

Front Gateway

Product Description for the connection
between the SMS gateway and customer



Applies to:
SMS Gateway Standard
SMS Gateway Proff
SMS Gateway PSK

Development Manual
v2.25 – 2021-12-15



Gateway – Interface Description

Front offers SMS Gateway with http-based interface. By sending HTTP-based commands, the customer can send and receive messages via the Front's message service / gateway to an end user's mobile or an application. The service requires the customer has a server with dedicated IP address



Contents:	Page
User information, to supplement.....	3
1 Field Descriptions	
1.1 Gateway Standard, Proff and PSK.....	4
1.2 Gateway Proff and PSK.....	4
2 Parameter Index	
2.1 Outbound messages.....	6
2.2 Error codes sending texts.....	9
2.3 Delivery Status for sent texts.....	10
2.4 Outbound messages – bulk.....	11
2.5 Incoming messages.....	13



User Info

Fill out and send this page to Front on fax +47 22 20 24 01, or send it via email to kontakt@fro.no.
You can also register your user information on <http://www.fro.no>

Contact person:	
Name (First name, last name)	Phone (direct)
E-mail address	Mobile*
Company Information:	
Company Name / Organization	Organisation number
Address	
Postal code / place	e-mail address (for invoice)

Layout for Gateway:	
Customer's IP address for outgoing messages:	serviceid: (To be completed by Front)
Fromid / Sender text on outgoing messages (max. 11 characters):	URL Status (not required): http://
Complete this only out of Gateway Professional and Gateway PSK	
<input type="checkbox"/> We want to use the code word for submitting to 2401 (Norway). 	Requested codeword:
<input type="checkbox"/> SMS GATEWAY PSK: We want to be assigned PSK number (14 digits) for full two-way communication 	Number of extra PSK number: (a number included in contract)
URL for incoming SMS: http://	
If incoming messages Front has ability to notify customers if we fail to deliver a message. Front will try to deliver an incoming message to the client's URL three times. If we do not receive a confirmation from the customer on these tests will messages be queued and must be activated manually. We can send a notification to our customers if this were to occur, with a link which could even enable the queue when the error is corrected.	
Mobile number (s) for VARS delivery error:	E-mail address (es) for notification of delivery errors:



1 Field Descriptions

1.1 GATEWAY STANDARD, PROFF AND PSK

Client IP address for outgoing messages

Front need the client IP address for identification and delivery of outgoing messages via our gateway to your Web server. Given the IP address must be a dedicated ip-address. If you wish to use a dedicated IP-address for testing in the first place, this is entered. The SMS Gateway can be configured at <https://login.pling.as/pling/gateway> (login required).

Fromid / Sender text on outgoing messages (max.11 characters)

Fromid is the text that appears as the sender on the recipients' mobile phone. There may be a text or a number, and normally this will be the company name. When using a text sender, the sender is limited to maximum 11 characters by the telecommunications network, and the recipient will not be able to directly reply to the message.

When using a mobile number as Fromid, the recipient can reply to the message directly.

PSK customers have the opportunity to choose a PSK number as the Fromid. When the user replies to the message, the customer may receive the reply directly in their IT systems, without having to use the codeword.

ServiceID

To be completed by Front. This is a customer number that customer must use to identify themselves with sending SMS messages to SMS gateway.

URL Status (not required):

If you need to verify the status of the message to the end user, you can register a URL where Front pushes recipient status of outgoing messages. We push status and a reference id to the Status URL. The status indicates whether or not the message has arrived the end user's mobile phone. See the various status codes in section 2.3

1.2 GATEWAY PROFF AND PSK

Requested codeword

In order to receive incoming SMS to a short code (2401/26114), the customer must have a registered identification code (codeword) associated with its gateway. A codeword is the first word in a text message that is sent to a shared short code. Any text after the codeword is interpreted as text and has no effect on the identification of the customer who will receive the message. The message data are posted to the URL the customer configures to receive these messages. An example of an incoming message by using the identification code (codeword) "FRONT" is:

"FRONT <Optional text>" sent to the short number 2401.

