Leading Innovation, Creating Tomorrow

Programmable Logic Controller
WITH LS PLC, YOU ARE PAID IN FULL!

Since its establishment in 1974 as Korea`s pioneer in the field of industrial & electronics, LS Industial Systems has worked hard and became the domestic market leader. Not satisfied with being the top player in Korea, we have expanded our market scope with a global vision and are making great strides to manufacture the best products. LS Industrial Systems Co., Ltd. is a leading manufacturer and worldwide marketer of high-technology Programmable Logic Controllers.

Quality Production

Quality After-sales Service

Quality Installation

Quality Design

Contact us today!

You will be surprised at the price/performance of LS products.
You will be satisfied with customer-oriented sales strategy of LS.
With a complete line-up of PLCs meeting international standards,
LS create values for customers.

Automation Equipment

LS Industrial Systems
www.lsis.biz

CERHSA

XGT Family - Next Generation Technology

XGT PLC High performance

Rack type (XGR/XGK/XGI Series)

XGR: Redundancy system
- CPU processing speed: 42ns/step
- I/O Point: Max. 131,072
- Total memory: 32MB (Program 7MB, Data 2MB, Reserved 7MB, Flash 16MB)
- Switching over time: min. 4.3ms/max. 22ms
- Built-in 256 PID loops control

XGK: Ladder programming
- CPU processing speed: 28ns/step
- I/O point: max. 6,144
- Various type of CPU E/S/A/H/U (16K/32K/32K/64K/128Kstep)
- Integrated intelligent Software package : XG5000
- System solution based on open network: Ethernet, Profibus, DeviceNet
- Built-in 256 PID loops control

XGI: IEC standard programming
- CPU processing speed: 28ns/step
- I/O point: max. 6,144
- Various type of CPU A/H/U (256K/512K/1Mbyte)
- IEC 61131-3 Standard programming
  - LD (Ladder Diagram), SFC (Sequential Function Chart), ST (Structured Text)
  - User defined FB (Function Block)
- Built-in 256 PID loops control

XGR

XGK / XGI
* Programming language selection via CPU replacement

Block type (XGB Series)

XBM: Connector type
- Programming language: Ladder
- CPU processing speed: 160ns/step
- Max. 256-point I/O control
- Program Capacity: 10k steps
- Floating-Point Arithmetic
- Built-in Cnet, HSC, PID, Positioning, Pulse catch, Input filter, External Interrupt
- Expansion Cnet, Ethernet

XBC/XEC: Terminal block type
- Programming language: Ladder, IEC standard
- CPU processing speed: 120ns/step
- Max. 384-point I/O control
- Program Capacity: 15k steps
- Supporting Floating-Point Arithmetic
- Built-in Cnet, HSC, PID, Positioning, Pulse catch, Input filter, External Interrupt
- Expansion Cnet, Ethernet
- Download port: Serial, USB

XBM

XBC / XEC

XGT Panel Human Machine Interface

Touch panel (XP30/XP50/XP70/XP80/XP90)
- High and vivid distinction with 65,536 colors
- 10/100 BASE-T Ethernet interface.
- Convenient and easy screen editing
- Strengthened data management (Logging, Recipe, and Alarm).
- Multi-lingual display up to 4 languages and easy switching.
- Offline program simulation.
- USB host for the use of peripheral devices (Mouse, keyboard, printer, etc).
- Display data memory: 10MB

Text type (XP10)
- Screen: 192 × 64 Graphic STN LCD
- Flash memory: Program/Parameter back up
- RS-232C/RS-485 2 CH separate to use
- Power requirements - 24 V input or 5 V direct input by LS PLC
- Various function key - ESC ALM SET ENT F1~F4 Arrow keys

XP30/XP50/XP70/XP80/XP90

XP10

GLOFA-GM / MASTER-K Series

GLOFA-GM/MASTER-K PLC Powerful and trustworthy

Rack type

K300S/K200S: Ladder programming
- Small-and medium-scale control with 1,024 points
- CPU processing speed: 0.2 μs/step
- On-line editing
- Change I/O value by force
- Small-and medium-sized manufacture line control by network
- Downsizing and high performance
- Various special modules: analog, HSC, positioning, etc
- Network support: Cnet, Fast Ethernet, Fnet, Rnet, DeviceNet, Profibus-DP
  - CPU version 3.0 or later: max. 4 modules in total
  - CPU version 2.9 or less: max. 2 modules in total

GM4/GM6: IEC standard programming
- Max. I/O points: GM4A/B (2,048), GM4C (3,584)
- Fast processing time with high-speed gate array
- Fit for small-and medium-sized manufacturing line
- In case of remote system configuration, large-scale control available
- Cnet, DeviceNet, Fast Ethernet, Fnet, Profibus-DP, Rnet support
- Downsizing and high performance/function
- Special function modules
  - Analog I/O, PID, High-speed counter, Position control (APM), AT, TC, RTD, etc

K300S / GM4
* Programming language selection via CPU replacement

K200S / GM6
* Programming language selection via CPU replacement

Block type

K120S: Ladder programming
- CPU processing speed: 0.1 μs/step
- 20/30/40/60-point standard main unit
- 10/14/20/30-point economic main unit
  - All the standard DRT-unit have transistor output for position control (except 10-point unit)
  - Max. 120 points are available connecting 3 expansion units

GM7U: IEC standard programming
- Global standard (IEC61131-3) language: IL, ID, SFC
- Various main module: 32 types
  - 20/30/40/60 points
  - AC/DC power, DC input, Relay/Transistor output
- Various expansion module: 24 types
  - Digital I/O 7 types, analog I/O 9 types, Communication I/F 6 types, option module 2 types
- Total I/O control: 120 points

K120S / GM7U

Smart I/O Distributed system

Stand alone type
- Wiring reduction and real time control of distributed I/O
- Supporting Rnet, DeviceNet, Profibus-DP, MODBUS (RS-422/485)
- Various I/O (DC/TR/Relay) modules with the unit of 16/32 points
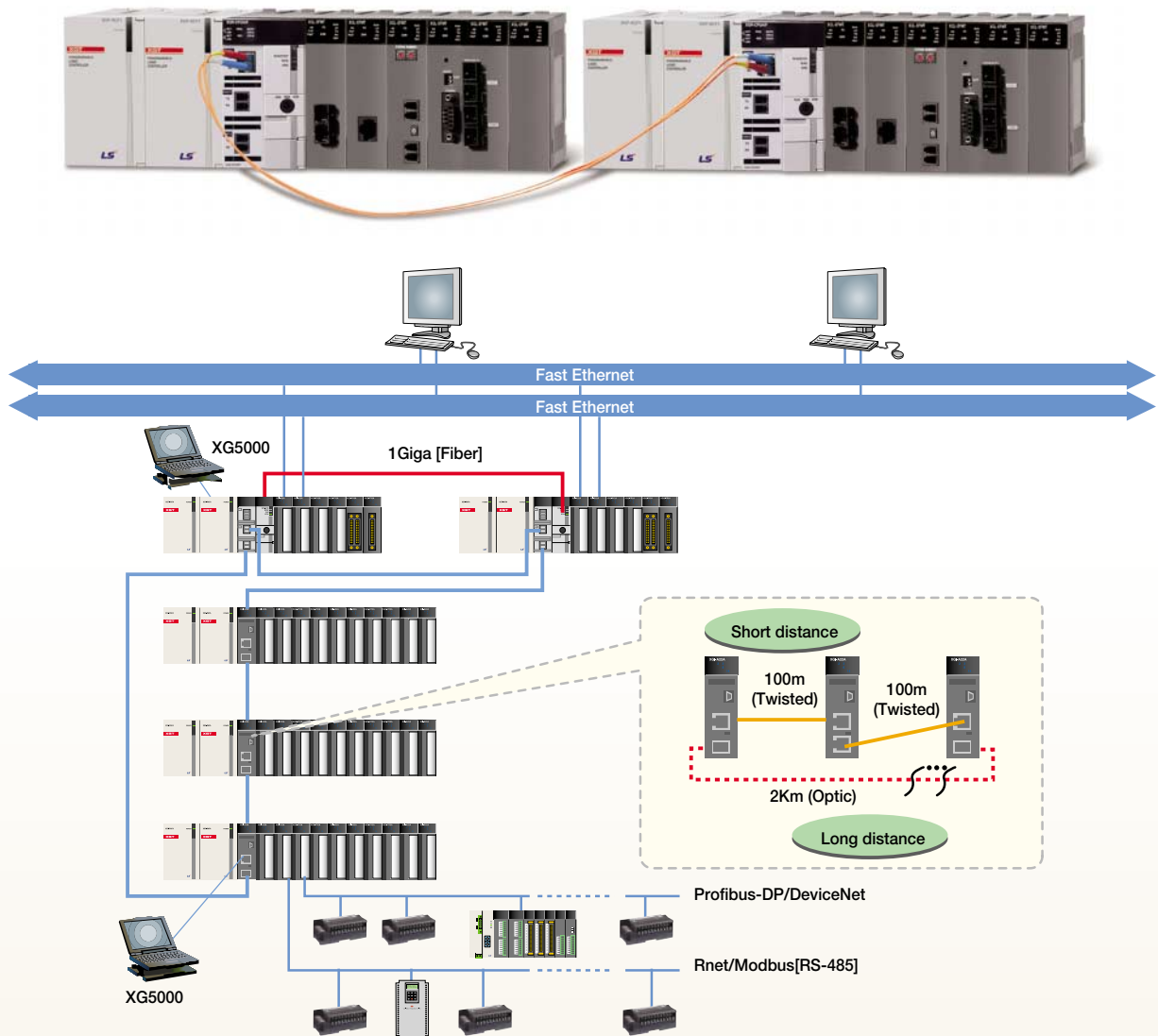
Expandable type
- Easy configuration of remote system using XGB expansion I/O
- Up to 8 modules expandable with Network adapter
- Max. 256-point digital I/O
- Max. 16-channel analog I/O
- Network adapter: Profibus-DP, DeviceNet, Rnet, Modbus TCP, Ethernet IP

Stand alone type

Expandable type

Fast Ethernet

Fast Ethernet

XG5000

1Giga [Fiber]

Short distance

100m (Twisted)   100m (Twisted)

2Km (Optic)

Long distance

Profibus-DP/DeviceNet

XG5000

Rnet/Modbus[RS-485]

High performance
- Processing speed: 42ns/step
- CPU synchronization via fiber optic cable
- I/O Points: Max. 131,072
- Total memory: 32MB (Program 7MB, Data 2MB, Reserved 7MB, Flash 16MB)
- Switching over time: min. 4.3ms/max. 22ms

Easy expansion installation using network
- Max. 31 expansion base
  Distance: Fiber 2km (Max. expansion 60km), Twisted fair 100m (Max. expansion 3km)
- Program upload and download via expansion base
- No limit to install the communication master on the expansion base

