PACwiz

IEC 61131-3 Solution with Integrated Motion and Vision

Trends in Automation Controllers

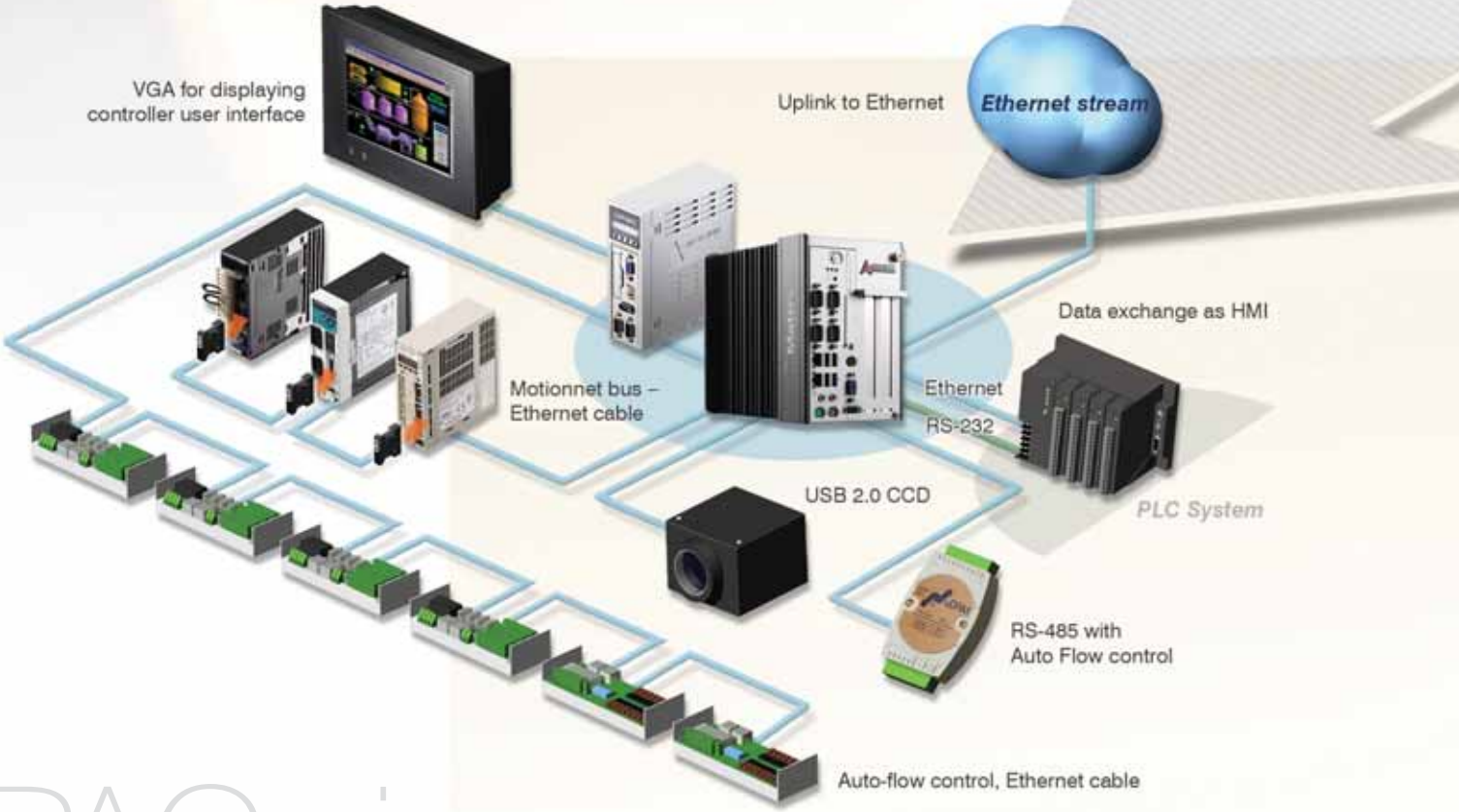
Programmable automation controllers (PACs) are the latest solution for machine and industrial control systems. A PAC combines the features and capabilities of a PC-based control system with the reliability and ruggedness of a programmable logic controller (PLC) under an open and flexible software architecture. PACs are particularly beneficial to industrial applications which increasingly require:

- A cost-effective platform to integrate logic, motion control and process control.
- A better platform that can offer more than PLCs—cost-effective interfaces such as Ethernet connectivity and cost-effective storage such as CompactFlash.
- An embedded, compact, and rugged controller.
- Functional control blocks that can be distributed via a fieldbus, unlike typical industrial PC configurations.

