KYLAND

NewPreA5101

Smart Industrial Controller



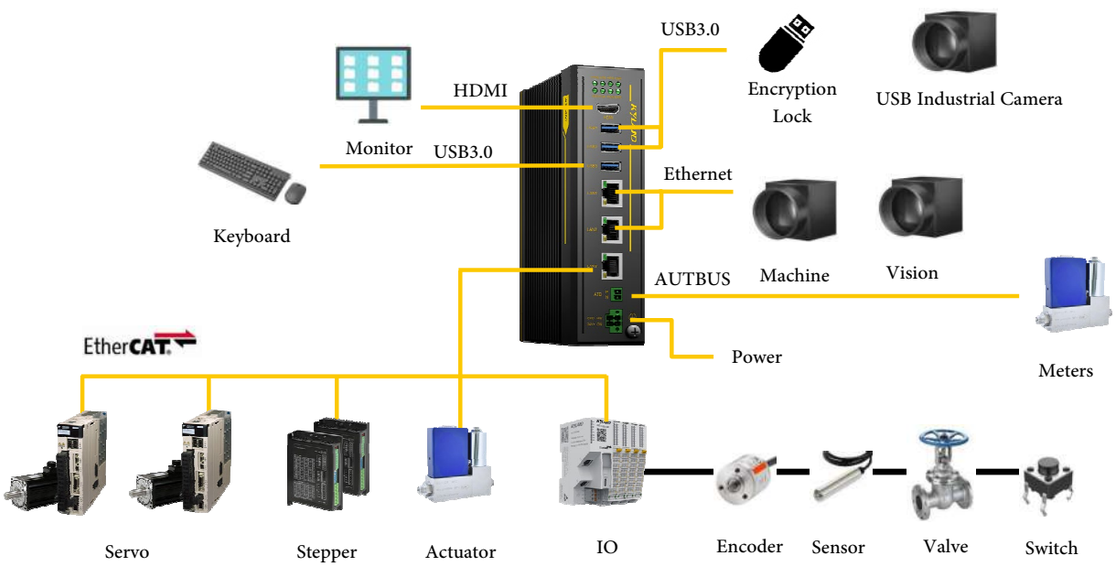
NewPreA5101

Medium-sized Smart Industrial Controller

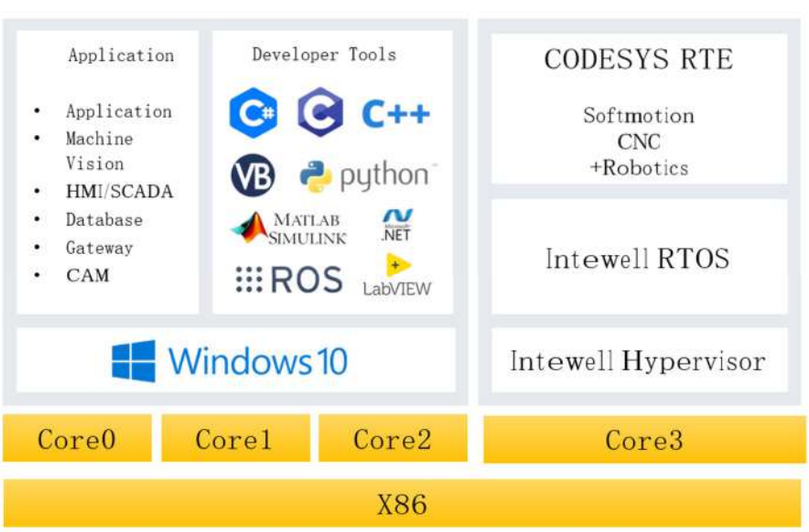
Overview

The NewPreA5101 Smart Industrial Controller is a medium-sized smart controller launched for the high-end equipment and intelligent production line markets. It supports use in environments with humidity, salt spray, mold, wide temperature and harsh electromagnetic interference. It perfectly integrates logic control (PLC) , machine vision, HMI , database and customer applications on one controller hardware, and provides an open secondary development interface to help users easily and quickly design low-cost, safe and reliable industrial control solutions.

Hardware Interface

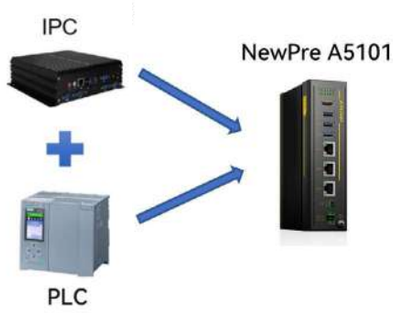


Software Architecture



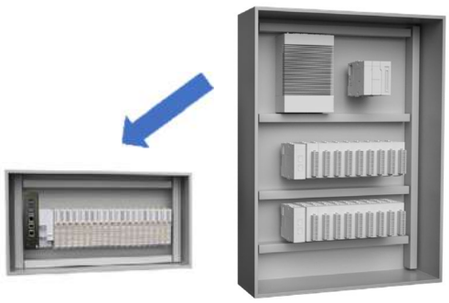
Integrated display, vision, control and customer applications

- Integrate display, control, vision and customer applications into one controller to simplify system structure and reduce user costs.