Enhanced maintenance via system history and network ring configuration
- Convenient system analyze using Operation history, Error history, System history
- Ring configuration to prevent a line disconnection error
- Network monitoring, Protocol monitoring function
- Error channel monitoring via flag
- Graphic display for the system configuration
- Safe module exchange via Wizard

IEC 61131-3 Standard language
- LD, ST, SFC, IL (read only)
- Program configuration and data type based on IEC

Variety of communication function
- Easy interface using Open network (Ethernet, Profibus-DP, DeviceNet, RS-232C, RS-422/485, etc)
- Max. 24 communication module installation on the expansion base (High speed link 12, P2P 8)
- Network diagnosis via network and frame monitoring
- PLC link via dedicated communication based on Ethernet (RAPIEnet)

**Variety of input and output module**
- 8 / 16 / 32 / 64 points (8 / 16 points Relay output)
- Input / Output / Mixed module

Enhanced analog function
- Enable to install the analog module on the expansion base (Max. 250, Analog input 139)
- Insulated type and Temperature module
- Easy to set the parameter via I/O parameter and flag
- Debugging function via special module monitoring

Integrated programming & engineering environment
- XG5000 : Easy to program, various monitoring functions and enhanced editing function
- XG-PD : Convenient setup for communication and network parameter
- APM software package: Software package for positioning module

PWR · CPU module

USB cable or RS-232C

XG5000 [V2.2↑]
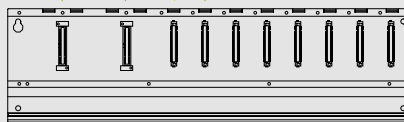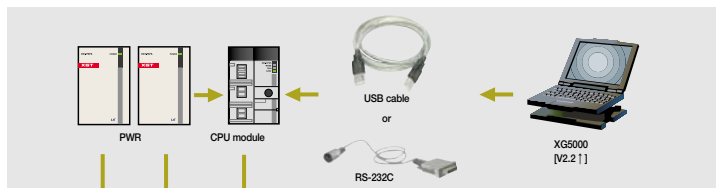
Main base [A Side] XGR-M06P
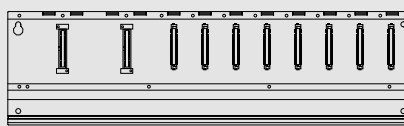
Main base [B Side] XGR-M06P

Main base
• 2 types of CPU (Fiber optic, Twisted fair)
• Power: AC110V, AC220V
• 6slot base: enable to install 6 communication modules

PWR · DBSF/T

USB cable

XG5000 [V2.2↑]

Expansion base XGR-E12P

Expansion base
• Power: 8.5A/AC110V, 8.5A/AC220V
• Expansion drive: Fiber optic, Twisted fair, Hybrid
• EFM* and EIM*: not available with 12slot base
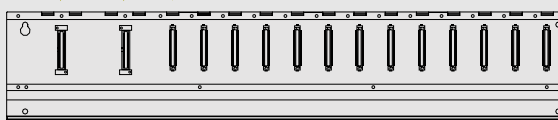
CPU module	
Type	**I/O point**
XGR-CPUH/T [Twisted fair]	131,072 points
XGR-CPUH/F [Fiber optic]	

Cable	
USB-301A	USB downloading cable
K1C-050A	RS232 downloading cable
XGC-F201	CPU synchronization cable: 2m
XGC-F501	CPU synchronization cable: 5m

Power	
XGR-AC12	110V 5.5A (Main base)
XGR-AC13	110V 8.5A (Expansion base)
XGR-AC22	220V 5.5A (Main base)
XGR-AC23	220V 8.5A (Expansion base)

Base	
XGR-M06P	6Slot [Main base]
XGR-E12P	12Slot [Expansion base]

Expansion drive	
XGR-DBST	Fiber optic - Fiber optic
XGR-DBSF	Twisted fair - Twisted fair
XGR-DBSH	Twisted fair - Fiber optic

Item	Input module		
	AC110V	**AC220V**	**DC24V**
8 points	-	XGI-A21A	XGI-D21A
16 points	XGI-A12A	-	XGI-D22A
	-	-	XGI-D22B
32 points	-	-	XGI-D24A
	-	-	XGI-D24B
64 points	-	-	XGI-D28A
	-	-	XGI-D28B

Item	Output module		
	Relay	**Triac**	**Transistor**
8 points	XGQ-RY1A	-	-
16 points	XGQ-RY2A	XGQ-SS2A	XGQ-TR2A
	XGQ-RY2B	-	XGQ-TR2B
32 points	-	-	XGQ-TR4A
	-	-	XGQ-TR4B
64 points	-	-	XGQ-TR8A
	-	-	XGQ-TR8B

Item	Input/Output mixed module	
	16-point DC input	16-point TR output

Special module		
Analog input	XGF-AV8A	Voltage input type, 8Ch
	XGF-AC8A	Current input type, 8Ch
	XGF-AD8A	Voltage/ Current input, 8Ch
	XGF-AD4S	Voltage/ Current input, 4Ch (Isolated)
	XGF-AD16A	Voltage/ Current input, 16Ch
Analog output	XGF-DV4A	Voltage output type, 4Ch
	XGF-DC4A	Current output type, 4Ch
	XGF-DV8A	Voltage output type, 8Ch
	XGF-DC8A	Current output type, 8Ch
	XGF-DV4S	Voltage output, 4Ch (Isolated)
	XGF-DC4S	Current output, 4Ch (Isolated)
High-speed counter	XGF-HO2A	Pulse (OC) input type, 2Ch
	XGF-HD2A	Pulse (LD) input type, 2Ch
Positioning	XGF-PO3A	Pulse (OC) output type, 3 axes
	XGF-PO2A	Pulse (OC) output type, 2 axes
	XGF-PO1A	Pulse (OC) output type, 1 axis
	XGF-PD3A	Pulse (LD) output type, 3 axes
	XGF-PD2A	Pulse (LD) output type, 2 axes
	XGF-PD1A	Pulse (LD) output type, 1 axis
Temperature control	XGF-TC4S	Thermocouple input, 4Ch
	XGF-RD4A	RTD input, 4Ch
	XGF-RD4S	RTD input, 4Ch (Insulated)
Temperature control module	XGF-TC4UD	Temperature controller, 4 loops, Universal input

| Communication module		
RAPIEnet	XGL-EIMT	RAPIEnet Twisted fair 2Ch
	XGL-EIMH	RAPIEnet Fiber optic/Twisted fair 1Ch
	XGL-EIMF	RAPIEnet Fiber optic 2Ch
	XOL-EIMT	RAPIEnet Twisted fair 2Ch For PC
	XOL-EIMF	RAPIEnet Fiber optic 2Ch For PC
Cnet	XGL-CH2A	RS-232C/RS-422
	XGL-C22A	RS-232C, 2Ch
	XGL-C42A	RS-422, 2Ch
Ethernet (Open)	XGL-EFMF	Fiber optic, Master, SC type
	XGL-EFMT	Twisted pair, Master, RJ-45
	XGL-ESHF	Fast Ethernet, Industrial Ring module
	XGL-EHST	Fast Ethernet, Switching hub
Ethernet (Dedicated)	XGL-EDMF	Fiber optic, Master, SC type
	XGL-EDMT	Twisted pair, Master, RJ-45
Rnet	XGL-RMEA	Rnet, Master, TP
DeviceNet	XGL-DMEA	DeviceNet, Master
Profibus-DP	XGL-PMEA	Profibus-DP, Master

XGK/ XGI Series | High performance PLC
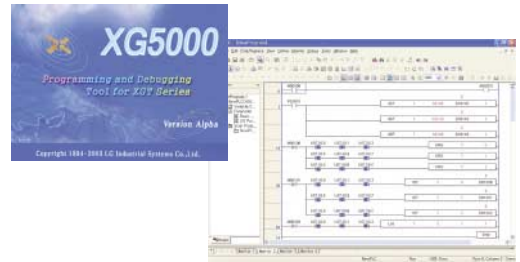
XGK series
- Fastest CPU processing.of 28 ns/step (XGK-CPUH)
- Up to 6,144 I/O points configurable (32,768 points controllable with remote I/O)
- Various type of CPU E/S/A/H/U (16K/32K/32K/64K/128K)
- Integrated intelligent Software package: XG5000, XG-PD, APM software package
- System solution based on open network: Ethernet, Profibus-DP, DeviceNet
- Special devices for easy programming
- Massive device memory
- USB I/F for prog. up/download & monitoring

XGI series
- Fastest CPU processing.of 28 ns/step
- Up to 6,144 I/O points configurable (131,072 points controllable with remote I/O)
- IEC 61131-3 Standard programming
  - LD (Ladder Diagram), SFC (Sequential Function Chart), ST (Structured Text)
  - User defined FB (Function Block)
- Built-in PID function (Max. 256 loop)
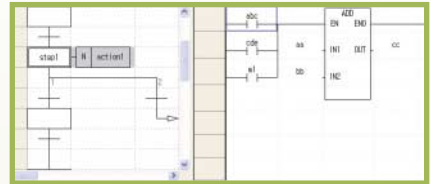- USB I/F for prog. up/download & monitoring

ST
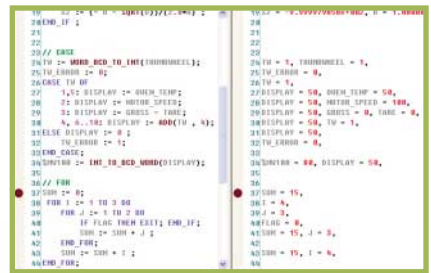
LD
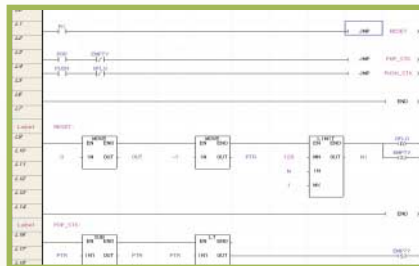
SFC

CPU modules

XGK-CPUU (XGI-CPUU)
- 128k steps program memory
- 0.028 μs processing speed
- 6,144 I/O points control

XGK-CPUH (XGI-CPUH)
- 64k steps program memory
- 0.028 μs processing speed
- 6,144 I/O points control

XGK-CPUA (XGI-CPUA)
- 32k steps program memory
- 0.028 μs processing speed
- 3,072 I/O points control

XGK-CPUS
- 32k steps program memory
- 0.084 μs processing speed
- 3,072 I/O points control

XGK-CPUE
- 16k steps program memory
- 0.084 μs processing speed
- 1,536 I/O points control

Expansion modules

Power modules
With AC Freevoltage/220 V and DC 24 V power supply

Base modules
With 4/6/8/12 main and expansion base

Digital input/output modules
From 16 to 64 points, with transistor, relay, triac switches

