

I-7188EG/EGD

Ethernet ISaGRAF μ PAC



- **ISaGRAF Ver.3 SoftLogic Inside**
- **Support IEC 61131-3 + Flow Chart**
- **MiniOS7 Inside**
- **80188-40 MHz CPU**



The **I-7188EG** series is a palm size PAC with ISaGRAF SoftLogic. It has one 10M Ethernet port, one RS-232 port and one RS-485 port. The user can choose an I/O expansion board, X-board, to expand COM Ports, I/Os or memories of I-7188EG.

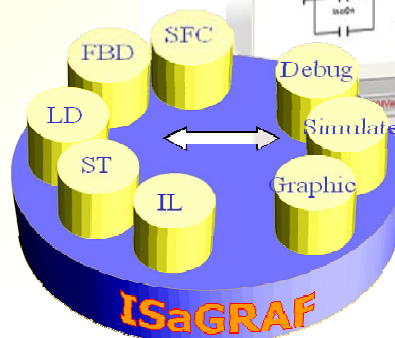
The I-7188EG supports Modbus serial protocol, Modbus TCP/IP protocol, Modbus Master protocol, Remote I/O, Fbus, Ebus, SMS: Short Message Service, modem link, MMICON / LCD and user defined protocol. The I-7188EGD is the same as I-7188EG but with 5-digit 7-segment LED display.

The ISaGRAF μ PAC supports ISaGRAF Ver.3 Workbench :

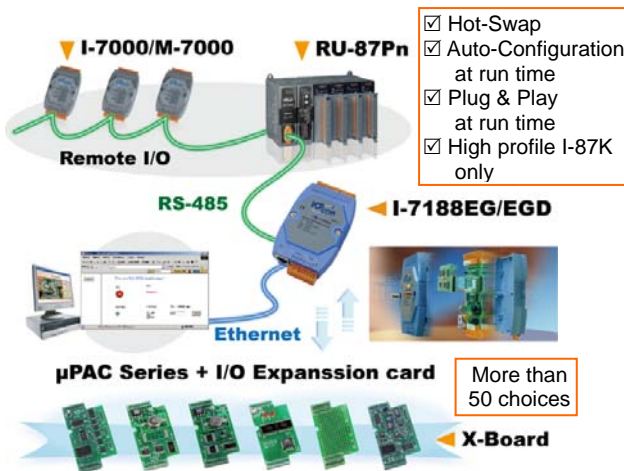
- **Support IEC 61131-3 Standard Open PLC Programming Languages + Flow Chart :**

1. **Ladder**
2. **Function Block**
3. **SFC**
4. **ST**
5. **IL**
6. **Flow Chart**

- **Simulate program even without controller**
- **Debug on-line**
- **Control on-line**
- **Simple graphic HMI**

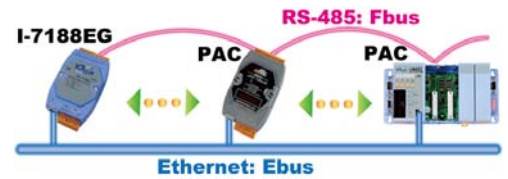


Local/Remote I/O Application



Data Exchange: Ethernet & RS-485

- Through Ethernet: Ebus
- Through RS-485: Fbus
- PAC to PAC



Support EKAN Modbus LED



Modbus Master

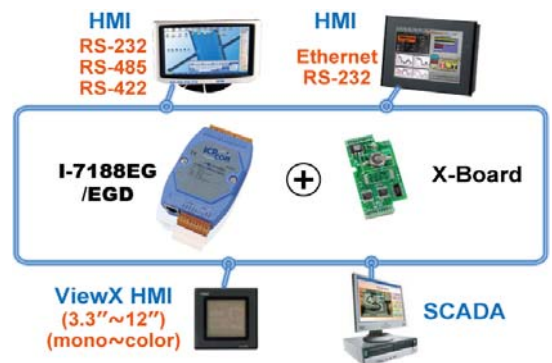
(RTU, ASCII, RS-232/485/422)

- COM1:RS-232 or COM2:RS-485
- COM3: if X-board is plugged in
- Can link to Modbus PLC or M-7000 I/O or Modbus devices (Power meter, temperature controller, inverter...)



