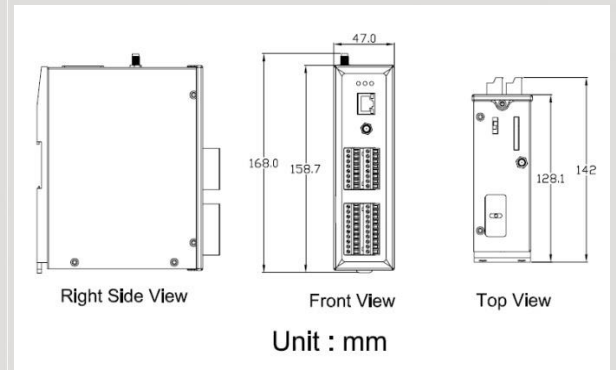




## 3G Power Saving PAC with Solar Charger



G-4513 Series



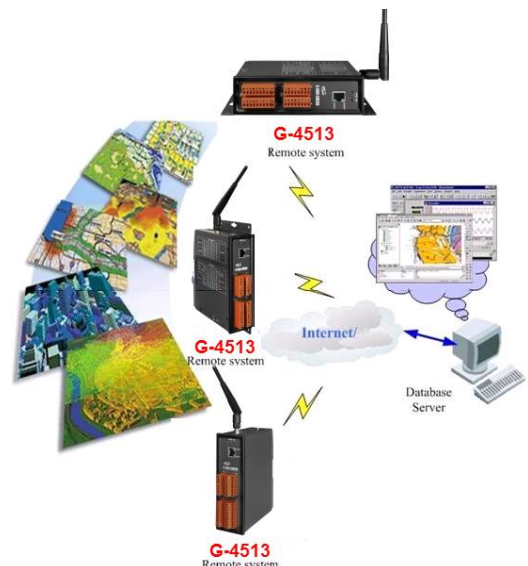
Dimensions

The G-4513 series are M2M (Machine to Machine) Power Saving PAC with a cellular transceiver and a solar charger. It can be used in hydrologic monitoring or mudslide monitoring system. With optional GPS model, the G-4513 can also be a GPS tracking system for vehicle management or maritime system. The features of G-4513 series: Solar charger, 3G module, Ethernet interface, optional GPS module, 3 digital inputs, 3 digital outputs, 8 analog inputs, 1 relay output.

### Features

- Embedded MiniOS7, anti-virus
- Support GSM 850 / 900 / 1800 / 1900 MHz.
- Support WCDMA 850 / 900 / 1900 / 2100 MHz
- Solar charger for Lead acid battery
- 10/100 Base-TX compatible Ethernet controller
- COM port: COM1 (5-wire RS232), COM2 (RS-485)
- I/O: 3 DI, 3 DO, 8 AI, 1 relay DO
- Support SD card.
- Built-in RTC, NVRAM, EEPROM
- 128\*64 dots LCM display (option)
- GPS : 32 channels with All-In-View tracking (option)
- Support TCP,UDP client connection over 3G
- High reliability in harsh environments
- DIN-Rail mountable

### Application





## Hardware Specifications

Item	G-4513-3GWA	G-4513D-3GWA	G-4513P-3GWA	G-4513PD-3GWA	
CPU	80 MHz internal microprocessor				
SRAM/Flash	512K/512K , real time clock , watchdog timer				
NVRAM	31 bytes, battery backup, data valid up to 10 years				
EEPROM	16 KB, retention > 40 years. 1,000,000 erase/write cycles				
<b>Comm. Interface</b>					
COM ports	COM1:5-wire RS-232; COM2: RS-485				
Ethernet	10/100 Base-TX Ethernet controller				
<b>GSM Interface</b>					
Frequency Band	GSM 850/900/1800/1900 MHz				
GPRS connectivity	GPRS class 10/8; GPRS station class B				
SMS	MT, MO, CB, Text and PDU mode				
<b>3G Interface</b>					
Frequency Band	WCDMA 850/900/1900/2100 MHz				
Power Class	Class 3 (250mW @ WCDMA/HSPA)				
<b>Digital Input</b>					
Input Channel	3				
Input Type	Source(Dry Type), Common Ground				
Off Voltage Level	+1 V max.				
On Voltage Level	+3.5 ~ +30 V				
Isolated Voltage	Non-isolated				
<b>Digital Output</b>					
Output Channel	3				
Output Type	Open Collector (Sink/NPN)				
Load Voltage	+30 VDC max.				
Load Current	100 mA max.				
Isolated Voltage	Non-isolated				
<b>Analog Input</b>					
Input Channel	8				
Resolution	12 - bit				
Input Range/Type	0 ~ 20 mA				
Sample Rate	1 KHz max. (Read one channel)				
Accuracy	+/- 2 LSB (+/- 0.0097 mA)				
Isolated Voltage	2500Vrms 3000Dc to DC				
<b>Relay</b>					
Output Channel / Type	1 / Form C				
Input Range	2A@30 Vdc ; 0.25 A @250 Vac				
Mechanical endurance	typ. 10 <sup>8</sup> operations				
<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>LCD Interface</b>					
General	Effective display area	-	80.61 mm x 14.37 mm (W x H)	-	80.61 mm x 14.37 mm (W x H)
	Module Dimension	-	93 mm x 70 mm x 1.6 mm (W x H x T)	-	93 mm x 70 mm x 1.6 mm (W x H x T)
Life Time	-		Expected life is more than 100,000 hours under normal operation	-	Expected life is more than 100,000 hours under normal operation
<b>Power (Solar Input)</b>					
Protection	Power reverse polarity protection				
Frame Ground Protection	ESD, Surge, EFT, Hi-Pot				
Power Requirement	+10 V <sub>DC</sub> ~ +30 V <sub>DC</sub> . (Max. Voltage of Solar Panel must less +30V)				
Power Consumption	Sleep: < 10 mA@12V; Idle: 77 mA @ 24 V <sub>DC</sub> ; Data Link: 150 ~ 400 mA (peak) @ 24 V <sub>DC</sub>				
<b>Lead Acid Battery</b>					
Battery	12V Lead-Acid Battery				
Charging Voltage	Voltage of Power Input must be over +16V				
Low Voltage Protect	Low Voltage disconnect = 11.1V / Low Voltage reconnect = 12.6V				
<b>LED Indicators</b>					
System	Red				
3G	Yellow				
GPS	-		Green		
Charging / Fault	Green / Red				
<b>Mechanical</b>					
Casing	Metal				
Dimensions	47 mm x 142 mm x 168 mm (W x L x H)				
Installation	DIN-Rail and Wall mount				
<b>Environment</b>					
Operating Temperature	-20 ~ +70 °C	-15 ~ +55 °C	-20 ~ +70 °C	-15 ~ +55 °C	
Storage Temperature	-40 ~ +80 °C	-20 ~ +70 °C	-40 ~ +80 °C	-20 ~ +70 °C	
Humidity	5~90% RH, non-condensing				