

Technical specifications for integration with SMS API service



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1. Introduction

Messaging service is based on the protocolSMS, complying with all specifications and standards thereof, with regard to communication and data.

This API service follows the HTTP RESTful standard, using JSON as the data exchange format. It was designed to be scalable, flexible, and adhere to best practices for communication between distributed systems. All requests are made through HTTP endpoints, using the GET, POST, PUT, and DELETE methods for CRUD operations. The payloads of requests and responses follow the JSON format, ensuring interoperability and ease of integration with various platforms and technologies.

2. Data structure

The data structure of this documentation defines how information is organized, classified and used in the system. It is composed of Predefined Types (categories of fixed values) and Data Models (structures that represent different types of information).

2.1. Predefined Types

Predefined Types represent sets of fixed values that can be used to classify or configure different system elements, or returned in attributes of system elements.

2.1.1. DataCoding

Defines the class of characters included in the SMS.

- **0:** (Default) Uses the GSM 7-bit alphabet (GSM 03.38), ideal for simple messages with basic characters; allows up to 160 characters per SMS
- **1:** (ASCII). 7-bit ASCII encoding (IA5), compatible with the international standard ITU T.50; similar to GSM standard, but more restricted.
- **3:** (LATIN1). Uses the ISO-8859-1 (Latin1) standard, allowing accents and Western special characters; up to 140 characters per SMS.
- **8:** (UCS2). Encodes the message in UCS2 (16-bit Unicode), supporting all languages and emojis; limited to 70 characters per SMS.

2.1.2. OccurrenceType

Defines the type of callback occurrence.

- **Answer:** When the callback is a status response.
- **Reply:** When the callback refers to a MO text sent by the user.

2.1.3. MessageStatus

Defines the possible statuses of the message and the callback occurrence.

- **DELIVRD**: An item in the SMS message has been delivered.
- **EXPIRED**: The message validity period has expired.
- **UNDELIV**: The message is undeliverable.
- **UNKNOWN**: The message is in an invalid state.
- **REJECTD**: The message is in a rejected state.

2.2. Data Model

Data Models are used to define the structure and parameters required for sending SMS messages. They organize and standardize information, ensuring that each message is configured correctly before sending.

- (*) Represents the key that can be informed as a reference for tracking the element. If it is not informed, the service will generate and return it in the response of the endpoint call.

2.2.1. MessageSMS

Defines the template for an SMS message.

Attribute	Type	Description	required	Req	Res
id	text	Unique identifier of the message.	x		x
key(*)	text	Optional key for tracking.		x	x
text	text	Text message content.	x	x	x
dataCoding	DataCoding	Message character type. Default 0.		x	x
numberParts	number	Refers to the number of parts required to send the SMS text, as provided for in the protocol and the specified dataCoding	x		x
costCenterCode	text	Customer Cost Center Code.		x	x
campaignKey	text	Customer campaign identifier key.		x	x
fields	object	Value consisting of default key/value in the JSON Object pattern. Attribute values will be replaced in the template text provided in the batch, by their name, if they exist in the text.		x	x
senderCode	text	Corresponding to the LA number of the sender. Code that will appear as the sender of the message.		x	x

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2.2.2. BatchSMS

Represents a batch of SMS messages.

Attribute	Type	Description	required	Req	Res
id	text	Unique identifier of the package.	x		x
key(*)	text	Optional key for tracking.		x	x
messages	MessageSMS[]	List of SMS messages contained in the batch. Maximum of 500 messages are allowed per batch.	x	x	x
costCenterCode	text	Customer Cost Center Code. Assigns to all messages in the batch, if not specified individually.		x	x
campaignKey	text	Customer campaign identifier key. Assigned to all messages in the batch, if not entered individually.		x	x
dataCoding	DataCoding	Message character type. Assigns to all messages in the batch, if not specified individually.		x	x
text	text	Text to be assigned to all messages in the batch if they have not been entered individually. Allows you to enter tags to be replaced by the values entered in "fields" and "MessageSMS". Tags are expressions entered between square brackets, for example: [name]. Tags default: '[recipient]': Inserts the phone number provided in "recipient" and "MessageSMS".		x	x
senderCode	text	Corresponding to the LA number of the sender. Code that will appear as the sender of the message. Assigns to all messages in the batch, if not specified individually.		x	x

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2.2.3. Notification

Represents the details of a business inconsistency.

