



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



I-7188EG series is a palm-size PAC with ISaGRAF SoftLogic. It has one 10 Base-T 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.

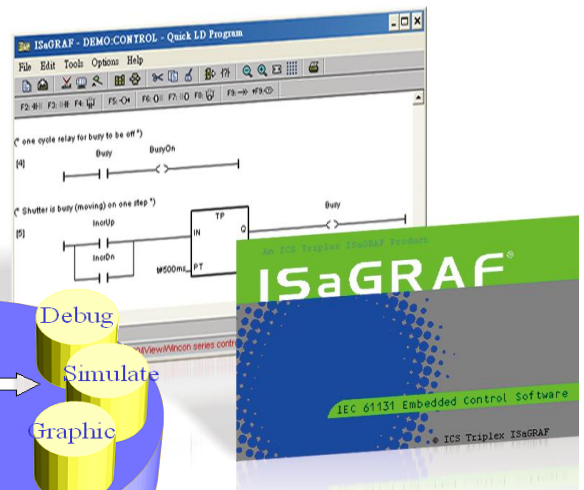
I-7188EG supports Modbus serial protocol, Modbus TCP/IP protocol, Modbus Master protocol, Remote I/O, Fbus, Ebus, SMS: Short Message Service, modem link, MMICON/LCD and user defined protocol. I-7188EGD is the same as I-7188EG but with 5-digit 7-segment LED display.

ISaGRAF μ PAC supports ISaGRAF Ver.3 Workbench :

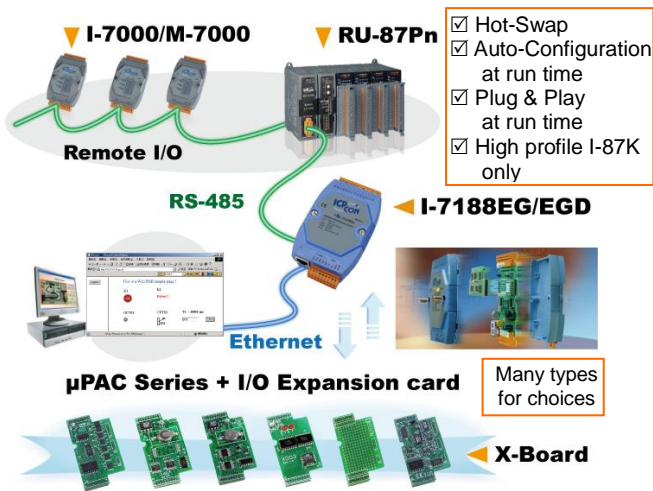
- **Support IEC 61131-3 Standard Open PLC Programming Languages + Flow Chart :**

1. **Quick Ladder Diagram (LD)**
2. **Function Block Diagram (FBD)**
3. **Sequential Function Chart (SFC)**
4. **Structured Text (ST)**
5. **Instruction List (IL)**
6. **Flow Chart (FC)**

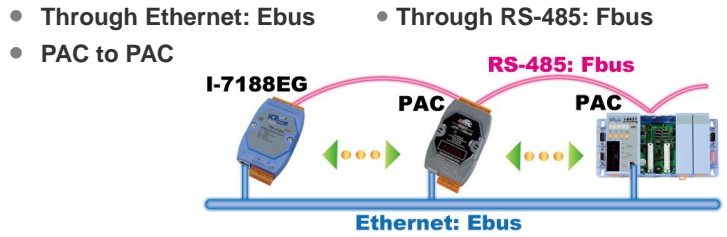
- **On-line debugging**
- **On-line control / monitoring**
- **Off-line simulation**
- **Simple graphic HMI**



Local/Remote I/O Application

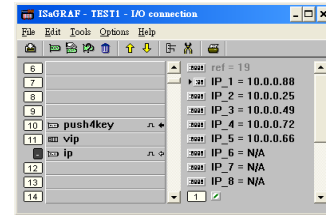


Data Exchange: Ethernet & RS-485



VIP Communication Security

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



Modbus Master

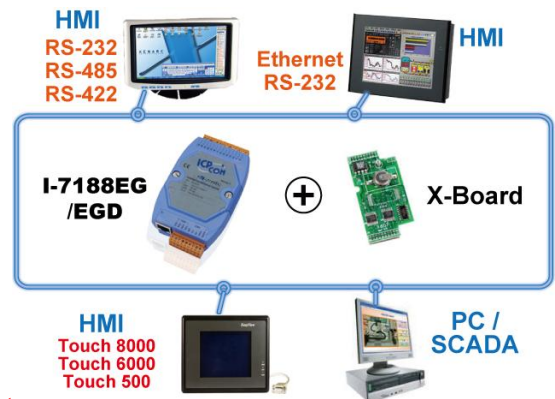
(RTU, ASCII, RS-232/485/422)