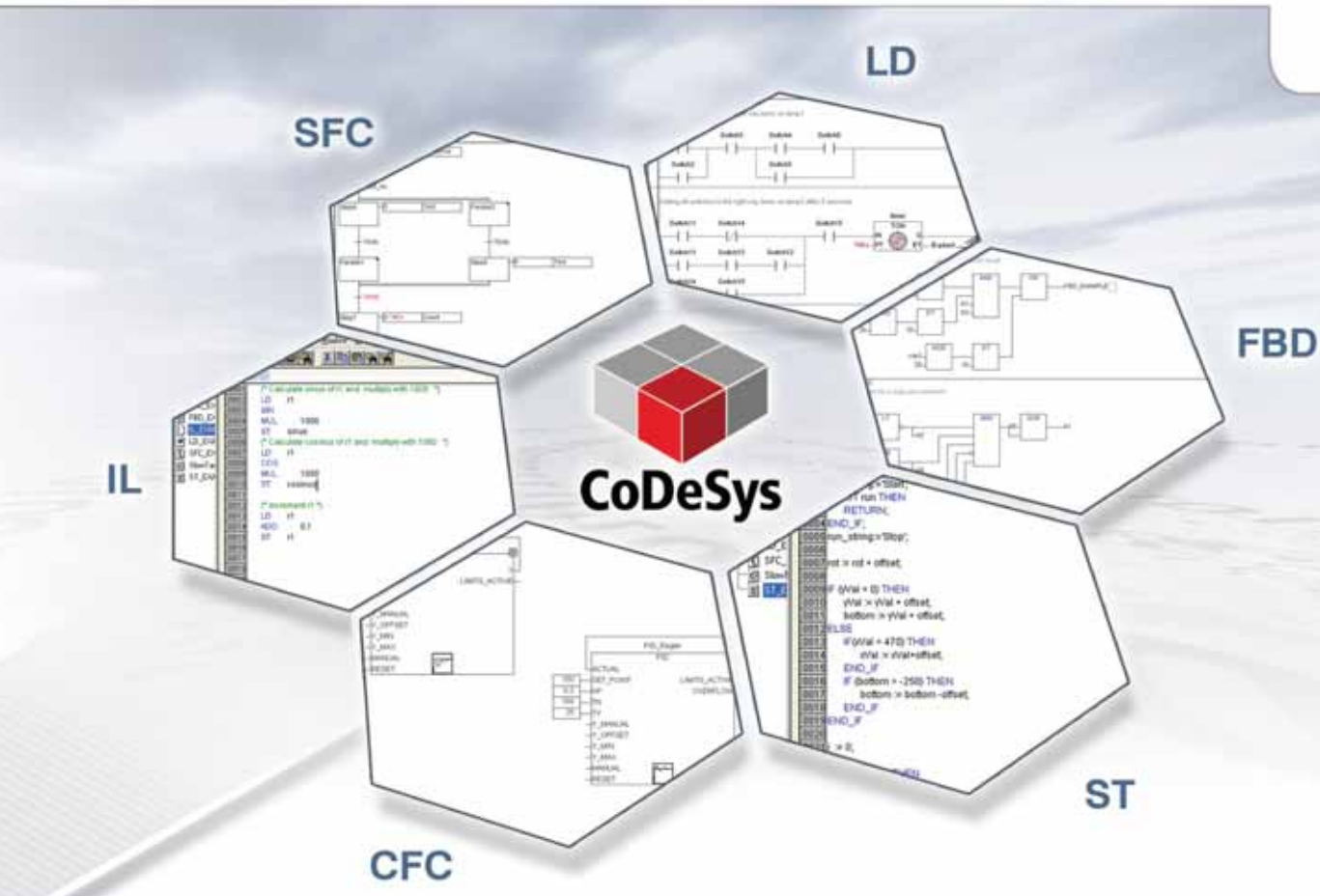
In addition, the wiring setup when using either PCI slots in a PC or functional slots in a PLC is very cumbersome and costly. Using distribution, the functional blocks can be placed near the sensors, actuators, or serve motors. Ethernet cable can then be used for wiring, thus greatly reducing costs.

