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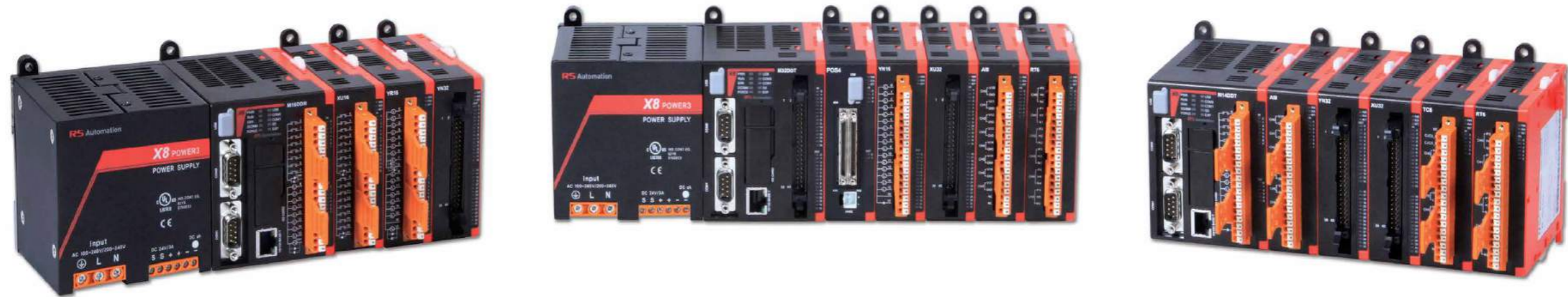
X8 Series

Next Generation PLC



X8 Series

The Next Generation Network PLC



International Standard Industrial Network Establishment of Powerful Scalability and Economic System

The X8 Series PLC is basically equipped with one Ethernet port, two RS232/485 ports, and one USB port. In addition, EtherNet/IP and Modbus/TCP, the international standard industrial networks, are built-in as the default network protocols, allowing customers to easily respond to the Ethernet-based network environment in the industry sites and configure the network between heterogeneous systems. Its two high-speed serial ports and USB ports offer easy interface with various devices and the SD card, which has been supported by advanced systems only, allows the small-level PLC to provide data logging, and data backup. For scalability, it is the micro-to-small level PLC product that allows economic system expansion, supporting up to 2,560 points and 80 I/O modules.

International Standard Industrial Network Implemented

The X8 Series PLC has embedded CIP-based international standard industrial networks and various protocols, such as EtherNet/IP and Modbus/TCP. It provides a range of solutions that satisfies numerous requirements of industrial sites, and flexible interfaces with heterogeneous systems.

Powerful scalability and flexibility

With high scalability up to 2,560 points and 80 I/O modules via its E-Bus expansion module, economic system can be constructed. And controlling I/Os that are located in a remote place up to 100m is available, allowing flexible expansion of the entire control system.

XGPC Software

Windows-based XGPC is the ladder editing software dedicated to the X8 Series PLC that supports IEC61131-3 standard specifications. It supports various functions including editing, monitoring, and debugging of the ladder. In addition, It is planned to provide additional functions including FBD and Recipe through improving its functionality.

Various Additional Functions

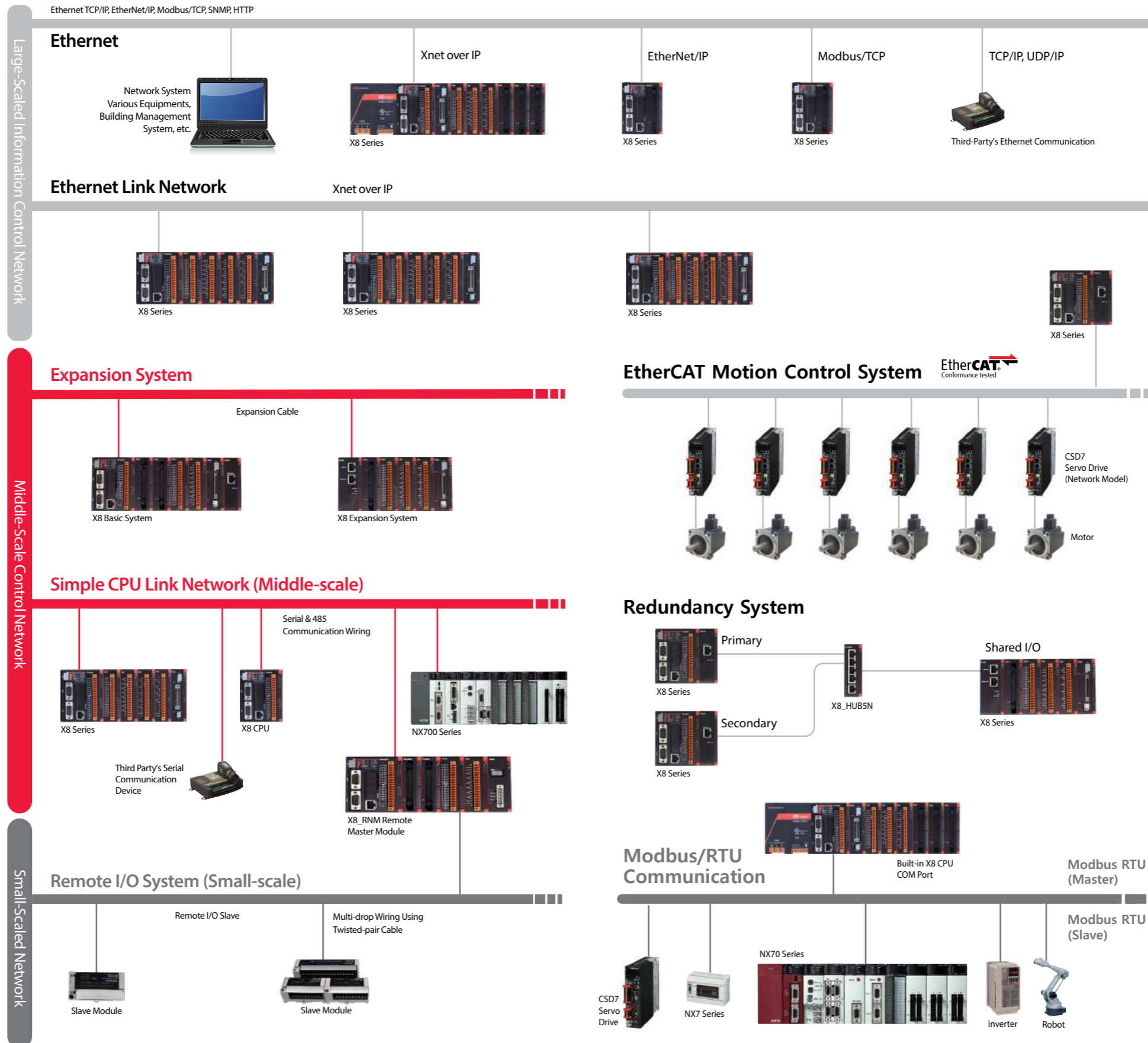
Its micro-small design allows easy integration in the industrial sites and data backup and data logging functions are available through the supported SD card even at the small PLC. In addition, a tight system-level security is provided through 3-layered encryption function.

X8 Series PLC Network Configuration Diagram

This network enables processing various data from device-level control to information-level data, and provides flexible scalability by supporting interfaces with different types of systems.

X8 Series PLC Network Features

- X8 Series PLC network allows various network system implementation suitable for each industry environment.
- Remote programming at a PLC or a computer in the Ethernet and editing and monitoring of programming at a PLC in the Ethernet is achieved.
- Information exchange between link network systems is available and message communication between different models of PLC can be achieved via network.
- Each link Module has a self-diagnosis function (RAS) so no monitoring device is required and the system can be reliably implemented.
- NX Series serial protocol is provided to access the existing network system.
- The CIP-based international standard industrial networks, such as EtherNet/IP and Modbus/TCP, are supported for superior scalability.



Ethernet Network

With its built-in international standard network protocols, including EtherNet/IP, Modbus/TCP, SNMP, HTTP, Ethernet/TCP IP.. the X8 Series offers powerful compatibility and scalability.

- Relevant PLC : X8 Series
- Baud Rate : 10/100 Mbps
- Number of Nodes, max : 100 Node/Segment
- Transmission Method : Base band
- Maximum Distance between Nodes : Up to 100 m (based on Ethernet specifications)

Ethernet Link Network

As the Ethernet-based large-capacity PLC network system, an economic distributed control system can be implemented. By simply configuring the built-in Ethernet ports, the link data can be shared.

- Baud Rate: 10/100 Mbps
- Number of Nodes: Sender (128 Nodes/Segment), Receiver (250 Nodes/Segment)

Remote I/O System

It allows one CPU Module to control I/Os in the remote locations or distributed regions.

- Relevant PLC : X8 Series
- Transmission path : 500Kbps(110m), 250Kbps(210m), 125Kbps(440m)
- Number of stations : 30 stations (Slave Module)/Master Module, 3 Master/CPU Module

Expansion System

With its E-Bus expansion module, up to 2,560 points and 80 I/O modules can be controlled, so economic system implementation can be achieved. (when X8_EB2RJ, X8_RJ2EB or X8_HUB5N is used)

Modbus Network System

Supports Modbus/RTU and Modbus/TCP, the international standard open networks, and shares information with various devices and controls the devices.

- A CPU is built in by default (economic).
- Easy access between heterogeneous systems with Modbus RTU

CPU Redundancy System

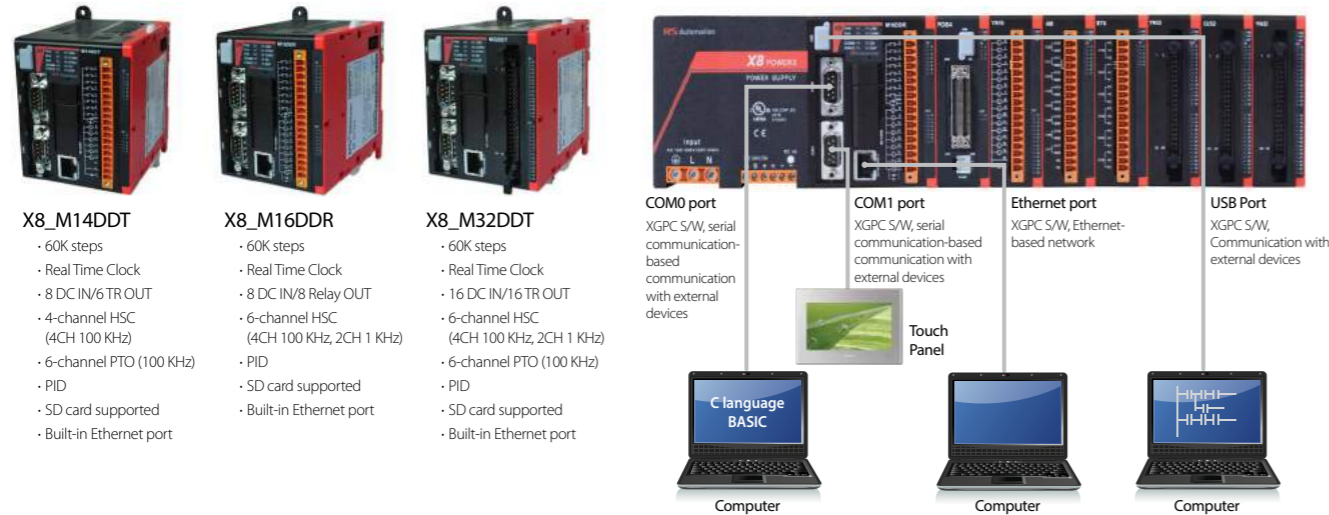
CPU Redundancy can be implemented by using only the X8 CPU's own functions and network modules (X8_EB2RJ, X8_RJ2EB, X8_HUB5N), without requiring the special H/W.

EtherCAT Motion Control System

Up to 6 axes of EtherCAT Servo control are provided by using the X8 CPU and network extension module such as X8_EB2RJ (FRN 11 or later).

CPU Module

With four built-in communication ports (Ethernet, USB, two RS232C/485 selectable high-speed serial ports) and the international standard industrial network protocols, powerful network/communication environment can be configured. In addition, various and accurate control is achieved through rich memory (program memory 60K steps and data memory 64K words) and various commands.



- X8_M14DDT**
 - 60K steps
 - Real Time Clock
 - 8 DC IN/6 TR OUT
 - 4-channel HSC (4CH 100 KHz)
 - 6-channel PTO (100 KHz)
 - PID
 - SD card supported
 - Built-in Ethernet port
- X8_M16DDR**
 - 60K steps
 - Real Time Clock
 - 8 DC IN/8 Relay OUT
 - 6-channel HSC (4CH 100 KHz, 2CH 1 KHz)
 - PID
 - SD card supported
 - Built-in Ethernet port
- X8_M32DDT**
 - 60K steps
 - Real Time Clock
 - 16 DC IN/16 TR OUT
 - 6-channel HSC (4CH 100 KHz, 2CH 1 KHz)
 - 6-channel PTO (100 KHz)
 - PID
 - SD card supported
 - Built-in Ethernet port

■ Features

1. Various Data Memories

	Item
Data Type	Output relay (Y)
	Input relay (X)
	SPECIAL memory (SR)
	BINARY memory (B)
	INTEGER memory (N)
	FLOAT memory (F)
	LONG memory (L)
	STRING memory (ST)
	Timer/Counter memory (TM/CT)
	CONTROL memory (CR)
	MESSAGE memory (MG)
	ROUTING PATH memory (RP)
	PID memory (PD)
PROGRAMMABLE LIMIT SWITCH (PS)	

* Users can additionally create a desired data table.

2. Program memory : 60K steps

3. Built-in functions required on large-size PLC

- 1ms (0.001s) step timer included
- Floating-point operation function
- PID instructions included

4. Online Editing (Insert, Delete, Modify, Undo)

5. PID Function

6. RTC (Real Time Clock) function

- Built-in clock enables time and date programming of processes.

