Sending and receiving SMS with serial CP or CM and MODEM MD720

MODEM MD720, CP340, CP341, CP441-2, CM PtP, 1SI, STEP 7 V13 SP1, STEP 7 V14

https://support.industry.siemens.com/cs/ww/en/view/25545680

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1 Introduction

1.1 Overview

A SIMATIC station (S7-300, S7-400 or S7-1500) is to send alarm messages, warning messages or important information on the system status autonomously via SMS to service staff or a service center using the library "LMD720". In addition, the SIMATIC station is also to receive and interpret messages.

1.2 Mode of operation

The SIMATIC station sends and receives the SMS messages via the serial CP or the serial CM and the MODEM MD720.

Schematic layout

The figure below shows all of the possible application cases of the library "LMD720" in the various SIMATIC S7 controllers with the appropriate serial communication modules/processors.

Figure 1-1
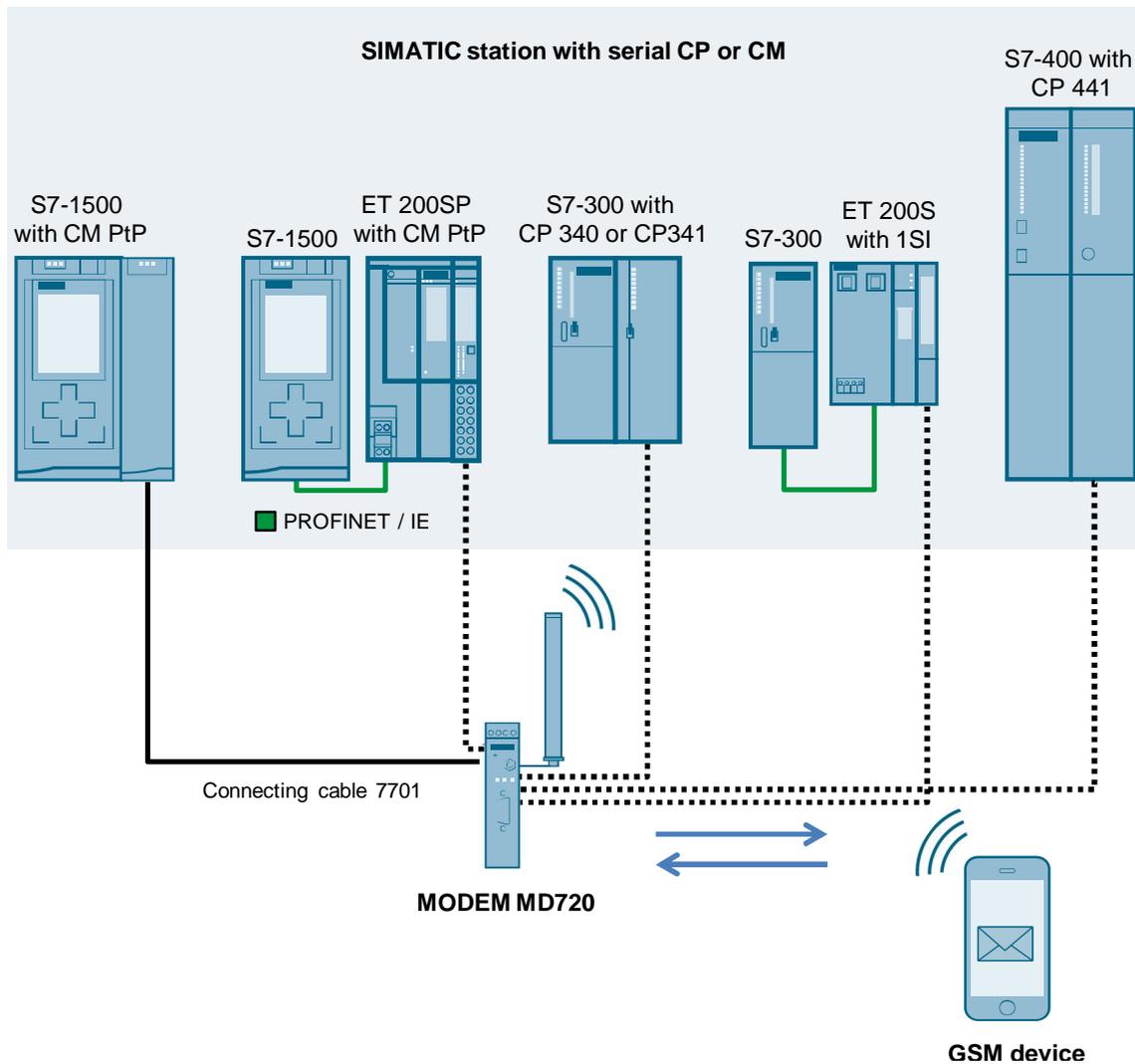
Functions

The appropriate function block "LMD720_SmsXxxx" from the library "LMD720" is used for data exchange between a SIMATIC S7-CPU and a serial communication module or a serial communication processor and the MODEM MD720.

The core functions of the "LMD720_SmsXxxx" function blocks of the library are described below:

"LMD720_SmsXxxx" function block

Initializing the MODEMs MD720 (INIT_STATE):

· Disable local echo

· Disable GPRS port read out

· Enter PIN

· Enter short message service center

· Set SMS memory

· Delete stored SMS messages from the buffer.

Note	Re-initialize MODEM MD720 after a power failure.

Sending SMS (SEND_STATE):

· Enter telephone number and text for die SMS message

Receiving SMS (POLLING_STATE):

· Read out SMS messages

· Delete stored SMS messages from the buffer

Note	Only messages with certain indices are evaluated. All other messages are deleted from the buffer (initialization) after a time out. It is not possible to browse the memory subsequently.