Attribute	Type	Description	required	Req	Res
core	text	Service code for the inconsistency that occurred.	x		x
text	text	Description of the inconsistency that occurred.	x		x

2.2.4. ResponseStandard

Represents the default response to any and all requests made to the SMS service.

Attribute	Type	Description	required	Req	Res
success	boolean	Indicates whether the request to the resource was successful or not at the data and business validation level.	x		x
data	object	Business content that will be returned relative to the resource being consumed, if the request is <i>success = true</i> .			x
notifications	Notification[]	Case <i>success = false</i> , This attribute lists the inconsistencies that occurred.			x

2.2.5. MessageCallback

Represents notification data about message events and status, referring to an SMS message item.

Attribute	Type	Description	required	Req	Res
id	text	Unique identifier of the message.	x	x	
dateTime	date time	Date and time of occurrence.	x	x	
key(*)	text	Tracking key.	x	x	
sender	text	SMS sender identification.	x	x	
recipient	text	Recipient's phone number.	x	x	
status	MessageStatus	Event notification status of an item from an SMS message.	x	x	
errorCode	text	Error code that occurred.	x	x	
reason	text	Description of the event that occurred, in case of error, presents the description of the same.	x	x	

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batchKey	text	If the shipment was via batch, the batch key is returned here.		x	
costCenterCode	text	Customer Cost Center Code.		x	
campaignKey	text	Customer campaign identifier key.		x	
type	OccurrenceType	Type of callback occurrence.	x	x	
text	text	If the “type” is “Reply”, the text referring to the user’s response is specified here.		x	
systemId	text	Identification of the system user who sent the message.			
senderCode	text	Corresponding to the LA number of the sender. Code that appears as the sender of the message.		x	x

2.2.6. MessageResponse

Defines the template for a response message.

Attribute	Type	Description	required	Req	Res
id	text	Unique identifier of the message.	x		x
dateTime	date time	Date and time of occurrence.	x		x
key(*)	text	Tracking key.	x		x
sender	text	SMS sender identification.	x		x
recipient	text	Recipient's phone number.	x		x
status	MessageStatus	Event notification status of an item from an SMS message.	x		x
errorCode	text	Error code that occurred.	x		x
reason	text	Description of the event that occurred, in case of error, presents the description of the same.	x		x
batchKey	text	If the shipment was via batch, the batch key is returned here.			x
costCenterCode	text	Customer Cost Center Code.			x

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campaignKey	text	Customer campaign identifier key.			x
replyText	text	If there is a text sent from the user's device, regarding the message.			x
systemId	text	Identification of the system user who sent the message.	x		x
dataCoding	DataCoding	Message character type. Assigns to all messages in the batch, if not specified individually.	x		x
numberParts	number	Refers to the number of parts required to send the SMS text, as provided for in the protocol and the specified dataCoding	x		x
text	text	Text message content.	x		x

3. Consumption pattern and request behavior

For each and every request to API service resources, follow the following definitions for parameterization.

3.1. Header

Each and every request must add the following entries in the Header.

- **Content-Type:** "application/json"
- **Authorization:**
 - Prefix: "alpha"
 - Content (Suffix): Token acquired on the portal as specified in topic 7 of this document.

3.2. Response

Each and every request responds in the data model standard **ResponseStandard**, described in the data model topic.

If the request is successfully processed, the standard HTTP code returned is **200 (OK)** and in the body of the response the **ResponseStandard** with *success = true* and the *data* with the respective resource data.

In case of failure in processing the request, the standard HTTP code returned is **422 (Unprocessable Content)** and in the body of the response the **ResponseStandard** with *success = false* or *notification* the list of inconsistencies that occurred.

4. Basic service data

- URL base: "<https://channel.solucoesdigitais.dev/sms>"

5. Services

The services below describe the features available in each of the services present in the SMS Service API.

