Сравнение ПЛК XINJE с конкурентами

Beckhoff Benchmarking

XINJE

		Beckhoff				XINJE
Model		CX2030	CX5010	CX5020	CX5120	XSA330
CPU		Intel Core i7 2610UE 1.5 GHz	Intel AtomZ510, 1.1 GHz	Intel Atom Z530, 1.6 GHz	Intel Atom E3815, 1.46 GHz	Intel Celeron , 1.5 GHz
Ontology IO				/		16X 16Y
Power outage to maintain space		128kB power-off hold	1MB power-off hold	1MB Power outage maintenance	1MB Power outage maintenance	6MB Power outage maintenance
Instruction processing speed	**Bit transfer**					3ns
	Double precision floating-point transfer					4ns
Communication specifications	**EtherNet**			2 x RJ45 EtherNet/EtherCAT		2 xEtherNet
	EtherCAT					2 x EtherCAT
	Serial interface			1*RS232/RS485/CAN Open/PROFIBUS optional interface)		2*RS485/RS232（BIOS switch）
	CAN interface					/
	Communication protocol			ADS, OPC UA Server, EtherNet/IP, MODBUS TCP, etc.（Payment required to unlock communication protocol）		OPC UA Server, EtherNet/IP, MODBUS, TCP/IP
EtherCAT specifications	**EtherCAT communication node**			256 communication nodes		256 communication nodes
	EtherCAT with axis capability					128 axis
	Typical value of communication cycle					32 axis 2.0ms 64 axis 4.0ms
High speed IO	**High speed input**			/		4 * OC input; 2 * Encoder differential input
	High-Speed Output			/		Developing
Scalability				32 local extensions		Remote IO Expansion
Other interfaces				1 x DVI-I, 4 x USB 2.0,		1 x Display, 2 x USB 2.0, 2 x USB 2.0,
Programming Language				IEC61131-3		

Beckhoff Benchmarking

XINJE

		Beckhoff				XINJE
Model		CX2033	CX2040	CX5130	CX5140	XSA530
CPU		AMD Ryzen V1202B 2.3 GHz	Intel Core i7 2715QE 2.1 GHz	Intel Atom E3827, 1.75 GHz	Intel Atom E3845, 1.91 GHz	Intel Core I5, 2.4GHz
Ontology IO		/				16X 16Y
Power outage to maintain space		128kB power-off hold	128kB power-off hold	1MB power-off hold	1MB power-off hold	6MB power-off hold
Instruction processing speed	**Bit transfer**					0.86ns
	Double precision floating-point transfer					2.12ns
Communication specifications	**EtherNet**	2 x RJ45 EtherNet/EtherCAT				4 xEtherNet
	EtherCAT					2 x EtherCAT
	Serial interface	1*RS232/RS485/CAN Open/PROFIBUS optional interface)				2*RS485/RS232（BIOS switch）
	CAN interface					/
	Communication protocol	ADS 、 OPC UA Server 、 EtherNet/IP 、 MODBUS TCP,etc（Payment required to unlock communication protocol）				OPC UA Server 、 EtherNet/IP 、 MODBUS 、 TCP/IP
EtherCAT specifications	**EtherCAT communication node**	256 communication nodes				256 communication nodes
	EtherCAT with axis capability					256 axes
	Typical value of communication cycle					2ms128 axis 4ms256 axis
High speed IO	**High speed input**	/				4 * OC input; 2 * Encoder differential
	High-Speed Output	/				Developing
Scalability		32 local extensions				Remote IO Expansion
Other interfaces		1 x DVI-D 4 x USB 3.0	1 x DVI-I, 4 x USB 2.0			1 x Display, 4 x USB 3.0
Programming Language		IEC61131-3				

