

# BORALIT

plastic tank solutions



# Manual

# GSM Module

## **1. INTRODUCTION**

### **1.1. LED Indications**

When starting up both red and green led lighting up. This means that the module is connecting to the mobile network. This can take 30 to 60 seconds.

If there is a problem with the SIM card (not readable, PIN required) both led's will flash every second.

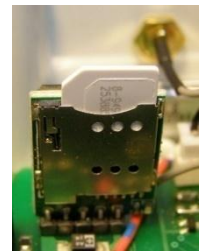
After initializing, the flashing of the green led shows the signal strength with 1 to 5 flashes (1 = weak, 3 = normal, 5 = very strong). If there is not enough signal strength then the red led flashes continuously every 300ms.

If there is a message in progress (sending/receiving), then the green led flashes every.

Red LED	Green LED	Meaning	Comment
4/0,001 s	--	No power or battery is loading	Short flashing every 4 seconds
ON	ON	Waiting for connection	
1/1 s	1/1 s	SIM card failure	For example: SIM card is PIN protected
--	1- 5 flashes	Connected to network	1 x weak signal 3 x normal signal 5 x very strong signal
300/300 ms	--	No signal	
--	150/150 ms	Text message sending/receiving	

### **1.2. Starting up**

To use the module is a "mini"-SIM- card needed (12 x 15 mm).  
Insert the SIM in the sleeve with the cuter corner left up (see photo).



**WARNING! the PIN protection must be turned off before inserting !**

Connect the needed inputs.

Connect the battery (the red LED starts to flash), and connect to mains.

The red and green LED's flashing. The module tries to connect to the network. This can take 30 to 60 seconds.

After initialising: the flashing of the green led indicates the strength of the signal (1 = weak, 3 = normal, 5 = very strong).

Our module is ready to program.

### **1.3. Structure of the module**

The programming of the module has to be done with another mobile device, by sending specific text messages.

Each text must start with \* . This without a space or character in front of it.

A program text looks like:

**\*<parameter><index>=<value>**

Where:

<parameter> this is the parameter described in the table. The module recognizes about what to program. U can use lower and/or lower letters

**WARNING:** the text <parameter> must be exact written like in the table..

<index> is the number of the parameter. This can be for example 2 for the second phone number.

<value> is the value of the parameter, always with <=> in front of it. This can be for example a phone number or a text.

Below is an overview of the various parameters .

Always first	parameter	Description
*	Tel	Target phone number to send the message to. Maximum 3 numbers
*	Text	Header or text, maximum 127 characters
*	Time	Delay time for sending a text message.
*	In(x)	IN 1 and IN 2 potential free. IN 3 is 4-20 mA
*	Pwd	password, not necessary
*	Factory reset	Reset to default factory settings

This is how the text looks for a phone number.

**\*tel1=+3293751111**

It is possible to put more messages in one text message. Each parameter must start with \*. You can add a space between \* and the next parameter. This is how it looks like.

**\*tel1=+3293751111 \*tel2=+3293252570**

## **2. Programming the module**

### **2.1. Programming a phone number**

It is possible to program up to maximum 3 phone numbers.

**WARNING:** messages such as low credit balance of the card will only be sent to the first number.

**WARNING:** The programmed phone numbers must be mobile numbers, able to receive text messages.

To program order:

**\*tel<index>=<phone number>**

Where:

<index> the number of the phone to send the message to (maximum 3) ['1', '2', '3'].

<phone number> the requested phone number with a maximum of 16 characters. **+3293751111**

The phone number must start with '+' and the country code.

Only following characters may be used

- Figures: ['0', '1', ..., '9']
- Spaces may be used

To remove a phone number, the value <phone number> must be <x>.

Example to program 1 phone number:

```
*tel1=+3293751111  
*tel1=+32 9 375 11 11  
*tel1=x
```

Example to program 2 phone numbers:

```
*tel1=+3293751111 *tel2=+32 9 325 25 70
```

The module will send every message to all of the programmed phone numbers, except messages like low credit balance. These are send only to the first phone number.

