

WP-5238-CE7

Win-GRAF based WinPAC-5000

Features

- Cortex A8, 1 GHz CPU
- 512 MB SDRAM and 256 MB Flash
- Windows CE 7.0 Professional
- Embedded Win-GRAF SoftLogic (IEC 61131-3)
- Hard Real-Time Capability
- 64-bit Hardware Serial Number for Software Protection
- I/O Expansion Bus
- 10/100/1000M Ethernet Port
- 4 Serial Ports (RS-232/485)

Introduction

The Win-GRAF WinPAC-5000 Series (WP-5238-CE7) is the new generation WinCE 7.0 based Win-GRAF PAC (Programmable Automation Controller) from ICP DAS. This series PAC is equipped an Cortex A8 CPU (1 GHz) and running a windows CE.NET 7.0 operating system. The optional I/O expansion board, XV-board, provides high-protection I/O. Using the built-in microSD, the Win-GRAF WP-5000 series can save application program, image file and data.

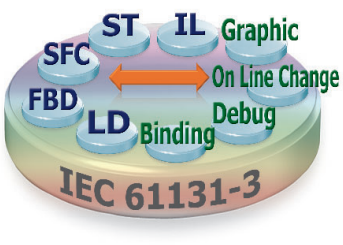
The benefits of running Windows CE on a WinPAC device include hard real-time capability, achievable deterministic control and allowing PAC can have a PC-like window displays and operating environment. The PACs are capable of running Win-GRAF (IEC 61131-3 Standard) software to develop logic control applications, and also supporting M.S. VS 2008 software (VB .NET, C#) to develop HMI and data management applications that can exchange data with Win-GRAF applications. So the application's design is more convenient and more practical.

Win-GRAF

Win-GRAF is a soft logic programming platform compliant with the IEC 61131-3 standard, designed for developing industrial control and automation solutions. It serves as a framework that allows users to create customized applications for various industrial systems, such as Programmable Logic Controllers (PLCs), Remote Terminal Units (RTUs), and embedded controllers. The Workbench supports all IEC 61131-3 programming languages, including Structured Text (ST), Function Block Diagram (FBD), Ladder Diagram (LD), Instruction List (IL), and Sequential Function Chart (SFC). With diverse libraries and built-in function blocks, it works seamlessly with all ICP DAS Win-GRAF controllers for fast and efficient development.

The features of the Win-GRAF:

- IEC 61131-3 Standard Open PLC Syntax (LD, FBD, SFC, ST, IL)
- Open Architecture: to integrate and customize for specific applications
- Event Triggered Data Binding (Exchange Data between PACs)
- Provide IDE: includes a user-friendly graphical user interface
- On Line Program Modification
- Various Protocols
- Plenty of Functions, Function Blocks, I/O Boards
- Redundancy





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PAC Specifications

Models		WP-5238-CE7
System Software		
OS		Windows CE 7.0 Core
.Net Compact Framework		3.5
Embedded Service		FTP Server, Web Server (Supports VB script, JAVA script), Embedded SQL Server
SDK Provided		Dll for Visual Studio.Net 2008
Multilanguage Support		English, German, French, Spanish, Russian, Italian, Korean, Simplified Chinese, Traditional Chinese
Development Software		
Win-GRAF Software	Win-GRAF	IEC 61131-3 standard
	Languages	LD, ST, FBD, SFC, IL
	Max. Code Size	2 MB
	Scan Time	3 ~ 15 ms for normal program; 15 ~ 50 ms for complex or large program
Non-Win-GRAF		Options: VS.NET 2008 (VB.NET, C#.NET, C)
CPU Module		
CPU		Cortex A8, 1 GHz
DDR3 SDRAM		512 MB
Flash		256 MB
FRAM		64 KB (for retain variables)
Expansion Flash Memory		4 GB microSD card (up to 32 GB)
RTC (Real Time Clock)		Provides seconds, minutes, hours, dates, day of week, month, year
64-bit Hardware Serial Number		Yes, for Software Copy Protection
Watchdog Timer		Yes
LED Indicators		1 x System/Power, 2 x Programmable
Rotary Switch		1 x 10 Position (0 ~ 9)
VGA & Communication Ports		
VGA		Yes. Resolution: 640 × 480, 800 × 480, 800 × 600, 1024 × 768
Ethernet		RJ-45 x 1, 10/100/1000 Base-T (Auto-negotiating, Auto MDI/MDI-X, LED indicators)
USB 2.0 (host)		1
COM 1		RS-232 (RxD, TxD and GND); Non-isolated
COM 2		RS-232 (RxD, TxD and GND); Non-isolated
COM 3		RS-485 (Data+, Data-); Non-isolated
COM 4		RS-485 (Data+, Data-); 2500 VDC isolated
I/O Expansion Slot		
I/O Expansion Bus		Yes, one optional XV-board
Mechanical		
Dimensions (W x L x H)		91 mm x 132 mm x 52 mm
Installation		DIN-Rail Mounting
Environmental		
Operating Temperature		-25 ~ +75 ° C
Storage Temperature		-40 ~ +80 ° C
Ambient Relative Humidity		10 ~ 90% RH (non-condensing)
Power		
Input Range		+12 ~ 48 VDC
Consumption		4.8 W

