ISaGRAF

PAC SoftLogic Development Kit

Introduction

ISaGRAF installed on PC Windows OS, is the PAC SoftLogic Development Kit based on internationally recognized industrial automation language, the IEC61131-3, to fully support the PLC language: Ladder Diagram (LD) , Function Block Diagram (FBD) , Sequential Function Chart (SFC) , Structured Text (ST) and Instruction List (IL) plus Flow Chart (FC) .

ISaGRAF Controllers

ICP DAS provides many ISaGRAF controller models to fit various kinds of applications. The current available ISaGRAF controllers are

μPAC-7186EG, I-7188EG, I-7188XG, I-8417/8817, I-8437-80, I-8837-80, iPAC-8447/8847, WinCon-8347/8747 and WinPAC-8147/8447/8847. User can install the same ISaGRAF workbench software version 3 (version 3.4 , 3.5 or future version) to program application running in these different controllers. All of them support ISaGRAF, even sometimes the program is almost same.

ICP DAS will continuously design future advanced controllers to support ISaGRAF. Some of them, iView-100-ISaGRAF, Board PLC, Hero controller will come soon in the near future.

General Features

On-line debugging & control

ISaGRAF workbench running on the PC can connect to the controller via Ethernet, RS-232 or RS-485 cable. All variables' state, graphic program's state, I/O state can be display on PC's screen. User can also give command to switch On/Off Boolean variable or set value to integer, real, timer or message variables.

Simulation

ISaGRAF installed on PC can run to simulate user's program without the controller nearby. This helps user to debug his program in the office even controller is not available.

Spotlight: Simple HMI

Spotlight is a simple HMI coming with ISaGRAF workbench and running on PC which allows user to build Boolean Icon, Bar Graph, Trend Curve, Value Text, Bitmap Picture to make application more friendly.

Remotely monitoring & download via modem

Many ICP DAS ISaGRAF controllers have embedded the Modem_Link protocol for remotely download and monitoring by the ISaGRAF workbench. All you have to do is to dial a phone call from your PC to the faraway controller to monitor every information you want.

Auto-scan I/O

Auto-scan I/O is an ICP DAS added-on tool for I-8000/iPAC-8000 and WinCon-8000/WinPAC-8000 ISaGRAF controllers to auto-scan I/O boards and auto-declare variables for every found I/O channel. It is very convenient for user to easy configure the I/O and variables at the first time.


On-Line change

WinCon-8000/WinPAC-8000 & future advanced ISaGRAF controllers support on-line-change function (or called on-line-modification). User doesn't need to stop the old program while downloading a new program to replace it. The program must follow the on-line-modification rules of the ISaGRAF.

Lock & unlock I/O

This feature is very useful when the real Input/Output device is not available or not reachable or sometime is not allowed to change value or state for testing. ISaGRAF can "Lock" these I/O variables which you want to test to become internal virtual I/O. Then user can easily debug his application with every input condition he want to test, and the locked output will not do real output, it becomes virtual.

### Uploading the program in the controller

ISaGRAF supports uploading feature. The program being compiled can be set as "uploadable", and then download to the controller to run. After that, at any time, any day, the program can be upload by ISaGRAF.

www.icpdas.com
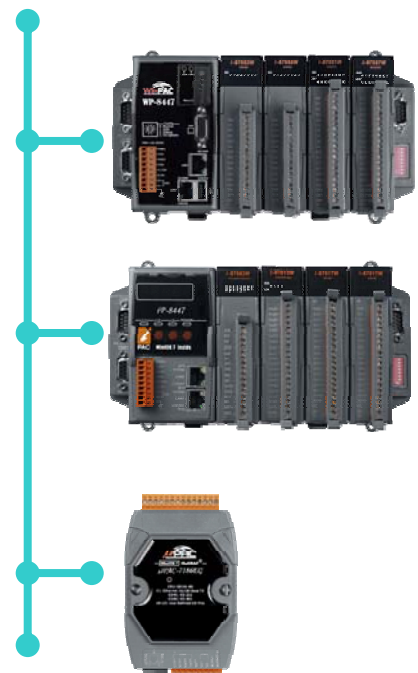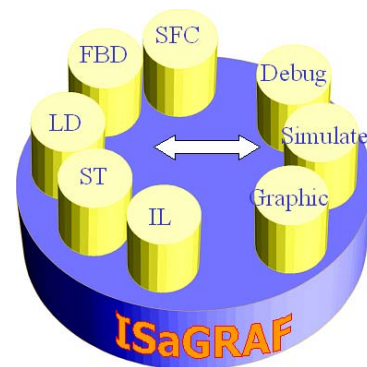
Language Features

