SMS gateway

SMS Gateway communication protocol

Description
Communication line configuration
Communication station configuration
I/O tag configuration
Document revisions

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 changed through 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 case of some GSM modems (e.g. HUAWEI E3372) this command needs to be enhanced to *AT&F^CURC=0* so that the modem stops reporting signal levels (RSSI- Radio Signal Strength Indication) by sending spontaneous messages e. g. <CR><LF>^RSSI:28<CR><LF>.
Dial command	ATD	AT command used when dialing of 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 log file.
PIN Code	0000	PIN code of SIM card (GSM modem).
Use Semicolon	YES	Semicolon is inserted at the end of ATD command.
Hang Up Incoming Call	YES	Enable to hang up the incoming call in a defined time.
Hang Up Time	35 sec	Defines a duration of 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 indicates ringing are sent. If during the set interval the ringing is not indicated, status automat of 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	It switches receipts when sending SMS messages.
Service Center Address	+421905303303	Phone number of service center for SMS messages. **O2:** +421 949 909 909 **Orange:** +421 905 303 303 **Telekom (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 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 tad, the value of the last dialed number is saved. Together with I/O tag with OUTGOINGRESULTFLAG address it informs about a result of call.
Co	OUTGOINGRINGTIME	It sets duration of outgoing call including the dialing. It can be used as trigger to start dialing. If the phone number (the value of I/O tag with BUSY address is TRUE) cannot be dialed at that time, the values of I/O tags keep in a queue and postponed for later processing.
Di	OUTGOINGRESULTFLAG	It informs about the result of call. If outgoing call has been received, the value is TRUE, otherwise FALSE.
Incoming calls		
TxtI	INCOMMINGTELNUM	Contains the phone number of incoming call.
Di	INCOMMINGRINGING	It indicates that the incoming call is active. At a given moment the value INCOMMINGTELNUM is not valid yet.
Outgoing SMS messages		
TxtO	OUTGOINGSMSNUMBER	Sets the phone number to which SMS message will be sent.
TxtO	OUTGOINGSMSID	It keeps the value of own unique identifier of message. This value helps to find out whether the message could have been sent. It also couples the message receipts with the sent message.
TxtO	OUTGOINGSMSBODY	Sets the text of 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 necessary I/O tags are saved into the queue. SMS message is ready to send.
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	OUTGOINGSMSRESULTID	If there are multiple SMS messages in the queue, there is necessary, together with the identifier, which is set in I/O tag with address, to inform about the status of each SMS message.
Incoming SMS messages		
Txti	INCOMMINGSMSNUMBER	It contains the phone number of received SMS message.

Txti	INCOMMINGSMSBODY	It contains the text of received SMS message.
Ci	INCOMMINGSMSTRIGGERIN	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	INCOMMINGSMSTRIGGEROUT	It confirms the reading of SMS message. The value from the I/O tag with address INCOMMINGSMSTRIGGERIN is set up in this I/O tag.
SMS receipts		
TxtI	INCOMMINGRECEIPTID	It keeps the unique identifier of SMS message, which was chosen during its sending.
Ci	INCOMMINGRECEIPTTRIGGERIN	If the new SMS receipt has been received, the value is incremented by 1. The value of identifier INCOMMINGRECEIPTID is valid at the particular moment.
Co	INCOMMINGRECEIPTTRIGGEROUT	It confirms the reading of SMS receipt. The value from the I/O tag with address INCOMMINGRECEIPTTRIGGERIN is set up in this I/O tag.
Common		
Di	BUSY	It informs about modem status.

Document revisions

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

Related pages:

Communication protocols