OMRON Benchmarking

XINJE

	OMRON NJ500 Series			XINJE
Model	NJ501-1300	NJ501-1400	NJ501-1500	XSA330
Power	DC24V （Optional power module）			DC24V （Equipped with adapter）
Ontology IO	/			16X 16Y
Storage capacity	Program capacity: 20MB/Data capacity 4MB/Power outage retention: 2MB			Program capacity 128MB/Data capacity 128MB/Power outage maintenance 6MB
Instruction processing speed — Bit transfer	1ns~1.7ns			3ns
Instruction processing speed — Double precision floating-point transfer	24ns			4ns
Communication specifications — EtherNet	1			2*EtherNet(Independent IP)
Communication specifications — EtherCAT	1			2*EtherCAT
Communication specifications — Serial interface	/			2*RS485/RS232 (BIOS switch)
Communication specifications — CAN interface	/			/
Communication specifications — Communication protocol	Modbus TCP, TCP/IP, EtherNet/IP, Modbus RTU, OPC UA			OPC UA, EtherNet/IP, MODBUS, TCP/IP
Communication specifications — EtherNet	32 connections			16 connections
EtherCAT specifications — EtherCAT communication node	192 communication nodes			256 communication nodes
EtherCAT specifications — EtherCAT with axis capability	16 axis	32 axis	64 axis	128 axis
EtherCAT specifications — Typical value of communication cycle	32 axis 2.0ms / 64 axis 4.0ms			32 axis 2.0ms / 64axis 4.0ms
High speed IO — High speed input	The ontology does not support this function, and an extension module can be selected			4 * OC input; 2 * Encoder differential input
High speed IO — High-Speed Output	The ontology does not support this function, and an extension module can be selected			Developing
Scalability	40 expansion modules			Remote IO Expansion
Other interfaces	1xUSB, 1xSD card slot (read and write data, power on to load data)			1 x Display, 2 x USB 3.0, 2 X USB 2.0
Programming Language	IEC61131-3			

OMRON Benchmarking

Product series		NX1P2			NX102				XSLH		XSF
Model		NX1P2-9024DT	NX1P2-1040DT	NX1P2-1140DT	NX102-9000	NX102-1000	NX102-1100	NX102-1200	XSLH-24A8, XSLH-24A16	XSLH-30A32	XSF5-A32/A64
Ontology IO		DI:14,D0:10	DI:24,D0:16		/				DI:12,D0:12	DI:16,D0:14	/
Storage capacity		Program capacity: 1.5MB/Data capacity 2MB/Power outage hold: 32kB			Program capacity: 5MB/Data capacity: 32MB/Power outage retention: 1.5MB				Program capacity: 32MB/Data capacity: 32MB/Power outage retention: 6MB	Program capacity: 32MB/Data capacity: 32MB/Power outage retention: 6MB	Program capacity: 32MB/Data capacity: 32MB/Power outage retention: 10MB
Instruction processing speed	**Bit transfer**	3.3ns			3.3ns				30ns	25ns	13ns
	Double precision floating-point transfer	70ns			70ns				42ns	80ns	25ns
Communication specifications	**EtherNet**	1*EtherNet			2*EtherNet				1	1	Maximum EtherNet * 2 (independent IP)
	EtherCAT	1*EtherCAT			1*EtherCAT				1	1	Maximum EtherCAT*2
	Serial interface	The ontology does not support it, it can be extended to BD （RS232/RS485/RS422）			/				RS232*1 RS485*1	RS232*1 RS485*1	RS485*1
	CAN interface	/								1	CAN 2.0*1
	Communication protocol	Modbus TCP, TCP/IP, EtherNet/IP, Modbus RTU, OPC UA			Modbus TCP, TCP/IP, EtherNet/IP, Modbus RTU, OPC UA				Modbus TCP, TCP/IP, EtherNet/IP, Modbus RTU, OPC UA	Modbus TCP, TCP/IP, EtherNet/IP, Modbus RTU , OPC UA, CAN OPEN, CAN Bus	Modbus TCP, TCP/IP, EtherNet/IP, Modbus RTU, OPC UA, CAN OPEN, CAN Bus
Communication specifications	**EtherNet**	32 connections							16 connections	16 connections	16 connections

