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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

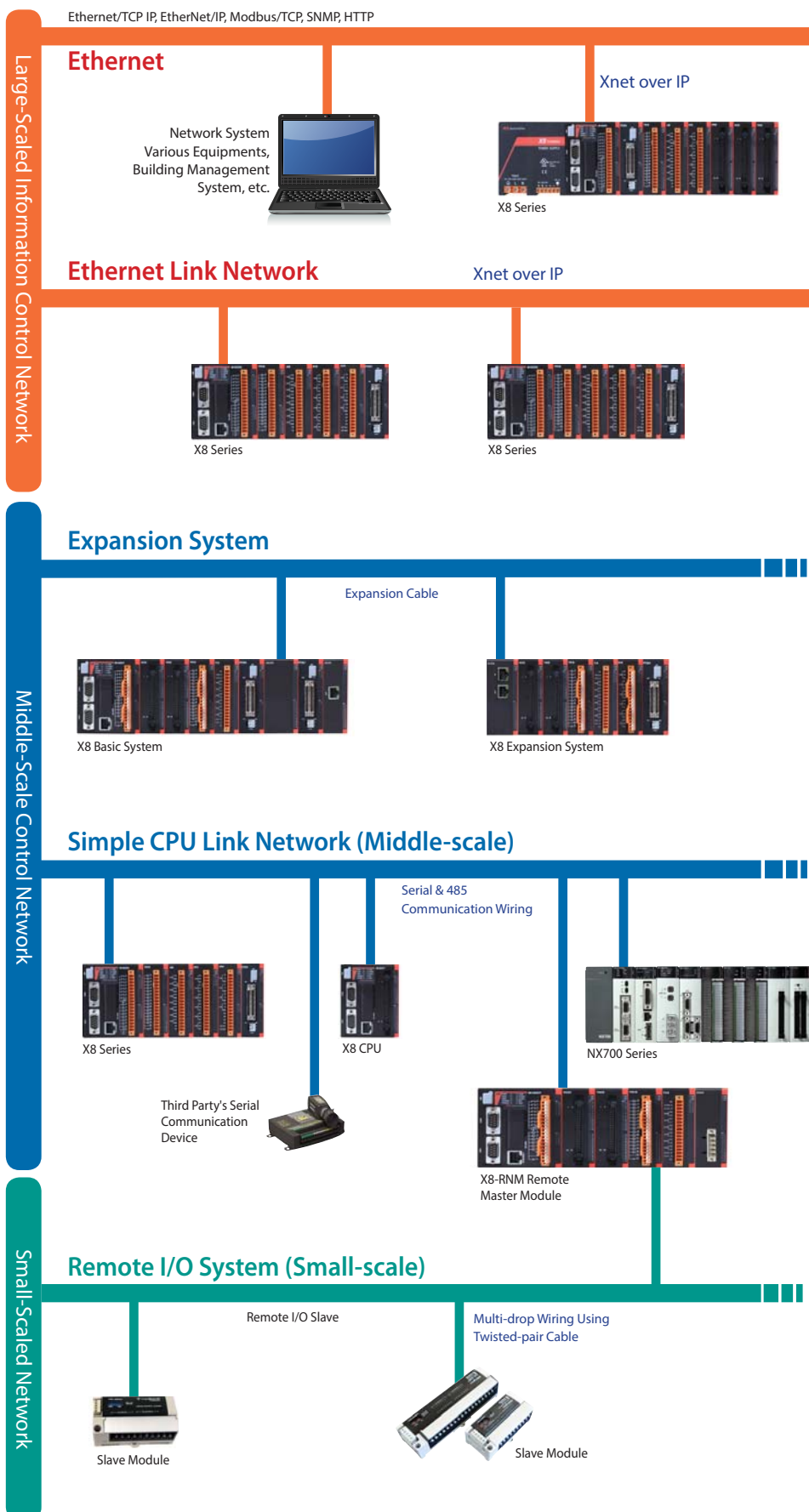
Its micro-small design allows easy integration in the industrial sites and data backup and data logging functions are available through the supported SD card even at the small PLC. In addition, a tight system-level security is provided through 3-layered encryption function.

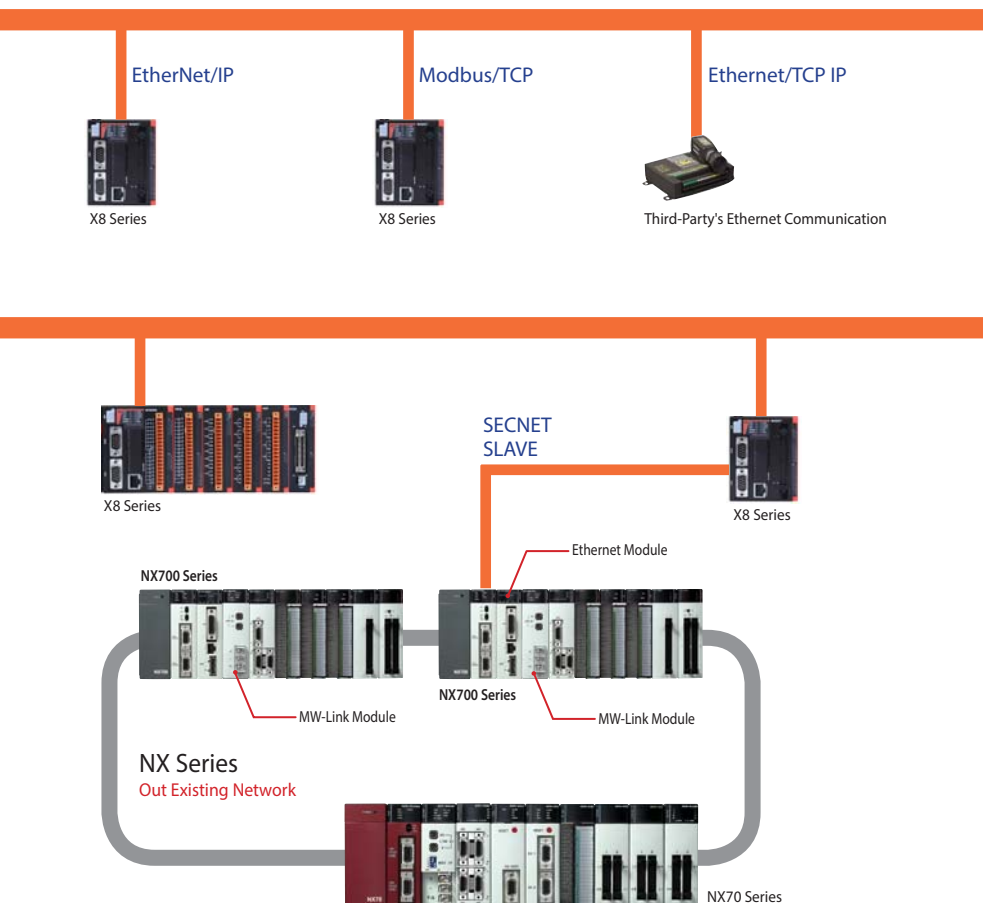
# X8 Series PLC Network Configuration Diagram

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
- Number of Communication Connections : 20 ~ 32 connections, max.
- Maximum Distance between Nodes : Up to 100 m (based on Ethernet specifications)

## Remote I/O System

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

- Relevant PLC : X8 Series (being developed)
- Transmission path : Twisted-pair cable (700 m), 2-wire cable (400 m)
- Number of stations : 32 stations (Slave Module)/Master Module, 4 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-EB2EB, X8-EB2RJ, or X8-RJ2EB 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

## DeviceNet Network System

DeviceNet  
(Master)



Machine I/O

DeviceNet  
(Slave)



## Modbus/RTU Communication

Modbus RTU  
(Master)



Modbus RTU  
(Slave)

CSD5 Servo Drive



## DeviceNet Network System

With DeviceNet, the international standard fieldbus network, network configuration with various devices is achieved. Simplified cabling significantly cuts down the maintenance costs.

- X8 Series (being developed), Desktop computer cards (PCI, PCMCIA, etc.)
- Slim & Ultra-compact Size (104 x 43 x 52mm)
- Accessible between heterogeneous systems with DeviceNet
- Baud Rate : 125/250/500 Kbps
- Number of Nodes : 64 Nodes/Network



# 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



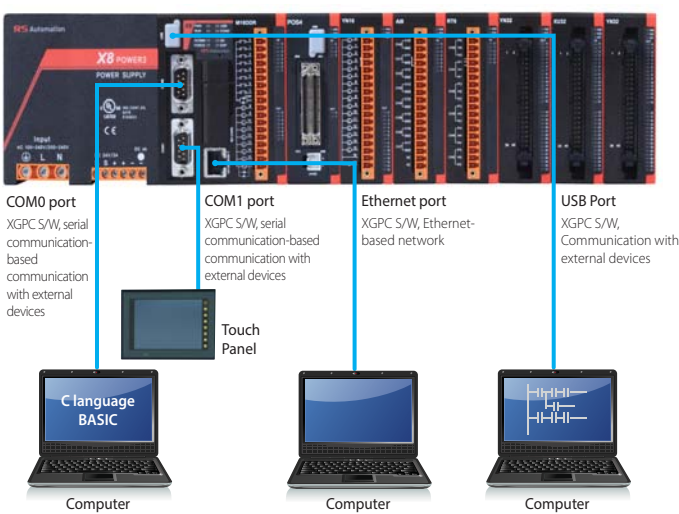
**X8-M16DDR**

- 60K steps
- Real Time Clock
- 8 DC IN/8 RY 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

Data Type	Item
	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)

- Fast program download/upload with greatly improved communication speed.

