



## Human Machine Interface **XGT Panel**



**Leading Innovation,  
Creating Tomorrow**





## 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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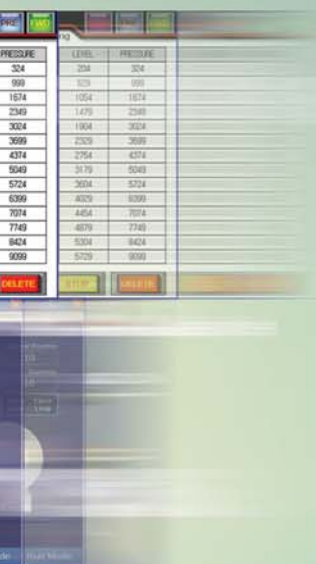


# XGT Panel

neXt Generation Technology

We are in the forefront with advanced technologies for clients.



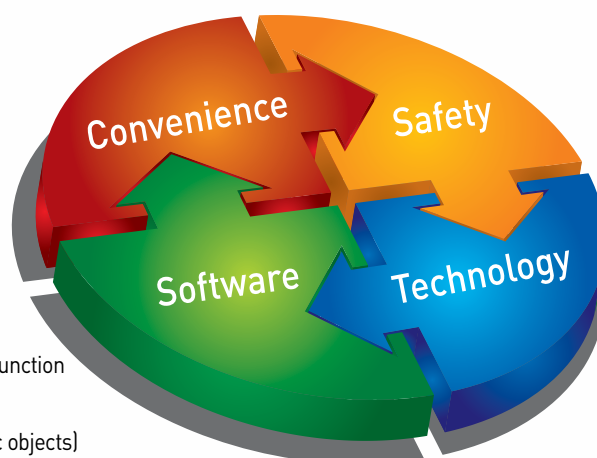


XGT Panel is a brand new HMI product with an intensive and advanced technology of LSIS to cope with the rapidly changing market.

It is an innovative product having both reliability and convenience based on Window CE Platform. With the user-oriented convenience, it offers high-resolution, realistic display, prompt data transmission and processing and user-friendly interface. LSIS, offering a Leading Solution in the automation field, proudly presents the XGT Panel series at the HMI market with the advanced technologies and product quality, following the XGT PLC.

## Excellent Performance & Convenient Functions

- ☑ Clear and high-resolution display with 16.7M TFT and 65K TFT colors
- ☑ Various vector symbols and high quality raster symbols
- ☑ Supports a wide range of graphic formats including BMP, JPG, GIF, WMF
- ☑ Simple video clips with GIF drawing
- ☑ 10/100 BASE-T Ethernet interface as a default
- ☑ Convenient and easy screen editing
- ☑ Enhanced data management function (Logging, Recipe and Alarm)
- ☑ Read function of the controller's status information (diagnosis, monitoring and maintenance)
- ☑ Multi-lingual display of up to 12 languages and a batch language changing function
- ☑ Offline simulation program (link with the XG5000 simulator)
- ☑ HMI S/W tag function (easy to change the device address mapped to graphic objects)
- ☑ USB Host/Device function for using various PC devices (mouse, keyboard, and etc.)
- ☑ Sufficient memory space for project
- ☑ Excellent performance and convenient functions





# XGT Panel iXP Series

*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)

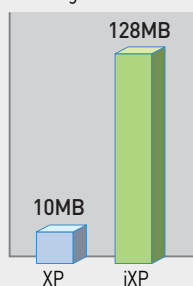
## High Speed

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

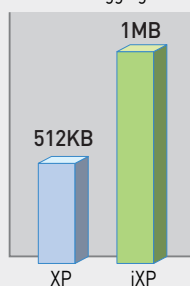
## Large Memory

Large device memory is provided to save mass data.

Storage space for screen and images



Data backup space for alarm and logging

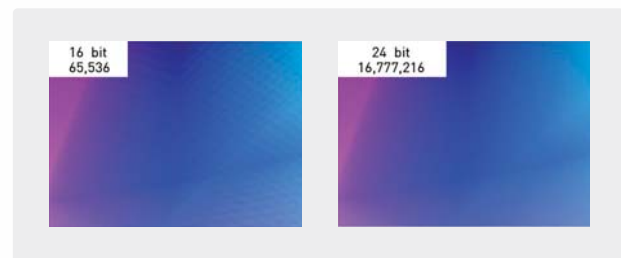


## Presence Sensor

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.





XGT Panel

# eXP Series

*efficient XGT Panel*



## Effective Control and Monitoring Solution Cost-Efficient eXP!

- ✔ Simple Design
- ✔ 7" and 10.2" wide-screen sizes TFT color LCD
- ✔ Wide variety of communication interfaces
  - 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



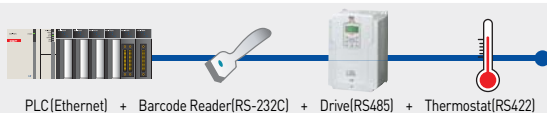


### Higher Level of Performance

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





## Products Line-up

Window CE-based new HMI developed with advanced technologies of LSIS to optimize the user experience

# XGT Panel

| iXP Series |   | 15" (38Cm)   | 12.1" (31Cm)   | 10.4" (26Cm)   |
|------------|---|--|--|--|
|            | <b>Premium</b><br>Ethernet I/F<br>USB I/F<br>SD Card I/F<br>Serial I/F (FIRS-232C)<br>Serial I/F (FIRS-422/485)                   | <b>iXP90-TTA</b><br><br>TFT 16,777,216 colors<br>XGA(1024 × 768) | <b>iXP80-TTA</b><br><br>TFT 16,777,216 colors<br>SVGA(800 × 600) | <b>iXP70-TTA</b><br><br>TFT 16,777,216 colors<br>SVGA(800 × 600) |
| eXP Series |   |  |  | 10.2" (25.9Cm)   |
|            | <b>Standard</b><br>Serial I/F (FIRS-232C)<br>USB I/F<br>Serial I/F (FIRS-422/485)<br>Ethernet I/F                                 |  |  | <b>eXP60-TTA</b><br><br>TFT 65,536 colors<br>WVGA(800 × 480)     |
| XP Series  |   | 15" (38Cm)   | 12.1" (31Cm)   | 10.4" (26Cm)   |
|            | <b>General</b><br>Ethernet I/F<br>USB I/F<br>CF Card I/F<br>Serial I/F (FIRS-232C)<br>Serial I/F (FIRS-422/485)<br>Expansion port | <b>XP90-TTA</b><br><br>TFT 65,536 colors<br>XGA(1024 × 768)      | <b>XP80-TTA</b><br><br>TFT 65,536 colors<br>SVGA(800 × 600)      | <b>XP70-TTA</b><br><br>TFT 65,536 colors<br>VGA(640 × 480)       |



8.4" (21Cm)

**iXP50-TTA**

TFT 16,777,216 colors  
SVGA(800 × 600)

7" (17.7Cm)

**eXP40-TTA**  
**eXP40-TTE** \*1

TFT 65,536 colors  
WVGA(800 × 480)

8.4" (21Cm)

**XP50-TTA**

TFT 65,536 colors  
VGA(640 × 480)

7" (17.7Cm)

**XP40-TTA**  
**XP40-TTE** \*1 \*2 \*3

TFT 65,536 colors  
WVGA(800 × 480)

5.7" (14Cm)

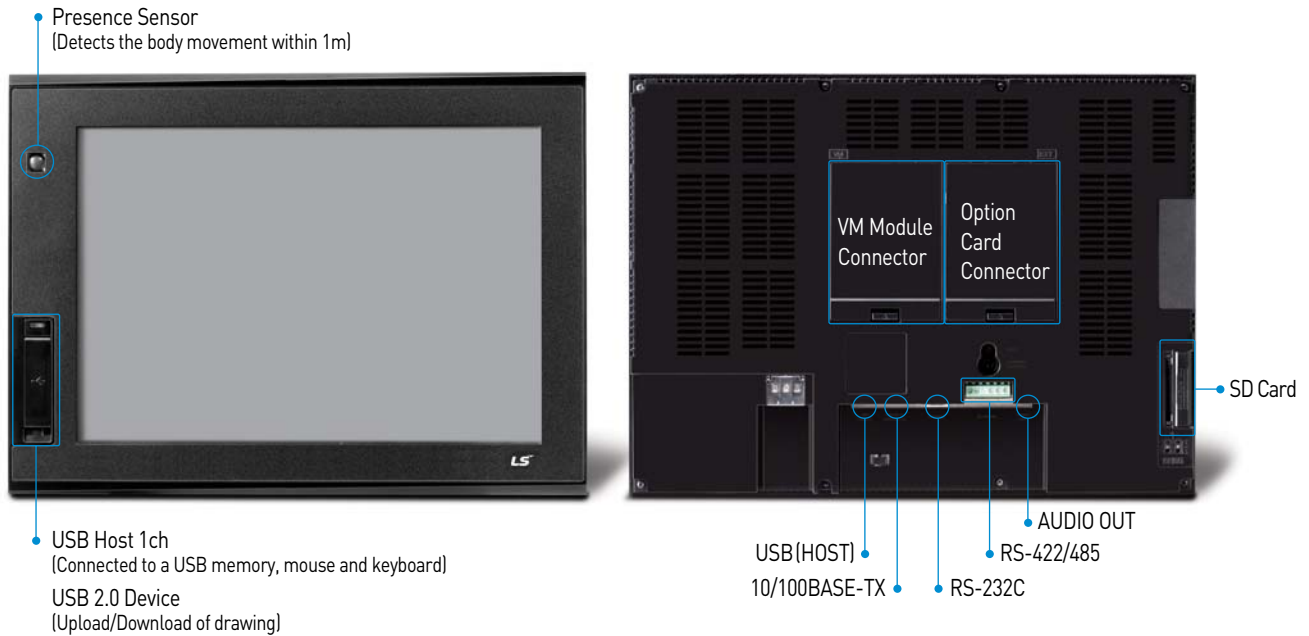
**XP30-TTA**  
**XP30-TTE** \*1 \*2 \*3

TFT 65,536 colors  
QVGA(320 × 240)

**XP30-BTA**  
**XP30-BTE** \*1 \*2 \*3

STN MONO (8-column Gray)  
QVGA(320 × 240)

## Hardware Related Functions **iXP**



### **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.



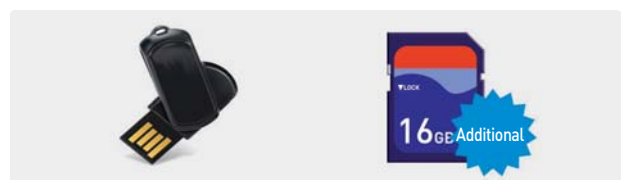
### **iXP** Sound Output Function (For all iXP models)

- 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

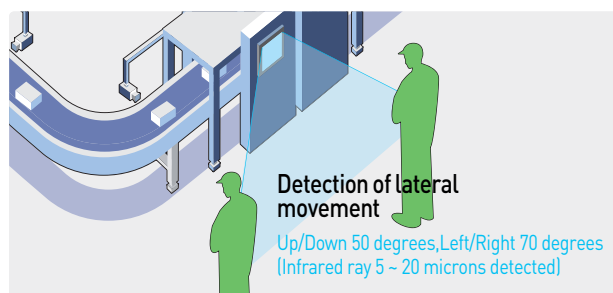
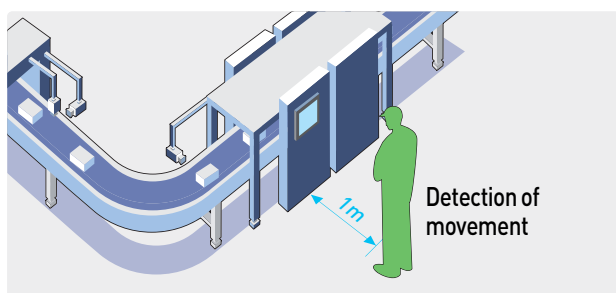
iXP supports additional SD memory cards along with previous USB memory to diversify the backup means.