OMRON Benchmarking

XINJE

		OMRON							XINJE		
Product series		**NX1P2**			**NX102**				**XSLH**		**XSF**
Model		NX1P2-9024DT	NX1P2-1040DT	NX1P2-1140DT	NX102-9000	NX102-1000	NX102-1100	NX102-1200	XSLH-24A8、XSLH-24A16	XSLH-30A32	XSF5-A32/A64
EtherCAT specifications	**EtherCAT communication node**	16			64				256	256	256
	EtherCAT with axis capability	4-axis	6-axis	8-axis	4-axis	6-axis	8-axis	12-axis	8~16-axis	32-axis	32-axis~64-axis
	Typical value of communication cycle	8 axis 2ms 12 axis 4ms							4 axis 1.0ms 16 axis 4.0ms	4 axis 1.0ms 16 axis 2.0ms 32 axis 4.0ms	16 axis 1.0ms 32 axis 2.0ms 64 axis 4.0ms
High speed IO	**High speed input**	/							4-way * 200K	/	/
	High-Speed Output	/							4-way * 200K	/	/
Scalability		8			32 ontology extensions				Supports 16 ontology extensions	Supports 16 ontology extensions	Supports 32 ontology extensions
Other interfaces		/							/	/	The Type-C interface is used for downloading program debugging, firmware upgrades, and Type-C port USB access on PLC.
Programming Language		IEC61131-3									

OMRON Benchmarking

XINJE

		OMRON NX500 Series			XINJE
Product series		NX502-1300	NX502-1400	NX502-1500	XSA330
Operating system		/			Windows/Linux
Ontology IO		/			16X 16Y
Storage capacity		Program capacity: 20MB/Data capacity 4MB/Power outage retention: 2MB			Program capacity 128MB/Data capacity 128MB/Power outage maintenance 6MB
Instruction processing speed	**Bit transfer**	0.53ns			3ns
	Double precision floating-point transfer	3.3ns			4ns
Communication specifications	**EtherNet**	2*EtherNet(Independent IP)			2*EtherNet(Independent IP)
	EtherCAT	1*EtherCAT			2*EtherCAT
	Serial interface	/			2*RS485/RS232 (BIOS switch)
	CAN interface	/			/
	Communication protocol	OPC UA Server 、EtherNet/IP、MODBUS 、TCP/IP			OPC UA 、EtherNet/IP、MODBUS 、TCP/IP
Communication specifications	**EtherNet**	64 connections			16 connections
EtherCAT specifications	**EtherCAT communication node**	256 communication nodes			256 communication nodes
	EtherCAT with axis capability	16 axes	32 axes	64 axes	128 axes
	Typical value of communication cycle	32 axes 2.0ms 64 axes 4.0ms			32 axes 2.0ms 64 axes 4.0ms
High speed IO	**High speed input**	/			4 * OC input; 2 * Encoder differential input
	High-Speed Output	/			Developing
Scalability		Supports 40 expansion modules			Remote IO Expansion
Other interfaces		1xUSB, 1xSD card slot (read and write data, power on to load data)			1 x Display, 2 x USB 3.0, 2 X USB 2.0
Programming Language		IEC61131-3			

OMRON Benchmarking

XINJE

		OMRON NX700 Series		XINJE
Product series		**NX701-Z600**	**NX701-Z700**	**XSA520**
Operating system		/		Windows/Linux
Ontology IO		/		16X 16Y
Storage capacity		Program capacity: 80MB/Data capacity 256MB/Power outage hold: 4MB		Program capacity 128MB/Data capacity 128MB/Power outage maintenance 6MB
Instruction processing speed	**Bit transfer**	0.37ns		0.68ns
	Double precision floating-point transfer	3.2ns		1.69ns
Communication specifications	**EtherNet**	2*EtherNet(Independent IP)		4*EtherNet(Independent IP)
	EtherCAT	1*EtherCAT		2*EtherCAT
	Serial interface	/		2*RS485/RS232 (BIOS switch)
	CAN interface	/		/
	Communication protocol	OPC UA Server 、EtherNet/IP、MODBUS 、TCP/IP、FTP		OPC UA 、EtherNet/IP、MODBUS 、TCP/IP
Communication specifications	**EtherNet**	256 connections		16 connections
EtherCAT specifications	**EtherCAT communication node**	512 communication nodes		256 communication nodes
	EtherCAT with axis capability	128 axis	256 axis	256 axis
	Typical value of communication cycle	2ms128 axis 4ms256 axis		32 axis 500us 256 axis 1.0ms
High speed IO	**High speed input**	/		4 * OC input; 2 * Encoder differential input
	High-Speed Output	/		Developing
Scalability		Remote IO Expansion		
Other interfaces		1xUSB, 1xSD card slot (read and write data, power on to load data)		1 x Display, 4 x USB 3.0,
Programming Language		IEC61131-3		

