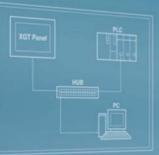


Human Machine Interface XGT Panel



With the later oriented convenience, it affen high resolution disafer, prompt dea teansmittion and processing and an uter friendly interface. Antennate and advanced technology of LSS to (one with the rapidly changing market studies, It is an innovative product having both reliability and convenience based on the Windows (2). With the user-oriented convenience, it refers to evolution display, prompt data intratemation and processing, and an user-friendly interface. SSE provides the Leading Solution to the automationiseld with the XGT Panel Series. Which contains high technology and encommitment to guality at the full market.

LSIS

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LSIS creates the core automation solutions for the fields ranging from production facilities to information systems.

It is the device and software operable using a designed screen for users to monitor and control the operating status of given facilities and equipments.

Windows CE platform based XGT panel is a user-friendly solution, providing convenient, clear and realistic display, prompt data transmission and processing as well as easy environments.

Based on the advanced technologies, LSIS satisfies various requirements of clients, from unit facilities to advanced industrial fields, leading the HMI market.



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XGT Panel iXP2 Series 04								
XGT Panel iXP Series 0								
XGT Panel eXP Series								
Products	Line Up	10						
Feature	Feature Hardware Related Functions XP-Builder Software Related Functions Advanced Functions Link with Controllers External Monitoring Function System Block Diagram							
Our Soluti	ion	30						
Products	iXP2 Series iXP Series eXP Series XP Series	32 34 36 38						
List of Communication Drivers 40								



XGT Panel **Stand Stand Stand**

LSIS

MONITOR

LS

LSIS

HVAC

High functioning, user friendly and robust choiec for your system, iXP2



Durability

- Slim and durable design with aluminum frame and a reinforced glass
- IP66 Certification with enhanced waterproofing and protection against dust.



Flexibility

- Dual Monitor function clone/extended mode
- Multi-touch setting to prevent malfunction



Connectivity

- Various external interfaces to provide IoT solutions
- Ethernet 2ch., HDMI/Audio output, USB host/device, multimedia (video)



- Same as iXP panel cut that can be replaced
- Depending on touch sensitivity, you can set it up with bare hands or gloves.



Responsive touch screen

- Touch sensitivity is improved by applying responsive touch screen.
- Use touch screen either with bare hands or with gloves.
- Various types of touch setting function can be used according to user's work environment



Dual-Core CPU offers high-speed communication and processing

High luminance/resolution LCD with an LED backlight and 24 bit colors to express clear and vivid colors of 16,777,216.









XGT Panel **INFORMATION STATES** *intelligent XGT Panel*

Convenient control with a single touch!

A user-oriented interface, enhanced performance, and soft and quick screen switching and respond speed to touch! Meet iXP series of LSIS that genuinely and fully connects humans with equipments.



It is highly competitive using the user-friendly technologies.

⊇ Quick screen switching and response speed to touch
 ⊇ 16.7M TFT colored LCD

Large drawing / backup memory (Drawing-128MB, Backup-1MB)
 Sound Output support

■ Various interfaces

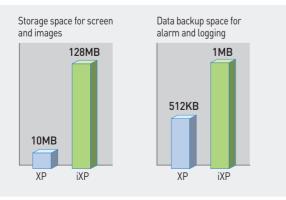
- USB Host 3ch (Front: 1, Rear: 2), Device 1ch (Front)
- •SD card
- Various communication drivers provided
- Presence sensor applied (within 1m)

High Speed

High-performance 1GHz CPU is installed to improve the data and screen switching speed, and Windows CE 6.0 OS is adopted to execute NET-based external applications.

Large Memory

Large device memory is provided to save mass data.

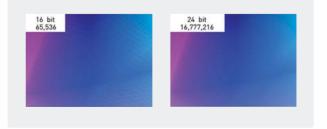


Presence Sensor

Sensor detects movement within 1m, to control the backlight, ensuring a longer life of the product.

More Colorful

High luminance/resolution LCD with an LED backlight and 24 bit colors to express clear and vivid colors of 16,777,216.



Customize

- Put your company's brand on the front of HMI (inquire of your sales person about minimum order quantity condition).
- Purchase only hardware of HMI minus monitoring software if you do not need it (.NET Framework 3.5 included).



XGT Panel **EXP Series** *efficient XGT Panel*



Effective Control and Monitoring Solution Cost-Efficient eXP!

- ∋ Simple Design
- ∋ 4.3", 7" and 10.2" wide-screen sizes TFT color LCD
- ∋ Wide variety of communication interfaces
 - 2~3-channel serial communication
 - Ethernet

- ∃ Large memory for drawing (64MB)
- ➡ RTC function (maintained by battery)
- Convenient downloading/uploading of drawings via USB port in the front



Higher Level of Performance

Gives superior performance with improved CPU compared with the existing products

Wider Variety of Communication Interfaces

Communicable simultaneously with PLC, barcode reader, VFD, temperature controller



Slimmer and Lighter in Weight

20% lighter than previous products, provides more space and lightens user's panels



Customize

Put your company's brand on the front of HMI (inquire of your sales person about minimum order quantity condition).



Window CE-based new HMI developed with XGT Panel advanced technologies of

LSIS to optimize the user experience

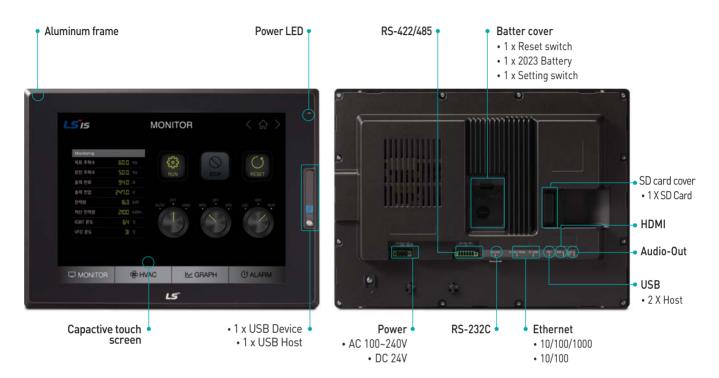


XGT Panel 10_11



*1: Ethernet I/F not supported. *2: CF card I/F not supported. *3: Expansion port not supported. *4: SD card not supported.

High functioning, user friendly and robust choice for your system, iXP2



iXP2 Multiple interface methods to cope with the Internet of Things

Ethernet 2ch., HDMI / Audio output, USB host/device, multimedia (video) *Multimedia function scheduled for release in '18.10



iXP2 Multi-touch and gesture-control screens

Multi-touch maximizes operating stability and safety. Use gesture-control to view logging trend graphs and to change screens.



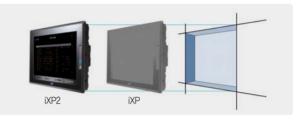


Reinforced protection against water and dust. Conforms to NEMA 4X standard.



iXP2 One to one interchangeability with existing iXP series

Offers equivalent panel cut to iXP.



iXP2 Screen gesture

Flick to change screens. No extra switching button is needed to change screens.



Select the object you want and then swipe and flick it. Object list •Logging trend graph •View logging history •View history alarms



iXP2 Multi-touch

Use multi-touch to protect your system from undesired errors.



iXP2 Dual monitor mode and extension mode

Increase your convenience by duplicating or extending your screens.



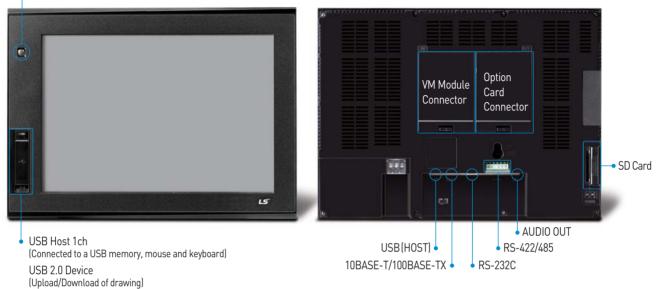
* Extension display mode scheduled for release in '18.09





Hardware Related Functions iXP

Presence Sensor (Detects the body movement within 1m)



iXP 1 Respective Front USB Host/Device Channel

- An additional USB host channel is installed in the front panel.
- A front USB host is used to connect to a USB memory, mouse and keyboard.
- A front USB device port is used to change the XP-Runtime without opening a control panel or download/upload the drawing file created using XP-Builder.
- USB cable: USB-301A 2.0



iXP Sound Output Function (For all iXP models)

- The sound files (wav, mp3) registered using XP-Builder can be output to speakers connected to HMI.
- An alarm is generated via speakers to warn operators.
- Up to 512 sound files can be saved.