NOTICE	**Do not send SMS messages containing the following:**
	· **Keyword "ERROR",**
	· **Keyword "OK" or**
	· **the character "_"**
	These keywords or characters cause faulty behavior when sending the message from MODEM MD720 to the communication module.

Function charts

Sending SMS

The following figure shows the send process.

Figure 1-2

Receiving SMS

The following figure shows the receive process.

Figure 1-3

1.3 Components used

This library has been created with the following hardware and software components:

Hardware for the S7-1500 station

When you use a S7-1500 station to build this application example, the following components are required:

Table 1-1

Component	Number	Article number	Note
PS 25W 24VDC	1	6ES7505-0KA00-0AB0	-
CPU 1516-3 PN/DP	1	6ES7516-3AN00-0AB0	Alternatively, you can also employ a different S7-1500 CPU
CM PtP RS232 HF Alternatively: CM PtP RS232 BA	1	6ES7541-1AD00-0AB0 Alternatively: 6ES7540-1AD00-0AA0	-

Hardware for the ET 200SP station

When you use a ET 200SP station to build this application example, the following components are required:

Table 1-2

Component	Number	Article number	Note
PS 25W 24VDC	1	6ES7505-0KA00-0AB0	-
CPU 1516-3 PN/DP	1	6ES7516-3AN00-0AB0	Alternatively, you can also use a different S7 CPU.
IM 155-6 PN ST	1	6ES7155-6AU00-0BN0	Alternatively, you can use the PROFIBUS head of the ET 200SP.
Base Unit	1	6ES7193-6BP20-0DA0	-
CM PtP	1	6ES7137-6AA00-0BA0	-
Server module	1	6ES7193-6PA00-0AA0	-

Hardware for the S7-300 station

When you use a S7-300 station to build this application example, the following components are required:

Table 1-3

Component	Number	Article number	Note
PS307 5A	1	6ES7307-1EA01-0AA0	-
CPU 315-2 PN/DP	1	6ES7315-2EH14-0AB0	Alternatively, you can also employ a different S7-300 CPU or an ET 200MP

Component	Number	Article number	Note
CP 341	1	6ES7341-1AH01-0AE0 Alternatively: 6ES7340-1AH02-0AE0	

Hardware for the ET 200S station

The following components are necessary if you want to set up the example with an ET 200S station.

Table 1-4

Component	Number	Article number	Note
PS307 5A	1	6ES7307-1EA01-0AA0	
CPU 315-2 PN/DP	1	6ES7315-2EH14-0AB0	Alternatively, you can also use a different S7 CPU.
Interface module IM151-3 PN STANDARD	1	6ES7151-3AA23-0AB0	Alternatively, you can also use a different head station.
PM-E DC24V	1	6ES7138-4CA01-0AA0	
ET 200S 1SI 3964/ASCII	1	6ES7138-4DF01-0AB0	
ET 200S, TERM.-MOD. TM-E15S24-01	1	6ES7193-4CB20-0AA0	
ET 200S, TERM.-MOD. TM-P15S23-A0	1	6ES7193-4CC20-0AA0	

Hardware for the S7-400 station

The following components are necessary if you want to set up the example with an S7-400 station.

Table 1-5

Component	Number	Article number	Note
PS 407 4A	1	6ES7407-0DA02-0AA0	Alternatively, you can also use a different S7-400 power supply
CPU 416-3	1	6ES7416-3XR05-0AB0	Alternatively, you can also use a different S7-400 CPU
CP 441-2	1	6ES7441-2AA04-0AE0 Alternatively: 6ES7441-1AA05-0AE0	
IF 963, interface module RS232C, for CP 441	1	6ES7963-1AA00-0AA0	

GSM components

Table 1-6

Component	Number	Article number	Note
MODEM MD720	1	6NH9720-3AA01-0XX0	Firmware V2.1
Antenna ANT794-4MR	1	6NH9860-1AA00	
SIM card	2		

Component	Number	Article number	Note
SINAUT ST7, connecting cable	1	6NH7701-5AN	For the station ET 200S and ET 200SP the cable should be connected as shown in Table 2-14
Cell phone	1		

Software components

Table 1-7

Component	Number	Article number	Note
STEP 7 Professional V13 SP1 or	1	6ES7822-1AA03-0YA5	
STEP 7 Professional V14	1	6ES7822-1AA04-0YA5	

Example files and projects

This library consists of the following components:

Table 1-8

Component	File name	Note
Library Description	25545680_SMS_MD720_LIB_V10_en.pdf	This document
Library	25545680_SMS_MD720_LIB_V10.zip	Download \2\

2 Engineering

2.1 Blocks of the Library

The following table lists all elements of the "LMD720" library. The function blocks must each be called in a cyclic OB.

Function blocks

Table 2-1

Function block	Description	Send and receive system function blocks used
LMD720_SmsCMPtP	Coordinated data exchange between: · SIMATIC S7-1500, CM PtP communication module and MODEM MD720 or · SIMATIC ET 200SP, CM PtP communication module and MODEN MD720	Send_P2P, Receive_P2P
LMD720_SmsCP340PtP	Coordinated data exchange between SIMATIC S7-300, CP 340 communication processor and MODEM MD720	P_SEND, P_RCV
LMD720_SmsCP341PtP	Coordinated data exchange between SIMATIC S7-300, CP 341 communication processor and MODEM MD720	P_SND_RK, P_RCV_RK
LMD720_SmsCP441PtP	Coordinated data exchange between SIMATIC S7-400, CP 441-2 communication processor and MODEM MD720	BSEND, BRCV
LMD720_SmsET200S_1SI	Coordinated data exchange between SIMATIC DP, electronic module 1SI for ET 200S and MODEM MD720	S_SEND, S_RCV

Functions

Table 2-2

Function	Description	Note
LMD720_StringToDt300	This function converts a character string of the "String" format with date components into the "DT" data type.	Applicable for SIMATIC S7-300: CP 340, CP 341, ET 200S 1SI

