

G-4510/G4510D

Power Saving PAC with Solar charger and optional communication module (RoHS)

Features

- Embedded MiniOS7, anti-virus
- Option Communication Modem
- 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)

Introduction

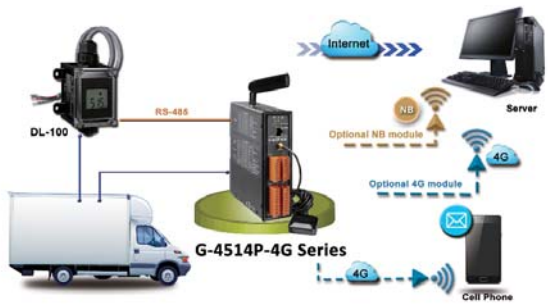
The G-4510 series are M2M (Machine to Machine) Power Saving PAC with a solar charger. It can be used in hydrologic monitoring or mudslide monitoring system. G-4510 can be used to wirelessly transmit data and other functions with its optional 4G/NB communication module. With optional GPS model , the G-4510 can also be a GPS tracking system for vehicle management or maritime system. The features of G-4510 series: Solar charger, Ethernet interface, optional GPS module, optional 4G/NB communication module, 3 digital inputs, 3 digital outputs, 8 analog inputs, 1 relay output.

Applications

1.Hydrologic / Wind Monitoring Application



2.Car Monitor / Tracking System



System Specifications

Model	G-4510	G-4510D
CPU Module		
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	
Comm. Interface		
COM ports	COM1:5-wire RS-232; COM2: RS-485	
Ethernet	10/100 Base-TX Ethernet controller	
GPS Interface		
Support Channels	32	
Protocol Support	NMEA 0183	
Lead Acid Battery		
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	
LED Indicators		
System	Red	
GSM	Yellow	
GPS	Green	

Model	G-4510	G-4510D
Charging / Fault	Green / Red	
LCD Interface		
Effective display area	-	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)
Power (Solar Input)		
Protection	Power reverse polarity protection	
Frame Ground Protection	ESD, Surge, EFT, Hi-Pot	
Power Requirement	+10 VDC ~ +30 VDC , (Max. Voltage of Solar Panel must less +30V)	
GPS	Green	
Mechanical		
Casing	Metal	
Dimensions (W x L x H)	47 mm x 142 mm x 168 mm	
Installation Environment	DIN-Rail and Wall mount	
Environment		
OperatingTemperature	-20 ~ +70 °C	-15 ~ +55 °C
Storage Temperature	-40 ~ +80 °C	-20 ~ +70 °C
Humidity	5 ~ 95% RH, Non-condensing	

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I/O Specifications

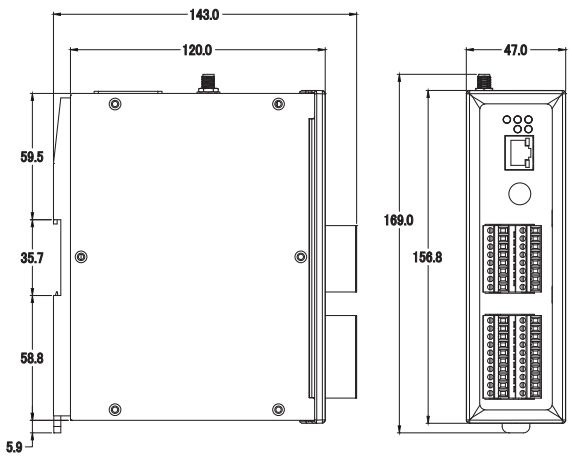
Model	G-4510	G-4510D
Digital Input		
Input Channel	3	
Input Type	Source(Dry Type), Common Ground	
Off Voltage Level	+1 V max.	
On Voltage Level	+3.5 ~ +30 V	
Isolated Voltage	Non-isolated	
Digital Output		
Output Channel	3	
Output Type	Open Collector (Sink/NPN)	
Load Voltage	+30 VDC max.	
Load Current	100 mA max.	
Isolated Voltage	Non-isolated	
Analog Input		
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	
Relay		
Output Channel / Type	1 / Form C	
Input Range	2A@30 Vdc ; 0.25 A @250 Vac	
Mechanical endurance	typ. 108 operations	

