ECA

Electronic Engineering Pty. Ltd.

GSM Access Control System

Model: ECA – Gate

Hardware Interface Description

Features:

Next-G Multi-Band GSM Network

Anti vandal & weatherproof

Compact size

Can store up to 1000 logs in database

Easy installation, programming and operating, Plug and play.

Database: Up to 1600 Regular Users 400 Special users for time zone

Real time clock operation

Plug and Play system

Wireless controlled PC application

Specifications:

Operating Voltage:	5 – 30 V DC
Programming:	Hardwire - Through RS232 Cable Wireless - Via GSM modem and PC-Based software or SMS
Antenna:	850MHz-1900MHz or 900MHz-1800MHz
Dimensions:	Size Dimension – 98mm x 82m x 30m Box dimension – 178 x 134 x 51 mm
Weight:	160g
Operating Temperature:	-20°C to 70°C
Humidity:	5% to 95%
Standard:	EU, RoHS, CE

1. Interface Description

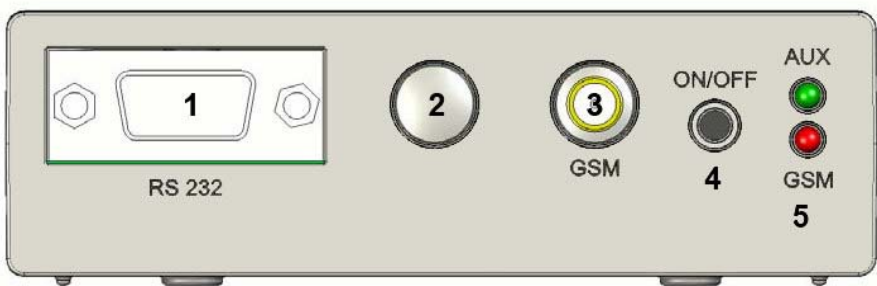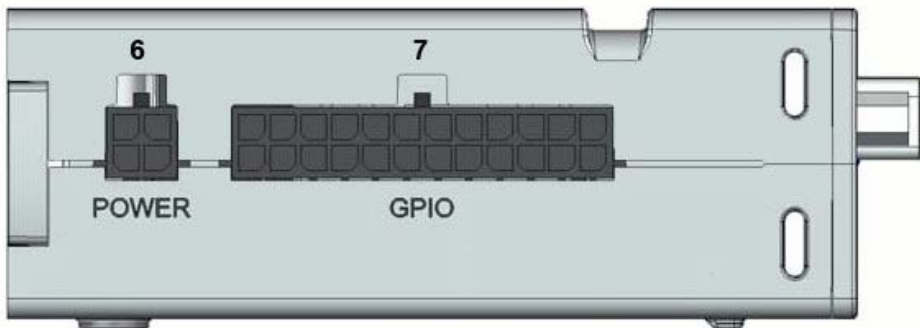## 1.1 Overview

1. 9-pole (female) SUB-D plug for RS-232 serial interface.
2. Optional - not in use.
3. SMA connector (female) for GSM antenna.
4. On/Off push button.
5. LED's for status indication
6. 24-pole GPIO 3mm Micro Mate-N-LOK connector for GPIOs
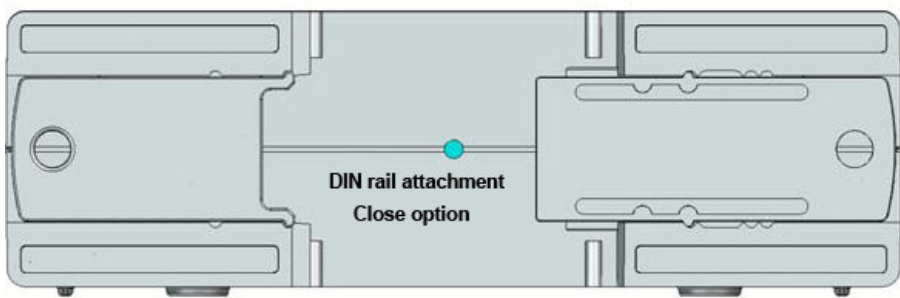**7**. 4-pole 3mm Micro Mate-N-LOK connector for power supply.
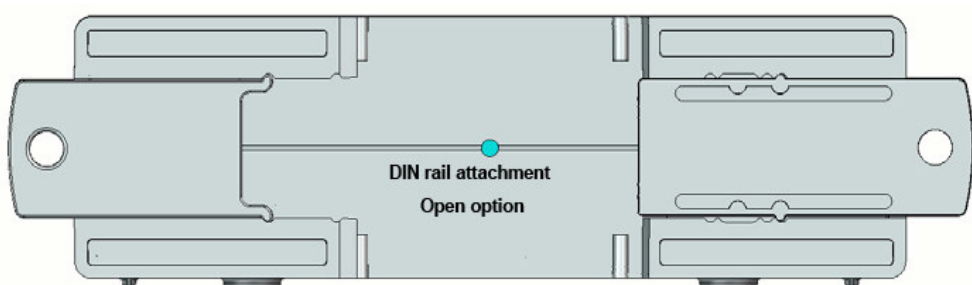