Analog input/output modules
With 4 or 8 CH current/voltage signals

Temperature input modules
With 4 CH Pt100/JPt100 resistance thermometer and thermocouple

High speed counter module
For connection with incremental encoder (2 channels)

Positioning module
1/2/3 axis positioning for servo and step drive and motor

Network modules

FEnet modules
Ethernet network with TCP/IP protocol and LS dedicated ethernet (FDEnet) for communication between only LS PLCs

Pnet modules
Profibus-DP fieldbus protocol for connection between LS PLC and different manufacturers

Dnet modules
DeviceNet fieldbus protocol for connection between LS PLC and different manufacturers

Rnet modules
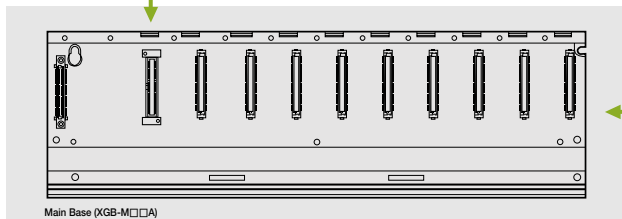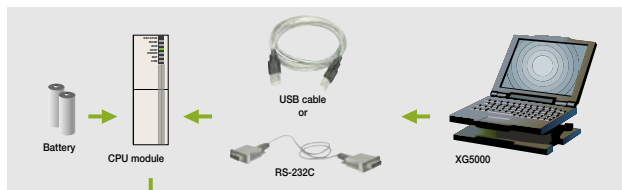Dedicated network for remote I/O control (LS Smart I/O)

Cnet modules
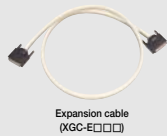Serial communication module with RS-232C/422/485

RAPIEnet module
Dedicated network based on Ethernet

Main Base (XGB-M□□A)

**Power module (XGP-□□□□)**

Input module (XGI-□□□□)

Output module (XGQ-□□□□)

Expansion cable

Item	Type	Description
Expansion cable	XGC-E041	Expansion cable 0.4m
	XGC-E061	Expansion cable 0.6m
	XGC-E121	Expansion cable 1.2m
	XGC-E301	Expansion cable 3.0m
	XGC-E501	Expansion cable 5.0m
	XGC-E102	Expansion cable 10m
	XGC-E152	Expansion cable 15m
Expansion terminator	XGT-TERA	Expansion terminator

Expansion cable (XGC-E□□□)
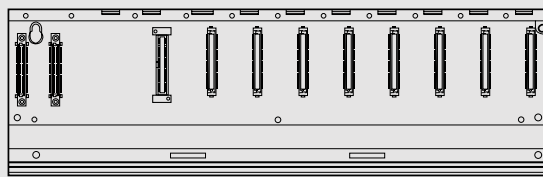
Expansion base (XGB-E□□A)

Item	Main base	Expansion base
4 Slot	XGB-M04A	XGB-E04A
6 Slot	XGB-M06A	XGB-E06A
8 Slot	XGB-M08A	XGB-E08A
12 Slot	XGB-M12A	XGB-E12A

• **XG5000 Cable (RS-232C)**

Cnet (9Pin, Male) ◄──► PC (9Pin, Female)
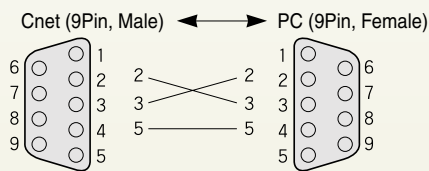
CPU module

Type	I/O point
XGI-CPUU/XGK-CPUU	6,144
XGI-CPUH/XGK-CPUH	6,144
XGK-CPUA	3,072
XGI-CPUS/XGK-CPUS	3,072
XGK-CPUE	1,536

Programming cable

Item	Type	Description
USB cable	USB-301A	USB downloading cable
RS-232C cable	KIC-050A	RS-232C downloading cable

Power module

AC				
AC	Free Voltage	XGP-ACF1	DC5V 3A DC24V 0.6A	
		XGP-ACF2	DC5V 6A	
	220V	XGP-AC23	DC5V 8.5A	
DC		XGP-DC42	DC5V 6A	

Input module

Item	Input module		
	AC110V	AC220V	DC24V
8 points	-	XGI-A21A	XGI-D21A
16 points	XGI-A12A	-	XGI-D22A
	-	-	XGI-D22B
32 points	-	-	XGI-D24A
	-	-	XGI-D24B
64 points	-	-	XGI-D28A
	-	-	XGI-D28B

Output module

Item	Relay	Triac	Transistor
8 points	XGQ-RY1A	-	-
16 points	XGQ-RY2A	XGQ-SS2A	XGQ-TR2A
	XGQ-RY2B	-	XGQ-TR2B
32 points	-	-	XGQ-TR4A
	-	-	XGQ-TR4B
64 points	-	-	XGQ-TR8A
	-	-	XGQ-TR8B

Input/Output mixed module

Item	Input/Output mixed module	
	16-point DC input	16-point TR output

Special module

Analog input	XGF-AV8A	Voltage input type, 8Ch
	XGF-AC8A	Current input type, 8Ch
	XGF-AD8A	Voltage/ Current input, 8Ch
	XGF-AD4S	Voltage/ Current input, 4Ch (Isolated)
	XGF-AD16A	Voltage/ Current input, 16Ch
Analog output	XGF-DV4A	Voltage output type, 4Ch
	XGF-DC4A	Current output type, 4Ch
	XGF-DV8A	Voltage output type, 8Ch
	XGF-DC8A	Current output type, 8Ch
	XGF-DV4S	Voltage output, 4Ch (Isolated)
	XGF-DC4S	Current output, 4Ch (Isolated)
High-speed counter	XGF-HO2A	Pulse (OC) input type, 2Ch
	XGF-HD2A	Pulse (LD) input type, 2Ch
Positioning	XGF-PO3A	Pulse (OC) output type, 3 axes
	XGF-PO2A	Pulse (OC) output type, 2 axes
	XGF-PO1A	Pulse (OC) output type, 1 axis
	XGF-PD3A	Pulse (LD) output type, 3 axes
	XGF-PD2A	Pulse (LD) output type, 2 axes
	XGF-PD1A	Pulse (LD) output type, 1 axis
Temperature control	XGF-TC4S	Thermocouple input, 4Ch
	XGF-RD4A	RTD input, 4Ch
	XGF-RD4S	RTD input, 4Ch (Insulated)
Temperature control module	XGF-TC4UD	Temperature controller, 4 loops, Universal input

Special module (XGF-□□□□)

Communication module

RAPIEnet	XGL-EIMT	RAPIEnet Twisted fair 2Ch
	XGL-EIMH	RAPIEnet Fiber optic/Twisted fair 1Ch
	XGL-EIMF	RAPIEnet Fiber optic 2Ch
	XOL-EIMT	RAPIEnet Twisted fair 2Ch For PC
	XOL-EIMF	RAPIEnet Fiber optic 2Ch For PC
Cnet	XGL-CH2A	RS-232C/RS-422
	XGL-C22A	RS-232C, 2Ch
	XGL-C42A	RS-422, 2Ch
Ethernet (Open)	XGL-EFMF	Fiber optic, Master, SC type
	XGL-EFMT	Twisted pair, Master, RJ-45
	XGL-ESHF	Fast Ethernet, Industrial Ring module
	XGL-EHST	Fast Ethernet, Switching hub
Ethernet (Dedicated)	XGL-EDMF	Fiber optic, Master, SC type
	XGL-EDMT	Twisted pair, Master, RJ-45
Rnet	XGL-RMEA	Rnet, Master, TP
DeviceNet	XGL-DMEA	DeviceNet, Master
Profibus-DP	XGL-PMEA	Profibus-DP, Master

Communication module (XGL-□□□□)

XGB Series | Micro PLC

LS Industrial Systems introduces its most compact and high performance PLC, XGB series. The compactness, high performance, easiness & convenience and functionality are three important characteristics of the XGB PLC.

Its compactness ensures that it occupied less space in the equipment and its diverse expendability guarantees flexibility for needs. And its various built-in functions enable the cost-effective PLC system. This controller is particularly suitable for performing small-to-medium performance automation tasks.

XBM

XBC

Features

XBC/XEC (H-Type)

- 83ns/Step processing speed and floating-point arithmetic with on-board CPU
- Max 10 expansion modules, Max. 384 I/O point control: PLC systems for Small- and medium-scale applications
- Max. 5-Ch Communication with built-in functions and expansion modules

XBC

Communication Max. 2stages

Analog 10stages

Expansion I/O Max. 10stages

Max. 10stages
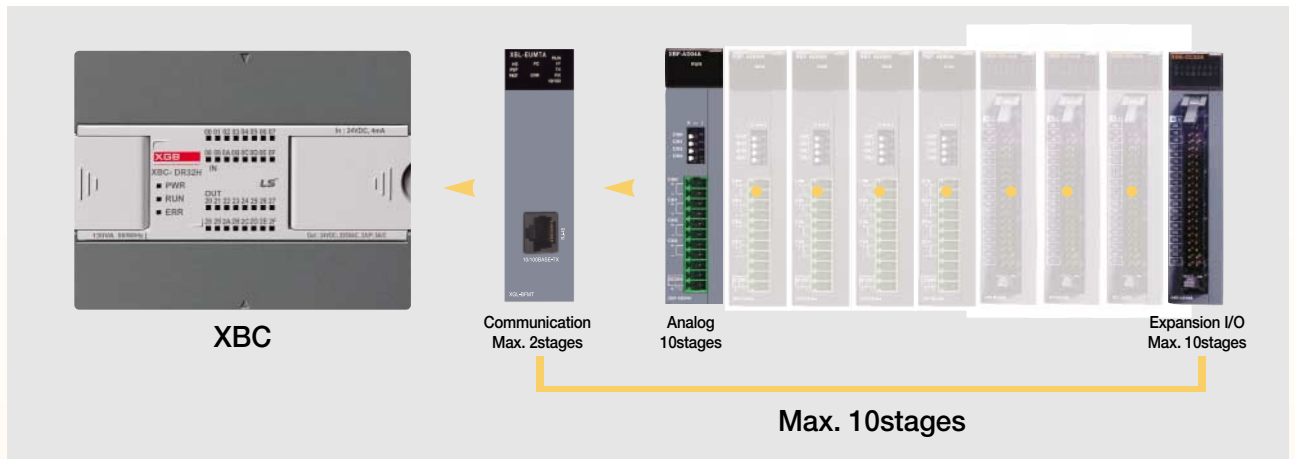
XBM (S-Type)

- 160ns/Step processing speed and floating-point arithmetic with on-board CPU
- Max 7 expansion modules, Max. 256 I/O point control: PLC systems for Small- and medium-scale applications
- Max. 5-Ch Communication with built-in functions and expansion modules