Features

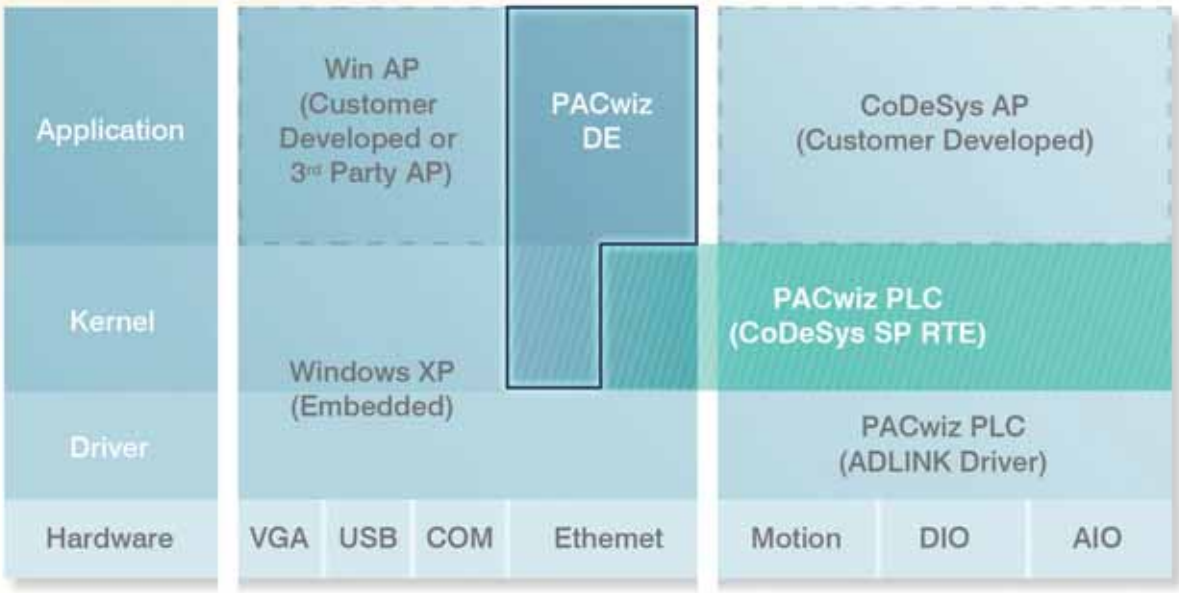
- Compatible with IEC 61131-3 syntax, including five commonly-used PLC syntaxes; PLC users can switch to a PC-based solution without further training
- Built-in visualization editor allows use of standard VGA monitor instead of expensive specialized HMI devices
- Real-time capability allows set up of tasks to within a 1 ms cycle time; no additional RTOS is required
- Integration of field bus, motion control, and vision analysis into a single environment eliminates the time cost of learning various development utilities
- Support of distributed I/O and motion modules allows for flexible wiring and reduces 20% of wiring costs
- Native CPU code and independent core from Windows faster performance than the competition; code will continue to execute even when Windows has crashed ("blue screen of death")
- Rugged fanless and cable-less design; without moving parts and internal cables dramatically increase product reliability and shelf life.



PACwiz



Design your application using PLC languages with the benefit of abundant PC-based resources.



PACwiz Platform

PACwiz, ADLINK's solution for IEC 61131-3 applications, enables you to access ADLINK products via PLC-like languages. The concept of PACwiz is composed of two parts: PACwiz Platform and PACwiz IDE. You can develop IEC 61131-3 applications in PACwiz IDE just like you are developing applications with traditional PLCs. These applications are then downloaded to your PACwiz Platform.

PACwiz Platform is a platform providing integrated field bus, motion control and vision analysis functions. Up to 2016 DI/Os and 64 servo axes, or 558 AI/O points and 64 servo axes can be controlled by a single platform. PACwiz Platform includes both the features of a PC, such as high-performance computing power, mass storage devices, and built-in network connectivity, and the features of a PLC, such as compact and robust design, real-time scan behavior and intuitive graphical programming. PACwiz Platform can connect to common LCD touch panels monitors for its display and operation interface, and thus no specialized industrial HMI is required. You can choose from developing your own control programs in an IDE supporting the Windows XP series of operating systems or editing the HMI screen in the PLC project before downloading to PACwiz Platform.

PACwiz Platform – Open Type

PACwiz-MXC

Designed in the Matrix-C series controller, PACwiz-MXC features configurable PCI or PCI Express® slots that work with several of ADLINK's PCI cards via IEC 61131-3 syntax. Data exchange between IEC 61131-3 applications and Windows applications can be implemented by ADLINK's PACwiz DE WinAPI if third-party PCI and PCIe cards are used in the same system.