- Max. 2 COM Ports (COM1:RS-232 or COM2:RS-485 or 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 COM Ports
- Modbus TCP/IP: max. 4 PC/HMI/SCADA connection

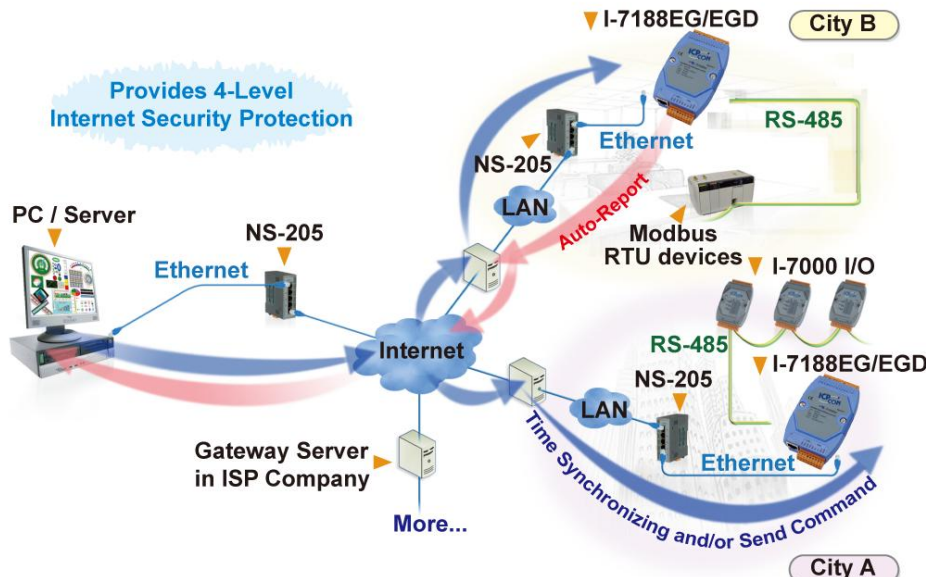


Auto-report Acquisition Data & Control Data

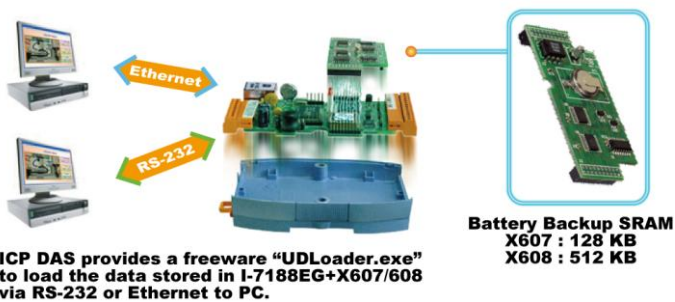
I-7188EG/EGD can use UDP/IP to auto-report acquisition data & control data to local or remote internet PC/Server.