## iXP Presence Sensor

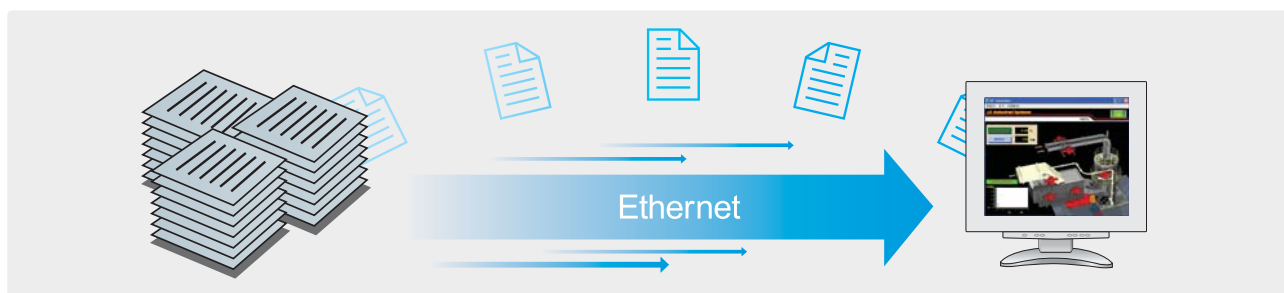
- The XP presence sensor detects movement within 1m to turn on a backlight.
- When not used, it turns OFF the screen to maintain a longer lifespan of the backlight.



## Hardware Related Functions iXP eXP XP

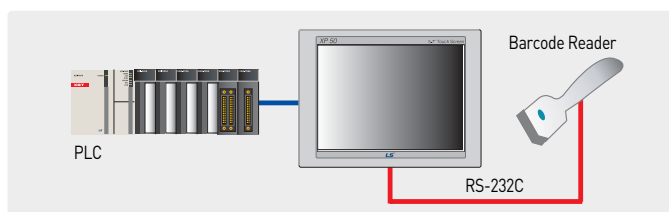
### Ethernet method for Quick Transmission of Mass Data

- 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

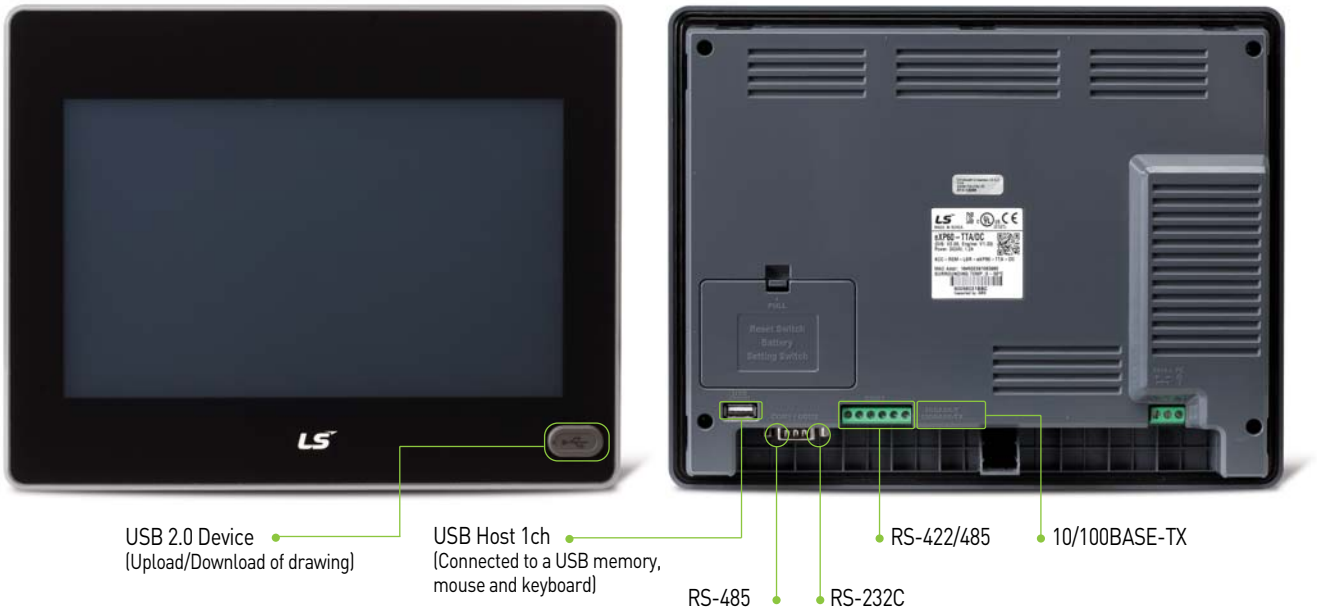
- ASCII data imported by accessing a barcode scanner from XGT Panel can be saved in the user-assigned PLC or XGT Panel's internal memory.
- Complete Bit can be randomly saved. It allows users to check whether the XGT Panel has read the data without errors.
- Communication with barcodes is possible by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



### Providing Various Communication Channels

Using RS-232C, RS-422/485 and Ethernet, XP and 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



### **eXP** 3-Channel Serial Communication

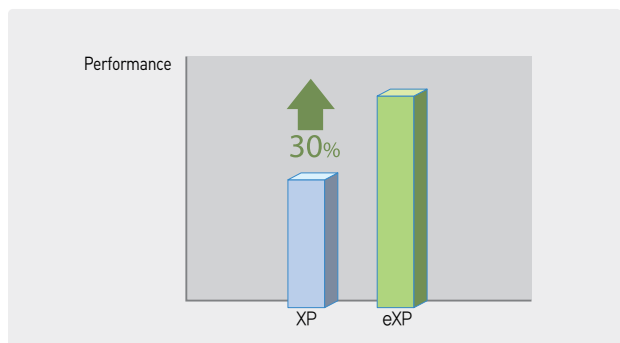
- Simultaneously communicable by RS-485, RS-232C, RS-422/485
- D-Sub 9-pin terminal includes COM1 and COM2

### **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**



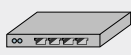
USB Host  
CF card: effective use of USB memory



RS-422/485  
RS-232C  
Ethernet

### **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.



USB Hub



Keyboard/Mouse



USB External Hard Disk

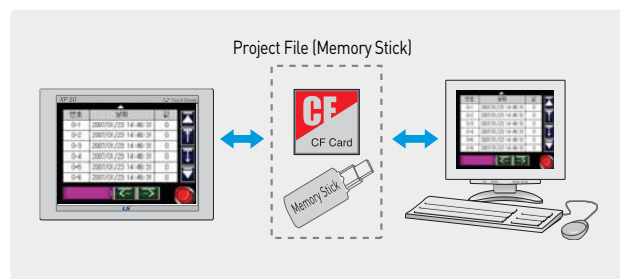
### **XP** A type **USB Cable (XP0-USBC)**

- 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.



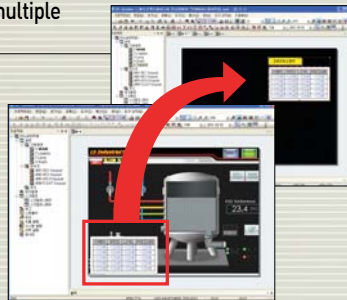
## XP-Builder

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

### XP-Builder Functions

#### Implementation of multiple programs

In order to use the previously created drawing data for a new drawing, more than 2 XP-Builder programs are executed simultaneously.



#### Function to check data

- To check for any error on the data created, and errors can be corrected by clicking on them.
- The specific description of error created is displayed.



#### Cross-reference function of devices

Devices used for drawing data and tags are displayed.



### Drawing Editor: XP-Builder

#### Project Window

Aligned for easier addition and edition of project view screens and special functions.

#### Data Element Window

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

#### Output Window

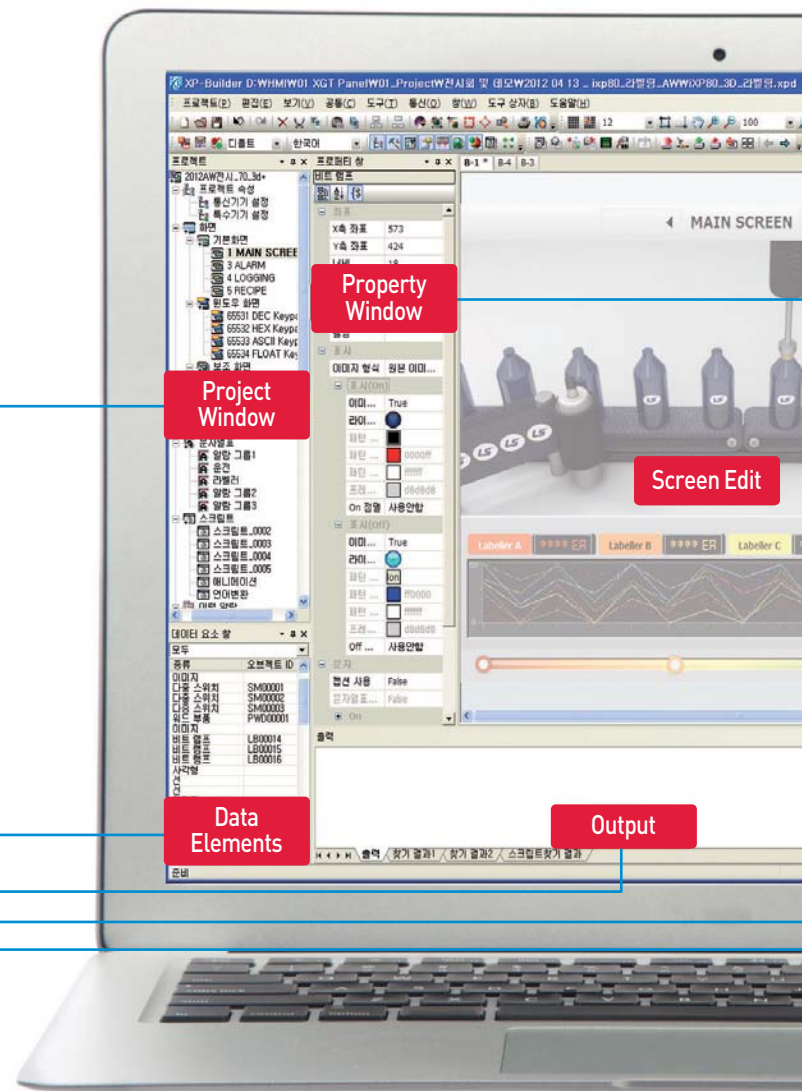
- Displays the error checked on drawing data and the search results.
- It displays the specific description of the errors created.