7. A CPU Module including two RS232C/485 selectable ports and one USB port

- Programming tool (XGPC S/W) access using Ethernet, USB, and serial ports
- Communication with Touch Panel or computers via COM port

8. Built-in RS232C/485 selectable high-speed serial ports (up to 115.2 Kbps)

9. Built-in EtherNet/IP and Modbus/TCP protocols, the international standard networks

- 100BASE-TX and 10BASE-T enabled (Automatic Shift): using UTP cable
- Data rate : 10/100 Mbps
- TCP/IP and UDP/IP compatible, 16 connections
- Various multi-protocol supported

10. SD card supported

- Data logging, and ladder program backup is supported.

11. Built-in Functions

- HSC 6CH (4CH 100KHz, 2CH 1KHz)
- PTO 6CH (100KHz) with PWM 6CH (40KHz)
- INTERRUPT
- Input Filter Function

12. 3-layered Security Function

- Combination of 12 bytes of alphabets, numbers, and symbols
- Password-assignable : master password, system password, and password for each ladder

13. RoHS Compliant

14. CPU Redundancy Function

- Provided in FRN 11 version or later

15. EtherCAT Servo Drive Control Function

- Provides Servo Drive Control of Max. 16-axes using network extension module in FRN 11 version or later

■ Performance and General Specifications

Item	CPU Type	X8_M32DDT	X8_M14DDT	X8_M16DDR
Programming method / Control method		Relay symbol / Cyclic operation		
Program Memory		60K steps		
Data Memory Capacity		64K words		
RTC		Built-in (Year, Month, Day, Hour, Minute, Second, Weekday)		
SD Card		Supported		
Program/Data Stored Memory		NVS RAM		
Input Time Constant		Configurable as 5us, 8us, 12.5us, 25us...1ms...16ms		
Voltage Range of Power Supply Module		21.6 ~ 28.8V DC Class2		
Communication Support Specifications		USB : Mini-B USB Port (USB V2.0) COM0 : DSUB 9PIN RS232C/485 port (MAX.115.2Kbps) COM1 : DSUB 9PIN RS232C/485 port (MAX.115.2Kbps) Ethernet : Ethernet 10/100Mbps		
Communication Protocol		USB/COM0/COM1 : Xnet Master/Slave, DF1 Full duplex, Modbus Master/Slave, User-defined Protocol, NX-Plus Master, NX-Alpha Master Ethernet : Bootp/DHCP Client, EtherNet/IP, WebServer, SNMP Server, Modbus/TCP		
Embedded Functions		HSC (High-speed Counter) 100KHz 4Ch (5 ~ 24V DC, line drive is available), 1KHz 2Ch *X8_M14DDT/_M16DDR : HSC 100KHz 4Ch High-speed Pulse Output : PTO 100KHz 6Ch (PWM 40KHz 6Ch)		
Number of input points		16 points	8 points	8 points
Input circuit type		5 ~ 24V DC Sink / Source (Standard and High-speed) 8.8mA (Ambient temperature 30°C)		
Number of output points		16 points	6 points	8 points
Output circuit type		12 ~ 24V DC Sink 0.5A/point 5A/COM (Ambient temperature 25°C)	12 ~ 24V DC Sink 0.5A/point 2A/2COM (Ambient temperature 25°C)	Relay 240V AC, General 2A/point 5A/COM (Ambient temperature 25°C)
Max. expansion module		12 module (default) (available up to 80 modules when the expansion module is mounted)		
Isolation method		Photocoupler		Relays
Program Tools		XGPC Software		
Number of I/O points		128 points allocated : Input 64, output 64 points (CPU module)		
Operation indicator		LED Indication		
Self-diagnosis		Watch-dog timer, Memory (Cache, CPU Register, RAM, NVSRAM, etc.) error detection, etc.		
PID Loop		Available as many as connected analog module points		
Additional Features		User memory (NVS RAM and SDCARD) operation function, Program input during RUN, forced I/O, TEST RUN, and Constant Scan		
Current consumption		200mA @ 5V DC	180mA @ 5V DC	220mA @ 5V DC
Dimensions H x W x D		90 x 72 x 94mm		
Weight		540g	540g	560g
External Connection Method		40 Pin Connector	Plug Type (18P)	Plug Type (18P)

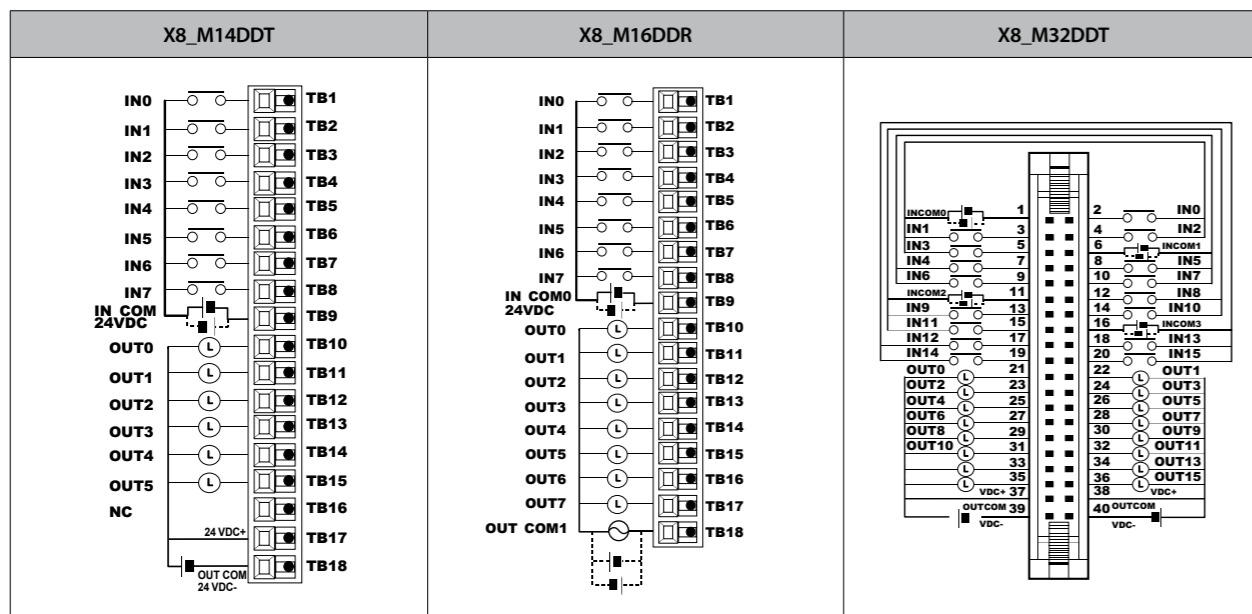
■ General Specifications

Item	Specifications	
Ambient Temperatures	Operating Temperature	-20 to 60°C
	Storage Temperature	-40 to 85°C
Ambient Humidity	Operating Humidity	5~95% RH (Non-condensing)
	Storage Humidity	5~95% RH (Non-condensing)
Withstand voltage	1500V AC for 1 minute between external terminal (AC) and frame ground (Power Module)	
	500V DC for 1 minute between external terminal (DC) and frame ground (Power Module)	
Isolation Resistance	100MΩ or more at 500 mega V DC between I/O terminal (DC) and frame ground (Power Module)	
Vibration immunity	5 ~ 8.4Hz Acceleration dis. 7mm, 8.4 ~ 150Hz Acceleration dis. 9.8m/s ² , sweep time 1 Oct./min, 2Hr./axis (X, Y, Z)	
Shock immunity	Operating : 15G, Non Operating : 30G 3 times per each axis (X,Y,Z)	
Atmosphere	No excessive dust, no corrosive gas.	

■ CPU I/O Specifications

Item	CPU type	X8_M32DDT	X8_M14DDT	X8_M16DDR
DC Input	Input Circuit Type	Digital : 24V DC sink/source (Standard, High-speed)		
	Input Point Rate	High-speed input : 0 through 7 General input : 9 and higher		
	On-State Voltage Range	High-speed input : 3.5...24V DC, General input : 10...24V DC,	Class 2 (3.5...28.8V DC @ 65°C/149°F) Class 2 (10...28.8V DC @ 65°C/149°F)	
	Off-State Voltage Range	High-speed input : 0...1.5V DC,	General input : 0...5V DC	
	Operating Frequency	High-speed input : 0Hz...100 kHz	General input : 0 Hz...1 kHz (scan time dependent)	
	On-State Current	High-speed input	General input	
	Minimum	3 mA @ 3.5V DC	3.0 mA @ 10.0V DC	
	General	5.0 mA @ 24.0V DC	7.0 mA @ 24.0V DC	
	Maximum	7.0 mA @ 28.8V DC	9.0 mA @ 28.8V DC	
	Leakage Current, Off-State Output	High-speed input : 0.2 mA max,	General input : 1.5 mA max.	
Outputs	Nominal Impedance	High-speed input : 3.6 kΩ,	General input : 4.6 kΩ	
	Output Circuit Type	FET SINK	RELAY	
	Voltage of Power Supply	12V ~ 24V DC	5...250V AC, 5...110V DC	
	Current Rating per Point	High-speed input	General input	
	Maximum Load	0.5 A	0.5 A	
	Minimum Load	5.0 mA	1.0 mA	
	Maximum Leakage	0.1 mA	0.1 mA	
	Number of Outputs	16P	6P	8P
	Turn-On Time (max.)	High-speed output : 1.5 μs (minimum load) General output : 100 μs (minimum load)	10 msec (max.)	
	Turn-Off Time (max.)	High-speed output : 2.0 μs (minimum load) General output : 200 μs (minimum load)	10 msec (max.)	
Power	Voltage of Power Supply	24V DC (-10%, +10%) Class 2 SELV		
	Power Supply Inrush Current	24V DC : 10 A for 20 ms		
	Power Requirements	65W		
	Wire Size	EJECT HEADER type	0.20... 1.31 mm ² (24...16 AWG) solid or stranded copper wire rated at 90°C (194°F) or greater.	
	Terminal Screw Torque		0.5 Nm (8.75 in-lb) rated	
	Expansion output current	X8 expansion module (up to 12 modules supported) 5V max. : 2200 mA, 24 V max. : 2000 mA		

■ External Wiring Diagram



[Caution] Please check the correct polarity marks before wiring.

Power Module

■ Features

1. Input Voltage : 100-240V AC Free Voltage
2. Easy-to-install DIN rail & screw structure
3. Output voltage : 24V DC/3A
4. Protective functions : Short/Over-current/Over-voltage
5. Heat-radiating design using air convection
6. Load sharing
7. Power ride-through capability (Dip 100% 20ms for full load)
8. RoHS-compliant
9. Expected Lifetime : 100,000 hours (based on room temperature 25°C)



Power module (X8-POWER3)

■ Performance Specifications

Item	Description
AC input voltage	100/240V AC (-15%/+10%, 85V AC ~ 264V AC)
AC input frequency	50/60Hz (+/-5%, 47Hz ~ 63Hz)
AC input inrush current	10.5A (0.82ms) @ 100V AC, 45A(2.41ms) @ 264V AC (conditions : 24A for 8ms, 54A for 4ms)
AC Input Amps	1.7A @ 100V AC, 0.9A @ 240V AC
AC input power	173.5V AC @ 100V AC, 220.3V AC @ 240V AC
AC input efficiency	85.3% @ 85V AC, 86.7% @ 100V AC, 89.4% @ 240V AC, 89.1% @ 264V AC
Output voltage	24V DC (+/-5%, 22.8V DC ~ 25.2V DC)
Output Amps	3.0A
Output power	72W (3.0A @ 24V DC)
Output Ripple	Within 50mVpp
Humidity	5% ~ 95% (non-condensing)
AC output efficiency	86.7% @ 100V AC, 89.4% @ 240V AC
Operating Temperature	-20°C ~ 60°C
Storage Temperature	-40°C ~ 85°C
Voltage Dips	0V AC, 20ms (1Cycle), Criteria A
Shock immunity & Vibration immunity	(Shock) 30G, (Vibration) 5G (IEC 60068-2-6 and IEC 60068-2-2)
Dimensions H x W x D	90 x 90 x 94mm
Compliance	CE/EMC, CE/LVD, cULus, KC
Pollution Degree of Usage Environment	2
IP Code	IP20

[Caution] Recommended for X8 Series for system stabilization.

