



Human Machine Interface
XGT Panel XP Series



Windows CE based new HMI

XGT Panel

XP Series

Fresh start with XP series suits your every requirement.

neXt Generation Technology

Advanced technology for the customers.

XGT Panel Series is a brand new HMI product with an intensive and advanced technology of LSIS to cope with the rapidly changing market situation. It is an innovative product having both reliability and convenience based on the Windows CE.

With the user-oriented convenience, it offers high resolution display, prompt data transmission and processing, and an user-friendly interface.

LSIS provides the Leading Solution to the automation field with the XGT Panel Series.

We are confident of our XGT Panel Series which contains high technology and our commitment to quality at the HMI market.



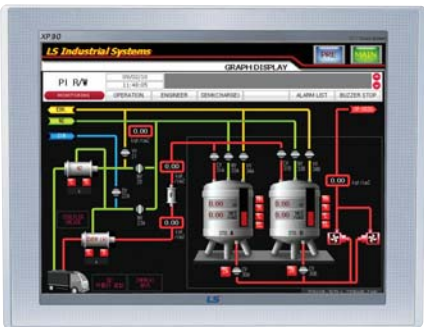
Superb performance, convenient functions

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

XGT Panel XP Series Line Up







A new and improved Windows CE-based HMI—

38cm (15 inch) **XP90-TTA**



TFT color
XGA (1024×768)
65,536 colors

External Interface







 Ethernet I/F	 Serial I/F(RS-232C)	 Serial I/F(RS422/485)
 USB I/F	 CF card I/F	 Expansion port

31cm (12.1 inch) **XP80-TTA**



TFT color
SVGA (800×600)
65,536 colors

External Interface







 Ethernet I/F	 Serial I/F(RS-232C)	 Serial I/F(RS422/485)
 USB I/F	 CF card I/F	 Expansion port

26cm (10.4 inch) **XP70-TTA**




TFT color
VGA (640×480)
65,536 colors

External Interface

 Ethernet I/F	 Serial I/F(RS-232C)	 Serial I/F(RS422/485)
 USB I/F	 CF card I/F	 Expansion port


Speed

XP series has Ethernet interface for the rapid transmission of data. XP series communicates with some PLCs and transmit data promptly through the Ethernet interface.



Expression

XP series supports 65,536 full color display and its mass storage of the flash memory offers best quality.



Variety

XP series supports not only BMP, JPG graphic file types but also WMF, GIF file for making a movie clip drawing on the screen.



SVGA

Upgrade
65,536



XGT Panel **XP** Series

21cm (8.4 inch) **XP50-TTA/TTE**



XP50-TTA TFT color / 64,536 colors
VGA (640×480)

XP50-TTE TFT color / 256 colors
VGA (640×480)

External Interface



Ethernet I/F



Serial I/F(RS-232C)



Serial I/F(RS422/485)



USB I/F



CF card I/F



Expansion port

※XP50-TTE: Serial I/F (RS-232C, RS-422/485) and USB I/F only

14cm (5.7 inch) **XP30-TTA/BTA**



XP30-TTA TFT color / 65,536 colors
QVGA (320×240)

XP30-BTA STN MONO (8-bit Gray)
QVGA (320×240)

External Interface



Ethernet I/F



Serial I/F(RS-232C)



Serial I/F(RS422/485)



USB I/F



CF card I/F



Expansion port

14cm (5.7 inch) **XP30-TTE/BTE**



XP30-TTE TFT color / 256 colors
QVGA (320×240)

XP30-BTE STN MONO Economy (8-bit Gray)
QVGA (320×240)

External Interface



USB I/F



Serial I/F(RS-232C)



Serial I/F(RS422/485)

Multi-Language

XP series can display many languages which are supported on Microsoft Windows. Real-time conversion of four languages is available during run.



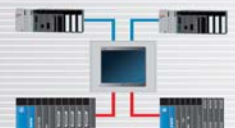
Specialization

XP series strengthens advanced features such as Logging, Recipe, Alarm, Script, and Scheduler. It helps users for the liberal and practical use.



Network

XP series enables users to implement data communication with several controllers at one time. The maximum 4 PLCs are connectable to a XP machine.



