

SMS gateway

SMS Gateway communication protocol

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Description

SMS Gateway protocol supports:

- sending SMS
- receiving SMS
- dialing calls
- receiving calls

The implementation is based on the sending and processing of AT commands that are exchanged through the asynchronous serial line.

Communication line configuration

Communication line category: Modem

Communication line parameters:

Parameter	Default value	Meaning
Device		Name of communication port.
Init command	AT&F	AT command that reinitializes a device. In the case of some GSM modems (e.g. HUAWEI E3372), this command needs to be enhanced to <i>AT&F^CURC=0</i> so that the modem stops reporting signal levels (RSSI- Radio Signal Strength Indication) by sending spontaneous messages e. g. <code><CR><LF>^RSSI:28<CR><LF></code> .
Dial command	ATD	AT command used when dialing a telephone number.
Hangup	+++~~~~ ATH	AT command to hang up the connection.
DTR	Checked	DTR signal is used to hang up connection instead of AT command.

Communication station configuration

Parameter	Default value	Meaning
Trace Data	YES	Both received and sent data are written to the log file.
PIN Code	0000	PIN code of SIM card (GSM modem).
Use Semicolon	YES	A semicolon is inserted at the end of the ATD command.
Hang Up Incoming Call	YES	Enable to hang up the incoming call in a defined time.
Hang Up Time	35 sec	Defines the duration of an incoming call.
Delay Between Rings	3 sec	Some of the modems do not inform about change of status: "ringing -> received", "ringing -> hung up". In "ringing" status, the flags that indicate ringing are sent. If during the interval configured by this parameter, the ringing is not indicated, the status automat of the protocol will change its status to "hang up". Zero disables to use this indication.

Outgoing Call Duration	3 sec	The time after which the outgoing call is terminated.
Modem Is Ready Interval	600 sec	After elapsing of this time, the modem is reinitiated.
Acknowledgment of Receipt	YES	Whether the receipts acknowledgments are enabled when sending SMS messages.
Service Center Address	+4219053 03303	Phone number of the service center for SMS messages. Slovakia O2: +421 949 909 909 Slovakia Orange: +421 905 303 303 Slovakia Telecom (T-Mobile): +421 903 333 000
Read From Modem SMS	60 sec	Interval of checking the received messages and receipts in modem.
Expect OK After Dial	YES	Indicates whether a device sends the answer "OK" after dialing the phone number.

I/O tag configuration

I/O tags: Ci, Co, Di, Do, TxtI, TxtO

Value type	Address	Meaning
Outgoing calls		
TxtO	OUTGOINGTELNUM	it sets the phone number of the outgoing call.
TxtI	OUTGOINGRESULTNUMBER	The protocol can send multiple requests to dial a phone number at the same time. These requests are saved to the list and they are dialed gradually. In the I/O tag, the value of the last dialed number is saved. Together with the I/O tag with OUTGOINGRESULTFLAG address, it informs about the result of the call.
Co	OUTGOINGRINGTIME	It sets the duration of the outgoing call including the dialing. It can be used as a trigger to start dialing. If the phone number cannot be dialed at that time (the value of the I/O tag with the BUSY address is TRUE), the values of the required I/O tags are stored in a queue and postponed for later processing.
Di	OUTGOINGRESULTFLAG	It informs about the result of the call. If the outgoing call has been received, the value is TRUE, otherwise FALSE.
Incoming calls		
TxtI	INCOMINGTELNUM	Contains the phone number of an incoming call.
Di	INCOMINGRINGING	It indicates that the incoming call is active. At a given moment the value INCOMINGTELNUM is not valid yet.
Outgoing SMS messages		
TxtO	OUTGOINGSMSNUMBER	Sets the phone number to which an SMS message will be sent.
TxtO	OUTGOINGSMSID	It keeps the value of the user-defined unique identifier of the message. This value helps to find out whether the message was sent. It also couples the message receipts with the sent message.
TxtO	OUTGOINGMSBODY	Sets the text of an SMS message. It is a trigger of sending the message, which means that its value must be set as the last. After starting the trigger, the values of all necessary I/O tags are saved into the queue. The SMS message is ready to be sent.
Di	OUTGOINGSMSRESULT	Together with the identifier, which is set in I/O tag with address OUTGOINGSMSRESULTID, it informs about the status of sending the SMS message.
TxtI	OUTGOINGMSRESULTID	If there are multiple SMS messages in the queue, it is necessary to inform about the status of each SMS message, together with the identifier, which is set in the I/O tag with OUTGOINGSMSID address.
Incoming SMS messages		
TxtI	INCOMINGSMSNUMBER	It contains the phone number of the received SMS message.

Txti	INCOMMING SMSBODY	It contains the text of the received SMS message.
Ci	INCOMMING SMSTRIGGERIN	If the new SMS message has been received, the value is incremented by 1. It may be used as the trigger of receiving the new SMS message.
Co	INCOMMING SMSTRIGGEROUT	It confirms the reading of the SMS message. The value from the I/O tag with INCOMMINGSMSTRIGGERIN address must be written to this I/O tag.
SMS receipts		
TxtI	INCOMMING RECEIPTID	It keeps the unique identifier of an SMS message, which was chosen during its sending.
Ci	INCOMMING RECEIPTTRIGGERIN	If a new SMS receipt has been received, the value is incremented by 1. The value of the I/O tag with INCOMMINGRECEIPTID address is valid at the particular moment.
Co	INCOMMING RECEIPTTRIGGEROUT	It confirms the reading of SMS receipt. The value from the I/O tag with INCOMMINGRECEIPTTRIGGERIN address must be written to this I/O tag.
Common		
Di	BUSY	The I/O tag informing about modem status.

Document revisions

- Ver. 1.0 – January 23, 2012 – Creation of document.



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