Order Accessories Specifications

Module (Optional)	EC21-AU	EC25-E	BG96
Category	LTE category 1	LTE category 4	LTE Cat-M1/NB1/EGPRS
Digital Input			
LTE-FDD	B1/B2/B3/B4/B5/B7/B8/ B28	B1/B3/B5/B7/B8/B20	B1/B2/B3/B4/B5/B8/B12/ B13/B18/B19/B20/B26/ B28
LET-TDD	B40	B38/B40/B41	B39 (For Cat M1 Only)
WCDMA	B1/B2/B5/B8	B1/B5/B8	--
GSM/EGPRS	850/900/1800/1900MHz	900/1800Mhz	850/900/1800/1900MHz
Digital Output			
Region	Latin America, Australia, New Zeland, Taiwan	EMEA, Korea, Thailand, India	Global
Certification	Carrier: Telstra Regulatory:FCC /Anatel/NCC/JATE/TELEC/ RCM Others:WHQL	Carrier: Vodafone/Deutsche Telekom/ SKT/Telefónica/ T-Mobile/KT/ LGU+ Regulatory: GCF/ CE/ KC/ NCC/ RCM/ FAC/ NBTC/ ICASA Others: WHQL	Carrier: Vodafone (Global) Deutsche Telekom Telefónica(Europe)/ Verizon/AT&T/T-Mobile/ Sprint/ U.S. Celluar (North America) Telus/Rogers /Bell (Canada) SKT/LGU+ (South Korea) NTT DOCOMO/SoftBank/ KDD (Japan) Telstra (Australia) Regulatory: GCF (Global),CE (Europe) FCC/PTCRB (North America) IC (Canada) IFETEL (Mexico) CCC (China) KC (South Korea) NCC (Taiwan) JATE/TELEC (Japan) RCM (Australia) NBTC (Thailand) IMDA (Singapore) Others: RoHS Compliant
Environment			
Temperature Range	-40°C ~ +80°C	-40°C ~ +85°C	-40°C ~ +80°C
Dimensions	51.0mm × 30.0mm × 4.9mm		

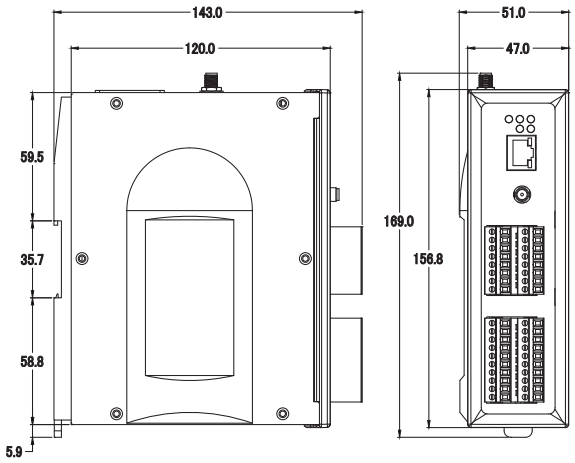
Dimensions (Units: mm)