**PSK Number:**

PSK refers to your use of personal two-way communication (read more on www.fro.no). PSK replaces the traditional two-way communication using the code word (incoming) and the sender number (optional, outgoing).

Normally we use only one PSK number for full two-way communication. But you have the opportunity to associate with them any number of PSK number for use by different services and needs in their IT systems. Your PSK numbers can be supplied as a series of consecutive numbers.

URL for incoming SMS:

Incoming messages will be delivered to the configured URL upon their arrival at the SMS Gateway. The data we push contains various information about the sender such as number, text, time of broadcast and codeword. For Front to record the message as received in your system, you must print out the value "true" when you receive a message. Otherwise Front will not record the message as received and will try to resend the message three times before it is queued. Then the message must be manually restarted.

E-mail notification of delivery failure

If our server is unable to deliver incoming messages to your server, we will try to send the message to you three times. If we still are unable to deliver the message, an email will be sent to the registered addresses with error details.



2 Parameter INDEX

2.1 OUTBOUND MESSAGES

Texts may be sent by either performing by performing a HTTP POST request with a JSON document containing the parameters below or a HTTP GET request to the SMS Gateway including the parameters in the query string.

Parameter	Description	Accepted values	Comment
serviceid	Server identifier	Unique customer ID	Required
phoneno	Telephone number for the recipient.	International phone number with country code 0047 99999999	Required
txt	The message being sent.	Text containing only characters in the GSM character set (GSM 03.38). Other characters are replaced. If the "unicode" parameter is supplied, all Unicode characters are accepted.	Required. A message consists of 160 characters (Unicode: 70). If a message contains more, it counts as multiple SMS. Each SMS is then a length of 153 characters (Unicode: 67). Max is 1024 characters.
fromid	Unique Sender ID	An assigned number / serial number of Front or assigned sender text, maximum 11 characters.	Required - Unique number to receive a response or text.
price	Premium (overcharged) messages	In Norwegian cents (øre). Eg. NOK 1=100, NOK 30=3000. Must be activated by the Front!	Optional. When a valuation is set, fromid must be "2401"; max 160 characters in the text. Can only be sent to Norwegian phone numbers.
unicode	Allow sending of Unicode texts	true, false	Optional. By default, all texts are sent using the GSM character set (GSM 03.38), and non-supported characters are converted. When "unicode" is true, all characters (emoji, etc.) are allowed, and no conversions are applied. The text will only be sent as Unicode if it contains characters not found in the GSM character set.
encoding	URL percent encoding character set	iso-8859-1, utf8, utf-8	Optional. Default character set is latin1 (ISO-8859-1). Note: most modern HTTP libraries perform UTF-8 percent encoding by default. (This parameter is not used for JSON requests, as JSON is always encoded as UTF-8).



2.1.1 Send Text Examples using HTTP POST with a JSON document

Example of sending a text using HTTP POST with a JSON document:

```
POST /psk/push.php HTTP/1.1
Host: www.pling.as
Content-Type: application/json
```

```
{
  "serviceid": 3,
  "fromid": "26114123450000",
  "phoneno": "0047999999999",
  "txt": "Test æøå ÆØÅ",
  "unicode": false
}
```

Example of sending a text containing an emoji using HTTP POST with a JSON document:

```
POST /psk/push.php HTTP/1.1
Host: www.pling.as
Content-Type: application/json
```

```
{
  "serviceid": 3,
  "fromid": "26114123450000",
  "phoneno": "0047999999999",
  "txt": "Test 😊",
  "unicode": true
}
```

Example success response when using HTTP POST with a JSON document:

```
{
  "id": 145099,
  "errorcode": 0,
  "description": "OK"
}
```

Example error response when using HTTP POST with a JSON document:

```
{
  "id": 0,
  "errorcode": 1,
  "description": "Invalid mobile number"
}
```

See §2.2 for a list of error codes.



