I²C Industrial intelligent controller

Integrating motion control, machine vision, HMI and information

The I²C series industrial intelligent controller is based on the X86 platform and adopts Intel high-performance processor. It can integrate motion control, machine vision, HMI, and information functions to provide users with integrated and intelligent system solutions.

Highlight advantages

High performance

- Based on the X86 high-performance processor, it optimizes multi-core scheduling, and its motion control computational power is far superior to that of its peers.

Communication mode

- Abundant interface types, including RJ45, CAN, RS232, RS485, I/O, display interface, support Ethernet communication, EtherCAT bus, Modbus communication, etc., and can also access digital and analog value through EtherCAT bus IO.

Motion control

- It supports EtherCAT bus and can access up to 256 axes with a minimum synchronization period of 250us.
- Support complex motion control such as axis group motion (three-axis straight line, arc, spiral interpolation), electronic cam, follow cutting, fly cutting, etc.

Efficient programming

- It is compatible with Xinje XDPro programming software and supports POU programming mode, which can significantly improve the users programming efficiency.

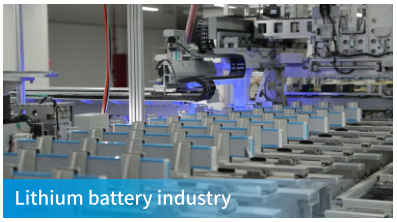
Application area

The I²C controller integrates machine vision, robot platform and PLC control, replacing the original industrial computer (vision)+robot controller+PLC electrical configuration with only one I²C controller, which greatly saves costs, reduces maintenance difficulties and improves equipment integration.

Facing the advanced manufacturing field and traditional industries with complex processes. Integrate motion control, machine vision, HMI, information, etc. to provide integrated and intelligent system solutions.


