



# Digi Cellular Application Note

## Configuring and using SMS features on Digi Connect Wan 3G

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### 1. Configure a Digi Connect Wan 3G to send and receive SMS messages from CLI and Python (with an example).

Objective: Configure the SMS feature of a Digi Connect Wan 3G to be able to receive SMS from the unit and send remote commands via CLI or using a Python script.

#### 1.1 Software Requirements

- Digi Device Discovery
- PuTTY or any Terminal application
- Python

#### 1.2 Hardware Requirements

- Digi Connect Wan 3G
- SIM card with SMS capabilities

#### 1.3 Configuration Requirements

- Mobile Configuration (SIM Pin, APN)
- Cellular IP network connectivity



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### 2. 2. Step by Step instructions

#### 2.2.1 Enable SMS capabilities from the web interface

- a) Open a web browser to the web interface of your Digi device and navigate to **Configuration>Mobile>Short Message Service (SMS) Settings**

**Short Message Service (SMS) Settings**

These settings are used to configure cellular Short Message Service (SMS) capabilities.  
**Note:** Verify with your mobile service provider that SMS is included in your service agreement.

**Global SMS Settings**

Enable cellular Short Message Service (SMS) capabilities  
When a command message is received via SMS:  
 Send ACK reply via SMS when command is accepted  
 Send NAK reply via SMS if password validation fails

Global SMS Command Password:  (clear field to remove password)  
Default Message Receiver:    
 Enable extended detail for SMS event logging (verbose)

**Python Settings**

Enable SMS support for Python  
Received Message Queue Maximum:  messages (10-100)  
Received Message Hold Time Maximum:  seconds (0-86400)  
Python SMS Password:  (clear field to remove password)

**Built-In Command Settings**

When SMS is enabled, allow the following commands via short messages:

Enable	Command (Alias)	Password
<input checked="" type="checkbox"/>	#help (#?)	<input type="text"/> (clear field to remove password)
<input checked="" type="checkbox"/>	#cli	<input type="text"/> (clear field to remove password)
<input checked="" type="checkbox"/>	#idigi (#cwm)	<input type="text"/> (clear field to remove password)
<input checked="" type="checkbox"/>	#ping	<input type="text"/> (clear field to remove password)

**Sender Control List (SCL) Settings**

Enable SMS Sender Control List  
 Send NAK reply via SMS if received command message is rejected by SCL

When SMS and Sender Control List are enabled, apply the following rules:

Enable	Sender Address (Phone Number)	Match Type
<input type="checkbox"/>	<input type="text"/>	<input type="text" value="Right"/>
<input type="checkbox"/>	<input type="text"/>	<input type="text" value="Right"/>
<input type="checkbox"/>	<input type="text"/>	<input type="text" value="Right"/>

- b) To enable the SMS capabilities, check the “**Enable cellular Short Message Service (SMS) capabilities**” box
- c) The “**Send ACK reply via SMS when command is accepted**” will allow you to receive a confirmation SMS from the box each time you issue a command and it was successful, for example sending an SMS containing ” **#help ping** “ (to display help information about the command ping) from a mobile phone will result in :



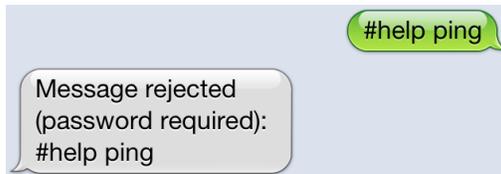


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- d) The “**Send NAK reply via SMS if password validation fails**” will send you an message if the password sent while issuing a command was invalid, for example set the password “**digi**” in the “**Global SMS command Password**” field and send again using a mobile phone via SMS the “**#help ping**”, this will result in :



*The correct command should have been: “**#help ping,digi**”*

- e) Built-In Command Settings allows enabling/disabling certain commands to be used via short messages and set an individual password per command.
- f) Sender Control List Settings, if enabled allows creating a list of “authorized” phone number to send/receive commands from.

#### 2.2.2 Enable SMS capabilities from the command line interface

- a) Using PuTTY or any other terminal application, connect via telnet to the Digi device.
- b) To Enable “Cellular Short Message Service (SMS) capabilities send the following command :
- a. **set smscell global state=on**
    - i. **set (for setting configuration)**  
**smscell (for SMS settings)**  
**global (SMS settings are splitted in groups, Global,SCL,Python,Command)**  
**state (set the status on/off)**
- g) To Enable the acknowledgment when a command is accepted, issue :
- a. **set smscell global ackrcvdcmds=on**
- h) To Enable the non-acknowledgment when a command is rejected because a required password is missing or incorrect, issue :
- a. **set smscell global nakpswdfail=on**



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#### 2.2.3 Send an SMS using the command line interface and check received messages log

- a) Using PuTTY or any other terminal application, connect via telnet to the Digi device.
- b) In this example we will send an sms message ( Hello World! ) to phone number +49 1234567890.