Siemens Benchmarking

XINJE

		Siemens 1200 Series		XINJE
Product series		**1211C**	**1212C**	**XSLH-24A8/A16**
Power		24V/220V optional		24V
Ontology IO	**DI/DO**	DI:6 DO:4	DI:8 DO:6	DI:12 DO:12
	Analog quantity	AI:2		/
Storage capacity		Work storage area: 75K Load storage area: 1M Persistent storage area: 10K	Work storage area: 100K Load storage area: 1M Persistent storage area: 10K	Program capacity: 32MB/Data capacity: 32MB/Power outage retention: 6MB
Instruction processing speed	**Bit transfer**	0.08μs		25ns
	Double precision floating-point transfer			80ns
Scalability		Signal board * 1 Left Extension * 3	Signal board * 1 Left Extension * 3 Right Extension * 2	The ontology supports 16 extensions
High speed counting	**Total**	Up to 6 can be configured		4-way
	1MHZ	/		/
	100KHZ	Main body has 3 channels, the rest can be expanded		4-way 200K high-speed counting
Pulse output	**Total**	Up to 4 can be configured		4-way
	1MHZ	/		/
	100KHZ	4-way		4 channels of 200K pulse output
EtherNet		1		1
Communication protocol		OPC UA Server, EtherNet/IP, MODBUS, TCP/IP, PROFINET		OPC UA Server, EtherNet/IP, MODBUS, TCP/IP
PROFINET Nodes		Up to 16 PN IO stations		/

Siemens Benchmarking

		Siemens 1200 Series			XINJE	
Product series		1214C	1215C	1217C	XSLH-24A8/A16	XSLH-24A32
Power		24V/220V optional			24V	
Ontology IO	DI/DO	DI:14 DO:10			DI:12 DO:12	DI:16 DO:14
	Analog quantity	AI:2		AI:2 AO:2	/	/
Storage capacity		Work storage area: 150K Load storage area: 4M Persistent storage area: 10K	Work storage area: 200K Load storage area: 4M Persistent storage area: 10K	Work storage area: 250K Load storage area: 4M Persistent storage area: 10K	Program capacity: 32MB/Data capacity: 32MB/Power outage retention: 6MB	Program capacity: 32MB/Data capacity: 32MB/Power outage retention: 6MB
Instruction processing speed	Bit transfer	80ns			30ns	25ns
	Double precision floating-point transfer				42ns	80ns
Scalability		Signal board * 1 Left Extension * 3 Right Extension * 8			The ontology supports 16 extensions	The ontology supports 16 extensions
High speed counting	Total	Up to 6 can be configured			4 way	/
	1MHZ	/		1 unit	/	/
	100KHZ	Main body has 3 channels, the rest can be expanded			4-way 200K high-speed counting	/
Pulse output	Total	Up to 4 can be configured			4 way	/
	1MHZ	/		1 unit		
	100KHZ	4 unit			4 channels of 200K pulse output	/
EtherNet		1	2（Single IP）		1	1
Communication protocol		OPC UA Server, EtherNet/IP, MODBUS, TCP/IP, PROFINET, Web server			OPC UA Server, EtherNet/IP, MODBUS, TCP/IP	OPC UA Server, EtherNet/IP, MODBUS, TCP/IP, CAN OPEN, CAN Bus
PROFINET Nodes		Up to 16 PN IO stations			/	/

Siemens Benchmarking

XINJE

		Siemens 1500 Series		XINJE
Product series		**1511-1PN**	**1513-1PN**	**XSF5-A32/64**
Power		24V		24V
Programming Language		TIA		IEC61131-3
Storage capacity		Integrated working memory (program): 300K Integrated working memory (data): 1.5M Integrated 256K data retention after power failure Support storage card expansion	Integrated working memory (program): 300K Integrated working memory (data): 1.5M Integrated 256K data retention after power failure Support storage card expansion	Program capacity: 32MB Data capacity 32MB Power-off hold: 10MB
Instruction processing speed	**Bit transfer**	25ns		13ns
	Double precision floating-point transfer			25ns
Scalability		Right expansion * 31		Supports 32 ontology extensions
EtherNet		2（Switch interface）		Maximum of two independent IP network ports
Communication protocol		OPC UA S7 communication PROFINET TCP/IP Web server		Modbus, TCP/IP, EtherNet/IP, OPC UA, CAN OPEN, CAN Bus
PROFINET Nodes EtherCAT Nodes		128（RT/IRT）		128（ECAT）
Axis capability		Motion control resource 1120 (speed axis: 28, position axis: 14, synchronization axis: 7)		32/64 axis
Communication Classic Value		5 axis 4ms：10 axis 8ms		16 axis 1.0ms 32 axis 2.0ms 64 axis4.0ms
Motion control		Speed shaft, position shaft, synchronous shaft, cam, probe		Single axis, shaft group, 32/64 electronic cam robot, CNC, chasing shear, flying shear, feedforward algorithm compensation