XGT Panel XP Series Feature

Data processing

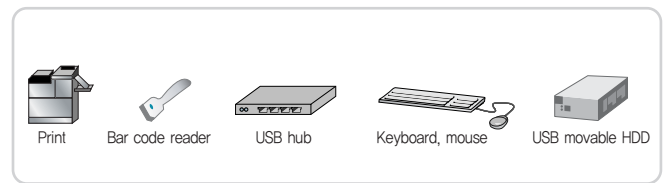
Faster transmission of mass storage data

- XP series' transmission speed is improved with the Ethernet interface. It is faster(10 /100Mbps) than RS-232C interface (115Kbps).
- XP series includes a 10 MB memory, so it can offer advanced features such as upload/download drawing data, Logging, Alarm, and Recipe.
- XP series supports GIF, WMF file type as well as BMP, JPG, which makes it easier to draw.



Easy accessible USB host

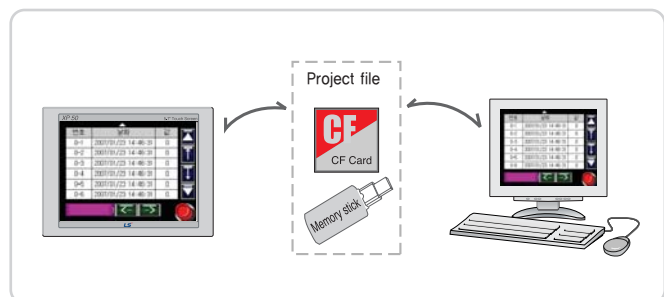
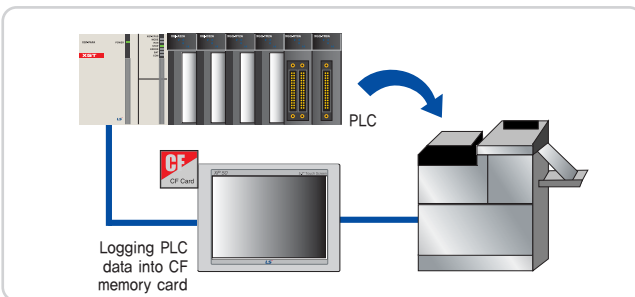
- 2 channels of USB interfaces are installed as a host.
- XP series is compatible to a variety of devices through the USB interface.



CF memory card and USB memory

- You can save the PLC data to a CF memory card or a USB memory.
- It can be converted into CSV file type.

- Analog touch panel eliminates scale marks to improve the resolution as compared to the matrix touch panel. It adopts an analog resistive touch panel for the better visibility and the free disposition of objects.
- It helps free locating of the objects.

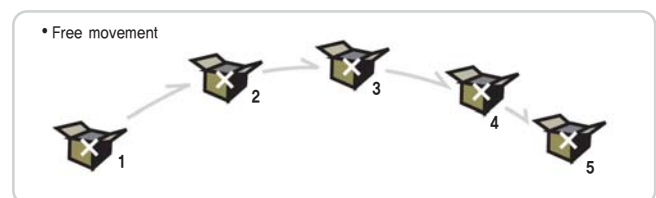


Multi-language support

- It offers a real-time conversion of four languages and various choices of language for designers.
- You can switch the languages which you want to use during the operation with the pre-recorded string table.
- It offers the MS Windows-supported languages such as Chinese(prc), Chinese(Taiwan), Danish, German, English, Finnish, French, Greek, Italian, Korean, Norwegian, Polish, Portuguese, Russian, Swedish, Spanish, Hungarian, etc.



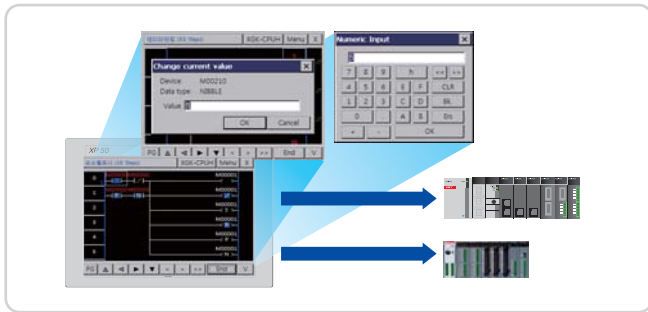
- It displays components of fixed values or word devices on the screen. Preset- component images can be used
- It provides a free movement with a user-defined path, a linear movement, and a device movement on the X-Y coordinates.