### 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

## ■ 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	High-speed counter HSC 100KHz 4CH (5 ~ 24V DC, line drive is available), 1KHz 2CH (100KHz 4CH) *X8-M14DDT : HSC 100KHz 4Ch			
	High-speed Pulse Output : PTO 100KHz 6CH (PWM 40KHz 6CH)			PTO is excluded from M16DDR
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			
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	90mm X 72mm X 94mm			
Shipping weight	540g	540g	560g	
External Connection Method	40 Pin Connector	Plug Type (18P)	Plug Type (18P)	

## ■ General Specifications

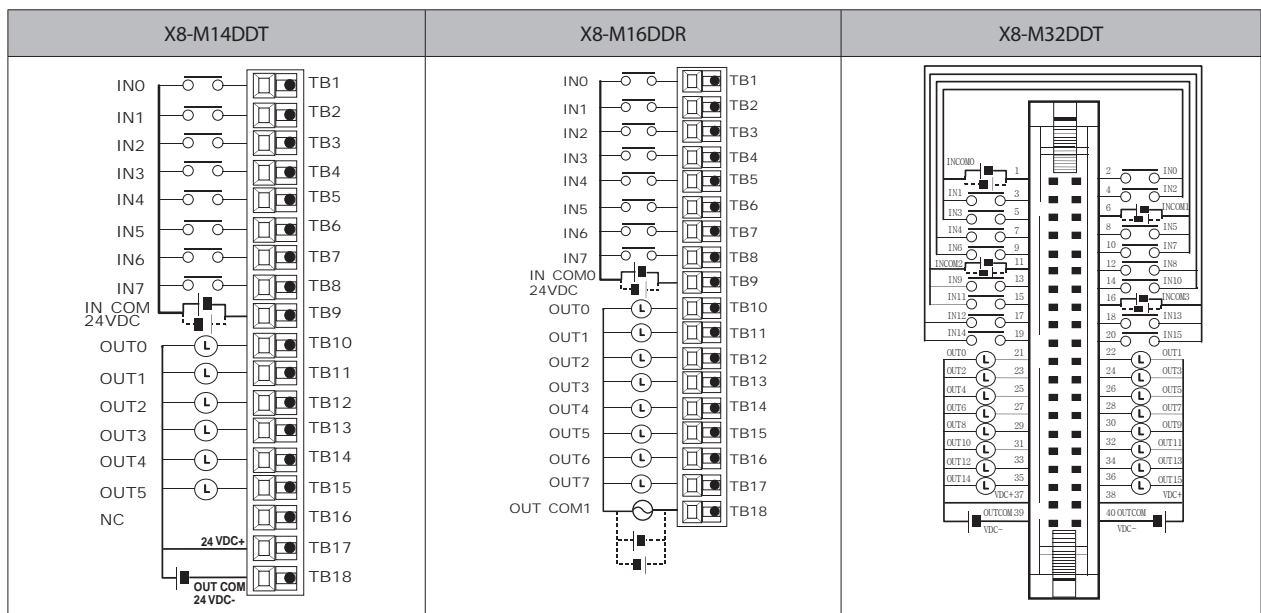
Item		Specifications
Ambient Temperatures	Operating Temperature	-20 to 60°C
	Storage Temperature	-40 to 80°C
Ambient Humidity	Operating Humidity	30 to 85% RH (Non-condensing)
	Storage Humidity	
Withstand voltage		1500V AC for 1 minute between external terminal (AC) and frame ground (Power Module)
		500V 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 ~ 10Hz peak amplitude 3.5mm 1 sweep/1 minute, 9 ~ 150Hz acceleration 9.8m/s <sup>2</sup> 1 sweep/1 minute X, Y, Z, 10 minutes on 3 axes (X, Y, Z)
Shock immunity		98m/s <sup>2</sup> , 4 times on 3 axes (X, Y, Z)
Noise immunity		1500Vp-p with 50ns to 1μs pulse width (generated by noise simulator)
Ambience		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.			
Impedance, nom	High-speed input : 3.6 kΩ,	General input : 4.6 kΩ			
Outputs	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		2A
	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 <sup>2</sup> (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 3 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/Overcurrent/Overvoltage
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)



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	0°C ~ 60°C
Storage Temperature	-40°C ~ 85°C
Voltage Dips	0V AC, 20ms (1 Cycle), 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
BASE	X8-M14DDT	180mA@5V DC, 80mA@24V DC
	X8-M16DDR	180mA@5V DC, 80mA@24V DC
	X8-M32DDT	180mA@5V DC, 80mA@24V DC
EXP	X8-AI4AO2	130mA@5V DC, 160mA@24V DC
	X8-XU16	150mA@5V DC
	X8-XU32	170mA@5V DC
	X8-YN16	180mA@5V DC
	X8-YN32	220mA@5V DC
	X8-YR16	160mA@5V DC, 150mA@24V DC
	X8-YR6C	150mA@5V DC, 70mA@24V DC

Classification	Model Name	Current consumption
ANALOG	X8-AI8	200mA@5V DC, 50mA@24V DC
	X8-AO4	180mA@5V DC FIELD POWER : 100mA@24V DC
RTD	X8-RT6	190mA@5V DC, 50mA@24V DC
TC	X8-TC6	190mA@5V DC, 50mA@24V DC
POSITION	X8-POS1	370mA@5V DC FIELD POWER : 120mA@24V DC
	X8-POS2	380mA@5V DC FIELD POWER : 130mA@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)



16-point type  
input module

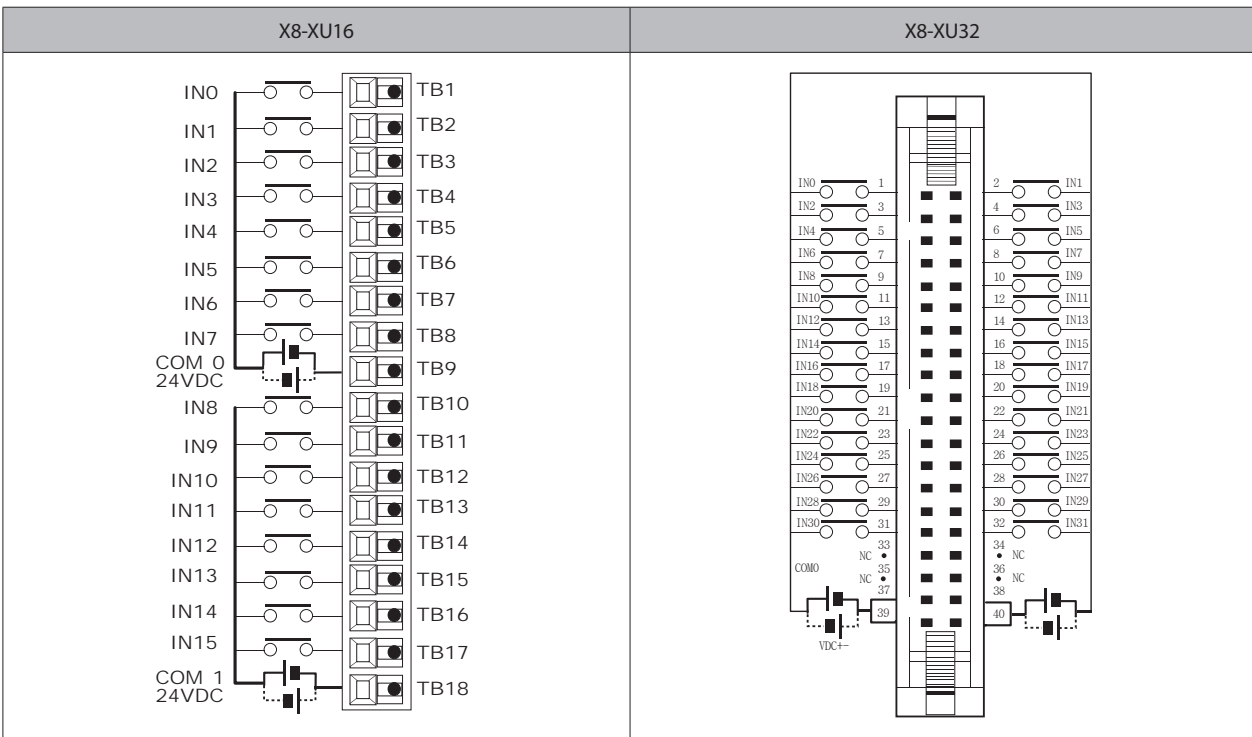
32-point type  
input module

## ■ Input Module Specifications

Input Type		DC Input	
Product Code		X8-XU16	X8-XU32
Number of input points		16 points	32 points
Rated Input Voltage		12 ~ 24V DC	
Operating Voltage Range		10.2 ~ 28.0V DC	
Max. Input Current		10mA	
Operating Voltage	ON Voltage	Min. 10.0V DC	
	OFF Voltage	Max. 5.0V DC	
Isolation Method		Photocoupler insulation	
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		Removal Plug-type Connection (18P)	40P connector X 1

## ■ 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. Increased user convenience with the removable terminal block (16-point module)

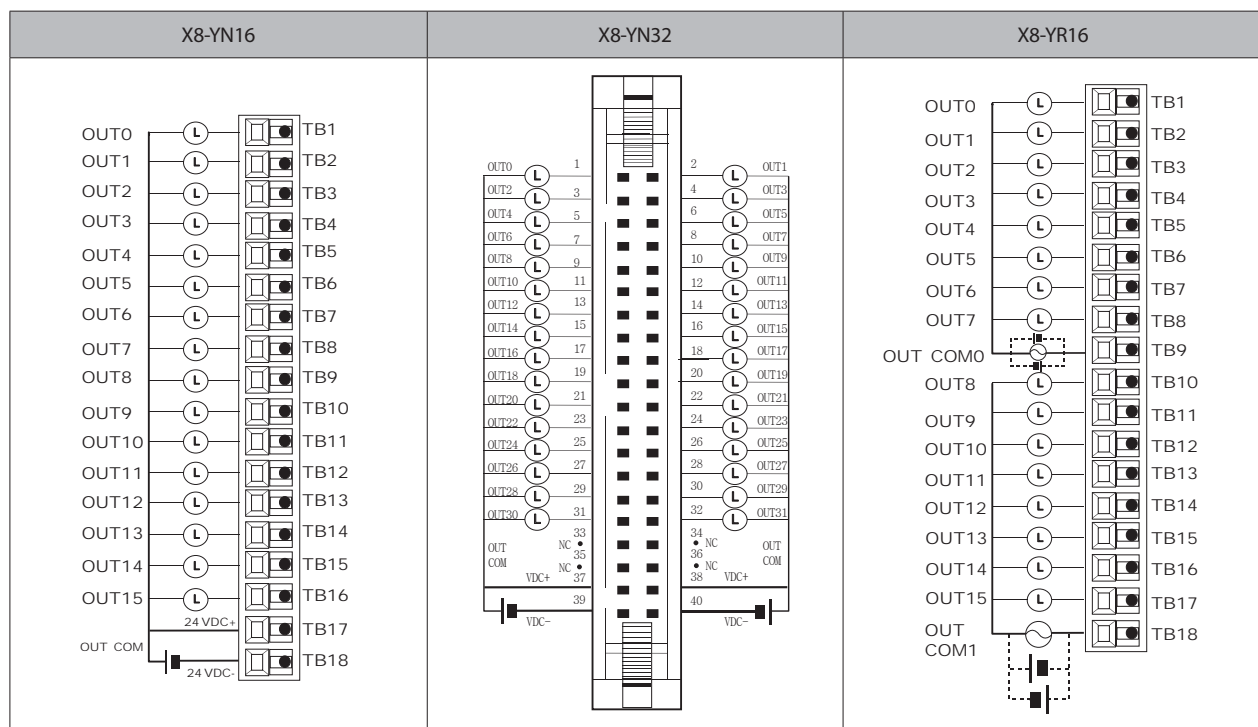
16-point type  
output module32-point type  
output module

