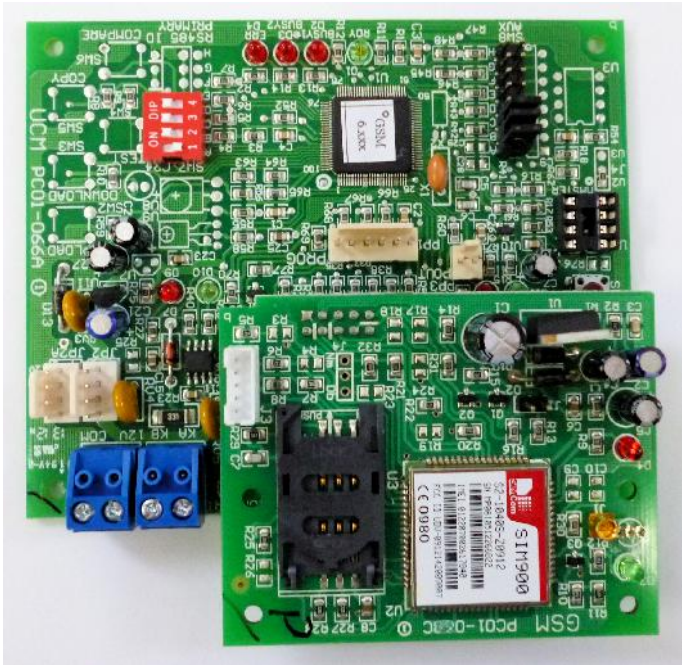# UCM/GSM3

The UCM/GSM3 gives Comfort the following abilities;

- Acts as a backup for alarm dial-out when the land line is faulty or where a telephone line is not installed.
- Allows the user to dial to the GSM number instead of the fixed telephone line to access Comfort Voice menus.
- Allows Comfort to report alarms via SMS.
- Allows users to send SMS commands to control home appliances and the security system

A SIM Card (Prepaid or postpaid) is required.

UCM/GSM3

UCM/GSM3 Specifications

- PCB Size: 108 x 88 mm
- Power Supply (Comfort): 12V 50 ma (idle), 250 ma (transmit)
- Operating Temperature: 0-55°C
- Frequency: Quad Band 850/900/1800/1900 MHz
- SIM Card Interface - 3V/1.8V
- Environment: -20 to 75 deg C, < 95 % RH non condensing

Equipment Required

- Comfort II with firmware version "5.172" , recommended firmware 6.xxx. Not compatible with Comfort 1

- Applies to UCM/GSM3 Firmware 6.015 and above

SIM Card

A SIM Card (prepaid or postpaid) must be used in the GSM Module. Note that for a prepaid card, the user would not know when the amount remaining has been used up. If incoming SMS commands are to be accepted, then Caller ID must be enabled.
The SIM card must not be password-protected.

What is Included

The UCM/GSM3 package contains the following:
- UCM/GSM3
- 4-way RS485 cable
- Antenna (with cable of approximately 1 meter long)
- 5-way audio cable (see picture below)

GSM Audio Cable

Connections (on Baseboard)

- JP3 - 12V/COM terminal block. Connect to 12V/COM on Comfort if JP2/2A not used.
- JP4 - KA/KB terminal block. Connect to KA/KB on Comfort if JP2/2A not used.
- JP2 and JP2A headers (12V/COM/KA/KB). Either connector can be connected to Comfort's RS485 (J7) connector via the supplied 4 way cable when JP3 and JP4 are not used.

Connections (on GSM Submodule)

- J3 – 5-way connector for voice connection. To be connected from J3 to J54 (GSM) connector on Comfort II.
- U3 – SIM card holder.

Jumper Settings

- SW7 (RS485 ID Primary) – set the ID using the table

ID	SW7-A	SW7-B	SW7-C	SW7-D
1	Short	Short	Short	Short
2	Open	Short	Short	Short
3	Short	Open	Short	Short

ID	SW7-A	SW7-B	SW7-C	SW7-D
4	Open	Open	Short	Short
5	Short	Short	Open	Short
6	Open	Short	Open	Short
7	Short	Open	Open	Short
8	Open	Open	Open	Short

Table 1 - UCM ID shunt Settings

ID=1 is reserved for UCM/USB or ETH for programming Comfort. The UCM/GSM3 should be set to ID 2 or above so that any RS485 communications failure can be reported by Comfort. Press RESET on the UCM/GSM3 after changing the ID settings.