Figure 3: Rear view 1- DIN rail attachment close

Figure 4: Rear view 2- DIN rail attachment open
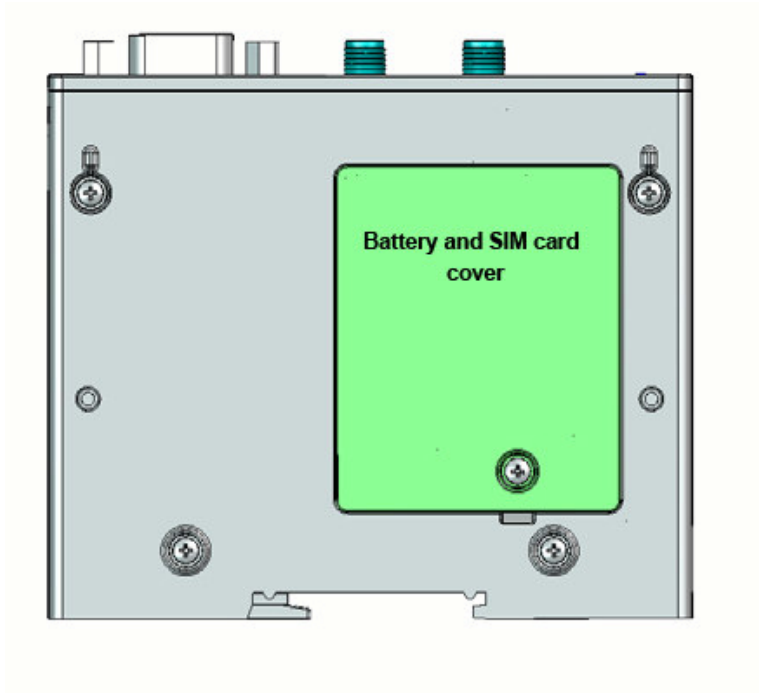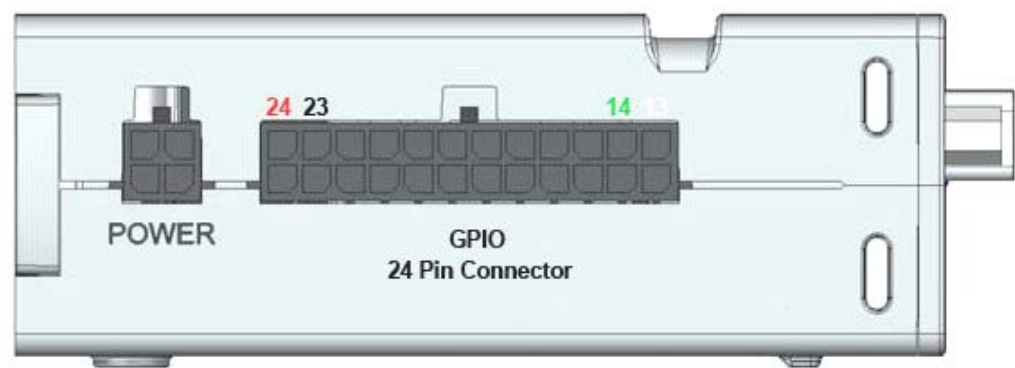

Figure 5: C-Gate bottom view – Optional battery and SIM card cover.

1.2 IO Interface

The following interfaces and functions are provided via the IO interface connector.

Pin No.	Color	Description
13	White	Relay_a Normally open Relay leg 1 (30V 1A max)
14	Green	Relay_b Normally open Relay leg 2 (30V 1A max)
23	Black	GND Ground
24	Red	Vin Input Power Supply

2.   Remote Installation through SMS

2.1   Connecting the unit:

Ensure that no power is connected to the unit and mount it to the desired installation point
by using two screws at the sides of the box.
Make sure that the SIM card used for the system is activated and has its ID number is on.
Unscrew the SIM card cover on the unit as shown in Figure 5 and insert the SIM.
Connect the antenna.
Connect power to the unit and wait 3 minutes for the unit to initialize and the Green LED is turned on.

2.2 Programming phone numbers by SMS

Make sure the Green LED is ON and the SIM card has a credit to make calls.

Whenever you program the unit by SMS, you must start the SMS with the letter P (Password) followed
by the Manufacture Default Password **1234** and then the desired command.

For each SMS command you send, you will receive an SMS reply from the unit to confirm.
Note! If there is no credit on the SIM card, the unit will not send an SMS confirmation back.

