

ALL IN ONE of Edge Computing, Process Control, Machine Vision and Motion Control

—Next Generation Industrial Server

NewPre 3000



- **On-demand Flexibility: 20+ software defined real-time systems in one CPU** to replace 20+ PLCs, isolated concurrent real-time and non-real-time system
- **Real-Time: Minimum 50 us cycle time** for mission critical control
- **Open & Compatibility: Compatible with Windows / Linux based applications**, protocol conversion of diversified protocols and MQTT or OPC-UA connection to clouds.
- **User Friendly: MaVIEW, Drag-and-drop graphical programming development suite**, compliant with IEC61131 and IEC61499
- **High Reliability: Industrial grade design** for harsh environment, -40~75°C wide temperature operation, IP40 protection
- **Innovative Bus Technology: AUTBUS**, high performance broadband field bus over one pair of transmission line focus on deterministic transmission and compatible with Ethernet based IPv6 and TSN applications.

Overview

NewPre Series, Kyland's next generation industrial server, is an all in one platform with edge computing, process control, motion control and machine vision. NewPre is pre-installed with Kyland Intewell OS which supports 20+ software defined real-time systems and desktop system by virtualization, Maview drag-and-drop graphical programming development suite, and edge connectivity applications.

NewPre is specially designed for harsh environments with wide operating temperature with high performance and compact size suitable for industrial applications.

Hardware specification

Mechanical structure	Aluminum
Size	140x170x80 (WxHxD) mm
Mounting	DIN Rail
CPU	Intel CORE i7-6822EQ
Memory	16GB, DDR4 2113 MHz
NOVRAM	2MB
Harddisk	256GB, SSD
Display interface	HDMI x 1
Indicator	PWR1, PWR2, RUN, ERR
USB	USB2.0*2, USB3.0*2
Ethernet(Ring network)	2 x 100/1000BASE-T, RJ45
Ethernet(I/O)	2 x 100/1000BASE-T, RJ45
Ethernet(Redundancy)	2 x 100/1000BASE-T, RJ45
CAN	1 x CAN
Serial port	1 x RS232, 1 x RS485
AUTBUS	4 x AUTBUS(Extension module)
Extension	PCIe x 1
Protection level	IP40
Cooling	fanless
Operation temperature	-20~60°C -40~75°C(wide temperature model)
Storage temperature	-40~85°C
Power supply	24VDC (18~36VDC)
power supply redundancy	Support
Power consumption	<50W

Software specification

Intewell OS with real-time virtualization

- Pre-installed Intewell operation system.
- Supports 20 software-defined high real-time control kernels, with 2us event response time, minimum 50 us cycle time.
- Supports up to 10 real-time control kernels share one physical core.
- Supports memory isolation and hard disk isolation between real time control kernel and desktop system.
- Supports Ethernet virtualization.
- Integrates KySDC software for control kernel distribution and definition.
- Supports life cycle management for virtual system, including create, configure, deploy, delete, run, stop, restart, hibernate, hang, restore and rebuild.

Control Platform

- Integrates programming development suite MaVIEW, which supports IEC61131-3, supports graphical programming mode, integrates HMI configuration, database configuration and PLC algorithm configuration.
- Integrates KyOPS operation HMI, integrates IO SERVER and RT database.

Edge computing capability

- Integrates KyGate for gateway application, supporting Modbus-TCP, Modbus-RTU, S7-TCP, S7-PPI and other protocols, MQTT and OPC-UA connectivity to cloud.

Intewell OS Structure