Display

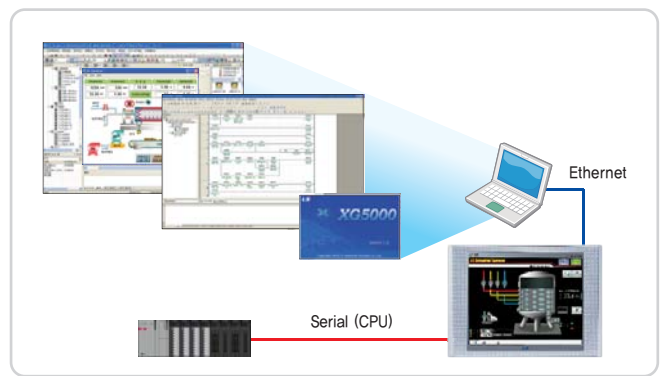
Diagnostic via program monitoring

- XP series' program monitoring function offers easy diagnostic without additional option to monitor PLC which is connected to HMI.
- The ladder program can be saved in CF card or USB memory.
- It offers several functions such as device search, subroutine search, label search and step search.



Path-through

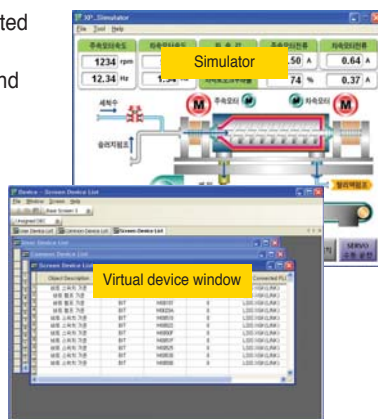
- When XGT Panel is connected to PLC via CPU port, monitoring and modification of PLC program can be done using Ethernet.
- The remote debugging can be executed.



Useful simulator function

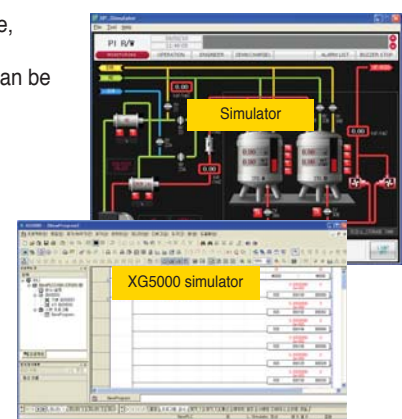
Offline simulation

- Operation can be executed without hardware.
- It supports monitoring and manipulation of device.
- Program error can be checked before sending to XGT Panel.



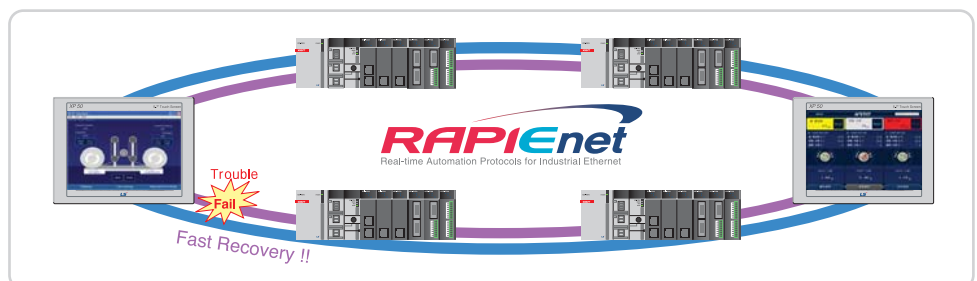
Interworking with PLC simulator

- When LS PLC software, XG5000, is executed, XGT Panel simulator can be operated with XG5000 together.



RAPiEnet optic ring (XPO-EIMT)

- XPO-EIMT communication option card enables high speed communication via RAPiEnet.
- It supports daisy chain and ring structure (Dual port).
- RAPiEnet is more reliable and convenient communication methods compared to START communication.



