DINSTAR
鼎信通达

Dinstar SMS API

Version: 1.4

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1. Overview

This protocol is used for external applications (SMS Server) to control the DWG sending and receiving SMS/USSD. Protocol is carried over TCP with a request / response way.

2. Message

The message is composed of two parts (head and body).

The head is shown as below

Length	4 byte	Length of body
ID	16 byte	MAC(8 byte，last 2 byte not used)+Time(4byte)+Serial-No(4byte)
Type	2 byte	Type will be introduced later
Flag	2 byte	not used

Example,

offset data

0000 00 00 00 26 00 01 02 03 04 05 00 00 1f 5c b8 18

0010 00 00 00 06 00 01 00 00 00 01 00 01 31 35 30 38

0020 38 38 38 39 39 39 39 00 00 00 00 00 00 00 00 00

0030 00 00 00 00 00 08 00 31 00 32 00 33 00 34

00 00 00 26 length of body is 0x26

00 01 02 03 04 05 00 00 1f 5c b8 18 00 00 00 06

IS ID.

00 01 02 03 04 05 is MAC,

00 00 used to padding

1f 5c b8 18 is Time

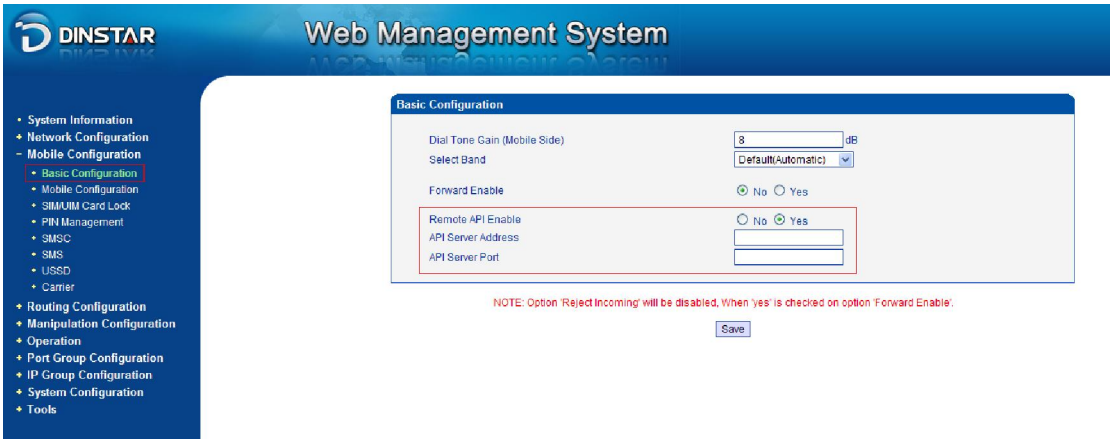
00 00 00 06 is Serial-No

00 01 Message Type

00 00 Flag

3. SMS Connection

1. Make sure the configuration of DWG is correct. The SMS Server must listen to the DWG. Once TCP connection is established, DWG will send ***Status message*** to SMS Server.



2. Every time the status of DWG changed, ***Status message*** is send to SMS Server
3. Status message

   Type 0x07

   Body is Variable,

Count of Ports	1 byte	Determine how many record below
Port 0	1 byte	0, works 1, no SIM card inserted 2, not registered 3, unavailable
Port 1	1 byte	The same as above
……		

4. Response to ***Status message***

   SMS Server needs to send a response to Status message

   Type 0x08

   Body

Result	1 byte	0, succeed 1,fail

5. Example

   offset data

   0000 00 00 00 09 00 01 02 03 04 05 00 00 0d 2e 3f fd

   0010 00 00 00 02 00 07 00 00 08 00 00 02 01 01 01 01

   0020 01

   00 00 00 09 Length of body is 9

   00 01 02 03 04 05 MAC of DWG

   00 07 Type is 0x07, it is a ***Status Message***

   08 Count of ports

   00 00 work

   02 not registered

   01 01 01 01 01 no SIM card inserted

4. Keep alive
    1. ***Keepalive message*** is sent by SMS Server first, and DWG will send back a ***keepalive message***. SMS server manages all connection stuff including the interval of sending keepalive message and the strategy of disconnection.
    2. ***Keepalive message***