Function	Description	Note
LMD720_StringToDt400	This function converts a character string of the "String" format with date components into the "DT" data type.	Applicable for SIMATIC S7-400: CP 441-2
LMD720_StringToDt1500	This function converts a character string of the "String" format with date components into the "DTL" data type.	Applicable for SIMATIC S7-1500: CM PtP, ET 200SP CM PtP

PLC data types

Table 2-3

PLC data type	Description	Note
LMD720_typeSendRcv	This PLC data type contains the components of an ANY pointer that are required for sending/receiving messages via the system functions.	Applicable for SIMATIC S7-300: CP 340, CP 341, ET 200S 1SI SIMATIC S7-400: CP 441-2
LMD720_typeSmsParam300	This PLC data type contains the parameters for initializing the modem and sending/receiving SMS messages.	Applicable for SIMATIC S7-300: CP 340, CP 341, ET 200S 1SI
LMD720_typeSmsParam400	This PLC data type contains the parameters for initializing the modem and sending/receiving SMS messages.	Applicable for SIMATIC S7-400: CP 441-2
LMD720_typeSmsParam1500	This PLC data type contains the parameters for sending/receiving SMS messages.	Applicable for SIMATIC S7-1500: CM PtP, ET 200SP CM PtP
LMD720_typeStatus	This PLC data type contains the structure for the status of the function block.	Applicable for SIMATIC S7-300: CP 340, CP 341, ET 200S 1SI SIMATIC S7-400: CP 441-2
LMD720_typeStringStruct	This PLC data type contains the structure of a character string.	Applicable for SIMATIC S7-300: CP 340, CP 341, ET 200S 1SI SIMATIC S7-400: CP 441-2

2.2 Interface description

2.2.1 FB "LMD720_SmsXxxx"

The following figure and table show the "LMD720_SmsXxxx" library blocks call interface. The call interface is identical for all function blocks of the library.

Figure 2-1
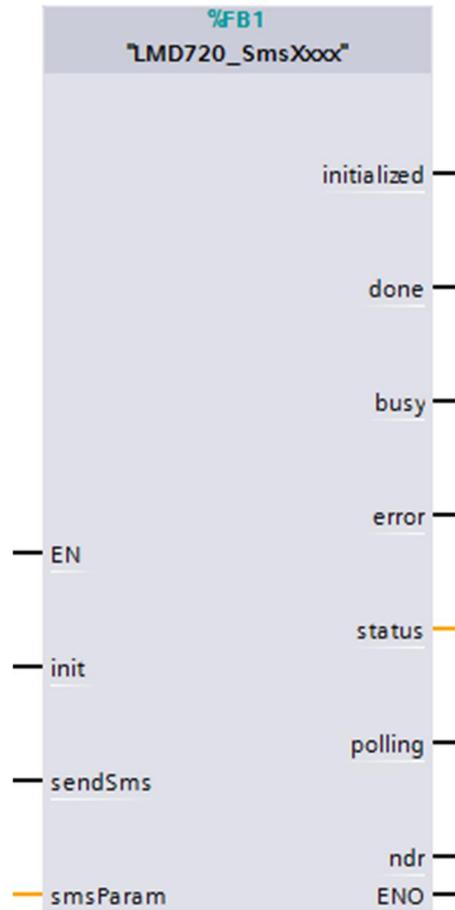
Table 2-4

	Name	Data type	Description
Input	Init	Bool	Enables the initialization process. Responds only to a positive edge.
	sendSms	Bool	Starts the send process. Responds only to a positive edge.
InOut	smsParam	PLC data type "LMD720_typeSmsParamxx" (see chapter 2.2.4)	Parameters for initializing the modem and sending/receiving SMS messages.

	Name	Data type	Description
Output	initialized	Bool	Set when the initialization process has been completed successfully. An SMS can only be send or received at TRUE.
	done	Bool	Set when the send process has been completed successfully. Only valid for one cycle. Default value: FALSE.
	busy	Bool	If the "LMD720_SmsXxxx" block is busy, busy=TRUE is set. The parameter "busy" is set to FALSE as soon as the process has been completed successfully or with an error.
	error	Bool	Gives feedback if an error occurs while executing a routine. Only valid for one cycle. Default value: FALSE
	status	DWord	Returns the status to be able to localize the cause of the error if ERROR = TRUE. Only valid for one cycle (see chapter 2.5).
	polling	Bool	Indicates that receive buffer polling of the modem is active.
	ndr	Bool	Signals that an SMS message has been received. Is TRUE for one cycle only.

Note	Make sure to back up the received data immediately after setting the "ndr" parameter.

2.2.2 FC "LMD720_StringToDtxx"

This function converts a character string of the "String" format with date components into the "DT" or "DTL" data type. The function is called up in the "LMD720_SmsXxxx" function block.

The following figure and table show the call interface of the function.

Figure 2-2
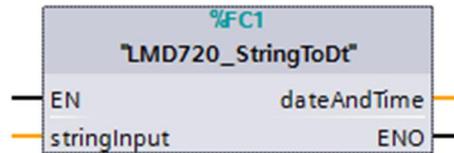
Table 2-5

Name	Data type	Description
stringInput	STRING	Date as character string
dateAndTime	DT (SIMATIC S7-300 and S7-400) DTL (SIMATIC S7-1500)	Returns the read in date.

2.2.3 PLC data type "LMD720_typeSendRcv"

This PLC data type contains the components of an ANY pointer that are required for sending/receiving messages via the system functions for sending/receiving.

Figure 2-3

Table 2-6

Name	Data type	Description
Identifier	Byte	Syntax ID
Type	Byte	Data type
number	Int	Repeat factor
dbNr	Int	DB number
dataPointer	Dint	Byte and bit address of the data block

2.2.4 PLC data type "LMD720_ typeSmsParamXx"

This PLC data type contains the parameters for initializing the modem and sending/receiving SMS messages. It must be created in a global data block and connected to the InOut parameters of the "LMD720_smsXxxx" FB.