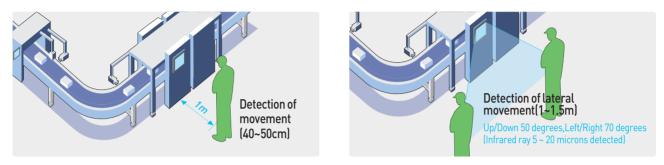
iXP Function to use SD Cards

iXP supports additional SD memory cards along with previous USB memory to diversify the backup means.



iXP Presence Sensor

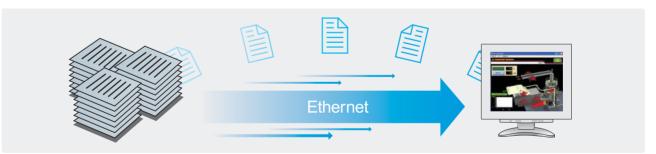
- The XP presence sensor detects movement within 1m to turn on a backlight.
- When not used, it turns OFF the screen to maintain a longer lifespan of the backlight.



Hardware Related Functions iXP2 iXP eXP XP

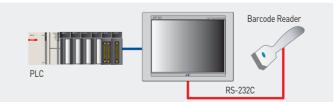
Ethernet method for Quick Transmission of Mass Data

- Ethernet method has improved the transmission speed. Compared to the conventional RS-232C method, a quicker transmission speed: 115kbps ⇒10/100Mbps
- Regardless of the memory capacity, the drawing files can be quickly uploaded/ downloaded, and logging/alarm/recipe data can be conveniently used.
- Ethernet method is used for various production data collection, monitoring and control using PC.



Barcode Scanner Communication

- ASCII data imported by accessing a barcode scanner from XGT Panel can be saved in the user-assigned PLC or XGT Panel's internal memory.
- Complete Bit can be randomly saved. It allows users to check whether the XGT Panel has read the data without errors.
- Communication with barcodes is possible by using the RS-232C interface installed in the XGT Panel.

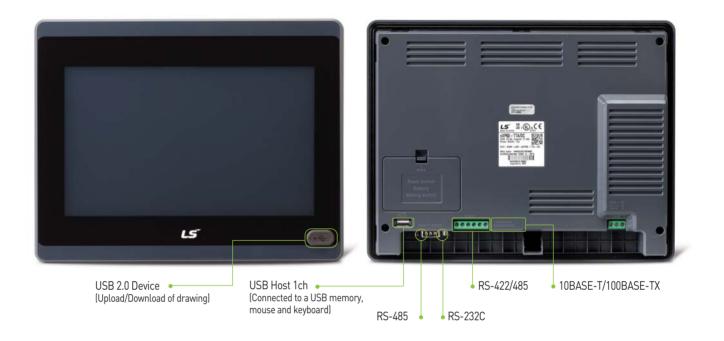


Providing Various Communication Channels

Using RS-232C, RS-422/485 and Ethernet, XP/eXP and iXP2/iXP are capable of communicating with up to 4 and 6 types of controllers, respectively. Refer to the system block diagram (TTE type does not have an Ethernet module).



Hardware Related Functions **eXP**



eXP USB Port in the Front for Devices

- With USB port in the front, no need to open the control panel to apply changes to XP-Runtime or download/upload drawing files made in XP-Builder
- USB cable: USB-301A 2.0



eXP 3-Channel Serial Communication

- Simultaneously communicable by RS-485, RS-232C, RS-422/485
- D-Sub 9-pin terminal includes COM1 and COM2

eXP RTC Function

- RTC (Real Time Clock) function operates with a battery even with the power off
- HMI time setting is adjustable quickly using XP-Builder

eXP High Performance

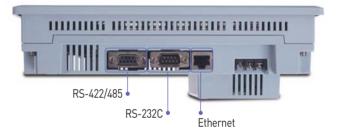
• About 30% better performance



Hardware Related Functions XP



CF card: effective use of USB memory



XP USB Host

- 2 USB interface channels
- Various access devices can be used using the USB I/F.
- Access to mouse, keyboard, a USB external hard disk, barcode reader and USB hub is possible, Access to mouse, keyboard, a USB external hard disk, barcode reader

and USB hub is possible. Continuous upgrades and developments to cope with other drivers are under progress.





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USB External Hard Disk

10

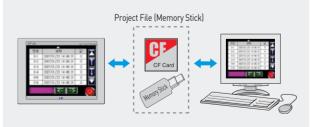
Atype USB Cable (XPO-USBC) XP

- USB cable is used for screen data transmission and XP-Runtime updates.
- The versions before XP-Builder 1.30 are not installed with the USB driver, thus it must be installed.



XP Effective Use of USB Memory

- PLC data can be saved in a CF card or USB memory. If necessary, they are converted into a CSV format to be used to prepare daily and monthly reports.
- When the drawing files using XP-Builder are saved in a CF card or a USB memory and copied to the XGT Panel, they can be executed without being sent via cables.
- When there are several XGT Panels, one CF card or USB memory can be used to copy each XGT panel, allowing a setup.
- A CF card or a USB memory can be used for engine updates and upload/download of drawing files.

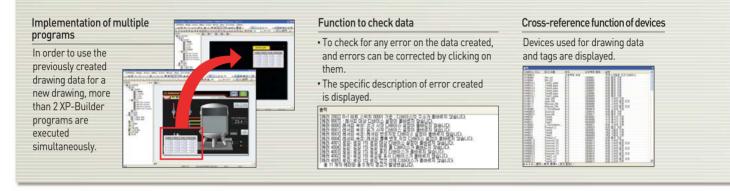




XP-Builder

XGT Panel offers easy and user-friendly multi-interface.

XP-Builder Functions



Animation function

- When GIF format is used, animation effects can be realized depending on the state of given bit.
- When a video clip on given site is created into GIF to be added to a drawing screen, more accurate information can be

delivered to users. (Video clip files can be created using the commercial software for GIF creation)



Drawing Editor: XP-Builder

Project Window

Add, delete and edit project property, logging, recipe and alarm conveniently.

Data Element Window

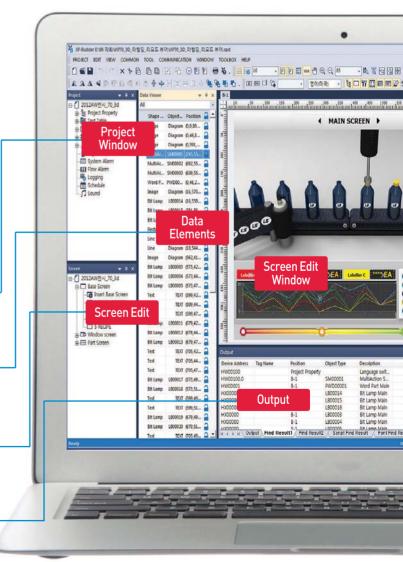
- Displays the objects on a screen currently shown.
- When double-clicked, a window on setting the properties appears.

Screen Window

Add, delete and edit basic screens, window screens and part screens easily

Output Window

• Displays the error checked on drawing data and the search results. • It displays the specific description of the errors created.



Tag function

- Users can set device address by desired name, which can be used in an object.
- When a set device is tagged to an object,
- addresses can be changed, collectively
- Up to 10,000 tags can be registered.

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1	SourceA,V2	817	HW0001.E	
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	Source0,VI	0/7	HW0001.E	
1	Source8.V2	BIT	HW0004.E	
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Various fonts with convenient setting options

- · Windows fonts used in a PC can be transmitted to HMI for use.
- When using Windows fonts, font attributes (Italic, bold and underline) can be used as well.
 Various font sizes including True Type are supported.
- Supports the Unicode, characters of other countries such as the standard font and high-quality fonts are beautifully displayed.
- Sophisticated and elegant text can be used to create a screen using various fonts.
- Arial : ABCDEFGHIJKLMNOPQRSTUVWXYZ Book : ABCDEFGHIJKLMNOPQRSTUVWXYZ Impact : ABCDEFGHIJKLMNOPQRSTUVWXYZ
- 가나다라마바사아자차카타파하 가나다라마바사아자차카타파하 가나다라마바사아자차카타파하

User-oriented screen UI

Providing a flexible script language

- Provides a screen UI that can be easily used considering user's experiences.
- Divided into categories so that a graphic library can be easily searched.
- Various graphic libraries are offered for enhanced usability.