* Please refer to page 6-4 for the list of supported PCI and PCIe cards for PACwiz-MXC.

PACwiz Platform – Closed Type

PACwiz-DPAC

Designed using the DPAC-3000 series controller, PACwiz-DPAC features built-in distributed motion and I/O control solutions such as HSL and Motionnet modules that support IEC 61131-3 syntax. The programmable buttons and LEDs display the status of the platform and enable it to be controlled without any extra display or input devices. PACwiz-DPAC also includes battery-backed RAM to ensure data protection during power outage.

*Please refer to page 6-4 for the list of supported modules for PACwiz-DPAC.

Supported Modules

Discrete Digital I/O Modules

Model Name	Description	Page
HSL-DI16DO16-US/-UJ/-UD	16-CH Discrete Input 16-CH Discrete Output Modules	8-5
HSL-DI32-US/-UJ/-UD	32-CH Discrete Input Modules with U Profile	8-6
HSL-DO32-US/-UJ/-UD	32-CH Discrete Output Modules with U Profile	8-6
HSL-DI16DO16-DB-NN/-NP/-PN/-PP	16-CH Discrete Input 16-CH Discrete Output Daughter Board Modules	8-10
HSL-DI16DO16-M-NN/-NP/-PN/-PP	16-CH Discrete Input 16-CH Discrete Output Modules	8-11
HSL-DI32-DB-N/P	32-CH Discrete Input Daughter Board Modules	8-10
HSL-DI32-M-N/P	16-CH Discrete Input 16-CH Discrete Output Modules	8-11
HSL-DO32-DB-N/P	32-CH Discrete Output Daughter Board Modules	8-10
HSL-DO32-M-N/P	32-CH Discrete Output Modules	8-11

Distributed Analog I/O

Model Name	Description	Page
HSL-AI16AO2-M-VV/-AV	16-CH Analog Input /2 Analog Output Modules	8-11

Distributed Motion Control Modules

Model Name	Description	Page
MNET-4XMO	Motionnet Distributed 4-axis Motion Control Module	7-27
MNET-J3	Motionnet Distributed Single-Axis Motion Control Module for Mitsubishi J3-A	7-28
MNET-S23	Motionnet Distributed Single-Axis Motion Control Module for Yaskawa Sigma II, III, and V	7-28
MNET-MIA	Motionnet Distributed Single-Axis Motion Control Module for Panasonic MINAS A4	7-28

PCI/PCIe Cards for PACwiz-MXC

Model Name	Description	Page
PCI-7856	Master-Slave Distributed Motion & I/O Master Controller	7-26
PCI-7230	16-CH Isolated DI & 16-CH Isolated DO Card	2-45
PCI-9112	16-CH AI, 2-CH AO, 16-CH DI & 16-CH DO Card	2-19
PCI-RTV24	4-CH Real-time Video Capture Board for Standard Cameras	11-8

Ordering Information

PACwiz-MXC

Model Name	Description	Page
Step 1: Select the controller.		
MXC-2002	Intel® Atom™ N270 Fanless Configurable Controller with 2 PCI slots, 1GB DDR2	12-5
MXC-2002D	Intel® Atom™ N270 Fanless Configurable Controller with 2 PCI slots, 1GB DDR2, and 16 DI+16 DO	12-5
Step 2: Select the optional PCI/PCIe cards.		
PCI-7856	Master-Slave Distributed Motion & I/O Master Controller	7-26
PCI-7230	16-CH Isolated DI & 16-CH Isolated DO Card	2-45
PCI-9112	16-CH AI, 2-CH AO, 16-CH DI & 16-CH DO Card	2-19
PCI-RTV24	4-CH Real-time Video Capture Board for Standard Cameras	11-8
Step 3: Contact your sales representative for custom PACwiz-MXC configurations.		

PACwiz-DPAC

Model Name	Description	Page
DPAC-30Y0-11	Intel® Atom™ N270 CPU with Built-In Remote Master, Windows XP Embedded (English), CoDeSys SP RTE	12-10
Accessories		
GPIO Cable	1M length cable with single-end open wire	
Li battery	CR2032 type battery for data backup protection	
Industrial-grade	4 GB storage for DPAC external slot	

Y ▸ COM2 ; 0 ▸ RS-485 / 1 ▸ RS-422 / 2 ▸ RS-232