Figure 2-4

LMD720_ typeSmsParam			
	Name	Data type	Default value
1	lAddrr	Int	0
2	pinCode	String[8]	" "
3	smsSCA	String[15]	" "
4	phoneNumber	String[20]	" "
5	smsText	String[160]	" "
6	pollingTime	Time	T#30s
7	▼ rcvData	Struct	
8	DateAndtime	Date_And_Time	DT#1990-01-01-0
9	rcvPhoneNo	String[20]	" "
10	rcvSms	String[160]	" "

Table 2-7

Name	Data type	Description
lAddrr	Int	**SIMATIC S7-300 and ET 200S:** This parameter is assigned with the first address of the input address of the communication module ("Device configuration > CP 340/ 1SI > Properties > IO addresses").
conId	Word	**SIMATIC S7-400:** Addressing parameter ID. This information can be found in the device configuration under "Network view > Connections> PtP connection > Local ID"
hwID	HW_ANY	**SIMATIC S7-1500:** Hardware identifier of CM PtP (central at the S7-1500 or distributed as module of ET 200SP). The value of the HW identifier is available in the device configuration ("CM > Properties > HWID").
pinCode	String[8]	PIN of the SIM card in the modem.
smsSCA	String[15]	The short message service center of your provider (enter with country code).
phoneNumber	String[20]	Receiver's telephone number of the device to which the SMS is to be sent (enter with country code).
smsText	String[160]	Content of the SMS to be sent.
pollingTime	Time	Timer for receive polling. Once this timer has elapsed, the polling of the received data is triggered. If this timer expires while a send operation is active, the received SMS messages will not be fetched before the next polling cycle. Start value: 30 s

Name	Data type	Description
rcvData	Struct	Data received: · Time stamp of the received SMS message · Sender's telephone number · Message of the receive SMS.

2.2.5 PLC data type "LMD720_typeStatus"

This PLC data type contains the structure for the status of the function block.

Figure 2-5

Table 2-8

Name	Data type	Description
status_1	Word	Shows the block that has triggered the message: 16#0000: "LMD720_SmsXxxx" function block (see **Fehler! Unbekanntes Schalterargument.**) 16#0001: Send system function block (see TIA Portal information system) 16#0011: Receive system function block (see TIA Portal information system)
status_2	Word	Error message

2.2.6 PLC data type "LMD720_typeStringStruct"

This PLC data type contains the structure of a character string.

Figure 2-6

Table 2-9

Name	Data type	Description
maxChar	Byte	maximum length of the character chain
actChar	Byte	Current length of the character chain
data	Array[1..254] of Byte	Data

2.3 Preparation

2.3.1 Configuring the used communication module or communications processor

The communication module or the communication processor must be configured as follows:

- Protocol   ASCII/Freeport
- Transmission rate   9600 bps
- Parity check   none
- Data bits   8
- Stop bits   1
- Data flow control   none
- Character delay time until the   1000 ms (For S7-1500:1000 Bit times)
  end of telegram is recognized.

Configure the used communication module as described in the respective table.

S7-1500 and ET 200SP:

Table 2-10

No.	Action
1.	Open your already existing STEP 7 V13 or V14 project.
2.	Configure the RS232 interface as shown in the figure below: **S7-1500:** "Device configuration> Device view> Double-click on CM PtP RS232> Properties> RS-232 interface". **ET 200SP:** Device Configuration > Network view > double click ET 200SP > double click CM PtP > Properties > port configuration".
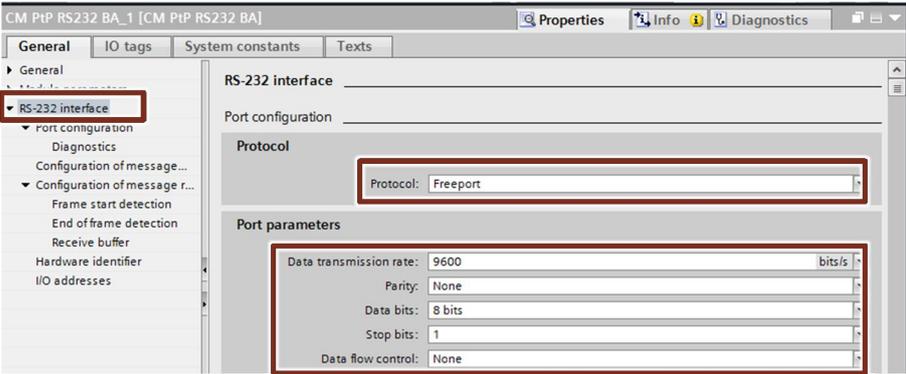
No.	Action
3.	Set the character delay time to 1000 Bit times, as shown in the figure below:
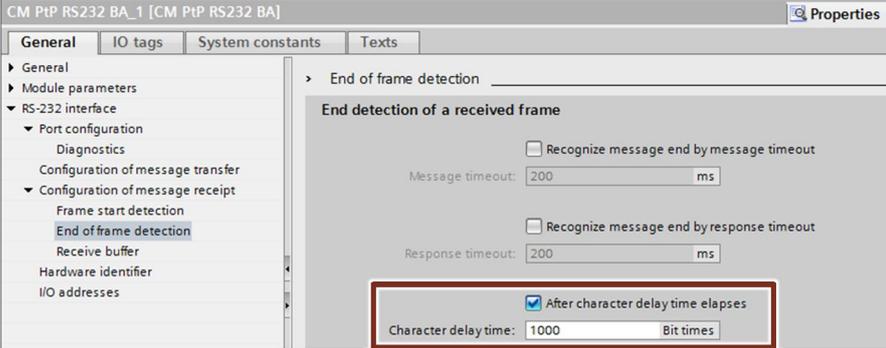
S7-300 and ET 200S:

