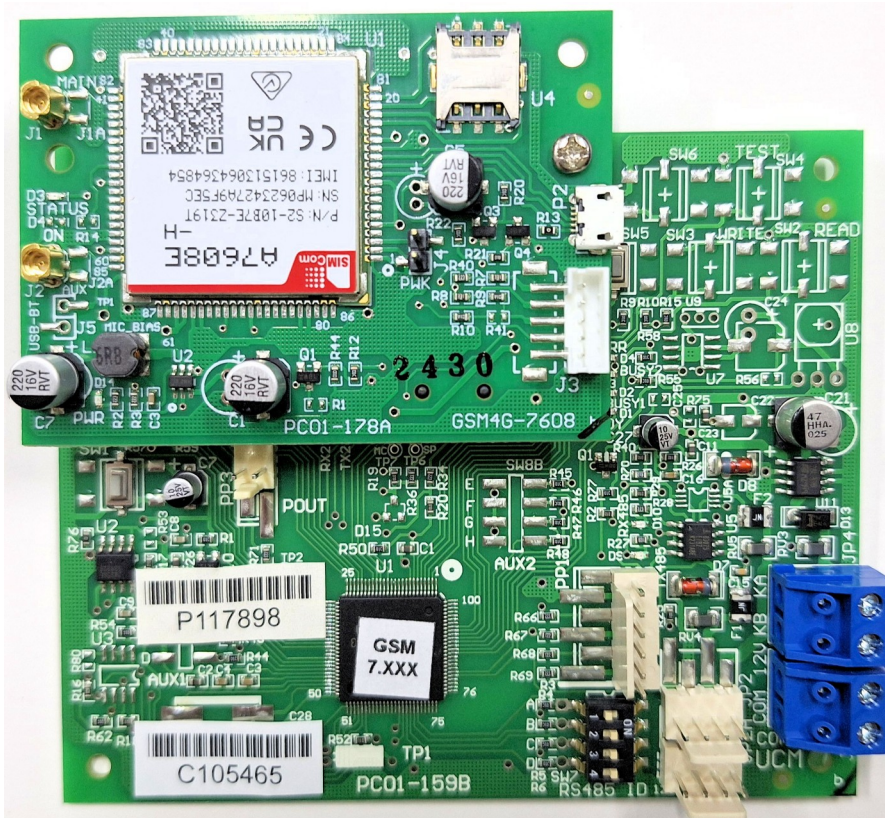
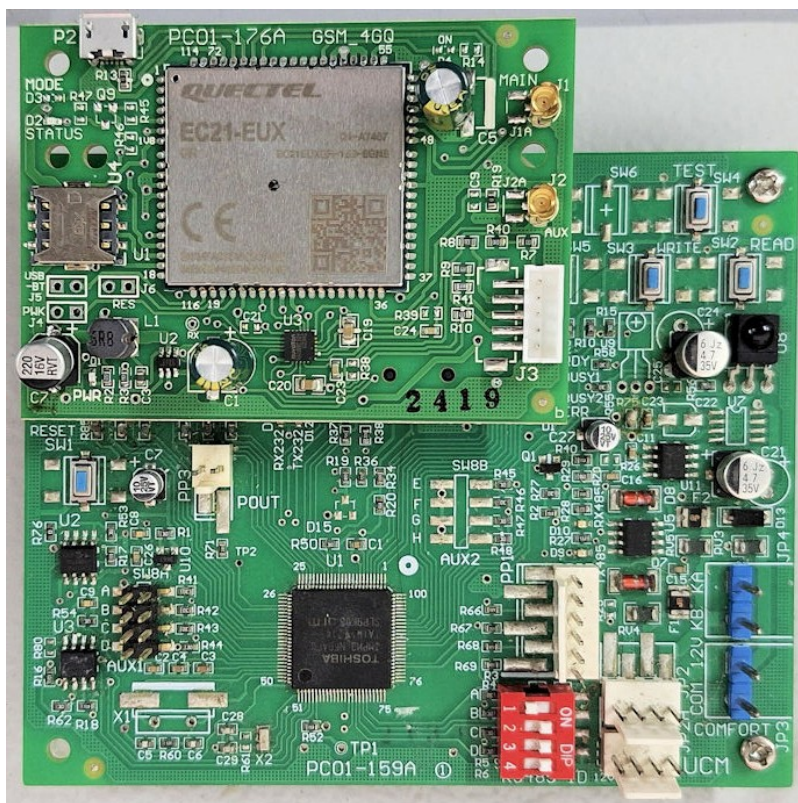


