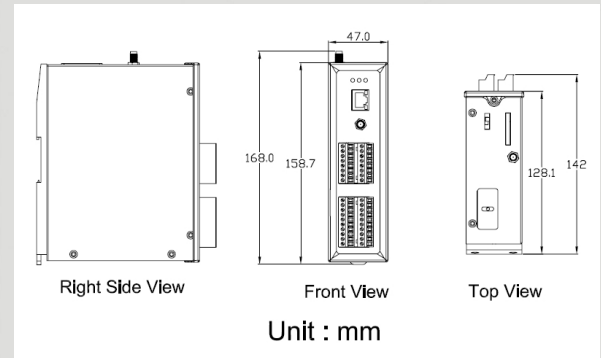


M2M Mini-Programmable Automation Controller



G-4500-3GWA series



Dimensions

The G-4500 series provided by ICP DAS are M2M (Machine to Machine) mini programmable controller with a cellular transceiver can monitoring industrial equipment that sends live data to the monitoring system, providing real-time status. With optional GPS model, the G-4500 can also be a GPS tracking system. It can be used in vehicle management system or maritime system. Within the high performance CPU, the G-4500 series can handle a large of data and are suit for the hard industrial environment. The G-4500-3GWA series feature 3G/GSM module, Ethernet interface, optional GPS module, 3 digital inputs, 3 digital outputs, 8 analog inputs, 2 RS-232 and 1 RS-485 port.

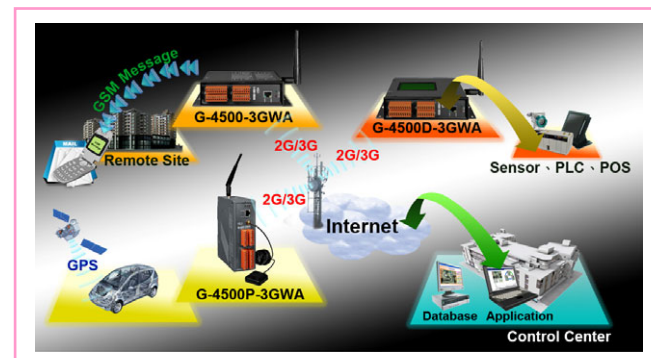
Features

- Embedded MiniOS7, anti-virus
- Supports a variety of TCP/IP features, including TCP, UDP, IP, ICMP, ARP
- 10/100 Base-TX compatible ethernet controller
- COM port: COM1 (5-wire RS232), COM2 (RS-485), COM3 (3-wire RS232)
- Built-in self-tuner ASIC controller on RS-485 port
- I/O: 3 channels DI, 3 channels DO, 8 channels AI
- Support SD storage card
- Tri-band 2100/1900/850 MHz WCDMA supporting UMTS / HSDPA / HSUPA
- Quad-band 850/900/1800/1900 MHz GSM supporting GPRS
- GPS : 32 channels with All-In-View tracking (option)
- Support TCP client, UDP client connection from GPRS
- 128*64 dots LCM display (only for G-4500D-3GWA and G-4500PD-3GWA)
- Support Modbus Protocol
- Built-in RTC, NVRAM, EEPROM
- High reliability in harsh environment
- Free easy-to-use software development toolkits

I/O Specifications

| Digital Output | |
|-------------------|---------------------------------|
| Output Channel | 3 |
| Output Type | Open Collector (Sink/NPN) |
| Load Voltage | +30 V _{DC} max. |
| Load Current | 100 mA max. |
| Isolated Voltage | Non-isolated |
| 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 |
| 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) |

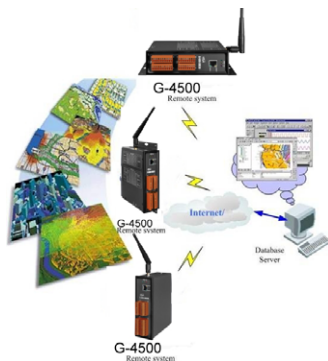
Remote Monitoring System



Hardware Specifications

| Item | G-4500-3GWA | G-4500D-3GWA | G-4500P-3GWA | G-4500PD-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 | | | |
| Comm. Interface | | | | |
| COM ports | COM1:5-wire RS-232; COM2: RS-485; COM3:3-wire RS-232 | | | |
| Ethernet | 10/100 Base-TX Ethernet controller | | | |
| 3G Interface | | | | |
| Frequency Band | Tri-band 2100/1900/850 MHz | | | |
| GSM Interface | | | | |
| Frequency Band | Quad-band 850/900/1800/1900 MHz | | | |
| GPRS connectivity | GPRS class 12/10; GPRS station class B | | | |
| SMS | MT, MO, CB, Text and PDU mode | | | |
| GPS Interface | | | | |
| 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 | |
| LCD Interface | | | | |
| 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 |
| Power | | | | |
| Protection | Power reverse polarity protection | | | |
| Frame Ground Protection | ESD, Surge, EFT, Hi-Pot | | | |
| Power Requirement | 15W; Unregulated +10 V _{DC} ~ +30 V _{DC} | | | |
| Power Consumption | Idle: 75 mA @ 24 V _{DC} ; Data Link: 150 ~ 400 mA (peak) @ 24 V _{DC} | | | |
| LED Indicators | | | | |
| System | Red | | | |
| 3G/GSM | Yellow | | | |
| GPS | Green | | Yes | |
| Mechanical | | | | |
| Casing | Metal | | | |
| Dimensions | 47 mm x 142 mm x 168 mm (W x L x H) | | | |
| Installation | DIN-Rail and Wall mount | | | |
| Environment | | | | |
| 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 | | | |

Applications



GIS system



CAR monitoring system

Ordering Information

| | |
|------------------|---|
| G-4500-3GWA CR | 3G/GSM M2M Mini-Programmable Automation Controller (RoHS) |
| G-4500D-3GWA CR | 3G/GSM M2M Mini-Programmable Automation Controller with LCD display (RoHS) |
| G-4500P-3GWA CR | 3G/GSM M2M Mini-Programmable Automation Controller with GPS function (RoHS) |
| G-4500PD-3GWA CR | 3G/GSM M2M Mini-Programmable Automation Controller with LCD display and GPS function (RoHS) |