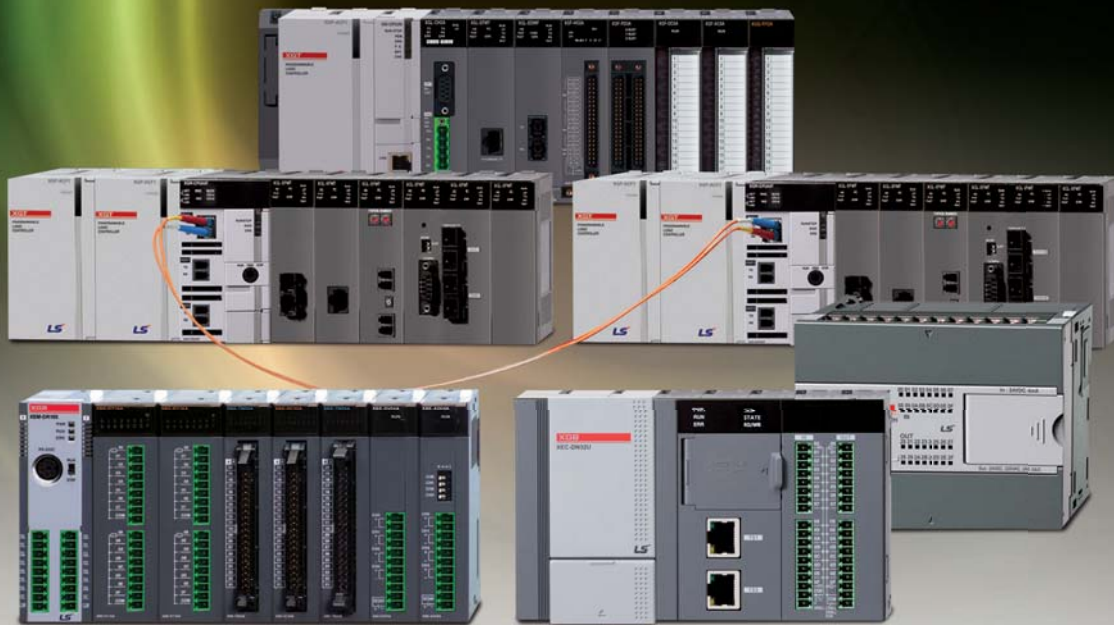




LS Automation Products

Programmable Logic Controller
Human Machine Interface
Servo Drive & Motor



LSIS

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: 25MB (Program 7MB, Data 2MB, Flash 16MB)
- Switching over time: min. 4.3ms/max. 22ms
- Built-in 256 PID loops control

XGK: Ladder Programming

- CPU processing speed: 8.5ns/step
- I/O point: max. 6,144
- Various types of CPU E/S/A/H/U/SN/HN/UN (16K/32K/32K/64K/128K/64K/128K/256K)
- Integrated intelligent software package: XG5000
- System solution based on Open network: Ethernet, Profibus-DP, DeviceNet
- PID control
- Built-in Ethernet port: SN/HN/UN

XGI: IEC Standard Programming

- CPU processing speed: 8.5ns/step
- I/O point: max. 6,144
- Various types of CPU S/H/U/UN (128K/512K/1MB/2MB)
- IEC 61131-3 Standard programming
 - LD (Ladder Diagram), SFC (Sequential Function Chart), ST (Structured Text)
 - User defined FB (Function Block)
- PID control
- Built-in Ethernet port: UN

Block Type (XGB Series)

- Supporting floating-point arithmetic
- Built-in Cnet, HSC, PID, Positioning, Pulse catch, Input filter, External interrupt
- Fieldbus Option: RS-232C, RS-422/485, Ethernet, Ethernet I/P, CANopen, Profibus-DP, DeviceNet
- Download port: Serial, USB

Terminal Block Type

- XGB-U (XBC/XEC-U)
 - CPU processing speed: 60ns/step
 - Max. 352 I/O points
 - Program capacity: 32Ksteps/384KB (XBC/XEC)
 - Various line-up: standard, built-in analog, built-in positioning
 - Compatible with XGB expansion modules
- High performance (XBC/XEC-H)
 - CPU processing speed: 83ns/step
 - Max. 384 I/O points
 - Program capacity: 15Ksteps/200KB (XBC/XEC)
- Standard (XBC/XEC-SU)
 - CPU processing speed: 94ns/step
 - Max. 284 I/O points
 - Program capacity: 15Ksteps/200KB (XBC/XEC)
- Economic (XBC/XEC-E)
 - CPU processing speed: 240ns/step
 - Max 38 I/O points
 - Program capacity: 4Ksteps/50KB (XBC/XEC)
 - Option I/O only

Standard (XBM-S): Connector Type

- Programming language: Ladder
- CPU processing speed: 160ns/step
- Max. 256-point I/O control
- Program capacity: 10Ksteps

Option I/O

XBO-RTCA	RTC (Real Time Clock), Battery	XBO-AD02A	Voltage/Current, Input 2ch
XBO-DC04A	DC 24V Input 4 points	XBO-DA02A	Voltage/Current, Output 2ch
XBO-TN04A	Transistor (Sink) Output 4 points	XBO-AH02A	Voltage/Current, Input 1ch Voltage/Current, Output 1ch
XBO-RD02A	RTD (Resistance Temperature Detect), Input 2ch	XBO-TC02A	TC (Thermocouple), Input 2ch

* High speed counter and positioning functions are available in XBO-DC04A and XBO-TN04A, respectively with XGB standard type.



XGR



XGK/XGI

* Programming language selection via CPU replacement



XBC/XEC U



XBC/XEC H



XBC/XEC S



XBC/XEC E



XBM/XEM-HP, H2, H

XBM (XBC-S)

XGT Panel Human Machine Interface

iXP2 Series (iXP2 0800/iXP2 1000/iXP2 1200/iXP2 1500)

- 1 GHz dual core CPU
- Aluminum frame & Reinforced glass
- HDMI/Audio output/USB host/device
- Dual monitor clone / extended mode
- 1 GB display data and 1 MB back-up memory
- Ethernet 2 ch, RS-232C 1ch, RS422/485 1ch.
- Multi touch & Screen gesture (swipe, flick)
- IP66 (UL type 4X, NEMA 4X standards) rating



iXP2 0800/iXP2 1000/iXP2 1200/iXP2 1500

iXP Series (iXP50/iXP70/iXP80/iXP90)

- 1GHz 32bit RISC Embedded CPU
- USB host 3ch and device 1ch
- 128MB display data and 1MB back-up memory
- Ethernet 1ch, RS-232C 1ch, RS-422/485 1ch
- 16,777,216 TFT color LCD
- SD memory card interface



iXP50/iXP70/iXP80/iXP90

eXP Series (eXP20/eXP30/eXP40/eXP60)

- 4.3", 5.7", 7" and 10.2" wide-screen sizes TFT color LCD
- Ethernet 1ch, RS-485 1ch, RS-232C 1ch, RS-422/RS-485 1ch
- Large memory for drawing (64MB)
- USB Host 1ch and device 1ch



eXP20/eXP40/eXP60

XP Series (XP80/XP70/XP50/XP40/XP30)

- High and vivid distinction with 65,536 colors
- 10/100BASE-T Ethernet interface
- USB host for peripheral devices: USB drive, mouse, keyboard, etc.
- Sufficient memory for screen data: 10MB



XP30/XP50/XP70/XP80

Text Type (XP10)

- Screen: 192×64 Graphic STN LCD
- RS-232C/RS-485 2ch separate to use
- Various function key-ESC ALM SET ENT F1~F4 Arrow keys



XP10

XGT InfoU SCADA Software

- Integrated development environment from graphic technology
- Various graphic library and graphic script
- Active X control and VB script supported
- Industrial standard interface like OLE DB, OPC server/client
- XP, Vista, Window 7, Window 8, 32/64 bit compatible

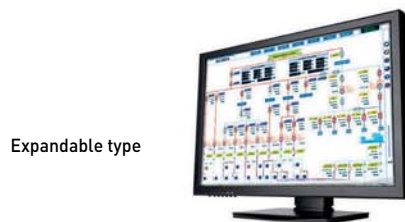
Smart I/O Distributed System

Stand Alone Type

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

Expandable Type

- Easy configuration of remote system using XGB expansion I/Os
- 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/IP, EtherNet/IP



Expandable type

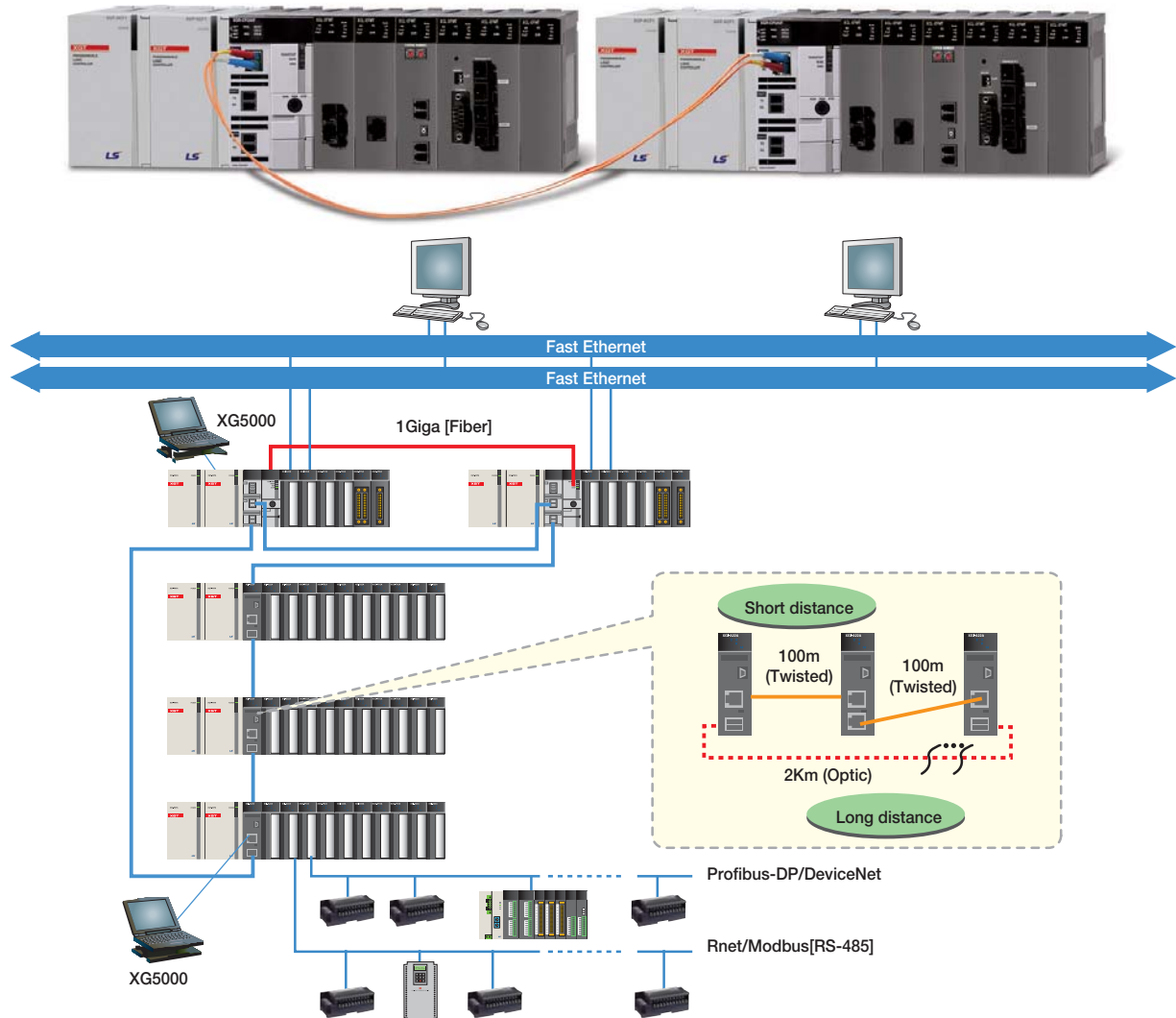


Stand alone type

XGT Servo XDL/XML Series

- High resolution serial type encoder (~19bit)
 - Accurate position control and improved stability at low speed
- Motion network type (EtherCAT) XDL-N Series
- 100BASE-TX (100Mbps) Ethernet based real-time communication
- Supports full-closed control (Network type)
- Serial communication (RS-422/485, Modbus)
- Supports various operation modes (CSP, CSV, CST, PP, PV, PT, HM, IP, etc.)
- Safe torque off function
- Linked with LSIS's XGT PLC





High Performance

- Processing speed: 42ns/step
- CPU synchronization via fiber optic cable
- I/O points: max. 131,072
- Total memory: 25MB (Program 7MB, Data 2MB, 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 pair 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 analysis 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 Modules