2.1.2 Send Text Examples using HTTP GET

Example of sending a text using HTTP GET with latin1 percent encoding:

```
http://www.pling.as/psk/push.php?serviceid=1234&phoneno=004799999999&fromid=26114123450000&txt=Test%20%E6%F8%E5%20%C6%D8%C5
```

Example of sending a text using HTTP GET with UTF-8 percent encoding:

```
https://www.pling.as/psk/push.php?serviceid=1234&encoding=utf8&phoneno=00479999999999&fromid=26114123450000&txt=Test%20%C3%A6%C3%B8%C3%A5%20%C3%86%C3%98%C3%85
```

Example of sending a text containing an emoji using HTTP GET with UTF-8 percent encoding:

```
https://www.pling.as/psk/push.php?serviceid=1234&encoding=utf8&unicode=true&phoneno=00479999999999&fromid=26114123450000&txt=Test%20%F0%9F%A4%A3
```

Note: the order of the parameters has no significance.

Example response:

```
ErrorCode=0, ID=145099
```

See §2.2 for a list of error codes.



2.2 ERROR CODES SENDING TEXTS

When sending the text, the SMS Gateway returns a response to the text you submit. This response consists of an "error code" number and a unique reference ID.

Error code	Description
errorcode=0	OK (Message is sent)
errorcode=1	Illegal mobile number
errorcode=2	Message sent from illegal IP address
errorcode=3	Invalid fromid
errorcode=4	Illegal value SMS
errorcode=5	No remaining SMS messages on account
errorcode=6	Not access to premium (overcharged) texts
errorcode=7	Your account has been blocked by Front, or incorrect serviceid
errorcode=8	serviceid is blank / parameter is missing
errorcode=9	phoneno is blank / missing parameter
errorcode=10	txt is blank / missing parameter
errorcode=11	fromid is blank / missing parameter
errorcode=12	Illegal mobile number premium (overcharged) text
errorcode=13	Invalid password
errorcode=14	The message is too long (max 1024 characters)
errorcode=15	The premium message is too long (max 160 characters). Only relevant for premium messages (price > 0)
errorcode=16	The message contains an invalid character. The message can only contain characters in the GSM character set (GSM 03.38). Error code only in use for bulk messages (§2.4).
errorcode=17	Duplicate message. Message with same fromid, phoneno and txt has been sent within the last 120 seconds.
errorcode=18	Encryption required. Use https instead of http.
errorcode=19	Invalid value for the encoding parameter
errorcode=20	The unicode parameter must be "true" or "false"
errorcode=21	Mobile number is blacklisted. The mobile number is known to be invalid for receiving SMS or has been previously seen in connection with misuse.

Please note that new error codes may be added in future versions.



2.3 DELIVERY STATUS FOR SENT TEXTS

Status of sent messages will be continually posted to the URL that you wish to receive on. The service is not compulsory, but for those who desire it.

Parameter	Description	Legal Values	Comment
status	New status on SMS	-1, 4, 5	See below
origid	ID Reference Number	Same number as confirmation ID when the message was sent	Unique number for each text message

Sample status: <http://www.customer.no/sms/?status=4&origid=145099>

Status -1:

The message is received by the carrier but not delivered to the mobile phone. Note: this status can come after status 4 if the message is delivered immediately.

Status 4:

The message has been received by the recipient's mobile phone. It is not known whether the recipient has read the message

Status 5:

The message has failed. In most cases this is due to that sending a message to a mobile phone number not in use. May also occur due to operational errors among telecom operators.

Lack of status means that the message is on its way. The most common reason for not attaining the status is that the recipient has turned off his cell phone, or located in an area without coverage. It happens that one does not get any status even if the message is actually delivered.



2.4 OUTBOUND MESSAGES – BULK

To send a text message to multiple recipients, use an HTTP Post to the following URL:
https://www.pling.as/psk/push_bulk.php

The request body must be a valid JSON document (<http://json.org>) with the following structure:

Parameter	Description	Allowed values	Comment
serviceid	Server identifier	Unique customer ID	Required; number
phoneno	Recipients' mobile numbers.	International telephone number with country code. 0047 999999999	Required; string array
txt	Message text to be sent	Text containing only characters in the GSM character set (GSM 03.38).	Required. A message consists of 160 characters. If a message contains more, it counts as multiple SMS. Each SMS is then a length of 153 characters. Max is 1024.
fromid	Unik avsender ID	An assigned number / serial number from Front or assigned sender text, maximum 11 characters.	Required; string
unicode	Allow sending of Unicode texts	true, false	Optional; boolean. By default, all texts are sent using the GSM character set (GSM 03.38), and texts with non-supported characters are rejected. When "unicode" is true, all characters (emoji, etc.) are allowed. The text will only be sent as Unicode if it contains characters not found in the GSM character set.