■ Current Consumption Specifications

Classification	Model Name	Current consumption	Classification	Model Name	Current consumption
BASE	X8_M14DDT	180mA@5V DC, 80mA@24V DC	ANALOG	X8_AI4AO2	130mA@5V DC, 160mA@24V DC
	X8_M16DDR	180mA@5V DC, 80mA@24V DC		X8_AI8	285mA@5V DC
	X8_M32DDT	180mA@5V DC, 80mA@24V DC		X8_AO4	180mA@5V DC FIELD POWER : 100mA@24V DC
EXP	Discrete	X8_XU16 /_XU16SA	150mA@5V DC	X8_RT6	190mA@5V DC, 50mA@24V DC
		X8_XU32 /_XU32SA	170mA@5V DC	X8_TC6	190mA@5V DC, 50mA@24V DC
	POSITION	X8_YN16/_YN16S	180mA@5V DC	X8_POS1	370mA@5V DC FIELD POWER : 120mA@24V DC
		X8_YN32/_YN32S	220mA@5V DC	X8_POS2	380mA@5V DC FIELD POWER : 130mA@24V DC
		X8_YR16	160mA@5V DC, 150mA@24V DC	X8_POS3	370mA@5V DC FIELD POWER : 120mA@24V DC
				X8_POS4	400mA@5V DC FIELD POWER : 150mA@24V DC

Input Module

■ Features

1. 16 points, 32 points input module
2. All DC input types of +, - COMMON are available.
3. LED operation indicator
4. Photocoupler insulation of all modules
5. Improved user convenience with the removable terminal block (16-point module)

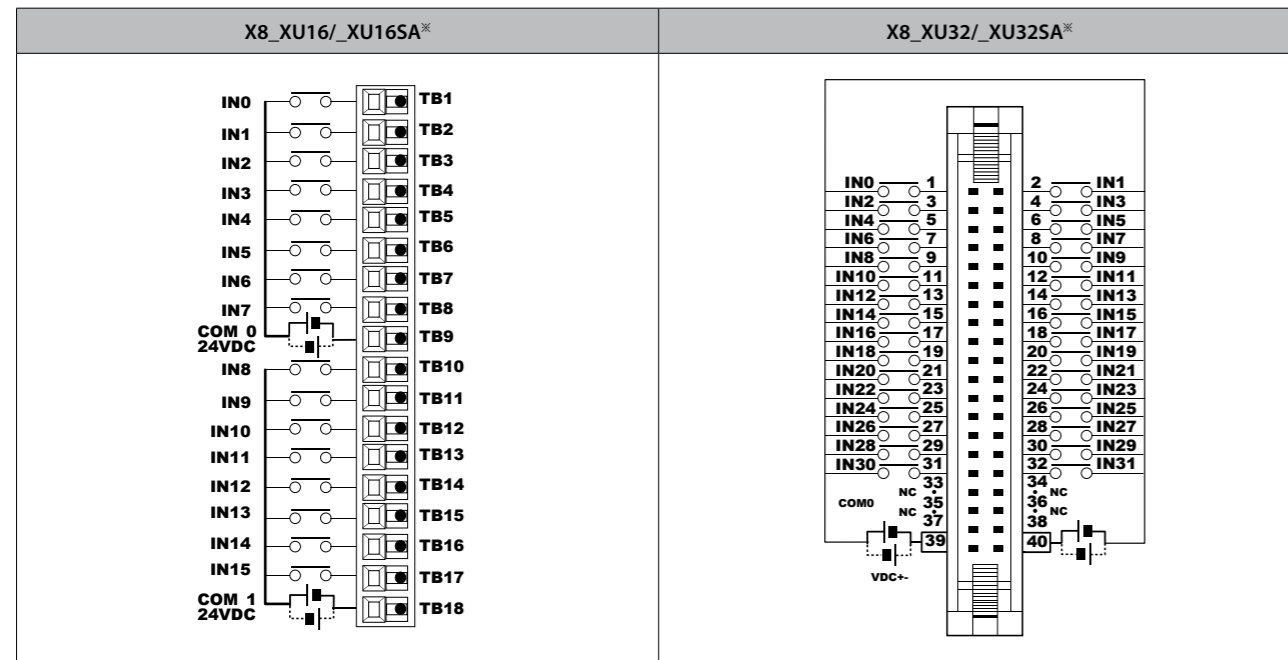


■ Input Module Specifications

Input Type	DC Input	
Product Code	X8_XU16/_XU16SA*	X8_XU32/_XU32SA*
Number of Input Points	16 points	32 points
Rated Input Voltage	12 ~ 24V DC	
Operating Voltage Range	10.0 ~ 28.8V DC	
Max. Input Current	10mA	
Operating Voltage	ON Voltage	Min. 10.0V DC
	OFF Voltage	Max. 5.0V DC
Isolation Method	Photocoupler isolation	
Response time	OFF → ON	2 ms or less
	ON → OFF	2 ms or less
Internal Current Consumption	150mA @ 5V DC	170mA @ 5V DC
Common Method	8 points/1COM (Common for polarity+, -)	32 points/1COM (Common for polarity+, -)
Operation Indicator	LED Indication	
External Connection Method	Removable Plug-type Connection (18P)	40P connector X 1

* Slim(Normal Open) Type Module

■ External Wiring Diagram



[Caution] Please check the correct polarity marks before wiring.

Output Module

■ Features

1. 16-point, 32-point output module
2. LED operation indicator
3. Photocoupler insulation of all modules
4. Improved user convenience with the removable terminal block (16-point module)

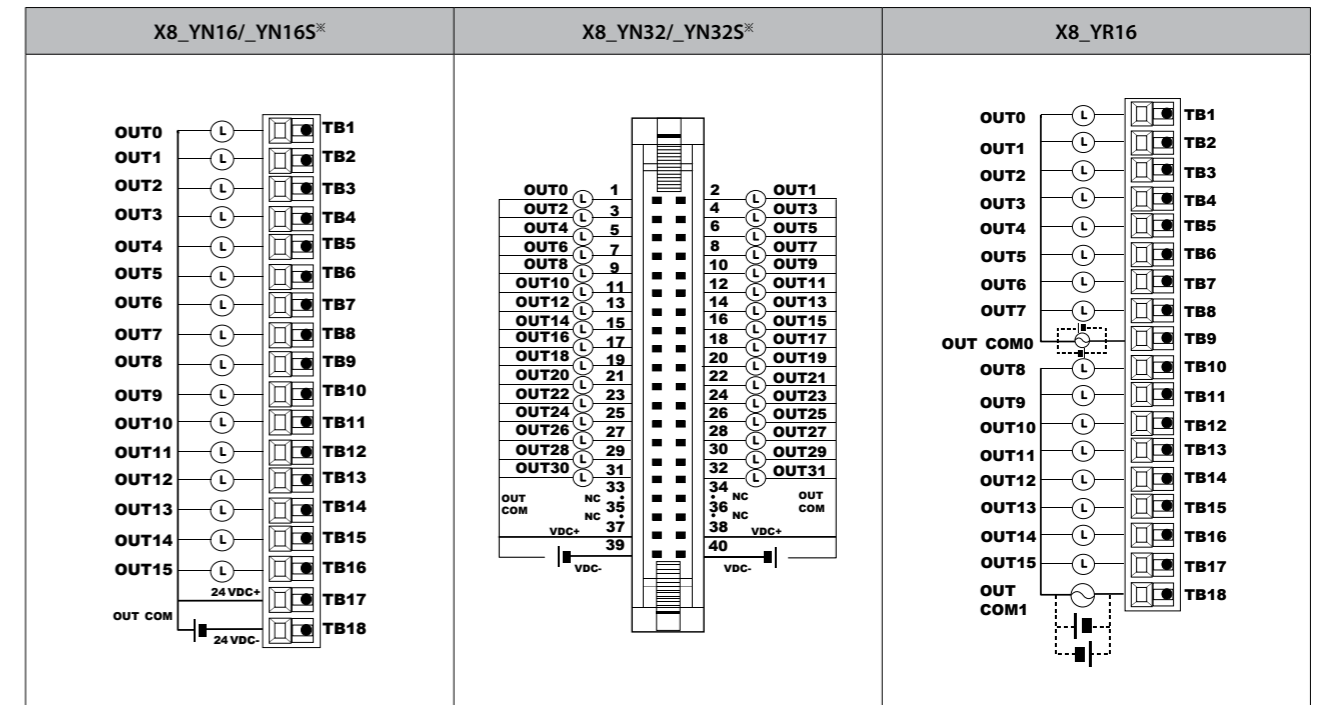


■ Output Module Specifications

Output format	Transistor (NPN) output		Relay Outputs
Product Code	X8_YN16/_YN16S*	X8_YN32/_YN32S*	X8_YR16
Number of Output Points	16 points	32 points	16 points
Isolation Method	Photocoupler		Relay
Rated Load Voltage	12V ~ 24V DC		250V AC, 30V DC
Operating Load Voltage Range	10V ~ 28.8V DC		110V AC, 250V AC
Max. Load Current	0.5A/point, 5A/COM	0.5A/point, 4A/COM	2A/point, 4A/COM (8 point/COM)
	Response Time		
Response Time	OFF → ON	1 ms or less	20 ms or less
	ON → OFF	1 ms or less	10 ms or less
Internal Current Consumption (5V)	180mA @ 5V DC	220mA @ 5V DC	160mA @ 5V DC
Fuse Rating	None		
Common Method	16 points/ 1COM	32 points/ 1COM	8 points/ 1COM
Operation Indicator	LED Indication		
External Connection Method	Plug Type (18P)	40P Connector	Plug Type (18P)

* Slim Type Module

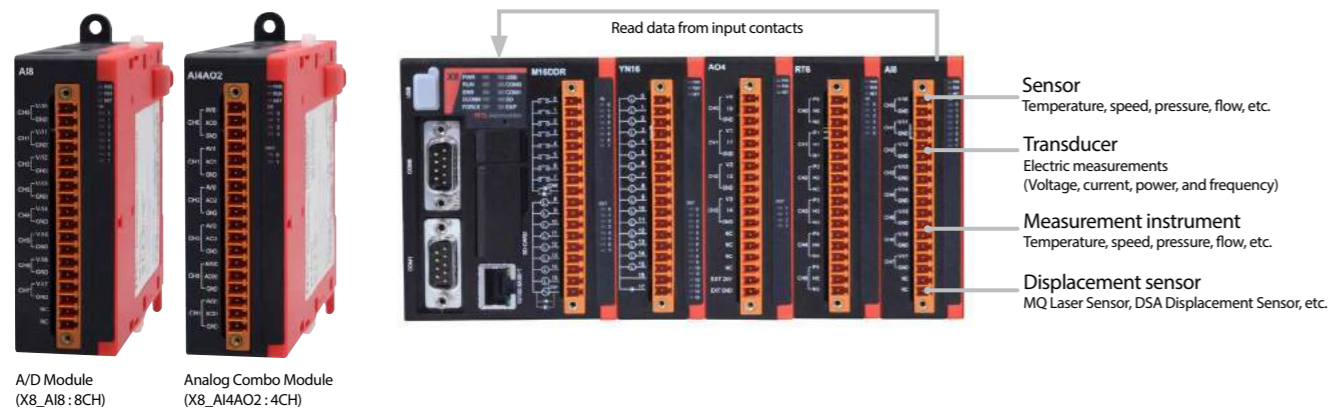
■ External Wiring Diagram



[Caution] Please check the correct polarity marks before wiring.

Analog Input Module (A/D)

A high-speed and high-precision module that greatly improves the conversion speed and resolution, the performance indexes of an analog input.



■ Features

- 8-channel Analog input, 4-channel Analog input (X8_AI4AO2)
- Highly improved resolution
- Removable terminal block adopted
 - The X8 A/D module uses the removable terminal block.
- Programming method for analog processing
 - Programming by I/O contacts can be used.
- High-speed processing and scaling function
 - Its 16-bit A/D Converter allows high-precision conversion data processing and is designed with the differential inputs. In addition, the scaling processing function allows customizing the digitally-converted values to the environment.

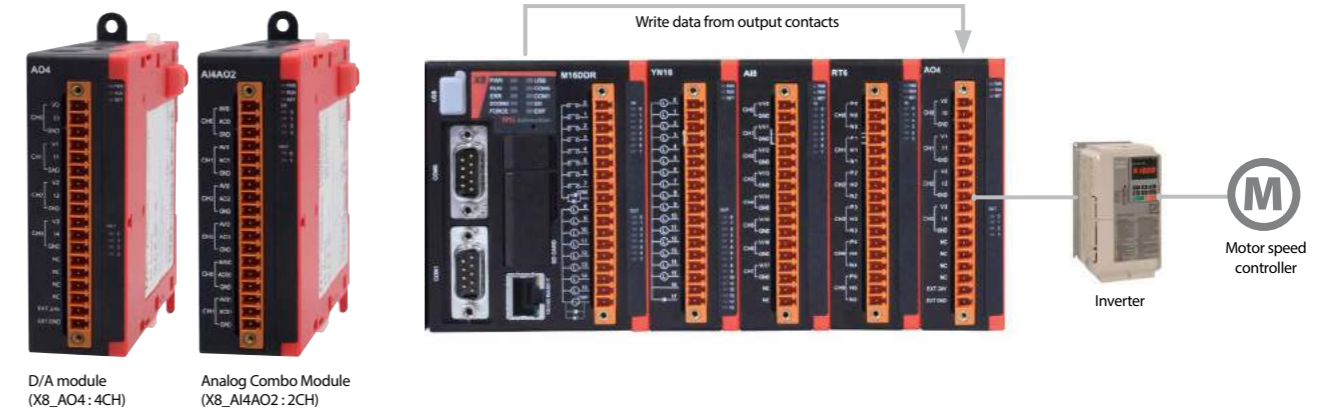
■ Performance Specifications

Product Code	X8_AI8	X8_AI4AO2
Analog Input Range	Voltage : 0 ~ 10V, 0 ~ 5V, ±10V, ±5V Current : 0 ~ 20mA, 4 ~ 20mA	Voltage : 0 ~ 10V Current : 0 ~ 20mA
Number of Analog Input Channels	8CH	4CH
Digital Conversion	Signed 16-bit binary (2's complement), Engineering Unit, Scaling	Signed 12-bit binary (2's complement), Engineering Unit, Scaling
Converter Type	16-bit A/D Converter	12bit A/D Converter
I/O Characteristics ※	1) 0~10V (0~32,767), (0~10,000), (0~10,000), (0~16,383) 2) 0~5V (0~32,767), (0~5,000), (0~10,000), (0~16,383) 3) ±10V (-32,768~32,767), (-10,000~10,000), (0~10,000), (0~16,383) 4) ±5V (-32,768~32,767), (-5,000~5,000), (0~10,000), (0~16,383) 5) 0~20mA (0~32,767), (0~20,000), (0~10,000), (0~16,383) 6) 4~20mA (0~32,767), (4,000~20,000), (0~10,000), (0~16,383)	1) 0~10V(0~4,096), (0~10,000), (0~10,000), (0~16,383) 2) 0~20mA(0~4,096), (0~20,000), (0~10,000), (0~16,383)
Max. Resolution ※	0.153mV/ 0.610uA	2.44mV/ 4.88uA
Total Degree	±0.2% @Full Temp.	±1.0% @ Full Temp.
Conversion Speed	2ms x Ch	1ms x Ch
External Input Impedance	Voltage : 1MΩ or more, Current : 250Ω	Voltage : 400MΩ or more, Current : 125Ω
Absolute Max. Input	Voltage : ±15V, Current : ±30mA	Voltage : 12V, Current : 22mA
Isolation Method	1) Between Input CH and Internal Circuit : DC/DC converter and photocoupler isolation 2) Between input channels : Non-isolation	
Number of I/O points	Input contact type : 128-point input	Input contact type : 64-point input
Internal Current Consumption (5V)	285mA @ 5V DC	130mA @ 5VDC, 160mA @ 24VDC
External Connection Method	18-pin Removable Plug-type Connection	
Weight	300g	

※ I/O characteristics and max. resolution is selectable from high resolution to general resolution and configured at XGPC. According to the resolution, the conversion speed and the stability of converted data may be different.