- 8/16/32/64 points (8 / 16 points relay output)
- Input/Output / Mixed module

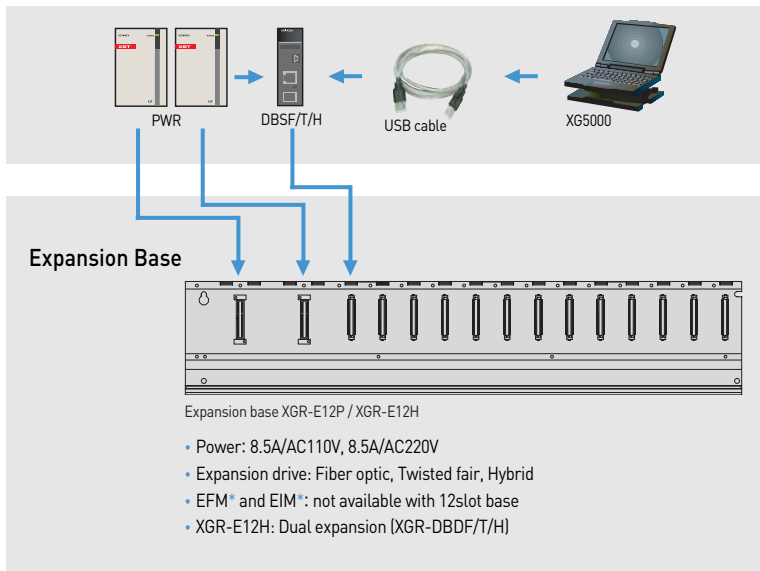
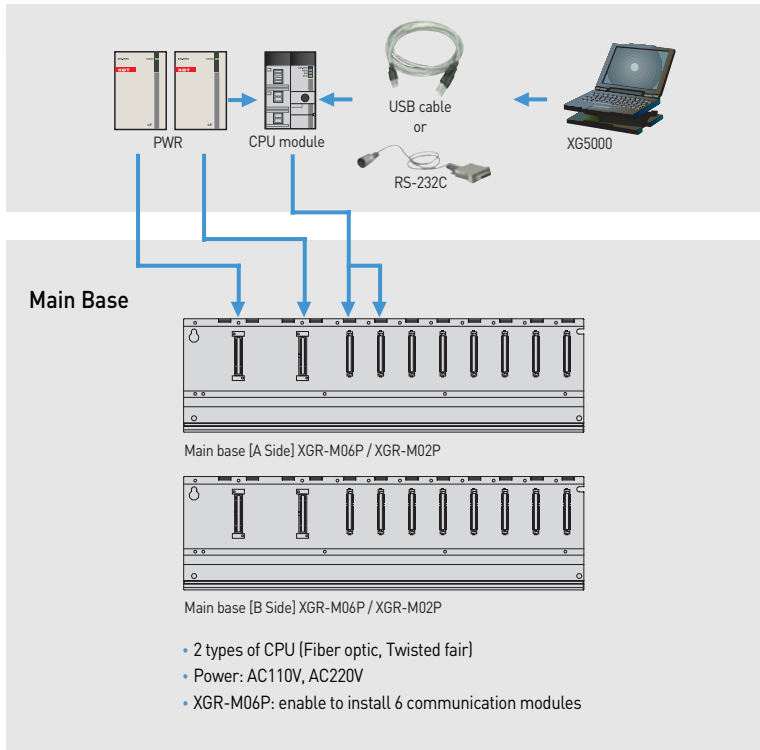
Enhanced Analog Function

- 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
- XG-P: Software package for positioning module
- XG-TCON: Temperature control and function of auto tuning

Product List



CPU Module	
Type	I/O point
XGR-CPUH/T [Twisted fair]	2port 23,808 Points
XGR-CPUH/F [Fiber optic]	

Type	I/O point
USB-301A	USB downloading cable
K1C-050A	RS232C downloading cable
XGC-F201	CPU synchronization cable: 2m
XGC-F501	CPU synchronization cable: 5m

Power	
XGR-AC12	AC110V 5.5A (Main / Expansion base)
XGR-AC13	AC110V 8.5A (Expansion base)
XGR-AC22	AC220V 5.5A (Main / Expansion base)
XGR-AC23	AC220V 8.5A (Expansion base)
XGR-DC42	DC24V / 5V 7A (Main / Expansion base)

XGK	CPU Module		I/O point
	XGK-CPUH,CPUU, CPUHN, CPUUN		6,144
XGK-CPUU, CPUA, CPUUN		3,072	
XGK-CPUE		1,536	
XGI	XGI-CPUUN, CPUU/D, CPUU, CPUH		6,144
	XGI-CPUUS		3,072
	XGI-CPUE		1,536

Item	Type	Description
USB cable	USB-301A	USB downloading cable
RS-232C cable	K1C-050A	RS-232C downloading cable

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

Item	Input Module		
	AC110V	AC220V	DC24V
8 points	-	XGI-A21A, XGI-A21C	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]
Analog Output	XGF-AD16A	Voltage/ Current input, 16Ch
	XGF-AW4S	2-wire, Voltage/ Current input, 4Ch [Isolated]
	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]
Analog Input/Output	XGF-AH6A	Input: 4Ch, Voltage/ Current Output: 2Ch Voltage/ Current
High-speed Counter	XGF-HO2A	Pulse [OC] input type, 2Ch
	XGF-HD2A	Pulse [LD] input type, 2Ch
Positioning	XGF-P01A-P03A	Open collector, 1-3axes
	XGF-P01H-P03H	Line drive, 1-3axes
	XGF-P01H-P04H	Open collector, 1-4axes
Positioning (Network Type)	XGF-PN8A	LS Standard EtherCAT Net. 8axes
	XGF-PN8B	Standard EtherCAT Net. 8axes
	XGF-PN4B	Standard EtherCAT Network, 4axis
Motion Module	XGF-M32E	Standard EtherCAT Net. 32axes
Temperature Control	XGF-TC4S	Thermocouple input, 4Ch
	XGF-RD4A	RTD input, 4Ch
	XGF-RD4S	RTD input, 4Ch [Insulated]
Temperature Controller	XGF-TC4UD	Input: 4Ch. [Voltage/Current, RTD/TC] Output: 8Ch. [TR/Current] Controller: 4 loops
	XGF-TC4RT	Input: 4Ch. [RTD] Output: 4Ch. [TR] Controller: 4 loops
Event input	XGF-S0EA	DC24V, 32points

Communication Module		
RAPIEnet	XGL-EIMT	RAPIEnet Twisted fair 2Ch
	XGL-EIMH	RAPIEnet Fiber optic/Twisted fair 1Ch
	XGL-EIMF	RAPIEnet Fiber optic 2Ch
	XGL-E54T	RAPIEnet Switch. 4Ports
	XGL-EIMT	RAPIEnet Twisted fair 2Ch For PC
Cnet	XGL-EIMF	RAPIEnet Fiber optic 2Ch For PC
	XGL-CH2B	RS-232C/RS-422
	XGL-C22B	RS-232C, 2Ch
Ethernet (Open)	XGL-C42B	RS-422, 2Ch
	XGL-EFMFB	Fiber optic, Master, SC type
Ethernet (Dedicated)	XGL-EFMTB	Twisted pair, Master, RJ-45
	XGL-EH5T	Fast Ethernet, Switching hub
EtherNet/IP	XGL-EDMF	Fiber optic, Master, SC type
	XGL-EDMT	Twisted pair, Master, RJ-45
Rnet	XGL-EIPT	Industrial Ethernet, 2ports
DeviceNet	XGL-RMEB	Rnet, Master, TP
	XGL-DMEB	DeviceNet, Master
Profibus-DP	XGL-PMEB	Profibus-DP, Master
	XGL-PSRA	Profibus-DP Slave, Remote interface
	XGL-PSEA	Profibus-DP Slave
Fnet	XGL-FMEA	Dedicated network



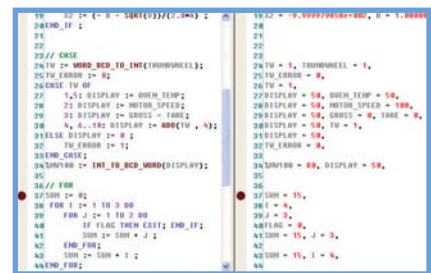
XGK Series

- Fastest CPU processing of 8.5ns/step
- Up to 6,144 I/O points configurable (32,768 points controllable with remote I/O)
- Integrated intelligent software package: XG5000, XG-PD, XG-PM
- System solution based on open network: Ethernet, Profibus-DP, DeviceNet
- Special devices for easy programming
- Massive device memory
- USB I/F for programming up/download & monitoring

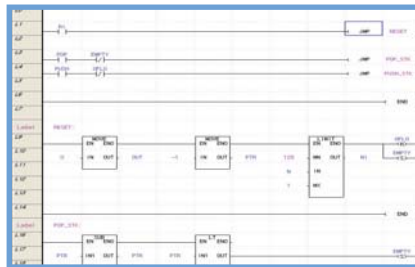
XGI Series

- Fastest CPU processing of 8.5ns/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 programming up/download & monitoring

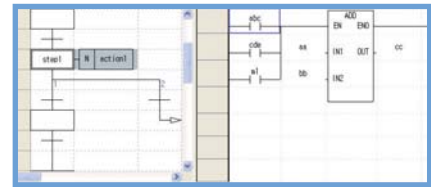
ST



LD



SFC



XGK/XGI-CPUUN, XGK-CPUHN, CPUSN

XGK-CPUUN (XGI-CPUUN)

- Built-in Ethernet port
- 256K (2MB) program memory
- 8.5ns processing speed
- 6,144 I/O points control

XGK-CPUHN

- Built-in Ethernet port
- 128K (1MB) program memory
- 8.5ns processing speed
- 6,144 I/O points control

XGK-CPUSN

- Built-in Ethernet port
- 64K (512KB) program memory
- 8.5ns processing speed
- 3,072 I/O points control

XGI:CPUU/D, CPUU, CPUH, CPUS, CPUS/P, CPUE

XGK-CPUU (XGI-CPUU)

- 128K (1MB) program memory
- 28ns processing speed
- 6,144 I/O points control

XGK-CPUH (XGI-CPUH)

- 64K (512KB) program memory
- 28ns processing speed
- 6,144 I/O points control

XGK-CPUA

- 32K program memory
- 28ns processing speed
- 3,072 I/O points control

XGK-CPUS (XGI-CPUS)

- 32K (128KB) program memory
- 84ns processing speed
- 3,072 I/O points control

XGK-CPUE (XGI-CPUE)

- 16K (64KB) program memory
- 84ns processing speed
- 1,536 I/O points control

Expansion modules

Power Modules

With AC Free voltage, 220V and DC 24 V power supply

Base Modules

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

Digital Input/Output Modules

From 8 to 64 of transistor, relay and 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 of Open collector or Line driver type)

Positioning Module

1~4 axes positioning for servo, step drive and motor

Network Modules

Fast Ethernet Modules

Ethernet network with TCP/IP protocol

Profibus-DP Modules

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

DeviceNet 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)

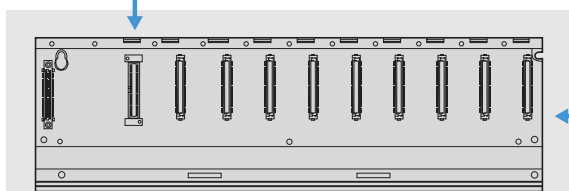
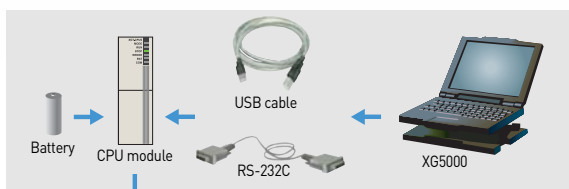
Cnet Modules

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

RAPIenet Module

Dedicated network based on Ethernet

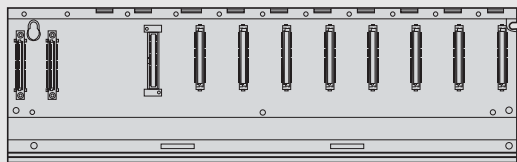
Product List



Main Base (XGB-M □ □ A)



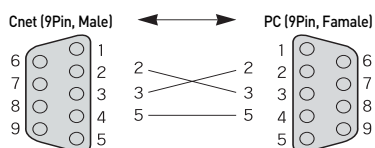
Item	Type	Description
Expansion cable	XGC-E041	Expansion cable 0.4m
	XGC-E061	Expansion cable 0.6m
	XGC-E121	Expansion cable 1.2m
	XGC-E301	Expansion cable 3.0m
	XGC-E501	Expansion cable 5.0m
	XGC-E102	Expansion cable 10m
	XGC-E152	Expansion cable 15m
Expansion terminator	XGT-TERA	Expansion terminator



Expansion 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)



CPU Module		I/O point
XGK	XGK-CPUH, CPUU, CPUHN, CPUUN	6,144
	XGK-CPUS, CPUA, CPUSN	3,072
	XGK-CPUE	1,536
XGI	XGI-CPUUN, CPUU/D, CPUU, CPUH	6,144
	XGI-CPUS	3,072
	XGI-CPUE	1,536

CPU Connecting Cable	
USB 301A	USB downloading cable
K1C-050A	RS-232C downloading cable