The server will accept the request as long as there is at least one valid recipient and the other parameters are valid.

The server responds with HTTP status code 201 (created) if the message has been accepted. All other status codes indicate that the message was not accepted, and the message will not be sent. The response body includes an error code, description and lists with any invalid or duplicate mobile numbers as a JSON document.



Examples

Example bulk request:

```
{
  "serviceid": 1234,
  "phoneno": ["004799999999", "004799999998"],
  "txt": "Test æøå ÆØå",
  "fromid": "My Company"
}
```

Example bulk request with emoji:

```
{
  "serviceid": 1234,
  "phoneno": ["004799999999", "004799999998"],
  "txt": "Test 😊",
  "unicode": true,
  "fromid": "My Company"
}
```

Example response body:

```
{
  "errorcode": 0,
  "description": "OK",
  "invalidPhoneno": [],
  "duplicatePhoneno": []
}
```

Please note that the response does not include a reference number (ID) for the messages that will be sent. Bulk messages are therefore not appropriate to use if one desires delivery status of the outbound messages. (see §2.2 - 2.3).



2.5 INCOMING MESSAGES (ONLY GATEWAY PROFF and PSK)

The SMS Gateway can be configured at <https://login.pling.as/pling/gateway> (login required). The URL where received texts are delivered can be configured there, along with the API to be used. To ensure optimal security and comply with privacy regulations, we recommend that the URL uses HTTPS and only accepts requests from Front's SMS Gateway IP addresses (currently 18.197.36.176, 18.197.110.183 and 18.197.138.46).

2.5.1 INCOMING MESSAGES – HTTP POST JSON API

When the HTTP POST JSON API is configured, incoming messages are delivered to the configured URL as a JSON document using HTTP POST.

Message JSON

The message is posted as a JSON document (<http://json.org/>) with the following fields:

Parameter	Type	Description
id	Number	Front's unique identifier for the message
to	String	Telephone number to which the message was sent in either E164 format (e.g. "+47594400"), national format for short code (e.g. "26114") or short code with sub-number (e.g. "26114123456789")
from	String	Telephone number from which the message was sent in E164 format (e.g. "+4799999999"). In rare instances this can be a nationally formatted number (e.g. "26114") or a text (e.g. "HelloWorld") of up to 11 characters.
text	String	The message body. In the case of a multimedia message, the subject (if present) and any plain text files included in the message will be concatenated with a newline separator to form the text. Refer to SMIL file for the proper display of the individual text files.
sent	String	The ISO 8601 formatted timestamp when the message was sent or first received by Front (e.g. "2020-12-31T23:59:59Z")
counter	Number	A counter value that is incremented for each message received at your SMS Gateway. This can be useful for detecting missing messages, etc.
keyword	String	The first word in the message, which is often used when routing messages sent to a short number to the appropriate recipient.
files	Array	The files included in a multimedia message (MMS). See below for the definition of the file object. This is an empty array for a normal text (SMS). *

* Please note that support for multimedia messages (MMS) is an additional service that is not enabled by default on your account. In this case, the "files" field can be safely ignored, including the File JSON definition below. Please contact Front if you require MMS functionality.



File JSON

Each file in the files array consists of an object with following fields:

Parameter	Type	Description
id	Number	Front's unique identifier for the file
contentType	String	The MIME type of the file as specified in the MMS
fileName	String	The file name as specified in the MMS
fileData	String	The file's binary data: Base64 encoding.