## ■ Output Module Specifications

Output format		Transistor (NPN) output		Relay Outputs
Product Code		X8-YN16	X8-YN32	X8-YR16
Number of output points		16 points	32 points	16 points
Insulation method		Photocoupler		
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	0.5A/point	3A/point 5A/COM
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		
COMM method		8 points/ 1COM	32 points/ 1COM	8 points/ 1COM
Operation indicator		LED Indication		
External connection method		Plug Type (18P)	40P Connector	Plug Type (18P)

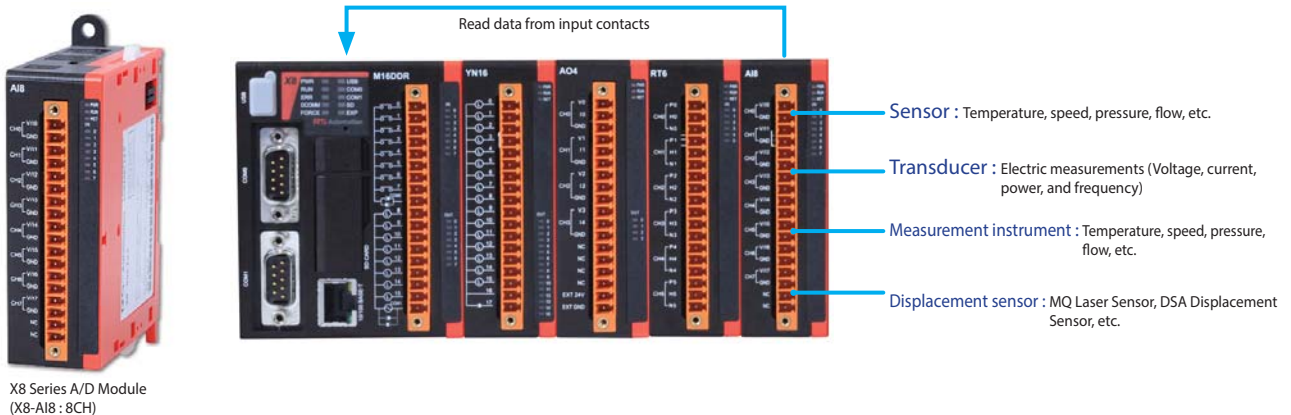
## ■ External Wiring Diagram

- [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

- 1. 8-channel Analog input**
- 2. Highly improved resolution**
  - The voltage type of resolution is max. 0.153mV and the current type is 0.519uA. (The resolution can be selected at XGPC S/W Configuration.)
- 3. Removable terminal block adopted**
  - The X8 A/D module uses the removable terminal block.
- 4. Programming method for analog processing**
  - Programming by I/O contacts can be used.
- 5. 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.

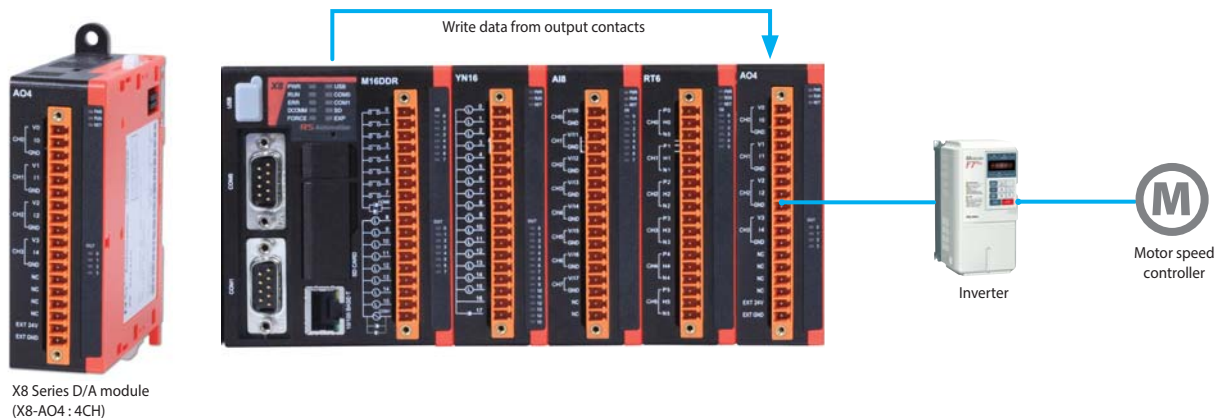
## Performance Specifications

Product Code	X8-AI8 (Voltage/Current Input)
Analog input range	Voltage : 0 ~ 10V, 0 ~ 5V, $\pm 10V$ , $\pm 5V$ Current : 0 ~ 20mA, 4 ~ 20mA
Number of Analog Input Channels	8CH/Module
Digital conversion	Signed 16-bit binary (2's complement)
Converter type	16-bit A/D Converter
I/O characteristics *1	1) 0 ~ 10V(0 ~ 32767), (0 ~ 10000), (0~16383) 2) 0 ~ 5V(0 ~ 32767), (0 ~ 10000), (0 ~ 5000), (0~16383) 3) $\pm 10V$ (-32767 ~ 32767), (-10000 ~ 10000), (0~16383) 4) $\pm 5V$ (-32767 ~ 32767), (-5000 ~ 5000), (0~16383) 5) 0 ~ 20mA(0 ~ 32767), (0 ~ 20000), (0 ~ 10000), (0~16383) 6) 4 ~ 20mA(0 ~ 32767), (0 ~ 10000), (4000 ~ 20000), (0~16383)
Max. Resolution *1	0.153mV/ 0.610uA
Total Degree	Voltage Type : $\pm 0.2\%/FS$ (25°C)/ Current Type : $\pm 0.3\%/FS$ (25°C)
Conversion speed	1ms/CH
External Input Impedance	500k $\Omega$ /249 $\Omega$
Absolute Max. Input	Voltage : $\pm 15V$ , Current : $\pm 30mA$
Insulation 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
More Features	Scaling, Channel Conversion ON/OFF, Software Input Range
Internal current consumption (5V)	270mA @ 5V DC
External connection method	18-pin Removal Plug-type Connection
Product Weight	300g

\*1. 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

- 1. 4-channel output**
- 2. Highly improved resolution**
  - The voltage type of resolution is max. 0.6mV and the current type is 1.2uA.
- 3. Removable terminal block adopted**
  - The X8 D/A module uses the removable terminal block.
- 4. Programming method for analog processing**
  - Programming by I/O contacts can be used.
- 5. 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 (Voltage/Current Output)
Analog Output Range	Voltage : 0 ~ 10V, 0 ~ 5V, $\pm 10V$ , $\pm 5V$ Current : 0 ~ 20mA, 4 ~ 20mA
Number of Analog Input Channels	4CH
Digital conversion	Signed 16-bit binary (2's complement)
Converter type	14 D/A Converter
I/O Characteristics *1	1) $\pm 10V$ (-32768 ~ 32767), (-10,000 ~ 10,000), (0 ~ 10000), (0 ~ 16383) 2) 0 ~ 10V (0 ~ 32767), (0 ~ 10,000), (0 ~ 16383) 3) $\pm 5V$ (-32768 ~ 32767), (-5,000 ~ 5,000), (0 ~ 10000), (0 ~ 16383) 4) 0 ~ 5V (0 ~ 32767), (0 ~ 10000), (0 ~ 5,000), (0 ~ 16383) 5) 0 ~ 20mA (0 ~ 32767), (0 ~ 20,000), (0 ~ 10000), (0 ~ 16383) 6) 4 ~ 20mA (0 ~ 32767), (4000 ~ 20,000), (0 ~ 10000), (0 ~ 16383)
Max. Resolution *1	0.153mV/ 0.610uA
Total Degree	$\pm 0.2\%$ / F.S (25°C)/ $\pm 0.4\%$ / F.S (25°C)
Conversion speed	2.5ms/CH
Output impedance	Voltage : 1K $\Omega$ or higher / current : 500 $\Omega$ or less
Allowable output load resistance	5 $\Omega$ or higher/500 $\Omega$ or less
Insulation method	Between Output CH and Internal Circuit : DC/DC converter and photocoupler isolation Between output channels : Non-isolation
Number of I/O points	Output contact type, 8CH : 128 points output, 4CH : 64 points output
More Features	Data Validation
Internal Current Consumption	270mA @ 5V DC or less (80mA/CH at D/A output)
External connection method	18-pin Removal Plug-type Connection

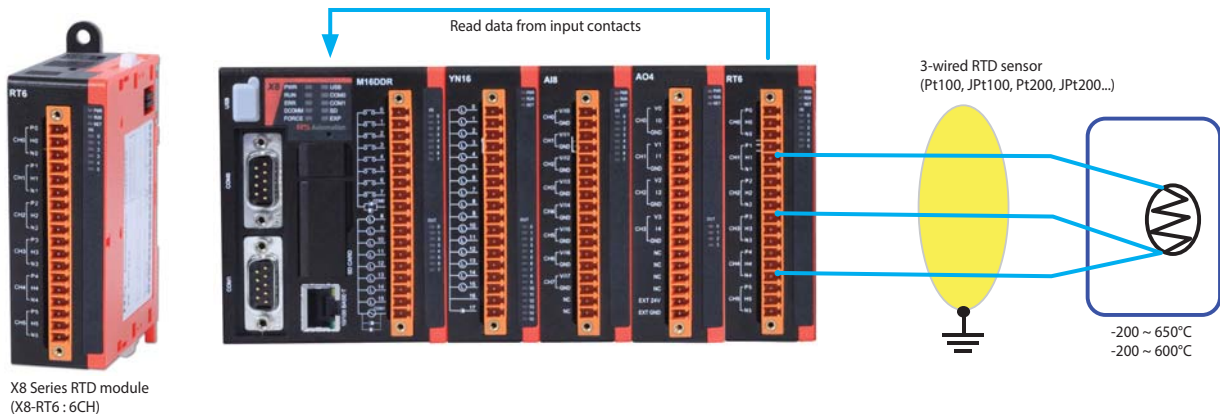
\*1. I/O characteristics and max. resolution is selectable from high resolution to general resolution and the XGPC software allows making all configurations. According to the resolution, the conversion speed and the stability of converted data may be different.



## RTD Module (Resistance Temperature Detector Module)

Resistance Temperature Detector module controls the external conversion values entered directly from the temperature sensor. The 24-bit  $\Sigma$ - $\Delta$  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

1. 6-channel RTD input
2. Type of temperature sensor
  - 3-wired platinum temperature sensors are allowed. (Pt100, Pt200, Jpt100, Jpt200...)
3. Data both in Celsius (°C) and Fahrenheit (°F) supported
  - Selectable according to the software configuration.
4. Programming methods for analog data processing
  - Programming by I/O contacts can be used.
5. Designed for strong noise immunity
  - The built-in analog & digital noise filter provides superior immunity against interference from outside.