G-4510



Left View | Front View

G-4510D

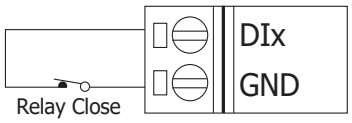
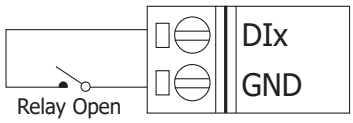
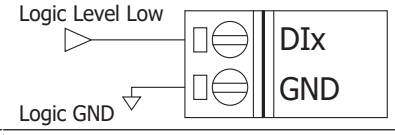
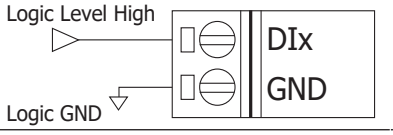
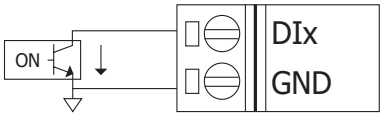
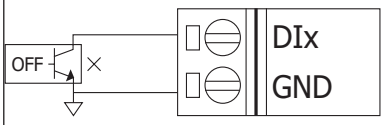


Left View | Front View

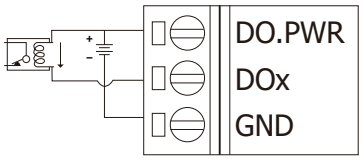
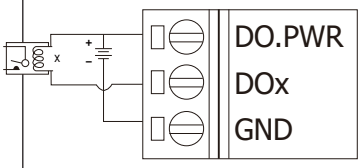
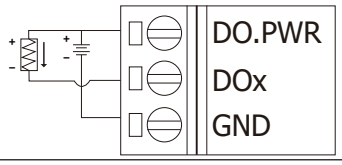
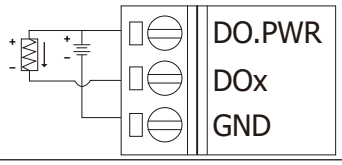
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Wire Connections

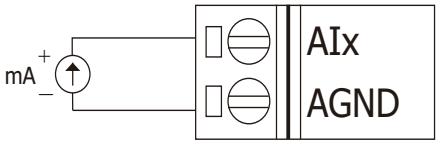
Digital Input Wire Connection

Input Type	ON State DI value as 0	OFF State DI value as 1
Relay Contact		
TTL/ CMOS Logic		
Open Collector		

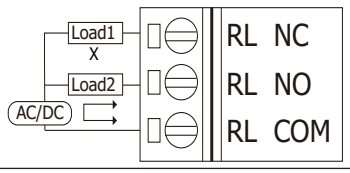
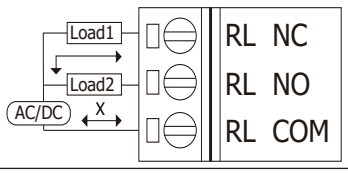
Digital Output Wire Connection

Input Type	ON State DO value as 1	OFF State DO value as 0
Drive Relay		
Resistance Load		