Communication Max. 2stages

Analog 7stages

Expansion I/O Max. 10stages

Max. 7stages

Main / Expansion modules

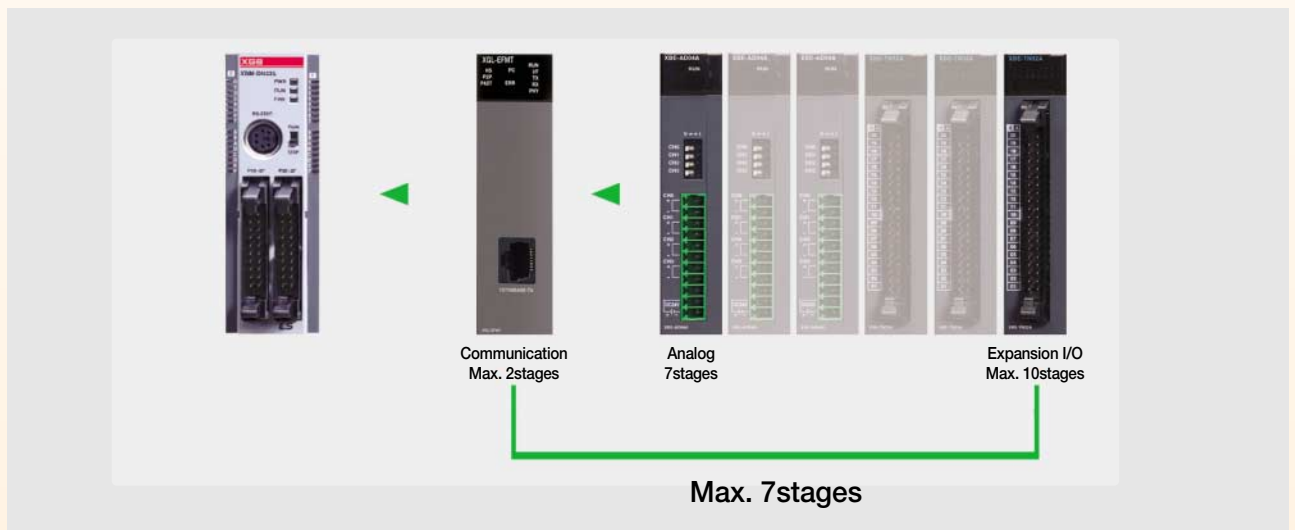| Item	Model	Specification
Main unit	XBM-DR16S	DC24V power supply, 8-point DC24V input, 8-point relay output
	XBM-DN16S	DC24V power supply, 8-point DC24V input, 8-point TR output, Built-in positioning function
	XBM-DN32S	DC24V power supply, 16-point DC24V input, 16-point TR output, Built-in positioning function
	XBC-DR32H	AC110~220V, 16-point DC input, 16-point Relay output
	XBC-DN32H	AC110~220V, 16-point DC input, 16-point TR output
	XBC-DR64H	AC110~220V, 32-point DC input, 32-point Relay output
	XBC-DN64H	AC110~220V, 32-point DC input, 32-point TR output
	XBC-DR32H/DC	DC24V, 16-point DC input, 16-point Relay output
	XBC-DN32H/DC	DC24V, 16-point DC input, 16-point TR output
	XBC-DR64H/DC	DC24V, 32-point DC input, 32-point Relay output
	XBC-DN64H/DC	DC24V, 32-point DC input, 32-point TR output
	XEC-DR32H	AC110~220V, 16-point DC input, 16-point Relay output (IEC standard language)
	XEC-DN32H	AC110~220V, 16-point DC input, 16-point TR output (IEC standard language)
	XEC-DR64H	AC110~220V, 32-point DC input, 32-point Relay output (IEC standard language)
	XEC-DN64H	AC110~220V, 32-point DC input, 32-point TR output (IEC standard language)
Expansion I/O module	XBE-DC08A	8-point DC24V input
	XBE-DC16A	16-point DC24V input
	XBE-DC32A	32-point DC24V input
	XBE-RY08A	8-point relay output
	XBE-RY16A	16-point relay output
	XBE-TN08A	8-point Transistor (sink) output
	XBE-TN16A	16-point Transistor (sink) output
	XBE-TN32A	32-point Transistor (sink) output
	XBE-TP08A	8-point Transistor (source) output
	XBE-TP16A	16-point Transistor (source) output
	XBE-TP32A	32-point Transistor (source) output
	XBE-DR16A	8-point DC24V input, 8-point relay output
Special module	XBF-AD04A	4-channel analog input (current/voltage)
	XBF-AH04A	2-channel analog input (current/voltage)/2-channel analog output (current/voltage)
	XBF-DV04A	4-channel analog output (voltage)
	XBF-DC04A	4-channel analog output (current)
	XBF-RD04A	4-channel RTD input
	XBF-TC04S	4-channel Thermocouple input
Communication module	XBL-C41A	Cnet (RS-422/485) I/F
	XBL-C21A	Cnet (RS-232C) I/F
	XBL-EMTA	Ethernet I/F
Loader Cable	PMC-310S	Connection cable (PC to PLC), 9pin (PC)-6pin (PLC), Soft tube type cable
	USB-301A	Connection cable (PC to PLC), USB
Memory module	XBO-M1024A	External memory for program back-up (1024kbyte)

Smart link

Terminal board	Connection cable	XBM-DN16S XBM-DN32S	XBE-DC32A	XBE-TN32A	XBE-TP32A	Remark
SLP-T40P	SLT-CT051-XBM	●	-	-	-	1. Cable length
	SLT-CT101-XBM	●	-	-	-	CT051: 0.5m
	SLT-CT051-XBE	-	●	●	●	CT101: 1.0m
	SLT-CT101-XBE	-	●	●	●	CT151: 1.5m
	SLT-CT151-XBE	-	●	●	●	CT201: 2.0m
	SLT-CT201-XBE	-	●	●	●	CT301: 3.0m
	SLT-CT301-XBE	-	●	●	●	
SLP-RY4A	SLP-CT051-XBE	-	-	●	-	2. Board Type
	SLP-CT101-XBE	-	-	●	-	T40P: Terminal
	SLP-CT151-XBE	-	-	●	-	board
	SLP-CT201-XBE	-	-	●	-	RY4A: Relay
	SLP-CT301-XBE	-	-	●	-	board

GM7U

▌Features ▌

Global standard (IEC61131-3) language: IL, ID, SFC

Various main module: 32 types
- 20/30/40/60 points
- AC/DC power, DC input, Relay/Transistor output

Various expansion module: 24 types
- Digital I/O 7 types, analog I/O 9 types, Communication I/F 6 types,
  option module 2 types

Total I/O control: 120 points

Program memory capacity:
132Kbtye (including parameters)

High speed processing
- 0.1 ~ 0.9 μs/Basic instruction

Batteryless Backup
- Program backup: EEPROM
- Data backup: Supercapacitor

Communication Channel: 3 channels
- Loader: 1 CH, Built-in RS-485: 1 CH
  Built-in RS-232C or communication I/F: 1 CH
- Various mode: Dedicated/User-defined/
  MODBUS/No protocol/LS Inverter mode

Built-in functions
- High speed counter function (32 bits)
  - 1 phase: 100 kHz 2 CH, 20 kHz 2 CH (4 CH in total)
  - 2 phase: 50 kHz 1 CH, 10 kHz 1 CH (2 CH in total)
- Positioning function: DRT type only
  - Control axis: 2 axes (100 kHz)
  - Position/speed/synchronous operation
- Improved PID control function
  - Relay and PRC auto-tuning
  - Forward/Reverse
  - PWM output, delta MV
  - Positioning/Velocity algorithm
- Pulse catch, external Interrupt: 10 μs 2 points, 50 μs 6 points
- Input filter: 0~1000 ms

* Expansion modules for GM7U and K120S are common.

G7M-DR20U

G7M-DR30U

G7M-DR40U

G7M-DR60U

G7L-CUEC   G7E-RY08A

Features

Item		GM4-CPUA/B	GM4-CPUC	GM6	GM7U
Control method		Cyclic execution of stored program, Interrupt task execution			
I/O Updating method		Program refresh per 1 scan			
Program languages		IL (Instruction list) / LD (Ladder diagram) / SFC (Sequential function chart)			
Number of instructions	Operator	IL: 20, LD: 13			
	Standard function	194	194 + 'real number F'	194	
	Special function block	Special function blocks for special modules			
Configuration speed	Operator	0.2 μs/step	0.12 μs/step	0.5 μs/step	0.1 μs/step
	Standard function / Standard function block	0.2 μs/step	0.12 μs/step	0.5 μs/step	
Program capacity		128 K	1 M	68 K	132 K
I/O points	Using 32pt module	1,024	1,792	384	20~120
	Using 64pt module	2,048	3,584	-	-
	Network	4,096/8,192	32,768	-	-

GLOFA-GM6

Features

- High performance features with compact size
- High-speed processing using dedicated CPU
- Designed by international standard language
- Designed by international standard language
  (IEC61131-3): IL, LD, SFC
- Max. I/O points: 384 points

GLOFA-GM4

Features

- Max. I/O points: GM4A/B (2,048), GM4C (3,584)
- Fast processing time with high-speed gate array
- Fit for small-and medium-sized manufacturing line network
- In case of remote system configuration, large-scale control available
- Cnet, DeviceNet, Fast Ethernet, Fnet, Profibus-DP, Rnet support
- Downsizing and high performance/function
- Special function modules
  - Analog I/O, PID, High-speed counter, Position control (APM),
    AT, TC, RTD, etc

MASTER-K Series PLC

K120S

Features

20/30/40/60-point standard main unit

10/14/20/30-point economic main unit

- All the standard DRT-unit have transistor output for
  position control (except 10-point unit)
- Max. 120 points are available connecting 3 expansion units

High speed processing

- Basic command: 0.1 ~ 0.9 μs/step,
  Application command: A few to several tens of μs/step

Batteryless backup

- Program backup: EEPROM backup while online editing
- Data backup: supercapacitor
  (over 2000 hours at normal temperature)

Various input handling

- Input filter: filter time can be set from 0 to 1000 ms
  as the unit of 8 points
- Pulse catch: 10 μs (P0, P1), 50 μs (P2 ~ P7)
- External interrupt: 10 μs (P0, P1), 50 μs (P2 ~ P7)

High speed counter: 32-bit signed counter

- 1 phase: 100 kHz 2 CH, 20 kHz 2 CH (4 CH in total)
- 2 phase: 50 kHz 1 CH, 10 kHz 1 CH (2 CH in total)
- Additional functions: preset function, latch counter,
  comparison output, RPM function

Positioning function

- Control axis: 2 axes (100 kHz)
- Operation mode: Single, repeated, end, keep, continuous
- Additional function: Return to origin, JOG operation, PWM output

Communication function

- Supports two built-in communication ports
  RS-232C and RS-485
- Supports 'No Protocol Mode' and communication monitoring