#### 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.





### 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.

| 번호 | 이름         | 타입  | 주소      | 비고 |
|----|------------|-----|---------|----|
| 1  | SourceA    | BIT | HW000.F |    |
| 2  | SourceB    | BIT | HW000.F |    |
| 3  | SourceA_V1 | BIT | HW000.E |    |
| 4  | SourceA_V2 | BIT | HW000.E |    |
| 5  | SourceA_V3 | BIT | HW000.E |    |
| 6  | SourceB_V1 | BIT | HW000.E |    |
| 7  | SourceB_V2 | BIT | HW000.E |    |
| 8  | SourceB_V3 | BIT | HW000.E |    |

### 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  
 Helvetica : ABCDEFGHIJKLMNOPQRSTUVWXYZ  
 Tahoma : ABCDEFGHIJKLMNOPQRSTUVWXYZ  
 Time : ABCDEFGHIJKLMNOPQRSTUVWXYZ  
 Verdana : ABCDEFGHIJKLMNOPQRSTUVWXYZ

가나다라마바사아자차카타파하  
 가나다라마바사아자차카타파하  
 가나다라마바사아자차카타파하  
 가나다라마바사아자차카타파하

### Animation function

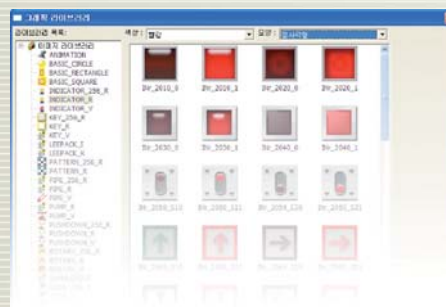
- When GIF format is used, animation effects can be realized depending on the state of given bit.
- When a video clip on given site is created into GIF to be added to a drawing screen, more accurate information can be delivered to users.  
 (Video clip files can be created using the commercial software for GIF creation)



### User-oriented screen UI

#### Providing a flexible script language

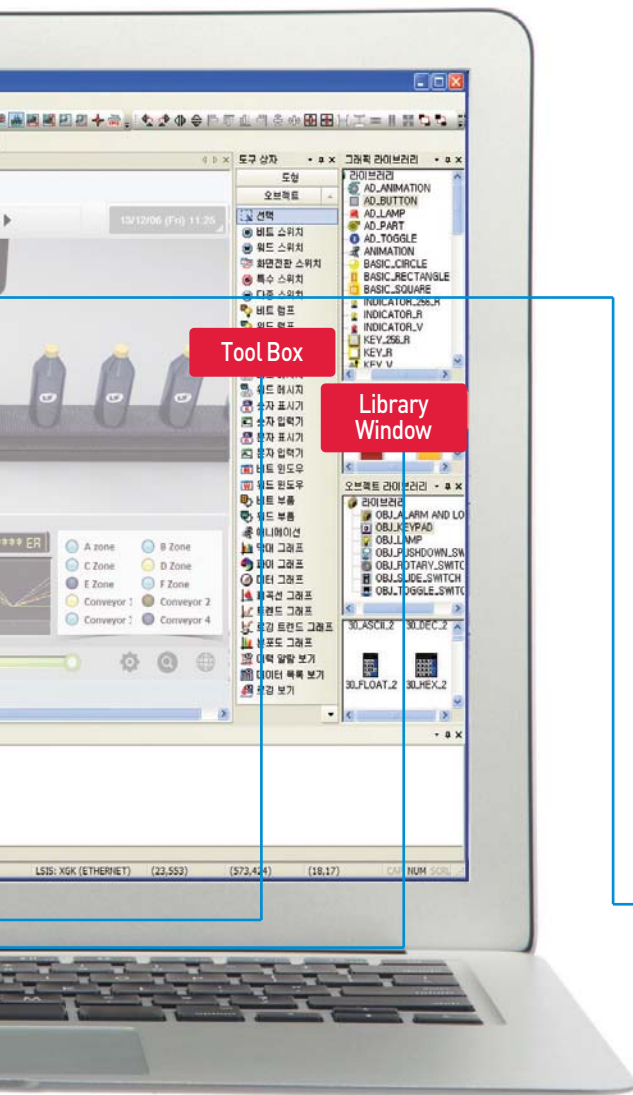
- Provides a screen UI that can be easily used considering user's experiences.
- Divided into categories so that a graphic library can be easily searched.
- Various graphic libraries are offered for enhanced usability.



#### 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.

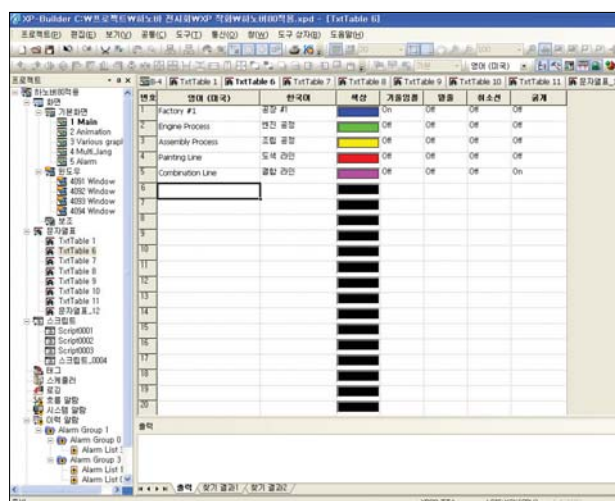
- Numerous objects on the screen can be selected at once to replace the pictures, enhancing users' convenience.
- When modifying several objects, only the objects with the same function should be selected.
- Users can correct both pictures and properties.



## Software Related Functions

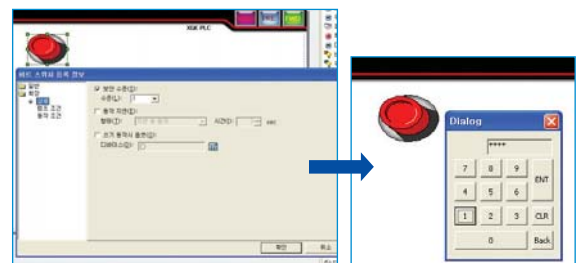
### Multi-lingual support & conversion to respond to the global enterprise environments

- 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.



### 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.

Free moves



Linear moves

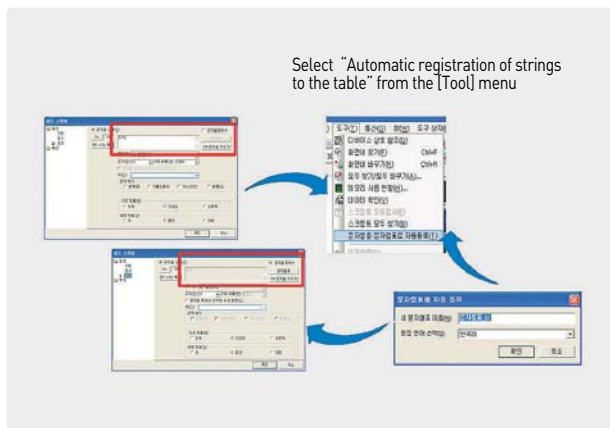




## Automatic registration of a character string table

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

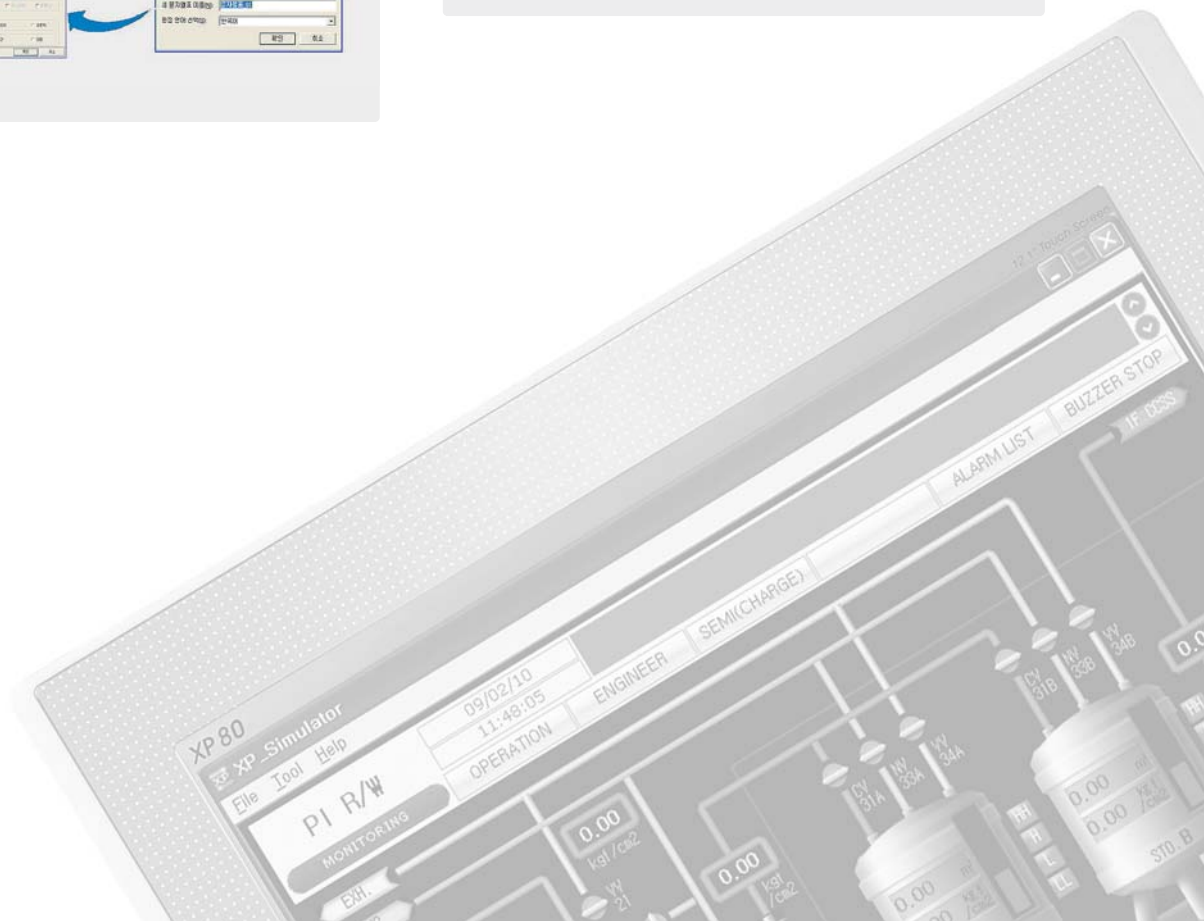
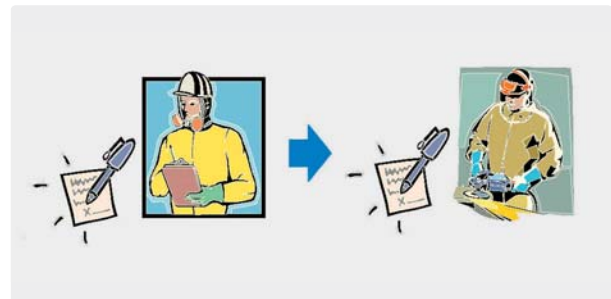
- When the file created using a single language is to be changed to a character string table for the purpose of multi-lingual support, it can be automatically registered to the character string table without inconvenience of users.
- All the static strings used in objects can be registered in the character 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.