       Type 0x00

       Body is empty
    3. Example

       offset data

       0000 00 00 00 00 00 01 02 03 04 05 00 00 0d 2e 3f ff

       0010 00 00 00 03 00 00 00 00

       00 00 00 00 Length is 0

       00 00 Type is 0x00

5. Send SMS
    1. SMS Server sends a ***Send SMS Request*** to DWG, DWG will give a response to that request. After completing the process, DWG will send a ***Send SMS Result*** to SMS Server. Also, SMS Server sends a response to that result.
    2. ***Send SMS Request***:

       Type 0x01

       Body

Port	1 byte	255 for any port
Encoding	1 byte	0, ASCII 1, UNICODE
Type	1 byte	0,SMS 1,MMS(Not Implemented)
Count of Number	1 byte	No more than 100
Number	Characters, 24byte	
Content Length	2 byte	No more than 670
SMS Content	Characters	

    3. Response to ***Send SMS Reques***:

       Type 0x02

       Body

Result	1 byte	0, succeed， 1, fail 2,timeout 3,bad request 4, port unavailable 5, partial succeed

		255, other error

4. ***Send SMS Result***

Type:0x03

Body

Count of Number	1 byte	Determine how many record below
Number	24 byte	Characters
Port	1 byte	
Result	1 byte	0, succeed， 1, fail 2,timeout 3,bad request 4, port unavailable 5, partial succeed 255, other error
Count of slice	1 byte	A long message will be sliced to several SMS
Succeeded slices	1 byte	

Ps: The length of this body is variable.

5. Response to ***Send SMS Result***

Type：0x04

Body：

Result	1 byte	0, succeed 1, fail

6. Example

In this Example, A SMS is sent to15088889999 with message “1234”

offset data

0000 00 00 00 26 00 01 02 03 04 05 00 00 1f 5c b8 18

0010 00 00 00 06 00 01 00 00 00 01 00 01 31 35 30 38

0020 38 38 38 39 39 39 39 00 00 00 00 00 00 00 00 00

0030 00 00 00 00 00 08 00 31 00 32 00 33 00 34

00 00 00 26 length of Body

00 01 Type

00 port 0

01 UNICODE

00 SMS

31 35 30 38 38 38 38 39 39 39 39 Number 15088889999, 0 is for padding

00 08 Message length

00 31 00 32 00 33 00 34 1234 in Unicode encoding

Response from DWG

0000 00 00 00 01 00 01 02 03 04 05 00 00 1f 5c b8 18

0010 00 00 00 06 00 02 00 00 00

Send Result

0000 00 00 00 1d 00 01 02 03 04 05 00 00 1f 5c b8 18

0010 00 00 00 06 00 03 00 00 01 31 35 30 38 38 38 38

0020 39 39 39 39 00 00 00 00 00 00 00 00 00 00 00 00

0030 00 00 00 01 01

Response to Result

0000 00 00 00 01 00 01 02 03 04 05 00 00 1f 5c b8 18

0010 00 00 00 06 00 04 00 00 00

6. Receive SMS

1. DWG will send a ***Receive SMS Message*** to SMS Server Once DWG receive a SMS.

Type 0x05

Body

Number	Characters，24 个 byte	
Type	1 byte	0, SMS 1, MMS(Not Implemented)
Port	1 byte	
Timestamp	Characters，15 个 byte	A string like 20010320210256
Time zone	1 byte	-12 to +12
Encoding	1 byte	0, ASCII 1, UNICODE
Content length	2 byte	
Content	Characters	

2. SMS send Response to ***Receive SMS Message***

Type 0x06

Body

Result	1 byte	0, succeed 1, fail

Example

In this example, DWG received a SMS from 8615088889999 with content “abcd”

Receive SMS Message

0000 00 00 00 31 00 01 02 03 04 05 00 00 0d 2e 40 af

0010 00 00 00 2d 00 05 00 00 38 36 31 35 30 38 38 38
0020 38 39 39 39 39 00 00 00 00 00 00 00 00 00 00 00
0030 00 00 32 30 31 31 30 35 32 36 31 37 30 31 30 38
0040 00 08 00 00 04 61 62 63 64
00 00 00 31 Length of Body
00 05 Type
38 36 31 35 30 38 38 38 38 39 39 39 39 00 00 00 00 00 00 00 00 00 00 00
Number 8615088889999
32 30 31 31 30 35 32 36 31 37 30 31 30 38 00
Timestamp 2011.05.26. 17:01:08
00 Encoding is ASCII
00 04 Length of SMS is 4
61 62 63 64 Content is “abcd”