5.1. Message

Service designed for sending and handling SMS messages.

- Path: **"message"**

5.1.1. Send

Feature available for sending SMS messages.

- Path: **"send"**
- Method: **"post"**
- Body: **"MessageSMS"**
- Response: **"ResponseStandard (data: MessageSMS)"**

5.1.2. Get By Id

Resource available to obtain data from an RCS message.

- Path: **"getbyid"**
- Method: **"get"**
- Path Parameters:
 - **"id"**: Unique message identifier;
- Response: **"ResponseStandard (data: MessageResponse)"**

5.1.3. Send Batch

Feature available for sending a batch of messages.

- Path: **"send-batch"**
- Method: **"post"**
- Body: **"BatchSMS"**
- Response: **"ResponseStandard (data: BatchSMS)"**

6. Callback

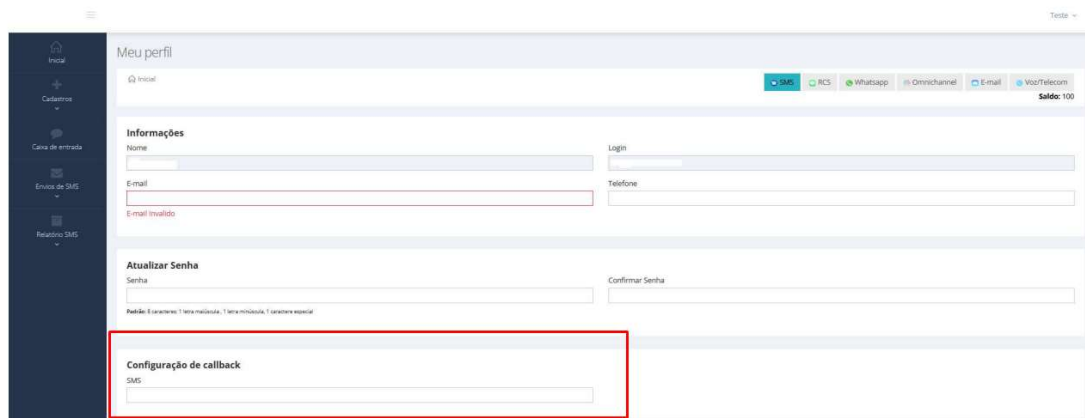
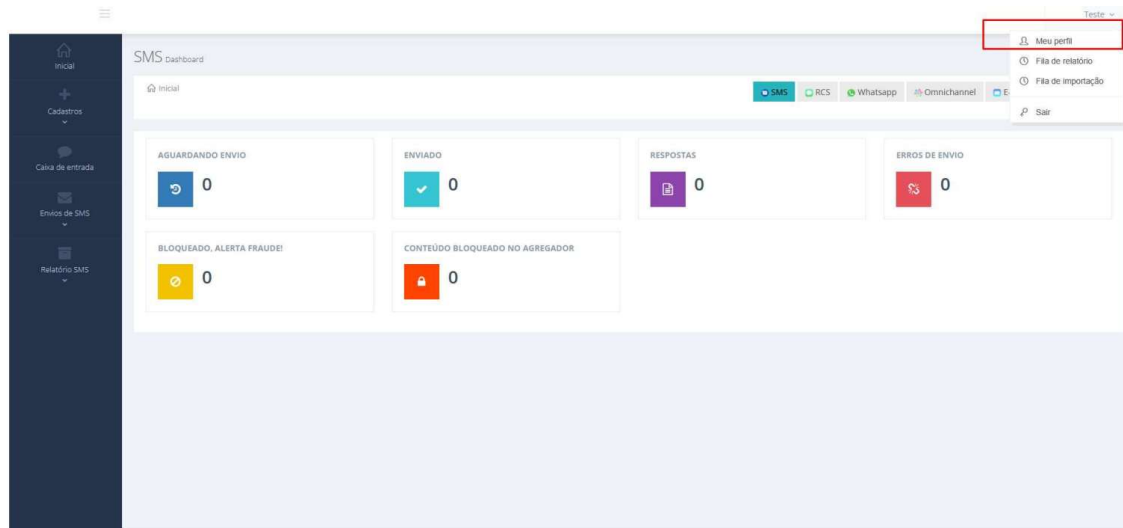
The callback is a resource used to notify the SMS message sender whenever a status change or event occurs in an SMS message. The system only allows the registration of a URL to receive callbacks; the service will invoke the endpoint, passing a JSON in the body according to the MessageCallback data model standard.