Item	Type	Description
USB cable	USB-301A	USB downloading cable
RS-232C cable	K1C-050A	RS-232C downloading cable

Item	Input Module		
	AC110V	AC220V	DC24V
8 points	-	XGI-A21A, XGI-A21C	XGI-D21A
	XGI-A12A	-	XGI-D22A
16 points	-	-	XGI-D22B
	-	-	XGI-D24A
32 points	-	-	XGI-D24B
	-	-	XGI-D28A
64 points	-	-	XGI-D28B



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

Item	Output Module		
	Relay	Triac	Transistor
8 points	XGQ-RY1A	-	-
	XGQ-RY2A	XGQ-SS2A	XGQ-TR2A
16 points	XGQ-RY2B	-	XGQ-TR2B
	-	-	XGQ-TR4A
32 points	-	-	XGQ-TR4B
	-	-	XGQ-TR8A
64 points	-	-	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
	XGF-AW4S	2-wire, Voltage/ Current input, 4Ch (Isolated)
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)
Analog Input/Output	XGF-AH6A	Input: 4ch, Voltage/ Current Output: 2Ch Voltage/ Current
High-speed Counter	XGF-HO2A	Pulse [OC] input type, 2Ch
	XGF-HD2A	Pulse [LD] input type, 2Ch
Positioning	XGF-PO1A~PO3A	Open collector, 1~3axes
	XGF-PD1A~PD3A	Line drive, 1~3axes
	XGF-PO1H~PO4H	Open collector, 1~4axes
	XGF-PD1H~PD4H	Line drive, 1~4axes
Positioning (Network Type)	XGF-PN8A	LS Standard EtherCAT Net. 8axes
	XGF-PN8B	Standard EtherCAT Net. 8axes
	XGF-PN4B	Standard EtherCAT Network, 4axis
Motion Modnle	XGF-M32E	Standard EtherCAT Net, 32axes
Temperature Control	XGF-TC4S	Thermocouple input, 4Ch
	XGF-RD4A	RTD input, 4Ch
	XGF-RD4S	RTD input, 4Ch (Insulated)
Temperature Controller	XGF-TC4UD	Input: 4ch.(Voltage/Current, RTD/TC) Output: 8ch.(TR/Current)
		Controller: 4 loops
	XGF-TC4RT	Input: 4ch.(RTD) Output: 4ch.(TR)
		Controller: 4 loops
Event Input	XGF-S0EA	DC24V, 32points

Communication Module		
RAPIEnet	XGL-EIMT	RAPIEnet Twisted fair 2Ch
	XGL-EIMH	RAPIEnet Fiber optic/Twisted fair 1Ch
	XGL-EIMF	RAPIEnet Fiber optic 2Ch
	XGL-ES4T	RAPIEnet Switch, 4Ports
	XOL-EIMT	RAPIEnet Twisted fair 2Ch For PC
	XOL-EIMF	RAPIEnet Fiber optic 2Ch For PC
Cnet	XGL-CH2B	RS-232C/RS-422
	XGL-C22B	RS-232C, 2Ch
	XGL-C42B	RS-422, 2Ch
Ethernet (Open)	XGL-EFMFB	Fiber optic, Master, SC type
	XGL-EFMFB	Twisted pair, Master, RJ-45
	XGL-EH5T	Fast Ethernet, Switching hub
Ethernet (Dedicated)	XGL-EDMF	Fiber optic, Master, SC type
Rnet	XGL-EDMT	Twisted pair, Master, RJ-45
EtherNet/IP	XGL-EIPT	Industrial Ethernet, 2ports
DeviceNet	XGL-RMEB	Rnet, Master, TP
	XGL-DMEB	DeviceNet, Master
Profibus-DP	XGL-PMEB	Profibus-DP, Master
	XGL-PSRA	Profibus-DP, Slave, Remote Inter face
	XGL-PSEA	Profibus-DP, Slave
Fnet	XGL-FMEA	Dedicated network

LSIS introduces its most compact and high performance PLC, XGB series. The compactness, high performance, easiness, convenience and functionality are five important characteristics of the XGB PLC.

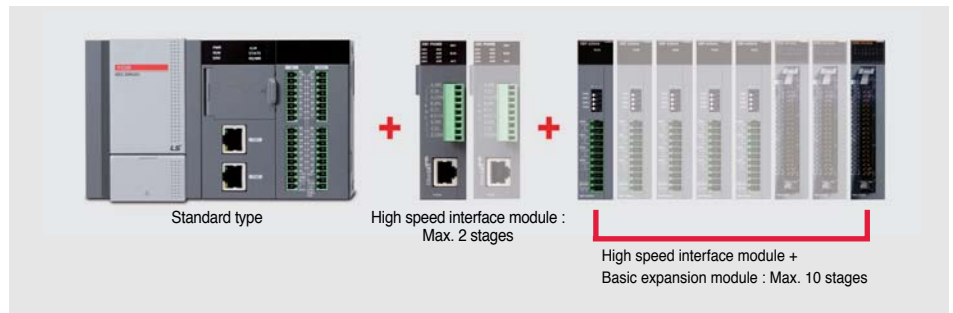
Its compactness ensures that it occupies less space in the equipment and its diverse expandability guarantees flexibility for needs. And its various built-in functions enable the cost-effective PLC system. This controller is particularly suitable for performing small-to-medium performance automation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



Features

XBC/XEC-U

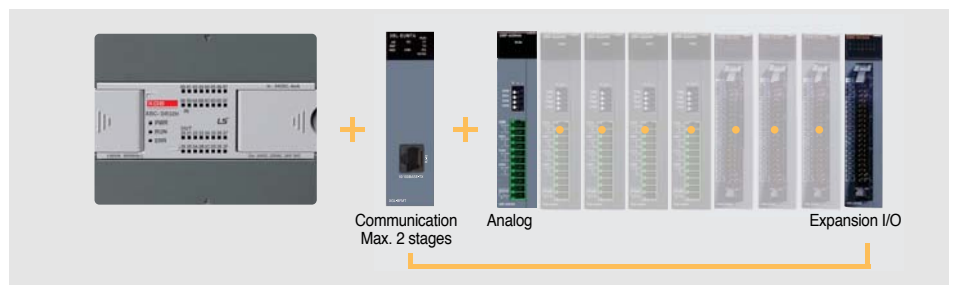
- Max. 69ns/step processing speed
- Max. 2 High speed backplane expansion modules
- Max. 10 expansion modules
- Max. 352 I/O points
- Compatible with XGB expansion modules



XBC/XEC-H/SU/E

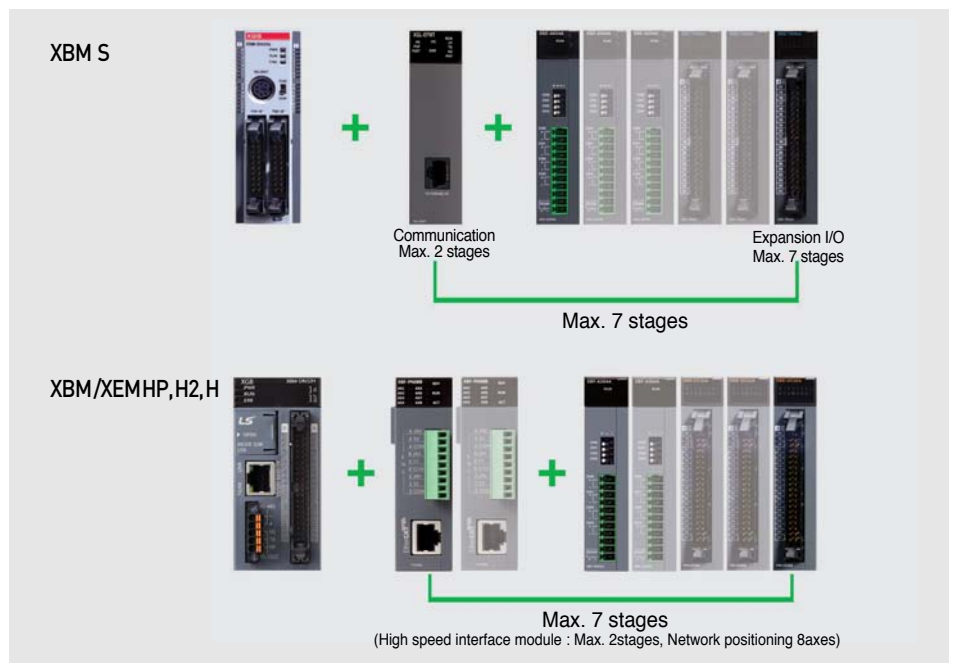
Max. 83ns/step processing speed and floating-point arithmetic with on-board CPU

- High Performance (H type): Max. 10 expansion modules and max. 384 I/O point control
- Standard (SU type): Max. 7 expansion modules including option modules and max. 284 I/O point control
- Economic (E type): Max. 2 option modules and max. 38 I/O point control



XBM/XEM (HP, H2, H, S-type)

- Faster Instruction Times: 40ns / step
- Larger Memory: 64Ksteps of built-in program memory
- Controllable I/O: 256 points
- Expandability: 7 cards (compatible with all XGB cards)
- 40ns/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 channel communication with built-in functions and expansion modules



Product List

Main / Expansion Modules

Block Type Unit (U)	
Model	Specification
XBC/XEC-DN(P)32U	AC 110-220V, 16points DC24V input, 16points transistor sink(source) type output
XBC/XEC-DR28U	AC 110-220V, 16points DC24V input, 12points relay output
XBC/XEC-DN(P)32UP	AC 110-220V, 16points DC24V input, 16points transistor sink(source) type output, 4 axes built-in positioning
XBC/XEC-DR28UP	AC 110-220V, 16points DC24V input, 12points relay output, 4 axes built-in positioning
XBC/XEC-DN(P)32UA	AC 110-220V, DC24V input, 16points transistor sink(source) type output, 8 channel built-in analog
XBC/XEC-DR28UA	AC 110-220V, DC24V input, 12points relay output, 8 channel built-in analog
XBC/XEC-DN(P)32U/DC	DC 24V, 16points DC24V input, 16points transistor sink(source) type output
XBC/XEC-DR28U/DC	DC 24V, 16points DC24V input, 12points relay output
XBC/XEC-DN(P)32UP/DC	DC 24V, 16points DC24V input, 16points transistor sink(source) type output, 4 axes built-in positioning
XBC/XEC-DR28UP/DC	DC 24V, 16points DC24V input, 12points relay output, 4 axes built-in positioning
XBC/XEC-DN(P)32UA/DC	DC 24V, DC24V input, 16points transistor sink(source) type output, 8 channel built-in analog
XBC/XEC-DR28UA/DC	DC 24V, DC24V input, 12points relay output, 8 channel built-in analog

Block Type Unit (High Performance)	
XBC/XEC-DR32H	AC 100-240V, DC24 input 16 pts, relay output 16 pts
XBC/XEC-DR64H	AC 100-240V, DC24 input 32 pts, relay output 32 pts
XBC/XEC-DN32H	AC 100-240V, DC24 input 16 pts, Tr. output 16 pts [Sink]
XBC/XEC-DN64H	AC 100-240V, DC24 input 32 pts, Tr. output 32 pts [Sink]
XEC-DP32H	AC 100-240V, DC24 input 16 pts, Tr. output 16 pts [Source]
XEC-DP64H	AC 100-240V, DC24 input 32 pts, Tr. output 32 pts [Source]
XBC-DR32H/DC	DC 24V, DC24 input 16 pts, relay output 16 pts
XBC-DR64H/DC	DC 24V, DC24 input 32 pts, relay output 32 pts
XBC-DN32H/DC	DC 24V, DC24 input 16 pts, Tr. output 16 pts [Sink]
XBC-DN64H/DC	DC 24V, DC24 input 32 pts, Tr. output 32 pts [Sink]
XEC-DR32H/D1	DC 12/24V, DC12/24 input 16 pts, relay output 16 pts
XEC-DR64H/D1	DC 12/24V, DC12/24 input 32 pts, relay output 32 pts

Block Type Unit (Standard)	
XBC/XEC-DR20SU	AC 100-240, DC24V input 12 pts, relay output 8 pts
XBC/XEC-DR30SU	AC 100-240, DC24V input 18 pts, relay output 12 pts
XBC/XEC-DR40SU	AC 100-240, DC24V input 24 pts, relay output 16 pts
XBC/XEC-DR60SU	AC 100-240, DC24V input 36 pts, relay output 24 pts
XBC/XEC-DN20SU	AC 100-240, DC24V input 12 pts, Tr. output 8 pts [Sink]
XBC/XEC-DN30SU	AC 100-240, DC24V input 18 pts, Tr. output 12 pts [Sink]
XBC/XEC-DN40SU	AC 100-240, DC24V input 24 pts, Tr. output 16 pts [Sink]
XBC/XEC-DN60SU	AC 100-240, DC24V input 36 pts, Tr. output 24 pts [Sink]
XBC/XEC-DP20SU	AC 100-240, DC24V input 12 pts, Tr. output 8 pts [Source]
XBC/XEC-DP30SU	AC 100-240, DC24V input 18 pts, Tr. output 12 pts [Source]
XBC/XEC-DP40SU	AC 100-240, DC24V input 24 pts, Tr. output 16 pts [Source]
XBC/XEC-DP60SU	AC 100-240, DC24V input 36 pts, Tr. output 24 pts [Source]