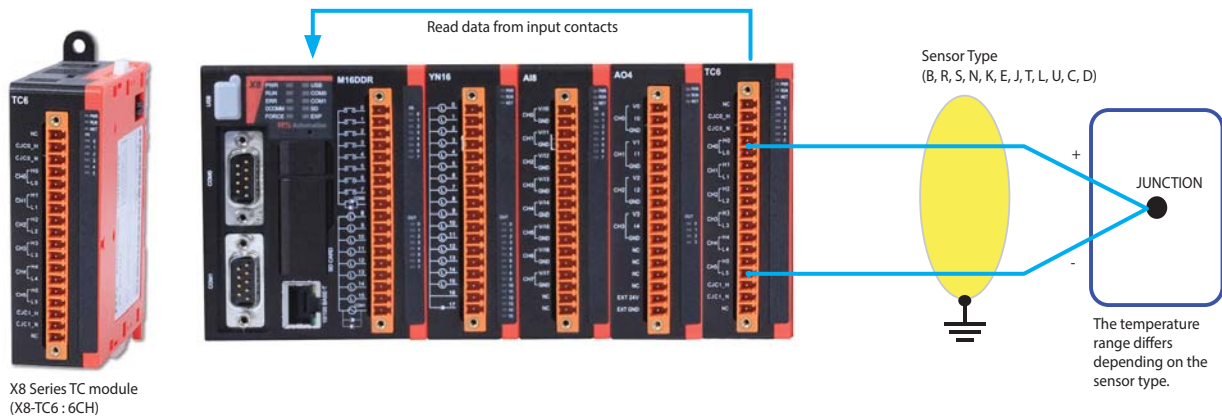
### Performance Specifications

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 $\Sigma$ - $\Delta$ 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 $300\Omega$ (10m $\Omega$ /bit) ⑥ $600\Omega$ (20m $\Omega$ /bit) ⑦ $2000\Omega$ (100m $\Omega$ /bit) ⑧ NI100, NI120, CU10
Max. Resolution	0.1°C, 0.1°F, 10m $\Omega$ , 20m $\Omega$
Total Degree	$\pm 0.1\%/FS$ (25°C)
Conversion speed	10ms/CH (filter is configurable : 1000Hz, 500Hz... ~ 10Hz)
External Input Impedance	10M $\Omega$
Current source	1mA (Excitation Current)
Insulation 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	280mA @ 5V DC
External connection method	18-pin Removal Plug-type Connection

# TC Module (Thermocouple module)

Thermocouple module controls the external conversion values entered directly from the temperature sensor. The 24-bit  $\Sigma\Delta$  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

### 1. 6-channel TC Input

### 2. Various temperature sensors

- Available temperature sensor types are K, J, T, B, R, S, E, N,  $\pm 78.0$  mV,  $\pm 32.7$  mV,  $\pm 65.5$  mV.

### 3. Data both in Celsius ( $^{\circ}\text{C}$ ) and Fahrenheit ( $^{\circ}\text{F}$ ) supported

- Selectable according to the software configuration.

### 4. Programming method for analog data processing

- Programming by I/O contacts can be used.

### 5. 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 $\Sigma\Delta$ 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) $\pm 32.7$ mV (1 $\mu\text{V/bit}$ ) $\pm 65.5$ mV (2 $\mu\text{V/bit}$ ) $\pm 78.0$ mV (10 $\mu\text{V/bit}$ )
Max. Resolution	0.1 $^{\circ}\text{C}$ , 0.1 $^{\circ}\text{F}$ , 1 $\mu\text{V}$ , 2 $\mu\text{V}$ , 10 $\mu\text{V}$
Total Degree	$\pm 0.1\%$ / F.S (25 $^{\circ}\text{C}$ )
Conversion speed	10ms/CH
External Input Impedance	10M $\Omega$
Temperature compensation sensor	0 ~ 85 $^{\circ}\text{C}$ (Cold Junction Compensation)
Insulation 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 Removal Plug-type Connection

# Positioning Module

The 1-axis, 2-axis, and 4-axis 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 Module (X8-POS1)



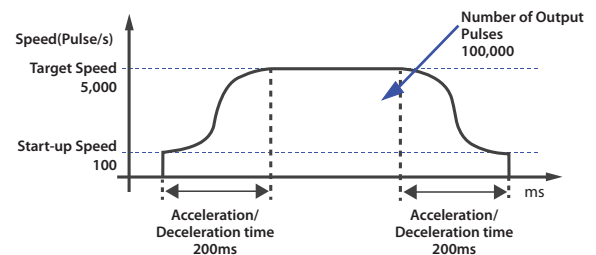
2-axis Module (X8-POS2)



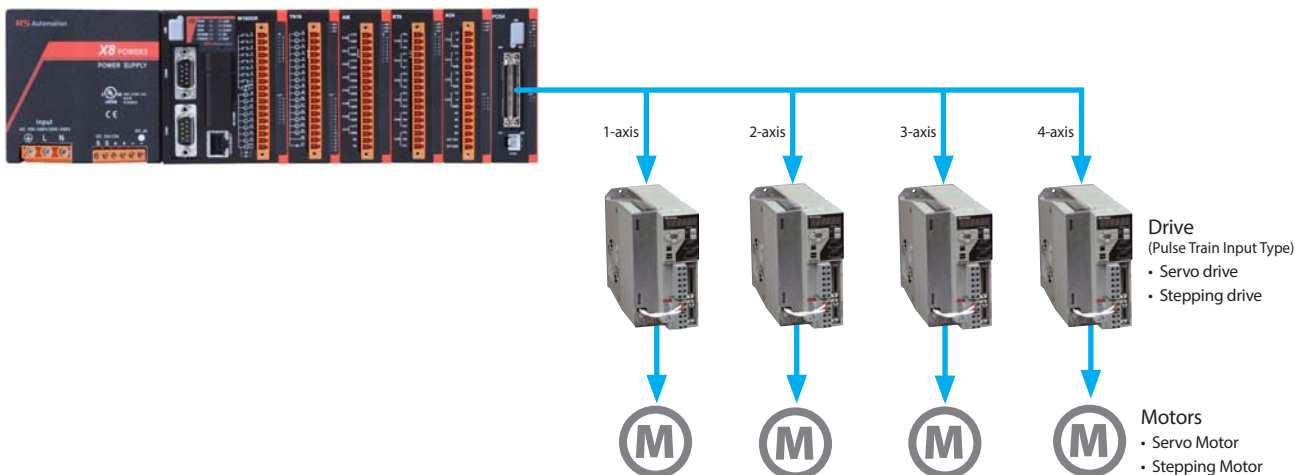
4-axis Module (X8-POS4)

## Features

1. Linear and circular interpolation controls are available for each axis.
2. 4M pulse/s of the maximum pulse speed for high-speed and high-precision positioning
3. Up to four axes on one module allowing multi-axis control
4. 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.
5. Simplified parameter setting and automatic acceleration/deceleration by data setting
6. Pulse generator input feature allowing real-time output to the manual pulse generator (MPG)
7. Various built-in I/O ports, requiring no separate I/O modules
8. Smooth start-up/stop realized by S-curve acceleration/deceleration



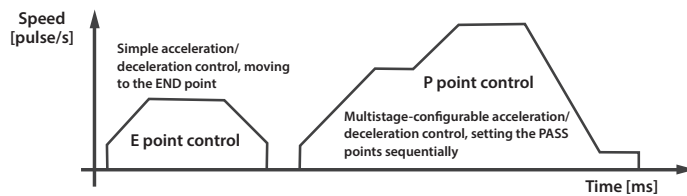
## Configuration diagram



## Performance Specifications

Item		4-axis module (X8-POS4)	2-axis module (X8-POS2)	1-axis module (X8-POS1)
Number of I/O points		128 points (64 points input, 64 points output)	64 points (32 points input, 32 points output)	
Mountable slots		All slots are mountable		
Number of control axes		2-axis, 3-axis, 4-axis linear interpolation 2-axis circular interpolation	2-axis linear interpolation 2-axis 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 zero rate and search rate can be changed)		
	Input terminal	Zero 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 zero 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)		

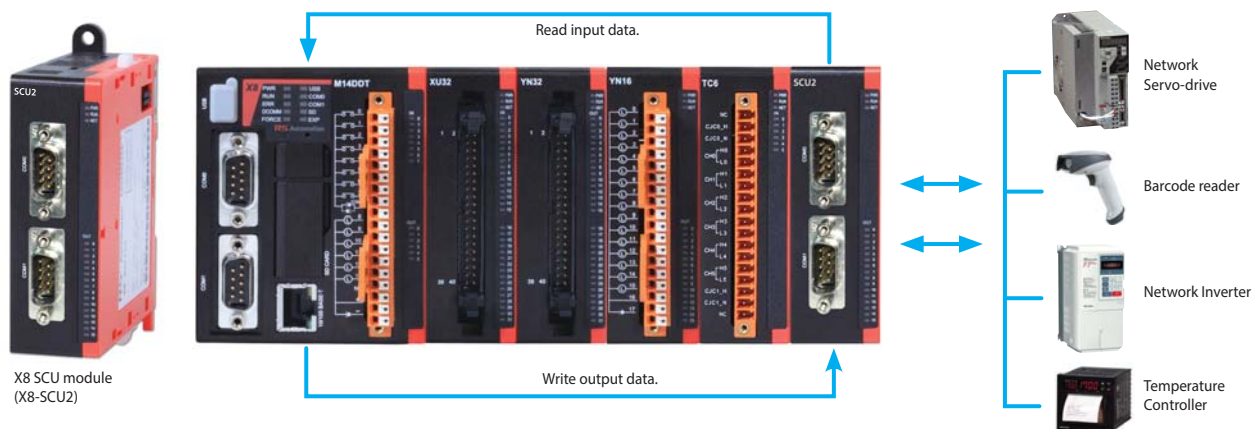
\*1. E point control and P point control means the acceleration/deceleration control as shown in the following figure, respectively.