## Memo pad function

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

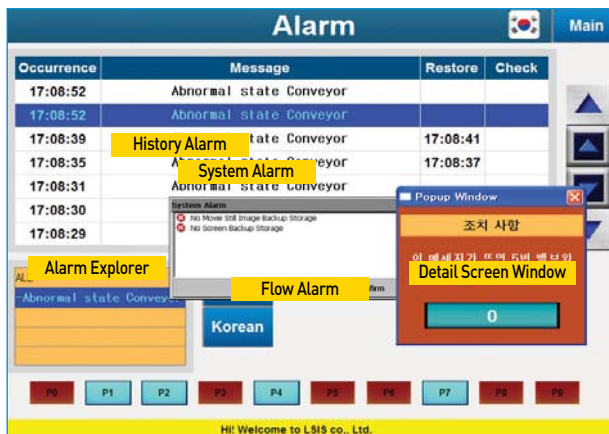
- It is useful in exchanging messages between operators working in turns.
- The user chooses the thickness and color of the pen and writes on a screen in order to input the message.
- Such memo can be saved in a CF card or a USB memory, and the data are archived even when the power is turned off.
- Users 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

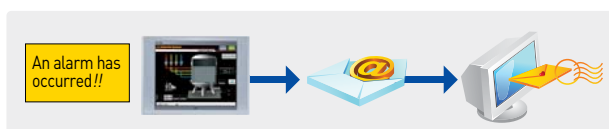
### Alarm Function

- 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, 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.

| No | Date/Time           | Power  | Speed | Level | Pressure |
|----|---------------------|--------|-------|-------|----------|
| 0  | 2007/03/30 17:37:12 | 2548   | 600   | 354   | 524      |
| 1  | 2007/03/30 17:37:17 | 4      | 1080  | 629   | 999      |
| 2  | 2007/03/30 17:37:22 | 1024   | 3100  | 1084  | 1674     |
| 3  | 2007/03/30 17:37:27 | 2      | 4360  | 1479  | 2349     |
| 4  | 2007/03/30 17:37:32 | 592    | 8640  | 1164  | 3224     |
| 5  | 2007/03/30 17:37:37 | 3      | 6860  | 2329  | 3699     |
| 6  | 2007/03/30 17:37:42 | 256    | 6100  | 2754  | 4374     |
| 7  | 2007/03/30 17:37:47 | 0      | 8060  | 3179  | 5049     |
| 8  | 2007/03/30 17:37:52 | 128    | 10800 | 3654  | 5724     |
| 9  | 2007/03/30 17:37:57 | -32768 | 11660 | 4029  | 6399     |
| 10 | 2007/03/30 17:38:02 | 64     | 13100 | 4454  | 7074     |
| 11 | 2007/03/30 17:38:07 | 16384  | 14200 | 4879  | 7749     |
| 12 | 2007/03/30 17:38:12 | 32     | 15800 | 5354  | 8424     |
| 13 | 2007/03/30 17:38:17 | 61162  | 16660 | 5729  | 9099     |



### 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 iXP series HMIs, not in XP series HMIs

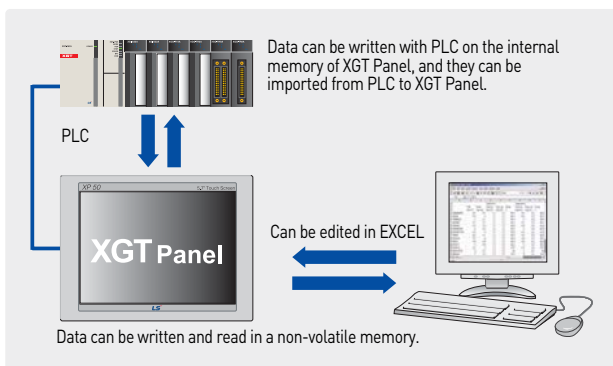
## Scheduler

- 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.

### Convenient script tool box & script error check

```

1 // Copyright (c) 2004~2006
2 // All rights reserved.
3 // Visit us: http://www.lsis.biz
4
5
6 if (@[W:HW1000] == 1240)
7 {
8     @[W:HW4000] = 5;
9     @[X:HX0000] = false;
10 }
11 else
12 {
13     @[X:HX00037] = false;
14     @[X:HX00020] = true;
15 }
16
17 ERROR:
18 {
19 }
20
21

```

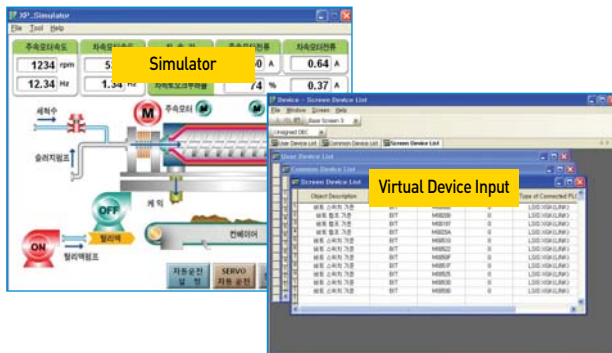


## Link with Controllers

### Convenient Simulator

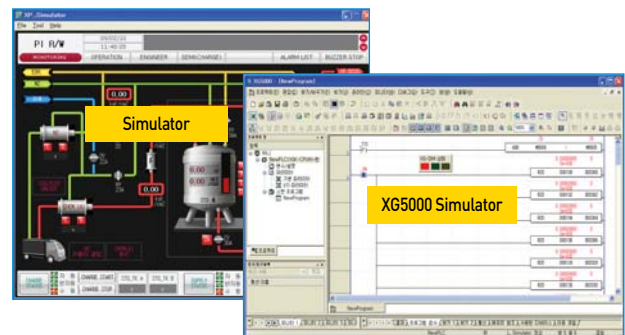
#### Offline simulation

- 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.



### Able to Link with PLC Simulator

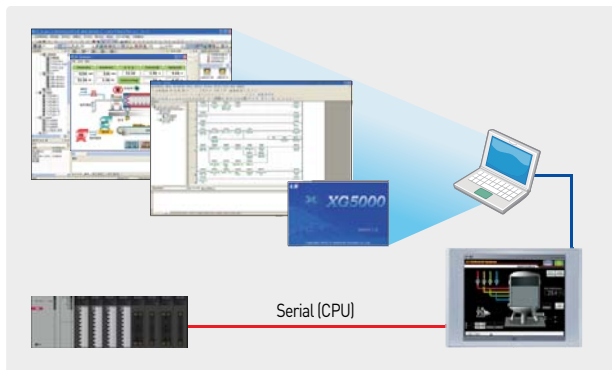
- Controlling and monitoring testing in PC linking XP-Builder (XP-Simulator) and PLC simulator
- Linking with LSIS PLC simulator and XG5000 simulator
- Linking with SIEMENS PLC simulator and S7-PLCSIM (S7-PLCSIM v5.4 or above)
- Linking with Rockwell Automation PLC simulator and RSLogix Emulate 5000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



### 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

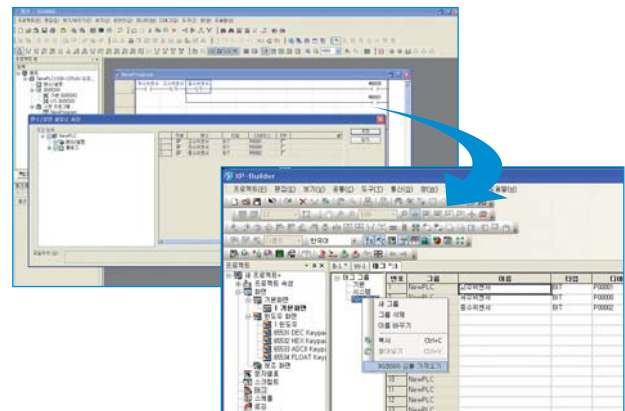
| Manufacturers     | Supported Drives   |
|-------------------|--|
| LSIS              | ALL LSIS PLC CPU<br>XGI/K Series Link (Only Remote-1 Connection) |
| Omron Corporation | CS/CJ Host Link Serial   |
| YASKAWA           | MEMOBUS RTU Master   |

### 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.



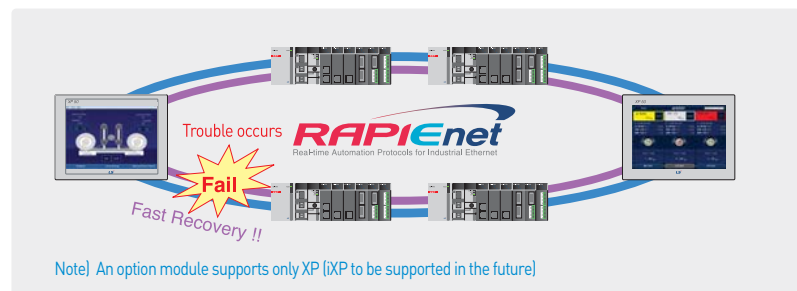
## Communication Options

### Fieldbus option provided

Various Fieldbus communications using the XGT Panel options

[RAPIenet, Profibus-DP and CANopen Slave offered]

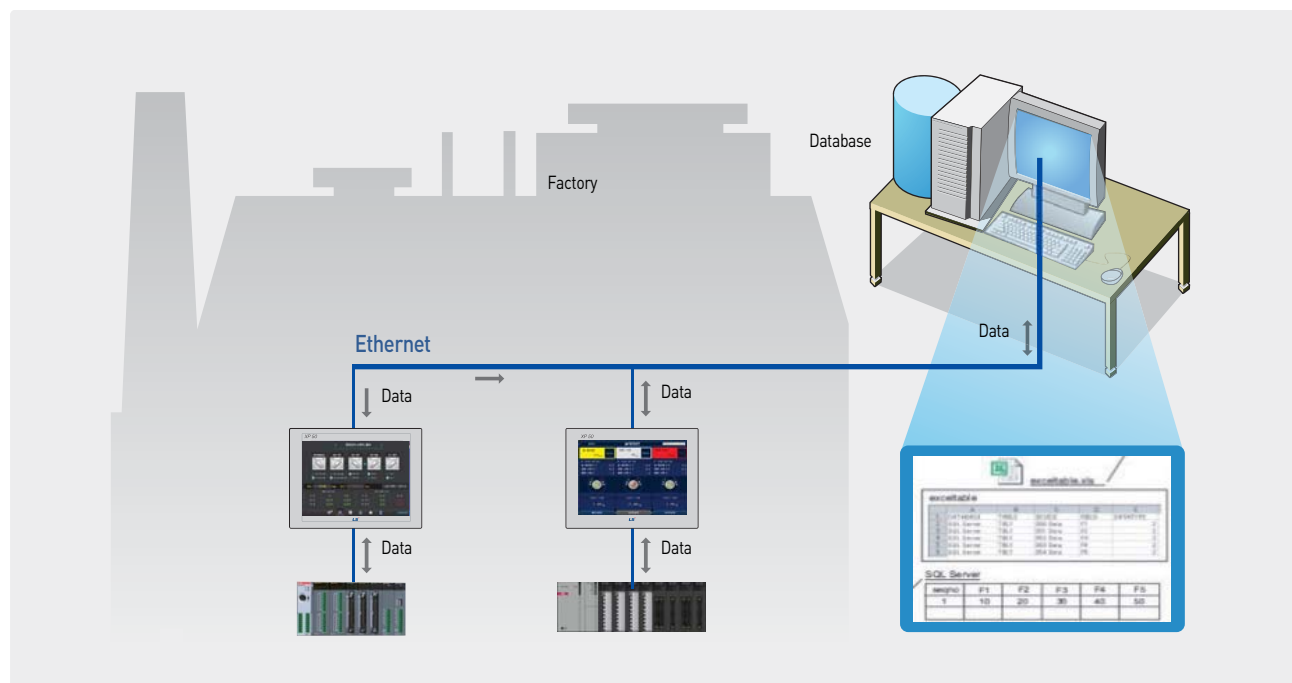
### RAPIenet(XPO-EIMT) twisted-pair ring system diagram



