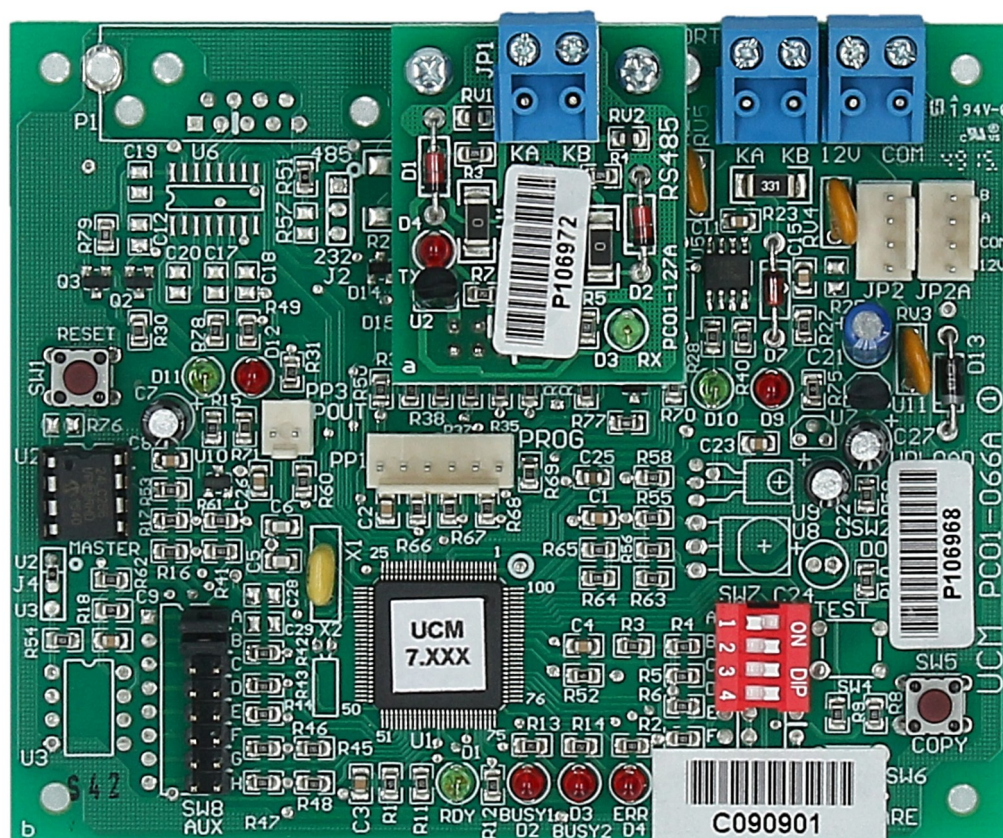


UCM/Modbus Quick Start Guide

INTRODUCTION

The UCM/Modbus allows Modbus devices to be interfaced to Cytech's Comfort system. The UCM/Modbus can be programmed either as a Modbus Master or Slave. Master mode is for Comfort to control other Modbus Slave products, and Slave mode is for a Modbus Master to control Comfort, eg software. Both modes are capable of 2- way communications, ie Comfort to Modbus and Modbus to Comfort, Modbus/RTU (RS485 or RS232) and Modbus/TCP are possible by plugging in the RS485, Rs232 or ETH03 Ethernet submodule onto the UCM/Modbus baseboard. The UCM/Modbus can work with other Comfort modules including Intelligent Remote Input/Output Modules (IRIO), MSM01 Multisensor Module, Hotel I/O (HIO) as well as 3rd party systems on the Comfort Bus including C-Bus allowing Modbus to be integrated with other 3rd party products.



Specifications

- Modbus Master or Slave Mode
- Physical Interfaces Modbus/RTU (for RS485) using RS485 submodule and Modbus/TCP using ETH03 submodule.
- Comfort (CM9001), UCM/Logic, LGX01 Logic Engine can act as the central controller for UCM/Modbus.
- For Master Mode: 256 Modbus addresses in Modbus to Comfort. [Different Modbus IDs can be specified for each Modbus Address](#)
- For Modbus Slave, supported Function codes are; Read Discrete Inputs, Read Coils, Read Input Registers, Read Holding Registers, Write Single Coil, Write Single Holding

UCM/Modbus Quick Start Guide

Register.

- For Modbus over RS485, baud rate selectable from 1200, 2400, 4800, 9600, 19200, 38400, 76800 bps. For Modbus/TCP, baud rate is not used.

