



- **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.

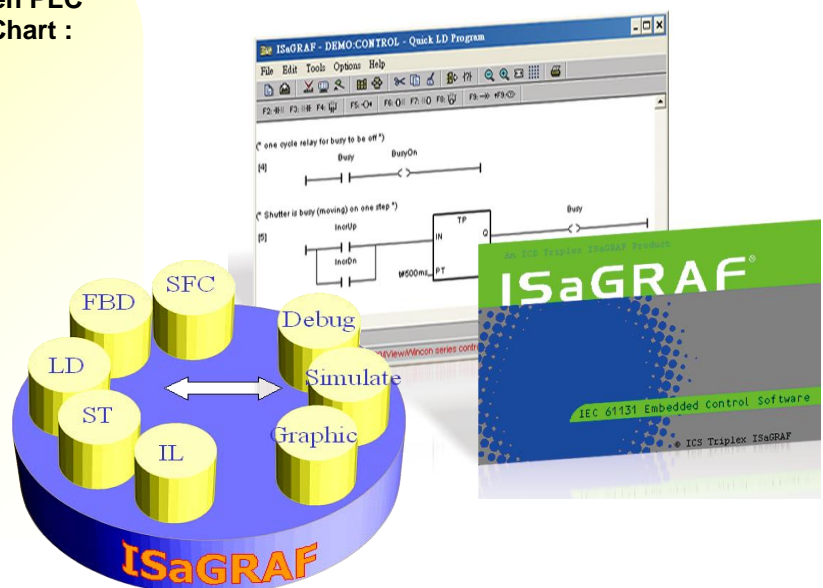
The I-7188EG supports Modbus serial protocol, Modbus TCP/IP protocol, Modbus Master protocol, Remote I/O, Fbus, Ebus, SMS: Short Message Service, modem link, MMICON / LCD and user defined protocol. The I-7188EGD is the same as I-7188EG but with 5-digit 7-segment LED display.

The ISaGRAF μ PAC supports ISaGRAF Ver.3 Workbench :

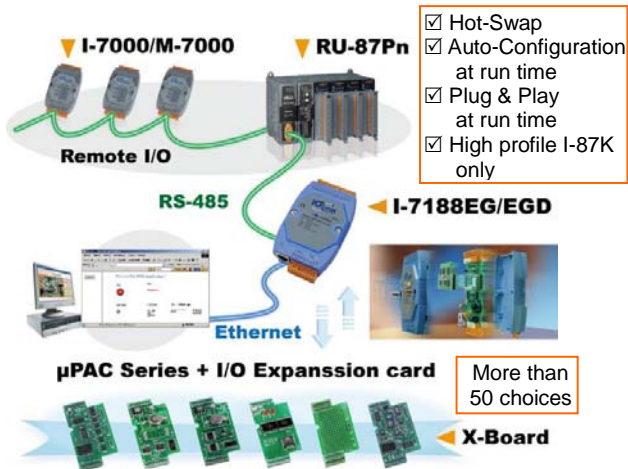
- **Support IEC 61131-3 Standard Open PLC Programming Languages + Flow Chart :**

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**

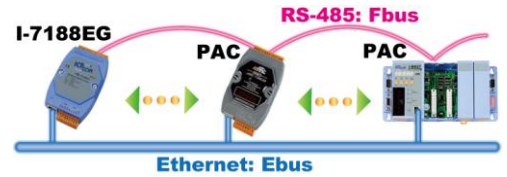


● Local/Remote I/O Application



● Data Exchange: Ethernet & RS-485

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



● Support EKAN Modbus LED



● Modbus Master

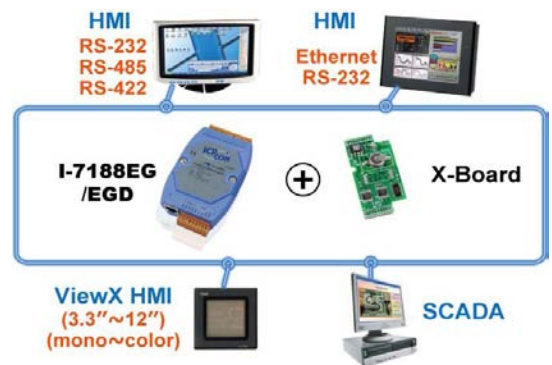
(RTU, ASCII, RS-232/485/422)

- 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

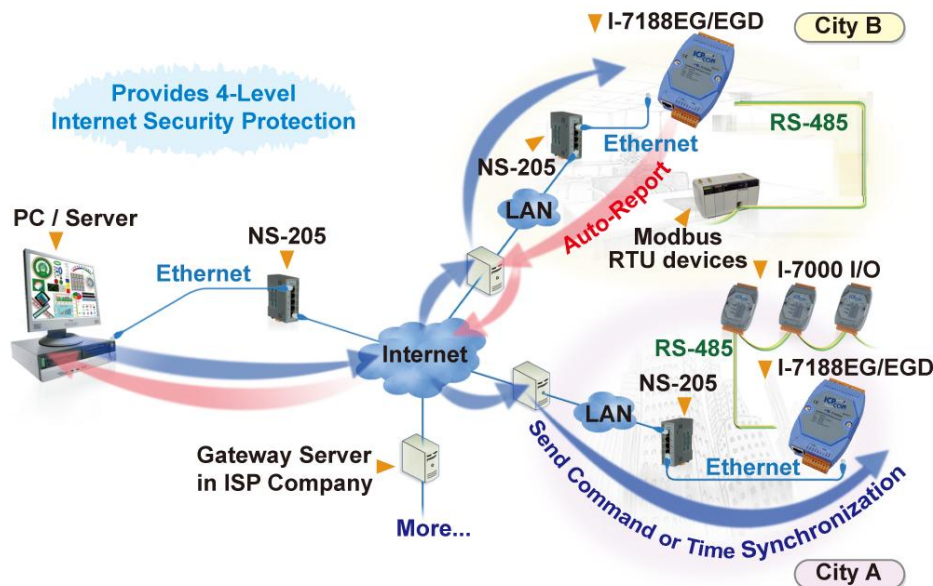


● Auto-report Acquisition Data & Control Data

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

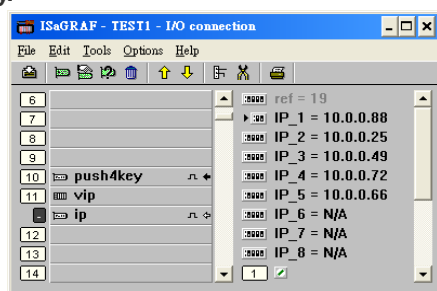
Advantage: Every I-7188EG/EGD in the different location doesn't need a fixed IP.

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.

● 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 Serial protocol | Up to 2 COM Ports (COM1 and COM3-in-X-board) can support Modbus RTU Slave protocol for connecting ISaGRAF, PC/HMI/OPC Server & MMI panels. |
| Modbus TCP/IP protocol | Ethernet Port supports Modbus TCP/IP Slave protocol for connecting ISaGRAF & PC/HMI. |
| Remote I/O | One of COM2 (or COM3:RS-485 if found) supports I-7000 I/O modules & (I-87K base or RU-87P4/8 + I-87K serial I/O boards) as Remote I/O. Max. 64 I/O modules for one controller |
| 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 |
| 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 |