## 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

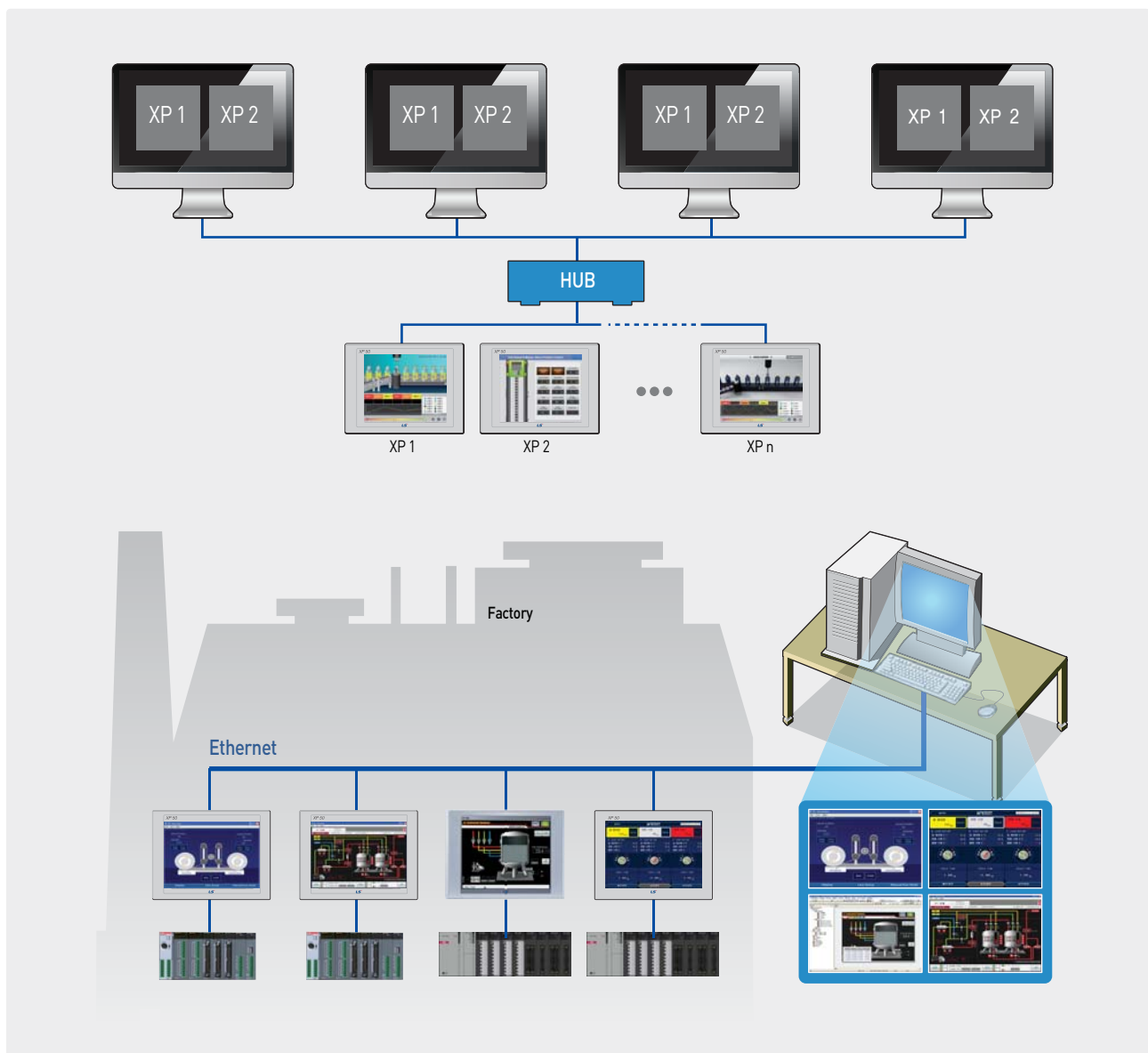


## External Monitoring Function

※ 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.

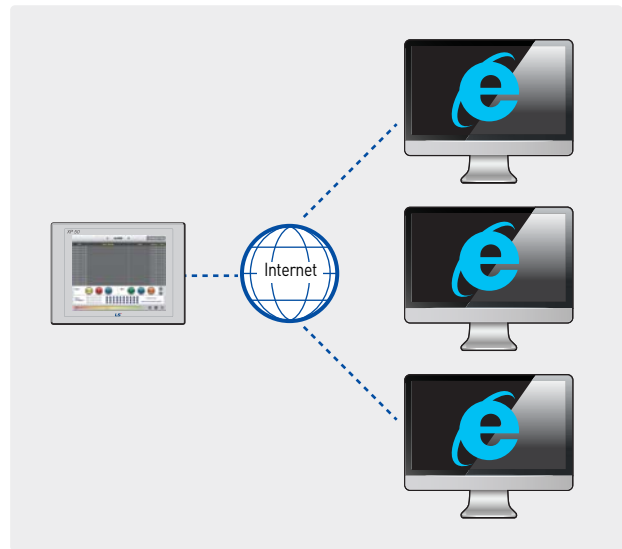




## Web Server

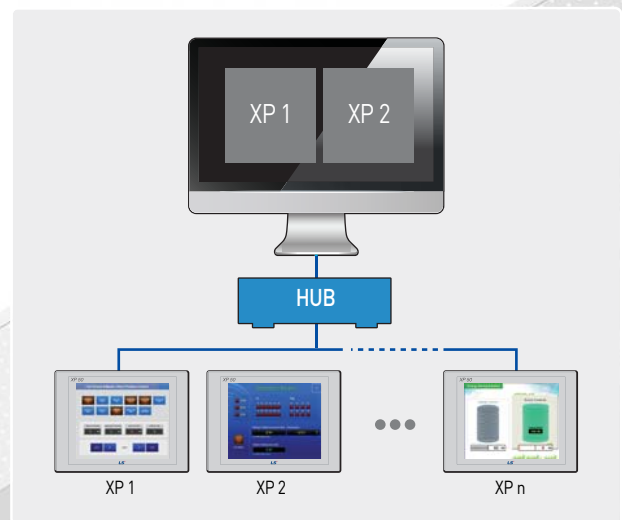
- The screen currently viewed on a XGT Panel can be viewed on a web browser via Internet.
- It is accessible in any place where Internet is connected.
- It can be connected to multiple Internet Explorers. (Impossible to access the XP screen at the same time)
- It is possible to upload the logging and 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 (S/W 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).





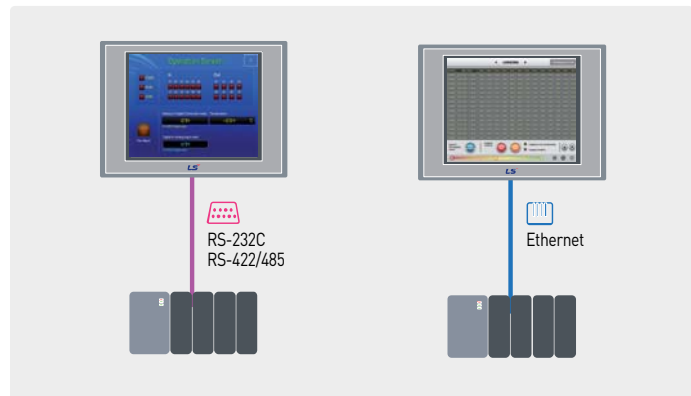
# Feature

## System Block Diagram

### 1 : 1 Serial/Ethernet Communication

One controller to one XGT Panel

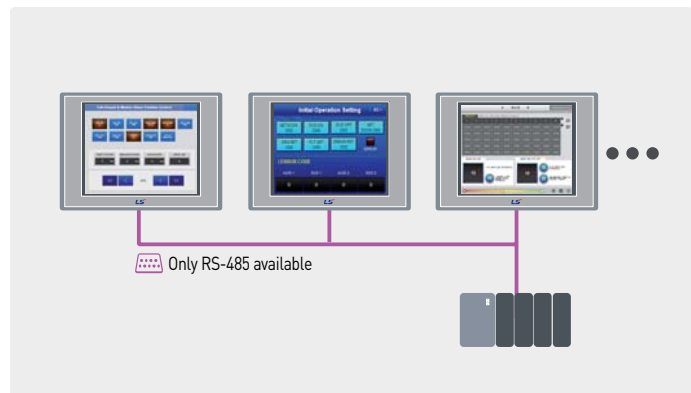
- ※ In case of the 1:1 Ethernet communication, a cross cable should be used.



### N : 1 Serial Communication

One controller to multiple XGT Panels (serial)

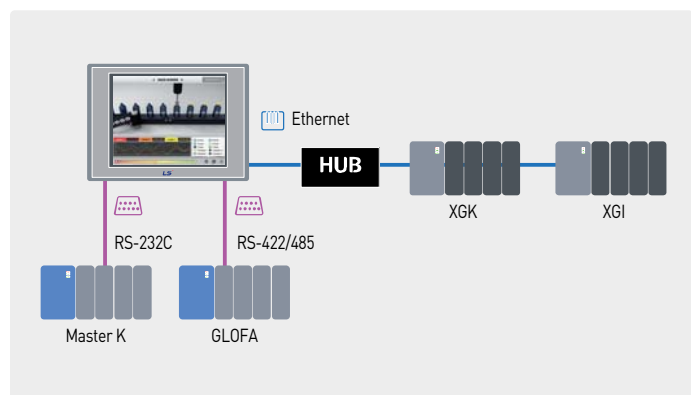
- ※ Up to 16 XGT Panels can be connected, but the speed for screen refreshing varies according to the number of panels.
- ※ Connection available only to specific controllers (limited to PLCs)



### Simultaneous connection with multiple controllers

4 kinds of controllers to one XGT Panel

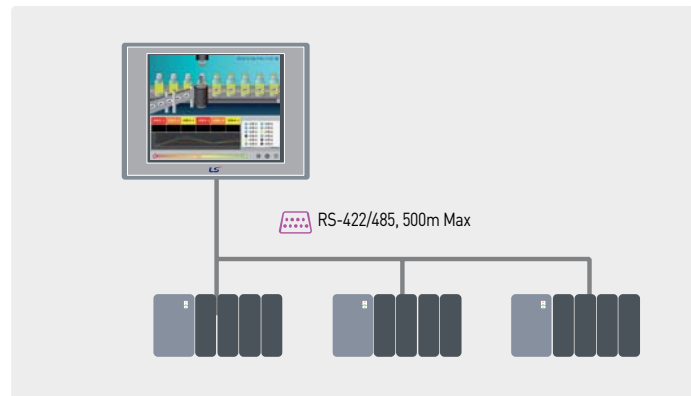
- ※ Without the RS-422/485 and RS-232C, up to 4 controllers can be connected using only Ethernet.
- ※ When it comes to iXP, up to 16 controllers can be connected.



## 1 : N Serial Communication (Multi Drop)

Multiple controllers to one XGT Panel

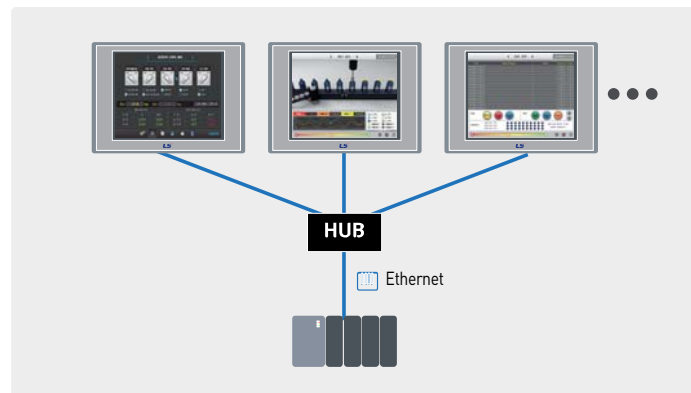
※ When 1:N communication is applied, the same types of controllers should be used.