INOVANCE Benchmarking

Brand	INOVANCE		XINJE	
Series	AM403	AM600	XSLH-24A16	XSLH-30A32
Dominant frequency	1GHZ		1GHZ	
Ontology IO	IO：16X 8Y		IO：12X 12Y	IO：14X 16Y
Program capacity	10MB program capacity		32MB program capacity	
	20MB program capacity		32MB program capacity	
	512KB Power outage maintenance		6MB Power outage maintenance	
Instruction processing speed — Bit transfer	20.1ns		30ns	25ns
Instruction processing speed — Double precision floating-point transfer	21.1ns		42ns	80ns
EtherCAT Axis capability	16 axis	32 axes (recommended up to 20)	16 axis	32 axis
Typical value of communication cycle	500us-1 axis 4ms-8 axis	500us-1 axis 4ms-8 axis 8ms-20 axis	4 axis 1.0ms 16 axis 4.0ms	4 axis 1.0ms 16 axis 2.0ms 32 axis 4.0ms
EtherNet	Ethernet*1		Ethernet*1	
Other communication interfaces	RS485*1/RS485*2 CAN*1		RS-485*1 RS-232*1 CAN*1(XSLH-30A32)	
High speed counting	8-way high-speed counting input		8-way maximum 200K	
High-speed pulse	4-way pulse axis		4 channels of 200K pulses	Subsequent support
Scalability	Up to 16 IO modules		Supports 16 ontology extension modules	
Programming Language	IEC61131-3		IEC61131-3	

INOVANCE Benchmarking

Brand	INOVANCE		XINJE	
Model	AM521-0808TN	AM522-0808TN	XSF5-A32	XSF5-A64
Input power supply	DC 24V		DC 24V (Optional power module)	
Ontology IO	8 inputs (bipolar), 8 outputs (NPN)		/	
Program capacity	10M program capacity/20M data capacity/512K Byte power outage retention space		32MB program capacity/32MB data capacity/10MB power-off retention	
Instruction processing speed — **Bit transfer**	9.9ns		13ns	
Instruction processing speed — **Double precision floating-point transfer**			25ns	
Communication specifications — **EtherNet**	EtherNet*2（Single IP, built-in switch）		Maximum EtherNet * 2 (independent IP)	
Communication specifications — **EtherCAT**	EtherCAT*1		Maximum EtherCAT*2	
Communication specifications — **Serial interface**	/		Multi functional Ethernet port supports EtherCAT and EtherNet function switching	
Communication specifications — **CAN interface**	RS485*3 (This machine comes with 1 channel, and the expansion card can expand 2 channels, with a maximum support of 3 channels)		RS485*1	
Communication specifications — **Communication protocol**	The expansion card can support 1-way expansion		CAN 2.0*1	
Instruction processing speed — **Bit transfer**	Modbus TCP, TCP/IP, EtherCAT, EtherNet/IP, Modbus RTU, OPC UA, CAN open, CAN bus		Modbus TCP, TCP/IP, EtherCAT, EtherNet/IP, Modbus RTU, OPC UA, CAN open, CAN bus	
EtherCAT specifications — **EtherCAT Communication nodes**	Up to 127 EtherCAT slave stations		Up to 256 EtherCAT slave stations	
EtherCAT specifications — **EtherCAT Axis capability**	8-axis	16-axis	32-axis	64-axis
EtherCAT specifications — **Typical value of communication cycle**	4 axis 1.0ms		16 axis 1.0ms 32 axis 2.0ms	16 axis 1.0ms 32 axis 2.0ms 64 axis 4.0ms
High speed IO — **High speed input**	Supports pulse input, up to 4 axes		/	
High speed IO — **High-Speed Output**	Supports pulse output, up to 4 axes		/	
Expansion capability	The ontology can be extended to 16 GL20 series modules		The ontology can be extended to 32 XF series modules	
Other interfaces	Type-c (Host power supply, program download and debugging)		The Type-C interface is used for downloading program debugging, firmware upgrades, and Type-C port USB connection on PLC.	
Programming Language	IEC61131-3		IEC61131-3	