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Property Window

- This function enables users to change properties of numerous objects at once, so that users do not have to open each object like a button or a lamp for modification.
- Numerous objects on the screen can be selected at once to replace the pictures, enhancing users' convenience.
- When modifying several objects, only the objects with the same function should be selected.
- Users can correct both pictures and properties.

Tool Box

Used to select an object or draw a shape.

Library Window

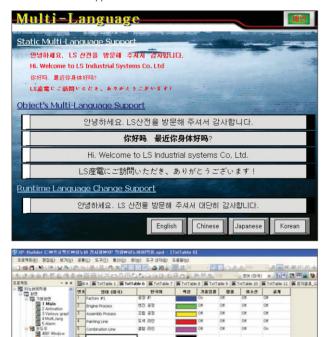
- Library is divided by category for easier use, and preview is used for drawing.
- Convenient for users to register and delete the Library.
- Drag & Drop is used for a screen insertion.



Software Related Functions

Multi-lingual support & conversion to respond to the global enterprise environments

- In response to enterprise environment of global era, up to 12 languages can be simultaneously converted and users can select a language depending on his/her nationality.
- When desired character string is registered in a table, a language can be converted into a device value and switched upon operation.
- The languages supported include Korean, English, Chinese (PRC/Taiwan), Japanese, French, Turkish, Iranian (Persian), German, Greek, Russian, Italian, Norwegian, Polish, Portuguese and Spanish, all of which are supported in Windows.



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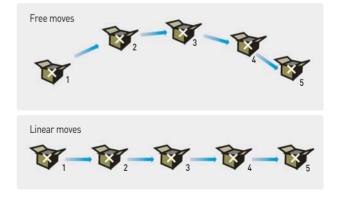
Strict control management using security setting

- Upon PLC control using objects like a switch or an input method editor, only the authorized users can perform controls depending on the set security level.
- It supports 10 security levels in total, and the password of a sub-level can be accessed using the password of a main level.
- When the security level is authorized, a session is disconnected after a certain period of time, asking for the password again.



Free and easy moving of parts

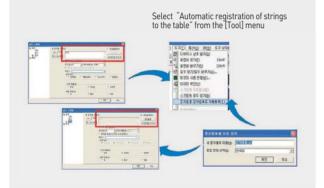
- The fixed values and the parts related to the word device are selected/ switched to be displayed on a screen, and the images registered as the given parts can be used.
- A mouse is used to set the movement points for free moves, linear moves, and moves based on the XY coordinates, which can be chosen by users.



Automatic registration of a character string table

This function enables the character string input by users in the objects to be automatically registered.

- When the file created using a single language is to be changed to a character string table for the purpose of multi-lingual support, it can be automatically registered to the character string table without inconvenience of users.
- All the static strings used in objects can be registered in the character string table.
- Up to 10,001 character strings can be added to a character string table, and the name of a new character string table and the editing languages can be set and registered by users.



PI RIW

Memo pad function

Function to create or save a short message by selecting various pen thicknesses and colors on XGT Panel.

- It is useful in exchanging messages between operators working in turns.
- The user chooses the thickness and color of the pen and writes on a screen in order to input the message.
- Such memo can be saved in a CF card or a USB memory, and the data are archived even when the power is turned off.
- Users touch the screen and drag to create a memo.
- When creating a memo, users can UNDO/REDO the memo, the thickness/color of a pen can be changed, and a specific memo or all memos can be deleted.







Advanced Functions

Alarm Function

History Alarm

The history of alarms can be saved in the device to check the description of occurrence.

The alarm can be categorized into up to 8 upper and 8 lower class groups or an alarm list, and an alarm explorer can display only the group alarms the user may desire. When a screen on description to check the details of alarms generated is registered, the detailed screen window linked to the alarm will appear.

(It can be used to check the measures or detailed description when an alarm is generated.)

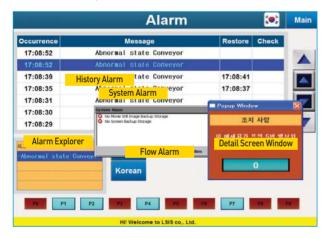
Flow Alarm

The alarm generated is displayed on the upper/mid/lower section for users to promptly take actions.

Flow alarm can be set to be operable at a specific screen, so it can be used to deliver the information on equipments and company.

System Alarm

When a serious fault or a trouble of HMI occurs, the system alarm informs the users, which is a critical function.



E-mail Function

- It offers a function to send backup files (.csv) using the E-mail address registered upon backup of the logging and alarm data in XGT Panel.
- The E-mail function for logging can only send the backup files of the group desired for each logging group.
- The E-mail function for history alarm includes a function to send to the E-mail only on the alarm messages to the designated receivers when the user-assigned alarm is generated or recovered.
- The logging and alarm backup files sent can be easily analyzed in PC using a program like EXCEL.



Logging Function

- It offers a cyclic logging that is repeated depending on the time and device state and a conditional logging which works under the device conditions.
- Up to 32 logging areas (conditions) can be provided, and the maximum size of an area can be set up to 512Kbyte, 100DWord.
- Up to 512Kbyte, 100DWord (64Bit upon bit logging) per logging can be saved.
- Basically, logging is saved in the built-in SRAM(512Kbyte, 100DWord), and the backup of logging is available using the CF card, SD card, USB memory stick or USB external hard disk.
- Logging data can be viewed in XGT Panel using a logging view object, and they can be converted into a CSV format to be easily edited using a PC via software such as EXCEL.



Encryption of Logging/Alarm Backup Files

- The backup file format can be archived as binary files to prevent the data from being damaged or manipulated.
- The encrypted files can be converted into CSV files using a CSV file converter offered from XP-Builder.

Able to View PDF

- Viewing PDF file XGT Panel
- Saving trouble shooting instructions for failures (alarm) in PDF format so that users could see in the field
- No number limit of PDF files as PDF files are saved in external memories
- This function is available only in iXP2/iXP series HMIs, not in XP series HMIs

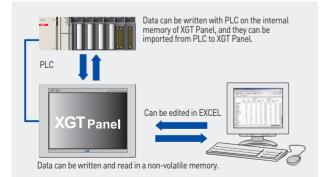
Scheduler

- Scheduler assigns an operation to be executed on a set time.
- Available functions include Bit ON/OFF, setting Word values and a script operation. Each scheduler can assign up to 8 operations.
- Up to 32 schedulers can be set.



Recipe

- After the data to be written on PLC are created, the data values created on a PLC device continuously connected to a specific device can be written.
- It can read a lot of device values from the PLC continuously connected to a specific device.
- Basic recipe can register up to 10000 Word/DWord devices and 255 table blocks.
- Recipe data are saved in a non-volatile memory of XGT Panel. Thus, when the power is out, the data saved at the last minute are kept.
- Recipe data can be registered and edited using a XGT Panel or an EXCEL program.



Script

Providing a flexible script language

- It is difficult to perform drawing using only the provided object functions, and it can be supplemented using a script.
- A structured language similar to the C language is used for user's convenience.
- The script using complicated arithmetic operations and various functions is executed to greatly reduce the load upon external controllers.
- A validity check of the grammar on the created scripts is available.

Various uses of scripts

- A wide range of scripts including global scripts, screen scripts and object scripts can be used depending on the usage.
- A global script operates according to ON/OFF of the device assigned, regardless of the screen operation, and a special device can be used for scripts in a regular basis.
- An object script can perform operational management of the object devices.
- A script can run when a screen opens or closes.

Mounting Flexibility

- All iXP2/iXP series models and eXP20 can be mounted in portrait or landscape mode as per user's needs and preference.
- Configurable in project property menu.



Operation Logging

- TTA models of XP Series and all iXP2/iXP models can save logs of your operation in touch screen.
- Use saved logs to check system's operation or errors.



Link with Controllers

Convenient Simulator

Offline simulation

- Without XGT Panel, the drawing data can be directly viewed from PC.
- Devices can be monitored using a PC, and values can be directly input to check operations.
- A simulator is used to check the operations just like the XGT Panel. Before transmitting the drawing data to HMI, data errors and abnormal operations can be checked.

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Path-through (XP-VSP)

When XGT Panel is connected to PLC with serial, PLC ladder program can be modified using the internal Ethernet.