Semiconductor industry

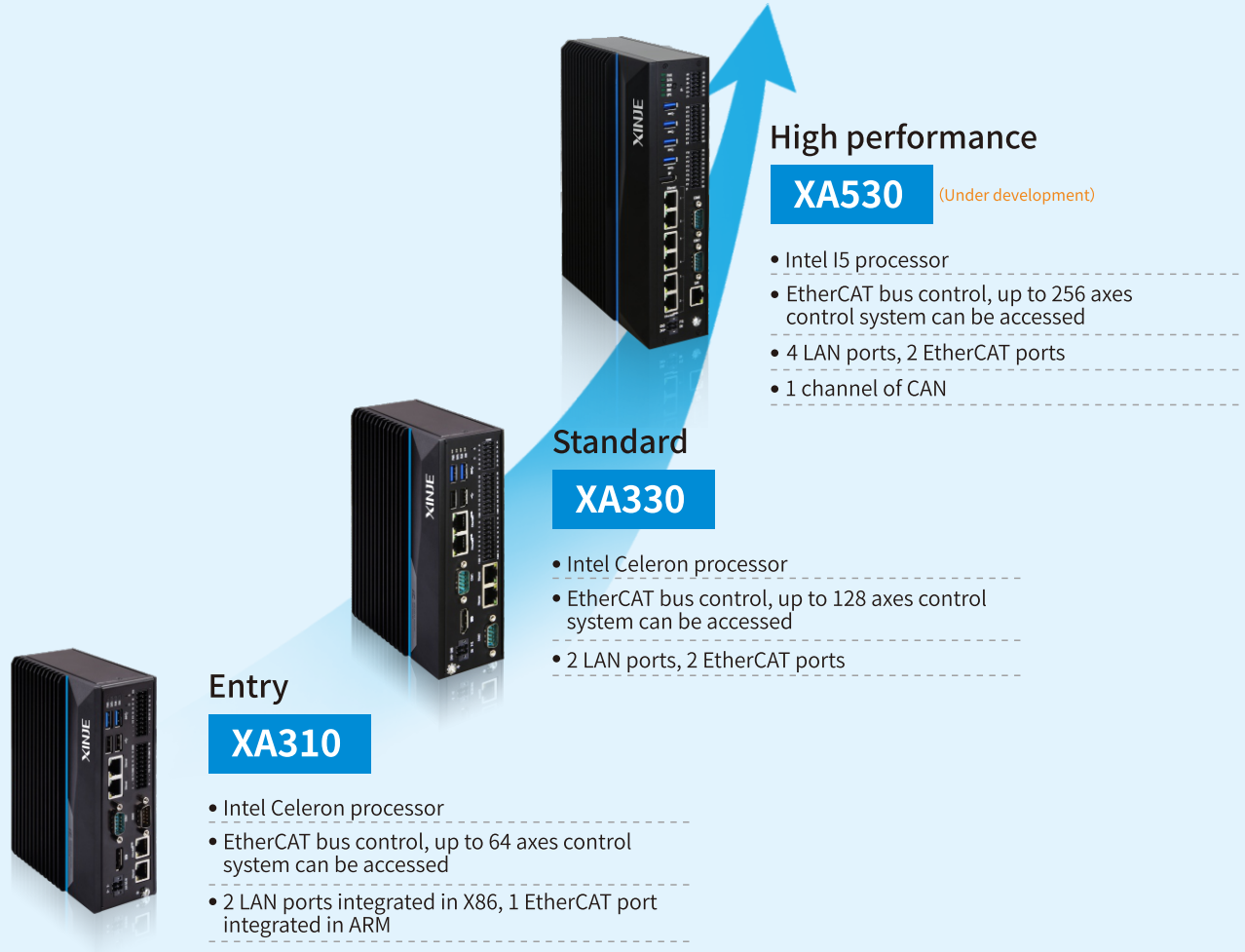

Photovoltaic industry


Lithium battery industry

Industrial intelligent controller

Integrated and intelligent solution

XA series I²C industrial intelligent controller focuses on advanced manufacturing fields and traditional industries with complex processes, integrates motion control, machine vision, HMI, information and other functions, and provides integrated and intelligent system solutions.



High performance

XA530 (Under development)

- Intel I5 processor
- EtherCAT bus control, up to 256 axes control system can be accessed
- 4 LAN ports, 2 EtherCAT ports
- 1 channel of CAN

Standard

XA330

- Intel Celeron processor
- EtherCAT bus control, up to 128 axes control system can be accessed
- 2 LAN ports, 2 EtherCAT ports

Entry

XA310

- Intel Celeron processor
- EtherCAT bus control, up to 64 axes control system can be accessed
- 2 LAN ports integrated in X86, 1 EtherCAT port integrated in ARM

Product features

X-MAT platform

- Multi-accounting force scheduling.
- Reserve open computing resources.
- Motion control computing power, far superior to similar products.

Product compatibility

- Compatible with Xinje XDPro development environment.
- Quickly realize project conversion.
- X-sight, TS Pro compatible applications.

Basic platform

- Based on Intel X86 hardware platform
- Linux system (WIN under development)

I²C Industrial intelligent controller

XA series

Intel high-performance X86 processor

XA series can integrate motion control, machine vision, HMI, information and other industrial automation applications to provide customers with integrated and intelligent system solutions. It is compatible with Xinje XDPPro programming platform, which supports POU programming mode and can significantly improve user programming efficiency.

① 4~8 channels 200KHz pulse output
② 2~4 channels 200KHz high speed counting
③ EtherCAT motion control
④ Support EtherCAT remote IO
⑤ Ethernet communication
⑥ Built-in UPS, support user-defined UPS function
⑦ Support LD, IL, C language programming