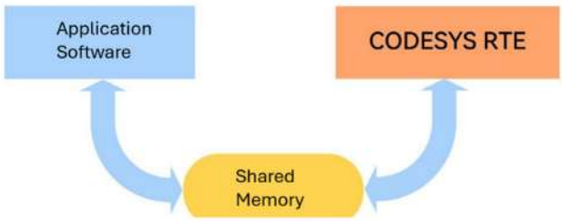
Extreme volume

- Traditional industrial computer + PLC solution is reduced to one controller, which greatly reduces the area used in the cabinet.
- Compact design, size 47x172x122mm



Shared memory, efficient interaction

- NewPre The A5101 shared memory function provides a standardized API , which can achieve data communication with a delay of less than 5ms between application software and between non- real-time application software and PLC .
- Significantly improve production cycle



System isolation ensures user device security

- Through Intewell virtualization, each system is assigned an independent processor core and runs internal The real-time side applications are not affected when the non-real-time side is overloaded or down .

Windows (Non-RT)	RTOS (RT)
Core0-Core2	Core3
6.2G RAM	900M RAM

Machine vision + control integrated application

- The main body can integrate 2- way machine vision
- Supports AI vision to complete complex defect detection
- Supports 2D vision traditional detection, recognition, guidance and measurement functions
- It can realize counting packaging, laminating, and can be used with SCARA anDELTA robots



Autonomous and controllable

- NewPre A5101 's real-time operating system and MaVIEW® intelligent control tool software platform are both independently developed
- Kyland has mature domestic desktop operating system technology reserves, EtherCAT , Modbus and other communication protocols master the protocol stack source code
- Kyland has the experience and technical reserves in developing independent hardware platforms such as Loongson, Hygon, and Feiteng , and can provide 100% independent and controllable products in a short time.

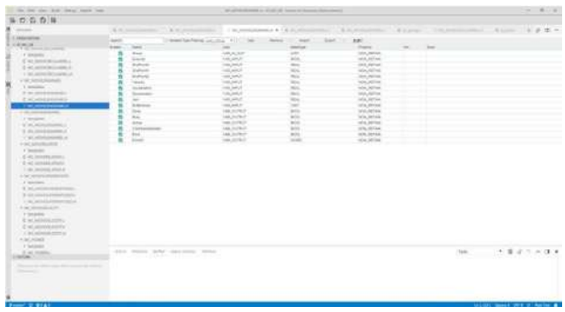


Rich communication protocols

- Northbound communication protocol supports OPC UA, Modbus TCP, EtherNET/IP, TCP/IP free protocol, S7
- Southbound communication protocols support EtherCAT, ProfiNET, Modbus TCP, EtherNET/IP, TCP/IP free protocol, AUTBUS

Function library development tool Lib developer

- Support users to use C/C++ language to develop the function blocks they need. And use Lib developer is encapsulated as a MaVIEW function block.



High protection level

EMC Industrial Level 4
Coping with high electromagnetic interference environment



Conformal coating
Resistant to humidity, salt spray, and mildew



Wide temperature operation
Support - 20 ~ 60° operating temperature



Product Specification

Specification		Detail
Hardware	CPU	Intel®Celeron®J6412
	RAM	8GB
	Diskspace	256GB
	Ethernet	LAN ×3 （RJ45）
	ATB	AUTBUS × 1
	USB	USB3.0 × 3
	Video	HDMI × 1
	I/Os	ON ×1, RL ×1
	LEDs	LED ×8 (PWR, ATB, HPD, USR, HDD, POK, RUN, ERR)
	Retentive memory	256Kb (Coming Soon)
Power	Input Voltage	24VDC (±10%) with overcurrent protection

Specification		Detail
General info	Dimension	47 ×172 ×122mm （W ×H ×D）
	Weight	1.2kg
	Cooling Method	Heat sink, no fan
	Mounting Method	DIN Rail/wall mount
Environment	Operation Temp.	-20°C~ 60°C
	Store Temp.	-40°C~ 80°C
	Humidity	10% ~ 95%RH
	Altitude	≤2000m
Standards	IP Rating	IP40
	EMC	Grade 4
	Vibration	IEC 60068-2-27
		IEC 60068-2-6

Ordering Information

Product Model	Specification
A5101-3190	Processor J6412 , 8G memory , 256G solid state drive , 1 - way AUTBUS , Intel operating system , M a VI E W ° intelligent control tool software platform , Windows desktop
A5101-3490	Processor J6412 , 8G memory , 256G solid state drive , 1 - way AUTBUS , Intel operating system , M a VI E W ° intelligent control tool software platform , no desktop