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

## Serial Communication Module (SCU) \*Planned

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

1. 2-channel (RS232C, RS485/422 optional) communication port to be installed.
2. Data input/output can be achieved only with simple sequence commands.
3. A network can be set with RS232C and RS485/422 communications.
  - Data input/output available to/from RS232 devices : interfaces with IDX indicator, meter, barcode reader and printer
4. Transmit/Receive Buffer 500 Byte
5. ASCII or HEX(Binary) code transferrable
- Data input/output available through network with RS485 devices : interfaces with temperature controller, network inverter, and network servo

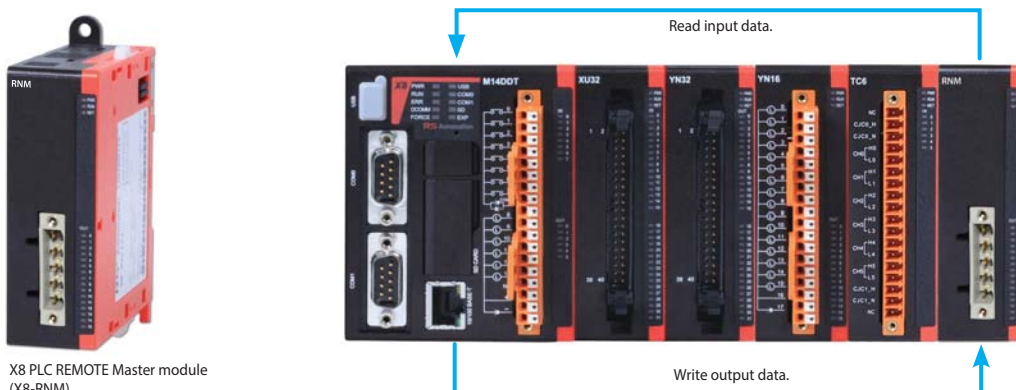
### ■ Performance Specifications

Item	Specification
Interface	RS232C / RS485 / 422, 2ports
Communication Speed	Rate settings in XGPC 1) RS232C : 4800 / 9600 / 19200 / 38400 / 57.6K / 115.2 Kbps 2) RS485 : 4800 / 9600 / 19200 / 38400 / 57.6K / 115.2 Kbps 3) RS422 : 4800 / 9600 / 19200 / 38400 / 57.6K / 115.2 Kbps
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. 500 Byte/frame (including terminating and starting codes)
I/O allocation	16 inputs, 16 outputs to be allocated
Terminating code setup	Optional from ①CR, ②CR+LF, ③ETX
Starting code	Starting code / No starting code
Other special control	Terminating code cut send/receive mode (control by sequence command), easy for print-out Soft reset (Control by sequence command)



# Remote Master Module (RNM) \*Planned

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.



X8 PLC REMOTE Master module (X8-RNM)

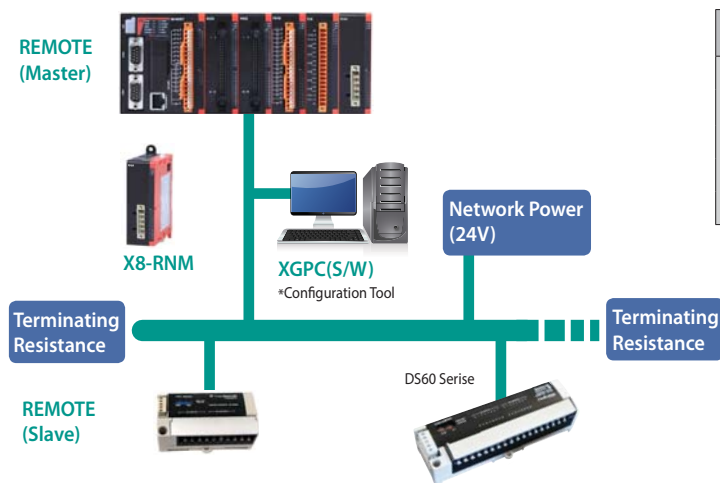
## Features

1. Adopts the market-proven DS60 Series modules as its remote I/Os to provide enhanced performance and compatibility between products.
2. A maximum of 3 X8-RNM modules can be used in one PLC and then 20 remote IOs can be installed in one X8-RNM module, which delivers enhanced scalability.
3. 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.
4. Polling is used by default, which can be changed by user setting to other modes including Cyclic, Bit Strobe and COS.
5. All settings are stored in the flash memory and the data maintained even if the power is turned off.
6. Simplified cabling enables easy and quick assembly and maintenance.
7. CE-, KC-, and cULus- certified.

## Performance Specifications

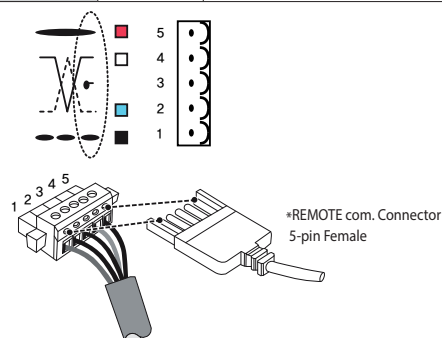
Item	Specifications
Communication mode	REMOTE I/O Slave messaging (Group 2 Only Slave) I/O Exchange * Poll Command : Y
Access node no.	Max. 20 nodes in 1 network (excluding Master)
Distance / Transfer rate	100m/ 500kbps, 250m/ 250kbps, 500m/ 125kbps - Automated setup supported.
Guaranteed transfer distance	100m/ 500kbps, 250m/ 250kbps, 500m/ 125kbps
Cable	DeviceNet Cable
Communication mode	Polling/Strobe/Cyclic/COS
Communication rate setup	Automated setup Max. 500Kbps
Remote 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 -
	2	CAN_L
	3	Shield
	4	CAN_H
	5	V +

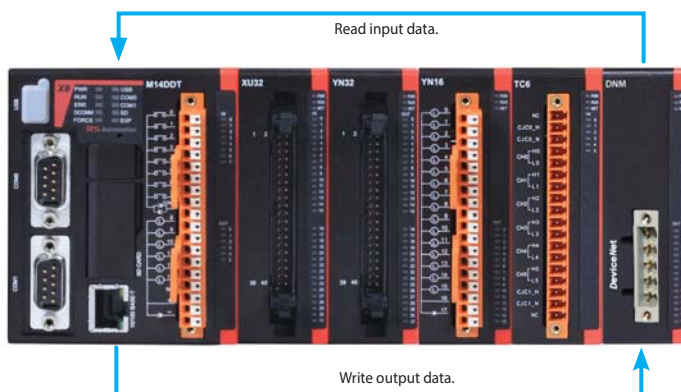


## DeviceNet Master Module (DNM) \*Planned

X8\_DNM is the DeviceNet Scanner(Master) module of the X8 PLC, which provides controls over devices connected to the DeviceNet network. This module is certified by the ODVA conformance test and conforms to DeviceNet specification v2.0.



X8 PLC  
DeviceNet Master(DNM) module  
(X8-DNM)



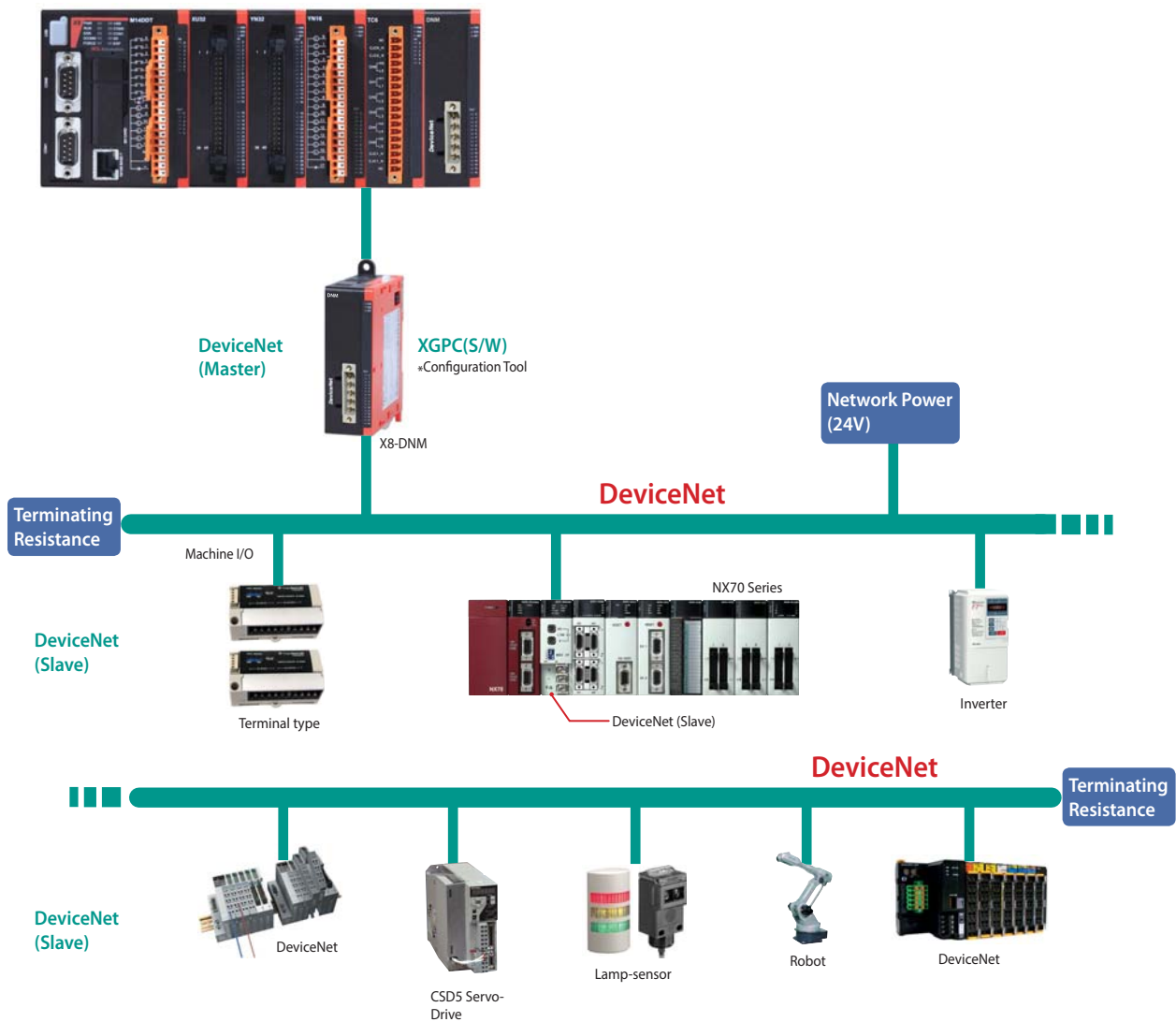
### ■ Features

1. Provides proven capabilities, performance, quality and compatability with the ODVA conformance test.
2. Allows installation of up to 3 modules in the X8 PLC.
3. Supports XGPC tools for auto scanning, scanlist, and network configuration.
4. Allows individual setting with transferring explicit messages.
5. Provides enhanced stability with design of insulated communication ports.
6. Supports up to 64 nodes including X8-DNM for one network.
7. Supports polling, bit strobe, cyclic and COS.
8. All settings are stored in the flash memory and the data maintained even if the power is turned off.
9. CE-, KC-, and cULus- certified.