XGT Panel XP Series Feature

Project Printing

Prompt display

Advanced

Alarm

History alarm

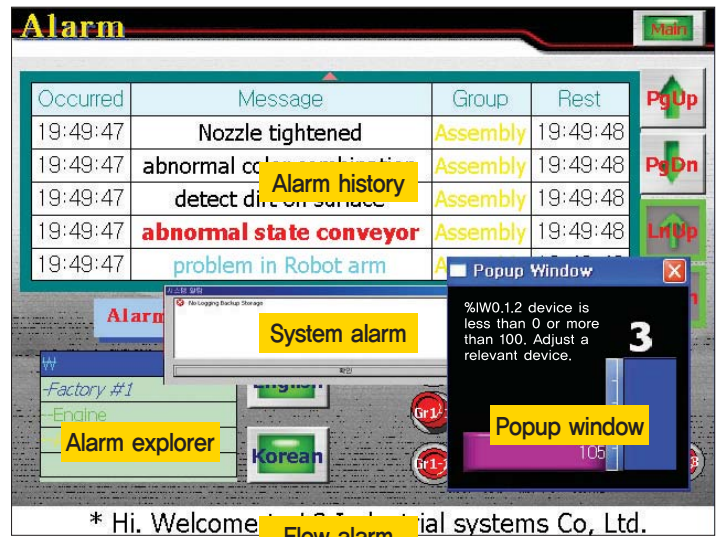
It saves alarmed contents into a history file. You can classify the alarms in detail into the maximum 8 upper and lower class groups or alarm lists. Through the alarm explorer, you can choose some alarms to display. If you register a detailed screen to verify the alarms in detail, you can create a window which is connected to the alarms.

Flow alarm

It displays a current alarm on the lower position of the screen for the rapid response to users. Flowing alarm can be configured to use only with a specific condition. You can apply it to transmit company or device information.

System alarm

If a serious fault or a trouble of the HMI occurs, the system alarm informs users.



Easy management with backup files

Advanced

Logging

It offers a cyclic logging operating repeatedly according to the time and a device status, and a conditional logging which works under the condition of the device.

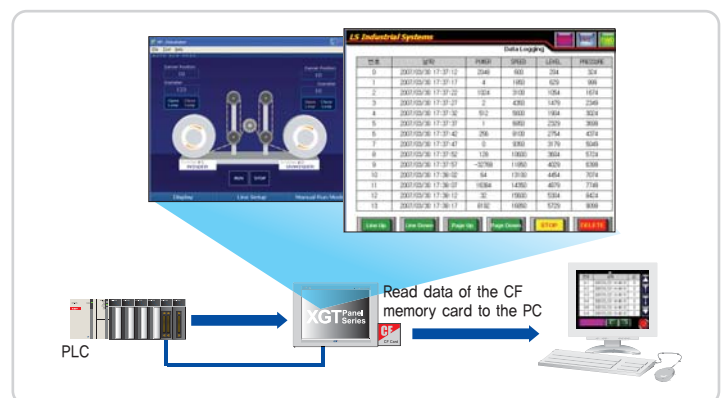
The max. number of 32 logging areas (condition) are available and each size of the area can be expanded up to 256Kbyte.

It is capable of saving the maximum 32 Words (cf. 32 bits for the bit logging) by one logging.

Logging is basically saved on the internal SRAM (256Kbyte), and you can run a backup to a CF memory, a USB memory and a movable HDD, etc.

You can verify the logging data on the XGT Panel through the logging view object.

Converted CSV types can be edited on Microsoft Excel.



Email service of alarm and logging data

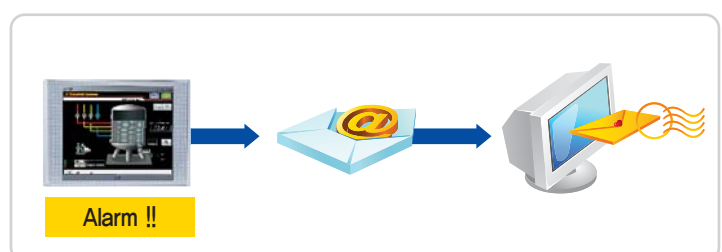
Advanced

XGT Panel offers the function of e-mail service to the registered address as a CSV file.