Modules and Settings > Number of UCMs must be programmed according to the number of UCMs connected. Press RESET on Comfort after changing the number of UCMs or other modules.

- SW8 (RS485 ID AUX) – A to G are unused. H is open for normal operations and shunted to indicate signal strength on the LEDs (refer to "Signal Strength Indicators")

Buttons

- SW1 - RESET. This button resets the UCM/GSM3 module but does not change any parameters in Comfort.

LED Indicators (on UCM)

- D1 "RDY" (Green) – ON during normal operations
- D2 "BUSY1" (Red) – Showing initialisation/ communications error with GSM network
- D3 "BUSY2" (Red) – Call in progress
- D4 "ERR" (Red) – error indicator, normally no network
- D9 (Red) – RS485 Transmit to Comfort
- D10 (Green) – RS485 Receive from Comfort

The LEDs also show the signal strength with SW8-H is shunted. Refer to the following table for the meaning of the LED combinations.

RDY	BUSY1	BUSY2	ERR	Meaning
On	On	-	-	Initializing or GSM Network Error
On	-	On	-	Call in Progress
On	-	-	On	No GSM Network
-	On	On	-	No SIM Card or SIM Error
-	On	-	On	SIM card requires PIN code
On	-	-	-	Normal Operation, Idle
-	-	-	-	* Signal Strength 0 (Bad)
-	-	-	On	* Signal Strength 1 (Poor)
-	-	On	On	* Signal Strength 2 (Fair)
-	On	On	On	* Signal Strength 3 (Good)
On	On	On	On	* Signal Strength 4, 5 (Excellent)

Table 2 - LED Status

SW8-H is shunted for GSM signal strength indication

The Signal Strength is updated every 8 seconds. Note that shunting SW8-H overrides the GSM operation status indication. DO NOT shunt SW8-H during reset, otherwise the UCM/GSM3 will report signal strength of 0 and the GSM will not be operational until a change in

signal strength is detected. Always remove SW8 after checking signal strength.

LED Indicators (on GSM Submodule)

- Green - flashes once every 3 seconds.
- Red – indicates power is supplied to the daughterboard.

Mounting

Care must be taken to ensure that the antenna is not mounted in any metal casing to ensure there is GSM coverage. The UCM/GSM3 may be mounted internally in an enclosure with the antenna mounted outside.

Extending the Distance from Comfort to UCM/GSM

Normally the UCM/GSM3 is mounted in the same enclosure as Comfort because of the length of the 5 way audio cable from J54 on Comfort and the UCM/GSM. If this location does not have sufficient network signal, use the ADM02 to allow the UCM/GSM3 to be mounted in another room or location.
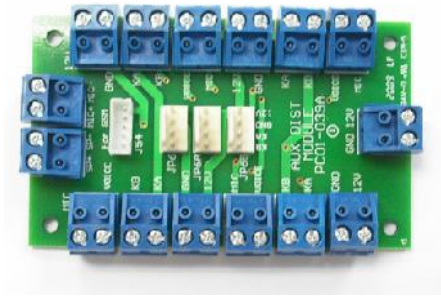
ADM02 Module with GSM Extension

The ADM02 (Auxiliary Distribution Module) has terminal blocks and connectors for the 4 way cable to allow more connections to be made to Comfort. There is a 5 way connector marked J54 and "GSM" on the ADM02. Connect the 5 way audio cable from this connector to J54 on Comfort. Use a shielded CAT5 cable to connect the terminal blocks marked SP+, SP-, MIC+, MIC- to the same terminals on another ADM02 in the location where the UCM/GSM3 is to be mounted. From the second ADM02 connect the 4 way RS485 cable to Comfort's 4 way RS485 connector, and connect another 5 way audio cable from this ADM02 to J54 on Comfort. The ADM02 is supplied with a 4 way RS485 cable and a 5 way audio cable.

Setup

1. Insert a GSM SIM card into the SIM card holder. The SIM card must not be password protected.
2. Connect the antenna, and connect J3 on the UCM/GSM3 to J54 (GSM) on Comfort II via the 5-way cable provided.
3. Before connecting the power to UCM/GSM3 from Comfort, the ID on SW7 must be set according to Table 2, i.e. the ID has to be

set according to the number of UCMs in the system. If there is only 1 UCM, the ID on the UCM/GSM3 must be set to 2.

