

4G, 3G & GSM Cellular Intercom: SMS Programming

Need help? Press and hold the call button for 10s to be connected to support!*

There is storage space in the memory of the intercom for 1000 numbers. These can comprise of any of the 4 number types. Numbers programmed as 'Master' number allow master users to change settings and add other numbers. They are not called when the button is pressed but they will operate the output relays when they dial the SIM card telephone number. 'Call' numbers are the numbers dialled when the button on the intercom is pressed. When a 'Call' number dials the SIM card telephone number the default relay will operate. 'User' numbers are purely for 'dial-to-open' access control. They can operate the output relays when they dial the SIM card number. 'Text' numbers are sent SMS messages on events such as dial-in notifications.

Registering the Master Phone

The user in charge of setting up the unit (known as the 'Master' user) must first send the following SMS text message to the SIM card number.

MASTER <master's number>,<PIN>.

There must be one space after MASTER before the number
There must be a stop (.) at the end of the message
The 5-digit PIN is written on the sticker above

e.g.

master 07000000000,12345.

Ensure there is no space before or after the comma ','

Sets the master phone number as 07000000000 for PIN 12345

Only the first Master has to use the pin – further master numbers can be added by other masters as follows:

Master 07000000001.

Adding and Removing Numbers to be Called

The order in which numbers are dialled is the order in which they are added to the system. To add a call number to the system use the following command:

CALL <user number>. e.g.

call 07574777888.

First number dialled

Call 07570301799.

Second number dialled

For multiple button units, also specify the button as follows.

callA 07123456789.

Dials 07123456798 from button A

callB 07987654321.

Dials 07987654321 from button B

Not specifying the button means the number will be dialled from both buttons.

Add dial-to-open numbers

To add dial-to-open numbers simple send the command **add** followed by the number and a full stop '.' As follows:

Add 07123456789

Adds 07123456789 as a dial-to-open number

To remove a number the **REMOVE** command is used. Numbers are removed in the reverse order to which they are added:

remove 07574777888.

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If a number is both a master number and a call number the last one added will be removed first. If the call number was added after the master number (which is most likely), the call number will be removed by the first REMOVE command sent. If another REMOVE command is sent the master will also be removed by the second command

Useful Commands

VOLUME 7 sets the volume to maximum (**default: 3**)

MIC 7 sets the microphone sensitivity to maximum (**default: 6**)
RTIME 30 sets the maximum dialling time to 30 seconds (max 250s)
CTIME 60 sets the maximum call length to 60 seconds (max 250s)

Output and Call Handling

During a call the output is activated by pressing the * or # key on the telephone keypad. This will activate the corresponding relay output (as per **RLYTIME** and **RLYMODE**) and instantly disconnect the call.

By default, any user number, call number or master number can activate the output relay by dialling the intercom SIM card telephone number. The default setting is for the intercom to reject the call as soon as the number is read. To switch back to this default mode the following command is sent to the intercom:

REJECT CALL

If desired the intercom can be set to answer incoming calls if the number is recognised and a conversation can be made between the intercom and the calling telephone. In this mode, to activate the relay the * or # key is pressed. To enter this mode the following message is sent to the intercom:

ANSWER CALL

If the output must be controlled for a measured period of time the RING mode is selected. In this mode the relay is activated when a recognised number calls the intercom for as long as the caller continues to dial the number. The call is never answered. This is also useful when it is not desirable to reject the call. To enter this mode the **RLYMODE** command is used as follows:

RLYMODE RING

Signal Strength

To view the received radio signal strength the '**CSQ**' command is used. The intercom will naturally use 4G if possible which can result in low signal strength readings. The 3G and 2G bands frequently offer a high signal strength and will be used when 4G is unavailable. A good RSSI value is over 15 with 31 being the maximum.

Controlling the Output Relays

The output relays can be switched on and off via SMS or via the Live Screen. Master numbers always have access to the output relays. To allow call recipients and dial-to-open numbers access, the security level must be reduced as shown below

Security 77	Maximum security level (SMS functions and dial-to-open require a master phone)
Security 73	Output relay SMS control for all users (i.e. call numbers and dial-to-open numbers)
Security 33	User numbers accepted for dial-to-open and SMS relay control
Security 37 (default)	Dial-to-open access for all users with SMS access only for master users

Output Relay Commands

To switch an output relay on and off simply send the SMS messages on and off along with the target relay as follows:

On#	Switches on the # relay
Off#	Switches off the # relay
On*	Switches on the * relay
Off*	Switches off the # relay

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Similarly, the **Open** and **Close** command operate the # relay as **On#** and **Off#** respectively.

It is also possible to control the output relay for a set time up to 9 hours as follows:

On# 3.	Switches the # relay on for 3 seconds
On# 3m.	Switches the # relay on for approximately 3 minutes
On# 499m.	Switches the relay on for 499 minutes (maximum)

Viewing the Number List

The list of numbers in the memory can be read by sending the '**LIST**' command. MXXXXXXXX numbers are master numbers, CMXXXXXXXX numbers are the number to be called when the button is pressed. UXXXXXXXX numbers are the number with just dial-to-open access control.

Output Relay Status

The relay status and gate open/closed state can be viewed by sending the '**STATUS**' command. This will return both the gate and relay activation status. Additionally the current firmware version can be found using this command.

Adding Keypad User Codes (Keypad model only)

To add codes to open the gate/door you simply send the following command:

Code 1234.	Adds the code 1234 to the memory (please note the . at the end of the message)
Code 7654321.	Adds the code 7654321 to the memory

By default the # output relay is activated when a simple numeric code is entered. To operate the * relay when a code is entered, the '*' character should be the first character in the code. For example:

Code *1234.	This code will operate the * relay when used
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Removing Codes

To remove a code, simply send the word 'remove' followed by the code from a master phone. For example:

Remove 1234.	This removes the code 1234 from the memory
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Viewing the Code List

To view the numbers in the memory simply send the word '**list**' from a master phone to the keypad. Keypad codes are enclosed in '< >' parentheses. For example:

<1234>

Online Programming

The intercom has access to the IoT Portal (<http://iot-portal.com>). This allows settings and numbers to be viewed online. This requires your SIM card to have a data allowance and for the APN to be set. Native SIM cards (i.e. the network's own SIM like O2 and not reseller SIMs like GiffGaff) often do not need the APN to be set. To set the APN the APN command is used as follows:

apn "giffgaff.com","giffgaff","" (where giffgaff.com is the APN, giffgaff is the username and in this case there is no password "")

When the intercom is required to be online, send the following command:

Get link

Click the temporary link sent in the SMS reply to access the intercom

NB: 12-24V AC/DC Absolute Maximum – Please measure AC voltage with a volt-meter.

Do not wire the intercom to mains voltages.