Block Type Unit (Economic)	
XBC/XEC-DR10E	AC 100-240V, 6 pts DC input, 4 pts Relay ouput
XBC/XEC-DR14E	AC 100-240V, 8 pts DC input, 6 pts Relay output
XBC/XEC-DR20E	AC 100-240V, 12 pts DC input, 8 pts Relay output
XBC/XEC-DR30E	AC 100-240V, 18 pts DC input, 12 pts Relay output
XBC/XEC-DN10E	AC 100-240V, 6 pts DC input, 4 pts Tr. output[Sink]
XBC/XEC-DN14E	AC 100-240V, 8 pts DC input, 6 pts Tr. output[Sink]
XBC/XEC-DN20E	AC 100-240V, 12 pts DC input, 8 pts Tr. output[Sink]
XBC/XEC-DN30E	AC 100-240V, 18 pts DC input, 12 pts Tr. output[Sink]
XBC/XEC-DP10E	AC 100-240V, 6 pts DC input, 4 pts Tr. output[Source]
XBC/XEC-DP14E	AC 100-240V, 8 pts DC input, 6 pts Tr. output[Source]
XBC/XEC-DP20E	AC 100-240V, 12 pts DC input, 8 pts Tr. output[Source]
XBC/XEC-DP30E	AC 100-240V, 18 pts DC input, 12 pts Tr. output[Source]

Modular Type Unit	
XBM-DN32H	DC24V, 16 pts DC24V input, 16 pts TR output, 2 axes built-in positioning [APM]
XBM/XEM-DN32H2	DC24V, 16 pts DC24V input, 16 pts TR output, 2 axes built-in positioning [XPM]
XBM/XEM-DN32HP	DC24V, 16 pts DC24V input, 16 pts TR output, 6 axes built-in positioning [XPM]
XBM-DR16S	DC 24V, 8 pts DC 24V input, 8 pts relay output
XBM-DN16S	DC 24V, 8 pts DC 24V input, 8 pts TR output
XBM-DN32S	DC 24V, 16 pts DC 24V input, 16 pts TR output

Loader Cable	
PMC-310S	Connection cable [PC to PLC], 9pin [PC]-6pin [PLC]
USB-301A	Connection cable [PC to PLC], USB

Memory Module	
XBO-M2MB	Memory

Expansion I/O Module	
Model	Specification
XBE-AC08A	8 pts AC110V input
XBE-DC08A	8 pts DC 24V input
XBE-DC16A	16 pts DC 12/24V input
XBE-DC16B	16 pts DC 24V input
XBE-DC32A	32 pts DC 24V input
XBE-RY08A	8 pts relay output
XBE-RY08B	8 pts relay output
XBE-RY16A	16 pts relay output
XBE-TN08A	8 pts Tr. [sink] output
XBE-TN16A	16 pts Tr. [sink] output
XBE-TN32A	32 pts Tr. [sink] output
XBE-TP08A	8 pts Tr. [source] output
XBE-TP16A	16 pts Tr. [source] output
XBE-TP32A	32 pts Tr. [source] output
XBE-DR16A	8 pts DC 24V input, 8pt relay output
XBE-DN32A	16 pts DC24V input, 16 pts TR output

Special Module	
XBF-AD04A	4ch analog input (current/voltage)
XBF-AD04C	4ch analog input (current/voltage, resolution : 1/16000)
XBF-AH04A	2ch analog input (current/voltage)/ 2ch analog output (current/voltage)
XBF-DV04A	4ch analog output (voltage)
XBF-DV04C	4ch analog input (voltage, resolution : 1/16000)
XBF-DC04A	4ch analog output (current)
XBF-DC04C	4ch analog input (current, resolution : 1/16000)
XBF-RD04A	4ch RTD input
XBF-TC04S	4ch Thermocouple input
XBF-TC04TT	Temperature controller, Thermocouple
XBF-TC04RT	Temperature controller, RTD
XBF-PD02A	Line drive 2axes
XBF-PN08B	EtherCAT Positioning module, 8axes
XBF-PN04B	Standard EtherCAT Network, 4axis
XBF-AD08A	8ch analog input (Current/voltage)
XBF-HO02A	2ch High-speed counter input (Open collector)
XBF-HD02A	2ch High-speed counter input (Line drive)

Communication Module	
XBL-C41A	Cnet [RS-422/485], 1ch
XBL-C21A	Cnet [RS-232C], 1ch
XBL-EMTA	Fast Ethernet (100Mbps), 1ch
XBL-EIPT	Ethernet/IP, 2ch
XBL-EIMT	RAPiEnet, Twisted pair 2ch, 100Mbps
XBL-EIMF	RAPiEnet I/F, Max. 2km (Fiber 2ch.), 100Mbps
XBL-EIMH	RAPiEnet I/F [Twisted pair 1ch, Fiber 1ch.], 100Mbps
XBL-PMEC	Profibus-DP, Master, RS-485
XBL-PSEA	Profibus-DP, Slave, RS-485
XBL-DSEA	DeviceNet, Slave
XBL-RMEA	Rnet, Master
XBL-CMEA	CANopen (10, 20, 50, 100, 125, 250, 500, 800, 1000Kbps, Num of PDO : 32)
XBL-CSEA	CANopen (10, 20, 50, 100, 125, 250, 500, 800, 1000Kbps, Num of PDO : 64)

Option Module	
XBO-AD02A	Voltage/Current, Input 2ch
XBO-DA02A	Voltage/Current, Output 2ch
XBO-AH02A	Voltage/Current, Input 1ch, Voltage/Current, Output 1ch
XBO-TC02A	TC [Thermo couple], Input 2ch
XBO-RTCA	RTC [Real time clock], Battery
XBO-DC04A	DC 24V, Input 4 pts
XBO-TN04A	TR [Sink], Output 4 pts
XBO-RD01A	RTD [Resistance temperature detector], Input 1ch

Connection cable	XBE-PD02A	XBE-HO02A	XBE-HD02A	XBE-DC32A	XBE-TN32A	XBE-TP32A	XBM-DN16S	XBM-DN32S	XBM-DN82H	XBM/XEM-DN32HP(H2)	XBE-UP	Cable length
R40H/20HH-05S-XBM3							●	●				0.5m
R40H/20HH-10S-XBM3							●	●				1m
C40HH-05SB-XBI	●	●	●	●	●	●			●	●	●	0.5m
C40HH-10SB-XBI	●	●	●	●	●	●			●	●	●	1m
C40HH-15SB-XBI	●	●	●	●	●	●			●	●	●	1.5m
C40HH-20SB-XBI	●	●	●	●	●	●			●	●	●	2m
C40HH-30SB-XBI	●	●	●	●	●	●			●	●	●	3m
C40HH-05SB-XBE				●	●	●						0.5m
C40HH-10SB-XBE				●	●	●						1m
C40HH-15SB-XBE				●	●	●						1.5m
C40HH-20SB-XBE				●	●	●						2m
C40HH-30SB-XBE				●	●	●						3m
C40HH-05SB-XBE				●	●	●						0.5m
C40HH-10SB-XBE				●	●	●						1m
C40HH-15SB-XBE				●	●	●						1.5m
C40HH-20SB-XBE				●	●	●						2m
C40HH-30SB-XBE				●	●	●						3m

Features

- Wiring reduction and real time control of distributed I/O
- Supporting Rnet, DeviceNet, Profibus-DP, MODBUS(RS-422/485), RAPIEnet(RJ-45)
- 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
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-D22C	GRL-D24C	GRL-TR2C1	GRL-TR4C1	GRL-RY2C	GRL-DT4C1	
	Profibus-DP	GPL-D22C	GPL-D24C	GPL-TR2C/TR2C1	GPL-TR4C/TR4C1	GPL-RY2C	GPL-DT4C/DT4C1	
	DeviceNet	GDL-D22C	GDL-D24C	GDL-TR2C/TR2C1	GDL-TR4C/TR4C1	GDL-RY2C	GDL-DT4C/DT4C1	
	Modbus	GSL-D22C	GSL-D24C	GSL-TR2C1	GSL-TR4C1	GSL-RY2C	GSL-DT4C1	
RAPIEnet	-	GEL-D24C	-	GEL-TR4C1	GEL-RY2C	-	GEL-DT4C1	

Note1) 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/GEL-AV8C	GPL-AC8C/GEL-AC8C	Item	GPL-DV4C/GEL-DV4C	GPL-DC4C/GEL-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	Resolution	2 KΩ or more (0-10 V or -10-10 V)	500 Ω or less
	1.25 mV	2.5 μA			2.5 μA
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)	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)
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) Analog input/output terminal with FG→Insulation		Response Period	10 ms or less/8 channels + Transmission period (ms) Analog input/output terminal with FG→Insulation	
Insulation Method	Analog input/output terminal with Communication terminal→Insulation Analog input/output terminal with each channel→No insulation		Insulation Method	Analog input/output terminal with Communication terminal→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	RAPIEnet(RJ-45)
Protocol	LSIS dedicated protocol (Fnet for Remote)	Profibus-DP (RS-485/EN50170)	DeviceNet (CAN)	MODBUS (RS-422/485)	Fast Ethernet
Transmission Speed	1 Mbps	9.6 Kbps ~ 12 Mbps	125/250/500 Kbps	2.4 Kbps ~ 38.4 Kbps	100Mbps
Transmission Distance	750 m/segment	100 m ~ 1.2 km	500/250/125 m (Thin cable: 100 m)	500 m	100M
Topology	Bus Token	Bus	Trunk & Drop	Bus	CRC32
Transmission	Pass & Broadcast	Token Pass & Master/Slave (Poll)	CSMA/NBA (Poll, Cyclic, COS, Bit Strobe)	Master/Slave (Poll)	CSMA/CD
No. of Stations	32/segment (Input: 32, Output: 32)	32/segment, 99/network	64	32	64

SMART I/O

Expandable Type



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



Modbus TCP, EtherNet/IP DeviceNet Profibus-DP

Available Module

In/Out	Part Number	XDL-BSSA	XPL-BSSA	XEL-BSSA	XEL-BSSB	XRL-BSSA
DC Input	XBE-DC08A	○	○	○	○	○
	XBE-DC16A(B)	○	○	○	○	○
	XBE-DC32A	○	○	○	○	○
Relay Output	XBE-RY08A(B)	○	○	○	○	○
	XBE-RY16A	○	○	○	○	○
TR Output	XBE-TN(TP)08A	○	○	○	○	○
	XBE-TN(TP)16A	○	○	○	○	○
	XBE-TN(TP)32A	○	○	○	○	○
Mixed	XBE-DR16A	○	○	○	○	○
A/D (V/I)	XBF-AD04A	○	○	○	○	○
	XBF-AD08A	×	○	○	○	○
	XBF-AD04C	×	○	○	○	○
D/A (I)	XBF-DC04A	○	○	○	○	○
	XBF-DC04C	×	○	○	○	○
D/A (V)	XBF-DV04A	○	○	○	○	○
	XBF-DV04C	×	○	○	○	○
Mixed	XBF-AH04A	○	○	○	○	○
RTD	XBF-RD04A	○	○	○	○	○
TC	XBF-TC04S	○	○	○	○	○
Position	XBF-PD02A	×	×	×	×	×

Modbus TCP, EtherNet/IP Specification

Item	Specification	
Communication Speed	10/100Mbps	
Transmission Path Method	Base Band	
Standard Functions	IEEE 802.3	
Flow Control	HALF/FULL	
Modulation Type	NRZI	
Max. Distance Between Nodes	100m	
Max. Protocol Size	Data 1500byte	
Communication Zone Access Method	CSMA/CD	
Check Method for Frame Error	CRC32	
Connector Connection	RJ-45(2Port)	
IP Setting	S/W Setting	
Topology	Bus, Star	
Protocol	MODBUS/TCP, EtherNet/IP	
Max. Digital I/O Point	512 (input 256, output 256)	
Max. Digital I/O Connection Number	8	
Max. Analog I/O Connection Number	8	
Expansion Analog Module Occupation Number	8byte	
Power	Rated Input Voltage/Current	DC 24V/0.7A
	Power Range	DC 19.2V ~ 28.8V
	Output Voltage/Current	5V(±20%)/1.5A
	Insulation	Non-insulation
Weight(g)	100	

DeviceNet Specification

Item	Specification	
Communication Interface	Poll, Bit-strobe, COS/Cyclic	
	Group 2 only slave	
	Auto baud rate	
Master/Slave	Slave	
Max. Station	64 (including master)	
Max. No. of Extension I/O Equipment	8	
Max. Digital I/O Point	512 point (input max 256 point/output max 256 point)	
Max. No. of Analog I/O Channel	Input 16 channels (output 16 channels)	
Communication Speed & Distance	Speed	125kbps 250kbps 500kbps
	Distance	500m 250m 100m
	Rated Input Voltage	DC 24V
Input Power	Power Range	19.2V ~ 28.8V (available to operate in 11V)
	Output Voltage/Current	5V(±20%) / 1.5A
	Insulation	Non-insulation
Basic Specification	Weight (g) 100	