INOVANCE Benchmarking

Brand	INOVANCE				XINJE	
Series	AC702	AC703	AC801	AC802	XSA330	XSA500
Dominant frequency	2.0GHz		1.6GHz		1.5GHz	2.4GHz~3.0GHz
Ontology IO	IO：8X 4Y		IO：3X 2Y		IO：16X 16Y	
Program capacity	4G + 64G		4G + 64G	4G + 128G	4G + 128G	8G + 256G
	128MB program capacity		128MB program capacity		128MB program capacity	
	128MB program capacity		128MB program capacity		128MB program capacity	
	5MB power outage maintenance		5MB Power outage maintenance (external UPS)		6MB Power outage maintenance (external UPS)	
Instruction processing speed — Bit transfer	4.6ns				3ns	0.68ns~0.86ns
Instruction processing speed — Double precision floating-point transfer					4ns	2.12ns~1.69ns
EtherCAT Axis capability	16 axis	32 axis	48 axis	64+64 axis	128 axis	256 axis
Typical value of communication cycle	32 axis 1.0ms		1ms 32 axis	1ms 32 axis	32 axis 2.0ms 64 axis 4.0ms	256 axis 4.0ms(XSA520) 256 axis 2.0ms(XSA530) 256 axis 1.0ms(XSA550)
EtherNet	Ethernet*2		Ethernet*2		Ethernet*2	Ethernet*4
Other communication interfaces	RS232*1 RS485*2		USB2.0&USB3.0*2 RS485*1/RS232*1		USB2.0&USB3.0 RS232&RS485*2	USB2.0&USB3.0*2 Rs232&RS485*1
High speed counting	4-way 200K		/		Incremental * 4 (200K-1M) AB phase * 4 (100K-1M)	
Scalability	EtherCAT remote extension		EtherCAT remote extension		EtherCAT remote extension	
Programming Language	IEC61131-3		IEC61131-3		IEC61131-3	
Heat dissipation method	Passive heat dissipation		Passive heat dissipation		Passive heat dissipation	

INOVANCE Benchmarking

Brand	INOVANCE		XINJE		
Series	AC810	AC812	XSA520	XSA530	XSA550
Dominant frequency	2.5GHz	2.7GHz	3.0GHz 2C/4T	2.4GHz 4C/8T	2.8GHz 4C/8T
Ontology IO	IO：3X 2Y		IO：16X 16Y		
Program capacity	4G + 128G		8G + 256G		
	128MB program capacity		128MB program capacity		
	128MB program capacity		128MB program capacity		
	5MB Power outage maintenance (external UPS)		6MB Power outage maintenance (external UPS)		
Instruction processing speed — Bit transfer			0.68ns	0.86ns	0.73ns
Instruction processing speed — Double precision floating-point transfer			1.69ns	2.12ns	1.82ns
EtherCAT Axis capability	128+128 axis	128+128 axis	256 axis		
Typical value of communication cycle	4ms 256 axis	4ms 256 axis	8 axis 250us 32 axis 500us 256 axis 1.0ms	32 axis 500us 128 axis1.0ms 256 axis 2.0ms	8 axis 250us 32 axis 500us 256 axis1.0ms
EtherNet	Ethernet*2		Ethernet*4		
Other communication interfaces	USB2.0&USB3.0*2 RS485*1/RS232*1		USB2.0&USB3.0*2 Rs232&RS485*1		
High speed counting	/		Incremental * 4 (200K-1M) AB phase * 4 (100K-1M)		
Scalability	EtherCAT Remote extension		EtherCAT Remote extension		
Programming Language	IEC61131-3		IEC61131-3		
Heat dissipation method	Active cooling		Passive heat dissipation		