PID control function

- Relay and PRC auto-tuning
- PWM Output, anti-derivative kick, anti-windup,
  Positioning/Velocity algorithm to assign

MASTER-K 120S

Digital I/O	G7E-DR(08/10/20)A	G7E-DR08A: slim DC 24 V input 4/relay output 4, G7E-DR10A: DC 24 V input 6 pts/relay output 4 pts, G7E-DR20A: input 12 pts/relay output 8 pts
	G7E-TR10A	TR output 10 pts
Analog	G7E-DC08(RY08)A	G7E-DC08A: slim type (DC 24 V input 8 pts), G7E-RY08A: slim type (relay output 8 pts)
	G7F-ADHA(B)	G7F-ADHA: (AD: 2 CHs/DA: 1 CH), G7F-ADHB: slim type (AD: 2 CHs/DA: 2 CHs)
	G7F-AD2A(B)	G7F-AD2A: (AD: 4 CHs), G7F-AD2B: slim type (AD: 4 CHs)
	G7F-DA2I	G7F-DA2I: (DA: 4 CHs (current output))/G7F-DA2V: slim (DA: 4 CHs (voltage output))
	G7F-AT2A	4 points (0~200), analog timer
	G7F-RD2A	4 CHs, slim type, RTD module
Cnet interface	G7L-CUEB(C)	G7L-CUEB: RS232C 1 CH, G7L-CUEC: RS422 1 CH (Modbus protocol included)
DeviceNet interface	G7L-DBEA	DeviceNet slave interface module
Profibus-DP interface	G7L-PBEA	Profibus-DP slave interface module
Fieldbus interface	G7L-FUEA	Fieldbus interface module: LSIS dedicated protocol
	G7L-RUEA	Fieldbus interface module: LSIS SMART I/O dedicated protocol
RTC module	G7E-RTCA	RTC module
Memory module	G7M-M256B	Memory module (256 K)

Item		K120S		K200S	K300S
		Economic	Standard		
Operation method		Cyclic execution of stored program			
I/O control method		Scan synchronized batch processing method (Refresh method)			
Program language		Mnemonic, Ladder			
Number of instructions	Basic	30			
	Application	269	277	218	218
Max. I/O control points		70	120	384 (512)	1,024
Program memory capacity		2 K	10 K	7 K	15 K
Processing speed (μs/Step)		0.4	0.1	0.5	0.2

MASTER-K200S

Features

- Small-and medium-scale control with 384 points
- High-speed processing: 0.5μs/step
- On-line editing
- Change I/O value by force
- Small-and medium-sized manufacture line control by network
- Various special modules: analog, HSC, positioning, etc

- Built-in flash memory
- 3 types of CPU
- System monitoring function
- Trigger function
- Network support: Cnet, Fast Ethernet, Fnet, Rnet, DeviceNet, and Profibus-DP

MASTER-K300S

Features

- Small-and medium-scale control with 1,024 points
- High-speed processing: 0.2μs/step
- On-line editing
- Change I/O value by force
- Small-and medium-sized manufacture line control by network
- Downsizing and high performance

- Various special modules: analog, HSC, positioning, etc
- Network support: Cnet, Fast Ethernet, Fnet, Rnet, DeviceNet, Profibus-DP
  - CPU version 3.0 or later: max. 4 modules in total
  - CPU version 2.9 or less: max. 2 modules in total

GLOFA-GM / Master-K Series PLC | Product list

GM7/GM7U main unit

Type	Part Number	Specification	Power supply	Remarks
GM7 main	G7M-DR10A (/DC)	DC 24V Input 6 points, Relay output 4 points	AC 100~240V (DC 24V)	
	G7M-DR20A (/DC)	DC 24V Input 12 points, Relay output 8 points		
	G7M-DR30A (/DC)	DC 24V Input 18 points, Relay output 12 points		
	G7M-DR40A (/DC)	DC 24V Input 24 points, Relay output 16 points		
	G7M-DR60A (/DC)	DC 24V Input 36 points, Relay output 24 points		
	G7M-DT10A	DC 24V Input 6 points, Tr. output 4 points	AC 100~240V	
	G7M-DT20A	DC 24V Input 12 points, Tr. output 8 points		
	G7M-DT30A	DC 24V Input 18 points, Tr. output 12 points		
	G7M-DT40A	DC 24V Input 24 points, Tr. output 16 points		
	G7M-DT60A	DC 24V Input 36 points, Tr. output 24 points		
GM7U main	G7M-DR20U (/DC)	DC 24V Input 12 points, Relay output 8 points	AC 100~240V (DC 24V)	
	G7M-DR30U (/DC)	DC 24V Input 18 points, Relay output 12 points		
	G7M-DR40U (/DC)	DC 24V Input 24 points, Relay output 16 points		
	G7M-DR60U (/DC)	DC 24V Input 36 points, Relay output 24 points		
	G7M-DRT20U (/DC)	DC 24V Input 12 points, Tr. output 4 points/Relay output 4 points		
	G7M-DRT30U (/DC)	DC 24V Input 18 points, Tr. output 4 points/Relay output 8 points		
	G7M-DRT40U (/DC)	DC 24V Input 24 points, Tr. output 4 points/Relay output 12 points		
	G7M-DRT60U (/DC)	DC 24V Input 36 points, Tr. output 4 points/Relay output 20 points		
	G7M-DT20U (N) (/DC)	DC 24V Input 12 points, NPN Tr. output 8 points		
	G7M-DT30U (N) (/DC)	DC 24V Input 18 points, NPN Tr. output 12 points		
	G7M-DT40U (N) (/DC)	DC 24V Input 24 points, NPN Tr. output 16 points		
	G7M-DT60U (N) (/DC)	DC 24V Input 36 points, NPN Tr. output 24 points		
	G7M-DT20U (P) (/DC)	DC 24V Input 12 points, PNP Tr. output 8 points		
	G7M-DT30U (P) (/DC)	DC 24V Input 18 points, PNP Tr. output 12 points		
	G7M-DT40U (P) (/DC)	DC 24V Input 24 points, PNP Tr. output 16 points		
	G7M-DT60U (P) (/DC)	DC 24V Input 36 points, PNP Tr. output 24 points		

K80S/K120S main unit

Type	Part Number	Specification	Power supply	Remarks
K80S main	K7M-DR10S (/DC)	DC 24V Input 6 points, Relay output 4 points	AC 100~240V (DC 24V)	
	K7M-DR20S (/DC)	DC 24V Input 12 points, Relay output 8 points		
	K7M-DR30S (/DC)	DC 24V Input 18 points, Relay output 12 points		
	K7M-DR40S (/DC)	DC 24V Input 24 points, Relay output 16 points		
	K7M-DR60S (/DC)	DC 24V Input 36 points, Relay output 24 points		
	K7M-DT10S	DC 24V Input 6 points, Tr. output 4 points	AC 100~240V	
	K7M-DT20S	DC 24V Input 12 points, Tr. output 8 points		
	K7M-DT30S	DC 24V Input 18 points, Tr. output 12 points		
	K7M-DT40S	DC 24V Input 24 points, Tr. output 16 points		
	K7M-DT60S	DC 24V Input 36 points, Tr. output 24 points		
K120S economic	K7M-DR10UE (/DC)	DC 24V Input 6 points, Relay output 4 points	AC 100~240V (DC 24V)	
	K7M-DR14UE (/DC)	DC 24V Input 8 points, Relay output 6 points		
	K7M-DR20UE (/DC)	DC 24V Input 12 points, Relay output 8 points		
	K7M-DR30UE (/DC)	DC 24V Input 18 points, Relay output 12 points		
K120S standard	K7M-DR20U (/DC)	DC 24V Input 12 points, Relay output 8 points		
	K7M-DR30U (/DC)	DC 24V Input 18 points, Relay output 12 points		
	K7M-DR40U (/DC)	DC 24V Input 24 points, Relay output 16 points		
	K7M-DR60U (/DC)	DC 24V Input 36 points, Relay output 24 points		
	K7M-DRT20U (/DC)	DC 24V Input 12 points, Tr. output 4 points/Relay output 4 points		
	K7M-DRT30U (/DC)	DC 24V Input 18 points, Tr. output 4 points/Relay output 8 points		
	K7M-DRT40U (/DC)	DC 24V Input 24 points, Tr. output 4 points/Relay output 12 points		
	K7M-DRT60U (/DC)	DC 24V Input 36 points, Tr. output 4 points/Relay output 20 points		
	K7M-DT20U (/DC)	DC 24V Input 12 points, Tr. output 8 points		
	K7M-DT30U (/DC)	DC 24V Input 18 points, Tr. output 12 points		
	K7M-DT40U (/DC)	DC 24V Input 24 points, Tr. output 16 points		
	K7M-DT60U (/DC)	DC 24V Input 36 points, Tr. output 24 points		

GM7/GM7U expansion modules

Type		Part Number	Specification	Power supply	Remarks
Expansion module	Digital I/O	G7E-DR08A	DC 24V Input 4 points, Relay output 4 points	From main module	
		G7E-DR10A	DC 24V Input 6 points, Relay output 4 points		GM7
		G7E-DR20A	DC 24V Input 12 points, Relay output 8 points		
	Input	G7E-DC08A	DC 24V Input 8 points		
	Output	G7E-RY08A	Relay output 8 points		
		G7E-RY16A	Relay output 16 point		
		G7E-TR10A	Tr. output 10 points		
Special module	Analog I/O	G7F-ADHA	Analog input 2Chs, Analog output 1Ch	DC 24V from external power supply	GM7
		G7F-ADHB	Analog input 2Chs, Analog output 2Chs		
		G7F-ADHC	Analog input 2Chs, Analog output 1Ch		
	Analog Input	G7F-AD2A	Analog input 4Chs		GM7
		G7F-AD2B	Analog input 4Chs		
	Analog Output	G7F-DA2I	Analog current output 4Chs		
		G7F-DA2V	Analog voltage output 4Chs		
	RTD Input	G7F-RD2A	RTD input 4Chs		
	Analog Timer	G7F-AT2A	Analog timer 4Chs	From main module	GM7
Comm. module	Cnet I/F	G7L-CUEB	RS-232C 1Ch		
		G7L-CUEC	RS-422 1Ch		
	Fnet I/F	G7L-FUEA	Fnet (dedicated protocol) I/F master		
	Rnet I/F	G7L-RUEA	Rnet (dedicated protocol for SMART I/Os) I/F master		
	Pnet I/F	G7L-PBEA	Profibus-DP slave unit		
	Dnet I/F	G7L-DBEA	DeviceNet slave unit		
Option	RTC pack	G7E-RTCA	RTC unit		
	Memory pack	G7M-M256	Memory pack for GM7		GM7 only
		G7M-M256B	Memory pack for GM7U		GM7U only