- Users no longer have to change the cable for PLC program modification, or to go to the PLC for changes.
- A program can be modified even when a control panel is far away.

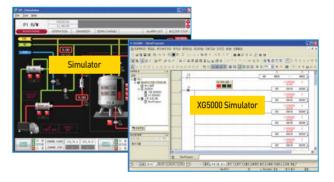


Note) XP-VSP user manual reference

Manufacturers	Supported Drives
I SIS	ALL LSIS PLC CPU
LSIS	XGI/K Series Link(Only Remote-1 Connection)
Omron Corporation	CS/CJ Host Link Serial
YASKAWA	MEMOBUS RTU Master

Able to Link with PLC Simulator

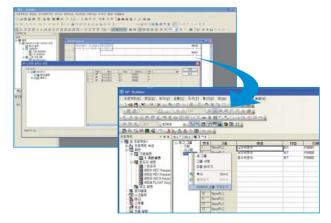
- Controlling and monitoring testing in PC linking XP-Builder (XP-Simulator) and PLC simulator
- Linking with LSIS PLC simulator and XG5000 simulator
- Linking with SIEMENS PLC simulator and S7-PLCSIM (S7-PLCSIM v5.4 or above)
- Linking with Rockwell Automation PLC simulator and RSLogix Emulate 5000 Controller (v21.00.00 or above)
- Linking with Mitsubishi PLC simulator and GX Simulator (GX Simulator v7.30 or above)



Using XGT PLC for batch-registration of devices (tag function)

The variable names used in the PLC program that is created using XG5000 are automatically registered in XP-Builder, so that they can be used in drawings.

- [Save as a Variable/Description File] of XG5000 is used to first save the • variable names used as CSV files.
- Using [Import XG5000 Symbols] from the [Tag] item of XP-Builder, an • automatic registration via tags is possible (Array variables supported).
- Without changing the memory address, the variables used in the PLC program can be used.



Communication Options

Fieldbus option provided

Various Fieldbus communications using the XGT Panel options

(RAPIEnet, Profibus-DP and CANopen Slave offered)

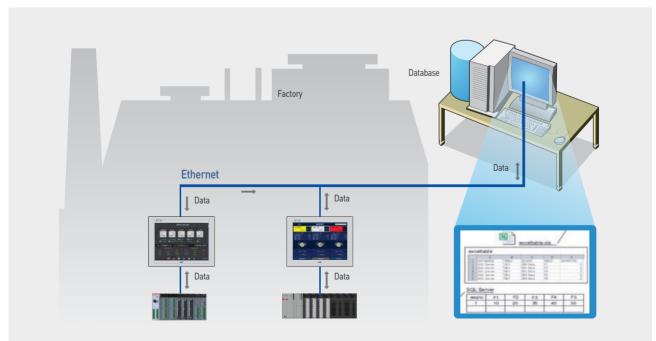
RAPIEnet(XPO-EIMT) twisted-pair ring system diagram



XP-Server Function

The data required from the production site's XGT Panel can be directly collected or saved in a PC. It has several roles including a mutual data exchange between several XGT Panels, or sending an E-mail or connecting to a Database.

- It connects to the Database via PC to save, inquire and manage the XGT Panel data.
- When a trigger condition is generated, users will be informed via data E-mail of PC.
- When a trigger condition is generated, it imports or writes the screen capture, logging, alarm and recipe data of a specific XGT Panel.
- It is possible to collect various information including production outputs and causes of errors and failures from the XGT Panel to the DB server



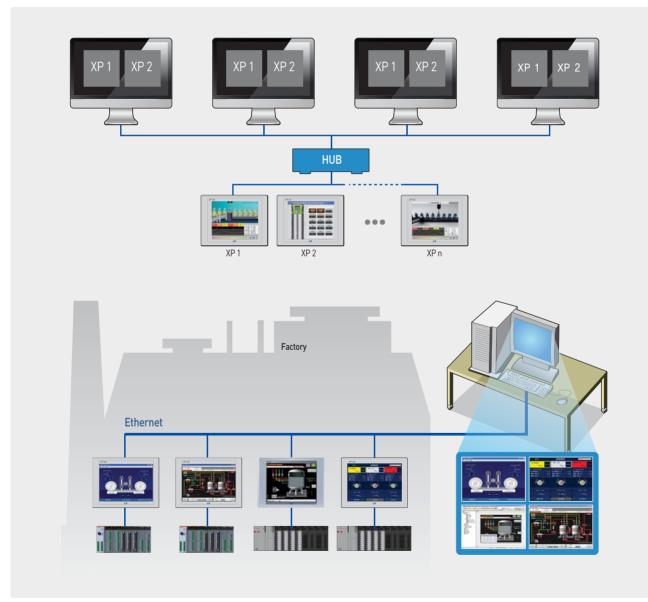


External Monitoring Function

* Only the Ethernet-support models can use the function.

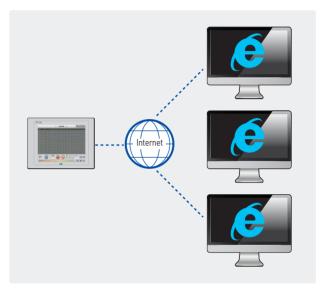
XP-Remote

- An XGT Panel screen can be monitored and controlled remotely with a PC.
- Up to 4 PCs can remote-access to a single XGT Panel. (Only one PC can access XP-VNC.)
- Remote PC control of XGT Panels can be authorized or restricted (When not authorized, it is impossible to control with the Remote PC).
- There is a synchronization mode and a non-synchronization mode, which allows users to monitor the XGT Panel and the Remote PC screen under the same or different conditions.



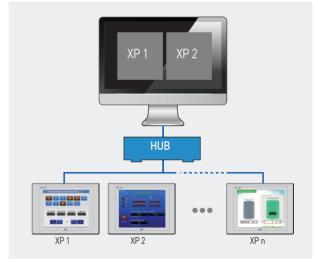
Web Server

- The screen currently viewed on a XGT Panel can be viewed on a web browser via Internet.
- It is accessible in any place where Internet is connected.
- It can be connected to multiple Internet Explorers. (Impossible to access the XP screen at the same time)
- It is possible to upload the logging and alarm backup files as csv files in the XGT Panel.
- It is possible to restrict access of specific users or groups.
- The functions described above are available when a Web Server Program is installed to the XGT Panel using XP-Manager.



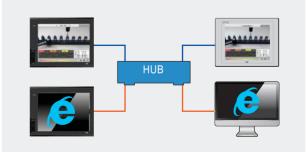
XP-VNC

- The screen currently shown in the XGT Panel can be viewed from the user's PC.
- Several XGT Panels can be monitored and controlled with one PC.
- After inserting the IP of XGT Panel to be accessed from XP-VNC
- $(\ensuremath{\mathsf{S/W}}\xspace$ for PC), the current screen of the XGT Panel can be monitored and controlled.
- It is possible to restrict PC control when the XGT Panel is under operation on site (VNC interlock device provided).



VNC Client

- All iXP2/iXP series models can be shown screen of another PC or HMI in your HMI.
- To view another PC's screen, install universal VNC server (Ultra VNC, Real VNC and so on).
- To view another HMI's screen, download VNC server to your HMI using XP-Manager.
- Add "VNC Viewer" object in your HMI project.



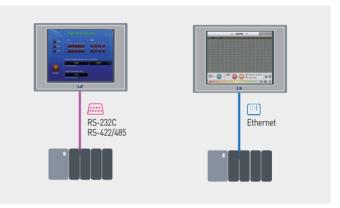


System Block Diagram

1:1 Serial/Ethernet Communication

One controller to one XGT Panel

* In case of the 1:1 Ethernet communication, a cross cable should be used.



N: 1 Serial Communication

One controller to multiple XGT Panels (serial)

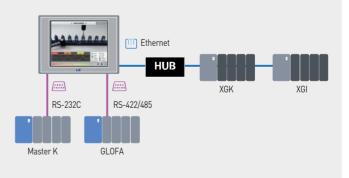
- * Connection available only to specific controllers (limited to PLCs)



Simultaneous Connection with Multiple Controllers

4 kinds of controllers to one XGT Panel

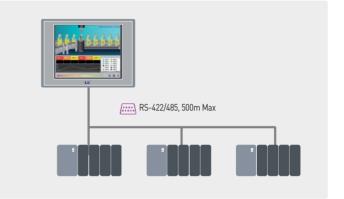
- Without the RS-422/485 and RS-232C, up to 4 controllers can be connected using only Ethernet.
- * When it comes to iXP2/iXP, up to 16 controllers can be connected.