Quick LD Editor

The Ladder Diagram (LD) is one of the most familiar methods of representing logical equations and simple actions. With the ISaGRAF graphic editing tools the user can mix LD and FBD programming on the same chart. Any function or function block of the library can be called from this editor.
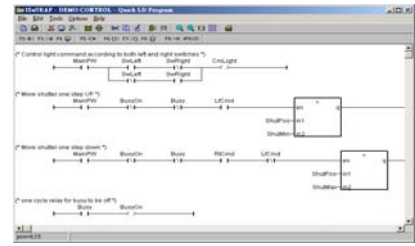

FBD Editor

The Function Block Diagram (FBD) is a graphics-based language which allows the user to build complex procedures by taking existing function blocks from the ISaGRAF library, and wiring them together on the screen. ISaGRAF includes a library with more than 60 standard blocks ready to use. And 200 more are available from ICP DAS target's blocks.
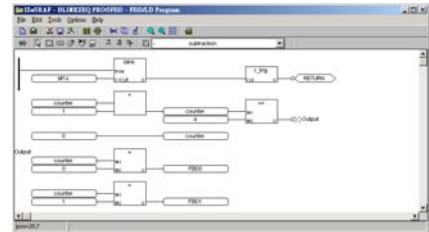
SFC Editor

The Sequential Function Chart (SFC) divides the process cycle into a number of well-defined steps, separated by transitions. The other languages can be used to describe the actions performed within the steps and the logical conditions for the transitions. Parallel processes can be easily described using SFC.
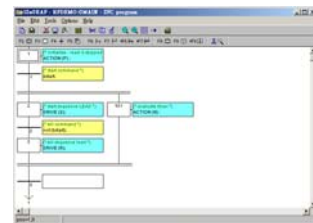
ST Editor

Structured Text (ST) is a high level structured language with a syntax similar to Pascal but more intuitive to the automation engineer. This language is mainly used to implement complex procedures that cannot be easily expressed with graphics-based languages (IF / THEN / ELSE, FOR, WHILE...). ST is especially powerful to do integer & floating-point value calculation, for ex. + , -, *, / , and good at doing function calls.

IL Editor

Instruction List (IL) is a low-level language, similar to the simple- text PLC languages. In August 1996, the ISaGRAF IL editor received the certificate of PLCopen compliance with a class-rating of IEC61131-3.
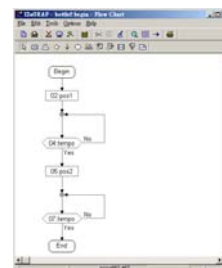

Flow Chart Editor

Flow Chart (FC) is a non-IEC61131-3 language. FC is a graphics-based language. It combines "test" , "action" , "flow", and other mechanisms to perform a control process.

Ordering Information

ISaGRAF-256-E	ISaGRAF Workbench Software Ver. 3, Up to 256 I/O Tags + one ISaGRAF Book-E
ISaGRAF-256-C	ISaGRAF Workbench Software Ver. 3, Up to 256 I/O Tags + one ISaGRAF Book-C
ISaGRAF-256	ISaGRAF Workbench Software Ver. 3, Up to 256 I/O Tags (Without Book)
ISaGRAF Book-E	ISaGRAF Application Book (English)
ISaGRAF Book-C	ISaGRAF Application Book (Traditional Chinese)

Note: Whatever your application has 100 or 1000 or more I/O, whatever 1 or 2 or 100 controllers are applied in the application, ISaGRAF Workbench with 256 Tags is enough for programming all ICP DAS ISaGRAF controllers.