Profibus-DP Specification

Item	Specification	
Standard	EN50170 / DIN 19245	
Interface	RS-485	
Medium Access	Polling	
Topology	Bus	
Encoding Method	NRZ	
Communication Interface	Sink mode, Freeze mode	
Master/Slave	Auto baud rate	
	slave	
Cable	Shielded Twisted Pair	
Communication Speed and Distance	Speed (Kbps)	9.6 19.2 93.75 187.5 500
	Distance (m)	1200 1200 1200 1000 400
	Speed (Kbps)	1500 3000 6000 12000 -
	Distance (m)	200 100 100 100 -
Max. Node	100 station (setting range: 0 ~ 99)	
Max. Modular Type I/O Equipment No.	8	
Max. Digital I/O Point	512 point (input Max. 256 point/output max. 256 point)	
Max. Analog I/O Channel No.	32 channels (input Max. 16 channels/output Max. 16 channels) (analog module occupy digital 64 point)	
Input Power	Rated Input Voltage/Current	DC 24V/ 0.55A
	Power Range	DC19.2 ~ 28.8V
	Output Voltage/Current	5V(±20%) / 1.5A
	Insulation	Non-insulation, communication part insulation
Weight (g)	100	

Graphic Type iXP2 0800/iXP2 1000/iXP 1200/iXP2 1500

- 1 GHz dual core CPU
- 1 GB display data and 1 MB back-up memory
- Aluminum frame & Reinforced glass
- Ethernet 2 ch, RS-232C 1ch, RS422/485 1ch.
- HDMI/Audio output/USB host/device
- Multi touch & Screen gesture (swipe, flick)
- Dual monitor clone / extended mode
- IP66 (NEMA 4X) rating
- Explosion proof. IECEx, ATEX, KCs



Item	iXP2-0800A/D	iXP2-1000A/D	iXP2-1200A/D	iXP2-1500A/D
Display type	TFT color LCD			
Screen size	8.4"	10.4"	12.1"	15"
Display resolution	800×600		1,024×768	
Color indication	24-bit color (16.7M colors)			
Backlight	LED method, automatic On / Off support			
Backlight lifetime	50,000 hour			
Touch panel	Capacitive touch			
Audio output	Magnetic buzzer (85dB)			
Processor	1GHz, Dual core			
Memory	Flash	1GB		
	Operating RAM	1GB		
	Backup RAM	1 Mbyte		
Backup data	Date / Time data, Logging / Alarm / Recipe data, Non-volatile devices			
Battery	CR2032(3.0V/210mAh, About 3years/25°C)			
Video output	1 × HDMI			
Ethernet	1 × 10Base-T / 100Base-TX, 1 × 10Base-T / 100Base-TX / 1000Base-T			
USB host	3 × USB 2.0 (Front × 1, Rear × 2)			
USB device	1 × USB 2.0 (Send / Receive front, PC and project data etc.)			
RS-232C	1 × RS-232C (DSUB 9 / Male type)			
RS-422/485	1 × RS-422/485 (Terminal block)			
Multi-language	Can display 12 languages simultaneously			
Animation	GIF format support			
Recipe	Support			
Data logging	Support			
Script launcher	Support			
Standard certification	CE, KC, UL, IECEx, ATEX, KCs			
Protection standard	IP66, Conform to the UL type 4x, NEMA 4x standard			
Explosion proof	Ex nA IIC T5 Gc, Ex tc IIIC T100°C Dc IP64			
Dimensions (mm)	240×180×60	271×212×60	313×239×60	395×294×66
Panel cut (mm)	228.5×158.5	259.0×201.0	301.5×227.5	383.5×282.5
Power	iXP2-xxxxA : AC100 / 240V, iXP2-xxxxD : DC24V			
Power consumption (W)	25	25	30	30
Weight (Kg)	1.87	2.35	3.0	4.6

iXP2 provides optimal system with Multi-touch, Dual screen.

Screen Gesture

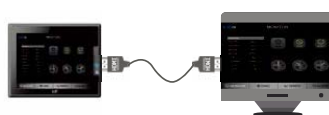


Flick to change screens.
No switch needed to change screens.
Select the object you want and then swipe and flick it.

Object list

- Logging trend graph
- View history alarms
- View logging

Dual monitor mode and extension mode



Increase your convenience by duplicating or extending your screens.

* Extension display mode scheduled for release in '18.09

Multi-touch



Use multi-touch to protect your system from erroneous operation that you do not desire.

Graphic Type iXP2 0800/iXP2 1000/iXP 1200/iXP2 1500

- 1 GHz dual core CPU
- 1 GB display data and 1 MB back-up memory
- Aluminum frame & Reinforced glass
- Ethernet 2 ch, RS-232C 1ch, RS422/485 1ch.
- HDMI/Audio output/USB host/device
- Multi touch & Screen gesture (swipe, flick)
- Dual monitor clone / extended mode
- IP66 (NEMA 4X) rating
- Explosion proof. IECEx, ATEX, KCs



Item	iXP2-0800A/D	iXP2-1000A/D	iXP2-1200A/D	iXP2-1500A/D
Display type	TFT color LCD			
Screen size	8.4"	10.4"	12.1"	15"
Display resolution	800×600		1,024×768	
Color indication	24-bit color (16.7M colors)			
Backlight	LED method, automatic On / Off support			
Backlight lifetime	50,000 hour			
Touch panel	Capacitive touch			
Audio output	Magnetic buzzer (85dB)			
Processor	1GHz, Dual core			
Memory	Flash	1GB		
	Operating RAM	1GB		
	Backup RAM	1 Mbyte		
Backup data	Date / Time data, Logging / Alarm / Recipe data, Non-volatile devices			
Battery	CR2032(3.0V/210mAh, About 3years/25°C)			
Video output	1 × HDMI			
Ethernet	1 × 10Base-T / 100Base-TX, 1 × 10Base-T / 100Base-TX / 1000Base-T			
USB host	3 × USB 2.0 (Front × 1, Rear × 2)			
USB device	1 × USB 2.0 (Send / Receive front, PC and project data etc.)			
RS-232C	1 × RS-232C (DSUB 9 / Male type)			
RS-422/485	1 × RS-422/485 (Terminal block)			
Multi-language	Can display 12 languages simultaneously			
Animation	GIF format support			
Recipe	Support			
Data logging	Support			
Script launcher	Support			
Standard certification	CE, KC, UL, IECEx, ATEX, KCs			
Protection standard	IP66, Conform to the UL type 4x, NEMA 4x standard			
Explosion proof	Ex nA IIC T5 Gc, Ex tc IIIC T100°C Dc IP64			
Dimensions (mm)	240×180×60	271×212×60	313×239×60	395×294×66
Panel cut (mm)	228.5×158.5	259.0×201.0	301.5×227.5	383.5×282.5
Power	iXP2-xxxxA : AC100 / 240V, iXP2-xxxxD : DC24V			
Power consumption (W)	25	25	30	30
Weight (Kg)	1.87	2.35	3.0	4.6

iXP2 provides optimal system with Multi-touch, Dual screen.

Screen Gesture

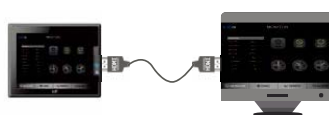


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Dual monitor mode and extension mode



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* Extension display mode scheduled for release in '18.09

Multi-touch



Use multi-touch to protect your system from erroneous operation that you do not desire.

iXP Series

Human Machine Interface

Graphic Type iXP50/iXP70/iXP80/iXP90

- 1GHz 32bit RISC Embedded CPU
- 16,777,216 TFT color LCD
- 128MB display data and 1MB back-up memory
- Ethernet 1ch, RS-232C 2ch, RS-422/485 1ch
- USB host 3ch and device 1ch
- SD memory card interface
- PLC ladder monitoring (XGK/XBC PLC only)
- Web Server/Data Server
- Path through
- XP-Remote: Remote controlling and monitoring



Item		iXP50-TTA/DC	iXP70-TTA/DC iXP70-TTA/AC	iXP80-TTA/DC iXP80-TTA/AC	iXP90-TTA/DC iXP90-TTA/AC
Display Type		TFT color LCD			
Screen Size		21.3cm [8.4"]	26.4cm [10.4"]	30.7cm [12.1"]	38.1cm [15"]
Display Resolution		800×600 pixel [SVGA]	800×600 pixel [SVGA]	800×600 pixel [SVGA]	1,024×768 pixel [SVGA]
Color Indication		16-bit and 24-bit Color (default: 16-bit Color)			
Indication degree		Left/Right: 80 deg. Up: 80 deg. Down: 60 deg.		Left/Right: 80 deg. Up: 60 deg. Down: 80 deg.	
Backlight		LED Type			
Backlight Duration		70,000 hours		60,000 hours	
Brightness		500 cd/m ²	700 cd/m ²	550 cd/m ²	800 cd/m ²
Touch Panel		4-Line type, analog			
Sound Output		Magnetic buzzer [85dB]			
Process		ARM Cortex-A8 Core (32bit RISC), 1GHz			
Memory	Flash	512MB[display 128MB]		1GB[display 128MB]	
	Operating RAM	256MB		512MB	
	Backup RAM			1MB	
Backup Data		Date/Hour data, Logging/Alarm/Recipe data and nonvolatile device			
Battery Duration		Approx. 3 years (Operating ambient temperature of 25°C)			
Ethernet		1 channel, 10/100BASE-TX			
USB Host		3 channels, USB 2.0 host (mouse, keyboard, printer* and USB memory driver is available) 1 channel, USB 2.0 slave (for download and upload project file)			
RS-232C		1 channel			
RS-422/485		1 channel, RS-422/485 mode			
SD Card		1 Slot [SDHC]			
Human Sensor		-	Detection range: side 1-1.5m, front 40-50cm Angle: high/low 100°, left/right 140° (detecting 5-20 micron infrared light)		
Audio Output		LINE-OUT 1 channel			
Expansion Module		For communication and I/O option module (available later)			
VM Module		-	4 channels video input (available later)		
Multi-language		Up to 12 language simultaneously			
Animation		GIF format is available			
Recipe		available			
Data Logging		available			
Script Executor		available			
Certifications		CE, UL(cUL), KC			
Protection Standard		IP65			
Dimension (mm)		240.5×180.0×54.4	270.5×212.5×60.0	313.0×239.0×56.0	395.0×294.0×60.0
Panel Cut (mm)		228.5×158.5	259.0×201.0	301.5×227.5	383.5×282.5
Rated Voltage		DC24V		DC12/24V[AC 100-240V]	
Power Consumption (W)		30.8	42.3	42.3	42.3
Weight(Kg)		1.9	2.2	2.4	3.9

* SEW00 printer only

Graphic Type eXP20/eXP30/eXP40/eXP60

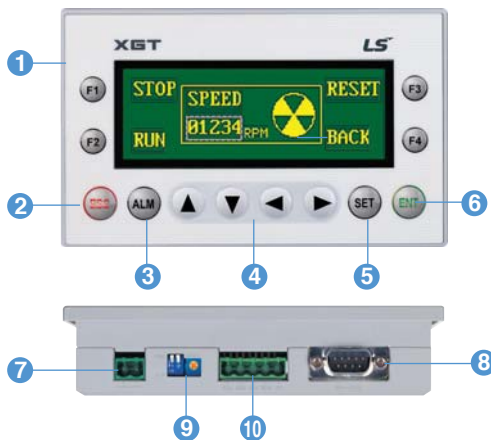
- TFT LCD-applied wide type
 - LED Backlight adopted for enhanced contrast ratio and low-power
 - PLC Ladder monitoring function: Only XGK/XBC supports*
 - Web Server* / Data Server* / Path-Through Function*
 - Remote Viewer Function*
 - Screen editor : XP-Builder
- * Functions that support only the TTA model