Response to ***Receive SMS Message***
0000 00 00 00 01 00 01 02 03 04 05 00 00 0d 2e 40 af
0010 00 00 00 2d 00 06 00 00 00

7. Send USSD

1. ***Send USSD Request***

Type 0x09

Body

Port	1 byte	
Type	1 byte	1, Send 2, End session
Content length	2 byte	
Content	Characters	Could be empty, ASCII

2. DWG sends a Response to ***Send USSD Request***

Type 0x0A

Body

Result	1 byte	0, succeed 1, fail 2, timeout 3, bad request 4, port unavailable 255, other error

3. Example

Send USSD Request

0000 00 00 00 09 00 01 02 03 04 05 00 00 1f 5d 14 a7

0010 00 00 00 03 00 09 00 00 00 01 00 05 2a 31 30 30
0020 23
00 Port
01 Send USSD
00 05 Content length is 5
2a 31 30 30 23 Content is "*100#"

Response
0000 00 00 00 01 00 01 02 03 04 05 00 00 1f 5d 14 a7
0010 00 00 00 03 00 0a 00 00 00

8. Receive USSD

1. DWG will send a ***Receive USSD Message*** to SMS Server, once DWG receives a USSD.

Type 0x0B

body

Port	1 byte	
Status	1 byte	0,No further user action required 1, Further user action required 2,USSD terminated by network 4, Operation not supported
Content Length	2 byte	
Encoding	1 byte	0, ASCII 1, UNICODE
Content	Characters	Could be empty

2. SMS Server sends a response to ***Receive USSD Message***

Type 0x0C

body

result	1 byte	0, succeed 1, fail

Example

0000 00 00 00 76 00 01 02 03 04 05 00 00 0d 1f 96 b1
0010 00 00 00 06 00 0b 00 00 00 01 00 71 01 31 70 6f
0020 7b 3c 9a d8 9a d8 63 02 0a 32 57 28 7e bf 6e 38
0030 62 0f 0a 33 4e 0b 66 0e 66 1f 5e 94 75 28 8d 62
0040 49 50 41 44 0a 34 66 5a 95 f4 65 b0 95 fb 0a 35
0050 66 1f 5e a7 4e 13 53 3a 0a 36 72 31 57 28 6d f1
0060 72 31 65 f6 62 bd 8e ab 0a 37 80 a1 79 68 67 e5
0070 8b e2 0a 38 4f e9 5c 0f 7f 8e 59 73 4e 3a 62 11
0080 81 31 51 49 62 53 67 b6 0a 39 7f fb 98 75

00 from port 0

01 ~~Fruther~~ user action required means you can send more message follow by the message

00 71 length is 0x71

01 Encoding is UNICODE

The following data is USSD content in UNICODE.

Response

0000 00 00 00 01 00 01 02 03 04 05 00 00 0d 1f 96 b1

0010 00 00 00 06 00 06 31 2d 00

Appendix：

1. Message Type

Type	Function	Direction
0x00	Keepalive message	DWG ß à SMS Server
0x01	Send SMS Request	SMS Server à DWG
0x02	Response to Send SMS Request	DWG à SMS Server
0x03	Send SMS Result	DWG à SMS Server
0x04	Response to Send SMS Result	SMS Server à DWG
0x05	Receive SMS Message	DWG à SMS Server
0x06	Response to Receive SMS Message	SMS Server à DWG
0x07	*Send SMS Request*	DWG à SMS Server
0x08	Response to *Send SMS Request*	SMS Server à DWG
0x09	*Send USSD Request*	SMS Server à DWG
0x0A	Response to *Send USSD Request*	DWG à SMS Server
0x0B	*Receive USSD Message*	DWG à SMS Server
0x0C	Response to *Receive USSD Message*	SMS Server à DWG