The issuer must provide the following:

- HTTP resource for consumption;
- Fixed URL address for the endpoint resource;
- Method must be PUT or POST;
- Request content type must accept application/json.
- Response content type must be text/plain;
- If successful, the response should return with HTTP code 200;
- In case of failure, the response must return with a code other than 200 and in the body the details about the failure.

The callback URL can be registered directly in your profile.

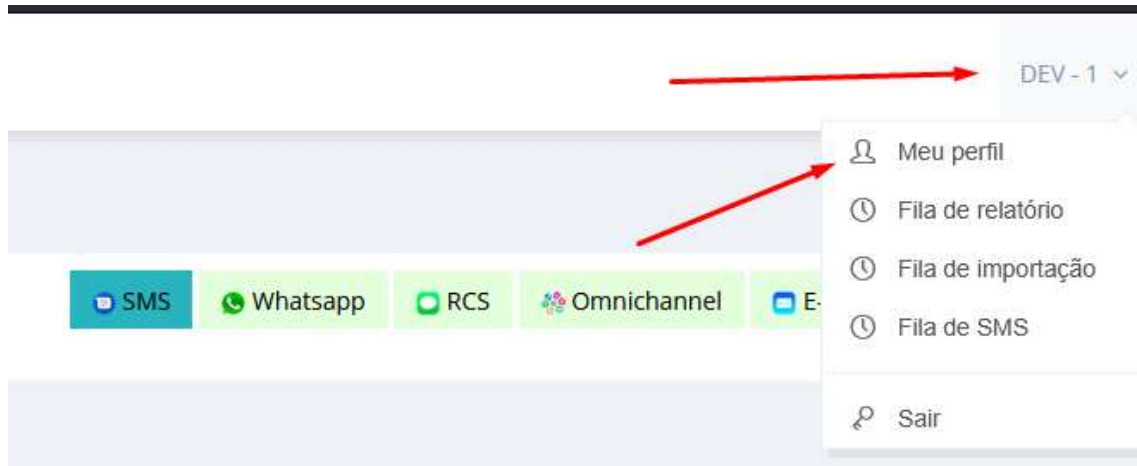
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7. Token generation

Token generation is performed through the portal, in the client/issuer profile.

To obtain the authorization token to use in the API, simply click on your login located in the upper right corner and then 'my profile'.



The token is in the field with the same name, indicated in the print below, click on GERAR TOKEN

A screenshot of the 'Meu perfil' (My profile) page in the portal. The page has a dark sidebar on the left with navigation links: 'Início', 'Cadastro', 'Canais de entrada', 'Envio de SMS', and 'Relatório SMS'. The main content area is titled 'Meu perfil' and includes a 'Sair' button in the top right corner. Below the title, there are sections for 'Informações' (Name, Email, Login, Telefone), 'Atualizar Senha' (Senha, Confirmar Senha), and 'Configuração de callback' (SMS). At the bottom, there is a 'Token' section with a red box around the 'Gerar Token' button and a red arrow pointing to it. The text next to the button says: 'Para gerar o token será necessário, informar o usuário, senha e token novamente!'. The top right corner shows 'Saldo: 100'.

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After this, your profile settings page will be loaded. After filling in your details, click GERAR TOKEN again.

The screenshot shows the 'Meu perfil' (My profile) page. A modal titled 'Gerar Token' is open in the center. The modal contains three input fields: 'Login /', 'Senha /', and 'Autenticador /'. Below these fields are two buttons: 'Gerar Token' (highlighted with a red arrow) and 'Cancelar'. The background page shows various profile settings sections like 'Informações', 'Atualizar Senha', 'Configuração de callback', and 'Token'.