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

Stable and Cost-effective Data Acquisition Auto-Report System



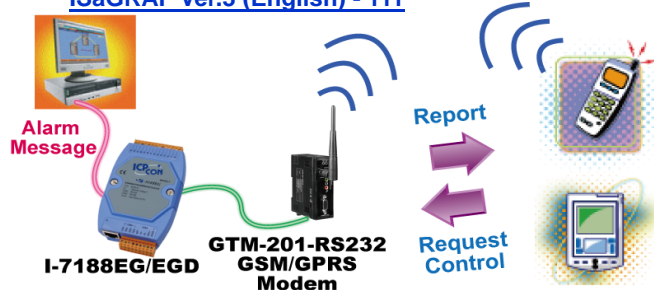
● Data Recorder and Data Logger



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

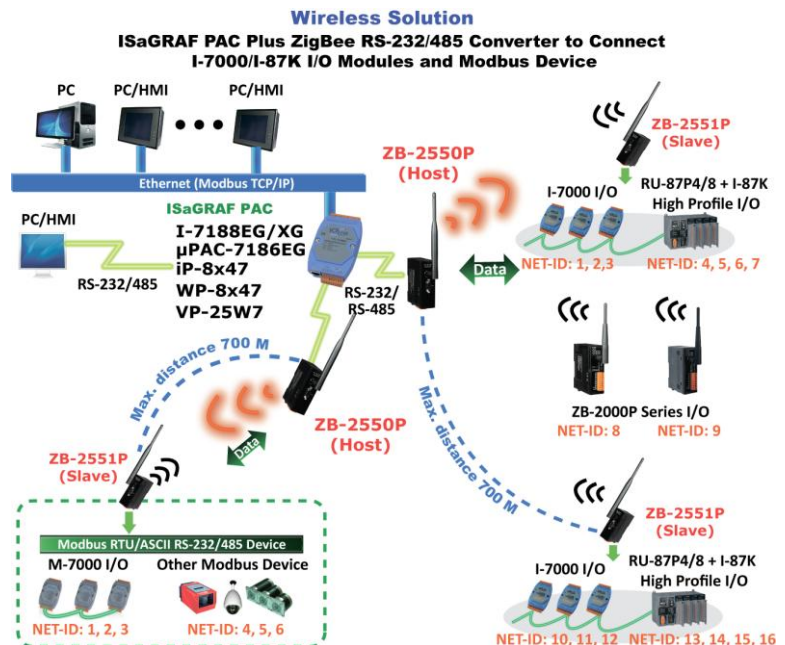
● SMS: Short Message Service

- Short message can be sent in multiple language format (like Chinese, English... others)
- More at www.icpdas.com > FAQ > Software > ISaGRAF Ver.3 (English) - 111



● ZigBee Wireless Solution

- ISaGRAF PAC plus ZB-2550P and ZB-2551P converters (ZigBee to RS-232/485)
- Please refer to www.icpdas.com > FAQ > Software > ISaGRAF Ver.3 (English) - 110 for more information



Ordering Information

I-7188EG CR	Ethernet ISaGRAF Palm-Size Programmable Automation Controller (RoHS) 80188, 40 MHz, 10 Base-T (blue)
I-7188EG-G CR	Ethernet ISaGRAF Palm-Size Programmable Automation Controller (RoHS) 80188, 40 MHz, 10 Base-T (gray)
I-7188EGD CR	Ethernet ISaGRAF Palm-Size PAC with 5-digit 7-segment display (RoHS) 80188, 40 MHz, 10 Base-T (blue)
I-7188EGD-G CR	Ethernet ISaGRAF Palm-Size PAC with 5-digit 7-segment display (RoHS) 80188, 40 MHz, 10 Base-T (gray)

Accessories

ISaGRAF-256	ISaGRAF Workbench Software Ver.3 (256 I/O Tags), with one USB Dongle
ISaGRAF-32	ISaGRAF Workbench Software Ver.3 (32 I/O Tags) (Note)
X607 CR	128 KB battery backup SRAM (RoHS)
X608 CR	512 KB battery backup SRAM (RoHS)
NS-205 CR	Unmanaged 5-port Industrial 10/100 Ethernet Switch with Plastic Case (RoHS)
NS-208 CR	Unmanaged 8-port Industrial 10/100 Ethernet Switch with Plastic Case (RoHS)

Note: No upgrade service from ISaGRAF-32 to ISaGRAF-256 is available.

(ISaGRAF-32 can be used to control more than 32 I/O tags. Please refer to Ch. 3.4 of the ISaGRAF User Manual.)

Specifications of I-7188EG & I-7188EGD



Power Supply	
Protection	Power reverse polarity protection
Input Range	+10 ~ +30 V _{DC}
Power Consumption	I-7188EG: 2 W , I-7188EGD: 3 W (when I/O slots are empty)
General Environment	
Temperature	Operating: -25°C ~ +75°C, Storage : -30°C ~ +80°C
Humidity	5% ~ 90 % RH (non-condensing)
System	
CPU	80188, 40 MHz, or compatible
Watchdog Timer	Yes
RTC (Real Time Clock)	Provide second, minute, hour, date, day of week, month, year
SRAM	512 KB
FLASH Memory	512 KB, Erase unit is 64 KB, 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 X-board series I/O board can be plugged inside the I-7188EG/7188EGD.
NET ID	User-assigned by software, 1 ~ 255
Serial Ports	
COM1	RS-232: TxD, RxD, RTS, CTS, GND, Speed: 115200 bps max. Program downloads port.
COM2	RS-485: D+, D-, 115200 bps max. Self-tuner ASIC inside
Ethernet	10 Base-T, NE2000 compatible,. 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. 64 KB ISaGRAF code size (Appli.x8m must < 64 KB)
PWM Output	
Pulse Width Modulation Output	All X-board series DO boards support PWM output. 8 channels max. for one controller. 500 Hz max. for Off=1 & On=1 ms Output square curve: Off: 1 ~ 32767 ms, On: 1 ~ 32767 ms
Counters	
Parallel DI Counter	All X-board series DI boards support DI counter. 8 ch. max. for one controller. Counter value: 32 bit 500 Hz max. Min. ON & OFF width must > 1 ms
Remote DI Counter	All remote I-7000 & I-87K DI modules support counters. 100 Hz max. value: 0 ~ 65535
Remote High Speed Counter	Optional I-87082:100 kHz max. , 32 bit
Protocols	
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 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 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 modem: GTM-201-RS232 (GSM/GPRS modem, 850/900/1800/1900)
User Defined Protocol	User can write his own protocol applied at COM1, COM2 & (COM3 ~ 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: 128 KB, X608: 512 KB