* If a part number ends with /DC, the supply power is DC24V.
* Slim type: G7E-DC08A, G7E-DR08A, G7E-RY8A, G7F-ADHB, G7F-AD2B, G7F-RD2A

K80S/K120S expansion modules

Type		Part Number	Specification	Power supply	Remarks
Expansion module	Digital I/O	G7E-DR08A	DC 24V Input 4 points, Relay output 4 points	From main module	K120S only
		G7E-DR10A	DC 24V Input 6 points, Relay output 4 points		
		G7E-DR20A	DC 24V Input 12 points, Relay output 8 points		K80S CPU V1.7 ↑
	Input	G7E-DC08A	DC 24V Input 8 points		
	Output	G7E-RY08A	Relay output 8 points		K120S only
		G7E-RY16A	Relay output 16 point		
		G7E-TR10A	Tr. output 10 points		K80S CPU V1.7 ↑
Special module	Analog I/O	G7F-ADHA	Analog input 2Chs, Analog output 1Ch	DC 24V from external power supply	
		G7F-ADHB	Analog input 2Chs, Analog output 2Chs		K120S only
		G7F-ADHC	Analog input 2Chs, Analog output 1Ch		
	Analog Input	G7F-AD2A	Analog input 4Chs		
		G7F-AD2B	Analog input 4Chs		
	Analog Output	G7F-DA2I	Analog current output 4Chs		
		G7F-DA2V	Analog voltage output 4Chs		
	RTD Input	G7F-RD2A	RTD input 4Chs		K120S only
	Analog Timer	G7F-AT2A	Analog timer 4Chs	From main module	
Comm. module	Cnet I/F	G7L-CUEB	RS-232C 1Ch		
		G7L-CUEC	RS-422 1Ch		
	Fnet I/F	G7L-FUEA	Fnet (dedicated protocol) I/F master		
	Rnet I/F	G7L-RUEA	Rnet (dedicated protocol for SMART I/Os) I/F master		
	Pnet I/F	G7L-PBEA	Profibus-DP slave unit		
	Dnet I/F	G7L-DBEA	DeviceNet slave unit		
Option	RTC pack	G7E-RTCA	RTC unit		
	Memory pack	G7M-M256	Memory pack for K80S		K80S only
		G7M-M256B	Memory pack for K120S		K120S only

* If a part number ends with /DC, the supply power is DC24V.
* Slim type: G7E-DC08A, G7E-DR08A, G7E-RY8A, G7F-ADHB, G7F-AD2B, G7F-RD2A

GM6/K200S

Type		Part Number	Specification	Remarks
CPU		GM6-CPUA	Max. I/O: 384 points, Program memory: 68K, Built-in function: RS-232	
		GM6-CPUB	Max. I/O: 384 points, Program memory: 68K, Built-in function: RS-422, PID, RTC	
		GM6-CPUC	Max. I/O: 384 points, Program memory: 68K, Built-in function: RS-232C, PID, RTC, HSC (50kpps)	
		K3P-07AS	Max. I/O: 384 points, Program memory: 7K, Built-in function: RS-232	Program memory: 7k steps
		K3P-07BS	Max. I/O: 384 points, Program memory: 7K, Built-in function: RS-422, PID, RTC	
		K3P-07CS	Max. I/O: 384 points, Program memory: 7K, Built-in function: RS-232C, PID, RTC, HSC (50kpps)	
Power module		GM6-PAFA	AC input (Free), output: DC 5V 2A, DC 24V 0.3A	
		GM6-PAFB	AC input (Free), output: DC 5V 2A, DC 15V 0.5A, DC -15V 0.2A, when analog module used Analog	
		GM6-PAFC	AC input (Free), output: DC 5V 3.5A, DC 24V 0.3A for 12-slot base board	
		GM6-PA2A	AC 220V Only, output: DC 5V 6A	
		GM6-PDFA	DC 12/24V input, output: DC 5V 2A	
		GM6-PDFB	DC 12/24V input, output: DC 5V 3A, DC 15V 0.5A, DC -15V 0.2A, when analog module used	Analog
Base		GM6-B04M	4-slot base board	Not expansible
		GM6-B06M	6-slot base board	
		GM6-B08M	8-slot base board	
		GM6-B12M	12-slot base board, Comm I/F module installation: slot 0~7	
DC input module		G6I-D21A	DC 12/24V input 8 points, Current Sink/Source type	
		G6I-D22A	DC 12/24V input 16 points, Current Sink/Source type	
		G6I-D22B	DC 24V input 16 points, Current Source type	
		G6I-D24A	DC 12/24V input 32 points, Current Sink/Source type	
		G6I-D24B	DC 24V input 32 points, Current Source type	
AC input module		G6I-A11A	AC 110V input 8 points	
		G6I-A21A	AC 220V input 8 points	
Relay output module		G6Q-RY1A	Relay output 8 points, DC 12/24V, AC 220V, 2A	AC, DC
		G6Q-RY2A	Relay output 16 points, DC 12/24V, AC 220V, 2A	
		G6Q-RY2B	Relay output 16 points, DC 12/24V, AC 220V, 2A, Surge absorber	
Transistor output module		G6Q-TR2A	Tr. (NPN) output 16 points, DC 12/24V, 0.5A	DC
		G6Q-TR2B	Tr. (PNP) output 16 points, DC 12/24V, 0.5A	
		G6Q-TR4A	Tr. (NPN) output 32 points, DC 12/24V, 0.1A	
		G6Q-TR4B	Tr. (PNP) output 32 points, DC 12/24V, 0.1A	
Triac output module		G6Q-SS1A	DC 12/24V input 8 points, AC 100~240V, 0.6A	AC
I/O hybrid module		G6H-DR2A	DC 12/24V input 8 points, Relay output 8 points	
Special module	A/D module	G6F-AD2A	V/I input: 4 CHs, DC 1~5V, 0~10V, -10~10V, 4~20mA	GM6-PAFB/PDFB
	D/A module	G6F-DA2V	V output: 4 CHs, DC -10~10V	
		G6F-DA2I	I output: 4 CHs, DC 4~20mA	
	HSC module	G6F-HSCA	1Ch, Counting range: 0~16,777,215	
		G6F-HD1A	2 CHs, 500kpps, Counting range: -2,147,483,648~2,147,483,647, Line drive type	
		G6F-HO1A	2 CHs, 200kpps, Counting range: -2,147,483,648~2,147,483,647, Open collector type	
	Positioning module	G6F-PPxO	X=1, 2, 3: axis, Pulse output, 200kpps, Open collector type	GLOFA CPU V2.0
		G6F-PPxD	X=1, 2, 3: axis, Pulse output, 1M, Line drive type	MASTER-K CPU V2.3
	Thermocouple input module	G6F-TC2A	Input: 4 CHs (Thermocouple: K, J, E, T, B, R, S)	GM6-PAFB/PDFB
Comm. module	Fast Enet I/F module (Open type)	G6L-EUTB	10/100BASE-TX, UTP	GLOFA CPU V2.1 MASTER-K CPU V2.4
		G6L-EUFB	100BASE-FX, Fiber optic	
	Fast Enet I/F module (Dedicated Master)	G6L-EUTC	10/100BASE-TX, UTP	
		G6L-EUFC	100BASE-FX, Fiber optic	
	Fast Enet I/F module (Dedicated Slave)	G6L-ERTC	10/100BASE-TX, UTP	
		G6L-ERFC	100BASE-FX, Fiber optic	
	Fnet I/F module	G6L-FUEA	Fnet master module (Shielded twisted pair cable, 1Mbps)	
	Fnet remote I/F module	G6L-RBEA	Fnet remote module (Shielded twisted pair cable, 1Mbps)	
	Dnet I/F module	G6L-DUEA	DeviceNet master module (500kbps MAX.)	
	Pnet I/F module	G6L-PUEA	Profibus-DP master module (1K)	
		G6L-PUEB	Profibus-DP master module (7K)	
	Rnet I/F module	G6L-RUEA	Rnet master module	
	Cnet I/F module	G6L-CUEB	RS-232C	
		G6L-CUEC	RS-422/485	
Dummy module		GM6-DMMA	Dummy module for empty I/O slot	

GM4/K300S

Type	Part Number	Specification	Remarks
CPU	GM4-CPUA	Max. I/O: 2,048 points, Program memory: 128K, Data memory: 52K	
	GM4-CPUB	Max. I/O: 2,048 points, Program memory: 128K, Data memory: 50K	
	GM4-CPUC	Max. I/O: 2,048 points, Program memory: 1M, Data memory: 428K	
	K4P-15AS	Max. I/O: 1,024 points, Program memory: 15K steps	
Main base	GM4-B04M	4-slot main base board	
	GM4-B06M	6-slot main base board	
	GM4-B08M	8-slot main base board	
	GM4-B12M	12-slot main base board	Not expandable
Main base (High Functional)	GM4-B4EH	4-slot main base board (High Functional)	
	GM4-B6EH	6-slot main base board (High Functional)	
	GM4-B8EH	8-slot main base board (High Functional)	
Expansion base	GM4-B04E	4-slot expansion base board	
	GM4-B06E	6-slot expansion base board	
	GM4-B08E	8-slot expansion base board	
Expansion base (High Functional)	GM4-B4EH	4-slot expansion base board (High Functional)	
	GM4-B6E H	6-slot expansion base board (High Functional)	
	GM4-B8EH	8-slot expansion base board (High Functional)	
Expansion cable	G4C-E041	Length: 0.4m	
	G4C-E121	Length: 1.2m	
	G4C-E301	Length: 3.0m	
Expansion cable (High Functional)	G4C-E051	Length: 0.6m	
	G4C-E601	Length: 6m	
	G4C-E102	Length: 10m	
	G4C-E152	Length: 15m	
Power module	GM4-PA1A	AC 110V input, DC 5V: 4A, DC 24V: 0.7A	
	GM4-PA2A	AC 220V input, DC 5V: 4A, DC 24V: 0.7A	
	GM4-PA1B	AC 110V input, DC 5V: 3A, DC 24V: 0.5A	
	GM4-PA2B	AC 220V input, DC 5V: 3A, DC 24V: 0.5A	
	GM4-PA2C	AC 220V input, DC 5V: 8A	
	GM4-PD3A	DC 24V input, DC 5V: 4A	
DC input module	G4I-D22A	16 points DC 12/24V input (Current Sink/Source type)	
	G4I-D22B	16 points DC 12/24V input (Current Source type)	
	G4I-D22C	16 points DC 24V input (Current Sink/Source type)	
	G4I-D24A	32 points DC 12/24 input (Current Sink/Source type)	
	G4I-D24B	32 points DC 12/24 input (Current Source type)	
	G4I-D24C	32 points DC 24 input (Current Sink/Source type)	
	G4I-D28A	64 points DC 12/24 input (Current Sink/Source type)	
AC input module	G4I-A12A	16 points AC 110V input	
	G4I-A22A	16 points AC 220V input	
Relay output module	G4Q-RY2A	16 points Relay output (2A)	AC, DC
Transistor output module	G4Q-TR2A	16 points Tr. (NPN) output (0.5A) (Sink type)	DC
	G4Q-TR2B	16 points Tr. (PNP) output (0.5A) (Source type)	
	G4Q-TR4A	32 points Tr. (NPN) output (0.1A) (Sink type)	
	G4Q-TR4B	32 points Tr. (PNP) output (0.1A) (Source type)	
	G4Q-TR8A	64 points Tr. (NPN) output (0.1A) (Sink type)	
Triac output module	G4Q-SS2A	16 points Triac output (1.0A)	AC
	G4Q-SS2B	16 points Triac output (0.6A)	
I/O hybrid module	G4H-DR2A	8 points DC 12/24V input, 8 points relay output	
	G4H-DT2A	8 points DC 12/24V input, 8 points Tr. output	
Special module — A/D module	G4F-AD2A	V/I input: 4 CHs (DC -5~5V/-10~10V/DC -20~20mA)	
	G4F-AD3A	V/I input: 8 CHs (DC 1~5V/0~10V/DC 4~20mA)	
Special module — D/A module	G4F-DA1A	V/I output: 2 CHs (DC -10~10V, DC 4~20mA)	
	G4F-DA3V	V output: 8 CHs (DC -10~10V)	
	G4F-DA3I	I output: 8 CHs (DC 4~20mA)	
	G4F-DA2V	V output: 4 CHs (DC-10~10V)	
	G4F-DA2I	I output: 4 CHs (4~20mA)	