Item	eXP20-TTA/DC, CERTI	eXP20-TTA/DC	eXP30-TTA(B)/DC	eXP30-TTE/DC	eXP40-TTE/DC	eXP40-TTA(B)/DC	eXP40-TTA/DC, CERTI	eXP60-TTA(B)/DC	eXP60-TTA/DC, CERTI
Display type	TFT color LCD								
Screen size	10.9cm (4.3inch)		14.2cm(5.6inch)		17.8cm(7inch)			25.9cm(10.2inch)	
Display Resolution	480 x 272 pixel		640 x 480 pixel		800 x 600 pixel(WVGA)				
Color indication	24-bit Color(16.7M)		16-bit Color(65,536 Color)		24-bit Color(16.7M)			16-bit Color(65,536)	
Indication degree	Left/Right:60 deg. Upper:40 deg. Lower:60 deg.							Left/Right:55 deg. Upper:35 deg. Lower:55 deg.	
Backlight	LED Type (Supports backlight auto-off function)								
Backlight duration	30,000 hours			20,000 hours					
Touch panel	4-Wire Resistive, analog								
Audio output	Magnetic buzzer (85dB)								
Process	i.MX283(454MHz)								
Memory	Flash	128MB(Screen 64MB)							
	Operation RAM	128MB							
	Backup RAM	128KB							
Backup data	Date/Hour data, Logging/Alarm/Recipe data and nonvolatile device								
Battery duration	Approx. 3 years (Operating ambient temperature of 50°C)								
RTC	Time error Approx. 3 sec/1day(Operating ambient temperature of 25 °C)								
Ethernet	1 channel, IEEE802.1a, 10Base-T/100Base-TX			-		1 channel, IEEE802.1a, 10Base-T/100Base-TX			
USB Host	1 channel, USB 2.0 Host (mouse, keyboard, printer and USB memory driver is available)								
USB Device	-			1 channel, USB 2.0 Device (for download and upload project)					
RS-485, RS-232C	1channel, RS-232C (DSUB 9/Male Type)				2channels, RS-485, RS-232C (DSUB 9/Male Type)				
RS-422/485	1channel, RS-422/485 (DSUB 9/Male Type)				1channel, RS-422/485 mode (Terminal Type)				
Multi-language	Up to 12 language simultaneously								
Animation	GIF format is available								
Recipe	available								
Data logging	available								
Script executor	available								
Certifications	CE, UL Type4X, KC	CE, UL(cUL), KC					CE, UL Type4X, KC	CE, UL(cUL), KC	CE, UL Type4X, KC
Protection standard	IP66	IP65				IP66	IP65	IP66	
Dimension (mm)	128x102x32		300x200x68		208.0 x 154.0 x 44.4			276.0 x 218.0 x 44.4	
Panel cut (mm)	119x93		156.0 x 123.5		192.0 x 138.0			260.0 x 202.0	
Rated voltage	DC24V								
Power consumption (W)	4.6W		7.2W		6.5W			10W	
Weight(Kg)	0.3		0.42	0.39	0.62	0.63		1.08	

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 requirements - 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



- 1 Key to control PLC device and screen
- 2 ESC key
- 3 Alarm history
- 4 Data input and Screen change
- 5 PLC data setting
- 6 Enter key
- 7 DC24V input terminal
- 8 RS-232C port to download a project
- 9 Brightness adjustment
- 10 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)	

XGT Servo

XDL/XML Series



Inetlligent Control

The Interface of the Convenient and User Oriented Function

Enhanced user friendly function through Serial communication (RS-422), Parameter transmission using PC loader, etc.

High Performance

High Resolution Serial Type Encoder (16Bit~21Bit)

- Accurate Position Control and Improved Stability at Low Speed

Stable Low Speed Operation with Accurate Speed Check

- Stable Measurement at Low Speed

Absolute Encoder (Multi-turn)

- Origin Function is not needed

Improved Speed Response Frequency

- About 1kHz
- Reduced Positioning Time



Convenience

Motion Network Type(EtherCAT) - XDL N Series

High Performance

- High speed, Real-time capability and Synchronization mechanism

Open Network

- Over 1600 worldwide members

Cost Effective

- Standard Ethernet Cabling + Connectors, Less implementation efforts for master and slave

Easy to Use

- Versatile topology and Diagnostics

XDL Drive with Built-in EtherCAT Interface

- 100BASE-TX(100Mbps) Ethernet based real-time communication
- Support CiA402(IEC61800-7) drive profile
 - Interoperability
- Precise synchronization mechanism (1us)
 - Max. 100m between nodes
- Freely settable process data length and mapping
- Four status indication LEDs (L/A0, L/A1, RUN, ERR)
- Standard RJ45 connector and cabling(CAT5)
- Have intrinsic functions of XDL S series (same size)
- Support various homing modes
- Support Full-Closed control (Being developed)

Support Various Operation Modes

- CSP, CSV, CST, PP, PV, PT, HM, IP

Safe Torque Off Function

- Forced torque off by HWBB signals without intervention of μ P and FPGA (ASIC), International standard (IEC61508)

Versatile I/O Assignment by Parameters

- 6 inputs, 4 outputs

High Speed Position Capture Function

- Touch probe function(PROBE1, PROBE2)

Provide Specialized Commissioning Tools by LSIS's XGT PLC

- Tune inertia ratio, velocity/position gains, gain conversion configuration

Have Conformity of EtherCAT Device

- In-house test using CTT(Conformance Test Tool)

Support Scaling Objects for Position, Velocity and Acceleration

- Numerator and denominator

Provide Gain Tuning Tools and Commissioning Packages

- Automatic inertia tuning and PI gains
 - Gain conversion setting
- Manual fine gain tuning tool
 - Object save and initialization function
- Alarm history function(recently issued 20 alarm codes)

The composite image illustrates the EtherCAT ecosystem. At the top, a circular diagram highlights four key benefits: High Performance, Open Network, Cost Effective, and Easy to USE, all centered around the EtherCAT logo. Below this, a 'Safety Module' is shown connected to an 'Emergency S/W' button and a 'Safety light curtain'. The middle section displays an 'LSIS XGT PLC + PN8B' drive unit. At the bottom, two screenshots of the XGT software interface are shown, one displaying a graph and the other showing a detailed parameter configuration screen for a drive.

Standard Type

Item	Model	XDL-L7SA001	XDL-L7SA002	XDL-L7SA004	XDL-L7SA008	XDL-L7SA010	XDL-L7SA020	XDL-L7SA035	XDL-L7SA050	
Input Power	Main Power Supply	3 Phase AC200 ~ 230[V](-15 ~ +10[%]), 50 ~ 60[Hz]								
	Control Power Supply	Single Phase AC200 ~ 230[V](-15 ~ +10[%]), 50 ~ 60[Hz]								
	Rated Current[A]	1.4	1.7	3.0	5.2	6.75	13.5	16.7	32	
	Peak Current[A]	4.2	5.1	9.0	15.6	20.25	40.5	50.1	96	
	Encoder Type	Quad. Type Incremental Line Driver Max 10000[P/R] Serial Type 19Bit								
Performance	Speed Control	Speed Control Position	Max. 1 : 5000							
		Frequency Response	Max. 1[kHz] or above (When using 19bit Serial Encoder)							
		Analog Speed Command	DC-10[V]~+10[V] (Reverse rotation in case of - voltage)							
		Accel/Decel Time	Linear or S-Shape Accel/Decel. [0~10,000[ms], Setting 1[ms] is possible)							
		Speed Variation Ratio	±0.01[%] or less [at Load variation 0 ~ 100%], ±0.1[%] or less [at Temp. 25±10°C]							
	Position Control	Input Frequency	1[Mpps], Line Driver / 200[kpps], Open Collector							
		Input Pulse Type	+Pulse, CW+CCW, A/B Phase							
		Electric Gear Ratio	Setting and selecting 4 digital electric gear ratio, Precise adjustment is possible							
	Torque Control	Analog Torque Command	DC -10 ~ +10[V] (Reverse rotation in case of - voltage)							
		Speed Limit	DC 0 ~ +10[V], within ±1[%] of internal speed command							
Repeatability		±1[%] or less								
Input/Output Signal	Analog Input	Input Range	DC -10 ~ +10[V]							
		Resolution	12[bit]							
	Digital Input	Total 10 Input Channels (assignment available) SVON, SPD1, SPD2, SPD3, ALMRST, DIR, CCWLIM, CWLIM, EMG, STOP, EGEAR1, EGEAR2, PCON, GAIN2, P_CLR, T_LMT, MODE, ABS_RQ, ZCLAMP Above 19 functions can be inputted selectively for assignment Signal can be set as positive logic or negative logic								
	Digital Output	Total 5 Channels (assignment available), 3 Channels (set as alarm code) ALARM, READY, ZSPD, BRAKE, INPOS, TLMT, VLMT, INSPD, WARN Above 9 outputs can be inputted selectively for assignment Signal can be set as positive logic or negative logic								
Comm- unication	RS-422	PC Software and RS422 Server are available								
	USB	Status monitoring, JOG operation, parameter upload/download are available with PC Software								
	Encoder	Compatible with Serial BiSS encoder, Quadrature encoder								
	Encoder Output Type	Random pre-scale output by FPGA (Max. 6.4Mpps)								
Built-in Function	Dynamic Braking	Built-in type (operates when Servo alarm or Servo off)								
	Regenerative Braking	Built-in type, and also external connection is available								
	Display	7 segments (5DIGIT)								
	Setting Function	Loader ([SET], [MODE], [UP], [DOWN] key)								
	Additional Function	Automatic gain tuning function, Z-phase detection, manual JOG operation, program JOG operation, analog-input auto Calibration function								
	Protective Function	Overcurrent, overload, overvoltage, insufficient voltage, main power input problem, control power input problem, overspeed, motor cable, overheat(power module overheat, abnormal drive operation's temp), encoder problem, over-regenerative, sensor problem, communication problem								
Operation Environment	Temperature	0 ~ 50[°C]								
	Humidity	Below 90[%]RH (avoid dew-condensation)								
	Ambient Environment	Indoor, avoid corrosive, inflammable gas or liquid and electrically conductive dust.								

Network Type

Item	Model	XDL-L7NA001B	XDL-L7NA002B	XDL-L7NA004B	XDL-L7NA008B	XDL-L7NA010B	XDL-L7NA020B	XDL-L7NA035B
Input Power	Main Power Supply	3 Phase AC200 ~ 230[V](-15 ~ +10[%]), 50 ~ 60[Hz]						
	Control Power Supply	Single Phase AC200 ~ 230[V](-15 ~ +10[%]), 50 ~ 60[Hz]						
	Rated Current[A]	1.4	1.7	3.0	5.2	6.75	13.5	16.7
	Peak Current[A]	4.2	5.1	9.0	15.6	20.25	40.5	50.1
	Encoder Type	Serial 17Bit / 19Bit / 21Bit						
Performance	Speed Control Position	Max. 1 : 5000						
	Frequency Response	Max. 1[kHz] or above (When using 19bit Serial Encoder)						
	Analog Speed Command	±0.01[%] or lower(When the load changes between 0 and 100%), ±0.1[%] or less(Temperature of 25_±10)						
	Torque Control Repetition Accuracy	Within ±1%						
	Supported Drive Modes (CiA402)	Profile Position Mode Profile Velocity Mode Profile Torque Mode Interpolated Position Mode Cyclic Synchronous Position Mode Cyclic Synchronous Velocity Mode Cyclic Synchronous Torque Mode Homing Mode						
Input/Output Signal	Digital Input	Total 6 Input Channels (assignment available) PCON, GAIN2, ALMRST, HOME, P-OT, N-OT Above 6 functions can be inputted selectively for assignment Signal can be set as positive logic or negative logic						
	Touch Probe Digital Input	2 input channels Providing rising and falling edge detection functions for each channel.						
	Digital Output	Total 4 Channels (assignment available) ALARM, READY, ZSPD, BRAKE, INPOS, INSPD, WARN 7 outputs can be inputted selectively for assignment Signal can be set as positive logic or negative logic						
Communication	USB	Program download is available with USB Communication.						
Built-In Function	Dynamic Braking	Built-in type(operates when Servo alarm or Servo off)						
	Regenerative Braking	Built-in type, and also external connection is available						
	Display	7 segments[5DIGIT]						
	Setting Function	The [MODE] key changes the content displayed in 7 segments.						
	Additional Function	Auto gain tuning function						
	Protective Function	Overcurrent, overload, overvoltage, insufficient voltage, main power input problem, control power input problem, overspeed, motor cable, overheat(power module overheat, abnormal drive operation's temp), encoder problem, over-regenerative, sensor problem, communication problem						
Operation Environment	Temperature	0 ~ 50[°C]						
	Humidity	Below 90[%]RH (avoid dew-condensation)						
	Ambient Environment	Indoor, avoid corrosive, inflammable gas or liquid and electrically conductive dust.						

