



- **ISaGRAF Ver.3 SoftLogic Inside**
- **Support IEC 61131-3 + Flow Chart**
- **MinIOS7 Inside**
- **80188-40 MHz CPU**



The **I-7188XG** series is a palm-size ISaGRAF PAC and includes ISaGRAF SoftLogic. It has 2 Serial ports (COM1:RS-232/RS-485 & COM2:RS-485). The user can choose I/O expansion board, X-Board, to expand the I/Os or memories of I-7188XG.

The I-7188XG supports Modbus Serial protocol, Modbus Master protocol, Fbus:RS-485, Remote I/O, SMS: Short Message Service, modem link, MMICON / LCD and user defined protocol.

The ISaGRAF μ PAC supports ISaGRAF Ver.3 Workbench :

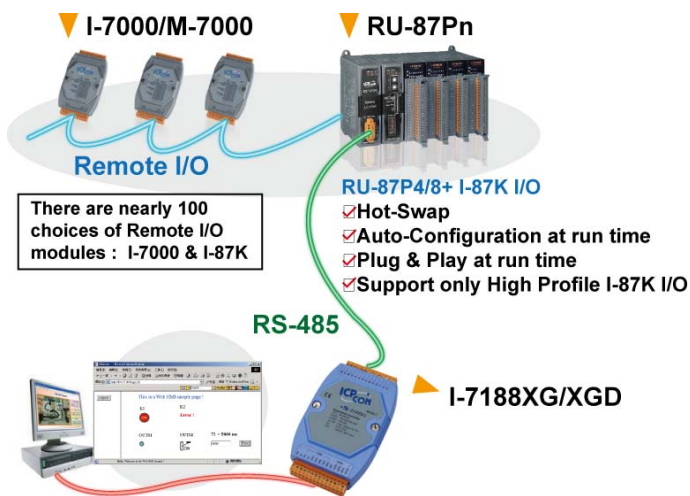
- **IEC 61131-3 Standard Open PLC Programming Languages + Flow Chart.**

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**



● Remote I/O Application



● Modbus Master

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

- 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...)



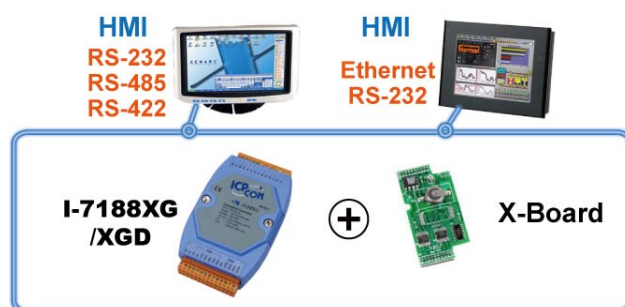
● Data Exchange: Fbus (RS-485)

- Through RS-485: Fbus
- PAC to PAC



● Modbus RTU Slave Ports

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



● Support I/O Expansion Board: X-Board Series

Inserting one I/O expansion board in I-7188XG can add :

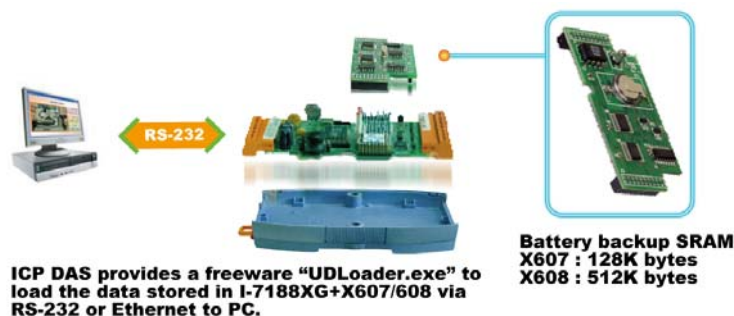
- More I/O channels: X107, X109, X110, X111, X116, X119, X202, X203, X303, X304, X305, X308, X310
- More COM Ports: X503, X504, X505, X506, X507, X508, X509, X510, X510-128, X511, X518
- More NVRAM: X607, X608
- 24-bit encoders: X702 (2-axis), X703 (3-axis)



● Support EKAN Modbus LED



● Data Recorder and Data Logger



● SMS: Short Message Service



● Wireless Communication



Ordering Information

ISaGRAF μPAC	I-7188XG CR	ISaGRAF Palm-Size PAC (RoHS)
	I-7188XGD CR	ISaGRAF Palm-Size PAC with 5-digit 7-segment 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)
Wireless Product	SST-2450	Wireless Modem Module RS-232/RS-485 Interface
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-7188XG & I-7188XGD



Power Supply	
Power Requirements	10 to 30VDC (unregulated), I-7188XG:2W , I-7188XGD: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	512Kbytes
FLASH Memory	512Kbytes. Erase unit is 64K bytes, 100,000 erase/write cycles
NVSRAM	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-7188XGD	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-7188XG / 7188XGD.
NET ID	Set by software, 1 to 255
Serial Ports	
COM1	Can be used as RS-232 or RS-485 , Speed: 115200 bps max. RS-232 TXD,RXD,RTS,CTS,GND RS-485: D+, D-, self-tuner inside Program downloads port.
COM2	RS-485: D+, D-, 115200 bps max. Self-tuner ASIC inside
Development Software	
ISaGRAF Version 3	IEC 61131-3 standard. Languages: LD, ST, FBD, SFC, IL & FC
Max. Code Size	I-7188XG/7188XGD 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. Max. Mbus_xxx Function Block amount: 64.
Modbus Master Protocol	Up to 2 COM Ports (COM2 and COM3-in-X-board) support Modbus RTU / ASCII Master protocol to connect to other Modbus Slave I/O devices
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.
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: Supreme (GSM 850/900/1800/1900)
User Defined Protocol	User can write his own protocol applied at 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-7188XG / 7188XGD 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. PC can also download pre-defined data to the X607/X608 Optional: X607: 128K bytes, X608: 512K bytes	