Red Led   –   Status Indication
Constantly on   :   Busy on call
Fast flashing   :   Searching for network / not been able to register / No SIM Card.
Slow flashing   :   Registered with network and connected.

Red Led   –   Status Indication
Constantly on   :   The software is running and loaded and the unit is ready.
Slow flashing   :   Bad or no reception / not connected.

2.3   Programming phone numbers of normal users (0 - 1600)

Example for how to register three phone numbers by SMS;

P.1234A.0417315263.0418655002.0411136585

"P" means: password

1234: Manufacture's default password.

"A" meaning: Add the following number(s).

"." The dot means end of a number.

0417315263 : phone number added.

0418655002 : phone number added.

0411136585 : phone number added.

You must write and send the SMS exactly as written above, with points between each
phone number**.** If you failed to register several numbers on one go, try to send them one by
one as follow:

P.1234A.0417315263

Deleting registered phone numbers by SMS

In order to delete registered phone numbers send SMS with the following structure:

P.1234D.0417315263.0418655002

"P" means: password

1234: Manufacture's default password.

"D" meaning: DELETE the following number(s).

"." The dot means end of a number.

0417315263 : phone number added.

0418655002 : phone number added.

2.4   Setting up Special Phone Numbers (0 - 400)

Note: A special phone number is a user who has limited access, such as certain times or days.

It is recommended to program and register special phone numbers by using the PC-Gate software. **Make sure to update the clock before you register special phone number as shown below in section 2.5 Programming Commands.**

Register Special phone numbers by SMS

In order to register special phone numbers and set time zone for each number by SMS do as follows;

* To allow <mark>unlimited number of entries</mark> with <mark>limited time zone</mark> for a special number:

P.1234AS.0418317452,-1, 900,1700

"AS" meaning: Add Special number
" -1" meaning :   To allow unlimited numbers of entries.
 "900,1700" meaning : To limit entries between 9:00AM to 17:00PM.

* To allow <mark>limited number of entries</mark> with <mark>unlimited time zone</mark> for a special number:

P.1234DS.041736690,5, 0,0

"DS"   meaning :   Delete Special number
" 5"   meaning :   To allow limited 5 entries only for this especial number.
 "0,0" meaning :   To limit the entries between 9:00AM to 17:00PM for this special.

Delete Special phone numbers by SMS

In order to delete special phone numbers send the following

P.1234DS.0416824036,0433256815

2.5 Programming Commands

Changing the default programming code

In order to change the programming codes send an SMS with the following structure

P.1234NP.1111

P.1234 (the default code) required for any SMS command.
The letters NP stands for New Password then the numbers 1111 are the new password which should be used from now on in any program SMS you send to the ECA-Gate.   **"P.1111"**

Gate Opening Delay

In order to change the opening time of the relay to 7 seconds, send SMS with the following structure

P.1234GOD7

The Maximum time of the relay to stay open is 60 second.

Clock Update

In order to update the clock in the ECA-Gate send SMS with the following structure

P.1234CU

Info

In order to receive information on the numbers and special numbers stored in the ECA-Gate memory send the following

P.1234INFO

Disable/Enable the unit

The unit default status is enabled
In order to disable the unit send the following SMS to the unit

P.1234EN.0

In order to enable a disabled unit send

P.1234EN.1

Open All

The "Open All" feature will open the gate for any number which will call to the unit.
In order to enable this feature send the following

P.1234.1

To disable send

P.1234.0

Reset the unit

In order to reset the unit send the following

P.1234RESET

3. Local Administration Using the PC-Gate

3.1 PC-Gate Overview

1. Open New page.
2. Open saved file.
3. Save units phone numbers in your computer for future changes.
4. Save in a new file name.
5. Communication Selection , Com port configuration, Modem configuration
6. Connect to the unit
7. Select Language
8. Settings Tab - Insert regular/special phone numbers, miscellaneous.
9. Log Tab
10. Phone Numbers Tab - Add Regular phone Numbers 1600
11. Special Phone Numbers Tab - Add Special Phone Numbers 400
12. Miscellaneous Tab

3.2 Connect to the ECA-Gate

- Connect an RS-232 (D type 9 pin) cable from the ECA-Gate to the COM port in your computer.
- Connect the antenna.
- Insert the SIM card.
- Connect the ECA-Gate to the power source.
- **After connecting the ECA-Gate to the power source wait for 3 minutes for the ECA-Gate to initialize until the *Green LED is permanently ON**
- **SIM card is not required while programming the ECA-Gate from the PC-Gate; you can make all modification without SIM card.**

1. Press on the communication selection icon

2. Choose the COM Port for the connection (usually COM1).

3. Type the unit password (defaulted as 1234)

The password for the SMS and the software is the same therefore if you change the password with SMS using P.1234NP.1111 command it will change to 1111 in the software as well.