### ■ Expansion System (Expansion I/O)

Item	Specifications
Communication mode	DeviceNet I/O Slave messaging (Group 2 Only Slave) I/O Exchange * Poll Command : Y * Bit Strobe Command : Y * Cyclic Command : Y * COS Command : Y
Access node no.	Max. 64 Nodes (Master Including Master)
Distance / Transfer rate	100m/ 500kbps, 250m/ 250kbps, 500m/ 125kbps - Automated setup supported
Cable	DeviceNet Cable
Communication mode	Polling , Strobe , Change-of-State , Cyclic
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.
Certification	ODVA Conformance Test, CE, KC, cULus

## ■ DeviceNet Communication Configuration

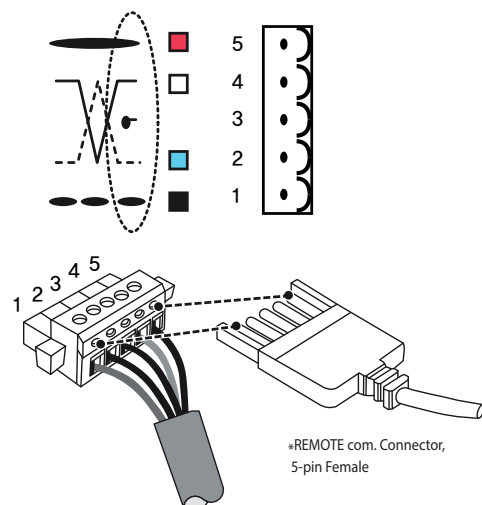


## ■ Wiring Method

### DeviceNet Communication Connector

#### ■ Connection to DeviceNet Network

Type	DeviceNet, 5Pin Male	
Pin	1	V -
	2	CAN_L
	3	Shield
	4	CAN_H
	5	V +



# Expansion System (Expansion I/O)

\*Planned

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, EB2EB and RJ2EB. Use of high-speed E-Bus allows smooth expansion without compromising its speed.



EB2RJ module (X8-EB2RJ) EB2EB module (X8-EB2EB) RJ2EB module (X8-RJ2EB)



Basic System



Expansion System

## Features

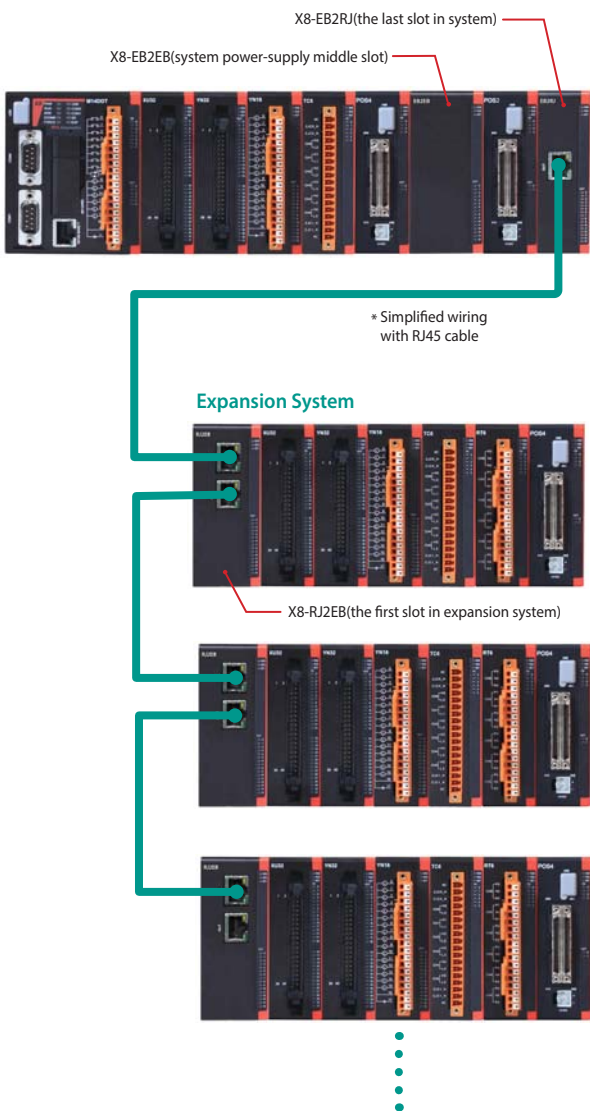
- Remote control of I/O data with 2-port wiring
  - Use of standard CAT-5 Ethernet cables allows easy wiring. In addition, the X8-RJ2EB module has 2 RJ45 ports, which enables system expansion without a switching hub.
- High-speed and long-distance transfer
  - It supports up to 100M bps, with the maximum 100m of distance between modules. Ethernet cables allow economical wiring.

## Performance Specifications

- Access to Computer (Configuration Tool)

Item	Specifications
Communication mode	E-BUS bi-directional
Cable	CAT-5 10/100 Base-T RJ45 cable
Transfer distance	Max. 100m between modules
Transfer rate	100Mbps
X8-EB2RJ Current consumption	220mA@5VDC
X8-RJ2EB/EB2EB BUS POWER INPUT	24VDC CLASS2 /SELV 65W MAX
X8-RJ2EB/EB2EB BUS POWER OUTPUT	2.2A@5VDC, 2.0A@24VDC
Expansion setup	XGPC S/W

## Configuration



# Options

■ Cables



X8-MCBLSE\*



X8-SCBL\*



X8-MCBL\*



X8-PCBL\*

■ Terminal Block



X8-M32T



X8-YN32TB



X8-IO32



X8-IO40



X8-M32S

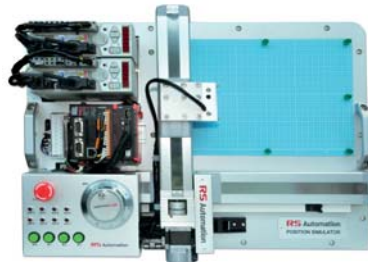
■ Demo Kit



Premium-model Demo Kit



Distribution-model Demo Kit



2-axis Robot Demo Kit



# XGPC Software

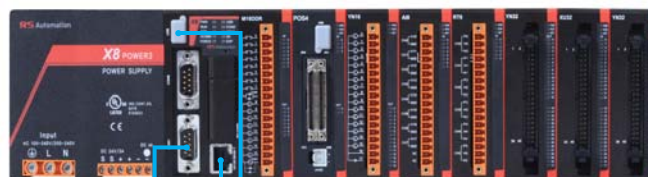
Dedicated software for X8 PLC

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.



Cable : X8-SCBLK

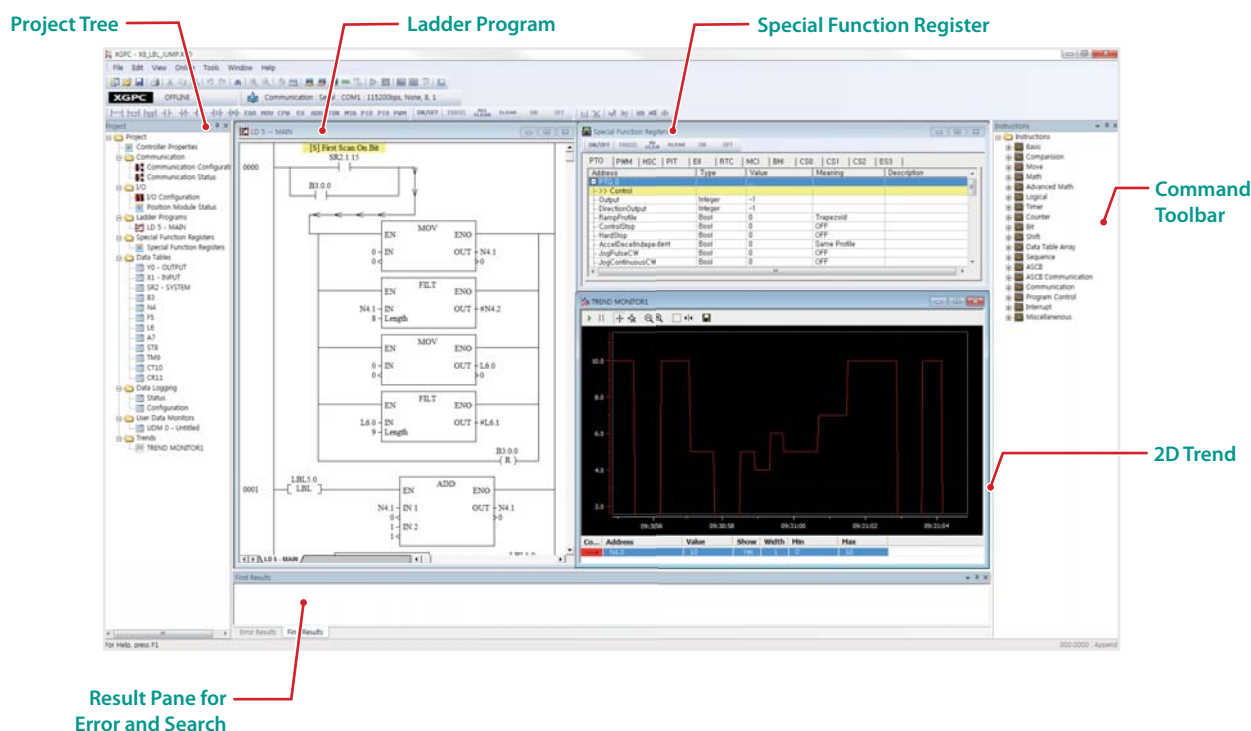


WinGPC S/W

PLC Series	Relevant CPU Types
X8 Series	X8-M32DDT X8-M14DDT X8-M16DDR

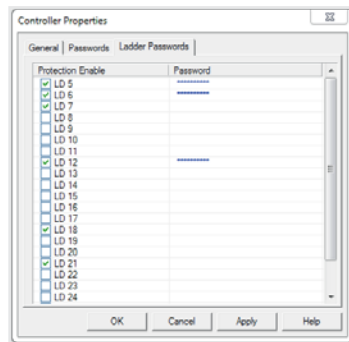
## Features

1. XGPC software based on Windows, supporting Windows XP/Windows Vista/Windows 7 and both of 32-bit and 64-bit environments
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.