4. The UCM/GSM3 power is connected to Comfort via the supplied 4 way white cable from the 4 pin header JP2 to Comfort's RS485 header. This supplies power to the UCM/GSM3, as well as allowing communications between Comfort and the UCM/GSM3.

5. The RDY LED (green) should be on, indicating that the UCM firmware is running. The BUSY1 LED will be on while the UCM/GSM3 is establishing the GSM network connection.

6. The LEDs D9 (red) and D10 (green) on UCM/GSM3 should blink rapidly showing that RS485 communications has been established with Comfort.

7. The red LED on the submodule should be ON when power is applied. BUSY1 LED should go off. If there is no network, BUSY1 will turn off and ERROR will turn on. The UCM/GSM3 will periodically try to communicate with the network every 10 seconds.

8. BUSY2 LED will turn on when there is a call in progress.

Programming SMS Dial-out

1. In Comfigurator, click on Modules tab ->UCMs. Right Click on UCMs and select Add UCM, Select the type of UCM as GSM as shown in the picture below. This assumes that the UCM/GSM3 ID is 2. If the UCM/GSM3 ID is higher than 2, then other UCMs must be defined first.
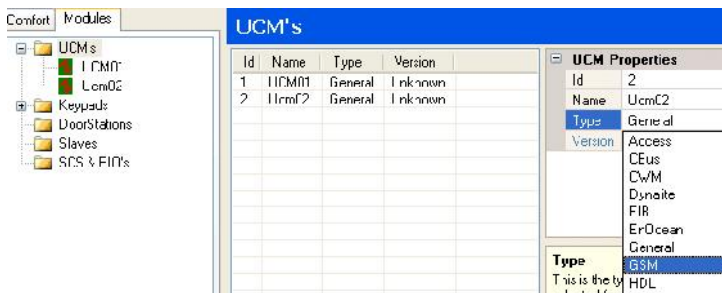
2. Click on UCM2 on the left pane. The screen below is seen.
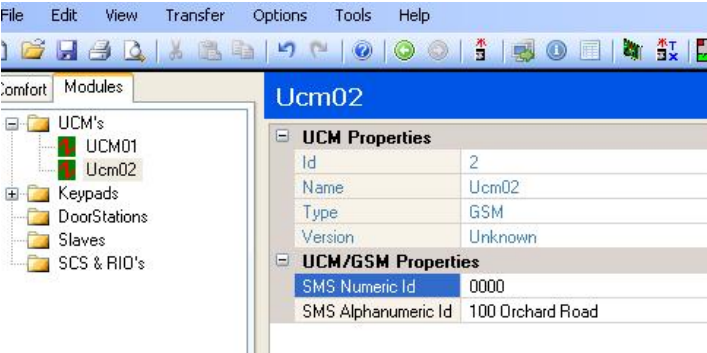
3. SMS Alphanumeric Id is a 16 character text that is shown on the SMS message to identify the location of the Comfort system. eg: 100 Bank Road - Intruder Alarm - Kitchen Movement
4. SMS Numeric Id is a 4 digit numeric field that is displayed on the SMS text message if the Alphanumeric Id is left blank OR if the Comfort firmware version is older than 5.172
5. To program the phone number(s) for SMS dial-out, go to Security > Phone Numbers.
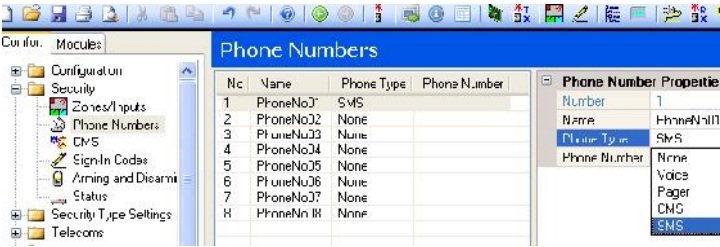
6. In the Phone Number Properties, click on the Phone Type field to reveal the pulldown menu and select SMS. "SMS" is only seen if a UCM/GSM3 is selected as one of the UCMs.
7. Enter the phone number of the mobile phone for SMS reporting. The same mobile phone number can be programmed in 2 phone
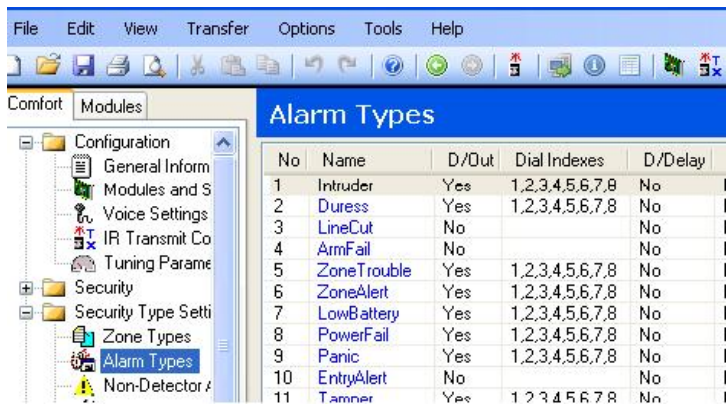
indexes as Voice Phone and SMS
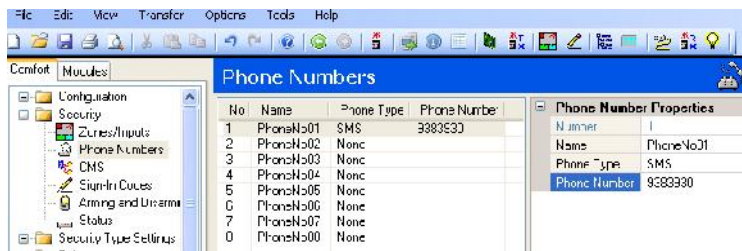
Operation