Modbus RTU/TCP Slave Ports

- **Modbus RTU (RS-232/485/422)** : max. 2 PC/HMI/SCADA connection
- **Modbus TCP/IP**: max. 4 PC/HMI/SCADA connection

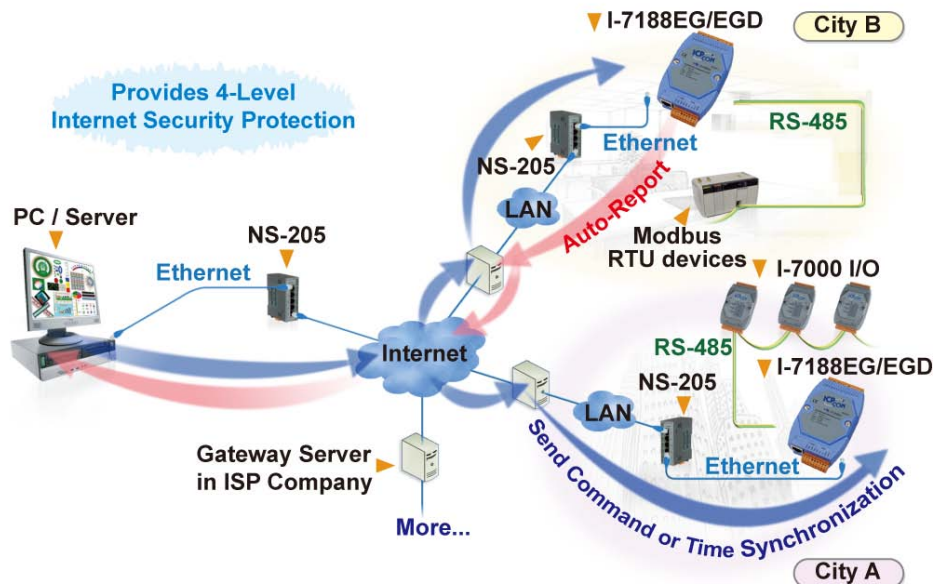


Auto-report Acquisition Data & Control Data

I-7188EG/EGD can use UDP IP to auto-report acquisition data & control data to local or remote internet PC/Server.

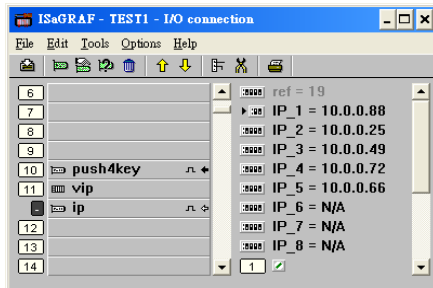
Advantage: Every I-7188EG/EGD in the different location doesn't need a fixed IP.

Stable and Cost-effective Data Acquisition Auto-Report System



● VIP Communication Security

Set VIP (Very Important IP No.) for Modbus TCP/IP security.



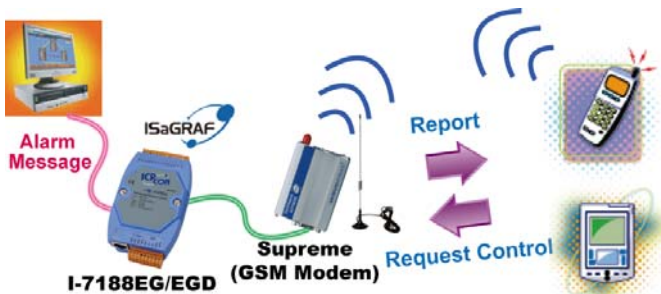
● Data Recorder and Data Logger



ICP DAS provides a freeware "UDLoader.exe" to load the data stored in I-7188EG+X607/608 via RS-232 or Ethernet to PC.

Battery backup SRAM
X607 : 128K bytes
X608 : 512K bytes

● SMS: Short Message Service



● Wireless Communication



Ordering Information

Ethernet ISaGRAF μPAC	I-7188EG CR	Ethernet ISaGRAF Palm-Size PAC (RoHS)
	I-7188EGD CR	Ethernet ISaGRAF Palm-Size PAC with 5-digit 7-segment LED display (RoHS)

Optional Accessories

X-Board SRAM	X607 CR / X608 CR	128K / 512K bytes battery backup SRAM (RoHS)
Application Software	ISaGRAF-256-E ISaGRAF-256-C	ISaGRAF Workbench Software Ver.3 (256 I/O Tags) with application book (E: English book; C: Chinese book)
	ISaGRAF-32-E ISaGRAF-32-C	ISaGRAF Workbench Software Ver.3 (32 I/O Tags) with application book (E: English book; C: Chinese book) * Cannot upgrade to 256 I/O Tags anymore.
Application Book	ISaGRAF Book-E	ISaGRAF application book (English)
	ISaGRAF Book-C	ISaGRAF application book (Traditional Chinese)
Ethernet Switch	NS-205 CR NS-208 CR	Unmanaged 5-port / 8-Port Industrial 10/100 Base-T Ethernet Switch with Plastic Case (RoHS)
LED Display	EKAN-ME122M	16x96 pixel, 64x384mm, 48W@24VDC, char size: 8x6 or 16x8 pixel
	EKAN-ME124M	16x192 pixel, 64x768mm, 90W@24VDC, char size: 8x6 or 16x8 pixel