## N:1 Ethernet Communication

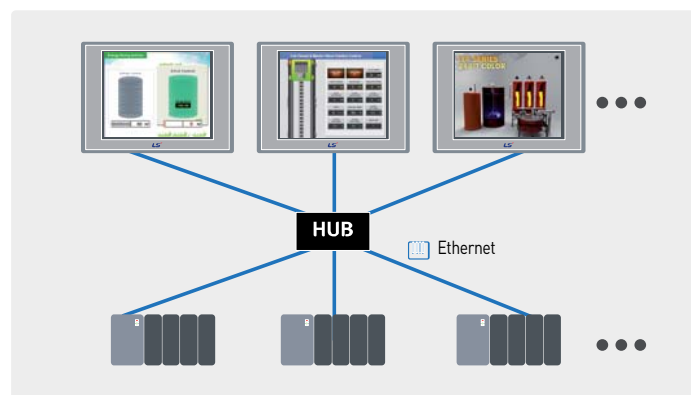
One controller to multiple XGT Panels (Ethernet)

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



## N:M Ethernet Communication

Multiple controllers to multiple XGT Panels







# 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.

## 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

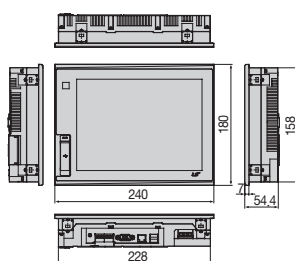
- Various storage interfaces (USB/SD)
- Movement detection (presence sensor) system (within 1m)



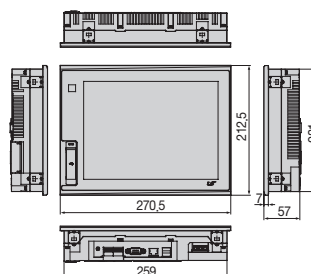
## Dimensions

[Unit: mm]

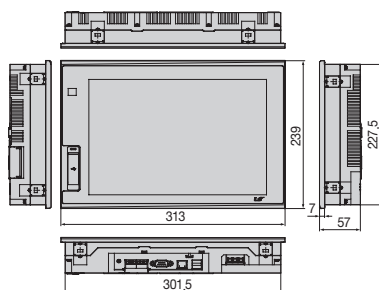
iXP50-TTA



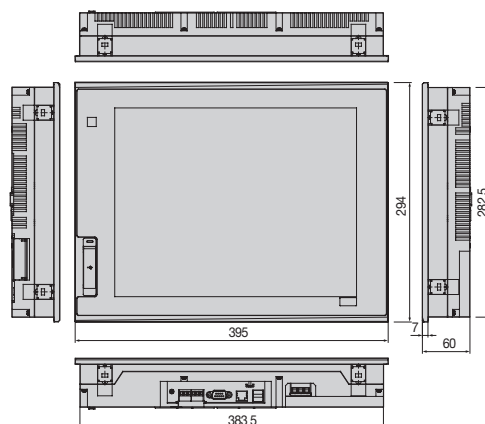
iXP70-TTA



iXP80-TTA



iXP90-TTA





## General Information

| Item                 | Description   |  |           | Standard   |
|----------------------|---|--|-----------|--|
| Ambient Temperature  | 0℃~+50℃   |  |           |  |
| Storage Temperature  | -20℃~+60℃   |  |           |  |
| Ambient Humidity     | 10~85%RH, without dew condensation  |  |           |  |
| Storage Humidity     | 10~85%RH, without dew condensation  |  |           |  |
| Vibration resistance | Occasional vibration  |  |           | Counts<br><br>10 times each direction<br>(X, Y and Z)<br><br>IEC 61131-2 |
|                      | Frequency   | Acceleration                                     | Amplitude |  |
|                      | 5 ≤ f < 9Hz   | —  | 3.5mm     |  |
|                      | 9 ≤ f ≤ 150Hz   | 9.8%   | -         |  |
|                      | Continuous vibration  |  |           |  |
|                      | Frequency   | Acceleration                                     | Amplitude |  |
|                      | 5 ≤ f < 9Hz   | -  | 1.75mm    |  |
|                      | 9 ≤ f ≤ 150Hz   | 4.9%   | -         |  |
| Shock resistance     | Maximum shock acceleration: 147%(15g) * Authorization time: 11ms<br>* Pulse waveform: Half-sine wave [3 times each of X, Y and Z] * |  |           | IEC 61131-2  |
| Vibration resistance | Square wave impulse noise   | DC: ±1,200V AC: ±1,800V                          |           | LSIS Standards   |
|                      | Electrostatic discharge   | ±4kV (Contact discharge)                         |           | IEC 61131-2, IEC 61000-4-2   |
|                      | Radiated electromagnetic field noise  | 80 ~ 100MHz, 10V/m                               |           | IEC 61131-2, IEC 61000-4-3   |
|                      | Fast transient/Burst noise  | Power Module: 2 kV, Communication Interface: 1kV |           | IEC 61131-2, IEC 61000-4-4   |
| Operating ambience   | Free from corrosive gas and excessive dust  |  |           |  |
| Altitude             | 2,000m (6,562ft) or below   |  |           |  |
| Pollution degree     | 2 or under  |  |           |  |
| Cooling method       | Natural air-cooling   |  |           |  |

## Specifications

| Item                  | iXP50-TTA/DC   | iXP70-TTA/DC<br>iXP70-TTA/AC  | iXP80-TTA/DC<br>iXP80-TTA/AC | iXP90-TTA/DC<br>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 <sup>2</sup>  | 700 cd/m <sup>2</sup>   | 550 cd/m <sup>2</sup>        | 800 cd/m <sup>2</sup>        |
| 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℃)   |   |                              |                              |
| Ethernet              | 1 channel, 10/100BASE-TX   |   |                              |                              |
| USB Host              | 3 channels, USB 2.0 host (mouse, keyboard, printer* and USB memory driver is available)<br>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<br>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

## eXP Series

- 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

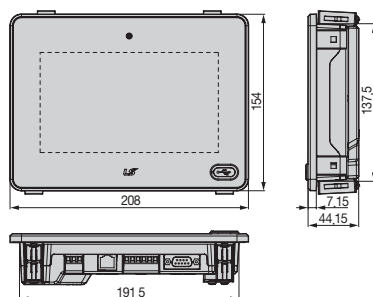
\*Functions that support only the TTA model



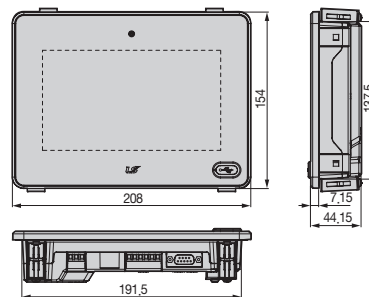
### Dimensions

[Unit: mm]

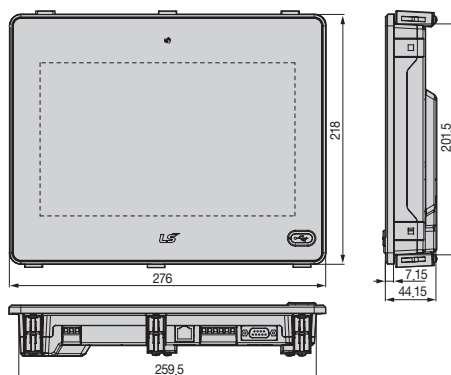
eXP40-TTA



eXP40-TTE



eXP60-TTA



## General Information

| Item                 | Description  | Standard   |
|----------------------|--|--|
| Ambient temperature  | 0℃~+50℃  |  |
| Storage temperature  | -20℃~+60℃  |  |
| Ambient humidity     | 10~85%RH, without dew condensation   |  |
| Storage humidity     | 10~85%RH, without dew condensation   |  |
| Vibration resistance | Occasional Vibration   | Counts   |
|                      | Frequency  | Acceleration   |
|                      | 5 ≤ f < 9Hz  | -  |
|                      | 9 ≤ f ≤ 150Hz  | 9.8%   |
|                      | Continuous Vibration   | Amplitude  |
|                      | Frequency  | Amplitude  |
|                      | 5 ≤ f < 9Hz  | -  |
| Shock resistance     | Maximum shock acceleration: 147% (15g) Authorization time: 11ms Pulse waveform: Half-sine wave pulse (3 times each of X,Y and Z) | IEC 61131-2  |
|                      | Square wave impulse noise  | DC: ±1,200V  |
|                      | Electrostatic discharge  | ±4kV (Contact discharge)                             |
|                      | Radiated electromagnetic field noise   | 80 ~ 100MHz, 10V/m                                   |
| Noise resistance     | Fast transient/Burst noise   | Power module: 2.4 kV, Communication interface: 1.2kV |
|                      |  | IEC 61131-2, IEC 61000-4-4                           |
| Operating ambience   | Free from corrosive gas and excessive dust   |  |
| Altitude             | 2,000m (6,562ft) or below  |  |
| Pollution degree     | 2 or under   |  |
| Cooling method       | Natural air-cooling  |  |

## Specifications

| Item                  |               | eXP40-TTE/DC  | eXP40-TTA/DC             | eXP60-TTA/DC                                  |
|-----------------------|---------------|---|--------------------------|---|
| Display Type          |               | TFT color LCD   |                          |   |
| Display Size          |               | 17.7cm (7 inch)   |                          | 25.9cm (10.2 inch)                            |
| Resolution            |               | 800 x 480 (WVGA)  |                          |   |
| Color                 |               | 65,536 colors   |                          |   |
| Display Angle         |               | Left/Right: 60 deg. Up: 40 deg. Down: 60 deg.   |                          | Left/Right: 55 deg. Up: 35 deg. Down: 55 deg. |
| Backlight             |               | LED mode, Auto On/Off   |                          |   |
| Backlight Capacity    |               | 20,000 hr   |                          |   |
| Brightness            |               | 230 cd/m <sup>2</sup>   |                          | 200 cd/m <sup>2</sup>                         |
| Touch Panel           |               | 4-wire system, Analogue   |                          |   |
| Sound                 |               | Magnetic buzzer (85dB)  |                          |   |
| Processor             |               | ARM9 Core (32bit RISC), 454MHz  |                          |   |
| Memory                | Flash         | 128MB(Screen 64MB)  |                          |   |
|                       | Operation RAM | 128MB   |                          |   |
|                       | Backup RAM    | 128KB   |                          |   |
| Backup Type           |               | Date/Time data, Logging/Alarm/Recipe data, non-volatile device                          |                          |   |
| Batter Capacity       |               | Around 3 years (Upon operation at 25°C)   |                          |   |
| Ethernet              |               | -   | 1 channel, 10/100BASE-TX |   |
| USB Port              |               | 1 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-485                |               | 1 channel   |                          |   |
| RS-422/485            |               | 1 channel, 422/485 Combination  |                          |   |
| Multi-language        |               | Up to 12 language simultaneously  |                          |   |
| Animation             |               | GIF format is available   |                          |   |
| Recipe                |               | available   |                          |   |
| Data logging          |               | available   |                          |   |
| Script executor       |               | available   |                          |   |
| Certification         |               | CE, UL(cUL), KC   |                          |   |
| Protection            |               | IP65  |                          |   |
| Size (mm)             |               | 208.0 × 154.0 × 44.0  |                          | 276.0 × 218.0 × 44.2                          |
| Panel Cut (mm)        |               | 192.0 × 138.0   |                          | 260.0 × 202.0                                 |
| Power                 |               | DC24V   |                          |   |
| Power Consumption (W) |               | 23.1  | 23.1                     | 23.1  |
| Weight (kg)           |               | 0.59  | 0.60                     | 1.0   |