After filling in the data, the system will generate the token, and you can select and copy it or click directly on copy token, then paste it where you want to save the information.

The screenshot shows the 'Meu perfil' page after the token has been generated. A modal titled 'Token gerado com sucesso!!' is open. It displays 'Seu token é' followed by a long alphanumeric string. Below the string are two buttons: 'Copiar Token' (highlighted with a red box) and 'Fechar'. The background page shows the same profile settings sections as the previous screenshot.

8. Table Error Codes

The following table indicates in detail the type of error that occurred in the processing and delivery of the SMS, this information is provided in the return to the sender who provides the SMS delivery details.

Code	Description
000	The message was delivered to the intended carrier or handset.
001	This is a general error that the service you are attempting to use is not allowed; you may have inaccurate permissions, formatting or may not be enabled to use that service.
010	Operator not identified.
011	Invalid key.
012	Message not found.
013	User not found.
014	Route not found.
015	Provider route undefined.
016	Send not permitted.
017	Message contains span.
018	Message delivered without confirmation.
019	Message already exists
020	Insufficient balance
021	Phone not capable to receive RCS
100	An application within the Bandwidth service is experiencing a temporary error that is preventing the message from being processed
101	App going down. Message not received. Sender should send these messages later or to other hosts.
106	Impossible to route / Attempt to deliver through retries has failed and you will need to reattempt these messages later.
111	Received message for connection which is already closed - reopen connection and retry messages.
201	Bandwidth service expired the message after attempts to deliver through retries failed.
211	Bandwidth service application is temporarily busy so it cannot receive messages at this time
220	Message not received. Cannot save message to store.
231	Bandwidth did not receive all parts of the message. Message cannot be sent.
242	Bandwidth service failed the message due to an error with the user data header (udh). This could be because total parts in UDH do not match received before, duplicate message part
301	The message contains invalid characters that are not supported. Bandwidth cannot re-encode messages for destination.
302	The From number associated with the message is a number not routable to a carrier or valid in the industry (Ex: a 9 digit number).
303	The To number associated with the message is a number not routable to a carrier or valid in the industry (Ex: a 9 digit number).
304	Invalid concatenation User Data Header (udh), Bandwidth cannot process the message.
305	Malformed UDH length indicator: udh length greater than message length, Bandwidth cannot process the message.
306	Bandwidth cannot process the request for a delivery receipt (DLR) as the flag is not set properly. In case of ESME: registered delivery flag not in range [0, 1]. In case of SMSC: registered delivery flag not 0.
350	Message passed validation on the receive stage, but failed on send. This is likely because the destination number (To) is an invalid number.
352	The message size is too large for the destination carrier to support.