Comfort has a buffer of 16 events (Comfort firmware 5.145 onwards, 12 events for older) for SMS reporting to cater for multiple alarms occurring around the same time. If there is a backlog of 16 SMS events which have not been sent because of network, new events will not be reported. If SMS messages are not sent because of a temporary loss of signal, they will be sent out when the network is restored. However, if there is a communications failure for the UCM/GSM3 on the RS485 network, SMS messages will be lost

SMS Messages to Comfort

The format of the SMS Text message is as follows

XXXXXXXXX - AlarmName - ZZ ZoneName

where XXXXXXX is either a 16-character text (SMS Alphanumeric Id) or a 4-digit number (SMS Numeric Id) to identify the source of the message. AlarmName is the Alarm Name field in Security Types > Alarm Types.

The ZoneName following the Zone Number ZZ is taken from Security > Zones/Inputs.

The Name field will be displayed when that zone is activated to cause an alarm

For example, if zone 2 - Kitchen Window causes an intruder alarm, the SMS message will be

1 Bank Road - Intruder - 02 KitchenWindow

A power failure will be reported as

1 Bank Road - PowerFail - 01

If a Communications Failure from keypad 1 occurs, the message would be

1 Bank Road - RS485Comms - 65

Where 65 is the ID of keypad 1.
For a Low Battery on Slave 1,

1 Bank Road - LowBattery - 33 SEM #1

where 33 is the ID of SEM 1

When Trouble alarms are restored, "Restore" is appended after the message e.g.

1 Bank Road - PowerFail Restore

1 Bank Road - LowBattery Restore

1 Bank Road - RS485Comms - Restore

Note that the ID when restored is not reported

- "Restore" is automatically appended for when Trouble alarms like Power Failure, Low Battery, Phone Trouble, RS485 Comms alarms are restored. Reporting of Trouble alarm restore is automatically enabled and does not need to be programmed.
- "Restore" is be appended after the message if a zone (input) has been restored after a zone-related alarm, if the Zone Restore field is enabled in Security > Zones/Inputs. For example if zone 2 (window) which caused an intruder alarm has been closed, the SMS message will be

1 Bank Road - Intruder - 02 KitchenWindow Restore

The Zone Restore report is enabled in Security > Zone Settings screen. The "Restore" field should be set to "Yes" for each zone which should report to SMS when restored.

The Zone Restore feature for SMS reporting is normally only useful for monitoring inputs from equipment, or from smoke and gas sensors where it is important to know whether the monitored sensor has been restored to after the alarm. It should not be used for alarm sensors like magnetic contacts and Motion detectors where reporting of zone restore would increase the amount of SMS messages transmitted.

Zone Restore can be also programmed by Engineer Menu 1,4.

Dialling out via GSM

Normally, Comfort will not dial to the programmed numbers (maximum 8) by GSM if there is a fixed telephone line connected. It will only do so if it detects that the telephone line is faulty, i.e. has a low voltage on it causing a "Phone Trouble" alarm or is not connected. It also dials out by GSM if the telephone line is working, but a dial tone is not obtained, perhaps by an incoming caller holding on to the connection. Thus, it acts as a backup telephone line to the fixed line for. When the telephone line is restored, dial-outs will once again be by the fixed telephone line.