Specifications of I-7188EG & I-7188EGD

Power Supply	
Power requirements	10 to 30VDC (unregulated), I-7188EG:2W , I-7188EGD:3W
Protection	Built-in power protection & network protection circuit
General Environment	
Temperature	Operating: -25°C to +75°C (-13°F to +167°F), Storage : -30°C to +85°C (-40°F to +176°F)
Humidity	5% to 95 % (non-condensed)
System	
CPU	80188 40MHz, or compatible
Watchdog timer	Yes
Real time clock	Gives hour, minute, sec, date of week, date of month, month & year (1980 to 2079)
SRAM	512K bytes
FLASH Memory	512K bytes, Erase unit is 64K bytes, 100,000 erase/write cycles
NVRAM	31 bytes, battery backup, data valid up to 10 years
EEPROM	2048 bytes, retention > 100 years. 1,000,000 erase/write cycles
Display for I-7188EGD	5-Digit 7-Seg. LED on the front. It can display message & value.
Expansion I/O bus	One optional Xxxx series I/O board can be plugged inside the I-7188EG / 7188EGD.
NET ID	Set by software, 1 to 255
Serial Ports	
COM1	RS-232: TXD, RXD, GND, Speed: 115200 bps max. Program downloads port.
COM2	RS-485: D+, D-, 115200 bps max. Self-tuner ASIC inside
Ethernet	10M bps, NE2000 compatible, 10 BaseT. Program download port
Development Software	
ISaGRAF Version 3	IEC 61131-3 standard. Languages: LD, ST, FBD, SFC, IL & FC
Max. code size	I-7188EG/7188EGD accepts max. 64K byte ISaGRAF code size (Appli.x8m must < 64K)
PWM Output	
Pulse Width Modulation output	All Xxxx series D/O boards support PWM output. 8 channels max. for one controller. 500Hz max. for Off=1 & On=1 ms Output square curve: Off: 1 to 32767 ms, On: 1 to 32767 ms
Counters	
Parallel D/I counter	All Xxxx series D/I boards support D/I counter. 8 ch. max. for one controller. Counter value: 32 bit 500Hz max. Min. ON & OFF width must > 1ms
Remote D/I counter	All remote I-7000 & I-87K D/I modules support counters. 100Hz max. value: 0 to 65535
Remote high speed counter	Optional I-87082:100KHz max. , 32 bit
Protocols	
Modbus Slave protocol	Up to 2 COM Ports (COM1 and one of COM2/COM3-in-X-board) can support Modbus RTU Slave protocol for connecting ISaGRAF, PC/HMI/OPC Server & MMI panels.
Modbus Master protocol	Up to 2 COM Ports (COM1, COM2 and COM3-in-X-board) support Modbus RTU / ASCII Master protocol to connect to other Modbus slave I/O devices. Max. Mbus_xxx Function Block amount: 64.
Modbus TCP/IP protocol	Ethernet Port supports Modbus TCP/IP Slave protocol for connecting ISaGRAF & PC/HMI. Max. 4 connections.
Remote I/O	One of COM2 (or COM3:RS-485 if found) supports I-7K, I-87K I/O modules as Remote I/O. I-87K series must plug on RU-87P(High profile) or I-87K(Low profile) I/O Unit. Max. 64 I/O modules for one PAC.
Fbus	Built-in COM2 Port to exchange data between ICP DAS's ISaGRAF PACs.
Ebus	To exchange data between ICP DAS's ISaGRAF Ethernet PACs via Ethernet port.
SMS: Short Message Service	One of (COM3:RS-232 or COM4:RS-232 if found) can link to a GSM modem to support SMS. User can request data/control the controller by cellular phone. The controller can also send data & alarms to user's cellular phone. Optional GSM modems: GSM modem: Supreme (GSM 850/900/1800/1900)
User defined protocol	User can write his own protocol applied at COM1, COM2 & (COM3 to COM8 if found) by serial communication function blocks.
Modem Link	Supports PC remotely download & monitor the controller through COM4 of X504.
MMICON / LCD	One of (COM3:RS-232 if found) supports ICP DAS's MMICON. The MMICON is featured with a 240 x 64 dot LCD and a 4 x 4 Keyboard. User can use it to display picture, string, integer, float, and input a character, string, integer and float.
Battery Backup SRAM	I-7188EG / 7188EGD can support up to 1024 retain variables with an X607 / X608 plug in the only expansion I/O slot. Data can be stored in X607/X608, and then PC can load these data via COM1 or Ethernet. PC can also download pre-defined data to the X607/X608 Optional: X607: 128K bytes, X608: 512K bytes

