



# Cellular Messaging Module

Contains Instructions For:

-Configuration

-Installation

-Operation

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**COMPLIANCE NOTICES****SAA (C-TICK AUSTRALIA)**

To ensure compliance with ACA Technical Standards, this equipment is labeled with a Telecommunications Compliance Label. For safety reasons, this equipment should only be connected to compliant telecommunications equipment in accordance with the manufacturer's instructions.

**FCC PART 15**

This equipment has been tested and found to comply with FCC Rules and Regulations, Part 15 with the limits of a Class B digital device, designed to provide reasonable protection against harmful interference. This equipment generates, uses and can radiate frequency energy and if not installed and used in accordance with the instructions, may cause interference harmful to radio communications. On the base of the equipment is a label containing an FCC Registration Number, if applicable.

**SAFETY AND GENERAL INFORMATION**

**Important information on safe and efficient operation. Read this information before using your CMM**

**Antenna Care**

Use only the supplied or an approved replacement antenna. Unauthorized antennas, modifications, or attachments could damage the device. Do NOT hold the antenna when the device is in use. Holding the antenna affects signal quality and may cause the CMM to operate at a higher power level than needed. Do not use CMM with a damaged antenna. The Fusion Intel-page antenna port shall only be connected to internal antennas located with the same building as the main equipment.

**Electromagnetic Interference/Compatibility**

Nearly every electronic device is susceptible to electromagnetic interference (EMI) if inadequately shielded, designed, or otherwise configured for electromagnetic compatibility.

**Potentially Explosive Atmospheres**

Do not operate the CMM in any area with a potentially explosive atmosphere. Sparks in a potentially explosive atmosphere can cause an explosion or fire resulting in bodily injury or even death. Areas with potentially explosive atmospheres include fueling areas such as below decks on boats, fuel or chemical transfer or storage facilities, areas where the air contains chemicals or particles such as grain, dust, or metal powders, and any other area where you would normally be advised to turn off your vehicle engine. Areas with potentially explosive atmospheres are often but not always posted.

**Blasting Caps and Areas**

To avoid possible interference with blasting operations, do not use the CMM near electrical blasting caps, in a blasting area, or in areas posted: "Turn off two-way radio." Obey all signs and instructions.

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### About This Handbook

This manual is designed to assist with installation of the CMM. Every component of the system is described in a separate section of the manual with step-by-step instructions to facilitate hardware installation and software configuration..

### Conventions.

**❖ NOTE:** A note preceded with this symbol indicates secondary information pertaining to the topic under discussion.

**➔ IMPORTANT:** A Right-pointing arrow followed by text in this manner presents important information.

**⚠ WARNING:** Warnings like this alert you to the fact that you might damage your equipment or lose data if you don't follow instructions carefully.

# 1 ABOUT THE CELLULAR MESSAGING MODULE (CMM)



## 1.1 Introduction

The Cellular Messaging Module enables sending of short messages (SMS's) to mobile telephones and other destinations capable of receiving short messages.

## 1.2 Operational Modes

Once connected, the Cellular Transceiver module is designed to operate without further user intervention.

Operation of the module is via its RS232 interface which must be connected to one of the following:

1. The output of a Commtech Messenger server PC
2. The output of a Fusion series product that has a RS232 level serial port. (i.e. a Central Controller or an Alarm Dispatch Module)

## 1.3 Capabilities

The GSM short message specification supports message encoding in 7, 8 or 16 bits.

Characters that are used in some languages are only able to be represented by using 16 bit encoding. The CMM supports 7, 8 or 16 bit encoding.

Currently the Fusion Alarm Dispatch Module communicates with the Cellular Messaging Module using either 7 or 16 bit SMS encoding, depending on the code page setting of the ADM configuration. See the Fusion ADM manual for more information.

## 1.4 CCM Kit

Your CMM Kit will contain:

- CMM Unit
- IEC Mains power cable
- Pack including 2 x rack ears, 6 x black countersunk screws, 4 x rubber feet
- Communications cables
  - Blue – straight through cable (RJ45 to RJ45)
  - Commtech Messenger adapter – used when connecting CMM to a server PC running CommtechMessenger
- CD containing manuals and configuration programs
- Dual band GSM antenna with SMA connector
- This CMM Installation Manual

## 1.5 Front Panel



### 1.5.1 LED Indicators

- **Power LED (Yellow)**  
Indicates that power is applied to the back of the unit and that it is operational.
- **RS232 LED's**
  - TX (Red)  
Indicates transmit data activity on the RS232 port.
  - RX (Green)  
Indicates receive data activity on the RS232 port.
- **Network Connection LED (Yellow)**  
Indicates connection to cellular network when LED pulses.

## 1.5.2 Connectors

### Serial Port Connector (COM1)

All the front connectors are of RJ45 type (8 pin - socket) Pin numbers, socket view, viewed from the front of the unit.



Pin	Name	Dir	Description
1	DSR/RI	IN	Data Set Ready / Ring Indicator
2	CD	IN	Carrier Detect
3	DTR	OUT	Data Terminal Ready
4	GND	—	System Ground
5	RXD	IN	Receive Data
6	TXD	OUT	Transmit Data
7	CTS	IN	Clear to Send
8	RTS	OUT	Request to Send

### Antenna

The supplied antenna screws onto this connector. Make sure it is screwed on all the way to ensure a good signal.