1: N Serial Communication (Multi Drop)

Multiple controllers to one XGT Panel

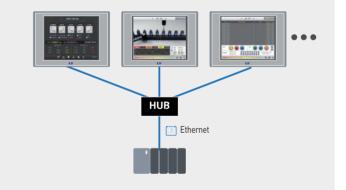
When 1:N communication is applied, the same types of controllers should be used.



N:1 Ethernet Communication

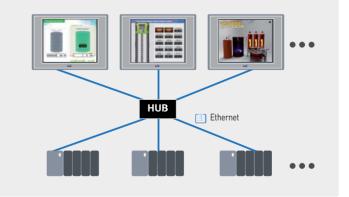
One controller to multiple XGT Panels (Ethernet)

* According to the controller type, the number of XGT Panels connected may vary.



N:M Ethernet Communication

Multiple controllers to multiple XGT Panels





neq

Our Solution

We are leaping as a global leader beyond the top enterprise in Korea in the field of automation solutions.

The LSIS HMI solutions incorporate the core H/W and S/W technologies and services, which are optimized for client's environments at various industrial sites, ranging from unit machines to massive process control.

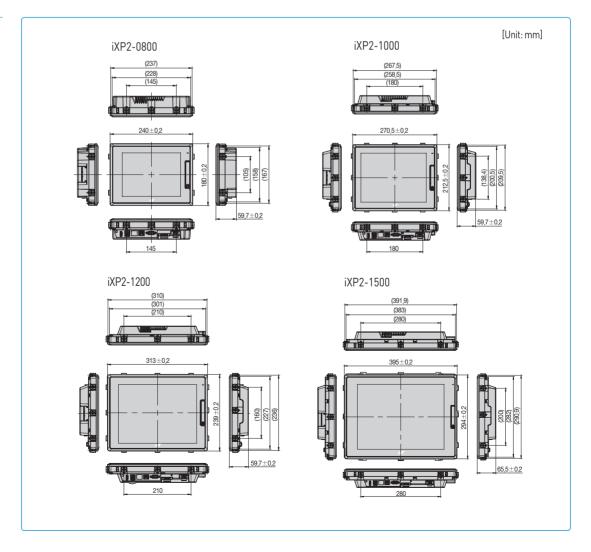


iXP2 Series

- Aluminum body frame, responsive touch screen.
 Easy-to-use Multi-touch, gesture, dual screen, portrait mode.
- Multi connected with 1Gbits 2ch. Ethernet between PC to PLC.
- •Various interfaces : USB host /device, SD card, HDMI.
- High resolution : 1024 X 768
- IP66, UL type 4x, NEMA 4x standards
- Explosion proof. IECEx, ATEX, KCs

<complex-block>

Dimensions



General Information

ltem		Standard				
Ambient temperature		0°C~	+50°C			
Storage temperature		-20°C1	~+60°C			
Ambient humidity		10 \sim 85%RH, withou	it dew condensation			
Storage humidity		10 \sim 85%RH, withou	it dew condensation			
		Occasional Vibration		Counts		
	Frequency	Acceleration	Amplitude			
	$5 \le f \lt 9H_Z$	-	3.5mm			
Vibration resistance	$9 \le f \le 150 H_Z$	9.8%	-	10 times each direction		
vibration resistance		IEC 61131-2				
	Frequency	Acceleration	Amplitude	(X, Y and Z)		
	$5 \le f \lt 9H_Z$	-	1.75mm			
	$9 \le f \le 150 H_Z$	4.9%	-			
Shock resistance	Maximum shock acceleration: 14	7% (15g) Authorization time: 11	S Pulse waveform: Half-sine wav	e pulse (3 times each of X,Y and Z)	IEC 61131-2	
	Square wave impulse noise	LSIS Standards				
Noise resistance	Electrostatic discharge		IEC 61131-2, IEC 61000-4-2			
NUISETESISIAIICE	Radiated electromagnetic field noise		80 ~ 100MHz, 10V/m		IEC 61131-2, IEC 61000-4-3	
	Fast transient/Burst noise	Fast transient/Burst noise Power module: 2.4 kV, Communication interface: 1.2kV				
Operating ambience		Free from corrosive g	as and excessive dust			
Altitude		2,000m (6,56	2ft) or below			
Pollution degree		2 or u	under			
Cooling method		Natural a	ir-cooling			

Specifications

I	ltem	iXP2-0800A/D	iXP2-1000A/D	iXP2-1200A/D	iXP2-1500A/D		
Display ty	/pe		TFT co	lor LCD			
Screen si	ze	8.4″	10.4″	12.1″	15″		
Display re	esolution	800×600		1,024×768	1		
Color ind	ication		24-bit color (16.7M colors)			
Backlight	t		LED method, autom	atic On / Off support			
Backlight	t lifetime		50,00	0 hour			
Touch pa	nel		Capaciti	ve touch			
Audio out	tput		Magnetic bi	uzzer (85dB)			
Processo	r		1GHz, D	ual core			
	Flash		10	ЭВ			
Memory	Operating RAM		10	ЭВ			
	Backup RAM			byte			
Backup d	lata		Date / Time data, Logging / Alarm	/ Recipe data, Non-volatile devices			
Battery		CR2032(3.0V/210mAh, About 3years/25 °C]					
Video out	•	1 × HDMI					
Ethernet		1 $ imes$ 10Base-T / 100Base-TX, 1 $ imes$ 10Base-T / 100Base-TX / 1000Base-T					
USB host		3 × USB 2.0 (Front × 1, Rear × 2)					
USB devi		1 $ imes$ USB 2.0 (Send / Receive front, PC and project data etc.)					
RS-232C		1 $ imes$ RS-232C (DSUB 9 / Male type)					
RS-422/4				(Terminal block)			
Multi-lan			1, 5	ages simultaneously			
Animatio	n			at support			
Recipe			'	port			
Data logg				port			
Script lau				port			
	certification			CEx, ATEX, KCs			
	n standard		,	ype 4x, NEMA 4x standard			
Explosior	•			cIIIC T100℃ Dc IP64			
Dimensio		240×180×60	271×212×60	313×239×60	395×294×66		
Panel cut	t (mm)	228.5×158.5	259.0×201.0	301.5×227.5	383.5×282.5		
Power				0V, iXP2-xxxxD : DC24V			
	nsumption (W)	25	25	30	30		
Weight (K	(g)	1.87	2.35	3.0	4.6		



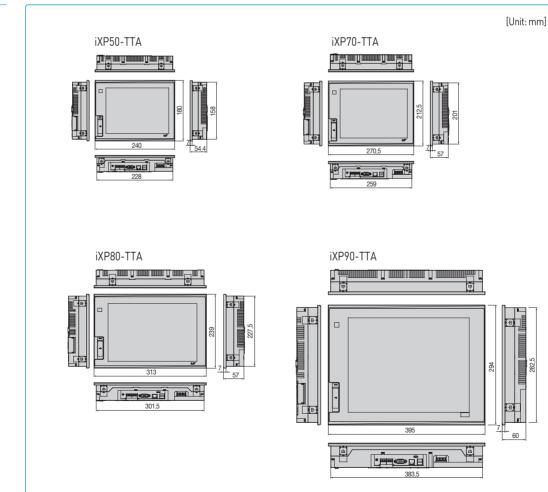
iXP Series

High-resolution and performance

- 1GHz high-performing CPU & quick screen refreshing speed
- 16,777,216. TFT color (24bit) support & high-luminance/resolution LCD
- Mass internal memory (User memory: 128MB, Data backup: 1MB)

User-oriented simple environment

- Various storage interfaces (USB/SD)
- Movement detection (presence sensor) system