UCMA/G5

This is the UCMA/G5 Quick Start Guide. Please download the soft copy from <http://www.cytech.biz/ucmag5.html> Download Comfigurator 4.x from <http://cytech.biz/comfigurator.html>



UCMA/G5 with A7608 submodule



UCMA/G5 with EC21 submodule

Ordering Information

1. UCMA/G5-A7608 - UCMA/G5 with A7608 submodule
2. UCMA/G5-EC21 - UCMA/G5 with EC21 submodule

EC21 and A7608 are supported GSM submodules for UCMA/G5. Both have the same function but EC21 has better performance for VoLTE especially for dialing to Central Alarm Monitoring Stations (CAMS). Both support Dialing out and In by VoLTE and Sending/receiving SMS

Introduction

The UCMA/G5 provides a 4G (LTE) cellular network connection to Comfort. This gives Comfort the following abilities;

- Acts as a backup for alarm dialout when the land line is faulty or cut. Alternately, it can be used as the primary dialler without a fixed telephone line, for installations where a telephone line is not available.
- Allows the user to dial to the GSM number instead of the fixed telephone line to access Comfort menus.
- Allows Comfort to report alarms to the users mobile phones via SMS. The SMS message will show time stamp, Text Identification, Alarm type and Zone or User name.
- Allows authorised Mobile phones to send commands to control or check the status of appliances and the security system via SMS. Each phone number can be independently authorised to arm, disarm, and access automation control.
- Allows date and time update by Internet Time servers

The UCMA/G5 requires a LTE (with VoLTE) Nano-SIM card to be inserted, just like with a cellular phone. This can be a prepaid card, or a postpaid one which is billed monthly.

Features of UCMA/G5

- Zone and Alarm Names (32 characters) are stored in UCMA/G5 EEPROM.
- 64 Customised messages can be sent by SMS
- Query Security Mode and Control Status
- Home Control SMS Command will reply with Status
- Arm/Disarm Security System will reply with Security Mode status.
- Alarm SMS messages from Comfort include Time Stamp
- Alarm SMS messages from Comfort includes User Names instead of Number for user alarms e.g. Arm and disarm
- Each Phone has Permissions for SMS Arm, SMS Disarm, SMS Control
- Signal Strength and Signal Quality levels 0 to 10 in Configurator status bar
- Support for non-English character sets using UCS2.

Differences between UCM/4G and UCMA/G5

- ☎ UCM/4G (SIM7600) does not support VoLTE (Voice Over LTE). It uses 3G Voice band for Voice calls, but it uses 4G for SMS. It will not be able to make voice calls without a 3G network

UCMA/G5 Quick Start Guide

☎ UCMA/G5 supports VoLTE

☎ UCMA/G5 Baseboard is with the new ARM Processor. The A7608 and Ec21 GSM Submodule cannot be plugged into the base UCM4G PCB

Specifications

UCMA/G5

- PCB Size: 108 x 88 mm
- Power Supply (from Comfort): 12V 50 ma (idle), 250 ma (transmit)
- Operating Temperature: 0-55°C
- Frequency Bands: LTE-TDD B38/B40/B41, LTE-FDD B1/B2/B3/B4/B5/B7/B8/B20/B28/B66, UMTS/HSPA+ B1/B2/B5/B8, GSM/GPRS/EDGE 850/900/1800/1900 MHz
- Voice Calls are made using the 4G/LTE network using VoLTE
- SIM Card Interface : 3V/1.8V
- Operating Temperature Range: 0 to 60 deg C
- Relative Humidity: < 95 % RH non condensing
- U2 EEPROM 24LC256 (256 K Bits) for storage of parameters
- GSM Submodules: Quectel EC21, SIMCOM A7608E

Equipment

The following equipment is required

- Comfort CM9001 with firmware version 8.004 or higher.
- Comfigurator version 4.0.2 and above
- UCMA/G5 Firmware 8.023 and above

SIM Card

A Nano-SIM card must be used in the GSM Module. This may be a prepaid or postpaid card. However, note that a prepaid card does not inform the user when the amount remaining has been used up. The SIM card or plan must allow sending of SMS. Push/Insert the SIM Card with the edge with slanted corner head-first into the SIM Card holder. Remove by pulling the SIM Card out in the opposite direction.