It can send Logging data with the selected logging group.

E-mail service includes the function of sending e-mails / notifications to the users when user-defined alert cases occur

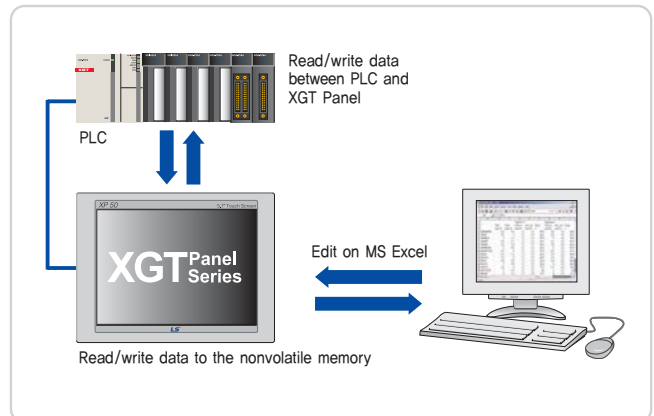
The logging and alarm file sent to PC can be open with EXCEL.



Recipe

Advanced

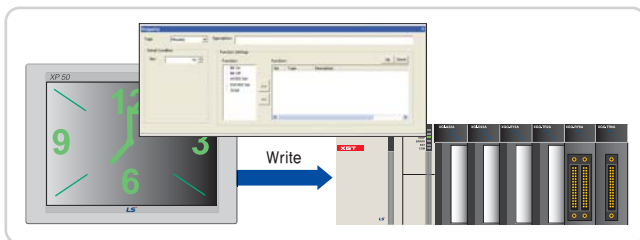
- Recipes provide an easy method for operators and users to change the value of hundreds of settings in automation devices. Backup memory is installed, it makes it possible to use the recipe function to transfer setting values to other equipment. It is able to register up to 32 recipes at the XP-Builder. The maximum 100 Word/Dword devices and 16 data blocks are able to assign in each recipe. Recipe data is saved in the nonvolatile memory of the XP series. It maintains the latest data when the power is shut off. You can register and edit the recipe data through the XGT Panel or Microsoft Excel.



Scheduler

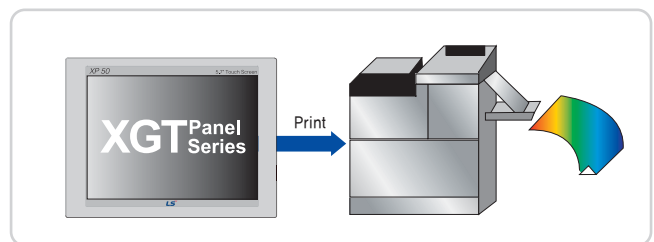
Advanced

- Scheduler appoints operations and times to do the operation on the specified time. Bit On/Off, setting a Word value, and a script operation are available. Each scheduler can assign operations up to 8. Schedulers can be produced up to 32.



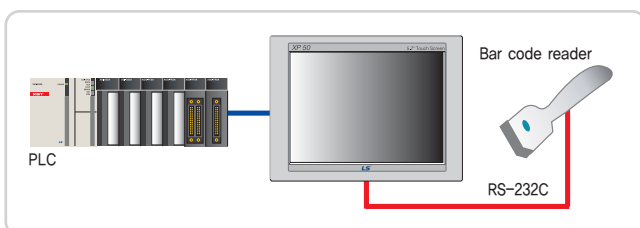
Print

- You can print a screen or a history of alarm events from the HMI. It is available to connect to a printer with a USB port.



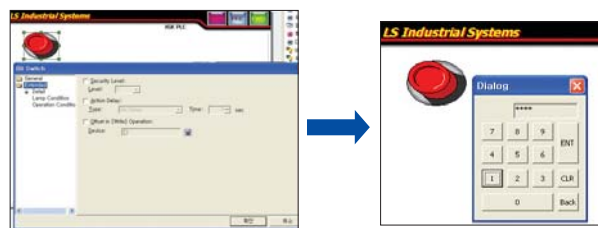
Bar code scan

- ASCII data which is inputted by a bar code scanner can be saved into a user-defined PLC or an internal memory of the XGT Panel. User can set a completion bit to verify whether the XGT Panel read correct data. The bar code communication operates only with a built-in RS-232C interface of the XGT Panel.