Analog Output Module (D/A)

A high-speed and high-precision module that greatly improves the conversion speed and resolution, the performance indexes of an analog output.



■ Features

- 4-channel Analog output, 2-channel Analog output (X8_AI4AO2)
- Highly improved resolution
- Removable terminal block adopted
 - The X8 D/A module uses the removable terminal block.
- Programming method for analog processing
 - Programming by I/O contacts can be used.
- High-precision processing and scaling function
 - Its 16-bit D/A converter allows high-speed and high-precision conversion data processing and the scaling processing function allows customizing the digitally-converted values to the environment.

■ Performance Specifications

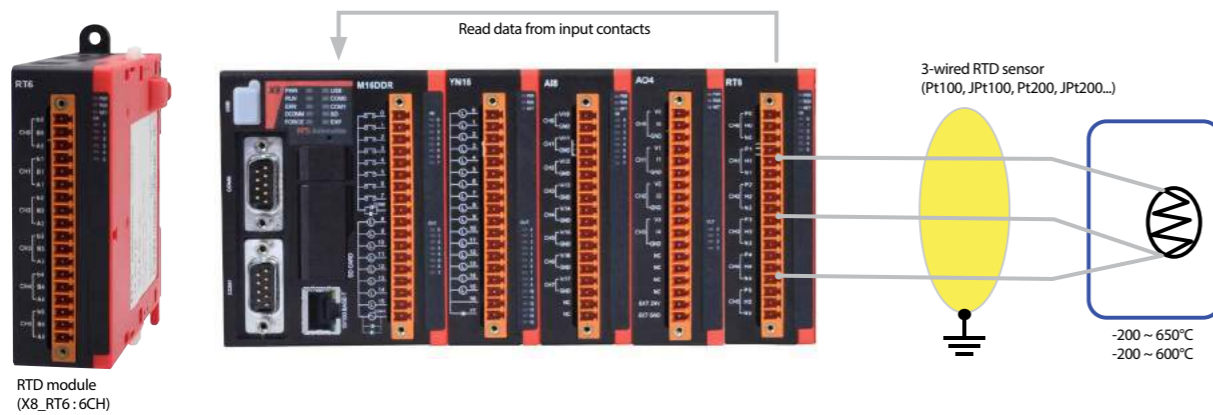
Product Code	X8_AO4	X8_AI4AO2
Analog Output Range	Voltage : 0 ~ 10V, 0 ~ 5V, ±10V, ±5V Current : 0 ~ 20mA, 4 ~ 20mA	Voltage : 0 ~ 10V Current : 0 ~ 20mA
Number of Analog Output Channels	4CH	2CH
Digital Conversion	Signed 16-bit binary (2's complement), Engineering Unit, Scaling	Signed 12-bit binary (2's complement), Engineering Unit, Scaling
Converter Type	16bit D/A Converter	12bit D/A Converter
I/O Characteristics ※	1) 0~10V (0~32,767), (0~10,000), (0~10,000), (0~16,383) 2) 0~5V (0~32,767), (0~5,000), (0~10,000), (0~16,383) 3) ±10V (-32,768~32,767), (-10,000~10,000), (0~10,000), (0~16,383) 4) ±5V (-32,768~32,767), (-5,000~5,000), (0~10,000), (0~16,383) 5) 0~20mA (0~32,767), (0~20,000), (0~10,000), (0~16,383) 6) 4~20mA (0~32,767), (4,000~20,000), (0~10,000), (0~16,383)	1) 0~10V(0~4,096), (0~10,000), (0~10,000), (0~16,383) 2) 0~20mA(0~4,096), (0~20,000), (0~10,000), (0~16,383)
Max. Resolution ※	0.153mV/ 0.610uA	2.44mV/ 4.88uA
Total Degree	±0.2% @Full Temp.	±1.0% @ Full Temp.
Conversion Speed	Voltage : 1ms/V, Current : 2ms/mA	Voltage : 1ms/V, Current : 1ms/mA
Allowable Output Load Resistance	Voltage : 3Ω or more, Current : 600Ω or less	Voltage : 1KΩ or more, Current : 500Ω or less
Isolation Method	1) Between output CH and Internal Circuit : DC/DC converter and photocoupler isolation 2) Between output channels : Non-isolation	
Number of I/O Points	Output contact type : 64-point input	Output contact type : 32-point input
Internal Current Consumption (5V)	150mA @ 5VDC	130mA @ 5VDC, 160mA @ 24VDC
External Current Consumption	100mA @ 24V DC	N/A
External Connection Method	18-pin Removable Plug-type Connection	

※ I/O characteristics and max. resolution is selectable from high resolution to general resolution and the XGPC software allows making all configurations. According to the resolution, the conversion speed and the stability of converted data may be different.

RTD Module (Resistance Temperature Detector Module)

Resistance Temperature Detector module controls the external conversion values entered directly from the temperature sensor. The 24-bit Σ - Δ A/D converter enables high-precision and high-speed processing and wide I/O range and self-calibration feature are also implemented.

* RTD = Resistive Temperature Detectors
(utilizes the resistance change induced by temperature change. It passes constant current through changing resistance and measures the voltage. $V=I \times R$)



Features

- 6-channel RTD input
- Type of temperature sensor
 - 3-wired platinum temperature sensors are allowed. (Pt100, Pt200, Jpt100, Jpt200...)
- Data both in Celsius (°C) and Fahrenheit (°F) supported
 - Selectable according to the software configuration.
- Programming methods for analog data processing
 - Programming by I/O contacts can be used.
- Designed for strong noise immunity
 - The built-in analog & digital noise filter provides superior immunity against interference from outside.

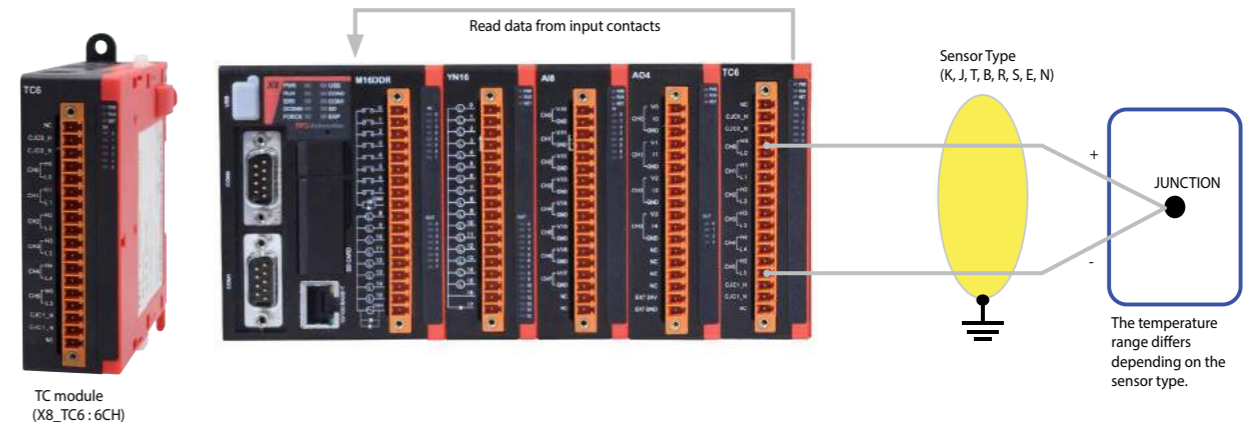
Performance Specifications

Product Code	X8_RT6 (6CH/module)
RTD Sensor	3-Wire
Number of RTD Input Channels	6CH
Digital Conversion	Signed 16-bit binary (2's complement)
Converter Type	24-bit Σ - Δ A/D Converter
I/O Characteristics (Applied temperature sensor and digital output)	① Pt100 ($\alpha=0.00385$, $-200 \sim 650^{\circ}\text{C} \Rightarrow -2,000 \sim 6,500$) ② Pt200, Pt500, Pt1000 ③ JPt100 ($\alpha=0.00385$, $-200 \sim 600^{\circ}\text{C} \Rightarrow -2,000 \sim 6,000$) ④ Jpt200, Jpt500, Jpt1000 ⑤ 327 Ω (10m Ω /bit) ⑥ 1000 Ω (20m Ω /bit) ⑦ 2000 Ω (100m Ω /bit) ⑧ NI120
Max. Resolution	0.1°C, 0.1°F, 10m Ω , 20m Ω
Total Degree	+/-0.2% @Full Temp.
Conversion Speed	15ms x Ch (filter is configurable : 1000, 320, 160, 40, 20, 10, 5Hz)
External Input Impedance	10M Ω
Current Source	1mA (Excitation Current)
Isolation Method	Between Input CH and Internal Circuit : DC/DC converter and photocoupler isolation Between input channels : Non-isolation
Number of I/O Points	Input contact type : 128-point input
Internal Current Consumption	200mA @ 5V DC
External Connection Method	18-pin Removable Plug-type Connection

TC Module (Thermocouple module)

Thermocouple module controls the external conversion values entered directly from the temperature sensor. The 24-bit Σ - Δ A/D converter enables high-precision and high-speed processing and wide I/O range and self-calibration feature are also implemented.

* TC = Thermo Couple



Features

- 6-channel TC Input
- Various temperature sensors
 - Available temperature sensor types are K, J, T, B, R, S, E, N, ± 78.0 mV, ± 32.7 mV, ± 65.5 mV.
- Data both in Celsius (°C) and Fahrenheit (°F) supported
 - Selectable according to the software configuration.
- Programming method for analog data processing
 - Programming by I/O contacts can be used.
- Temperature Compensator
 - When the thermo couple is connected to the temperature sensor, the temperature needs to be compensated because of the difference between the real measurement point and the module. To compensate the temperature, two CJC temperature sensors are installed in the terminal block of the module, enhancing its reliability.

Performance Specifications

Product Code	X8_TC6 (6CH)
Digital Conversion	Signed 16-bit binary (2's complement)
TC Input Channel	6CH
Converter Type	24-bit Σ - Δ A/D Converter
I/O Characteristics (Applied temperature sensor and digital output)	TYPE K/J/T/B/R/S/E/N (Sensor type determines the temperature range) ± 32.7 mV (1 μ V/bit) ± 65.5 mV (2 μ V/bit) ± 78.0 mV (10 μ V/bit)
Max. Resolution	0.1°C, 0.1°F, 1 μ V, 2 μ V, 10 μ V
Total Degree	+/-0.2% @Full Temp.
Conversion Speed	15ms x Ch (filter is configurable : 1000, 320, 160, 40, 20, 10, 5Hz)
External Input Impedance	10M Ω
Temperature Compensation Sensor	-50 ~ 100°C (Cold Junction Compensation)
Isolation Method	Between Input CH and Internal Circuit : DC/DC converter and photocoupler isolation Between input channels : Non-isolation
Number of I/O Points	Input contact type : 128-point input
Internal Current Consumption	190mA @ 5V DC
External Connection Method	18-pin Removable Plug-type Connection

Positioning Module

The 1-axis, 2-axes, and 4-axes module allows high-speed and high-precision positioning at the speed command of 4 Mpps in maximum. The start-up time is 1 ms or less and flexible start-up/stop is achieved by S-curve acceleration/deceleration. This module includes pulse generator features that allows real-time output to the manual pulse generator (MPG).

Product Type



1-axis Position Module (X8_POS1)



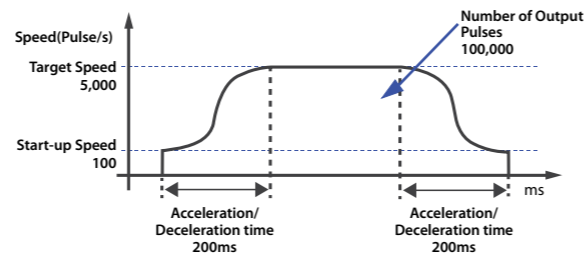
2-axes Position Module (X8_POS2)



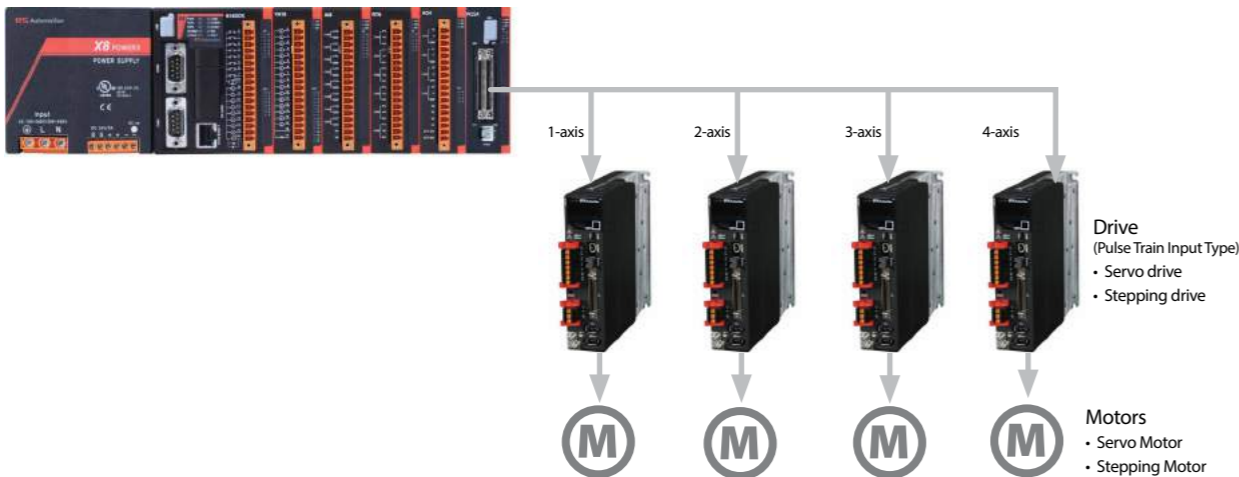
4-axes Position Module (X8_POS4)