CE CULUS LISTED

Dimensions

Standard

General Information

ltem

Ambient Temperature							
Storage Temperature							
Ambient Humidity		10 \sim 85%RH, withou	it dew condensation				
Storage Humidity		10 \sim 85%RH, withou	it dew condensation				
		Occasional vibration		Counts			
	Frequency	Acceleration	Amplitude				
	$5 \le f \langle 9H_Z$	-	3.5mm				
Vibration resistance	$9 \le f \le 150 Hz$	9.8 ^m /s ²	-	10 times each direction			
VIDIALIOITTESISLATICE		Continuous vibration [X, Y and Z]					
	Frequency	Acceleration	Amplitude	(A, I dilu Z)			
	$5 \le f \langle 9H_Z$	-	1.75mm				
	$9 \le f \le 150 Hz$	4.9%	-				
Shock resistance	Maximu * Pu	ım shock acceleration: 147 lse waveform: Half-sine wa	%(15g) * Authorization tim ave (3 times each of X, Y and	e: 11ms I Z) *	IEC 61131-2		
	Square wave impulse noise	ave impulse noise DC: ±1,200V AC: ±1,800V					
Vibration resistance	Electrostatic discharge		±4kV (Contact discharge)		IEC 61131-2, IEC 61000-4-2		
VIDIATION PSISTANCE	Radiated electromagnetic field noise		80 ~ 100MHz, 10V/m		IEC 61131-2, IEC 61000-4-3		
	Fast transient/Burst noise	Power Mod	ule: 2 kV, Communication Ir	iterface: 1kV	IEC 61131-2, IEC 61000-4-4		
Operating ambience		Free from corrosive g	as and excessive dust				
Altitude		2,000m (6,56	2ft) or below				
Pollution degree		2 or u	under				
Cooling method		Natural a	ir-cooling				

Description

Specifications

	Item	iXP50-TTA/DC	iXP70-TTA/DC iXP70-TTA/AC	iXP80-TTA/DC iXP80-TTA/AC	iXP90-TTA/DC iXP90-TTA/AC			
Display t	vpe		TFT co	lor LCD				
Screen s		21.3cm (8.4″)	26.4cm (10.4″)	30.7cm (12.1")	38.1cm (15")			
Display F	Resolution	800×600 pixel (SVGA)	800×600 pixel (SVGA)	800×600 pixel (SVGA)	1,024×768 pixel (SVGA)			
Color ind	dication		16-bit and 24-bit Colo	r (default: 16-bit Color)				
Indicatio	n degree	Left/Right: 80 deg. Up: 80 deg. Down: 60 deg.	Left,	/Right: 80 deg. Up: 60 deg. Down: 80	l deg.			
Backligh	ıt		LED	Туре	-			
Backligh	t duration	70,000 hours		60,000 hours				
Brightne	SS	500 cd/m ²	700 cd/m ²	550 cd/m²	800 cd/m ²			
Touch pa	anel		4-Line ty	pe, analog				
Sound Ou	utput		Magnetic b	uzzer (85dB)				
Process			ARM Cortex-A8 Cor	re (32bit RISC), 1GHz				
	Flash	512MB(display 128MB)		1GB(display 128MB)				
Memory	Operating RAM	256MB		512MB				
	Backup RAM		11	ИB				
Backup o	data		Date/Hour data, Logging/Alarm/	Recipe data and nonvolatile device				
Battery d	duration		Approx. 3 years (Operating a	ambient temperature of 25°C)				
Ethernet	t	1 channel, 10/100BASE-TX						
USB Hos	st	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								
RS-422/4				-422/485 mode				
SD Card	405			(SDHC)				
50 our u		Detection range: side 1-1.5m, front 40-50cm						
Human s	sensor	-	Angle: high/low 10	0°, left/right 140° (detecting 5-20 m				
Audio ou	itput		LINE-OUT	1 channel				
Expansio	on module		For communication and I/O c	ption module (available later)				
VM modu	ule	- 4 channels video input (available later)						
Multi-lar	nguage	Up to 12 language simultaneously						
Animatio	on	GIF format is available						
Recipe		available						
Data logo	ging	available						
Script ex				lable				
Certificat	tions		CE, UL(cUL), KC				
	on standard			265				
Dimensio	on (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 cu	it (mm)	228.5×158.5	259.0×201.0	301.5×227.5	383.5×282.5			
Rated vo	ltage	DC24V		DC12/24V(AC 100-240V)				
Power co	onsumption (W)	30.8	42.3	42.3	42.3			
Weight(K	(g)	1.9	2.2	2.4	3.9			

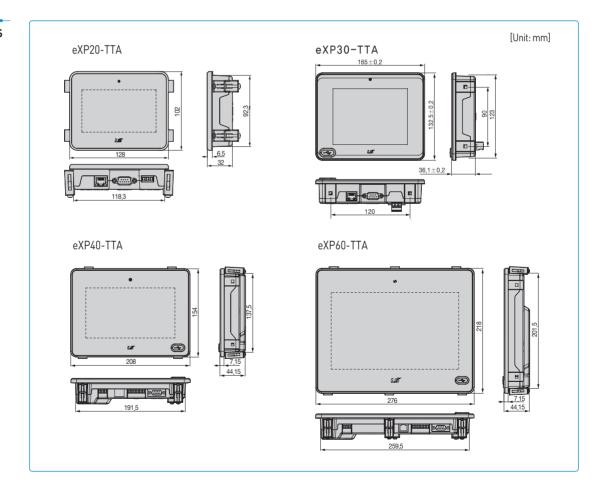
*SEW00 printer only



eXP Series



Dimensions



General Information

ltem		Standard						
Ambient temperature		0°C∼+50°C						
Storage temperature		-20°C1	~+60°C					
Ambient humidity		10~85%RH, withou	It dew condensation					
Storage humidity		10~85%RH, withou	It dew condensation					
		Occasional Vibration		Counts				
	Frequency	Acceleration	Amplitude					
	$5 \le f \lt 9H_Z$	-	3.5mm					
N/21	$9 \le f \le 150 H_Z$	9.8% ²	-	10 times each direction				
Vibration resistance		IEC 61131-2						
	Frequency	Acceleration	Amplitude	(X, Y and Z)				
	$5 \le f < 9H_Z$	-	1.75mm					
	$9 \le f \le 150 H_Z$	4.9 <i>%</i>	-					
Shock resistance	Maximum shock acceleration: 14	7% (15g) Authorization time: 11	S Pulse waveform: Half-sine wa	ve pulse (3 times each of X,Y and Z)	IEC 61131-2			
	Square wave impulse noise	LSIS Standards						
Noise resistance	Electrostatic discharge		IEC 61131-2, IEC 61000-4-2					
Noise resistance	Radiated electromagnetic field noise		80 ~ 100MHz, 10V/m		IEC 61131-2, IEC 61000-4-3			
	Fast transient/Burst noise	Power modul	e: 2.4 kV, Communication i	nterface: 1.2kV	IEC 61131-2, IEC 61000-4-4			
Operating ambience		Free from corrosive g	as and excessive dust					
Altitude		2,000m (6,56	2ft) or below					
Pollution degree		2 or u	under					
Cooling method		Natural a	ir-cooling					

Specifications

	Item	eXP20-TTA/DC,CERTI	eXP20-TTA/DC	eXP30-TTA(B)/DC	eXP30-TTE/DC	eXP40-TTE/DC	eXP40-TTA(B)/DC	eXP60-TTA(B)/DC
Display t	type				TFT color LCD			
Screen s	ize	10.9cm (4.3inch)	14.2cm	5.6inch)	17.8cm	n(7inch)	25.9cm(10.2inch)
Display F	Resolution	480 x 25	72 pixel	640 x 4	80 pixel	5	300 x 600 pixel(WVG/	A)
Color ind	lication	24-bit Col	or(16.7M)	16-bit Color(65,536 Color)	24-bit Color(65,535 Color)	16-bit Color(65,536)
Indication	n degree			Left/Righ Upper:40 deg.				Left/Right:55 deg. Upper:35 deg. Lower:55 deg.
Backligh	t			LED Type (Su	pports backlight aut	o-off function)		
Backligh	t duration	30,000	hours			20,000 hours		
Touch pa	inel			4-	Wire Resistive, anal	og		
Audio ou	tput			Μ	lagnetic buzzer (85d	B)		
Process					i.MX283(454MHz)			
	Flash			1	28MB(Screen 64ME	3]		
Memory	Operation RAM				128MB			
	Backup RAM				128KB			
Backup d	lata		Dat	e/Hour data, Loggin	g/Alarm/Recipe dat	a and nonvolatile de	vice	
Battery d	luration			Approx. 3 years (O	perating ambient ter	mperature of 50°C)		
RTC		Time error Approx. 3 sec/1day(Operating ambient temperature of 25 °C)						
Ethernet		1 channel, IE	EE802.1a, 10Base-T	/100Base-TX		-	1 channel, IEEE802.1a	, 10Base-T/100Base-TX
USB Hos	t		1 channel, US	B 2.0 Host (mouse, I	keyboard, printer an	d USB memory driv	er is available)	
USB Dev	ice				1 channel, USB 2.0 Device (for download and upload project)			
RS-485, I	RS-232C	1channel, RS-232C (DSUB 9/Male Type)			2ch	annels, RS-485, RS- (DSUB 9/Male Type		
RS-422/4	485		1channel, RS-422/485 (DSUB 9/Male Type)			1channel, R	S-422/485 mode (Te	erminal Type)
Multi-lan	iguage			Up to 1	2 language simultar	neously		
Animatio	n			0	GIF format is availabl	le		
Recipe					available			
Data logo	ging				available			
Script ex	ecutor				available			
Certificat	tions	CE, UL Type4X, KC			CE, UL(cUL), KC		
Protectio	on standard	IP66			IP	65		
Dimensio	on (mm)	128x1	02x32	165.0x13	2.5x36.1	208.0 x 15	54.0 x 44.4	276.0 x 218.0 x 44.4
Panel cu	t (mm)	165.0 x 13	2.5 x 36.1	156.0 >	(123.5	192.0	x 138.0	260.0 x 202.0
Rated vo	•				DC24V			
	onsumption (W)	4.6		7.2		-	5W	10W
Weight(K	(g)	0.	3	0.42	0.39	0.62	0.63	1.08