NH Type

Item	Type Name	XDL-L7NHA001U	XDL-L7NHA002U	XDL-L7NHA004U	XDL-L7NHA008U	XDL-L7NHA010U	XDL-L7NHA020U	XDL-L7NHA035U
Input Power	Main Power Supply	3 Phase AC200 ~ 230[V](-15 ~ +10[%]), 50 ~ 60[Hz]						
	Control Power Supply	Single Phase AC200 ~ 230[V](-15 ~ +10[%]), 50 ~ 60[Hz]						
Rated Current[A]		1.4	1.7	3.0	5.2	6.75	13.5	16.7
Peak Current[A]		4.2	5.1	9.0	15.6	20.25	40.5	50.1
Encoder Type		Quadrature(Incremental) BiSS-B, BiSS-C(Absolute, Incremental) Tamagawa Serial(Absolute, Incremental) EnDat 2.2						
Control Performance	Speed Control Range	Maximum 1: 5000						
	Frequency Response	Maximum 1[kHz] or above(When the 19-bit Serial Encoder is applied)						
	Speed Variation Ratio	±0.01[%] or lower(When the load changes between 0 and 100%) ±0.1[%] or less(Temperature of 25°C[±10])						
	Torque Control Repetition Accuracy	Within ±1%						
EtherCAT Communication Specifications	Communication Standard	FoE (Firmware download) EoE (Parameter setting by UDP, Tuning, Secondary function, Parameter copy) CoE (IEC 61158 Type12, IEC 61800-7 CIA 402 Drive profile)						
	Physical Layer	100BASE-TX(IEEE802.3)						
	Connector	RJ45 x 2						
	Communication distance	Within connection between nodes 100[m]						
	DC(Distributed Clock)	By DC mode synchronism. minimum DC cycle: 250[us]						
	LED Display	LinkAct IN, LinkAct OUT, RUN, ERR						
	Cia402 Drive Profile	Profile Position Mode, Profile Velocity Mode Profile Torque Mode, Cyclic Synchronous Position Mode Cyclic Synchronous Velocity Mode, Cyclic Synchronous Torque Mode Homing Mode						
Digital Input/Output	Digital Input	Input Voltage range : DC 12[V] ~ DC 24[V] Total 8 input channels (allocable) Above 12 functions can be used selectively for assignment. (*POT, *NOT, *HOME, *STOP, *PCON, *GAIN2, *P_CL, *N_CL, PROBE1, PROBE2, EMG, A_RST) *Basic allocation signal						
	Digital Output	Service rating: DC 24[V] ±10%, 120[mA] Total 4 input channels (allocable) Above 11 functions can be used selectively for assignment. (*BRAKE±, *ALARM±, *READY±, *ZSPD±, INPOS±, TLMT±, VLMT±, INSPD±, WARN±, TGON±, INPOS±) *Basic allocation signal						
Analog Monitor		There are 2 input channels. Above 15 functions can be used selectively for assignment.						
Safety Function		2 Input Channels (STO1, STO2), 1 Output Channels (EDM±)						
USB Communication	Function	Firmware download, Parameter setting, Tuning, Secondary function, Parameter copy						
	Communication Standard	USB 2.0 Full Speed (applies standard)						
	Connect	PC or USB storing medium						
Internal Function	Dynamic Braking	Standard built-in brake (activated when the servo alarm goes off or when the servo is off).						
	Regenerative Braking	Both the default built-in brake and an externally installed brake are possible.						
	Display Function	7 segments(5DIGIT)						
	Self-setting Function	The [MODE] key changes the content displayed in 7 segments						
	Additional Function	Auto gain tuning function						
	Protection Function	Overcurrent, overload, overvoltage, insufficient voltage, main power input problem, control power input problem, overspeed, motor cable, overheat(power module overheat, abnormal drive operation's temp), encoder problem, over-regenerative, sensor problem, communication problem						
Environment	Temperature	0 ~ +50[°C] / -20~ +70[°C]						
	Humidity	Below 90[%]RH(avoid dew-condensation)						
	Environment	Indoor, Avoid corrosive, inflammable gas or liquid, and electrically conductive dust.						

NH Type

Item		Type Name	XDL-L7NHB001U	XDL-L7NHB002U	XDL-L7NHB004U	XDL-L7NHB008U	XDL-L7NHB010U	XDL-L7NHB020U
Input Power	Main Power Supply	3 Phase AC200 ~230[V](-15 ~ +10[%]), 50 ~ 60[Hz]						
	Control Power Supply	Single Phase AC200 ~ 230[V](-15 ~ +10[%]), 50 ~ 60[Hz]						
Rated Current[A]			3.7	8	10.1	17.5	22.8	39
Peak Current[A]			11.1	24	30.3	47.25	57	97.5
Encoder Type		Quadrature(Incremental) BiSS-B, BiSS-C(Absolute, Incremental) Tamagawa Serial(Absolute, Incremental) EnDat 2.2						
Control Performance	Speed Control Range	Maximum 1: 5000						
	Frequency Response	Maximum 1[kHz] or above(When the 19-bit Serial Encoder is applied)						
	Speed Variation Ratio	±0.01[%] or lower(When the load changes between 0 and 100%) ±0.1[%] or less(Temperature of 25°C[±10])						
	Torque Control Repetition Accuracy	Within ±1%						
EtherCAT Communication Specifications	Communication Standard	FoE (Firmware download) EoE (Parameter setting by UDP, Tuning, Secondary function, Parameter copy) CoE (IEC 61158 Type12, IEC 61800-7 CIA 402 Drive profile)						
	Physical Layer	100BASE-TX(IEEE802.3)						
	Connector	RJ45 x 2						
	Communication distance	Within connection between nodes 100[m]						
	DC(Distributed Clock)	By DC mode synchronism. minimum DC cycle: 250[us]						
	LED Display	LinkAct IN, LinkAct OUT, RUN, ERR						
	Cia402 Drive Profile	Profile Position Mode, Profile Velocity Mode Profile Torque Mode, Cyclic Synchronous Position Mode Cyclic Synchronous Velocity Mode, Cyclic Synchronous Torque Mode Homing Mode						
Digital Input/Output	Digital Input	Input Voltage range : DC 12[V] ~ DC 24[V] Total 8 input channels (allocable) Above 12 functions can be used selectively for assignment. (*POT, *NOT, *HOME, *STOP, *PCON, *GAIN2, *P_CL, *N_CL, PROBE1, PROBE2, EMG, A_RST) *Basic allocation signal						
	Digital Output	Service rating: DC 24[V] ±10%, 120[mA] Total 4 input channels (allocable) Above 11 functions can be used selectively for assignment. (*BRAKE±, *ALARM±, *READY±, *ZSPD±, INPOS±, TLMT±, VLMT±, INSPD±, WARN±, TGON±, INPOS±) *Basic allocation signal						
Analog Monitor		There are 2 input channels. Above 15 functions can be used selectively for assignment.						
Safety Function		2 Input Channels (STO1, STO2), 1 Output Channels (EDM±)						
USB Communication	Function	Firmware download, Parameter setting, Tuning, Secondary function, Parameter copy						
	Communication Standard	USB 2.0 Full Speed (applies standard)						
	Connect	PC or USB storing medium						
Internal Function	Dynamic Braking	Standard built-in brake (activated when the servo alarm goes off or when the servo is off).						
	Regenerative Braking	Both the default built-in brake and an externally installed brake are possible.						
	Display Function	7 segments(5DIGIT)						
	Self-setting Function	The [MODE] key changes the content displayed in 7 segments						
	Additional Function	Auto gain tuning function						
	Protection Function	Overcurrent, overload, overvoltage, insufficient voltage, main power input problem, control power input problem, overspeed, motor cable, overheat(power module overheat, abnormal drive operation's temp), encoder problem, over-regenerative, sensor problem, communication problem						
Environment	Temperature	0 ~ +50[°C] / -20~ +70[°C]						
	Humidity	Below 90[%]RH(avoid dew-condensation)						
	Environment	Indoor, Avoid corrosive, inflammable gas or liquid, and electrically conductive dust.						

P Type

Item	Type Name	XDL-L7PA001U	XDL-L7PA002U	XDL-L7PA004U	XDL-L7PA008U	XDL-L7PA010U	XDL-L7PA020U	XDL-L7PA035U
Input Power	Main Power Supply	3 Phase AC200 ~ 230[V](-15 ~ +10[%]), 50 ~ 60[Hz]						
	Control Power Supply	Single Phase AC200 ~ 230[V](-15 ~ +10[%]), 50 ~ 60[Hz]						
Rated Current[A]		1.4	1.7	3.0	5.2	6.75	13.5	16.7
Peak Current[A]		4.2	5.1	9.0	15.6	20.25	40.5	50.1
Encoder Type		Quadrature(Incremental) BiSS-B, BiSS-C(Absolute, Incremental) Tamagawa Serial(Absolute, Incremental) EnDat 2.2						
Control Performance	Speed Control Range	Maximum 1: 5000						
	Frequency Response	Maximum 1 [kHz] or above (When using 19bit Serial Encoder)						
	Speed Variation Ratio	±0.01 [%] or lower [when load changes between 0 and 100%] ±0.1[%] or lower [temperature 25 ±10°C]						
	Accel/Decel Time	Straight or S-curve acceleration/deceleration [0~10,000[ms], 0~1,000[ms] Unit configurable]						
	Input Frequency	1[Mpps], line drive / 200[kpps], Open Collector						
	Input Pulse Type	Symbol + Pulse Series, CW+CCW, A/B Phase						
RS422 Communication Specifications	Communication Specifications	ANSI/TIA/EIA-422 Standard Specifications						
	Communication Protocol	MODBUS-RTU						
	Connector	RJ45 x 2						
	Synchro Method	Asynchronous						
	Transmission Speed	9600 /19200/38400/57600 [bps] Can be configured at [0x3002]						
	Transmission Distance	Maximum 200 [m]						
	Power Consumption	100[mA]						
	Terminating Resistance	Dip S/W(On/Off), Built-In 120Ω						
Input/Output Signal	Digital Input	Input voltage range: DC 12[V] ~ DC 24[V] Total 16 input channel (allocatable) 32 function inputs can be selectively allocated (*SV_ON, *POT, *NOT, *A-RST, *START, *STOP, *REGT, *EMG, *HOME, *HSTART, *ISEL0, *ISEL1, *ISEL2, *ISEL3, *ISEL4, *ISEL5, PCON, GAIN2, P_CL, N_CL, MODE, PAUSE, ABSRQ, JSTART, JDIR, PCLR, AOV, SPD1/LVSF1, SPD2/LVSF2, SPD3, PROBE1, PROBE2) * Basic allocation signal.						
	Digital Output	Use rating: DC 24[V] ±10%, 120[βA] Total 8 input channel (allocatable) 19 function inputs can be selectively allocated (*ALARM±, *READY±, *BRAKE±, *INPOS1±, *ORG±, *EOS±, *TGON±, *TLMT±, VLMT±, INSPD±, ZSPD±, WARN±, INPOS2±, IOU0±, IOU1±, IOU2±, IOU3±, IOU4±, IOU5±) * Standard Allocation signal						
Analog Input/output	Analog Input	Total 2 channels analog speed override input(-10[V] ~ +10[V]) analog torque command input(-10[V] ~ +10[V])						
	Analog Output	Total 2 channels 15 function inputs can be selectively allocated						
USB Communication	Protection	Firmware download, parameter setting, tuning, auxiliary function, parameter copy						
	Communication Specifications	Complies with USB 2.0 Full Speed Specifications						
	Connection Device	PC or USB storage media						
Built-in Functions	Dynamic Braking	Standard built-in(inactivated by servo alarm or servo OFF)						
	Regenerative Braking	Built-in, external brake attachable						
	Display	7 Segment(5 DIGIT)						
	Setting Function	Drive node address can be set using rotary switch						
	Additional Function	Gain tuning, alarm history, JOG operation, origin search						
	Protective Function	Excessive current, overload, excessive current limit, overheating, excessive voltage, low voltage, excessive speed, encoder fail, position following fail, current sensing fail						
Environment	Temperature	0 ~ 50[°C] / -20 ~ 65°C						
	Humidity	Below 90[%]RH(avoid dew-condensation)						
	Environment	Indoor, Avoid corrosive, inflammable gas or liquid, and electrically conductive dust.						

PEGASUS (Hybrid Type)

Rated Values of Servo Drive

Rated	□40 50W	□40 100W	□60 100W	□60 200W	□60 300W
Continuous output Current [Arms]	1.77	2.38	3.62	5	6.8
Maximum output Current [Arms]	3.54	3.75	7.24	10	13.6
Input Voltage	DC 48V ~ DC 60V				

Basic Specifications

Category		Details	
Use Conditions	Control Method	PWM controlled sine wave current driving method	
	Operating Temperature/Storage Temperature	0~+40[°C] / -20~ +60[°C]	
	Operating Humidity/Storage Humidity	Below 80% RH / Below 90% RH (no freeze or condensation)	
	Vibration-/Impact-resistance	TBD	
	Degree of Protection /Degree of Pollution	TBD	
	Altitude	1000m or lower	
	Other	To be free from electrostatic noise, strong electrolysis, or radiation.	
Performance	Speed Variation	Load Variation	At 0 to 100% load: $\pm 3\%$ (at rated speed)
		Voltage Variation	Rated voltage $\pm 10\%$: 0% (at rated speed)
		Temperature Variation	25°C: $\pm 0.1\%$ or less (at rated speed)
Input/ Output Signal	Input Signal	Input voltage range: DC 12 V - DC 30 V The 4-channel input signal can be assigned to 12 functions: POT, NOT, HOME, STOP, PCON, GAIN2, PCL, NCL, PROBE1, PROB2, EMG, and ARST.	
	Output Signal	Rated voltage and current: DC 24 V $\pm 10\%$, 120 [mA] The 2-channel output signal can be assigned to 11 functions: BRAKE, ALARM, RDY, ZSPD, INPOS1, TLMT, VLMT, INSPD, WARN, TGON, and INPOS2.	
Analog Monitor		Number of channels: 1, Output voltage range: $\pm 4V$, Angular resolution: 12 bits, Stabilization time: 15 us	
USB Communication	Connecting Device	PC or USB storage medium	
	Communication Standard	Conform to the USB 2.0 Full Speed Standard.	
	Function	Firmware download, parameter setting, adjustment, auxiliary functions, and parameter copy function.	
Dynamic Brake (Three-phase Short-circuit)		Activates when servo alarm, servo OFF, or Emergency stop (POT, NOT and EMG) is input.	
Protection Functions		Overcurrent, overload, current limit, overheat, overvoltage, undervoltage, overspeed, encoder error, position follow error, ect.	
Auxiliary Functions		Gain adjustment, alarm history, JOG drive, programmed JOG drive, etc.	
Safety Functions	Input	STO1 and STO2	
	Compatible Standard	TBD	