Caller ID must be enabled to allow the GSM Module to accept SMS commands from a mobile phone.

If using a prepaid SIM card, check if the SIM card needs to be activated before use. Please check the instructions from the Carrier.

- **The SIM card must not be password-protected.**

The SIM card will come with a telephone number. Use this number to dial or send SMS to the system via the GSM module

What is Included

The UCMA/G5 package contains the following*:

- UCMA/G5 module with GSM submodule.
- 5-way audio cable

UCMA/G5 Quick Start Guide



- 4-way RS485 cable



- 2 x Antenna (with cable of approximately 1 metre long)



*Subject to change without prior notice

Settings

Connections (on Baseboard)

- JP3 - 12V/COM terminal block. Connect to 12V/COM on Comfort if JP2/2A not used. Do not connect if JP2/2A is used to connect back to Comfort.
- JP4 - KA/KB terminal block. Connect to KA/KB on Comfort if JP2/2A not used. Do not connect if JP2/2A is used to connect to Comfort.
- JP2 and JP2A - 4 way headers (12V/COM/KA/KB). Either connector can be connected to Comfort's J6 connector via the supplied cable when JP3 and JP4 are not used. This plug-in cable connection is used when the distance between the controller and UCMA/G5 is less than 30 centimetres. For longer distances, use the JP3 and JP4 terminal blocks

Connections (on Daughterboard)

- J3 – 5-way connector for voice connection. The 5 way audio cable is to be

UCMA/G5 Quick Start Guide

connected from J3 to J54 (GSM) connector on Comfort II.

- U4 – SIM card holder.
- USB (P2) Micro USB (for diagnostic use)
- J1, J2 - Antenna connectors. Connect GSM antenna to J1 only.

Jumper/Switch Settings

- SW7 (RS485 ID) – set according to ID of the UCMA/G5

ID	SW7-A	SW7-B	SW7-C	SW7-D
1	ON	ON	ON	ON
2	OFF	ON	ON	ON
3	ON	OFF	ON	ON
4	OFF	OFF	ON	ON
5	ON	ON	OFF	ON
6	OFF	ON	OFF	ON
7	ON	OFF	OFF	ON
8	OFF	OFF	OFF	ON

Table 1 - UCM ID shunt Settings

By convention, ID=1 is reserved for UCM/USB, Wifi or ETH for writing/reading configuration file. The UCMA/G5 should be set to ID 2 or above so that any RS485 communications failure can be reported by Comfort.

Press RESET on the UCMA/G5 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.

Buttons

- SW1 - RESET. This button resets the UCMA/G5 module. It does not change any parameters in Comfort.

LED Indicators (on UCM)

Note: The LEDS are high efficiency Surface mount types and cannot be easily seen when not turned on.

- D1 "RDY" (Green) – should be on at all times during normal operations
- D2 "BUSY1" (Red) – indicates when initialisation or communications error has occurred
- D3 "BUSY2" (Red) – indicates call in progress
- D4 "ERR" (Red) – error indicator, normally no network
- D9 (Red) – RS485 Transmit to Comfort
- D10 (Green) – RS485 Receive from Comfort
- **In Configurator the GSM status and signal strength is shown on the status bar on the UCMGSM Modules screen**

LED Indicators (on GSM Submodule)

- STATUS (D3) Red - flashes for normal LTE/4G connection
- PWR (Green) – indicates power is supplied to the GSM submodule.