Security

- When you operate the PLC control with Objects such as switches, input and output objects, you can prescribe the security level to the authorized users only. Total 10 security levels are supported, and a low level password can access to a higher level. After an approval of the security level, the session is only maintained during a period of time.



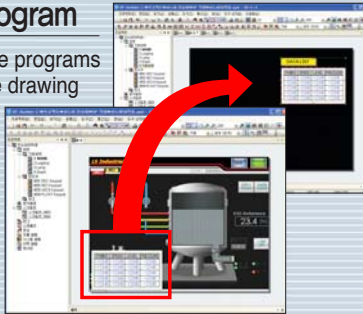
XGT Panel XP Series Software

Development Tool : XP-Builder

XP-Builder Functions

Multi-thread program

- You can run multiple programs at one time and use drawing data from another program.



Debugging program

- You can verify some errors which happens to the data at the output window.
- Display details of the errors.



Cross reference

- Display devices and tags which are in use.

Device Address	Tag Name	Position	Object Type	Description
HW0000	Project-Prose	0	Base Screen	Base Screen
HW0001	Project-Prose	0	Global Script	Global Script
HW0002	AM0000	0	Animation	Animation
HW0003	L20000	0	St Lamp Main	St Lamp Main
HW0004	L20001	0	St Lamp Main	St Lamp Main
HW0005	L20002	0	St Lamp Main	St Lamp Main
HW0006	L20003	0	St Lamp Main	St Lamp Main
HW0007	L20004	0	St Lamp Main	St Lamp Main
HW0008	L20005	0	St Lamp Main	St Lamp Main
HW0009	L20006	0	St Lamp Main	St Lamp Main
HW0010	L20007	0	St Lamp Main	St Lamp Main
HW0011	L20008	0	St Lamp Main	St Lamp Main
HW0012	L20009	0	St Lamp Main	St Lamp Main
HW0013	L20010	0	St Lamp Main	St Lamp Main
HW0014	L20011	0	St Lamp Main	St Lamp Main
HW0015	L20012	0	St Lamp Main	St Lamp Main
HW0016	L20013	0	St Lamp Main	St Lamp Main
HW0017	L20014	0	St Lamp Main	St Lamp Main
HW0018	L20015	0	St Lamp Main	St Lamp Main
HW0019	L20016	0	St Lamp Main	St Lamp Main
HW0020	L20017	0	St Lamp Main	St Lamp Main
HW0021	L20018	0	St Lamp Main	St Lamp Main
HW0022	L20019	0	St Lamp Main	St Lamp Main
HW0023	L20020	0	St Lamp Main	St Lamp Main
HW0024	L20021	0	St Lamp Main	St Lamp Main
HW0025	L20022	0	St Lamp Main	St Lamp Main
HW0026	L20023	0	St Lamp Main	St Lamp Main
HW0027	L20024	0	St Lamp Main	St Lamp Main
HW0028	L20025	0	St Lamp Main	St Lamp Main
HW0029	L20026	0	St Lamp Main	St Lamp Main
HW0030	L20027	0	St Lamp Main	St Lamp Main
HW0031	L20028	0	St Lamp Main	St Lamp Main
HW0032	L20029	0	St Lamp Main	St Lamp Main
HW0033	L20030	0	St Lamp Main	St Lamp Main
HW0034	L20031	0	St Lamp Main	St Lamp Main
HW0035	L20032	0	St Lamp Main	St Lamp Main
HW0036	L20033	0	St Lamp Main	St Lamp Main
HW0037	L20034	0	St Lamp Main	St Lamp Main
HW0038	L20035	0	St Lamp Main	St Lamp Main
HW0039	L20036	0	St Lamp Main	St Lamp Main
HW0040	L20037	0	St Lamp Main	St Lamp Main
HW0041	L20038	0	St Lamp Main	St Lamp Main
HW0042	L20039	0	St Lamp Main	St Lamp Main
HW0043	L20040	0	St Lamp Main	St Lamp Main
HW0044	L20041	0	St Lamp Main	St Lamp Main
HW0045	L20042	0	St Lamp Main	St Lamp Main
HW0046	L20043	0	St Lamp Main	St Lamp Main
HW0047	L20044	0	St Lamp Main	St Lamp Main
HW0048	L20045	0	St Lamp Main	St Lamp Main
HW0049	L20046	0	St Lamp Main	St Lamp Main