GM4/K300S

Type		Part Number	Specification	Remarks
Special module	HSC module	G4F-HSCA	1 CH, 50kHz, Counting range: 0~16,777,215	
		G4F-HD1A	2 CHs, 500kpps, Counting range: -2,147,483,648~+2.147,483,647, Line drive type	
		G4F-HO1A	2 CHs, 200kpps, Counting range: -2,147,483,648~+2.147,483,647, Open collector type	
	Positioning module	G4F-PPxO	X=1, 2, 3: axis, Pulse output, 200kpps, Open Collector Type	CPU V3.2 ↑
		G4F-PPxD	X=1, 2, 3: axis, Pulse output, 1Mbps, Line Drive Type	
	Thermocouple input module	G4F-TC2A	Input: 4 CHs (Thermocouple: K, J, E, T, B, R, S)	
	RTD input	G4F-RD2A	Input: 4 CHs	
	PID control module	G4F-PIDB	Max. 16-loop control (Autotuning), 16-point digital output	
	Analog timer module	G4F-AT3A	Input: 8 points	Make to order
	Interrupt module	G4F-INTA	Input: 8 CHs	
Comm. module	Fast Enet I/F module (Open type)	G4L-EUTB	10/100BASE-TX, UTP	GLOFA CPU V2.7 ↑ MASTER-K CPU V2.4 ↑
		G4L-EUFB	100BASE-FX, Fiber optic	
		G4L-EU5B	10BASE-5, AUI	
	Fast Enet I/F Module (Dedicated Master)	G4L-EUTC	10/100BASE-TX, UTP	
		G4L-EUFC	100BASE-FX, Fiber optic	
		G4L-EU5C	10BASE-5, AUI	
	Fast Enet I/F module (Dedicated Slave)	G4L-ERTC	10/100BASE-TX, UTP	
		G4L-ERFC	100BASE-FX, Fiber optic	
		G4L-ER5C	10BASE-5, AUI	
	Fnet I/F module	G4L-FUEA	Fnet master module (Shielded twisted pair cable), 1Mbps	
		G4L-FUOA	Fnet master module (Optic cable)	
	Fnet remote I/F module	G4L-RBEA	Fnet remote module (Shielded twisted pair cable), 1Mbps	
	Dnet I/F module	G4L-DUEA	DeviceNet master module (500kbps MAX.)	
	Pnet I/F module	G4L-PUEA	Profibus-DP master module (1Kbyte)	
		G4L-PUEB	Profibus-DP master module (7Kbyte)	
	Rnet I/F module	G4L-RUEA	Rnet master module	
	Cnet I/F module	G4L-CUEA	RS-232C/RS-422: 1Ch each, Stand alone/Interlocking mode	
	Dummy module	GM4-DMMA	Dummy module for empty I/O slot	
	Memory module	G4M-M032	Capacity: 128K (32k steps)	
	USB cable	USB-301A	Downloading cable for USB port of GM4-CPUC	GM4-CPUC

* In GM4-CPUC, you are supposed to use high-functional base (main/expansion) and high functional cable when you want to make more than 3-stage expansion.

SMART I/O | Stand alone type

Features

- Wiring reduction and real time control of distributed I/O
- Supporting Rnet, DeviceNet, Profibus-DP, MODBUS (RS-422/485)
- Various I/O (DC/TR/Relay) modules with the unit of 16/32 points

Digital I/O specifications

Item		Input		Output			Mixed module	
		DC (Sink/Source)		Transistor (Sink)		Relay	DC (Sink/Source)	Transistor (Sink)
No. of point		16	32	16	32	16	16	16
Rated input (Load voltage)		DC 24 V		DC 24 V		DC 24 V/AC 110 V/220 V	DC 24 V	DC 24 V
Input current (Load current)		7 mA		0.1 A/2 A, 0.5 A/3 A		2 A/5 A	7 mA 0.1 A/2 A, 0.5 A/3 A	
Response time	Off→On	3 ms or less		3 ms or less		3 ms or less	3 ms or less	3 ms or less
	On→Off	3 ms or less		3 ms or less		3 ms or less	3 ms or less	3 ms or less
Common		16 points/COM		16 points/COM		16 points/COM	16 points/COM	16 points/COM
Current consumption		200 mA	300 mA	280 mA	380 mA	550 mA	350 mA	
Network	Rnet	GRL-D22A	GRL-D24A	GRL-TR2A	GRL-TR4A	GRL-RY2A	GRL-DT4A	
	Profibus-DP	GPL-D22A●	GPL-D24A●	GPL-TR2A▲	GPL-TR4A▲	GPL-RY2A●	GPL-DT4A▲	
	DeviceNet	GDL-D22A●	GDL-D24A●	GDL-TR2A▲	GDL-TR4A▲	GDL-RY2A●	GDL-DT4A▲	
	MODBUS	GSL-D22A	GSL-D24A	GSL-TR2A	GSL-TR4A	GSL-RY2A	GSL-DT4A	

Note1) Specification stated in the table is specification of type A.
Refer to XGT user's manual.
● A, C ▲ A, A1, B, C, C1

A Sink, Rated current: 0.1A, terminal fixed type
A1 Sink, Rated current: 0.5A, terminal fixed type

B Source, Rated current: 0.5A, terminal fixed type
C Source, Rated current: 0.5A, terminal separated type
C1 Sink, Rated current: 0.5A terminal separated type

Analog I/O specifications

Item	GPL-AV8C	GPL-AC8C	Item	GPL-DV4C	GPL-DC4C
Input channels	8 channels		Output channels	4 channels	
Analog input	DC 1~5 V, 0~5 V, 0~10 V, -10~+10 V	0~20 mA, 4~20 mA, - 20~20 mA	Digital input	0~4000, 0~8000, -8000~8000	0~8000
Digital output	0~4000, 0~8000, -8000~8000	0~4000, -8000~8000	Analog output	DC 1~5 V, 0~5 V, 0~10 V, -10~+10 V	0~20 mA, 4~20 mA
Input impedance	1 MΩ	250 Ω	Load impedance	1 KΩ or more (0~5 V or 1~5 V)	
Max. resolution	±15 V	±30 mA		2 KΩ or more (0~10 V or -10~10 V)	500 Ω or less
	1.25 mV	2.5 μA	Resolution	1.25 mV	2.5 μA
Accuracy	±0.3% (full scale, Ta=0~55 °C)	±0.3% (full scale, Ta=23 °C±5 °C)	Accuracy	±0.3% (full scale, Ta=0~55 °C)	±0.3% (full scale, Ta=23 °C±5 °C)
		±0.4% (full scale, Ta=0~55 °C)			±0.4% (full scale, Ta=0~55 °C)
Conversion speed	10 ms or less / 8 channel		Conversion speed	10 ms or less / 4 channel	
Response period	10 ms or less / 8 channels + Transmission period (ms)		Response period	10 ms or less / 8 channels + Transmission period (ms)	
	Analog input/output terminal with FG→Insulation			Analog input/output terminal with FG→Insulation	
Insulation method	Analog input/output terminal with Communication terminal→Insulation		Insulation method	Analog input/output terminal with Communication terminal→Insulation	
	Analog input/output terminal with each channel→No insulation			Analog input/output terminal with each channel→No insulation	
External power supply	DC 24 V (21.6 ~ 26.4)		External power supply	DC 24 V (20.4 ~ 28.8)	
External current consumption	DC 24 V : 220 mA		External current consumption	210 mA	240 mA
Weight (kg)	0.313	0.313	Weight (kg)	0.314	0.322

Communication specifications

Item	Rnet (LS dedicated network)	Profibus-DP	DeviceNet	MODBUS
Protocol	LSIS dedicated protocol (Fnet for Remote)	Profibus-DP (RS-485/EN50170)	DeviceNet (CAN)	MODBUS (RS-422/485)
Transmission speed	1 Mbps	9.6 Kbps ~ 12 Mbps	125/250/500 Kbps	2.4 Kbps ~ 38.4 Kbps
Transmission distance	750 m/segment	100 m ~ 1.2 km	500/250/125 m (Thin cable: 100 m)	500 m
Topology	Bus Token	Bus	Trunk & Drop	Bus
Transmission	Pass & Broadcast	Token Pass & Master/Slave (Poll)	CSMA/NBA (Poll, Cyclic, COS, Bit Strobe)	Master/Slave (Poll)
No. of stations	32/segment (Input: 32, Output: 32)	32/segment, 99/network	64	32
Link capacity	2,048 points/master (64 stations × 32 points)	7 Kbyte/master	2,048 points/master	64 points/station

Note1) Smart I/O supports Poll type currently, but is supposed to support Cyclic, COS and Strobe later on.