Features

- Linear and circular interpolation controls are available for each axis.
- 4M pulse/s of the maximum pulse speed for high-speed and high-precision positioning
- Up to four axes on one module allowing multi-axes control
- High-speed start-up time reducing the tact-time (start-up time 1ms)
 - High-speed start-up mode is supported to reduce the tact-time.
- Simplified parameter setting and automatic acceleration/deceleration by data setting
- Pulse generator input feature allowing real-time output to the manual pulse generator (MPG)
- Various built-in I/O ports, requiring no separate I/O modules
- Smooth start-up/stop realized by S-curve acceleration/deceleration



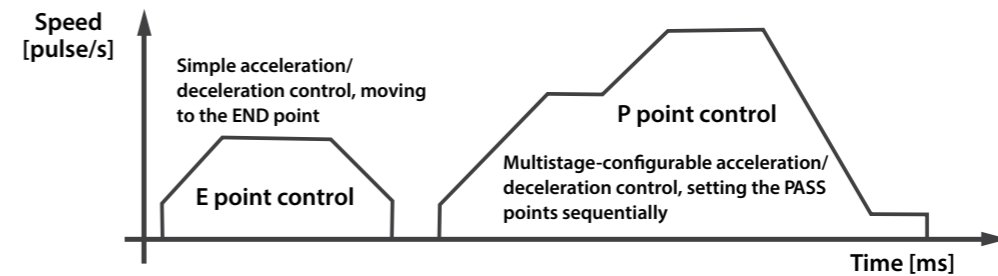
Configuration diagram



Performance Specifications

Item	4-axes module (X8_POS4)	2-axes module (X8_POS2)	1-axis module (X8_POS1)
Number of I/O points	Input 44words, Output 80words	Input 22words, Output 40words	Input 11words, Output 20words
Mountable slots	All slots are mountable		
Number of control axes	2-axes, 3-axes, 4-axes linear interpolation 2-axes circular interpolation 3 axes helical interpolation (*Caution: 4 axis unavailable)	2-axes linear interpolation 2-axes circular interpolation	Independent 1 axis
Position Command	Command pulse unit	Pulse unit (Increment, Absolute) is programmatically commanded	
	Command range	Signed 32-bit integer (-2, 147, 483, 648 ~ +2, 147, 483, 647 pulse)	
Speed Command	Command range	Using line driver : 1 pulse/s ~ 4 Mpulse/s (Adjustable by pps module)	
	Acceleration/Deceleration method	Linear acceleration/deceleration, S-curve acceleration/deceleration	
	Acceleration/Deceleration Time	0 ~ 32,767ms	
Return to zero	Return to zero Rate	Adjustable (Return to origin and search rate can be changed)	
	Input terminal	Home sensor input, zero proximity inputs	
Operation Mode	E point control (selectable either of Linear or S-curve acceleration/deceleration) *1 P point control (selectable either of Linear or S-curve acceleration/deceleration) *1 linear/circular interpolation control Return to origin function (selectable either of Linear or S-curve acceleration/deceleration) JOG operation function (selectable either of Linear or S-curve acceleration/deceleration) *1 Pulse generator input function		
Start-up time	0.1 ms or less		
Output mode	Pulse/Sign mode, CW/CCW mode (switched by S/W)		
More Features	Deviation counter clear signal output contacts		
External power supply *2	24V DC (21.6 ~ 26.4V DC)		
Internal current consumption	POS4 (400mA), POS2 (380mA), POS1 (370mA)		

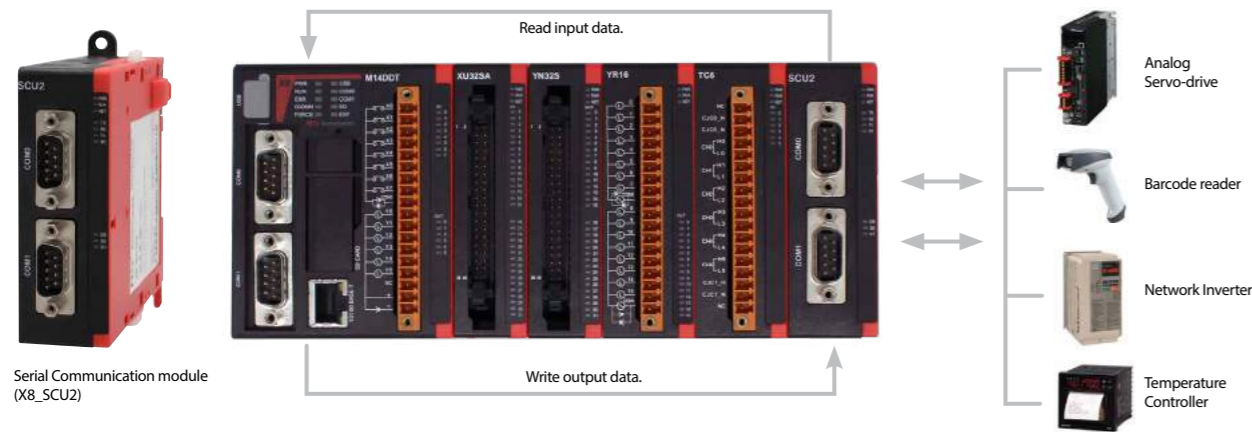
*1 E point control and P point control means the acceleration/deceleration control as shown in the following figure, respectively.



*2 Power is supplied from the external connector of the positioning module.

Serial Communication Module (SCU2)

The Serial Communication Module(SCU) is an extension serial communication module that can be used when extra communication ports, in addition to 2 ports in the base (CPU) module, are required. The X8 PLC ladder program enables various implementation of ASCII communication, binary communication (Hex) and user-defined protocols. Moreover, isolation between ports enhances the quality of communications.



■ Features

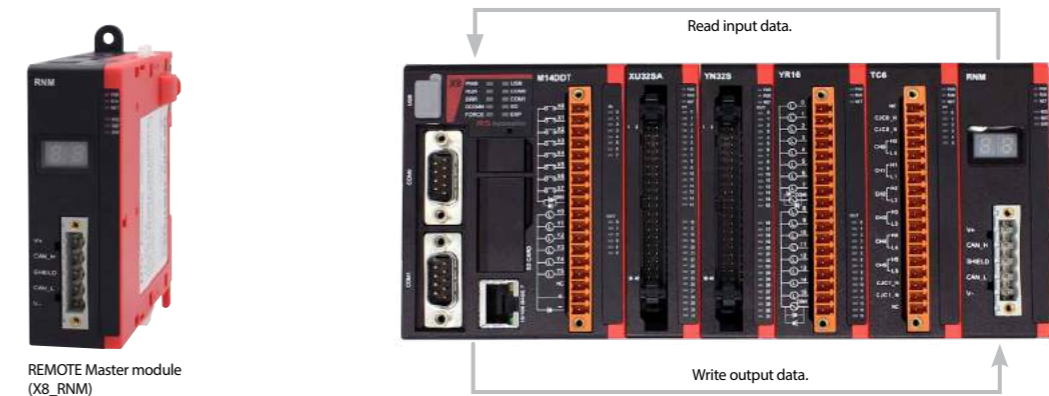
- 2-channel (RS232C, RS485/422 optional) communication port to be installed.
- Data input/output can be achieved only with simple MSG commands.
- A network can be set with RS232C and RS485/422 communications.
 - Data input/output available to/from RS232C devices : interfaces with IDX indicator, meter, barcode reader and printer
 - Data input/output available through network with RS485 devices : interfaces with temperature controller, network inverter, and network servo
- Transmit/Receive Buffer 256 Byte
- ASCII or HEX(Binary) code transferable

■ Performance Specifications

Item	Specification
Interface	RS232C / RS485 / 422, 2 Channels
Communication Speed	Rate settings in XGPC RS232C/RS485/RS422 : 1200 bps / 2400 bps / 4800 bps / 9600 bps / 19200 bps / 38400 bps 57.6 kbps / 115.2 kbps / 230.4 kbps
Duplex	Full duplex / Half-duplex
Synchronization	Asynchronous type (START – STOP)
Transfer distance	RS232C : 15m(MAX), RS485/422 : 1.2Km
Transfer code	ASCII or HEX(Binary)
Data transfer format	Stop bit : 1bit, 2bit Parity Bit : None, Even, Odd Data bit : 7bit, 8bit
Data transmission sequence	Transferred from bit 0 in the unit of character
Isolation	Isolation between inside and each channel
Transfer unit	Message to the terminating code (variable length)
Max. message length	Max. 256 Byte/frame (including terminating and starting codes)
I/O allocation	16 words input, 8 words output to be allocated
Terminating code setup	Any 1 or 2 termination character(s)
Starting code	Starting code / No starting code
Other special control	Xnet, Modbus, NX-Plus protocol, NX-Alpha protocol, User Defined Protocol by MSG instruction. Soft reset.

Remote Master Module (RNM)

X8_RNM is the remote master module of the X8 PLC, which is capable of remotely controlling remote I/Os that are connected to a remote network. The remote module adopts our DS60 Series modules that have been successfully proven in the market, providing flexible scalability and intercompatibility between X8 PLC and DIO products.



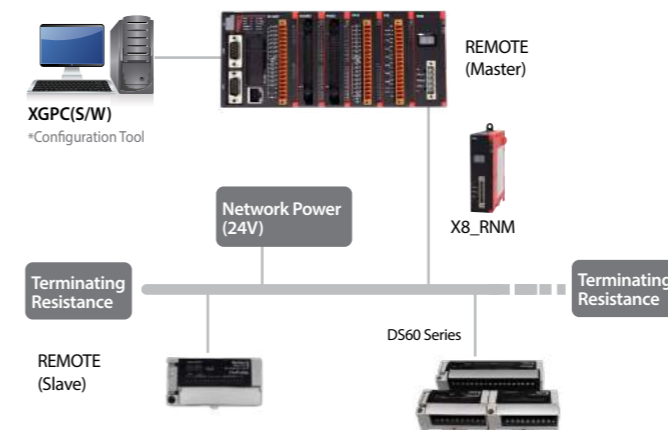
■ Features

- Adopts the market-proven DS60 Series modules as its remote I/Os to provide enhanced performance and compatibility between products.
- A maximum of 3 X8_RNM modules can be used in one PLC and then 30 remote I/Os can be installed in one X8_RNM module (max.3840 points can be used) which delivers enhanced scalability.
- Remote I/O modules that are connected to the X8_RNM are assigned to general inputs/outputs (X, Y), which makes the RNM easy to use.
- Polling is used as default.
- All settings are stored in the flash memory and the data maintained even if the power is turned off.
- Simplified cabling enables easy and quick assembly and maintenance.
- CE, KC, and cULus certified.

■ Performance Specifications

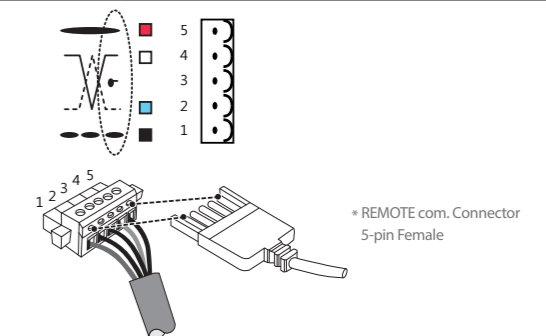
Item	Specifications
Communication mode	REMOTE I/O Slave messaging (Group 2 Only Slave) I/O Exchange * Poll Command : Y
Access node no.	Max. 30 nodes in 1 network (excluding Master)
Distance / Transfer rate (Automated setup supported)	Think : 100m / 500kbps, 210m / 250kbps, 440m / 125kbps Thin : 45m / 500kbps, 100m / 250kbps, 100m / 125kbps
Cable	DeviceNet Cable
Communication mode	Polling / Strobe / Cyclic / COS
Communication rate setup	Automated setup Max. 500Kbps
DeviceNet® power	Rated voltage : 24V DC Nominal
	Voltage range : 11V ~ 28.8V DC Power consumption : 1.5W max.

■ REMOTE Communication Connector



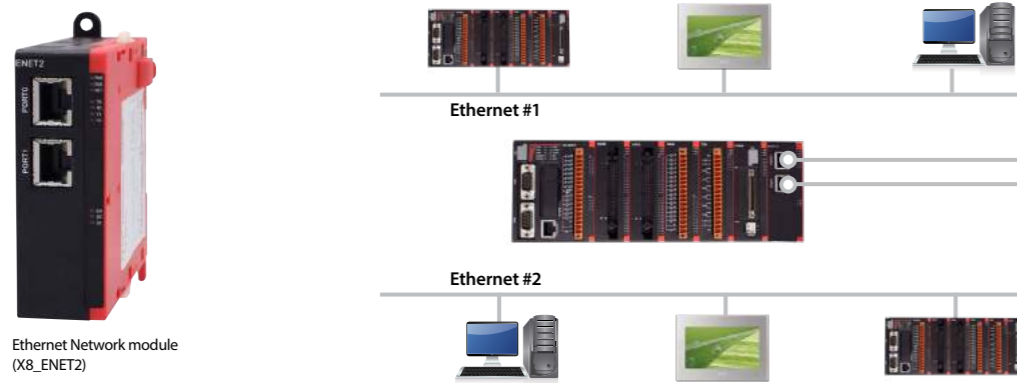
■ Wiring Method (REMOTE Communication Connector)

Type	Specifications	
Pin	1	V- (0V DC)
	2	CAN_L
	3	Shield
	4	CAN_H
	5	V+ (24V DC)



Ethernet Network Module (ENET2)

X8_ENET2 is the X8 special expansion Module which has 2 separate Full Duplex Ethernet Ports with the same function. The router function can be implemented for network separation by a single module and allows to take advantage of the redundancy. A generic network-based modules with highlighted the versatility.