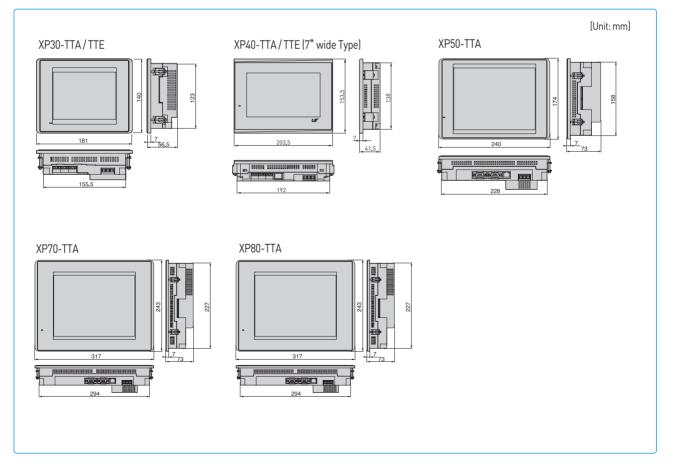


XP Series

- 65,536 TFT color
- 4/10/20MB User memory, 128/512KB Backup memory
- Ethernet & serial communications support
- USB Host function to be used in various PC devices
- Up to 12 languages at a time and a batch-change of languages
 Offline simulations
- (Link to the XG5000 simulator)



Dimensions



General Information

No.	ltem		Standard				
1	Ambient temperature						
2	Storage temperature		-20°C r	~+60°C			
3	Ambient humidity		10~85%RH, withou	t dew condensation			
4	Storage humidity		10~85%RH, withou	It dew condensation			
			-20°C∼+60°C		Counts		
		Frequency	Acceleration	Amplitude			
		$5 \le f \langle 9H_Z$	-	3.5mm			
5	Vibration Resistance	$9 \le f \le 150$ Hz	9.8%	-			
5	VIDration Resistance		Continuous Vibration 10 times each direction		IEC 61131-2		
		Frequency	Acceleration	Amplitude	(X, Y and Z)		
		$5 \le f \langle 9H_Z$	-	1.75mm			
		$9 \le f \le 150$ Hz	4.9% ^z	-			
6	Shock Resistance	Maximum shock acceleration:	147% (15g) Authorization time: 11ms	Pulse waveform: Half-sine wave p	oulse (3 times each of X,Y and Z)	IEC 61131-2	
		Square wave impulse noise		AC: ±1,500V DC: ±1,000V		LSIS Standards	
7	Noise Resistance	Electrostatic discharge		Voltage: 6 kV (Contact discharge)			
/	Noise Resistance	Radiated electromagnetic field noise		27 ~ 500MHz, 10V/m		IEC 61131-2, IEC 61000-4-3	
		Fast transient/Burst noise	Power m	odule: 2 kV, Communication inte	rface: 1kV	IEC 61131-2, IEC 61000-4-4	
8	Operating ambience		Free from corrosive g	as and excessive dust			
9	Altitude		2,000m (6,56	2ft) or below			
10	Pollution degree		2 or u	under			
11	Cooling method		Natural a	ir-cooling			

Specifications

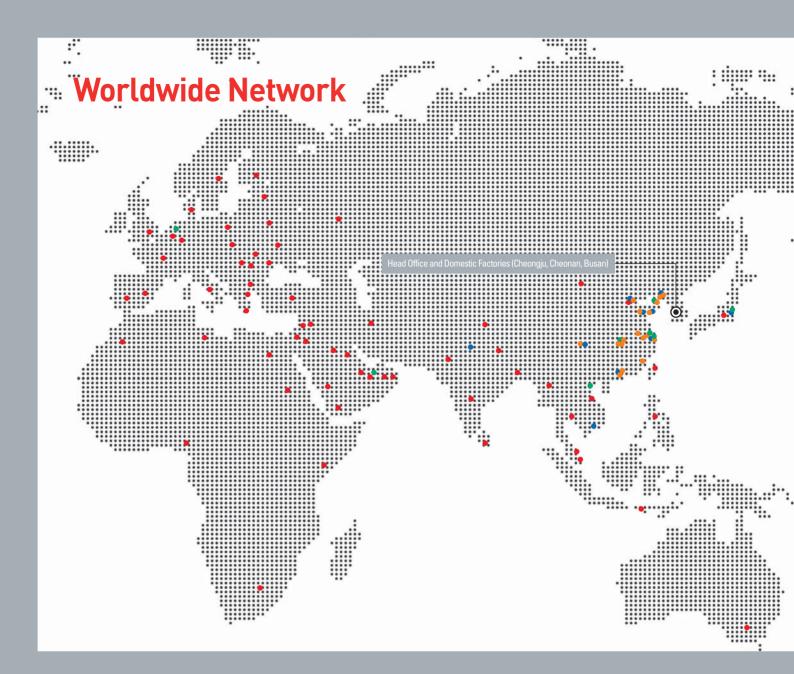
Model Type		XP30-BTE/DC	XP30-BTA/DC	XP30-TTE/DC	XP30-TTA/DC	XP40-TTE/DC	XP40-TTA/DC	XP50-TTA/DC	XP70-TTA/AC XP70-TTA/DC	XP80-TTA/AC XP80-TTA/DC	
		Mono		Color							
Display Element		Mono Blue LCD			TFT color LCD						
Screen Size		14cm (5.7")		(5.7")	17.7cm (7")		m (7")	21cm (8.4")	26cm (10.4")	31cm (12.1")	
Resolution		320×240				800×480		640×480 800×60		800×600	
Color		8-column Gray Scale		256 colors	65,536 colors			65,536 colors			
Backlight		LED mode				CCFL(c		an be replaced), Auto On/Off			
Dacklight			50,000 hours			60,000 hours	30,000 hours		50,000 hours		
Contrast			Adjustable Fixed								
Brightness			230cd/m ²		600cd/m ²	2800	cd/m²	480cd/m ²	430cd/m ²	400cd/m ²	
Viewing Angle	Up/Down(De	gree)	20,	/40	80/80	70/70	50/60		50/60	45/65	45/75
	Left/Right(De	gree)	45	/45 80		/80	65/65		65/65	65/65	65/65
Touch Panel				4-wire system, analogue Ar			resistive	8-wire system, analogue			
Movement LED			Green: Normal RUN (Monitoring & drawing data download) Red: Error (Communication error & drawing data error)								
Memory	Screen Data		4MB	10MB	4MB	10MB	4MB	10MB	10MB		
	Backup Dat	a	128KB	512KB	128KB	512KB	128KB		512KB		
Ethernet			-	1ch, 10/100Base-T	-	1ch, 10/100Base-T	-		1ch, 10/100Base-T		
USB Interface			USB Host $\times 1$	USB Host × 2	USB Host $\times 1$	USB Host $\times 2$	USB H		CODITION X2		
Serial	RS-232C		2ch(1 port for PC communication)								
	RS-422/485	j	1ch, 422/485 optional mode								
CF Card Interface		-	CF card (TAPE-1) × 1	-	CF card (TAPE-1) ×1	-		CF card (TAPE-1) ×1			
AUX Interface			-	Optional	-	Optional	-		Optional		
Certification			CE, UL(cUL), KC								
Protection			IP65 (Front Water Proof Structure)								
Size(W×H×D)mm			181 x 140 x 56.5	181 x 140 x 66.5	181 x 140 x 56.5	181 x 140 x 66.5		53.5 x 41.5	240 x 174 x 73	317 x 24	
Panel Cut (W×H)mm		155.0 × 123.5				192 x 138		228.5 x 158.5	294.5 x 227.5		
Weight (kg)		0.62	0.75	0.62	0.75	2.2	2.4	1.4	2.2	2.4
Power	Rated Voltage		DC 24V						AC100~220V, DC 24V		
	1 crimiticu	AC	PHI/00 1/10, PH/02 20						4AX 264 VAC		
	Voltage	DC									
	Power AC Consumption					-				21.8	31.9
	(W)	DC	9.7	16.9	9.6	17.4	9.8	9.8	18.7	20.1	25.7