## **2.2. Programming a text message.**

It is possible to program a header and/or a text. A heading can be for example <pumping station 1> if there are 2.

**WARNING:** Each heading + text may have maximum 160 characters.

**WARNING:** Each text may have maximum 127 characters.

To program order:

```
*text<index>=<text>
```

Where:

<index> the required heading or text ['H', '1', '2', ..., '9']

Where:

- 'H': Heading
- '1': text when failure of mains
- '2': input 1
- '3': input 2
- '4': input 3
- '5', ..., '9': not in use,

<text> the required text you want to send..

Example to program an <alarm message> is this occurs on input 1.:

```
*text3=alarm message
```

Example to program an <pumping station 2 alarm message> where <pumping station 2> is the heading and <alarm message> the text.

```
*textH=pumping station 2 *text3= alarm message
```

To have a better reading, insert a space in front of the text <alarm message>. Otherwise the 2 texts will stick to each other.

### **2.3. Programming delay times**

There are 2 delay times you can change.

Time 1: The minimum time that the module has to wait before sending the failure of the mains.

Standard time = 5 hours.  
Adjustable between 0 and 48 hours

Time 2: The minimum time that the module has to wait before sending the failure on an input.

Standard time = 5 seconds  
Adjustable between 1 and 3.600 seconds.

Time 3 to 9 are not in use

The programming order:

**\*time<index>=<value>**

Where:

<index> The time you want to adjust ['1', '2'].

<value> the requested time

Example :

**\*time1=5**

### **2.4. Changing the inputs 1 and 2 from NC to NC - Not for the Boralit products.**

It is possible to change IN1 and IN2 as a normal open contact to a normal closed.

This can be of use for example when you use a floating switch to detect an alarm. Then there is also a detection when there is a problem with the cable.

The programming order:

**\*in<index>=<value>**

Where:

<index> The number of the input ['1', '2'].

<value> The wanted position ['0', '1'].

'0' is a NO connection.

'1' is a NC connection.

Example to change IN1 to NC:

**\*in1=1**

## 2.5. Set Password

It is possible to insert a password to secure the module.

The programming order:

**\*pwd=<password>**

Where:

**<password>** The requested password. It can have maximum 8 characters and/or numbers, lower or upper.

If the password is longer, only the first 8 character will be stored.

**WARNING:** If a password is programmed, each message must be started with \*password, followed with what you want to program.

**\*<password>\*<parameter><index>=<value>**

Example to program the password 123456

**\*pwd=123456**

When you enter a wrong password, you get the following message:

**<header><ID> \*WRONG PASSWORD**

## 2.6. Changing the password

To do this, you need the old password.

The programming order:

**\*<old password>\*pwd=<new password>**

Example to change the password from 123456 to 987654

**\*123456\*pwd=987654**

## 2.7. Deleting a password

To delete a password you enter blank.

The programming order:

**\*<password>\*pwd=**

Example how to delete the password 987654

**\*987654\*pwd=**

## **2.8. Master password**

In case of loss of the password, you can use the master password.

**\*Vari1248**

Disconnect the module from mains.

Disconnect the cable from the battery.

Reconnect the module to mains.

Use the password \*Vari1248

This can take up to 3 minutes.

## **2.9. Factory settings**

To reset the module to the factory settings:

**\*FACTORYRESET**

To reset the module to the factory settings if there is a password:

**\*<password>\*FACTORYRESET**

## **4. Possible to combine with the following devices**

Pump control: connect the clamps ON en COM from the pump control to IN1 or IN2 of the GSM module.

Kana 1: connect the clamps 3 and 4 from the alarm to IN1 or IN2 of the GSM module.

Kana 2, 3 and 4: connect the clamps 3 and 4 or 6 and 7 from the alarm to IN1 or IN2 of the GSM module.

Controlbox: Connect the delivered cable as shown.