Ethernet Network module (X8_ENET2)

Features

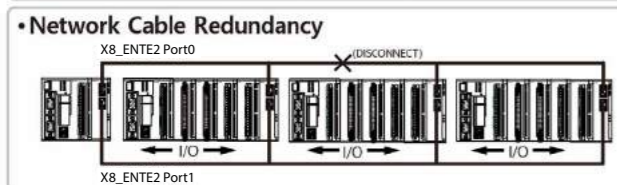
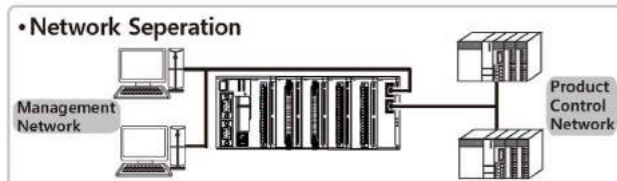
- 2 Physically separated networks with the same functions.
- 10/100Mbps Full-Duplex RJ45 Ports.
- Can be given different IP addresses to each ports.
- Using 12 ENET2 modules on a single CPU (Max 24 Ethernet Ports expansion)
- Support various network protocols (Modbus/TCP Server, Data Sync, Xnet over IP)
- Simple installation and Configuration.
- Data sharing by the configuration only.

Wiring Method

Pin	RJ45	Color
1	TX Data +	Orange/White
2	TX Data -	Orange
3	RX Data +	Green / White
4	-	Blue
5	-	Blue / White
6	RX Data -	Green
7	-	Brown / White
8	-	Brown

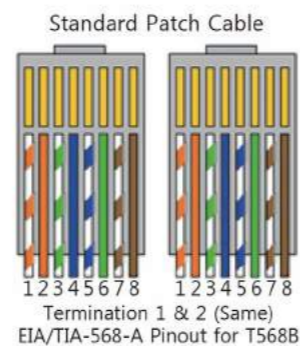
Applications (*Connection Diagram - Connecting with switching hub.)

- Ethernet Network Expansion
- Separated Network/Gateway
- Network, Cable redundancy
- Data share with X8 PLC Data Sync Function



Performance Specifications

Item	Specifications
Power Consumption	150mA@24VDC
Communication Channels	2 Channels
Communication Speed	10 / 100 Mbps , Full Duplex, Auto Negotiation
Connector	RJ45
Distance	100m
Cable	Category 5 / 5e
Protocols	Modbus / TCP Server, Data Sync, Xnet over IP
Configuration Tools	XGPC
Dimensions H x W x D	90 x 29.8 x 94mm



E-Bus Converter Module

The basic X8 PLC system can accommodate a maximum of 12 modules. It uses the expansion system to connect up to 80 I/Os and controls I/Os that are up to 100m away. I/Os can be extended by combining EB2RJ, RJ2EB and HUB5N. Use of high-speed E-Bus allows smooth expansion without compromising its speed.



Features

- HUB5N Module Features
 - Redundancy is possible by using 2 kinds of power supplies. Because it can save spaces by using X8 extend bus power and single modules can be operated through the bottom of the 24VDC power use.
 - Can only use one at a time when using expansion bus power per configuration.
 - Unable to read or add in XGPC, the I/O module's information. it also does not include additional 12 slot limits. Because it does not occupy the I/O slot.
- E-Bus Converter Module Features
 - High-speed and long-distance transfer
 - It supports up to 100Mbps, with the maximum 100m of distance between modules.
 - Ethernet cables allow economical wiring.

Performance Specifications

- Access to Computer (Configuration Tool)

Product Type	EXPANSION BUS (EBUS) CONVERTER AND NETWORK		
	X8_RJ2EB	X8_EB2RJ	X8_HUB5N
Power Supply	Power Supply Voltage Range	24VDC (-10%, +20%)	
	Power Supply inrush Current	24VDC, 20A for 20ms	
	Power Consumption	65W MAX.	
BUS POWER OUTPUT	2.2A @ 5VDC, 2A @ 24VDC		
Current Consumption	-	220mA @ 5VDC	150mA @ 24VDC
Network Port	RJ45 IN/OUT PORT X 1	RJ45 OUT PORT X 1	RJ45 PORT X 5
Transfer rate	100 Mbps		10/100 Mbps
Cable	Category 5e or higher, UTP, FTP, STP, S-STP, 100M MAX.		
Certificate	KC, CE, cULus		



Basic System



Expansion System

Configuration



* Simplified wiring with RJ45 cable



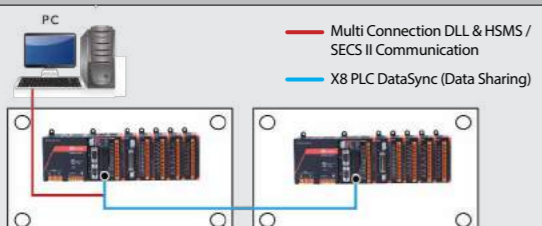
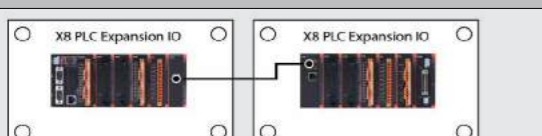
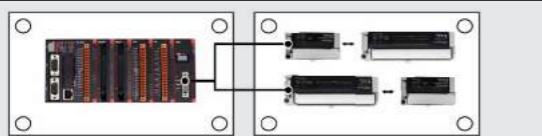
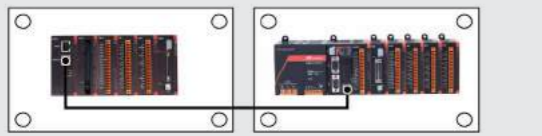
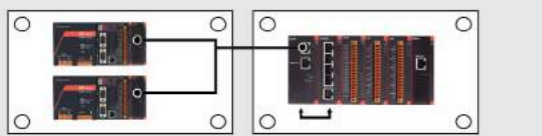
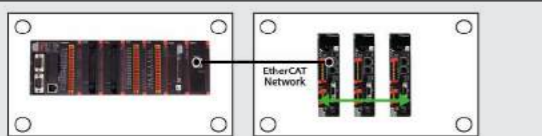
X8_RJ2EB (the first slot in expansion system)



X8 Integrated Network Solution

New features of integrated network solution that is updated recently based on existing network protocol what we have such as EtherNet/IP, Modbus/TCP and EtherCAT.

■ Configuration · Advantages

Multi Connection DLL & HSMS / SECS II Communication / X8 PLC DataSync (Data Sharing)	
	<ul style="list-style-type: none"> Multi Connection DLL Data communication between PC and multiple PLC through DLL. HSMS / SECS II Implement HSMS protocol which is common communication protocol in semiconductor / FPD industry. Data Sharing Available through DataSync function for N : N X8 PLC in network environment.
E-Bus Expansion Solution	
	<p>I/O can be extended to 2,560 points through system bus expansion and also utilize it as remote I/O that accessible up to 100m distance.</p>
Fieldbus Control Solution	
	<p>Available to extend up to 2,400 points by connecting to Machine IO, DS60 series with the DeviceNet and utilizing X8_RNM module. Also, I/O points can be expanded at an economical price.</p>
Ethernet Expansion Solution	
	<p>Available for network extension or separation with adding the additional Ethernet module.</p>
CPU Redundancy Solution	
	<p>Implemented hot stand-by function through built-in technology without dedicated module (FRN 11 or later)</p>
EtherCAT CSD7N Control Solution	
	<p>CSD7N control via EtherCAT communication's extension function of X8 PLC. Up to 16 axes CSD7N P to P network control available with no built-in costs.</p>

■ Application

- Semiconductor / FPD industry
- Food & Beverage, Process industry
- General machinery (Processing, Assembling, Inspection machine)
- Another application other than mfg. machinery (Security, Infrastructure, SCADA, etc.)

Model Information

Model Name	CPU Module
X8_M32DDT	Modular, DC In 16P, DC Out 16P (Sink), HSC (6Ch), PTO (6Ch), EJ Header
X8_M16DDR	Modular, DC In 8P, Relay Out 8P, HSC (6Ch), Plug Type
X8_M14DDT	Modular, DC In 8P, TR Out 6P (Sink), HSC (6Ch), PTO (6Ch), Plug Type

Model Name	POWER Module
X8_POWER3	AC POWER Supply Module, 24V 3A, Parallel Connection (Load Sharing)

Model Name	EXPANSION Module
X8_XU16	EXP DC In 16P, Plug Type
X8_XU16SA	EXP DC In 16P, Normal Open, Slim Type, Plug Type
X8_YR16	EXP Relay Out 16P, Plug Type
X8_YN16	EXP TR Out 16P (Sink), Plug Type
X8_YN16S	EXP 16P Output, NPN, Slim Type, Plug Type
X8_XU32	EXP DC In 32P, Eject Header
X8_XU32SA	EXP DC In 32P, Normal Open, Slim Type, Eject Header
X8_YN32	EXP TR Out 32P (Sink), Eject Header
X8_YN32S	EXP 32P Output, NPN, Slim Type, Eject Header
X8_AI4AO2	EXP Analog Input 4Ch, Output 2Ch, Voltage/Current
X8_AI8	EXP Analog Input 8Ch, Voltage/Current
X8_AO4	EXP Analog Output 4Ch, Voltage/Current
X8_RT6	EXP RTD Module with 6Ch
X8_TC6	EXP TC Module with 6Ch
X8_POS1	EXP Position module with 1-axis
X8_POS2	EXP Position module with 2-axes
X8_POS4	EXP Position module with 4-axes
X8_SCU2	EXP Serial Communication 2Ch, RS232C/485/422
X8_RNM	EXP Remote Master
X8_EB2RJ	EXP Convert E-Bus to RJ45 without power
X8_RJ2EB	EXP Convert RJ45 to E-Bus with power
X8_HUB5N	EXP Ethernet Hub with 5 ports
X8_ENET2	EXP Ethernet Communication module with 2 ports

Model Name	OPTION Module
X8_DEMOKIT	X8 Demo Kit
X8_DEMOKIT_ECO	X8 Demo Kit Economic

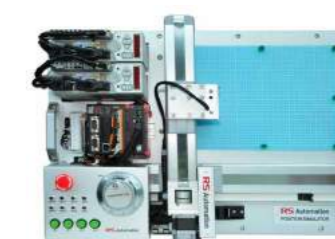
■ Demo Kit (Please make contact on RS Automation separately.)



Premium-model Demo Kit



Distribution-model Demo Kit



2-axes Robot Demo Kit

* Please make contact on cable company separately.

* Specifications and the model name of this product can be changed without prior notice in order to improve the product performance.

XGPC Software

Dedicated software for X8 PLC

XGPC software is the international standard IEC 61131-3 compliant software for X8 Series PLC. It supports various functions including ladder editing, online editing, monitoring, debugging, file management, time chart monitoring, and etc. Additional functions including FBD, ST, and IL will be supported later.



XGPC S/W (for Windows)

* The following figure shows the configuration diagram for using X8_M14DDT CPU.

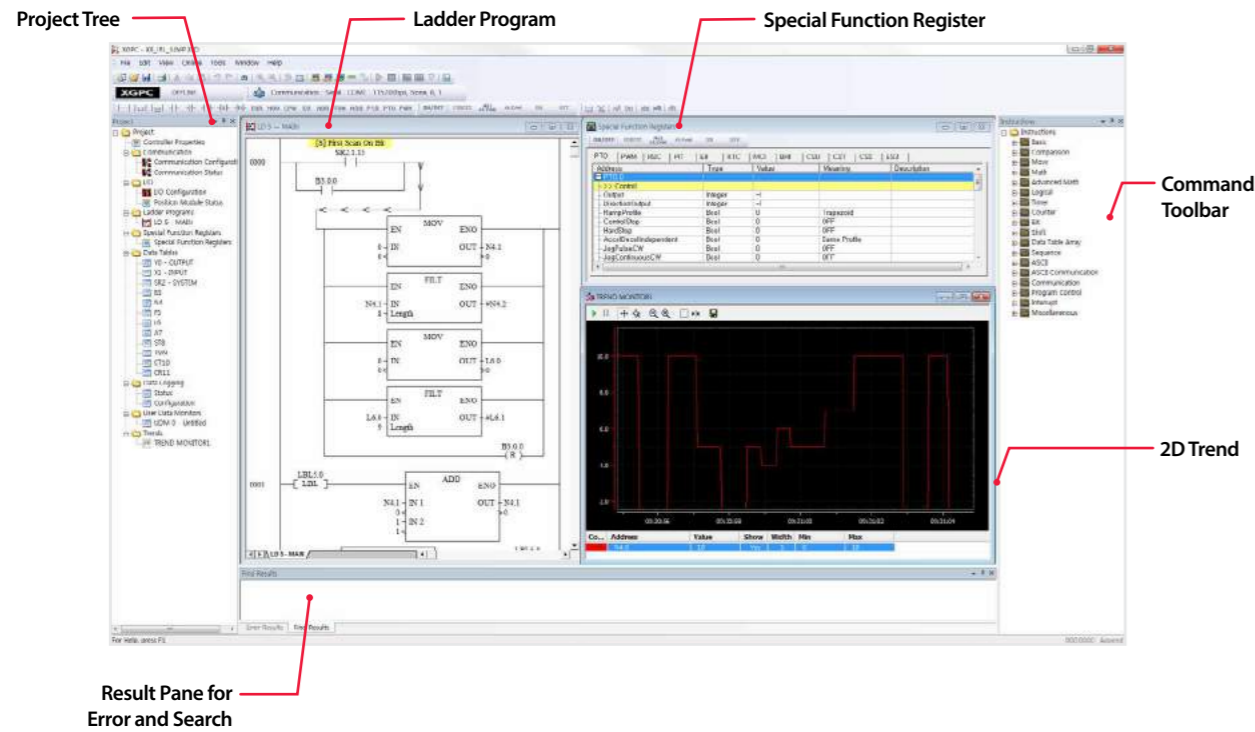


XGPC S/W

PLC Series	Relevant CPU Types
X8 Series	X8_M32DDT X8_M14DDT X8_M16DDR

Features

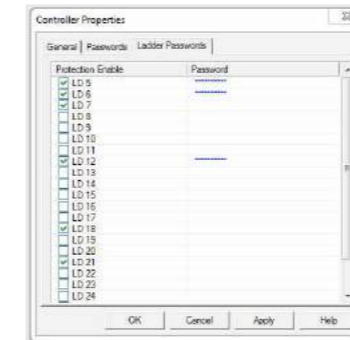
1. XGPC software based on Windows, supporting Windows XP/ Vista /7/8/10.
2. Allows users to edit multiple programs simultaneously, so users can compare the programs to each other or copy data from another program while programming.
3. Provides various tools, allowing users to easily use programs.
4. Supports various monitoring types, such as ladder, Mnemonic, and register monitoring.
5. Easy to modify, undo, and change a program in online.
6. Provides Drag & Drop function offering quick and easy programming.
7. Provides free XGPC program to X8 PLC customers.