If Comfort is connected to an analog extension of a PABX as programmed in Telecoms > Dialling, Comfort will not dial the PABX access digit when dialing via the GSM Module.

Comfort	Modules	**Dialling**	
		□ **Dialling Properties**	
		Connected as PABX Extension	□ No
		Redial Time	30
		Maximum Redial Tries	5
		Delay Before Dialling	30
		Dial Pause Time	10
		Incoming Call Release Time	45
		Time to detect * for menu	6
		CMS Delay in Alarm	180

Dialling In via GSM

To access Comfort using the UCM/GSM3, dial the number for the UCM/GSM3 SIM card. Comfort will answer immediately, instead of waiting for the programmed number of rings, and will say "Please Sign In" or the Greeting message if any. Enter the user code to access the system as usual.

Comfort knows when the calling party has ended the call via GSM, and will clear the line immediately and attend to its other tasks. With a fixed line, Comfort needs to detect busy tone to know that the caller has hung up.

Sending SMS Commands to Comfort

SMS messages can be sent to Comfort from a cellular phone to perform any programmed action on the Home Control Menu or to arm and disarm the security system.

The sending mobile phone number must be programmed as one of the 8 telephone numbers for dial-out in Security > Phone Numbers, as a Voice Phone or SMS phone type. SMS messages from other phone numbers not programmed in the Phone number list will not be accepted.

The format of SMS messages to be sent to Comfort is as follows:
(menulevel1 menulevel2 menulevel3…)

Where the command is placed between the "(" and ")" characters. Any characters outside (…) are ignored.

Menulevel1, menulevel2, etc. are the menu commands in the User Voice Menu. The numeric commands can be separated by space e.g. (1 2) , or without e.g. (12). Only the Arm Security Menu (Menu 1) and the Home Control Menu (menu 4) can be accessed by SMS messages.

Whenever a message is sent successfully to Comfort, Comfort will reply with a SMS "(xxxx)-OK!"

To arm and disarm security use the following commands

(10)	Disarm Security System.
(11)	Arm Security to Away Mode
(12)	Arm Security to Night Mode
(13)	Arm Security to Day Mode

(14)   Arm Security to Vacation Mode

To access Home Control Menu, assume it is set up as a as shown in the following diagram, (as an example).
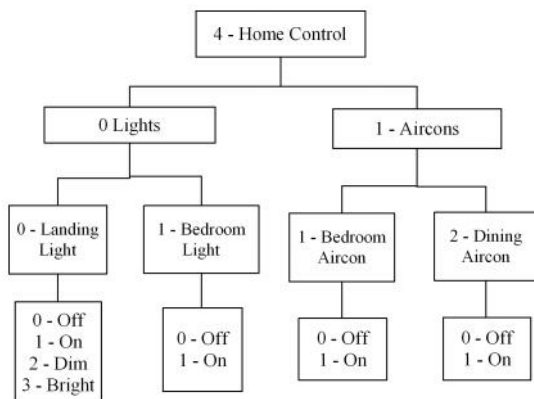
Example of a Home Control Menu

The control menu can be programmed as a 3-level menu with Control Groups, as shown below.

(4000)   Landing Light Off
(4001)   Landing Light On
(4002)   Landing Light Dim
(4003)   Bedroom Light Bright
(4010)   Bedroom Light Off
(4011)   Bedroom Light On
(4100)   Bedroom Aircon Off
(4101)   Bedroom Aircon On
(4102)   Dining Aircon Off
(4103)   Dining Aircon On

☎   From Comfort firmware 6.060, the Group number MUST be included in the SMS message to be sent to Comfort for Control. If Group is not programmed use default group 0 as in the example above, For previous Comfort firmware, leave out Group number if Groups have not been programmed

Commands can be stored as templates in most mobile phones. Texts outside the pair of brackets (…) are ignored, so they can be used to describe the action performed by the command

Important Note

The printed manual may not always be the most current version.
Please check and download the latest version from
http://www.cytech.biz/manuals.html

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Version Number: *1.2.1*
Date Last Modified: *31 Dec 2012*

web site: *http://www.cytech.biz*
Email: *support@cytech.biz*
Forum: *http://www.comfortforums.com*

110 x 190 mm