Current Input Wire Connection

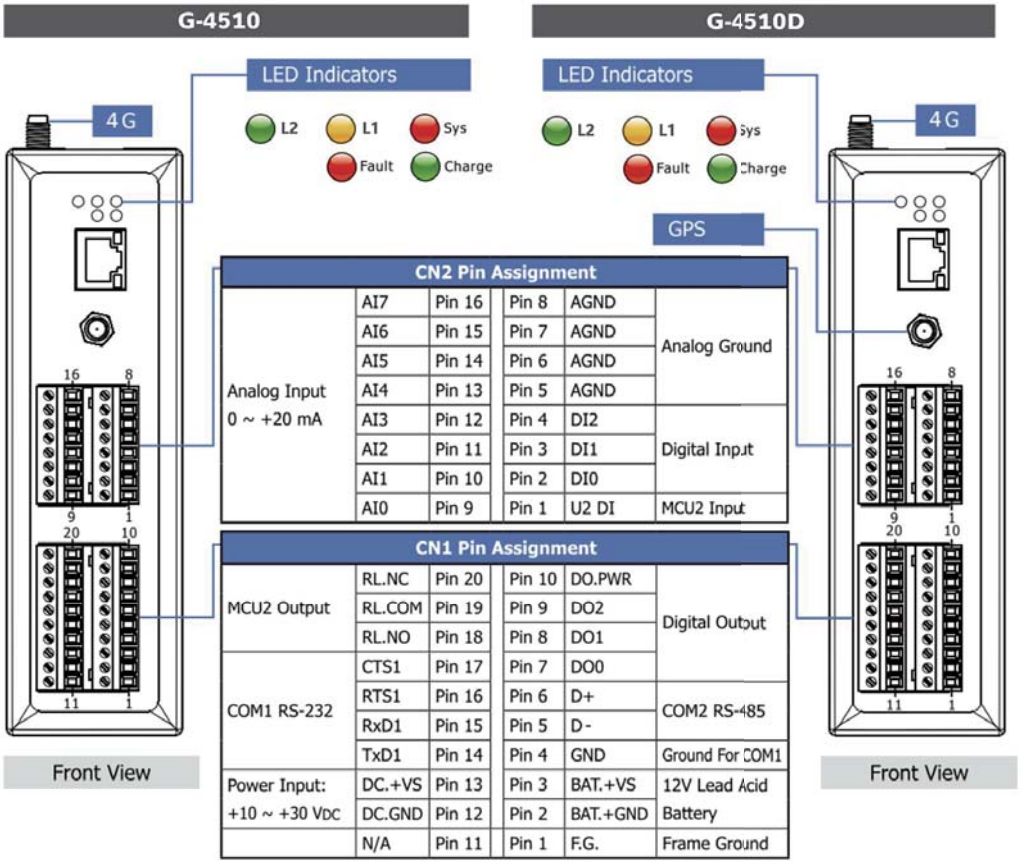
Input Type	
	

Relay Wire Connection

	Relay Output ON	Relay Output OFF
Relay		

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Pin Assignments



Order Accessories Specifications

Model(Optional)	EC20-CE	LE910C4-WWX
Category	LTE category 4	LTE category 4
Frequency Bands		
LTE-FDD	B1/B3/B8	B1/B2/B3/B4/B5/B7/B8/B12/ B13/B14/B19/B20/B26/B28
LET-TDD	B38/B39/B40/B41	--
WCDMA	B1/B8	B1/B2/B4/B5/B8/B19
GSM/EGPRS	900/1800MHz	850/900/1800/1900MHz
Area		
Region	China, India	EMEA, North America, APAC, LATAM
Certification	Regulatory: SRRC/NAL/CCC Others: RoHS Compliant	Carrier: AT&T/ Verizon Regulatory: GCF/ CE/ FCC/ NCC/ PTCRB/ IFETEL
Environment		
Temperature Range	-40°C ~ +80°C	-40°C ~ +85°C
Dimensions	51.0mm × 30.0mm × 4.9mm	

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Ordering Information

G-4510 CR	Power Saving PAC with Solar charger, optional GPS Function and communication module(RoHS)
G-4510D CR	Power Saving PAC with Solar charger, LCD display, optional GPS Function and communication module (RoHS)

Accessories

 **ANT-421-05 CR**	5 dBi, 4G LTE ommi-directional antenna (SMA Male Plug) (RoHS)
 **ANT-Base-01 CR**	Antenna magnetic base with 1.5 meter cable (SMA Male Plug) (RoHS)
 **ANT-115-03 CR**	GPS magnetic mount antenna with 5 meters cable (SMA Male Plug) (RoHS)
 **ANT-421-04 CR**	2 dBi, 4G LTE ommi-directional antenna (SMA Male Plug) (RoHS)
 **EC20-CE CR**	3G/4G Communication LTE category 4 module (RoHS)
 **LE910C4-WWX CR**	3G/4G Communication LTE category 4 module (RoHS)
 **EC21-AU CR**	3G/4G Communication LTE category 1 module
 **EC25-E CR**	3G/4G Communication LTE category 4 module
 **BG96 CR**	NB1/M1/EGPRS Communication LPWA module

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