Table 2-11

No.	Action
1.	Open your already existing STEP 7 V13 or V14 project.
2.	Configure the RS232 interface as shown in the figure below: **S7-300:** "Device Configuration > Device View > CP 340/ CP 341> Properties > Protocol> ASCII". **ET 200S:** "Device Configuration > Network view > double click ET 200S > 1 SI> Properties> Protocol".
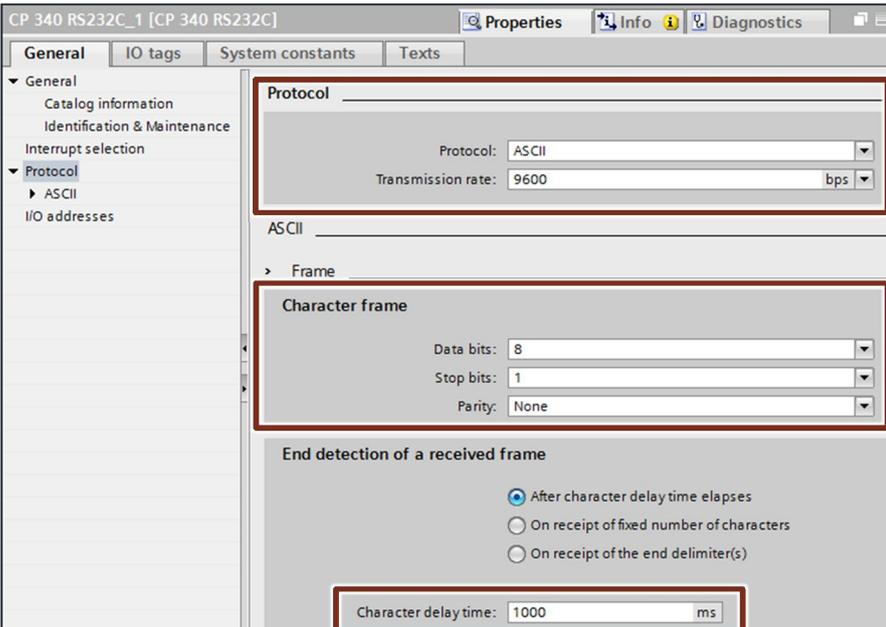
S7-400:

Table 2-12

No.	Action
1.	Open your already existing STEP 7 V13 or V14 project.
2.	Configure the RS232 interface as shown in the figure below: "Device Configuration > Device View > IF 963_1 Module> Properties> Protocol"
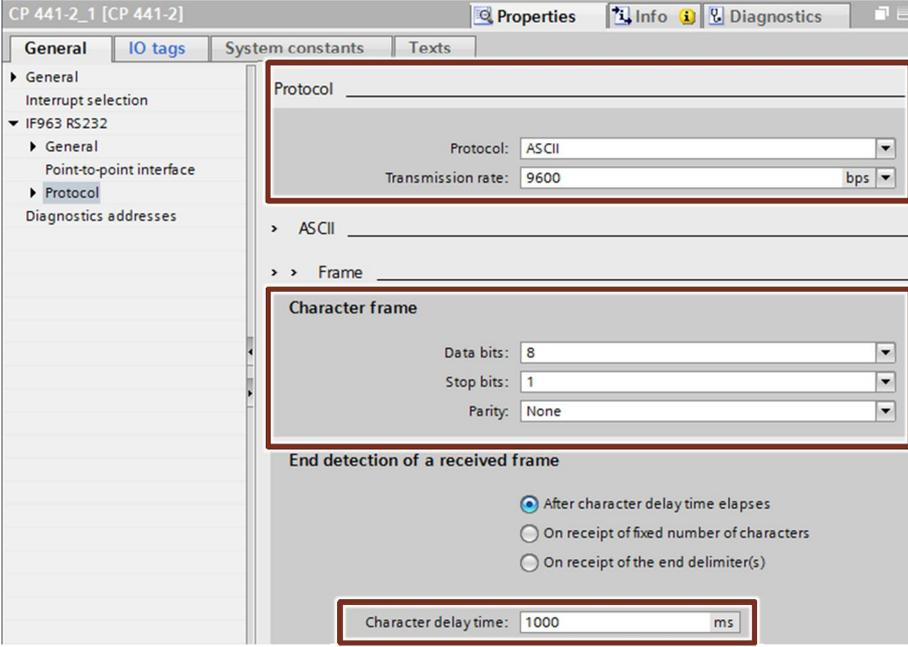
2.3.2 Setting the baud rate of MODEM MD720

Communication module and MODEM MD720 must use the same baud rate. The baud rate on the MODEM MD720 is changed using a terminal program.

Table 2-13

No.	Action
1.	Connect your PC to the MODEM MD720 via the serial connecting cable.
2.	Start a terminal program, for example HyperTerminal.
3.	Select the appropriate COM interface to which the MODEM MD720 has been connected.
4.	Set the character format and baud rate to the same values as the serial interface of the MODEM MD720 The factory settings of the MODEM MD720 are as follows: Baud rate: 19200 bits/s Character format: 8N1. The baud rate is changed via AT command: **AT+IPR=<baud rate>**. Enter this command in the terminal program and press the return key. ![MD720-3 - HyperTerminal window showing: File Edit View Call Transfer Help menu, toolbar, and text "at+ipr=9600" followed by "OK". Status bar shows Disconnected, Auto detect, TCP/IP, SCROLL]
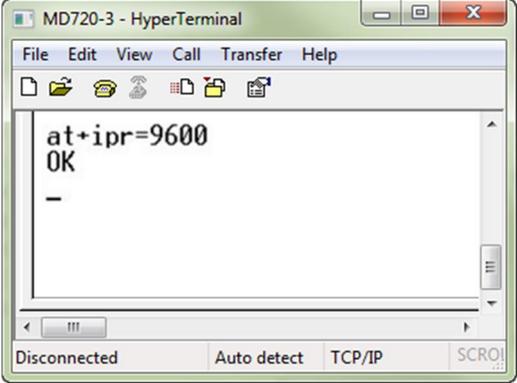
Note   The MODEM MD720 is only accessed by AT commands when it is in terminal mode. If this is not the case, reset the MODEM MD720 to factory settings (see \3\).