HW0050	L20047	0	St Lamp Main	St Lamp Main
HW0051	L20048	0	St Lamp Main	St Lamp Main
HW0052	L20049	0	St Lamp Main	St Lamp Main
HW0053	L20050	0	St Lamp Main	St Lamp Main
HW0054	L20051	0	St Lamp Main	St Lamp Main
HW0055	L20052	0	St Lamp Main	St Lamp Main
HW0056	L20053	0	St Lamp Main	St Lamp Main
HW0057	L20054	0	St Lamp Main	St Lamp Main
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HW0059	L20056	0	St Lamp Main	St Lamp Main
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HW0063	L20060	0	St Lamp Main	St Lamp Main
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HW0074	L20071	0	St Lamp Main	St Lamp Main
HW0075	L20072	0	St Lamp Main	St Lamp Main
HW0076	L20073	0	St Lamp Main	St Lamp Main
HW0077	L20074	0	St Lamp Main	St Lamp Main
HW0078	L20075	0	St Lamp Main	St Lamp Main
HW0079	L20076	0	St Lamp Main	St Lamp Main
HW0080	L20077	0	St Lamp Main	St Lamp Main
HW0081	L20078	0	St Lamp Main	St Lamp Main
HW0082	L20079	0	St Lamp Main	St Lamp Main
HW0083	L20080	0	St Lamp Main	St Lamp Main
HW0084	L20081	0	St Lamp Main	St Lamp Main
HW0085	L20082	0	St Lamp Main	St Lamp Main
HW0086	L20083	0	St Lamp Main	St Lamp Main
HW0087	L20084	0	St Lamp Main	St Lamp Main
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HW0089	L20086	0	St Lamp Main	St Lamp Main
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HW0100	L20097	0	St Lamp Main	St Lamp Main
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HW0109	L20106	0	St Lamp Main	St Lamp Main
HW0110	L20107	0	St Lamp Main	St Lamp Main
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HW0169	L20166	0	St Lamp Main	St Lamp Main
HW0170	L20167	0	St Lamp Main	St Lamp Main
HW0171	L20168	0	St Lamp Main	St Lamp Main
HW0172	L20169	0	St Lamp Main	St Lamp Main
HW0173	L20170	0	St Lamp Main	St Lamp Main
HW0174	L20171	0	St Lamp Main	St Lamp Main
HW0175	L20172	0	St Lamp Main	St Lamp Main
HW0176	L20173	0	St Lamp Main	St Lamp Main
HW0177	L20174	0	St Lamp Main	St Lamp Main
HW0178	L20175	0	St Lamp Main	St Lamp Main
HW0179	L20176	0	St Lamp Main	St Lamp Main
HW0180	L20177	0	St Lamp Main	St Lamp Main
HW0181	L20178	0	St Lamp Main	St Lamp Main
HW0182	L20179	0	St Lamp Main	St Lamp Main
HW0183	L20180	0	St Lamp Main	St Lamp Main
HW0184	L20181	0	St Lamp Main	St Lamp Main
HW0185	L20182	0	St Lamp Main	St Lamp Main
HW0186	L20183	0	St Lamp Main	St Lamp Main
HW0187	L20184	0	St Lamp Main	St Lamp Main
HW0188	L20185	0	St Lamp Main	St Lamp Main
HW0189	L20186	0	St Lamp Main	St Lamp Main
HW0190	L20187	0	St Lamp Main	St Lamp Main
HW0191	L20188	0	St Lamp Main	St Lamp Main
HW0192	L20189	0	St Lamp Main	St Lamp Main
HW0193	L20190	0	St Lamp Main	St Lamp Main
HW0194	L20191	0	St Lamp Main	St Lamp Main
HW0195	L20192	0	St Lamp Main	St Lamp Main
HW0196	L20193	0	St Lamp Main	St Lamp Main
HW0197	L20194	0	St Lamp Main	St Lamp Main
HW0198	L20195	0	St Lamp Main	St Lamp Main
HW0199	L20196	0	St Lamp Main	St Lamp Main
HW0200	L20197	0	St Lamp Main	St Lamp Main

Edit program : XP-Builder

Project

- Add and edit screens and special functions of the project.