PEGASUS (Hybrid Type)

EtherCAT Communication Specification

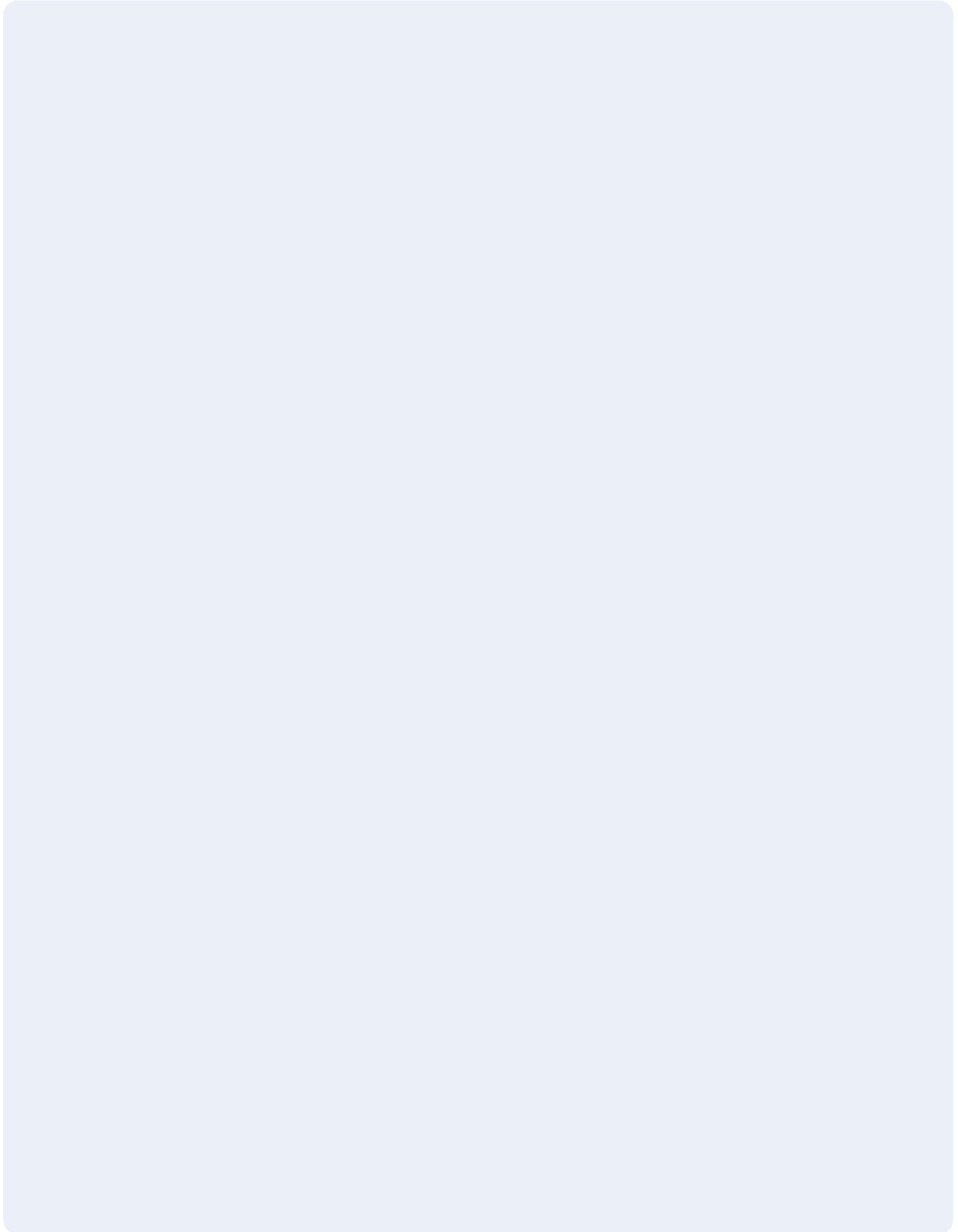
Category		Details
Communication Standard	FoE	Firmware download
	EoE	Parameter setting, adjustment, auxiliary functions, and parameter copy through UDP.
	CoE	IEC 61158 Type12, IEC 61800-7 CiA 402 drive profile
Physical Layer		100BASE-TX(IEEE802.3)
Connector		RJ45 x 2
Distance		Within 100 m between nodes
DC (Distributed Clock)		Sync by DC mode
LED Display		• L/A0(Link/Act IN) • L/A1(Link/Act OUT) • RUN • ERR
Cia402 Drive Profile		Supports CSP, CSV, CST, PP, PV, PT, and HM Modes.

Encoder Specification

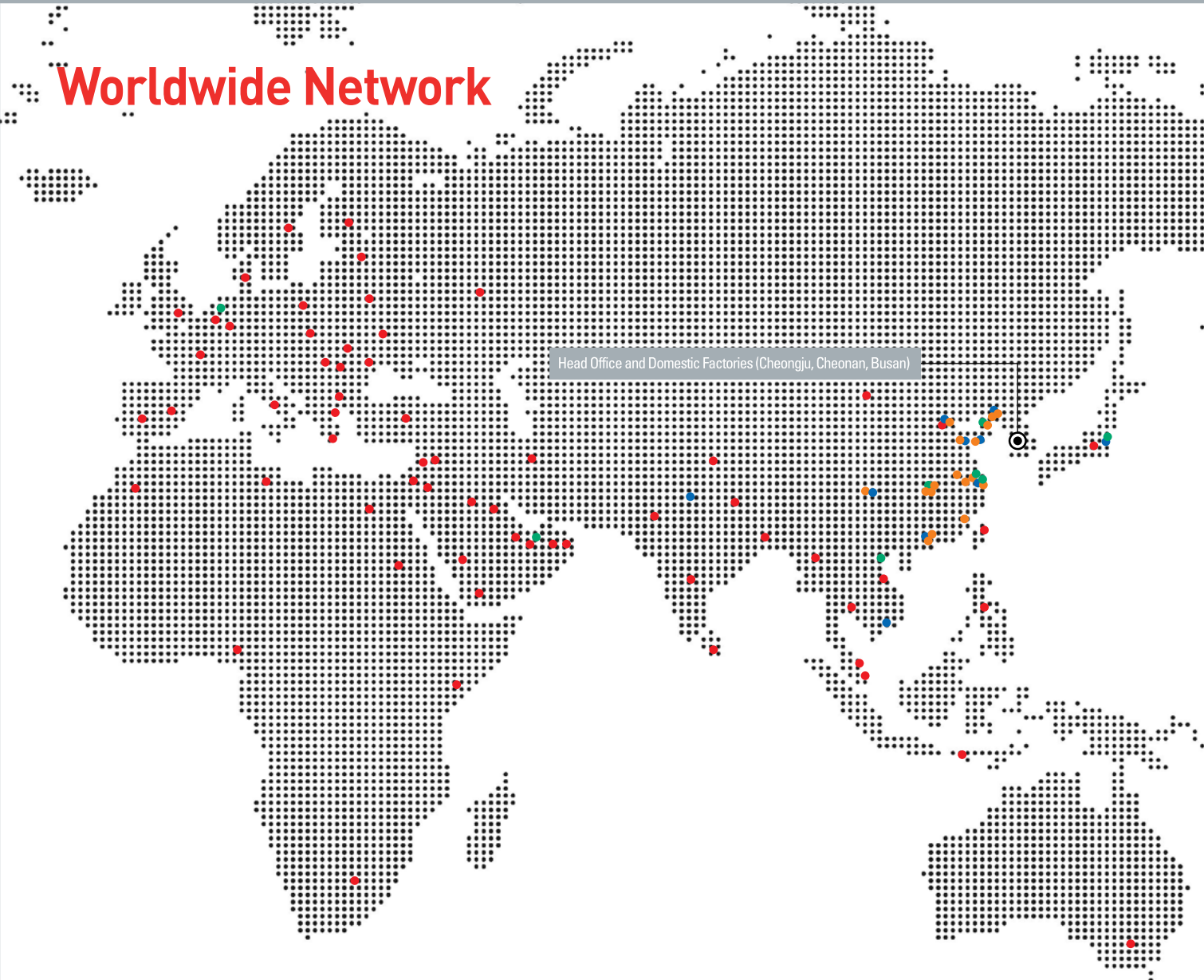
Category	Details
Encoder Type	Magnetic Encoder (12bit)

Motor Specification

Model	Unit	□40 50W	□40 100W	□60 100W	□60 200W	□60 300W
Rated Torque	[Kgf cm]	1.62	3.25	3.25	6.50	9.74
Max. Torque	[Kgf cm]	3.24	4.88	6.50	13.0	19.48
Rated Speed	[rpm]	3000	2400	3000	3000	3000
Max Speed	[rpm]	3000	3000	3000	3000	3000
Inertia	[Kg m ² x 10 ⁻⁴]	0.0240	0.0450	0.114	0.182	0.321



Worldwide Network



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Cheongju Factory



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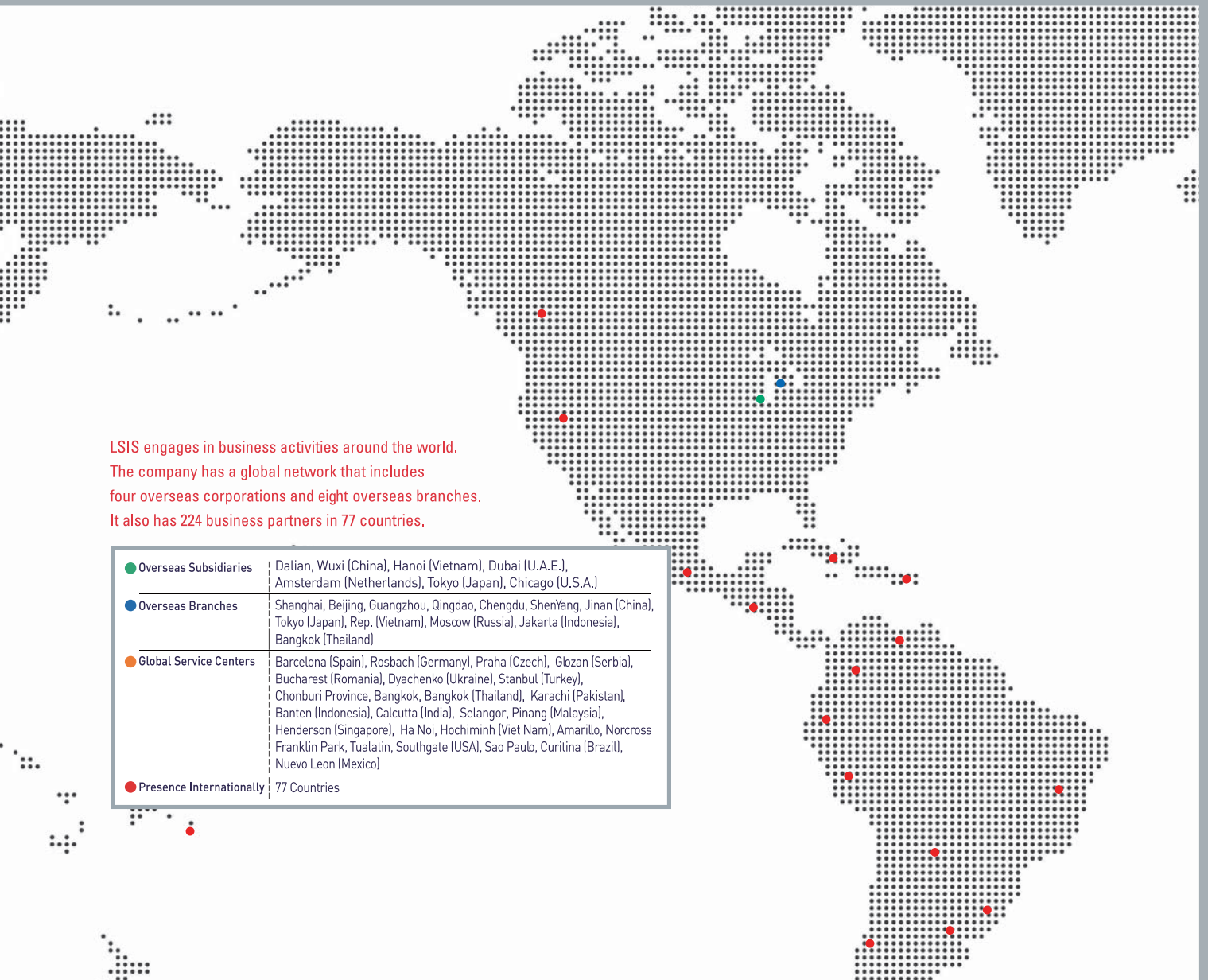


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Safety Instructions

- 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.



- According to The WEEE Directive, please do not discard the device with your household waste.



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