ICs

- U1 - Microcontroller IC. Label indicates the firmware version number GSM 7.xxx

UCMA/G5 Quick Start Guide

- U5 - RS485 Interface to Comfort.
- U2 - 256K bits EEPROM 24LC256

UCM RS485 ID Switch

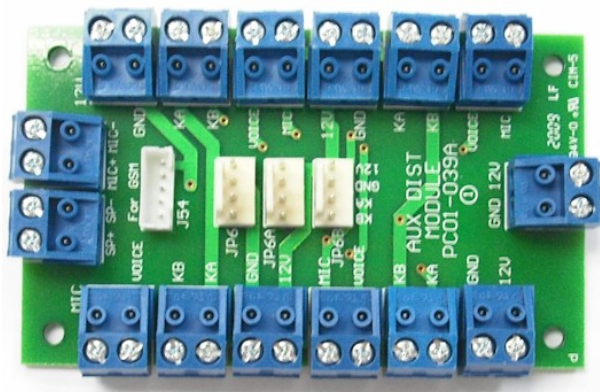
Comfort is able to support up to 8 UCMs. SW7 is a 4 position DIP switch which determines the UCM ID, according to Table 1.

Mounting UCMA/G5

Care must be taken to ensure that the antennas are not mounted in any metal casing to ensure there is GSM coverage. The UCMA/G5 may be mounted internally in an enclosure with the antenna mounted outside.

Normally the UCMA/G5 must be mounted in the same enclosure as Comfort because of the length of the 5 way audio cable from J54 on Comfort and the UCMA/G5. If this location does not have sufficient network signal, there is a way to allow the UCMA/G5 to be mounted in another room or location.

The ADM02 (Auxiliary Distribution Module) shown below 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 UCMA/G5 is to be mounted. Use another CAT5 cable to connect the 4 signals 12V, GND, KA, KB between the 2 ADM02s. From the second ADM02, connect another 5 way audio cable from this ADM02 to J54 on the UCMA/G5. The ADM02 is supplied with a 4 way RS485 cable and a 5 way audio cable.



ADM02 Auxiliary Distribution Module with GSM Extension

Setup

- Insert a 4G/ LTE Nano SIM card into the SIM card holder by pushing the top edge with the slanted corner facing inwards. 5G sim Cards can also be used if it can fall back to LTE. The SIM card must not be password protected. Disable password protection if applicable.
- Connect the antenna, and connect J3 on the UCMA/G5 to J54 (GSM) on CM9001 via the 5-way cable provided.
- Before connecting the power to UCMA/G5 from Comfort, the ID on SW7 must be set according to Table 1, 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 UCMA/G5 must be set to 2. By convention, ID 1 is reserved for writing and reading from Comfort, and is not reported in case of Communications Failure. Comfort supports a combination of 8 UCMs.
- The UCMA/G5 power is connected to Comfort via the supplied 4 way white cable from the 4 pin header JP2 Comfort II's RS485 header. This supplies power to the UCMA/G5, as well as allowing communications between Comfort and the UCMA/G5. It is not necessary to switch off the power to Comfort before plugging in this connection.
- The RDY LED (green) should be turned on, indicating that the UCM firmware is running. The BUSY1 LED will be on while the UCMA/G5 is establishing the GSM network connection.
- The LEDs D9 (red) and D10 (green) on UCMA/G5 should blink rapidly showing that RS485 communications has been established between Comfort and the UCM.
- The red LED on the daughterboard should be steady on to indicate that there is power supplied to the daughterboard. BUSY1 LED should go off. If there is no network, BUSY1 will turn off and ERROR will turn on. The UCMA/G5 will periodically try to communicate with the network every 10 seconds.
- BUSY2 LED will turn on when there is a call in progress

NOTE - DTMF Detection

If you have difficulty in signing in to Comfort with your user code by DTMF via the UCMA/G5 while dialing in or out, do not press the numeric digits and # key too fast. Press the key for 1 second and allow 1 second between key presses to allow the DTMF detection to work

UCMA/G5 Quick Start Guide

Important Note

The printed manual may not always be the most current version. The latest manual can be downloaded from <http://cytech.biz/ucmag5.html>

Filename: UCMG5Leaf
Last Modified 1 October 2025

web site: <http://www.cytech.biz>
Email: support@cytech.biz
User Group/Tech Support: <http://www.comfortforums.com>

Printing Size A6 Booklet