When choosing Use Modem the unit programming will be exactly the same as without so the guide below is valid for a modem as well.

In case of connecting a Modem you must validate that the SIM card in the ECA-Gate unit in the field and the SIM card in your modem are from the same provider and are open for data SMS .

4. Press OK

5. Press on the "Connect to Unit" tab as shown below

You can see the tab changed as shown in the picture below to indicate you are connected, also if you will look down at the right corner you could see the text changed from "Disconnected from unit" to "Connected to unit"

3.3 Insert Phone Numbers and Upload to the ECA-Gate

To set new user in the normal user list do as follow:

3.3-1 Upload Regular Phone numbers (1600) using the PC-Gate Interface to the C-Gate

1. Connect to the ECA-Gate
2. Press on "Settings" tab then "Phone Numbers" tab

3. Click on the "Get Phone Numbers" to receive the list of numbers stored in the C-Gate and wait until it finish the check

4. In the Unit Number field type the number you want the C-Gate to store the number; you can choose a number from 1 to 1600.
5. Type the phone number.
6. Type the name of the user.
7. After you done with all the user information press "Set" – Set will put the information in under pending status, next to this number in the list will appear this symbol (waiting for download)
8. After you done setting all the numbers press on "Download Modified Phones" to upload all the changes to the C-Gate.
9. In order to delete numbers already uploaded to the ECA-Gate mark the number you want to delete and press "Delete", then press on "Download Modified Phones"

3.3-2 Import Regular Phone Numbers (1600) using Excel to the PC-Gate Interface and Upload to the C-Gate

1. Open the PC-Gate
2. On the "Settings", "Phone Numbers" Tab
3. Click on the Export to Excel Button on the bottom
4. Save as "Regular Number Excel Format" Name on your desktop
5. Open the saved excel file placed on your desktop which will look like this

A = Index 1-1600 (Mandatory Field)
B = Phone Number (Mandatory Field)
C = Name (Optional)
D = In Unit (Don't Change)

6. Fill the Excel file with your user list in the right format as shown above and save the file in a new name in your C-Gate companies directory.
7. Connect to the PC-Gate
8. On the "settings" "Phone Numbers" tab click on "Import From Excel"
9. After the full list is uploaded to the PC-Gate interface
10. Click on "Download All Phones"

3.4-1 Upload Special Phone numbers (400) using the PC-Gate Interface

Add and Delete special phone numbers process is done exactly the same way as the regular phone numbers
You can't upload the same number to both regular and special phone numbers list
You can't upload the same number to "Entries Amount, "Time to Time" or "Date" and if you will, only the number of entries will count.

1. Press on "Settings" tab
2. Press on "Special Phone Numbers" tab
3. Fill the unit number, phone number, and name.
4. Set from what time to what time you want this number to operate.

Number of Entries – You can set number of entries for that specific number between 1-400

5. After you finish to set don't forget to press on "Download Modified Phones"

3.4-2 Import Special Phone Numbers (400) using Excel to the PC-Gate Interface and Upload to the ECA-Gate

Done the same way as in Regular Phone Numbers

Refer to Phase 3.3-2 to learn how to import and upload special phone numbers

3.5 Miscellaneous

In the Miscellaneous tab you will be able to set the unit clock from your computer or by SMS, set a name for the unit, change the default password and more.

1. Unit Name (optional) - Type a name for the unit and press on "Set Unit Name"

2. Unit Time (required for time entries) – first check that your pc time is set correctly according to the actual time, press on "Get PC Time" And then on "Set Unit Time"

3. Unit Password (Recommended) – It is recommended to change the Password if not changed already by SMS in the password field type the old password if not changed 1234 (default) type the new password in the new password field and confirm the **New Password** in the confirm password field. (the password will changed in the SMS program as well)

4. Gate Delay – The gate delay manufacture default is 3 seconds and can be set between 1-60 second. Choose and type the gate delay you want and press on "Set Gate Delay" to set.

5. Self Clock Update SMS (Relevant only for Special Phone Numbers) – The unit clock operates only when the ECA-Gate is connected so if there is an electrical power interruption the ECA-Gate will lose its time so in order to fix that you will have to use the self clock update – The ECA-Gate will send itself an SMS every time the unit is restarted and will update the clock from that SMS so in that field **type the number of the SIM card inside the C-Gate.**
This option is not needed for Regular phone numbers.
6. Band Selection – Some countries have different band and GSM, Unless you are selling the ECA-Gate abroad you shouldn't change this option.

7. Version – Important for technical support and issues.

8. Reception – Reception quality

9. Open Everyone – The same feature as in the SMS. While enabled The ECA-Gate will open to any calling number.