Performance specification

Product series	XA310	XA330	XA530
CPU	Intel Celeron , 1.5GHz ARM Cortex A8	Intel Celeron , 1.5GHz	Intel I5 , 2.4GHz
Memory	DDR4-4G		
Display	DP, max resolution is 4096×2160@60Hz		
Ethernet	3 LAN ports	2 LAN ports	4 LAN ports
TMP	2.0		
Storage	1xM.22280（128G）		1xM.22280（256G）
USB	2xUSB2.0、2xUSB3.0		4xUSB3.0
IO	12 inputs (NPN/PNP), 12 outputs 4 channels 200K high speed counting 4 channels 200K pulse output	116 inputs (NPN/PNP), 16 outputs 2 channels 200K high speed counting 8 channels 200K pulse output *Note: pulse output is temporarily not supported.	
Serial	RS485/RS232*1	RS485/RS232*2(BIOS switching)	
EtherCAT communication node	64	128	256
Motion control	Single axis, axis group, electronic cam		
CAN	Not support		1 channel: CAN2.0A/B
Power supply	24VDCIN, 4PINPhonix, ACPI management, built-in UPS		
power waste	20W(typical)~60W(max)		30W(typical)~70W(max)
Working temperature	0°C~60°C with 0.7m/s airflow	-25°C~60°C with 0.7m/s airflow	0°C~50°C with 0.7m/s airflow
Storage temperature	-10°C~60°C	-40°C~80°C	-20°C~60°C
Relative humidity	10~95%@40°C（non-condensing）		
ESD	Contact discharge ±4KV, air discharge ±8KV		
Protection level	IP30		
Certificate	CE/FCC	CE/FCC	CE/FCC CLASS A / TUV

*Note: XA series use EtherCAT remote expansions.

XA series model list

Model						
	AC power			DC power		
	Relay output	Transistor output	Transistor relay mixed output	Relay output	Transistor output	Transistor relay mixed output
NPN&PNP	-	-	-	-	XA310	-
	-	-	-	-	XA330	-
	-	-	-	-	XA530	-

General specification

General specification

Item	Specification
Anti-noise	Noise voltage 1000Vp-p 1us pulse 1 minute
Air	No corrosive and combustible gas
Working temperature	-25°C~60°C
Storage temperature	-40°C~80°C
Environment humidity	5%~95% (no condensation)
Installation	DIN-rail mounting
Grounding (FG)	The third grounding (cannot be grounded with the strong current system)

Input specification

XA310 input specification

Input signal voltage	DC24V±10%
Input signal current	7mA/DC24V
Input ON current	Above 4.5mA
Input OFF current	Below 1.5mA
Input response time	About 10ms
Input signal format	Contact input or NPN or PNP open collector transistor
Circuit insulation	Photoelectric coupling insulation

XA330, XA530 input specification

Input signal voltage	DC24V±10%
Input signal current	7mA/DC24V
Input ON current	Above 4.5mA
Input OFF current	Below 1.5mA
Input response time	Low speed 0.1ms, high speed 5us
Input signal format	Bidirectional optocoupler
Circuit insulation	Photoelectric coupling insulation

Output specification

XA310 output specification

Transistor output

External power supply		DC5~30V
Circuit insulation		Optocoupler insulation
Action indicator		LED indicator
Max load	Resistive load	0.3A
	Inductive load	7.2W/DC24V
	Light load	1.5W/DC24V
Min load		DC5V 2mA
Open circuit leakage current		Below 0.1mA
Response time	OFF→ON	Below 0.1mA
	ON→OFF	Below 0.2ms

High speed pulse output

High speed pulse output terminal	Y0~Y3
External power supply	DC5~30V
Action indicator	LED indicator
Max current	50mA
Max output frequency	100KHz

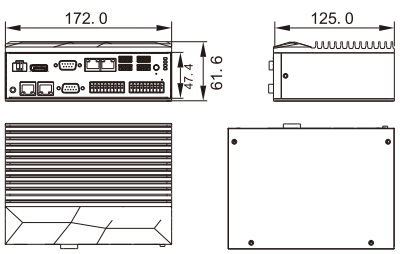
XA330, XA530 output specification

Transistor output

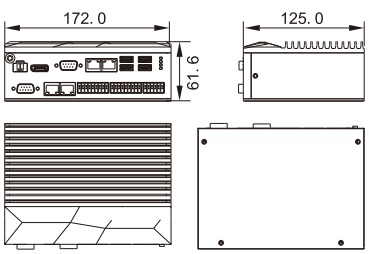
Output load max voltage	DC24V±10%
Maximum current of nominal load	100mA/DC24V
Short-circuit protection current	200mA
Output response time	NPN 0.2ms, NMOS is 5us
Output signal format	NMOS open circuit leakage current or NPN open collector
Circuit insulation	Photoelectric coupling insulation

Dimension (Unit: mm)

XA310



XA330



XA530