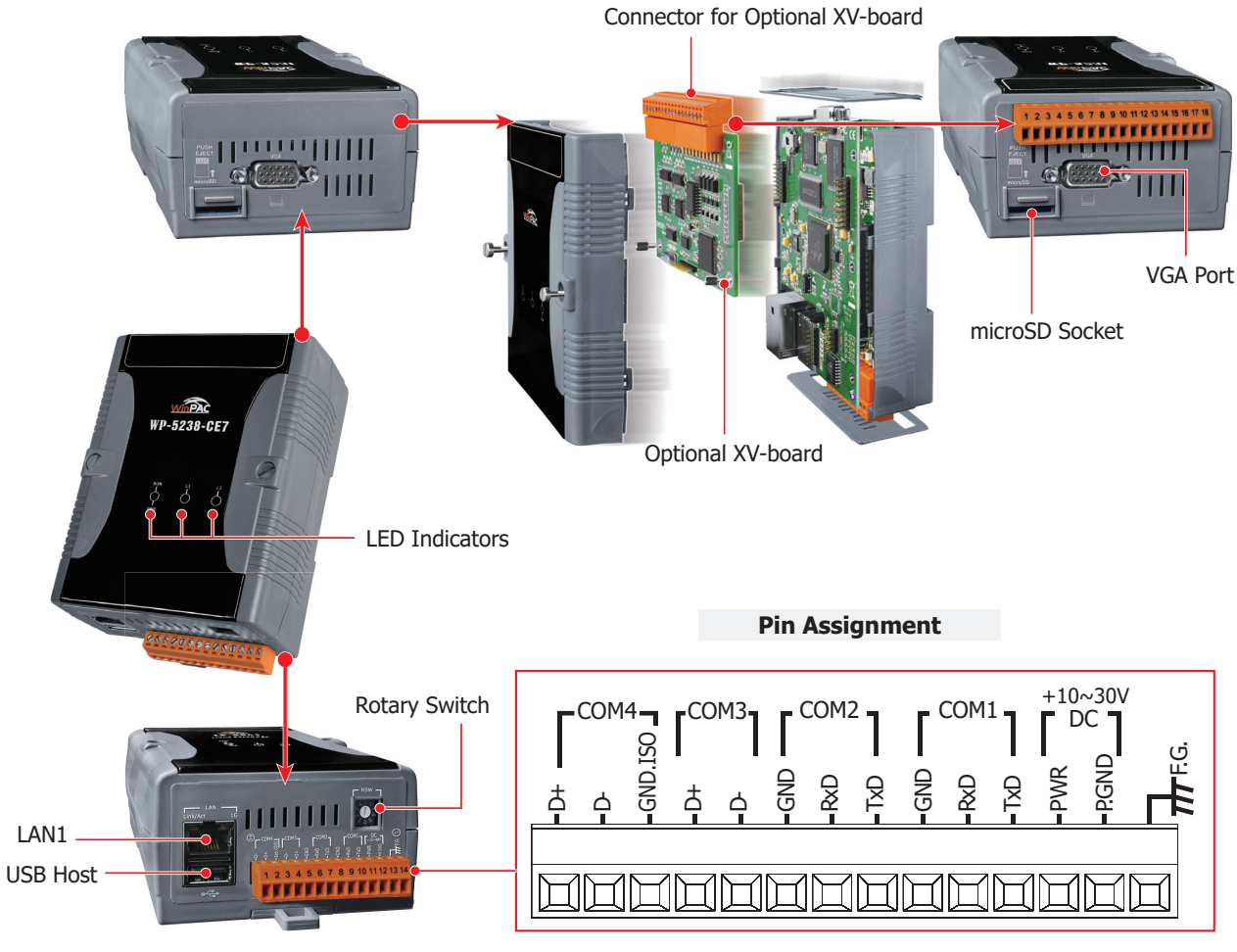
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Win-GRAF Specifications

Models	WP-5238-CE7
Protocols (Note that certain protocols require optional devices)	
OPC UA Server	The OPC UA Server is an application that provides data and information, serving as the core of OPC UA technology. It is responsible for managing, collecting, storing, and distributing data. Acting as a central controller, the OPC UA Server connects with various clients to facilitate data access and exchange.
Modbus TCP/IP Master	Supports connection of up to 64 IP devices
Modbus TCP/IP Slave	Supported. Up to 32 connections supported via two Ethernet ports (LAN1 & LAN2).
Modbus RTU/ASCII Master	Supported. Up to 4(*) communication ports.
Modbus RTU Slave	Supported. Up to 4(*) communication ports.
User-defined Protocol	Supported. Up to 4(*) communication ports.
Functions	
eLogger HMI	Supports eLogger.
Password Protection	Equipped with a built-in 64-bit (8-byte) hardware serial number and a proprietary algorithm that generates authentication codes to effectively protect the security of Win-GRAF programs.
Data Binding	Supported. Enables data exchange between Win-GRAF Runtime devices.
Online Program Modification	Supports the On-line Change function.
Retain Variables	Supported. Up to 120K bytes of non-volatile memory for data retain after power loss.
File Access & Data Log	Supports file Read/Write.
Additional I/O Module Support	
Local I/O Modules	Supports one optional XV-board
Modbus TCP I/O	Supports ET-7000 series, I-8KE4/8-MTCP, and tPET/tET series I/O modules.
Modbus RTU I/O	Supports M-7000 series, tM series, and LC series I/O modules.
DCON Remote I/O	Supports I-7000 series, M-7000 series, and I-87K expansion units.
***The number of COM ports depends on the model configuration and the use of expansion communication modules (e.g., I-8144iW, I-8142iW, I-8112iW, I-8114iW…)**	

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Appearance



Ordering Information

WP-5238-CE7 CR	Win-GRAF based WP-5000 PAC with WinCE 7.0 and one LAN port (RoHS)

Accessories

XV-board	Add-on I/O Expansion Board

Related Products

Win-GRAF Development Software	
Win-GRAF Workbench	Win-GRAF Workbench Software with one USB Dongle
WGW-S-License	Win-GRAF Workbench Software License

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