2.3.3 Connecting MODEM MD720 to the controller

Table 2-14

No.	Action
1.	Insert the SIM card into MODEM MD720.
2.	Connect the antenna to the respective socket.
3.	Connect the MODEM MD720 to a 24 V direct current source.
4.	**S7-300, S7-400 and S7-1500:** Connect the CP or the CM with MODEM MD720 using a serial connecting cable.

ET 200S:
Connect the serial cable to the 1SI module. Connect the other side to the MODEM MD720 (see \3\).

ET 200SP:
Connect the serial cable to the CM PtP module of the ET 200SP. Connect the other side to the MODEM MD720 (see \3\).

Note   When installing the components, please always consider the general installation guidelines.

2.4 Integration into the user project

2.4.1 Integrating library blocks in a STEP 7 V13 or STEP 7 V14 project

In order that the functions of the "LMD720_SmsXxxx" function block can be used, it is necessary to integrate the library "LMD720" into the configuration software first:

Table 2-15

No.	Action
1.	The library is available on the HTML page from which you downloaded this document (see \2\https://support.industry.siemens.com/cs/ww/en/view/25545680). Save the library "25545680_SMS_MD720_LIB_V10.zip" to your hard drive.
2.	Unzip the library.
3.	Open an already existing STEP 7 V13 or V14 project.
4.	In the "Global Libraries" palette, click on "Open global library" in the toolbar.
5.	Select the global library "LMD720_V13.al13" for your STEP7 V13 project or "LMD720_V14.al14" for your STEP7 V14 project.
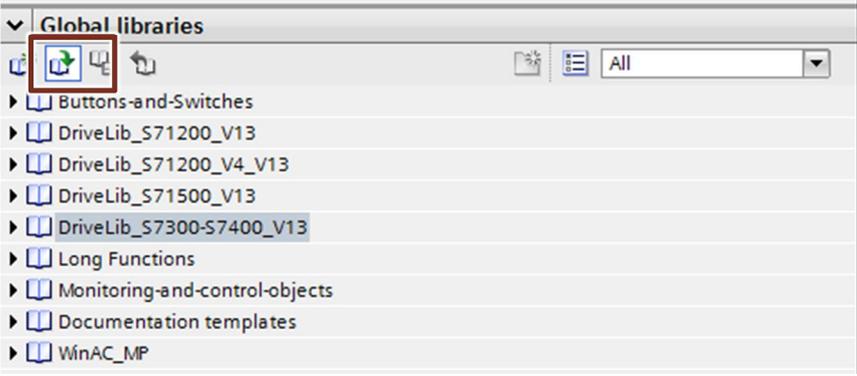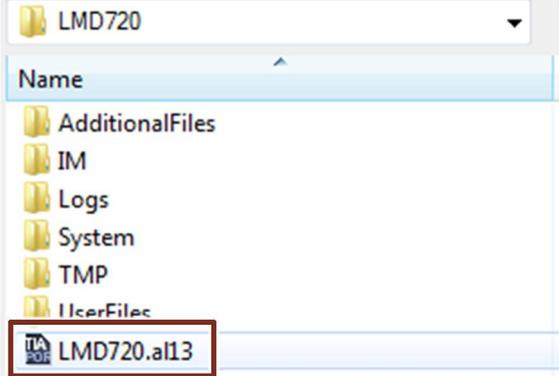
Below, you will find the steps describing how to integrate the "LMD720" library blocks into your STEP 7 V13 or V14 project. Subsequently, you can use the blocks of library.

Table 2-16

No.	Action
1.	Use drag the "LMD720_SmsXxxx" block from the "Types" folder into the "Program blocks" folder of your device. The related "StringToDt_XX" function and PLC data types are added to the respective automatically.
2.	In the "Program blocks" folder of your device, open the organization block OB1 and use drag and drop to move the function block to any network.
3.	Enter the name and number of the associated instance data block. Click "OK" to exit the dialog box.
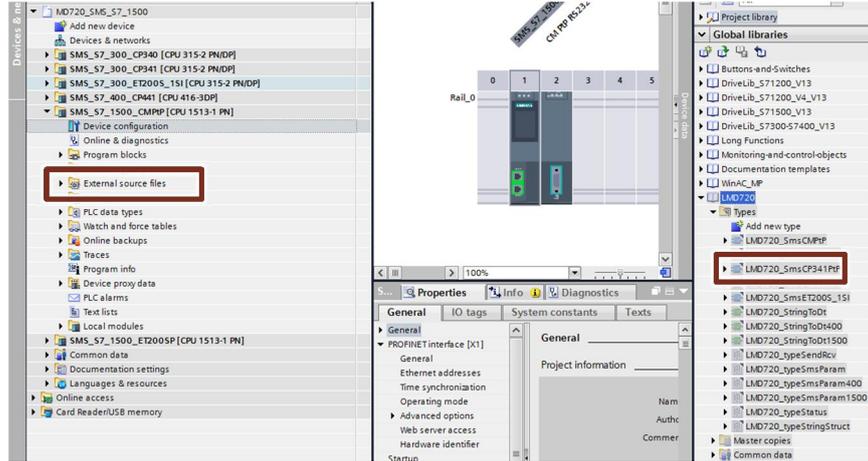
No.	Action
4.	Create a new global data block with the PLC data type "LMD720_ttypeSmsParamxx" and the tags for calling the FB in OB1. Save your configuration settings. **SmsParamDB** |		Name	Data type
---	---	---	---
1	▼	Static	
2	■ ▶	smsParam	"LMD720_typeSmsParam1500"
3	■	initOB1	Bool
4	■	sendSmsOB1	Bool
5	■	initializedOB1	Bool
6	■	doneOB1	Bool
7	■	busyOB1	Bool
8	■	errorOB1	Bool
9	■	statusOB1	DWord
10	■	pollingOB1	Bool
11	■	ndrOB1	Bool	 Note: The description of the parameters of "LMD720_typeSmsParamxx" can be found in chapter 2.2.4.
5.	Assign values to all necessary parameters. The values are taken from the previously created data block.