To do so, we use the following command :

- a. **smscell sendmsg=491234567890,"Hello World!"**
  - i. **smscell (sms functionality)**  
**sendmsg (send message function)**  
**4xx (phone number in format: country code (without +) and number (without leading 0))**  
**, "Hello World!" separate phone number and message with coma and use "" to enclose message**

```
10.100.1.77 - PuTTY
#> smscell sendmsg=491234567890,"Hello World!"
Sending message to: 491234567890
Message Text (12 characters):
Hello World!
Request ID: 0x00000001
#>
#>
```

- b. Confirmation that message is being sent, to check the sent log, use the following command :

- i. **disp smscell sentlog**  
**disp (display functionality)**  
**smscell (smscell function)**  
**sentlog (SMS sent message log)**

```
10.100.1.77 - PuTTY
#> disp smscell sentlog
Cellular SMS Sent Message Log:
Sent SMS Message:
User ID: 0x00000000 (unknown)
Request ID: 0x00000001
Request Time: 11732
Complete Time: 11786
Status Time: 11786
DA: 491234567890 (TOA 0x00)
SCA: (none) (TOA 0x00)
Segments Queued: 0
Segment Status: Success=1 Fail=0 Cancel=0 Timeout=0
Message Data (Length 12):
Hello World!
#>
#>
```



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- c. To display the received message log, use the following command :
  - i. `disp smscell rcvlog`  
`rcvlog` (SMS received message log)

```
10.100.1.77 - PuTTY
#>
#> disp smscell rcvlog

Cellular SMS Received Message Log:

Received SMS Message:
  User ID: 0x80000001 (_default_)
  Receive ID: 0x00000003
  Receive Time: 12409
  OA: 491234567890 (TOA 0x91)
  SCA: 491710760000 (TOA 0x91)
  TS: 12/02/22,13:54:56+04q
  DCS: 0x00
  Message Data (Length 12):
  Hello World!

#>
#>
```

#### 2.2.4 Basic python script examples using SMS

- a) The following script will request for a phone number and the message to be sent from any SMS enabled device.

```
"""
SMS text message demo

This example sends a text message to a phone from any SMS-enabled device.

"""
#imports
import digisms

addr = raw_input('Enter the phone number>> ')
msg = raw_input('Enter the Text message>> ')
if addr and msg:
    print "sending to: ", addr, " the message: ", msg
    digisms.send(addr, msg)
```

- b) Copy this sample code in a blank file and name it “send\_sms.py”, upload it using the web interface of the device by navigating to **Applications>Python** and clicking on the “**Upload**” button.

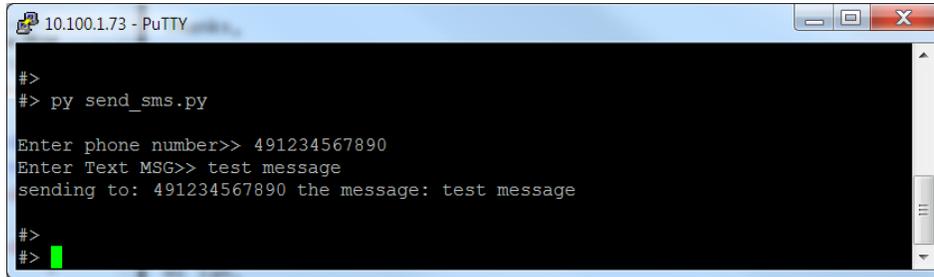


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- c) Connect via telnet to the Digi unit using a terminal application such as PuTTY and type the following command to run the script :
- a. **py send\_sms.py**



```
10.100.1.73 - PuTTY
#>
#> py send_sms.py

Enter phone number>> 491234567890
Enter Text MSG>> test message
sending to: 491234567890 the message: test message

#>
#>
```

- d) To verify that the message was sent, check the receive log as described in the previous section by using the following command :
- a. **disp smscell recvlog**

Please see the Digi Python Wiki for more information and more detailed documentation on the available programming elements for using the SMS feature in Digi products. The Digi python programmer's guide can be found at the following url :

[http://www.digi.com/wiki/developer/index.php/Digi\\_Python\\_Programmer%27s\\_Guide](http://www.digi.com/wiki/developer/index.php/Digi_Python_Programmer%27s_Guide)