Minimum System Requirements

- Comfort Ultra/OPT, UCM/Logic, KNX/LOG LGX01 Firmware 7.116 or above
- UCM/Modbus firmware 7.163 or above
- Comfigurator 3.13.7.2 or above

Setup

The package includes

- UCM/Modbus-485 with RS485 Submodule; or
- UCM/Modbus-ETH03 with ETH03 submodule (Universal)
- 4 wire white RS485 cable
- 4 standoffs for enclosure

UCM ID Settings by DIP Switch

SW7 DIP Switch (RS485 ID Primary) - Comfort is able to support up to 8 UCMs. SW7 is a set of 4 DIP Switches which determines the UCM ID, according to the table below:

ID	DIP - 1	DIP - 2	DIP - 3	DIP - 4
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

By convention, UCM ID=1 is used for Comfigurator. The UCM/Modbus should be set to ID 2 or above so that any RS485 communications failure can be reported by Comfort. Press RESET on the UCM after changing the ID settings.

UCM ID Setting using COPY Switch (Alternative)

The UCM ID can also be changed by use of the COPY switch. If SW7 1 to 4 are all OFF, then the UCM ID is determined by the saved setting in the U2 EEPROM. Pressing the COPY button momentarily will show the ID on its LEDS as shown below (in binary code)

ID	ERR (D4)	BUSY2 (D3)	BUSY1 (D2)	RDY (D1)
1	Off	Off	Off	On
2	Off	Off	On	Off
3	Off	Off	On	On
4	Off	On	Off	Off
5	Off	On	Off	On
6	Off	On	On	Off
7	Off	On	On	On
8	On	Off	Off	Off
Unassigned	On	On	On	On

To change the UCM ID assignment, press and hold the COPY button for at least 2 seconds. The UCM ID will be incremented to the next higher number up to 8. Press and release the COPY button to increment the ID until the desired ID is seen. If the

UCM/Modbus Quick Start Guide

COPY button is not pressed for 4 seconds, the ID is confirmed and the UCM is reset causing all the LEDs to momentarily turn on. This setting only works if the U2 EEPROM is present and the SW7 DIP switches are all off.

If the ID is unassigned, all LEDs are ON.

The Number of UCMs in Configurator Modules and Settings should be set according to the number of UCMs connected. This is automatically done by a Scan for Modules. Up to 8 UCMs can be connected to the Comfort network.

Buttons

- SW1 – RESET. This button resets the UCM/Modbus. It does not change any parameters in Comfort or UCM/Modbus.

LED Indicators on UCM

- D1 “RDY” (Green) should be on at all times.
- D2 “BUSY1” (Red) Not Used
- D3 “BUSY2” (Red) Not Used
- D4 “ERROR” (Red) Not Used
- D9 (Red) RS485 Transmit to Comfort
- D10 (Green) RS485 Receive from Comfort
- D11 (Green) Receive Data from Modbus
- D12 (Red) Transmit Data to Modbus

Connection Procedure

- Before connecting the UCM to Comfort, set the UCM/Modbus ID to the ID of the UCM according to the instructions in the previous section.
- The UCM is connected to Comfort via the supplied 4-way white cable from 4-pin header JP2 to CM9001 RS485 header. This supplies power to the UCM, as well as allowing communications between Comfort and the UCM. It is not necessary to switch off the power to Comfort before plugging in this connection.
- Connect the UCM/Modbus to the Modbus network as follows;
- For Modbus/RTU by RS485, the RS485 submodule on UCM/Modbus should be plugged in. KA and KB on the RS485 submodule should be connected to the Modbus RS485 network.
- For Modbus/TCP, the ETH03 submodule should be plugged in. The ETH03 LAN port should be connected to the Local Area network via a Hub or switch.
- When the UCM/Modbus is connected to Comfort, the Green RDY led on the UCM (D1) should light up and remain on. The LEDs D9 (red) and D10 (green) should blink rapidly showing that RS485 communications has been established between Comfort and the UCM. D9 (green) flashing shows that it is receiving communications from Comfort (poll). D10 (red) comes on when the UCM responds to a poll from Comfort. D12 (RED) should blink when a message is sent to Modbus. D11 (green) should blink when a message is received from Modbus.
- In Modbus Master Mode, the D12 (red) LED should blink when the UCM/Modbus polls the Slave, and D11 (Green) led should blink when there is a reply to the poll. If all polls are replied, the D11 and D12 leds should blink fast. If only D12 (red) led blinks and D11 (gree) remains off, that means the Modbus slave does not reply to the poll from UCM/Modbus
- In Modbus Slave Mode, the Modbus Master will poll the UCM/Modbus regularly, at an interval depending on the Master. The UCM/Modbus Slave should always reply to a valid poll to the correct ID.

UCM/Modbus Quick Start Guide

CONFIGURATION

Please download UCM/Modbus Programming Manual from <http://www.cytech.biz/ucmmodbus-485.html>

Document History

26 August 2022 -Separated UCM/Mosbus Manual into Quick start Guide and Programming Manual

Size A6 Booklet