No.	Action
6.	Compile the hardware and software of the S7 station.
7.	Connect the Ethernet interface of the PC with the PN/IE interface of the CPU and download the project into your controller.
8.	Set the "init" parameter. If "initialized"=TRUE, then set the "sendSms" parameter to send the SMS message.
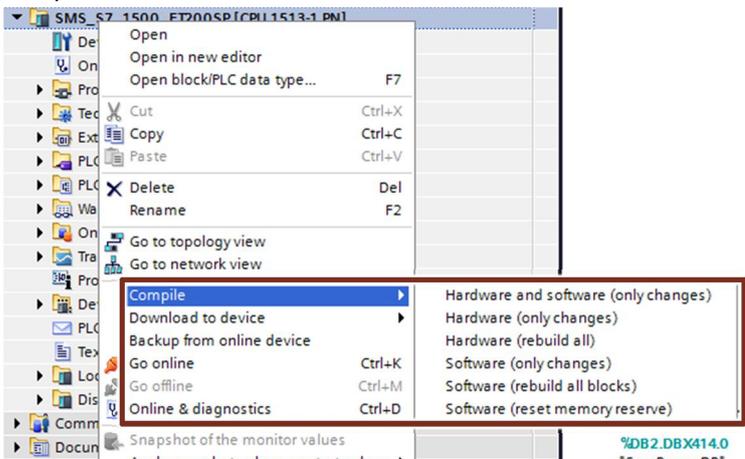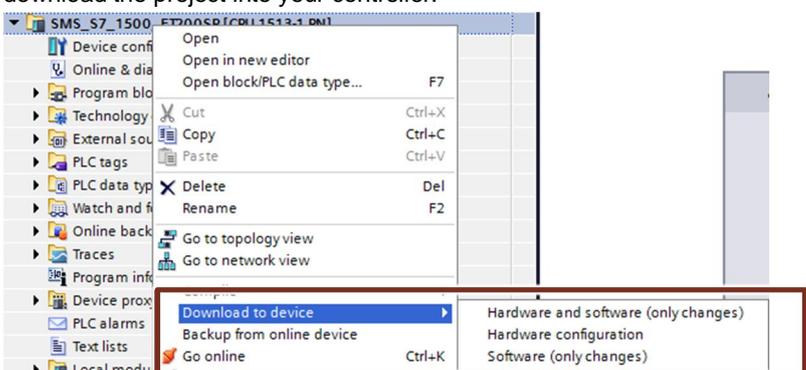
2.4.2 Library resources and performance data

Memory requirements

The following table shows the size of the library blocks in the main memory.

Table 2-17

Block	Main memory (bytes)	Load memory (bytes)
LMD720_SmsCMPtP	7197	86363
LMD720_SmsCP340PtP	14602	16100
LMD720_SmsCP341PtP	14530	16154
LMD720_SmsCP441PtP	14662	16000
LMD720_SmsET200S_1SI	14522	15998
LMD720_StringToDt300	1820	1936
LMD720_StringToDt400	1820	1936
LMD720_StringToDt1500	668	9679

Transfer time without an additional user program in OB1

The following table shows the average times measured for initializing the MODEM MD720 and sending an SMS message.

Table 2-18

Function	Average time
Initialization	up to 3 min.
Sending SMS	approx. 7 sec.

2.5 Error handling

The FB "LMD720_SmsXxxx" function block has a "status" output for error diagnostics. By reading the "status" output of the function block, you are provided with information on logical errors and error messages that may occur during communication.

The error message structure is such that the first word indicates the block that triggered this message. (see Table 2-19)

Table 2-19

status_1	Description
16#0000	"LMD720_SmsXxxx" function block
16#0001	Send system function block (see TIA Portal information system: Program blocks > System blocks > Select send block > Press F1)
16#0011	Receive system function block (see TIA Portal information system: Program blocks > System blocks > Select receive block > Press F1)

The table below provides a list of possible error messages created by the library function blocks.

Table 2-20

status_2	Error description	Solution
16#8101	**Initialization:** The watchdog timer has expired during modem initialization because the communication between controller and modem is interrupted during initialization.	1. Check cable between controller and modem. 2. Check CM/CP settings and change, if required, as described in chapter 2.3.1. 3. Set the modem baud rate as described in chapter 2.3.2. 4. Restart initialization.
16#8102	**Initialization, sending SMS:** Previous order not yet completed. You have started a new operation, although "busy" was still active.	Restart initialization.
16#8103	**Sending SMS:** The modem must be initialized. This error occurs when the modem has not been initialized and you have started a send process.	Restart initialization.
16#8104	**Sending SMS:** The watchdog timer has expired during the send procedure because the communication between controller and modem is interrupted during sending.	1. Check cable between controller and modem. 2. Restart the send procedure.