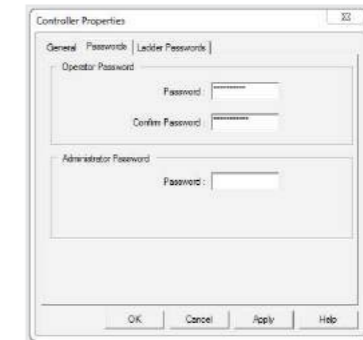
Result Pane for Error and Search

3-step Custom Password

The software allows the user to set a password for each ladder as well as for users and administrators. (max. 12 characters including Korean, English and special characters)



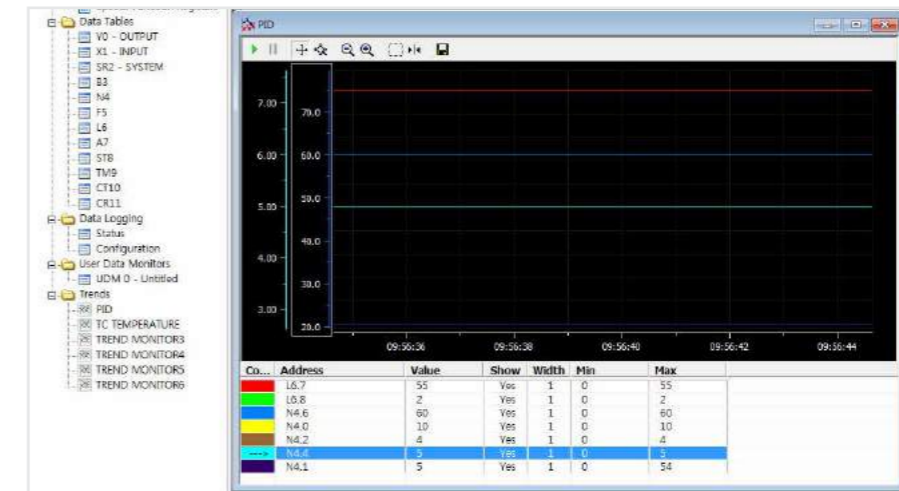
Ladder Password



User and Administrator Password

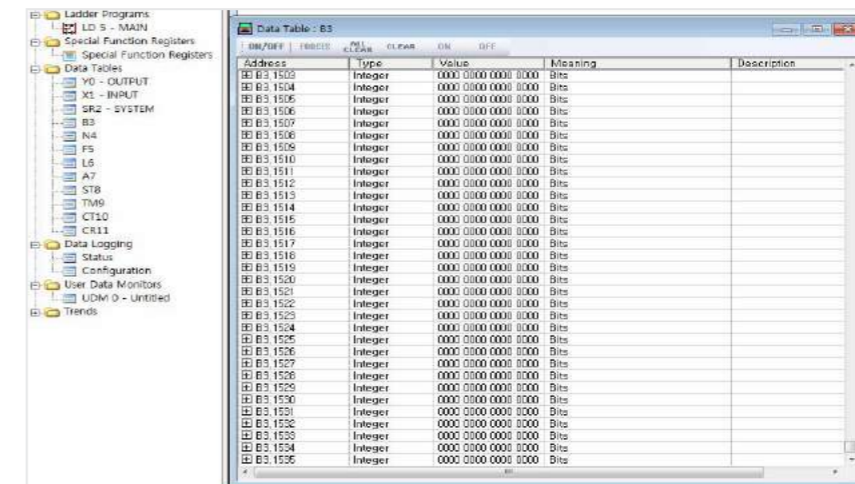
Unlimited Configurable 2D Trend

Unlimited setting and monitoring of addresses for each trend is available.



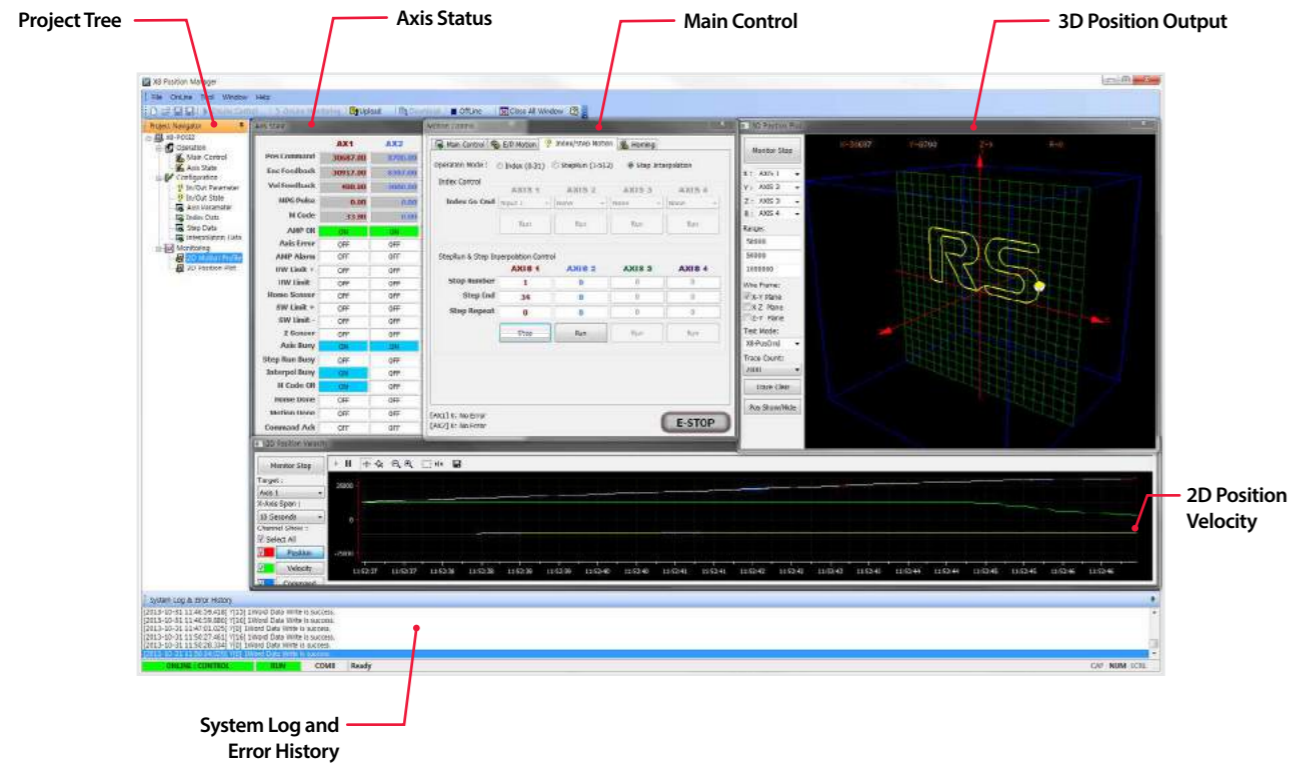
Flexible Data Capacity

The user can edit any type of data (max. 1533 ea) within allowable memory capacity. Element can be edited for each data table (max. 1536 elements).



X8 Position Manager Software X8 Position-dedicated

X8 Position Manager is the software that allows control of the position module of RS Automation X8 PLC. It provides functions including Read/Write Positioning Parameters, Input/Output Data Monitoring and Data Import/Export.

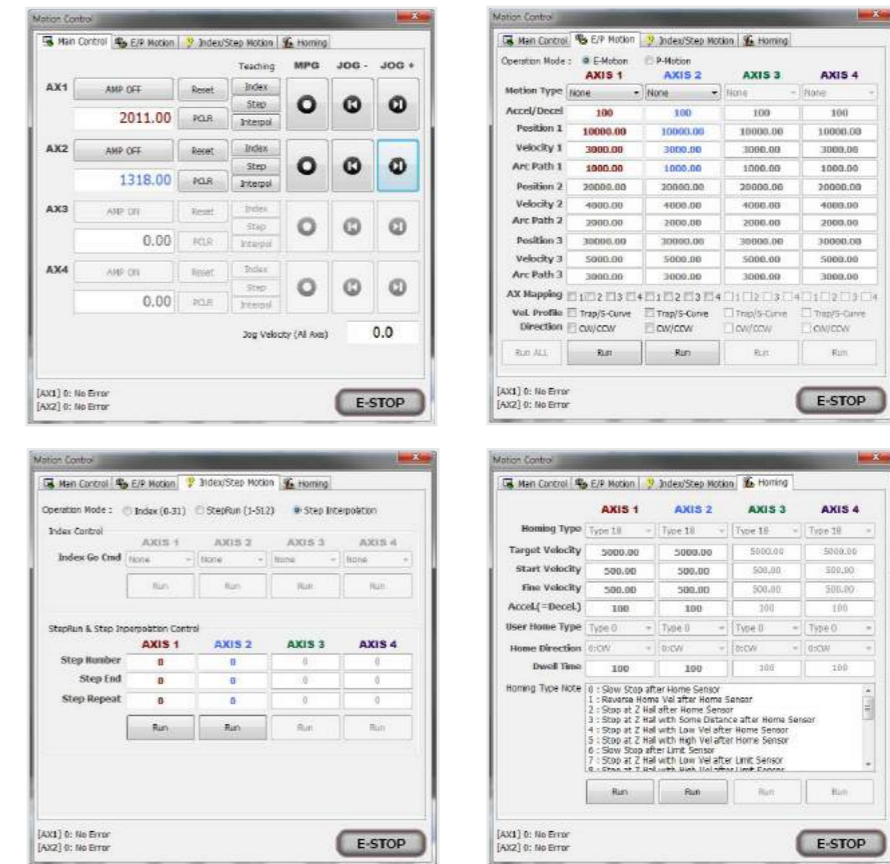


■ Features

1. The software is Windows-based, and supports Windows XP / Vista /7/8/10.
2. Provides various functions including E/P Motion, Jog, Index/Step Motion and Homing.
3. Allows setting 32 index data for each axis.
4. Allows setting 511 step data and interpolation data for each axis.
5. Provides position / velocity / command / Mcode monitoring with its 2D trend feature.
6. Provides simultaneous monitoring of X / Y / Z axes with its 3D trend feature.
7. Supports Import / Export functions for all setting values or profiles.
8. Allows quick and easy editing in the Microsoft Excel program.

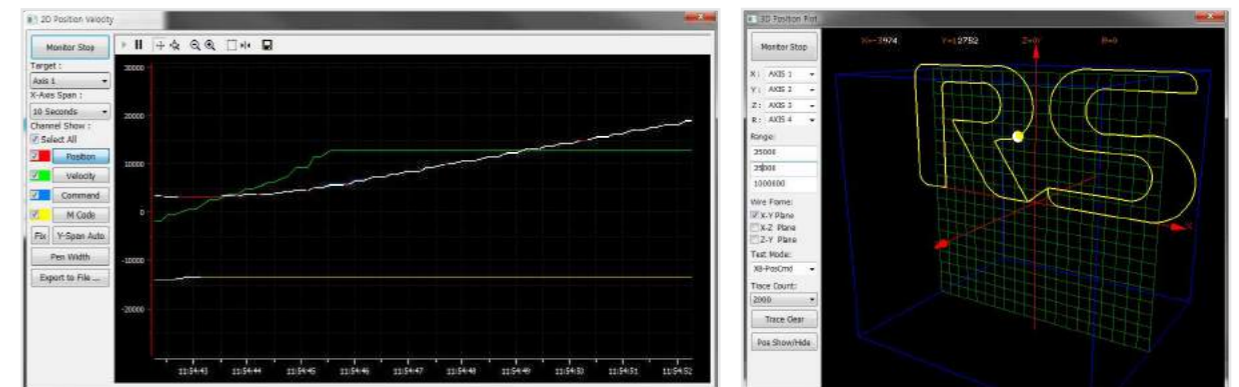
■ User-Customized Main Control

Provides control all at a time including power On / Off for each axis, teaching setup, jog movement, E/P motion, step activation, index / interpolation activation, and homing activation.



