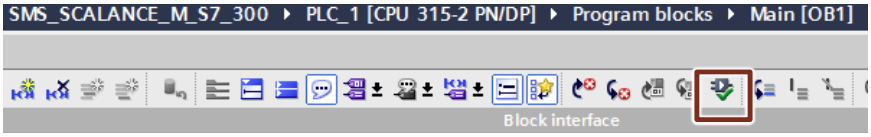
   "LSmsSR" > Update types > Project".

   Figure 4-11



7. The blocks have been updated. In the toolbar in OB1, click "Update inconsistent block calls" to update or regenerate the instance DBs.

   Figure 4-12



8. When you have inserted the updated blocks into your STEP 7 project, compile the software and save the project.
9. The library update is now complete.

5 Appendix

5.1 Service and support

Industry Online Support

Do you have any questions or need assistance?

Siemens Industry Online Support offers round the clock access to our entire service and support know-how and portfolio.

The Industry Online Support is the central address for information about our products, solutions and services.

Product information, manuals, downloads, FAQs, application examples and videos – all information is accessible with just a few mouse clicks:
support.industry.siemens.com

Technical Support

The Technical Support of Siemens Industry provides you fast and competent support regarding all technical queries with numerous tailor-made offers – ranging from basic support to individual support contracts. Please send queries to Technical Support via Web form:
www.siemens.com/industry/supportrequest

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We support you with our globally available training courses for industry with practical experience, innovative learning methods and a concept that's tailored to the customer's specific needs.

For more information on our offered trainings and courses, as well as their locations and dates, refer to our web page:
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Our range of services includes the following:

- Plant data services
- Spare parts services
- Repair services
- On-site and maintenance services
- Retrofitting and modernization services
- Service programs and contracts

You can find detailed information on our range of services in the service catalog web page:
support.industry.siemens.com/cs/sc

Industry Online Support app

You will receive optimum support wherever you are with the "Siemens Industry Online Support" app. The app is available for Apple iOS, Android and Windows Phone:
support.industry.siemens.com/cs/ww/en/sc/2067

5.2 Links and literature

Table 5-1

No.	Topic
\1\	Siemens Industry Online Support https://support.industry.siemens.com
\2\	Link to this entry page of this application example https://support.industry.siemens.com/cs/ww/en/view/54361177
\3\	SIMATIC NET: Industrial Remote Communication Remote Networks SCALANCE M-800 Web Based Management https://support.industry.siemens.com/cs/ww/en/view/109751635
\4\	Which "local_device_id" do you parameterize in order to establish a connection with FB65 "TCON" for Open User Communication (OUC) via Industrial Ethernet? https://support.industry.siemens.com/cs/ww/en/view/51339682

5.3 Change documentation

Table 5-2

Version	Date	Modifications
V1.0	06/2016	First version
V1.1	09/2019	Complete revision.