SMART I/O | Expandable type

Profibus-DP   DeviceNet   Rnet

Features

- Easy configuration of remote system using XGB expansion I/O
- Up to 8 modules expandable with Network adapter
- Max. 256-point digital I/O
- Max. 16-channel analog I/O
- Network adapter: Profibus-DP, DeviceNet, Rnet, Modbus TCP, Ethernet IP

DeviceNet specification

Item	Description		
Communication Specification	Poll, Bit-strobe, COS/Cyclic Group 2 only slave Auto baud rate		
Module's Type	Slave		
Max. Node Number (MAC ID)	64(0~63)		
Number of Expansion I/O Slots	8		
Max. DC I/O Data Size	Input:32bytes / Output:32bytes		
Max. Analog Channels	Input : 16Channels / Output : 16Channels		
Speed & Distance	Comm. Speed	125 kbps	250 kbps	500 kbps
	Distance	500 m	250 m	100 m
Input Power	System Power Range	DC 24V		
		19.2V ~ 28.8V(11V operate)		
	Output Voltage/ Current	5V(±20%) /1.5A		
Weight(g)		100		

* When I/O module is installed, check the current consumption (Max. Current: 1.5A)

Profibus specification

Item		Performance Specification				
Transmission	Standard	EN50170 / DIN 19245				
	Interface	RS-485(Electric)				
	Media Access	Polling				
	Topology	BUS				
	Encoding Method	NRZ				
	Interface	Sync mode , Freeze mode Auto baud rate				
	Master/Slave	Slave				
	Cable Type	Twisted Pair Shielded Cable				
	Comm. Distance	Kbps	9.6	19.2	93.75	187.5	500
		m	1200	1200	1200	1000	400
		kbps	1500	3000	6000	12000	-
		m	200	100	100	100	-
	Max. Node Number	100 (0 ~ 99)				
	Number of Expansion I/O Slots	8				
	IO Data Size	64bytes (Input:32bytes /Output:32bytes)				
	Number of Analog Channels	32Channels (Input : 16Channels/Output :16Channels)				
Input Power	System Power	Supply Voltage : DC 24Vdc 19.2 ~ 28.8Vdc				
	Output Voltage/ Current	5V(±20%) / 1.5A				
Weight(g)		100				

* When I/O module is installed, check the current consumption (Max. Current: 1.5A)

Rnet specification

Item		Performance Specification
Transmission	Tran. Rate	1Mbps
	Transmission Path	Bus type
	Method	750m
	Max. Cable Length	5 pin connector
	Connector type	Twisted Pair Shielded Cable
	Cable type	32(non-used repeater),
	No. of Station	64(used repeater)
	(Included Master)	512(Input : 256, Output: 256)
	Max. Digital I/O points	96
	Max. Analog I/O points	Digital I/O 8
	Number of I/O Slots	Analog I/O 4
	Selection of Latch/Clear	handling of mode change switch
Rated Voltage/current		DC24V/0.55A
Weight (g)		100

* When I/O module is installed, check the current consumption (Max. Current: 1.5A)

XP Series | Human Machine Interface

Graphic type XP30/XP50/XP70/XP80/XP90

- High and vivid distinction with 65,536 colors
- Various vector symbols and high quality raster symbols
- Support diverse file types including BMP, JPG, GIF, and WMF, etc.
- Simple movie clip effects with GIF animation.
- 10/100 BASE-T Ethernet interface.
- Convenient and easy screen editing
- Strengthened data management (Logging, Recipe, and Alarm).
- Read function of a controller's state information (Monitoring and maintenance).
- Multi-lingual display up to 4 languages and easy switching.
- Offline program simulation with XG5000.
- Tag function of the HMI S/W (Easy to change the address of the graphic objects).
- USB host for the use of peripheral devices (Mouse, keyboard, printer, etc).
- Sufficient memory space for screen saving (10MB).

Item		XP30-BTE/DC	XP30-BTA/DC	XP30-TTA/DC	XP50-TTA/DC	XP70-TTA/DC XP70-TTA/AC	XP80-TTA/DC XP80-TTA/AC	XP90-TTA/AC
Display description		Mono Blue LCD	TFT Color LCD					
Display Size (inch)		5.7″			8.4″	10.4″	12.1″	15″
Resolution		320 × 240			640 × 480		800 × 600	1024 × 768
Color		8-bit Gray Scale		65,536 color				
Backlight		LED, auto On/ Off (50,000hr)	CCFL , auto On/ Off (50,000hr)		CCFL (interchangeable), auto On/ Off (50,000hr)			
Contrast		Adjustable		Fixed				
Luminance		230cd/m²	260cd/m²	400cd/m²	480cd/m²	430cd/m²	400cd/m²	450cd/m²
Viewing angle	Up/Down(Degree)	20/40	20/40	70/50	65/65	65/65	65/65	50/60
	Left/Right(Degree)	45/45	45/45	70/70	60/50	65/45	75/45	75/75
Touch panel		4-wire system, analog			8-wire system, analog			
Buzzer		Magnetic buzzer						
Operation LED		Green : Run (Monitoring, download drawing data) Red : Error (Communication error, drawing data error)						
Processor		ARM920T(32bit RISC), 200MHz						
Graphic accelerator		-	Hardware accelerator					
Memory	Display data	3MB	10MB					20MB
	Backup data	128kB	512KB (Logging, alarm data saving)					
Ethernet		-	1ch, IEEE802.3, 10/100Base-T					
USB interface		USB Host × 1	USB Host × 2					
Serial		2ch (1 port for PC communication)						
RS-422/485		1ch, 422/485						
CF memory card interface		-	CF memory card (TYPE-I) X1					
AUX interface		-	1ea					
Certification		CE, UL, MIC						
Protection		IP65F (Front Water Proof Structure)						
Size (W × H × D)mm		181.0 × 140.0 × 56.0	181.0 × 140.0 × 66.5		240.0 × 174.0 × 73.0	317.0 × 243.0 × 73.0		395 × 249 × 73
Panel Cut (W × H)mm		155.5 × 123.0			228.0 × 158.0	294.0 × 227.0		383.5 × 282.5
Weight (kg)		0.62	0.75		1.4	2.2	3	3.9
Power	Rated voltage	DC 24V				AC100~220V, DC24V		AC100 ~ AC220V
	Permitted voltage	DC 19.2V ~ DC 28V				AC 85V ~ AC 264V, DC 19.2V ~ DC 28V		AC85 ~ AC264V
	Watt — AC	-	-		-	37	40	46
	Watt — DC	5	8.5		20	27	30	-

Text type XP10

- Screen: 192 × 64 Graphic STN LCD
- System RAM: 1000 words
- Flash memory: Program/Parameter back up
- Communication: Half-duplex comm.
  - Baud rate: 1200~115200 bps
  - Master/slave setting available
  - RS-232C/RS-485 2 CH separate to use
- Power reguirements - 24 V input or 5 V direct input by LS PLC
- Various function key - ESC, ALM, SET, ENT, F1~F4, Arrow keys
- Panel Editor - Easy programming and H/W setting
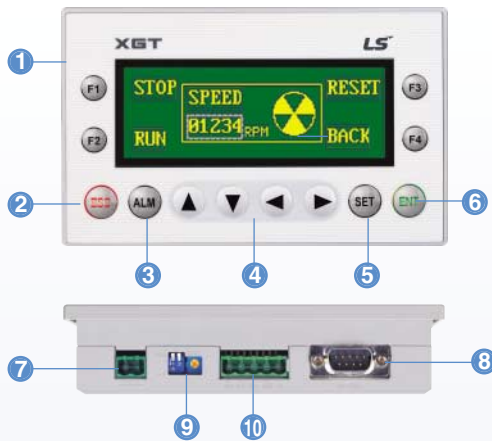
❶ Key to control PLC device and screen
❷ ESC key
❸ Alarm history
❹ Data input and Screen change
❺ PLC data setting
❻ Enter key
❼ DC24V input terminal
❽ RS-232C port to download a project
❾ Brightness adjustment
❿ RS-422 port

Item		Specifications	
		XP10BKA/DC	XP10BKB/DC
Input voltage	5VDC	DC 4.9 ~ 5.1 (RS-232C port)	
	24VDC	DC 21.6 ~ 26.4 (DC Input connector)	
	Consumption current	Less than 200mA	
Display		LED back-light (192 x 64 Dots)	
Communication interface		RS-232C, RS-422/485	
Flash memory		256K bytes	
Language		Default: English, Can be switched to Korean/Chinese/Russian	
RTC		None	Supports
Download specification		115,200bps	
Keys		12 Keys (F1~F4, ESC, ALM, ▲, ▼, ◄, ►, SET, ENT)	

Micro PLC comparison table

Features

	K120S		XGB	
	Economic type	Standard type	XBM	XBC
Memory				
User Program	2k steps	10k steps	10k steps	15k steps
EEPROM	✔	✔	-	-
Flash memory	-	-	✔	✔
Back-up Memory Module	✔	✔	✔	✔
I/O				
Embedded I/O (max.)	20	60	32	64
Local Expansion (max.)	40	60	224	320
Added functionality				
Analog input (expansion) Analog output (expansion)	4Current or Voltage inputs	4Current or Voltage inputs	4Current or Voltage inputs	4Current or Voltage inputs
	4Current outputs	4Current outputs	4Current outputs	4Current outputs
	4Voltage outputs	4Voltage outputs	4Voltage outputs	4Voltage outputs
Analog In/Out (expansion)	2Current or Voltage inputs 2Current or Voltage outputs	2Current or Voltage inputs 2Current or Voltage outputs	-	-
	2Current or Voltage inputs 1Current or Voltage outputs	2Current or Voltage inputs 1Current or Voltage outputs	-	-
PID (embedded)	-	✔	✔	✔
High Speed Counters (embedded)	2@10kHz (1phase) or 1@5kHz (2phase)	2@100kHz (1phase) 2@20kHz (1phase) or 1@50kHz (2phase) 1@10kHz (2phase)	4@20kHz (1phase) or 2@10kHz (2phase)	4@100kHz (1phase) 4@20kHz (1phase) or 2@50kHz (2phase) 2@10kHz (2phase)
RTD (expansion)	✔	✔	✔	✔
Thermocouple (expansion)	-	-	✔	✔
Real Time Clock	Optional	Optional	-	Built-in
Floating Point Math	-	-	✔	✔
Position; Pulse Width Modulated	-	2@100kHz (DRT/DT type)	2@100kHz (DN type)	2@100kHz (DN type)
Programming				
Windows software	KGLWIN	KGLWIN	XG5000	XG5000
Communications				
Download port	Serial	Serial	Serial	Serial + USB
RS-232 Ports (Communication port)	1ch RS-232C or RS-485	✔	✔	✔
Profibus module (Slave)	✔	✔	-	-
DeviceNet module (Slave)	✔	✔	-	-
RS-422/485 (embedded)	1ch RS-485	1ch RS-485	1ch RS-485	1ch RS-485
Ethernet (expansion)	-	-	✔	✔
Operating Power	DC12V/24V AC100~240V	DC12V/24V AC100~240V	DC24V	DC24V AC100~240V

Leading Innovation, Creating Tomorrow

Safety Instructions

- For your safety, please read user's manual thoroughly before operating.
- Contact the nearest authorized service facility for examination, repair, or adjustment.
- Please contact qualified service technician when you need maintenance.
  Do not disassemble or repair by yourself!
- Any maintenance and inspection shall be performed by the personnel having expertise concerned.

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