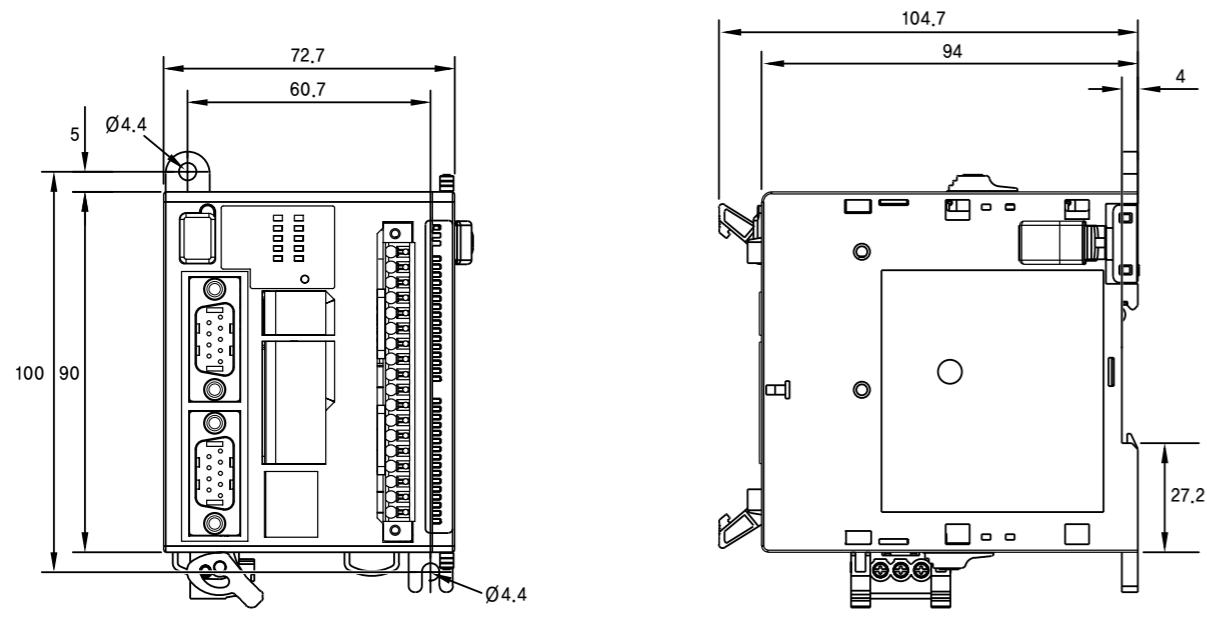
■ Intuitive Monitoring

The 2D position velocity function allows command / velocity / position monitoring. The X8-dedicated 3D graph allows simultaneous monitoring of X / Y / Z-axes and axis profile simulation.

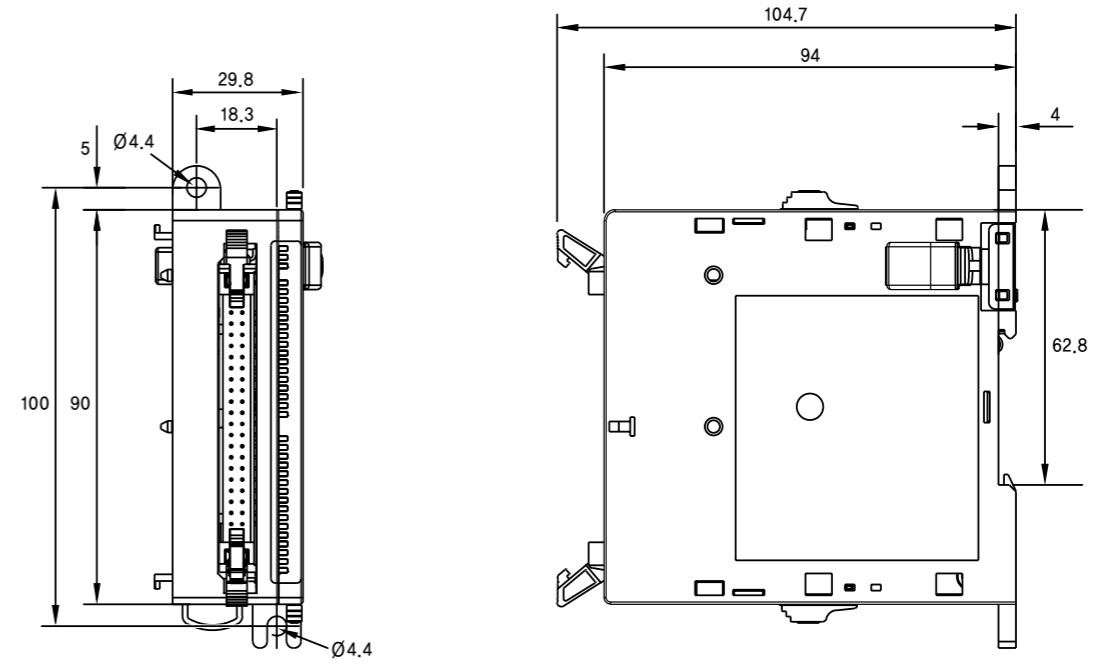


External dimensions

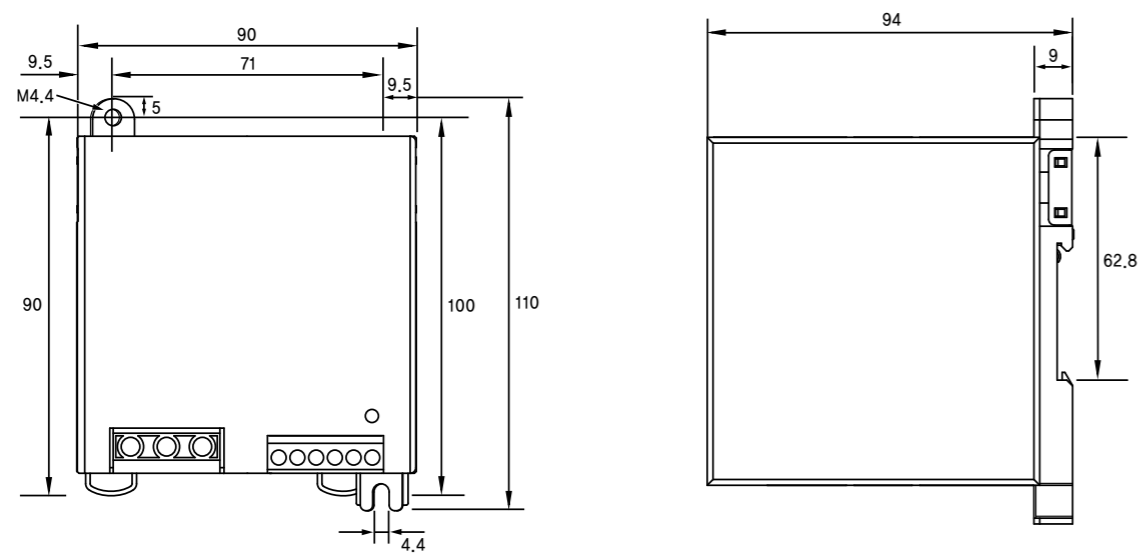
■ CPU



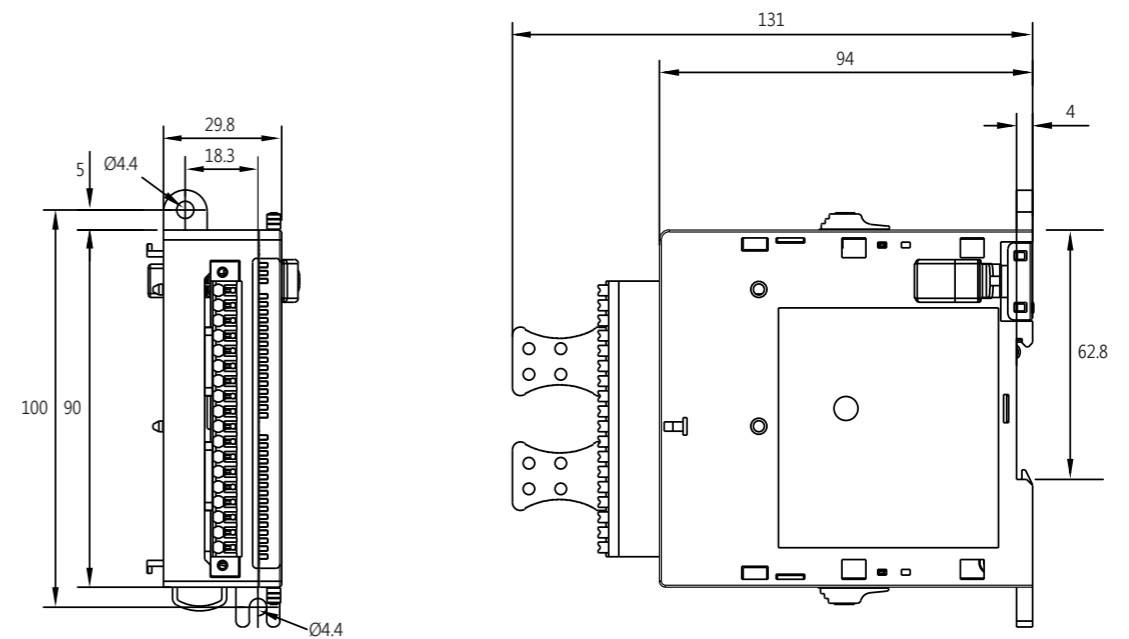
■ I/O (32 points)



■ Power Supply

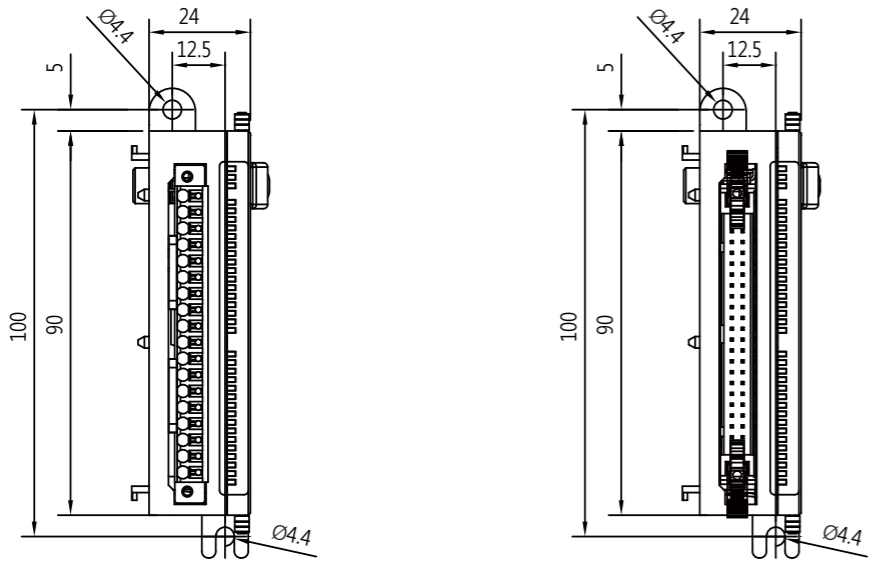


■ I/O (16 points)

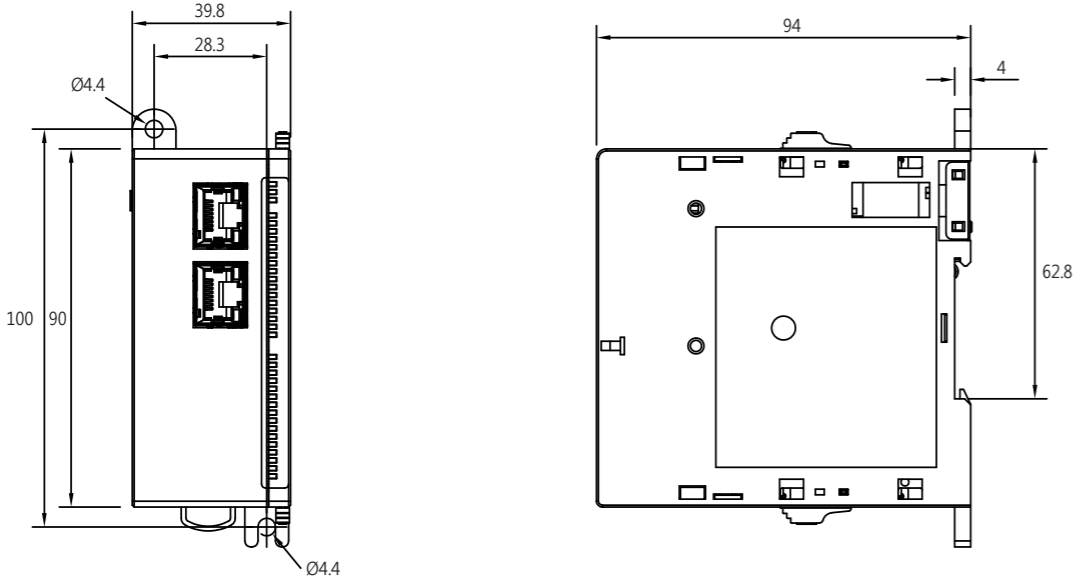


External dimensions(2)

■ Slim Type I/O (16 points/32 points)

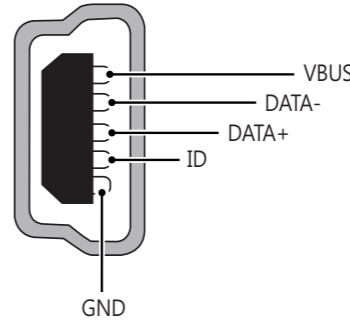


■ E-Bus(RJ2EB)

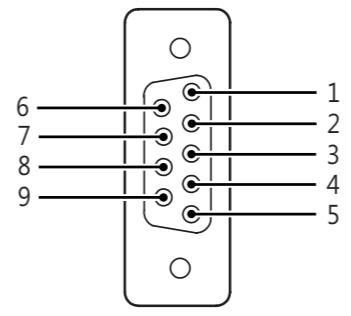


CPU Communication Port Wiring Diagram

■ USB Slave (MINI B TYPE)



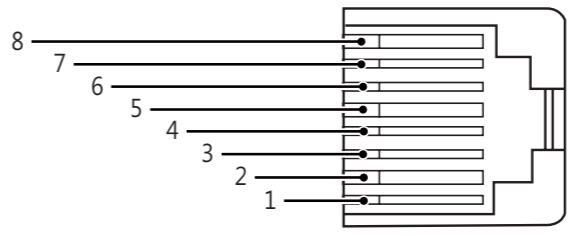
■ Serial COM0/COM1 (9-Pin male D-SUB)



NO	X8-COM0/COM1	
	RS-232C	RS485
1	DCD	-
2	RX	-
3	TX	-
4	-	485P +
5	GND	GND
6	-	485N -
7	RTS	-
8	CTS	-
9	-	-

* It is different from standard PIN map of RS232C/485.

■ Ethernet (10 BASE-T Port/100 BASE-TX Port)



NO	X8-Ethernet (10 BASE-T Port/100 BASE-TX Port)
1	TD+
2	TD-
3	RD+
4	-
5	-
6	RD-
7	-
8	-

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