\* SEW00 printer only



## XP Series

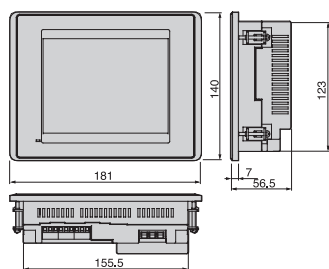
- 65,536 TFT color
- 4/10/20MB User memory, 128/512KB Backup memory
- Ethernet & serial communications support
- USB Host function to be used in various PC devices
- Up to 12 languages at a time and a batch-change of languages
- Offline simulations  
(Link to the XG5000 simulator)



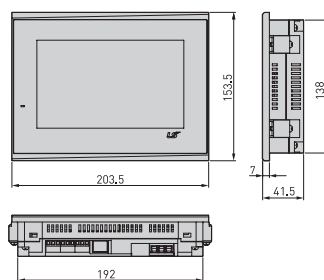
### Dimensions

[Unit: mm]

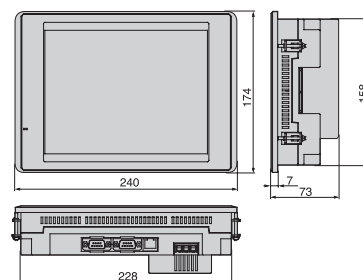
XP30-TTA/TTE



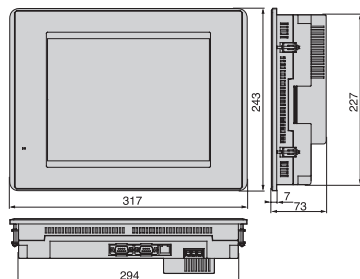
XP40-TTA/TTE (7" wide Type)



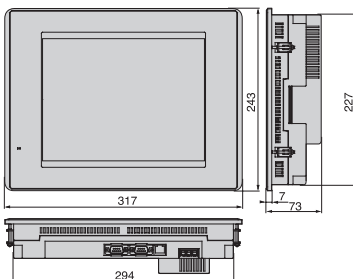
XP50-TTA



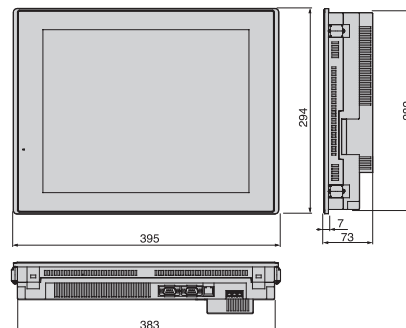
XP70-TTA



XP80-TTA



XP90-TTA



## General Information

| No. | Item                 | Description  | Standard   |
|-----|----------------------|--|--|
| 1   | Ambient temperature  | 0℃~+50℃  |  |
| 2   | Storage temperature  | -20℃~+60℃  |  |
| 3   | Ambient humidity     | 10~85%RH, without dew condensation   |  |
| 4   | Storage humidity     | 10~85%RH, without dew condensation   |  |
| 5   | Vibration Resistance | -20℃~+60℃  | Counts   |
|     |                      | Frequency  | Acceleration                                     |
|     |                      | 5 ≤ f < 9Hz  | -  |
|     |                      | 9 ≤ f ≤ 150Hz  | 9.8%   |
|     |                      | Continuous Vibration   |  |
|     |                      | Frequency  | Acceleration                                     |
|     |                      | 5 ≤ f < 9Hz  | -  |
| 6   | Shock Resistance     | Maximum shock acceleration: 147%g(15g) Authorization time: 11ms Pulse waveform: Half-sine wave pulse (3 times each of X,Y and Z) | IEC 61131-2                                      |
|     |                      | Square wave impulse noise  | AC: ±1,500V DC: ±1,000V                          |
|     |                      | Electrostatic discharge  | Voltage: 6 kV (Contact discharge)                |
|     |                      | Radiated electromagnetic field noise   | 27 ~ 500MHz, 10V/m                               |
| 7   | Noise Resistance     | Fast transient/Burst noise   | Power module: 2 kV, Communication interface: 1kV |
|     |                      |  |  |
|     |                      |  |  |
|     |                      |  |  |
| 8   | Operating ambience   | Free from corrosive gas and excessive dust   |  |
| 9   | Altitude             | 2,000m (6,562ft) or below  |  |
| 10  | Pollution degree     | 2 or under   |  |
| 11  | Cooling method       | Natural air-cooling  |  |