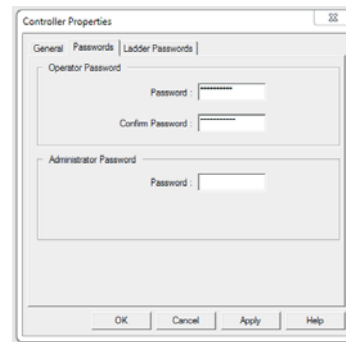


### 3-step Custom Password

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)



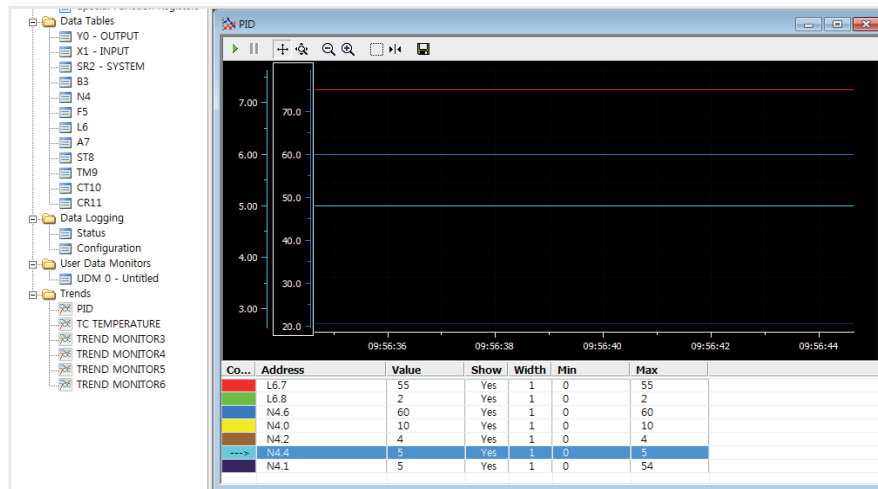
Ladder Password



User and Administrator Password

### Unlimited Configurable 2D Trend

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



### Flexible Data Capacity

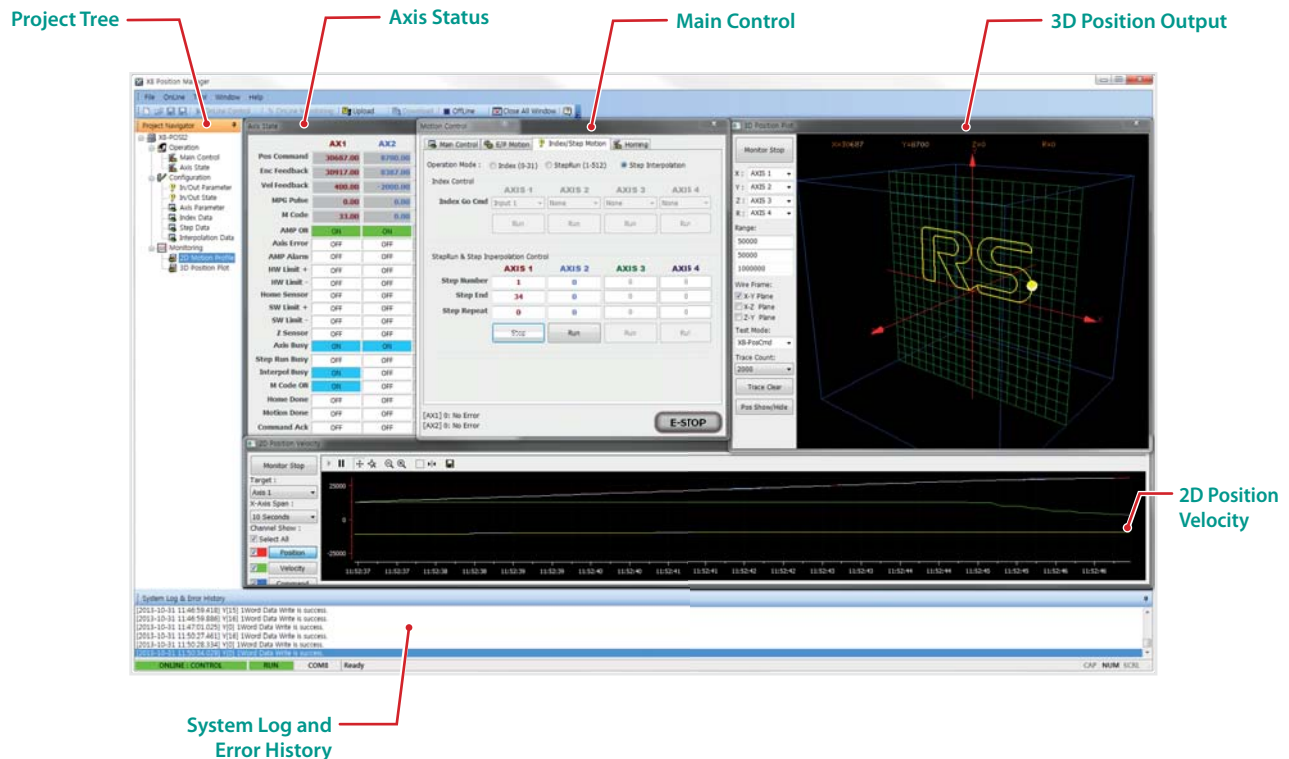
The user can edit any type of data (max. 1553 ea) within allowable memory capacity.  
Element can be edited for each data table (max. 1536 elements).

Address	Type	Value	Meaning	Description
B3.1503	Integer	0000 0000 0000 0000	Bits	
B3.1504	Integer	0000 0000 0000 0000	Bits	
B3.1505	Integer	0000 0000 0000 0000	Bits	
B3.1506	Integer	0000 0000 0000 0000	Bits	
B3.1507	Integer	0000 0000 0000 0000	Bits	
B3.1508	Integer	0000 0000 0000 0000	Bits	
B3.1509	Integer	0000 0000 0000 0000	Bits	
B3.1510	Integer	0000 0000 0000 0000	Bits	
B3.1511	Integer	0000 0000 0000 0000	Bits	
B3.1512	Integer	0000 0000 0000 0000	Bits	
B3.1513	Integer	0000 0000 0000 0000	Bits	
B3.1514	Integer	0000 0000 0000 0000	Bits	
B3.1515	Integer	0000 0000 0000 0000	Bits	
B3.1516	Integer	0000 0000 0000 0000	Bits	
B3.1517	Integer	0000 0000 0000 0000	Bits	
B3.1518	Integer	0000 0000 0000 0000	Bits	
B3.1519	Integer	0000 0000 0000 0000	Bits	
B3.1520	Integer	0000 0000 0000 0000	Bits	
B3.1521	Integer	0000 0000 0000 0000	Bits	
B3.1522	Integer	0000 0000 0000 0000	Bits	
B3.1523	Integer	0000 0000 0000 0000	Bits	
B3.1524	Integer	0000 0000 0000 0000	Bits	
B3.1525	Integer	0000 0000 0000 0000	Bits	
B3.1526	Integer	0000 0000 0000 0000	Bits	
B3.1527	Integer	0000 0000 0000 0000	Bits	
B3.1528	Integer	0000 0000 0000 0000	Bits	
B3.1529	Integer	0000 0000 0000 0000	Bits	
B3.1530	Integer	0000 0000 0000 0000	Bits	
B3.1531	Integer	0000 0000 0000 0000	Bits	
B3.1532	Integer	0000 0000 0000 0000	Bits	
B3.1533	Integer	0000 0000 0000 0000	Bits	
B3.1534	Integer	0000 0000 0000 0000	Bits	
B3.1535	Integer	0000 0000 0000 0000	Bits	

# 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.

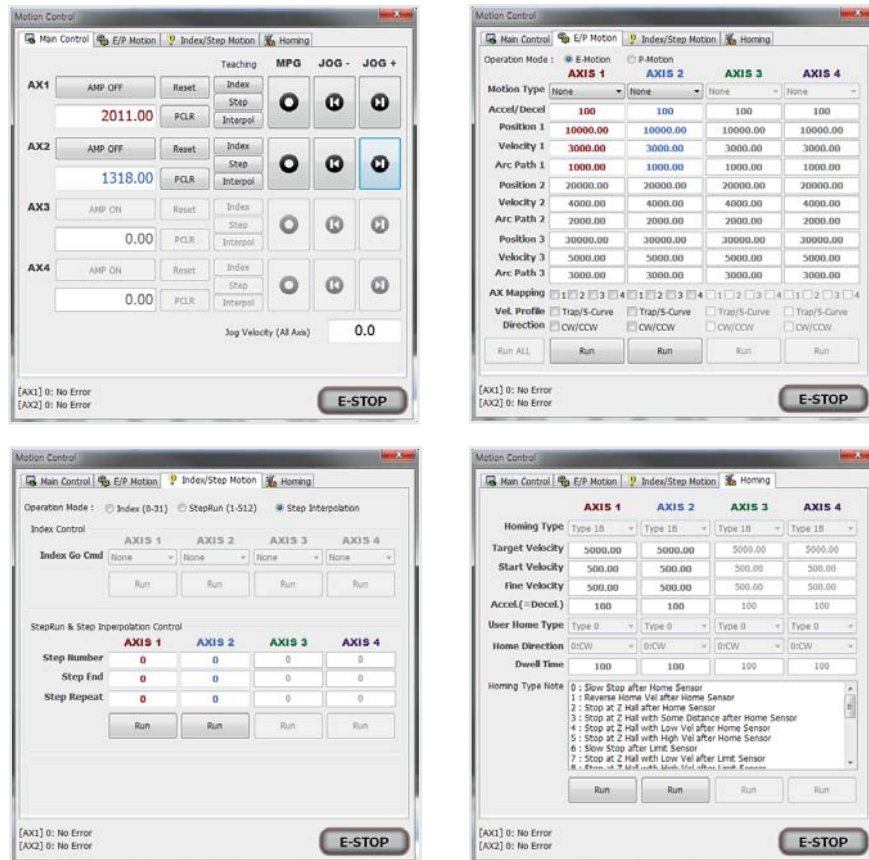


## ■ Features

1. The software is Windows-based, and supports Windows XP / Vista /7/8 and both 32-bit and 64-bit environments.
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-axis and axis profile simulation.