status_2	Error description	Solution
16#8105	**Polling:** The watchdog timer has expired during polling. This may have the following causes: · Communication between the controller and the modem is interrupted. · Many SMS messages are stored in the buffer. · An SMS with unknown index cannot be read. **Note:** Only messages with certain indices are evaluated. All other messages are deleted from the buffer (initialization) after a time out – It is not possible to browse the memory subsequently.	1. Check cable between controller and modem. 2. If required, change the "statTimerCheckPollingPT" time in the instance DB of "LMD720_SmsXxxx". 3. Restart initialization.
16#8106	**Initialization:** Error when disabling echo.	Restart initialization.
16#8107	**Initialization:** Error when enabling the parameterization mode.	Restart initialization.
16#8108	**Initialization:** Error when querying the remote configuration port.	Restart initialization.
16#8109	**Initialization:** Error when disabling reading the remote configuration port.	Restart initialization.
16#8110	**Initialization:** Error when disabling the parameterization mode.	Restart initialization.
16#8111	**Initialization:** Error during PIN query: SIM card faulty / disabled or not inserted.	1. Insert the SIM card into the modem. 2. Restart initialization.
16#8112	**Initialization:** Error during PIN query: The modem is waiting for the PUK entry.	1. Insert the SIM card into a normal cell phone. 2. Enter the PUK and then a PIN. 3. Check and change the "pinCode" parameter. 4. Restart initialization. **Note:** As an alternative to steps 1 and 2, you can enter the PUK via a terminal program with the command: AT+CPIN= <PUK>, <PIN>

status_2	Error description	Solution
16#8113	**Initialization:** Incorrect PIN	1. Check and change the "pinCode" parameter. 2. Restart initialization.
16#8114	**Initialization, sending SMS, polling:** Error during parameterization.	1. Check the antenna cable. 2. Restart initialization.
16#8115	**Initialization:** Syntax error when entering the short message service center.	1. Check and change "smsSCA" parameter. 2. Restart initialization.
16#8116	**Initialization, polling:** Error when selecting the SMS memory.	Restart initialization.
16#8117	**Initialization:** Error when transferring the SMS indicators.	Restart initialization.
16#8118	**Initialization, polling:** Error when deleting SMS messages.	Restart initialization.
16#8119	**Sending SMS:** Syntax error when entering the telephone number.	1. Check and change "phoneNumber" parameter 2. Restart the send procedure.
16#8120	**Sending SMS:** Error while sending the SMS message. This may have the following causes: · Short message service center address is incorrect. · Telephone number of the recipient is incorrect.	1. Check "smsSCA" parameter and change, if required. 2. Check "phoneNumber" parameter and change, if required. 3. Restart initialization. 4. Restart the send procedure.
16#8121	**Polling:** Error while reading the SMS message.	Restart initialization

Note	During the initialization of MODEM MD720 with the "LMD720_SmsXxxx" block, all SMS messages stored in the buffer will be deleted.

NOTE	During the first initialization of MODEM MD720 with the "LMD720_SmsXxxx" block, the error 0011_81E2 occurs. In this case, please initialize the MODEM MD720 again.

3 Appendix

3.1 Service and support

Industry Online Support

Do you have any questions or need support?

Siemens Industry Online Support offers access to our entire service and support know-how as well as to our services.

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

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

Technical Support

Siemens Industry's Technical Support offers quick and competent support regarding all technical queries with numerous tailor-made offers
– from basic support right up to individual support contracts.

Please address your requests to the Technical Support via the web form:
www.siemens.com/industry/supportrequest

Service offer

Our service offer comprises, among other things, the following services:

- Product Training
- Plant Data Services
- Spare Parts Services
- Repair Services
- On Site and Maintenance Services
- Retrofit & Modernization Services
- Service Programs and Agreements

Detailed information on our service offer is available in the Service Catalog:
https://support.industry.siemens.com/cs/sc

Industry Online Support app

Thanks to the "Siemens Industry Online Support" app, you will get optimum support even when you are on the move. The app is available for Apple iOS, Android and Windows Phone:
https://support.industry.siemens.com/cs/ww/en/sc/2067

3.2 Links and Literature

Table 3-1

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/25545680
\3\	Manual on MD720 https://support.industry.siemens.com/cs/ww/en/view/73513752
\4\	SIMATIC S7-300 Establishing and parameterizing point-to-point connection CP 340 http://support.automation.siemens.com/WW/view/en/1137332
\5\	SIMATIC CP 340 first steps to commissioning http://support.automation.siemens.com/WW/view/en/12108826
\6\	SIMATIC S7-300 Establishing and parameterizing point-to-point connection CP 341 http://support.automation.siemens.com/WW/view/en/1117397
\7\	CP 341 first steps to commissioning http://support.automation.siemens.com/WW/view/en/1188622
\8\	Establishing and parameterizing point-to-point connection CP 441 http://support.automation.siemens.com/WW/view/en/1137419
\9\	CP 441 First Steps http://support.automation.siemens.com/WW/view/en/1188835
\10\	SIMATIC ET 200S serial interface modules http://support.automation.siemens.com/WW/view/en/9260793
\11\	CM PtP Configurations for Point-to-Point Connections http://support.automation.siemens.com/WW/view/en/59057093
\12\	SIMATIC S7-1500 CM PtP RS232 BA http://support.automation.siemens.com/WW/view/en/59057152
\13\	SIMATIC S7-1500 CM PtP RS232 HF http://support.automation.siemens.com/WW/view/en/59057160
\14\	CM PtP operation with PROFINET http://support.automation.siemens.com/WW/view/en/68075812
\15\	SIMATIC S7-1500, ET 200MP, ET 200SP, ET 200AL, ET 200pro Communication http://support.automation.siemens.com/WW/view/en/59192925
\16\	SIMATIC ET 200SP CM Freeport/3964 http://support.automation.siemens.com/WW/view/en/59061378

3.3 Change documentation

Table 3-2

Version	Date	Modifications
V1.0	08/2017	First version