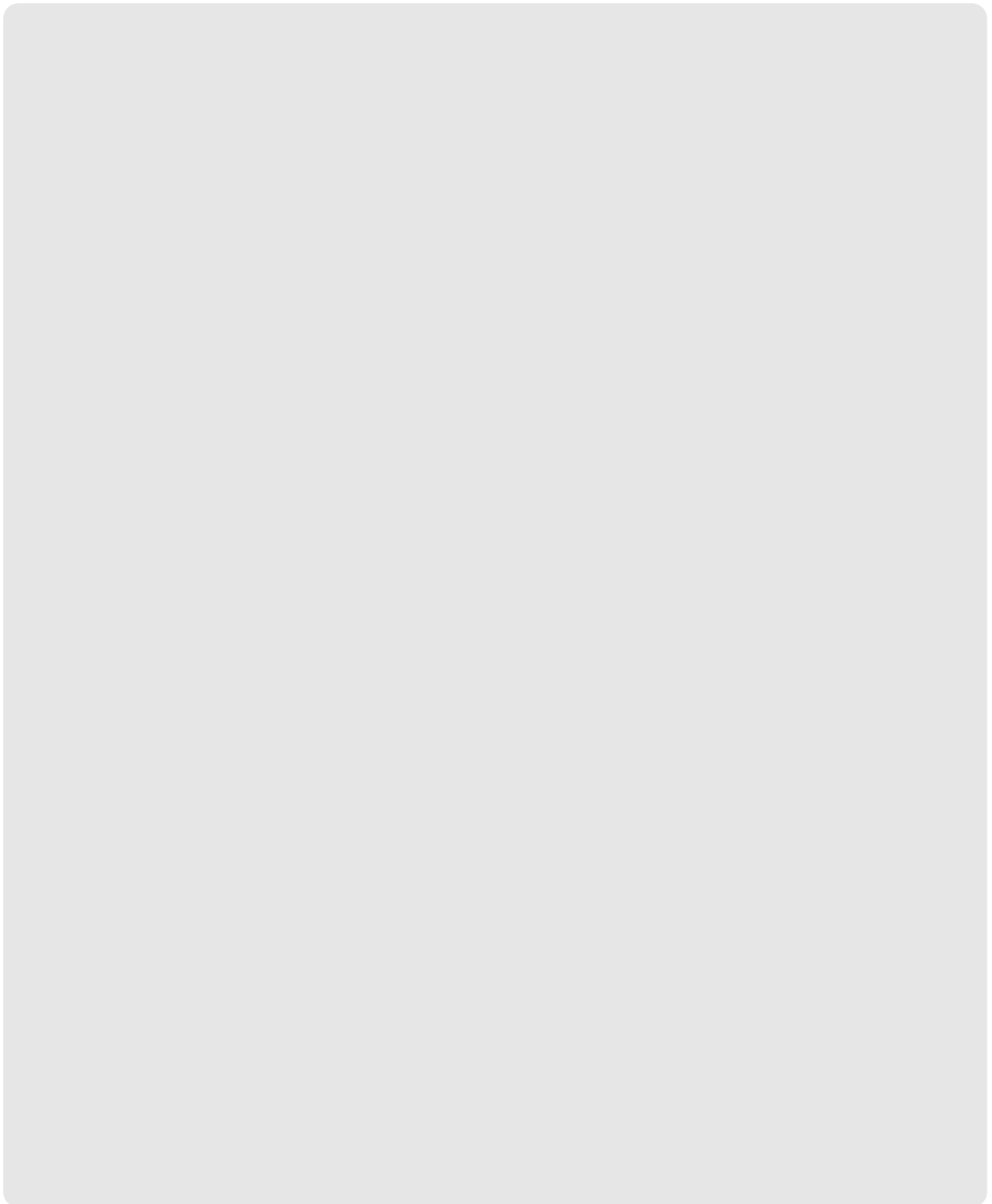
## Specifications

| 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<br>XP70-TTA/DC | XP80-TTA/AC<br>XP80-TTA/DC | XP90-TTA/AC          |       |      |
|-------------------|-----------------------|--|----------------------------|------------------|----------------------|----------------------|-------------------|------------------------------------|----------------------------|----------------------------|----------------------|-------|------|
|                   |                       | Mono   |                            | Color            |                      |                      |                   |                                    |                            |                            |                      |       |      |
| Display Element   |                       | Mono Blue LCD  |                            |                  | TFT color LCD        |                      |                   |                                    |                            |                            |                      |       |      |
| Screen Size       |                       | 14cm [5.7"]  |                            |                  |                      | 17.7cm [7"]          |                   | 21cm [8.4"]                        | 26cm [10.4"]               | 31cm [12.1"]               | 38cm [15"]           |       |      |
| Resolution        |                       | 320×240  |                            |                  |                      | 800×480              |                   | 640×480                            |                            | 800×600                    | 1024×768             |       |      |
| Color             |                       | 8-column Gray Scale  |                            | 256 colors       | 65,536 colors        |                      | 65,536 colors     |                                    |                            |                            |                      |       |      |
| Backlight         |                       | LED mode   |                            |                  |                      |                      |                   | CCFL(can be replaced), Auto On/Off |                            |                            |                      |       |      |
|                   |                       | 50,000 hours   |                            |                  | 60,000 hours         | 30,000 hours         |                   | 50,000 hours                       |                            |                            | 60,000 hours         |       |      |
| Contrast          |                       | Adjustable   |                            |                  | Fixed                |                      |                   |                                    |                            |                            |                      |       |      |
| Brightness        |                       | 230cd/m <sup>2</sup>   |                            |                  | 600cd/m <sup>2</sup> | 280cd/m <sup>2</sup> |                   | 480cd/m <sup>2</sup>               | 430cd/m <sup>2</sup>       | 400cd/m <sup>2</sup>       | 450cd/m <sup>2</sup> |       |      |
| Viewing Angle     | Up/Down(Degree)       | 20/40  |                            | 80/80            | 70/70                |                      | 50/60             |                                    | 50/60                      | 45/65                      | 45/75                | 60/50 |      |
|                   | Left/Right(Degree)    | 45/45  |                            | 80/80            |                      | 65/65                |                   | 65/65                              |                            | 65/65                      | 65/65                | 75/75 |      |
| Touch Panel       |                       | 4-wire system, analogue  |                            |                  |                      | Analog 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                               |                            |                            | 20MB                 |       |      |
|                   | Backup Data           | 128KB  | 512KB                      | 128KB            | 512KB                | 128KB                | 512KB             |                                    |                            |                            |                      |       |      |
| Ethernet          |                       | -  | 1ch, 10/100Base-T          | -                | 1ch, 10/100Base-T    | -                    | 1ch, 10/100Base-T |                                    |                            |                            |                      |       |      |
| USB Interface     |                       | USB Host × 1   | USB Host × 2               | USB Host × 1     | USB Host × 2         | USB Host × 1         |                   | USB Host × 2                       |                            |                            |                      |       |      |
| Serial            | RS-232C               | 2ch(1 port for PC communication)   |                            |                  |                      |                      |                   |                                    |                            |                            |                      |       |      |
|                   | RS-422/485            | 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, 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     | 203.5 x 153.5 x 41.5 |                   | 240 x 174 x 73                     | 317 x 243 x 73             |                            | 395 x 294 x 73       |       |      |
| Panel Cut (W×H)mm |                       | 155.0 x 123.5  |                            |                  |                      | 192 x 138            |                   | 228.5 x 158.5                      | 294.5 x 227.5              |                            | 383.5 x 282.5        |       |      |
| Weight (kg)       |                       | 0.62   | 0.75                       | 0.62             | 0.75                 | 2.2                  | 2.4               | 1.4                                | 2.2                        | 2.4                        | 3.9                  |       |      |
| Power             | Rated Voltage         | DC 24V   |                            |                  |                      |                      |                   | AC100~220V, DC 24V                 |                            |                            | AC100~220V           |       |      |
|                   | Permitted Voltage     | AC   | -                          |                  |                      |                      |                   |                                    | MIN 85 VAC, MAX 264 VAC    |                            |                      | -     |      |
|                   |                       | DC   | MIN 19.2 VDC, MAX 28.8 VDC |                  |                      |                      |                   |                                    |                            |                            |                      |       | -    |
|                   | Power Consumption (W) | AC   | -                          |                  |                      |                      |                   |                                    | 21.8                       |                            |                      | 31.9  | 31.9 |
|                   |                       | 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                         |
|-------------------------------|-------------------------------------|
| LSIS                          | GM CPU                              |
|                               | GM Cnet                             |
|                               | GM Enet                             |
|                               | MK CPU                              |
|                               | MK Cnet                             |
|                               | MK Enet                             |
|                               | XGK CPU                             |
|                               | XGK Cnet                            |
|                               | XGK Enet                            |
|                               | XGK EtherNet/IP                     |
|                               | XGB CPU                             |
|                               | XGB Cnet                            |
|                               | XGB Enet                            |
|                               | XGB EtherNet/IP                     |
|                               | XGI/XGR CPU                         |
|                               | XGI/XGR Cnet                        |
|                               | XGI/XGR Enet                        |
|                               | XGI/XGR EtherNet/IP                 |
|                               | XEC CPU                             |
|                               | XEC Cnet                            |
|                               | XEC Enet                            |
|                               | XEC EtherNet/IP                     |
|                               | Inverter LSBus                      |
|                               | Inverter Modbus                     |
|                               | User Defined Protocol               |
|                               | User Defined Protocol (Slave)       |
|                               | XGT Servo                           |
| LS Mecapion                   | VS/VP Servo Drive                   |
|                               | MXQ Series                          |
| BACnet                        | IP Master                           |
| BYD Auto                      | BYD Auto dedicated                  |
| CAN in Automation             | CANopen Slave                       |
| Control Techniques            | CT Modbus RTU                       |
| DAEWON GSI                    | DAEWON GSI dedicated controller     |
| Dasarobot                     | iM-SIGMA series                     |
| Delta Electronics             | DVP Series                          |
| Digital Electronics(Pro-face) | Memory Link                         |
| Fuji Electric Systems         | MICREX-SX Series SIO                |
|                               | MICREX-SX Ethernet                  |
| GE Intelligent Platforms      | SNP                                 |
|                               | SNP-X                               |
| HANYOUNG NUX                  | Temperature Controller              |
| HIGEN Motors                  | Servo                               |
| Hitachi                       | H Series Ethernet                   |
|                               | H Series Link                       |
| HYUNDAI Elevator              | SKY-RAV(Ethernet)                   |
|                               | SKY-RAV(Link)                       |
| KDT Systems                   | CIMON Serial Link                   |
|                               | BP Series Loader                    |
|                               | CP Series Loader                    |
|                               | XP Series Loader                    |
| KEYENCE                       | KV-700/1000/3000/5000/5500 Serial   |
|                               | KV-700/1000/3000/5000/5500 Ethernet |

| Manufacturer                 | Driver name                      |
|------------------------------|----------------------------------|
| KOYO Electronic              | DirectNet                        |
| KTURBO                       | Turbo Blower                     |
| Lenze Automation             | Lecom A/B                        |
| Mitsubishi Electric          | MELSEC A-CPU                     |
|                              | MELSEC A-Link                    |
|                              | MELSEC FX-CPU                    |
|                              | MELSEC FX-Ethernet               |
|                              | MELSEC FX-Link                   |
|                              | MELSEC Q-CPU, "U" Type excluded  |
|                              | MELSEC QnA-Link                  |
|                              | MELSEC QnA-Ethernet              |
|                              | MELSEC QnU CPU Ethernet          |
|                              | MELSERVO-J2                      |
|                              | MELSERVO-J3                      |
| OMRON                        | CS/CJ Series Ethernet            |
|                              | CS/CJ Host Link                  |
|                              | C Series Host Link               |
|                              | CS1 EtherNet/IP                  |
|                              | CJ2 EtherNet/IP                  |
| Panasonic Electric           | FP Series                        |
|                              | MINAS Servo                      |
| Parker                       | Hi-Drive                         |
| PROFIBUS International       | PROFIBUS DP Slave                |
| Rockwell Automation          | Compact/ControlLogix EtherNet/IP |
|                              | MicroLogix EtherNet/IP           |
|                              | SLC500 Series DF1                |
|                              | Compact/ControlLogix DF1         |
|                              | MicroLogix DF1                   |
| RS Automation                | N/NX-CCU                         |
|                              | NX-CCU+                          |
| Schneider Electric           | MODBUS RTU Master                |
|                              | MODBUS RTU Slave                 |
|                              | MODBUS TCP Master                |
|                              | MODBUS TCP Slave                 |
|                              | MODBUS ASCII Master              |
|                              | MODBUS ASCII Slave               |
| SEW EURODRIVE                | MOVIDRIVE Serial                 |
| Siemens AG                   | S7 3964(R)/RK512                 |
|                              | S7 MPI(Adapter)                  |
|                              | S7 PPI                           |
|                              | LOGO Ethernet                    |
|                              | S7 1200 Ethernet                 |
|                              | S7 300/400 Ethernet              |
| Sprint Electric              | DC Motor Drive Ethernet          |
| YASKAWA Electric             | MEMOBUS RTU Master               |
|                              | MP Series Ethernet (Extension)   |
| YOKOKAWA Electric            | FA-M3 Series                     |
|                              | FA-M3 Series-Ethernet            |
| Beckhoff                     | ADS Ethernet                     |
| TSSI                         | VERID+ FingerPrint Reader        |
| FATEC Automation Corporation | FB Series Serial                 |





# Worldwide Network

Head Office and Domestic Factories (Cheongju, Cheonan, Busan)

## Domestic Factories

- **Head Office**  
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181 Samseong-ri, Mokcheon-myeon, Cheonan-si Chungnam-do, 330-840 Korea  
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- **Busan Factory**  
1-19 Block Hwajeon-dong, Gangseo-gu, Busan, 618-280, Korea  
Tel : 82-51-795-6114 Fax : 82-51-795-6169

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- **Wuxi Factory, CHINA**  
102-A. National High & New Tech Industrial Development Area, Wuxi. Jiangsu. 214028. P.R. China  
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Cheongju Factory



Wuxi Factory (China)



Cheonan Factory



Dalian Factory (China)

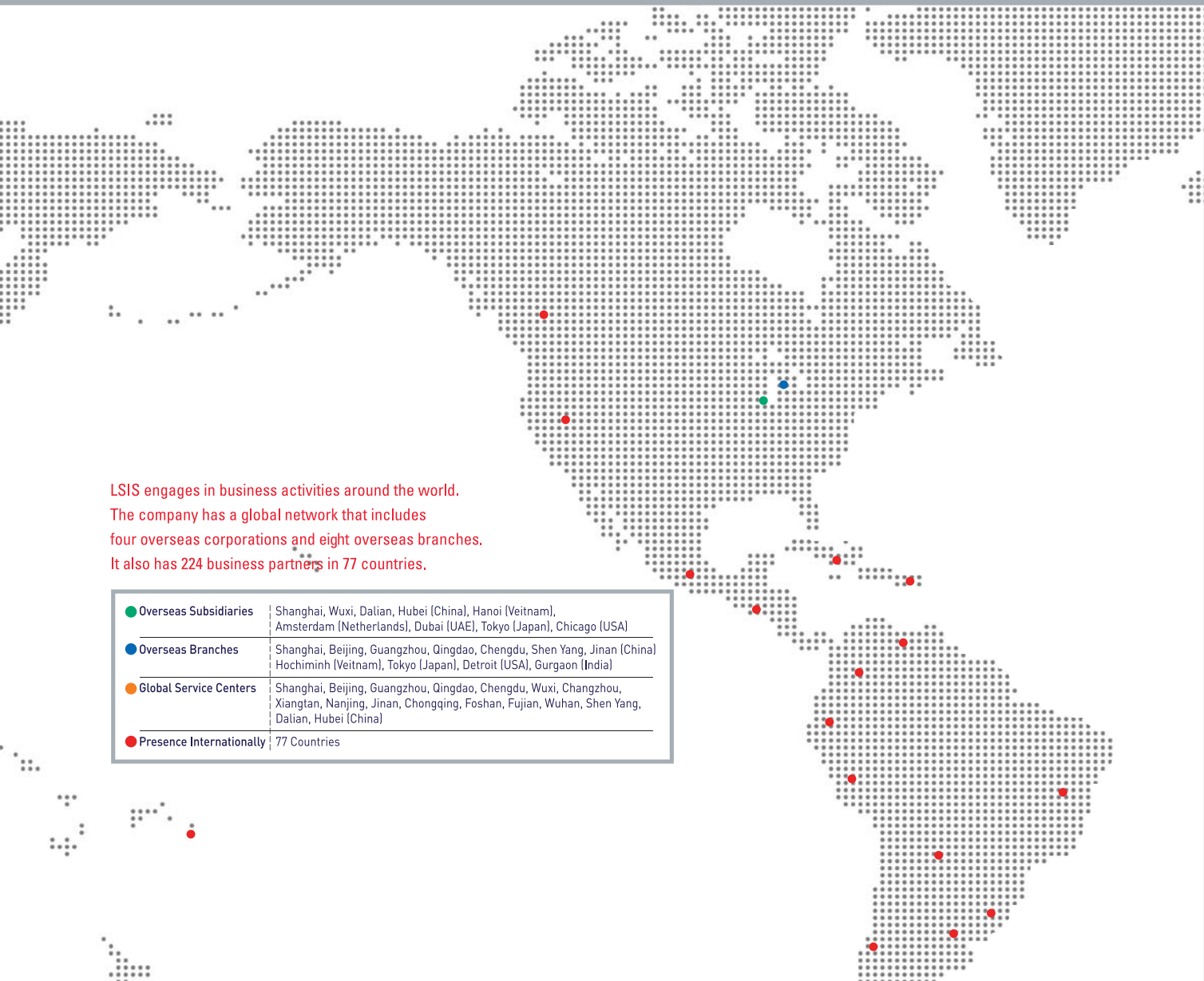


Busan Factory



Hanoi Factory (Vietnam)





LSIS engages in business activities around the world.  
The company has a global network that includes  
four overseas corporations and eight overseas branches.  
It also has 224 business partners in 77 countries.

|                            |   |
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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.

## LSIS Co., Ltd.

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