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401	Message is unable to be routed within Bandwidth particularly when the source and destination are the same number. The destination or To number is mis-provisioned or there is a configuration with the message that is causing a situation where a message is being sent repeatedly between the same numbers.
402	data_fail_with_code attribute set in source TN profile.
403	Messaging on this From number is forbidden most commonly because the number does not belong to BW or the account. Other reasons include: the TN is not enabled in the Bandwidth Dashboard, the account associated with this number is not enabled for this type of messaging, the TN is disconnected, or it is an invalid number (i.e., 1111111111).
405	The From telephone number is considered unallocated when the number does not exist in our database as an active number or the number is not enabled for messaging.
406	The To number associated with this message, while a valid North American number, is not yet assigned to a carrier and the message cannot be sent downstream.
431	The message cannot be sent as the account associated with the message is not provisioned for Short code messaging.
432	Bandwidth system indicates the account associated with the message is not enabled for this messaging zone, this country or this country is outside of messaging reach (specifically for MMS).
433	Either the source or destination account is not enabled for toll free messaging.
434	Toll Free messaging to this destination number is not allowed. Number is likely not enabled for toll free messaging or not active.
451	The user id is not valid or permitted to send messages on your account. Verify the user ID associated with your account and retry the message.
452	The application id specified is not a valid Application Id or the application id is not associated with the account.
470	This message has been filtered and blocked by Bandwidth for spam. Messages can be blocked for a variety of reasons, including but not limited to volumetric filtering, content blocking, SHAFT violation, etc.
481	The From number has been flagged by Bandwidth as prohibited from sending messages. Numbers can be added to a blacklist when they are associated with messages that repeatedly violate spam policies, fraud policies, or messaging AUP.
482	The number you are attempting to send to is blocked from receiving messages.
492	Messaging to an emergency number is forbidden.
493	Bandwidth service indicates the sender is not authorized to send messages from the account.
500	There was a failure with sending the message.
501	There was a failure with sending the message.
600	Destination application cannot accept new messages at this time. This could result from network congestion, messaging queue full on the vendor side, or throttling error on the vendor side.
610	The downstream carrier application is experiencing an error. submitting the message has failed or cancelling message has failed
620	The carrier is reporting a general error associated with their application processing the message.
630	NACK - no response or acknowledgement received from the carrier
650	Carrier Service is reporting a failure to send to destination (mobile operator or handset).
700	Carrier rejected message for invalid service type. This usually means messaging (SMS or MMS) is not supported by the carrier or handset.
701	Carrier service is reporting the destination is not reachable or the SMS service is not available.
702	This error indicates the destination subscriber is unavailable. There are several reasons for this; the subscriber has turned off handset, the destination is unreachable or barred, the GSM subscriber is busy for outbound SMS, SIM card is full, voicemail is full, or cannot reach the destination handset and has stored the message for retry in its « Store & Forward » function.
720	Carrier Rejected as Invalid Destination Address. This could mean the number is not in the numbering plan (area code does not exist or the number is just invalid) or the number is not enabled for messaging (like a landline). Additionally, for toll free messages to TMobile, this could also mean the user has opted to block all toll free and short code traffic.

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721	The phone number you are attempting to send to is on the deactivation list. It is not associated with a carrier to be able to receive messages or is inactive.
730	Carrier is reporting there is no route available for messages. This could be because no routing exists to the destination, no roaming route is available, the destination handset is roaming on a network that cannot be reached, or the route is blocked for another reason.
740	Carrier is rejecting the message due to invalid source address - the number does not exist in the numbering plan. Other reasons for this error code is the source carrier is invalid/disabled, source not authorized or the number type is not supported.
750	The destination carrier has rejected the message but did not provide a specific reason. Specifically for AT&T traffic, this could be a prepaid user whose account is out of money, a subscriber that is provisioned to not receive this type of SMS or it was identified as Spam.
751	Carrier has rejected the message because the message length is invalid or too long.
752	Carrier is rejecting the message as malformed; this could be because of a blank message, unacceptable data value, the carrier does not accept messages with more than 160 characters, syntax error, content is invalid, message ID is invalid, invalid parameter length, expected TLV missing, invalid TLV value, invalid data coding scheme, invalid number of destinations, error in the optional part of the PDU body, TLV not allowed, or XML validation error.
770	The Carrier is reporting this message as blocked for SPAM. Some examples of common spam blocks: unwanted content, SHAFT violations (including specific keywords), or originating address has been flagged for repeated spam content.
775	User has opted out of receiving messages from a particular sender. Remove the destination TN from the subscriber list and cease communication with the destination.
780	Carrier rejected due to P2P volumetric violation. You are sending at a higher rate (mps) than is allowed for P2P traffic. Please contact BW support to review your account settings and ensure you are utilizing the appropriate A2P channels for high volume traffic.
790	Carrier Rejected Due to Short Code Restriction. Destination address blocked by mobile operator, destination cannot receive short code messages, or the mobile operator blocked the destination from receiving messages from this short code for some other reason.
791	Carrier Rejected SC Campaign Not Allowed or blocked by the mobile operator
792	Short Code not provisioned on mobile operator's network.
793	Short Code expired with the mobile operator.
902	Bandwidth timed out waiting for the delivery receipt, this could be because the downstream provider did not send the requested delivery receipt or they sent after the system timed out at two hours.
999	Unknown Error