



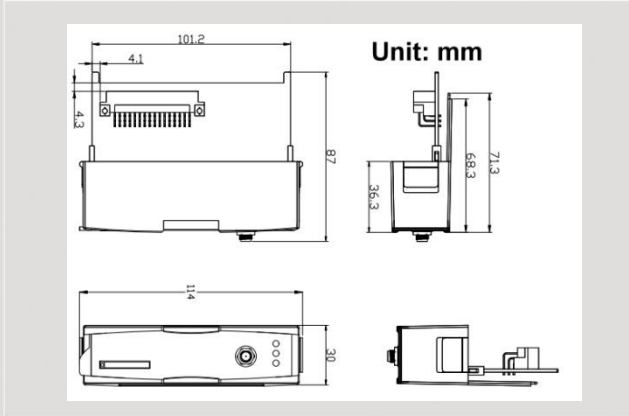
# M2M Series Products



## Industrial Tri-band 3G WCDMA module



I-8212W-3GWA/I-8213W-3GWA



Dimensions

The I-8212W-3GWA and I-8213W-3GWA are industrial Tri-band 3G WCDMA modules with GPS function (only I-8213W-3GWA) that work on frequencies of UMTS 2100 / 1900 / 850 MHz and GSM 850 MHz, EGSM 900 MHz, DCS 1800 MHz and PCS 1900 MHz. These modules utilize the 3G or GSM/GPRS network for convenient and inexpensive data transfer from remote instruments, meters, computers or control systems in either live data or packet data. Both the I-8212W-3GWA and I-8213W-3GWA have the integrated TCP/IP stack so that even simple controllers with serial communications ports can be connected to the modem without the need for special driver implementation. With the features of I-8212W-3GWA and I-8213W-3GWA, the systems can be SMS, GPRS and 3G connection applications with our PAC series like iPAC-8000, WinPAC-8000, LinPAC-8000 or XP-8000.

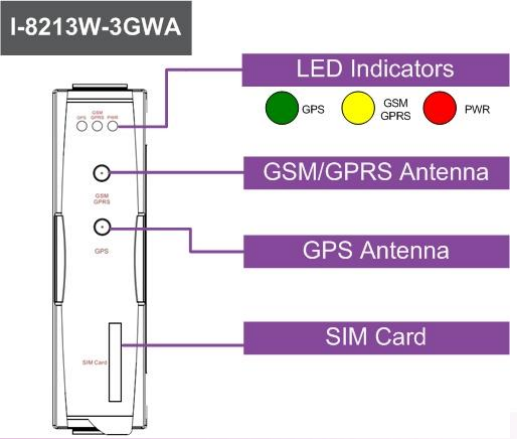
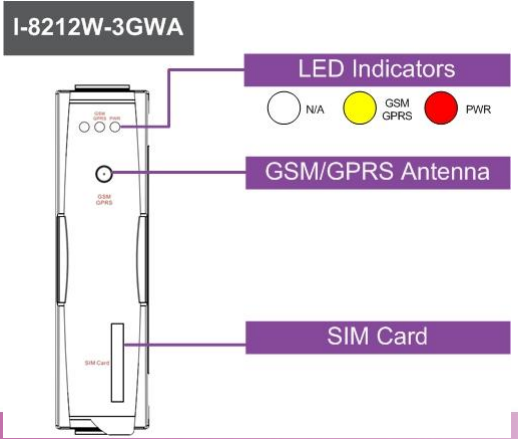
### Features

- Supports Tri-band UMTS 2100/1900/850 MHz and Quad-band GSM 850/900/1800/1900 MHz
- 4 KV ESD Protection
- Designed for WCDMA, GPRS and SMS Applications
- Supports TCP Server, TCP Client, UDP Client Connection stack from 3G or GPRS
- Supports Standard AT Commands
- LED Indicators for Power, GSM and GPS(only I-8213W-3GWA) Indication
- High Reliability in Harsh Environment
- Supports 32-channels GPS and NMEA v0183 v3.01(only I-8213W-3GWA)
- PPS: 100 ms pulse output/sec for precise timekeeping and time measurement(only I-8213W-3GWA)
- Supports XP-8000, WinPAC-8000, LinPAC-8000, ViewPAC, iPAC-8000