Expected Response

Any HTTP response sent with a 2xx (success) status code will be interpreted as successful delivery of the message. For example, 200 (OK), 201 (Created), 202 (Accepted) and 204 (No Content) are all acceptable HTTP Status codes.

An HTTP response sent with any other status code is considered an unsuccessful delivery of the message. Also, the lack of a response within 60 seconds is treated as a timeout and is also considered an unsuccessful delivery.

Examples

Example of a text (SMS) received at short code:

```
{
  "id": 999999,
  "to": "26114",
  "from": "+4799999999",
  "text": "Test 123",
  "sent": "2019-12-31T23:59:59Z",
  "counter": 7166,
  "keyword": "TEST",
  "files": []
}
```



Example of a multimedia message (MMS) received at long code:

```
{
  "id": 999999,
  "to": "+4759440000",
  "from": "+4799999999",
  "text": "Test 123",
  "sent": "2019-12-31T23:59:59Z",
  "counter": 7166,
  "keyword": "TEST",
  "files": [
    {
      "id": 4747,
      "contentType": "text/xml;Name=smil.xml;Charset=UTF-8",
      "fileName": "smil.xml",
      "fileData": "PD94bWwgdmVyc2lvcj0iMS4wIj48c21pbD48L3Nta..."
    },
    {
      "id": 4748,
      "contentType": "text/plain;Name=text_75329.txt;Charset=UTF-8",
      "fileName": "text_175329.txt",
      "fileData": "VGVzdCAxMjM="
    },
    {
      "id": 4749,
      "contentType": "image/jpeg;Name=image01.jpg",
      "fileName": "image01.jpg",
      "fileData": "w4PCv8ODwpjDg8K/w4PCoAAQSkZJRgABAQEASABIA..."
    }
  ]
}
```



2.5.2 INCOMING MESSAGES – HTTP GET API

When the HTTP GET API is configured, incoming messages are delivered to the configured using an HTTP GET request with the message data as query string values. The parameter values are percent encoded using the latin1 (ISO-8859-1) character set. Characters that cannot be encoding as latin1 are converted to "?" before being encoded.

The following parameters are used in the HTTP GET API for incoming messages:

Parameter	Description
fromid	Telephone number to which the message was sent in either as an international number (e.g. "47594400"), a short code (e.g. "26114") or the sub-number for short code with sub-number (e.g. "123456789" for "26114123456789")
phonenr	Telephone number from which the message was sent in international format with leading zeros (e.g. "004799999999"). In rare instances this can be a nationally formatted number (e.g. "26114") or a text (e.g. "HelloWorld") of up to 11 characters.
txt	The text of the message
time	Time message was received, unix code
countnr	A counter value that is incremented for each message received at your SMS Gateway. This can be useful for detecting missing messages, etc.
code	The first word in the message, which is often used when routing messages sent to a short number to the appropriate recipient.

The expected response for a successfully processed request is the text:

true

Example of an incoming message using the HTTP GET API:

```
https://www.customer.no/innkommende/?fromid=123450000&phonenr=004799999999&txt=Test%20%E6%F8%E5%20%C6%D8%C5&time=1077181484&countnr=157&code=TEST
```




3 Document History

v2.20 (2016-19-06): OUTBOUND MESSAGES – BULK added.

v2.21 (2017-03-15): DELIVERY STATUS OF OUTGOING PUSH MESSAGES updated with correct max length for error code 14. Error code 15 and 16 added.

v2.22 (2017-03-15): Duplicate message check. New SMS Gateways will be configured with a duplicate message check. Information about error code 17 added.

v2.23 (2020-03-09): Increased maximum length for message text to 1024 characters.

v2.24 (2020-04-29)

- Improved descriptions in section 1
- Added support for HTTP POST of JSON document when sending single text
- Added unicode parameter to allow sending Unicode texts
- Added encoding parameter when sending texts using HTTP GET
- Added more examples of sending texts
- Added information about error codes 18, 19, 20
- Added HTTP POST JSON API for incoming messages
- Improve description of the parameters for the HTTP GET API for incoming messages

v2.25 (2021-12-15): New error code when mobile number is blacklisted.