i^3 3G Modem COM Module
i3-MA-30G

IMO

Introduction

The modem utilises the same internal communications channel (UART) as the MJ1 serial port; thus, enabling the modem deactivates the MJ1 serial port. However, support is provided to select which device (or port) is currently active. i3CMini, i3CX, i3DX & i3E provide a COM port to support the modem thereby leaving the MJ1 port free for other use.

Installation Procedure

1. Disconnect all power from the i3 unit including I/O power.
2. Remove the four screws on the back of the i3 unit and remove the back cover. The back cover will be replaced with the extended back cover that comes with the modem. Screws are re-used (Figure 1).
3. Plug the communication board onto the 24-pin connector. Make sure all the pins are properly aligned (Figure 2).
4. Place the extended back cover onto the unit. It can be helpful to tip it at an angle so the connector on the COM board passes through the opening on the back cover.
5. Place the screw back into the hole and turn the screw slowly counter clockwise until it clicks into the threads. This prevents screws being cross-threaded. Now, turn the screw clock-wise until the cover is firmly secured. Repeat this process for all four (4) screws.

General Specification

Antenna Interface	Female SMA		
Frequency Bands	GSM | GPRS | EDGE: 850, 900, 1800, 1900 ; UMTS | HSPA: 800/850*, 900, AWS1700, 1900, 2100 MHz		
GSM / GPRS Supported Features	Provides for all GSM/GPRS authentication, encryption, and frequency hopping algorithms. GPRS Coding Schemes CS1-CS4 supported. Multi-Slot Class 10 (4RX/2TX, Max 5 Slots).		
Regulatory Agency Approvals	CE, GCF (Europe) FCC, PTCRB, IC (North America) RoHS Compliant		
UMTS/HSPA+	800/850MHz 900MHz 1700AWS MHz 1900MHz 2100MHz Quad Band GSM | GPRS | EDGE supported		
SIM	1V8 / 3 V Mini Subscriber Identity Module (SIM) Compatible		
Size (L x W)	28.2 x 28.2 x 2.2 mm		
Weight	Less than 80 grams		
Extended Temp. Range	-40°C to 85°C		
Relative Humidity	5 - 95%		
Air Pressure (Altitude)	70 kPa to 106 kPa (-400m to 3000m)		
	Frequency	**Power Class**	**Transmit Power**
Transmit Power	1900MHz / 1800MHZ	GSM Power Class 1	1W, 30dBm
	UMTS	UTMS Power Class 3	0.25W, 25dBm
	850MHz / 900MHz	GSM Power Class 4	2W, 33dBm
	850MHz / 900MHz	EDGE Power Class E2	0.5W, 27dBm
	1900MHz / 1800MHZ	EDGE Power Class E2	0.4W, 26dBm
	Frequency	**Sensitivity**	**Mode**
Receive Power	1900MHz / 1800MHZ	-110 dBm	DCS / PCS
	UTMS	-111dBm	UTMS
	850MHz / 900MHz	-109 dBm	GPRS

i^3 GSM/GPRS Modem COM Module i3-MA-25G

Installation

Remove four screw as shown and remove back cover.

Discard Back cover only! Do not discard screws!

Install COM board by aligning connector and seating board fully on standoffs

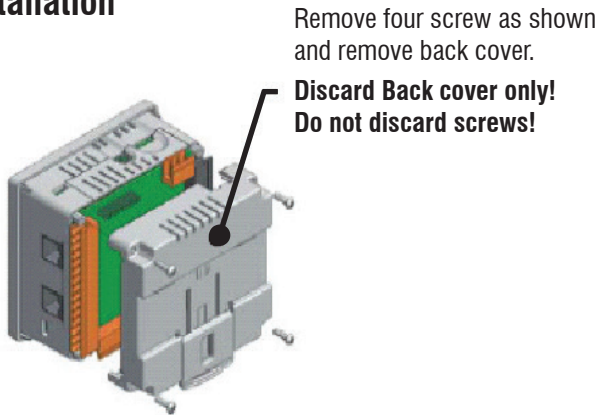Install new back cover re-using the four screws
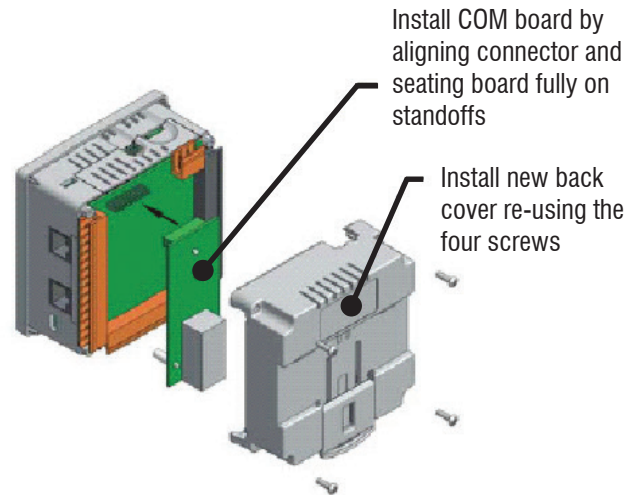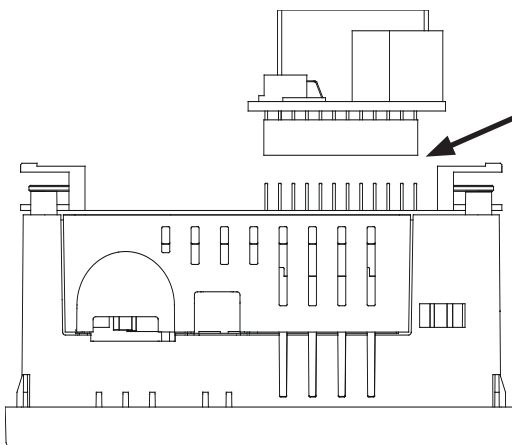
Figure 1 - Removing Back Cover of the i3

Figure 2 - Installing the COM board in the i3

Warning: Be careful when installing the module to align the connector properly. Misalignment will damage the module

Standoff	Model Used On
	Preferred standoff, use this if the I/O board has the mounting holes

General

The modem supports SMS, GPRS Data and Email.

SMS Functionality

- Up to 32 Send and 32 Receive messages with up to 20 Variables per message.
- Group Names allow multiple devices to be grouped together so that a particular message will be sent to a number of different devices.
- Phone number including country code and area code. The phone numbers may have special characters such as brackets, comma, plus and dash.
- Register numbers can be used instead of phone numbers. In this case, the phone number is stored in PLC registers as ASCII data with a maximum size of 20 characters (10 words).
- Bit, Byte, Word, Double Word and Real variable types supported.
- 64-bit Status word includes communication status, Initialization status, signal strength, invalid messages count and Retry count for Init commands
- 160 character message buffer stores last sent or received message.