List of Communication Drivers

Manufacturer	Driver name	Manufacturer	Driver name	
	GM CPU		CIMON Serial Link	
	GM Cnet	-	BP Series Loader	
	GM Enet	KDT Systems	CP Series Loader	
	МКСРИ	-	XP Series Loader	
	MK Cnet		KV-700/1000/3000/5000/5500 Serial	
	MK Enet	KEYENCE	KV-700/1000/3000/5000/5500 Ethernet	
	XGK CPU	KOYO Electronic	DirectNet	
	XGK Cnet	KTURB0	Turbo Blower	
	XGK Enet	Lenze Automation	Lecom A/B	
	XGK CPU Enet	_	MELSEC A-CPU	
	XGK EtherNet/IP	-	MELSEC A-Link	
	XGB CPU	-	MELSEC FX-CPU	
	XGB Cnet	-	MELSEC FX-Ethernet	
	XGB Enet	-	MELSEC FX-Link	
	XGB EtherNet/IP	-	MELSEC Q-CPU	
LSIS	XGB Cnet - VCB Trip	-	MELSEC QnA-Link	
	XGI/XGR CPU	Mitsubishi Electric	MELSEC QnA-Ethernet	
	XGI/XGR Cnet	-	MELSEC QnU CPU Ethernet	
	XGI/XGR Enet	-	MELSEC iQ-R Ethernet	
	XGI/XGR CPU Enet	-	MELSEC iQ-F Ethernet	
	XGI/XGR EtherNet/IP	-	MELSEC iQ-F Link	
	XEC CPU	-	MELSERVO-J2	
	XEC Cnet	-	MELSERVO-J3	
	XEC Enet		CS/CJ Series Ethernet	
	XEC EtherNet/IP	-	CS/CJ Host Link	
	XMC Enet	OMRON	C Series Host Link	
	Inverter (LS INV 485)		CS1 EthernNet/IP	
	Inverter (MODBUS)	-	CJ2 EthernNet/IP	
	User Defined Protocol		FP Series	
	User Defined Protocol (Slave)	Panasotic Electric	MINAS Servo	
	XGT Servo	Parker	Hi-Drive	
	VS/VP Servo Drive	PROFIBUS International	PROFIBUS DP Slave	
LS Mecapion	MXQ Series		Compact/ControlLogix EtherNet/IP	
BACnet	BACnet IP Master	-	MicroLogix EtherNet/IP	
BYD Auto	BYD Auto dedicated	-	SLC500 Series DF1	
CAN in Automation	CANopen Slave	Rockwell Automation	Compact/ControlLogix DF1	
Control Techniques	CT Modbus RTU	-	MicroLogix DF1	
DAEWON GSI	DAEWON GSI dedicated controller	-	Micro800 Series (DF1)	
Dasarobot	iM-SIGMA series		EtherNet/IP Micro800 Series	
Delta Electronics	DVP Series	RS Automation	N/NX-CCU	
Digital Electoronics(Pro-face)	Memory Link		NX-CCU+	
	MICREX-SX Series SIO	-	MODBUS RTU Master	
Fuji Electric Systems	MICREX-SX Ethernet	-	MODBUS RTU Slave	
	SNP	Schneider Electric	MODBUS TCP Master	
GE Intelligent Platforms	SNP-X		MODBUS TCP Slave	
HANYOUNG NUX	Temperature Controller		MODBUS ASCII Master	
HIGEN Motors	Servo		MODBUS ASCII Slave	
	H Series Ethernet	SEW EURODRIVE	MOVIDRIVE Serial	
Hitachi	H Series Link	-	S7 3964(R)/RK512	
	SKY-RAV(Ethernet)	Siemens AG	S7 MPI(Adapter)	
HYUNDAI Elevator	SKY-RAV(Link)		S7 PPI	
			0/111	

Manufacturer	Driver name
	S7 3964(R)/RK512
	S7 MPI(Adapter)
Siemens AG	S7 PPI
Siemens Ab	LOGO Ethernet
	S7 1200/1500 Ethernet
	S7 300/400 Ethernet
Sprint Electric	DC Motor Drive Ethernet
	MEMOBUS RTU Master
YASKAWA Electric	MP Series Ethernet (Extension)
	YASKAWA: High-Speed Ethernet Server
YOKOKAWA Electric	FA-M3 Series
TORONAWA Electric	FA-M3 Series-Ethernet
Beckhoff	ADS Ethernet
TSSI	VERID+ FingerPrint Reader
FATEC Automation Corporation	FATEK: FB Series Serial
PATEC Automation Corporation	FATEK: FB Series Ethernet
TemcoLine	Thermometer Controller
Autonics	Thermometer Controler (TK Series)
Yudian	AlBus Protocol
RKC	CB Series Temperature Controller
	FB Series Temperature Controller
Azbil	Temperature Controller
Kolver	EDU 2AE/TOP/TA/MITO
Atras Copco.	MT Focus400
Sick AG	Sick AG: Flexi Soft
IAI	IAI: X-SEL Controller Serial
	IAI: ROBO Cylinder Controller Serial
FANUC	FANUC : Series 0i
Ingenia	Ingenia: EMCL Serial
AERZEN TURBO	AERZEN TURBO: Aerzen-Turbo 1(IG3)
ALIZEN IONBO	AERZEN TURBO: Aerzen-Turbo 2(IG5)
Kawasaki Heavy Industries	KAWASAKI: UNIVERSAL CONTROLLER(ETHERNET)
OPC	OPC UA Client



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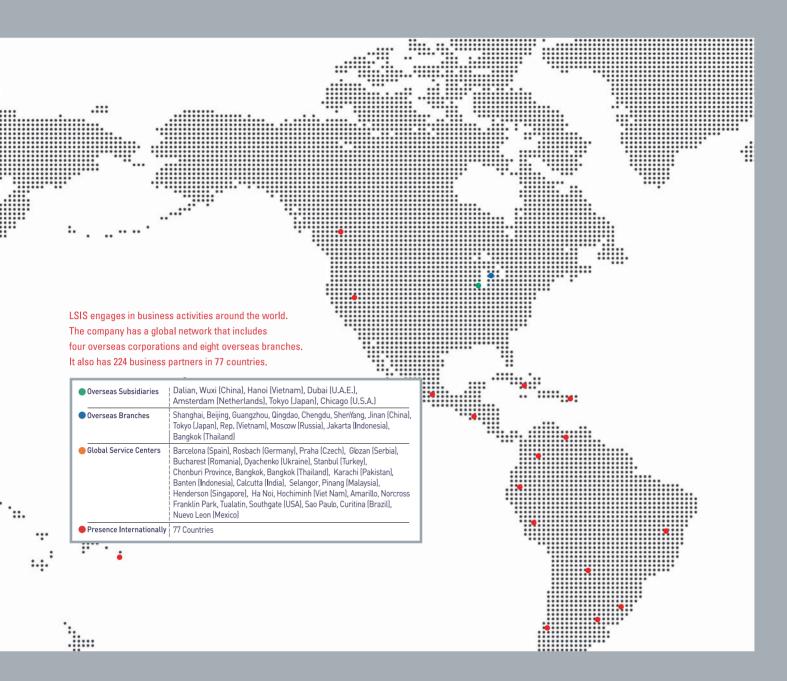












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· For your safety, please read user's manual thoroughly before operating.

- · 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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2018. 12

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