### Support PAC

Model	I-8212W-3GWA / I-8213W-3GWA
WinPAC-8000 (WinCE 5.0)	V
LinPAC-8000 (Linux kernel 2.6.19)	V
iPAC-8000 Compact PAC (MiniOS 7)	V
XP-8000 (Windows Embedded Standard 2009)	V

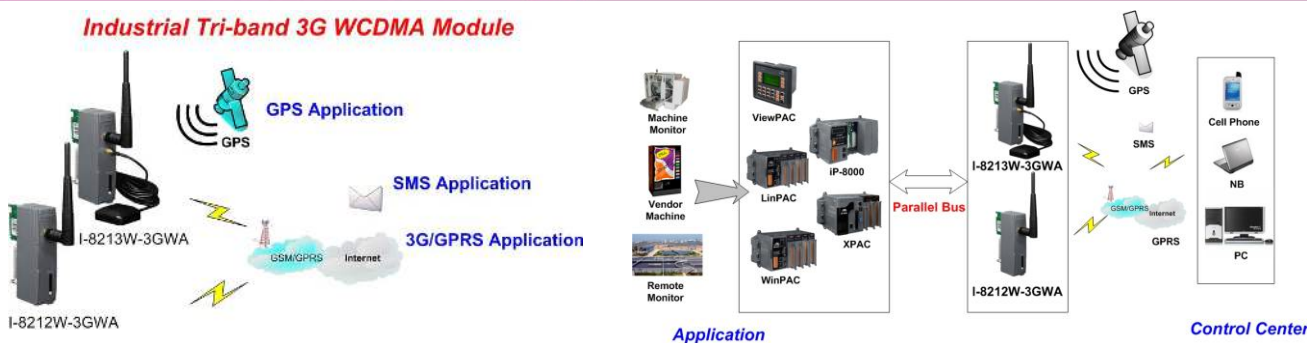
### Pin Assignment



## Hardware Specifications

Models	I-8212W-3GWA	I-8213W-3GWA
<b>3G System</b>		
Frequency Band	UMTS : 2100/1900/850 MHz	
Data Transmission	UMTS / HSDPA / HSUPA Downlink transfer: Max. 7.2Mbps; Uplink transfer: Max 5.76Mbps	
<b>GSM/GPRS System</b>		
Frequency Band	GSM : 850/900/1800/1900 MHz	
GPRS connectivity	GPRS class 12/10; GPRS station class B	
DATA GPRS	Downlink transfer: Max. 85.6 kbps; Uplink transfer: Max 42.8kbps	
CSD	Up to 14.4 kbps	
Coding Schemes	CS 1, CS 2, CS 3, CS 4	
<b>SMS</b>		
SMS	MT, MO, CB, Text and PDU mode	
<b>GPS Interface</b>		
Support Channels	-	32
Sensitivity	-	Tracking = up to -159 dBm (with external LNA) Cold start = up to -146 dBm (with external LNA)
Acquisition Time	-	Hot start (Open Sky) = 2 s(typical) Cold start (Open Sky) = 36 s(typical)
Protocol Support	-	NMEA 0183 version 3.01
<b>LED Indicators</b>		
Power	Red color	
GPRS	Yellow color	
GPS	-	Green color
<b>Power</b>		
Frame Ground Protection	ESD, Surge, EFT, Hi-Pot	
Power Consumption	Idle: 0.15 A @ 5 V <sub>DC</sub> ; Data Link: 0.2 ~ 1.62 A (peak) @ 5 V <sub>DC</sub>	
<b>Mechanical</b>		
Casing	Plastic	
Dimensions (W x L x H)	30mm x 85mm x 114mm	
<b>Environment</b>		
Operating Temperature	-25°C ~ +75 °C	
Storage Temperature	-30°C ~ +80 °C	
Humidity	5~95% RH, non-condensing	

## Applications



## Ordering Information

<b>I-8212W-3GWA CR</b>	Industrial Tri-band 3G WCDMA module (RoHS)
<b>I-8213W-3GWA CR</b>	Industrial Tri-band 3G WCDMA module with GPS function (RoHS)

## Accessories

<b>ANT-421-01</b>	3m external GSM/GPRS antenna
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