# Model Information

Model Name	CPU
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	EXTENSION Module
X8_YR6C *1	EXP Relay Out 6P, Form C Type, Plug Type
X8_XU16	EXP DC In 16P, Plug Type
X8_YR16	EXP Relay Out 16P, Plug Type
X8_YN16	EXP TR Out 16P (Sink), Plug Type
X8_XU32	EXP DC In 32P, Eject Header
X8_YN32	EXP TR Out 32P (Sink), Eject Header
X8_XY32 *1	EXP DC IN 16, TR Out 16P (Sink), Eject Header
X8_YP32 *1	EXP TR Out 32P (SORCE), Eject Header
X8_XU64 *2	EXP DC In 64P, Eject Header
X8_YN64 *2	EXP TR Out 32P (Sink), Eject Header
X8_XY64 *2	EXP DC IN 32, TR Out 32P (Sink), Eject Header
X8_AI4AO2 *1	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 6CH
X8_TC6	EXP TC MODULE 6CH
X8_POS1	EXP POSITION MODULE, 1AXIS
X8_POS2	EXP POSITION MODULE, 2AXIS
X8_POS4	EXP POSITION MODULE, 4AXIS
X8_SCU2 *1	EXP Serial Communication 2CH, RS232C/485
X8_RNM *2	EXP Remote Master
X8_DNM *2	EXP DeviceNet Master
X8_EB2EB *2	EXP E-Bus Extender with Power
X8_EB2RJ *2	EXP E-Bus to RJ45 Translator without power
X8_RJ2EB *2	EXP RJ45 to E-Bus Translator with power



Model Name	OPTION Module
X8_SCBL1	CABLE Serial 1 METERS, Cross Cable
X8_SCBL2	CABLE Serial 3 METERS, Cross Cable
X8_SCBL3	CABLE Serial 10 METERS, Cross Cable
X8_SCBL4	CABLE Serial 0.5 METERS, Cross Cable
X8_PCBL1	CABLE 1 m, Direct Cable
X8_PCBL2	CABLE 2 m, Direct Cable
X8_PCBL3	CABLE 3 m, Direct Cable
X8_PCBL4	CABLE 10 m, Direct Cable
X8-PCBLC1	CABLE X8-M32S TO CSD Servo 1 m
X8-MCBLDC1	DC IN Eject Header 40P TO YLUG 1 m
X8-MCBLTR3	TR OUT Eject Header 40P TO YLUG 3 m
X8-MCBL1	IO Eject Header 40P TO Eject Header 40P 1 m
X8-MCBL3	IO Eject Header 40P TO Eject Header 40P 3 m
X8_NCBL1	CABLE TRANS ADAPTER 0.5 m
X8-YN32TB	X8-YN32 amp point 1A, COM 10A
X8-M32S	X8-M32DDT TO SERVO PTO OPTION MODULE
X8-M32T	X8-M32DDT TO XY32P TERMINAL OPTION MODULE
X8-IO32	X8-XU32/YN32 TO X8-IO32 TERMINAL OPTION MODULE
X8-IO40	Eject Header 40P TO TERMINAL OPTION MODULE
X8-DEMOKIT	X8 Demokit Set

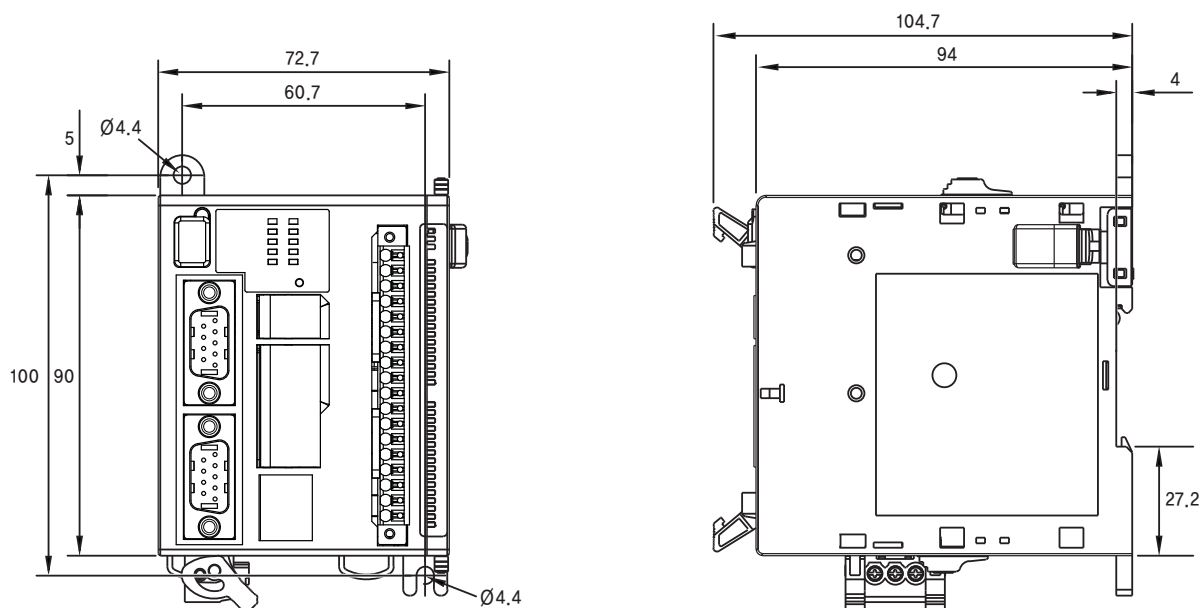
\*Specifications and the model name of this product can be changed without prior notice in order to improve the product performance.

\*1 : May 2014

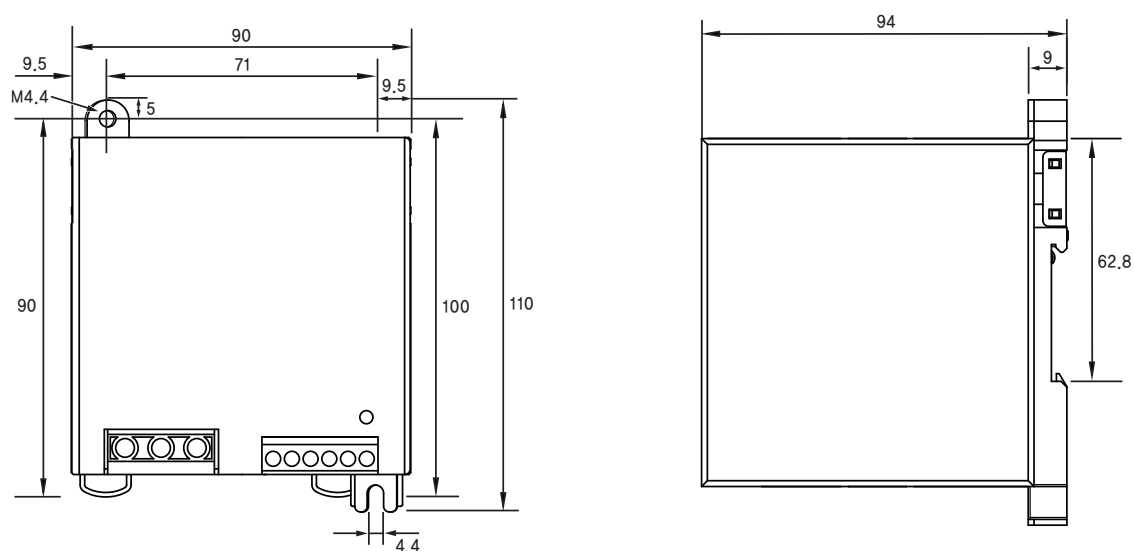
\*2 : December, 2014

## External dimensions

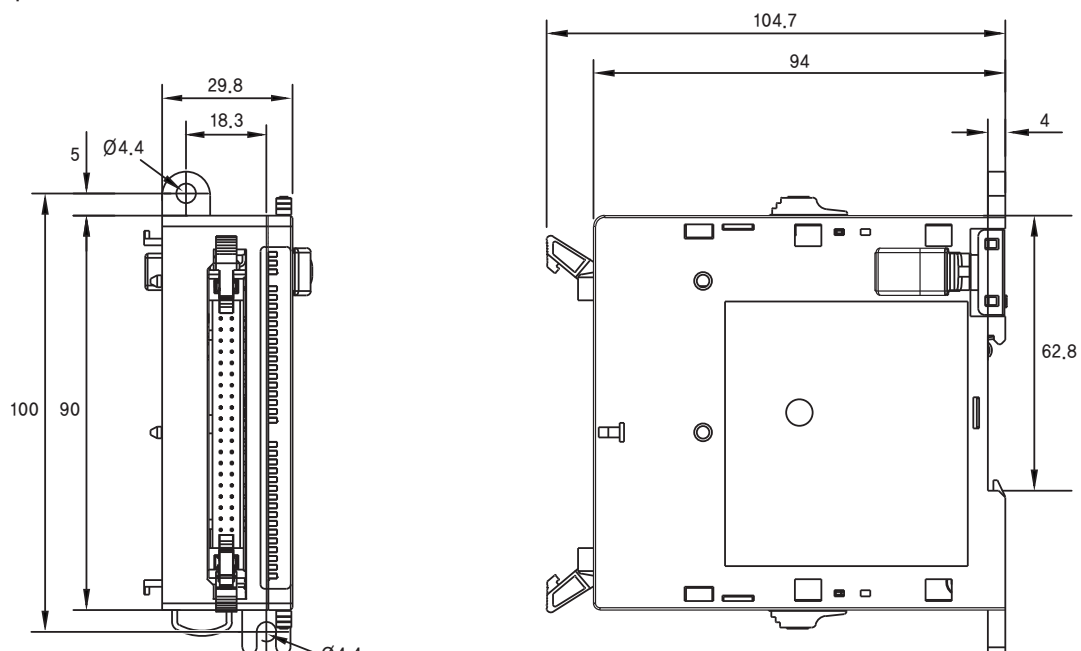
### ■ CPU



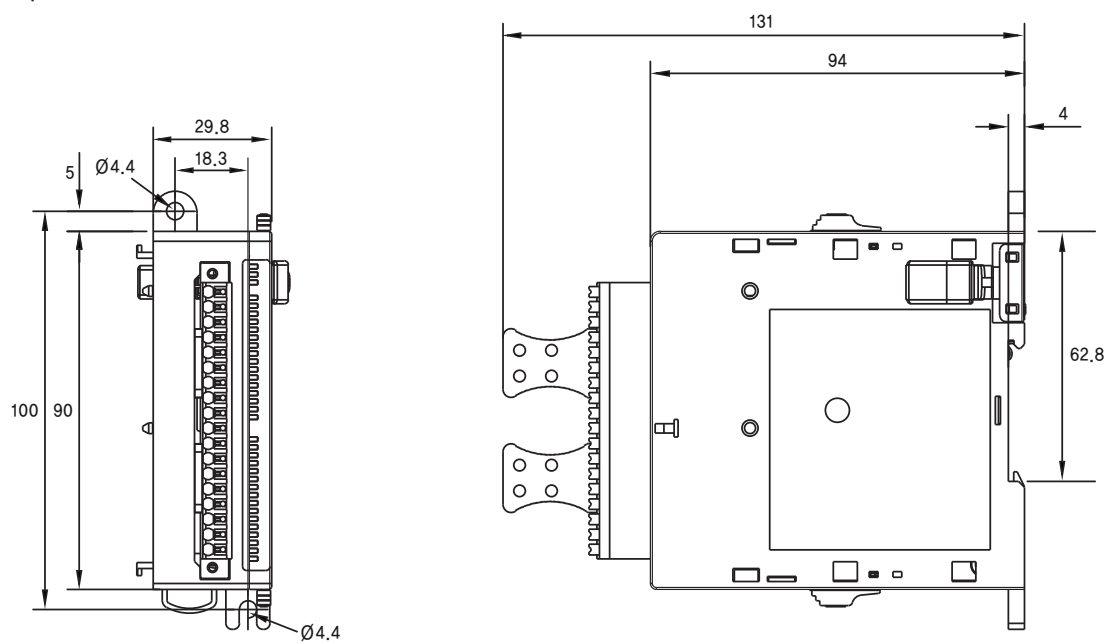
### ■ Power Supply



■ I/O (32 points)



■ I/O (16 points)



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