## 1.6 Rear Panel

### 1.6.1 Mains Input

This IEC connector is used to supply power to the unit. You can plug 110-240VAC 50/60Hz into here without the need to change power supplies or settings (input is auto-sensed). You will have been supplied with a mains lead in the CMM kit which will plug straight into this connector.



## **2           INSTALLATION**

The Cellular Messaging Module simply needs a power source, connection to a host device (refer to the introduction), an antenna connection and a valid SIM card inserted to enable it to send messages.

Care should be taken to ensure the unit is placed in a safe environment (away from other devices sensitive to RF interference such as PC's, network switches etc) and that the antenna is placed in an area of good network coverage.

Connection to the host is at 9600 baud, 8 data bits, 1 stop bit, no parity.

### **2.1       Enclosure Mounting**

Before mounting the enclosure, you will need to decide where to place the unit. The CMM can be desk mounted or installed into a standard 19 inch rack frame.

Your CMM package contains four adhesive rubber feet which can be placed on the underside of the unit if you wish to desk mount it.

If the unit is to be rack mounted you will need to attach a pair of rack ears. Your CMM package contains a set of rack ears and six screws. Use a phillips screwdriver to attach the ears to the chassis.

Use the supplied IEC mains power lead to connect 110-240VAC 50/60 Hz supply to the CMM unit.

### **3 CONFIGURATION**

No configuration is required. As long as a valid SIM is inserted and the unit has network coverage, messaging will be possible.

## 4 APPENDIX

### 4.1 Troubleshooting

If problems arise (i.e. messages are not being received by the desired recipient), it is most useful to perform some basic checks.

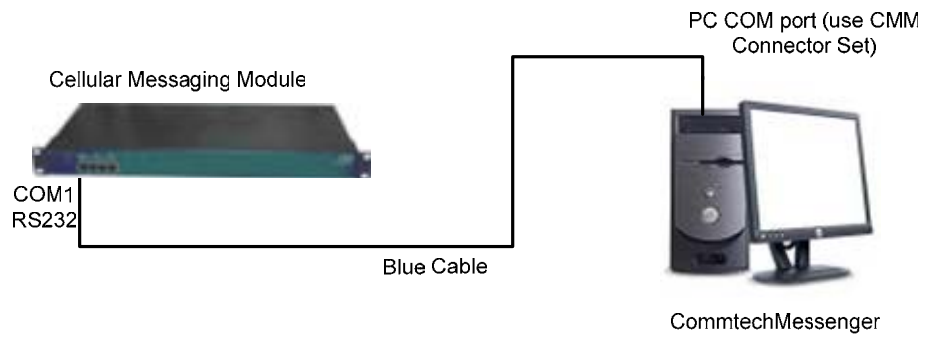
- Check that the SIM card is still inserted correctly.
- Check the antenna connection is secure.
- Check the status of the Network Connection LED, if there is an active connection to the network the LED should be flashing slowly (about every two seconds)

If there is a problem with network connectivity, a few things can be easily checked.

Ensure there is coverage from the appropriate network by:

1. Remove the SIM card and place into a known good working handset.
2. Power on and wait until coverage is shown. If there is a requirement to enter a security PIN, ensure this feature is disabled before the SIM is placed back into the CMM.
3. Send an SMS to another known good destination or to yourself.
4. Check with your service provider, make sure the SIM is still provisioned correctly and that it is capable of sending short messages. If using a pre-pay or pay-as-you-go service ensure that the account balance is sufficient to enable message sending.

## 4.2 Configuration Examples



Connecting the CMM to a Commtch Messenger server requires a blue straight through RJ45-RJ45 cable and a DB9-RJ45 CMM connector set (supplied in kit).

### 4.3 Further Help and Support

#### Contact your Place of Purchase

A Commtech Wireless Authorized Distributor or Dealer sets up most systems. Contact your place of purchase with inquiries beyond the scope of this manual.

#### This Product is Not Field Serviceable

Should a fault develop with the hardware or software, contact your place of purchase for the most appropriate form of action. Do not attempt to open or repair any of the products as this may void any warranty.

### 4.4 Technical Specifications

*Note: Specifications subject to change without any notice*

Equipment type.....	GSM modem
Frequency range .....	Dual band GSM
.....	US Model: 850/1900 MHz
.....	AU/EU Model: 900/1800 MHz
External antenna connector.....	SMA Female 50ohm
SIM slot.....	External tray style
Status LEDs .....	Power, RS232 Tx, RS232 Rx, Network Connection
Interface ports.....	Serial: RS232D Rj45 shielded socket
.....	rx, tx, rts, cts, dtr (tied high)
Message capacity .....	No capacity
Pager Database.....	No capacity
Power supply .....	110-240VAC 50/60Hz 25W max
Dimensions.....	Standard 19 inch rack case
.....	439 x 205 x 44 mm / 17.3 x 8.1 x 1.7 inches (without rack ears)
Weight .....	2.7kg / 5.9lb nett
Ambient temperature operating range.....	0 – 50 °C (20-90% RH non condensing)
Storage temperature range .....	-10 – 60 °C (10-95% RH non condensing)