Data view

- Display the objects which is used on a current screen.
- Show the property window by double click.

Output bar

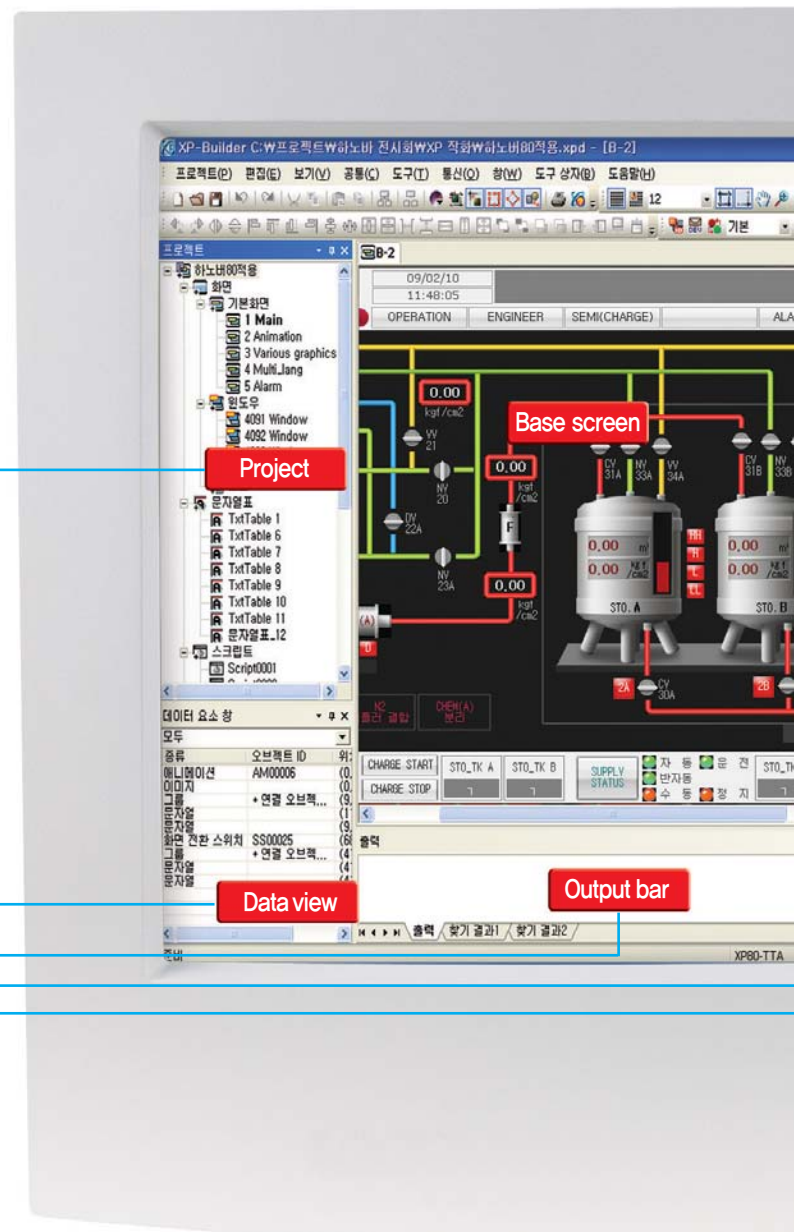
- Output errors about the data and display search results.
- Display details of errors.

Toolbox

- Draw objects and diagrams.

Library

- Categorized libraries are displayed and the preview is supported.
- Easy register and deletion of the user library.
- Drag & Drop operation.



Tag

- ☞ User can rename a device address to use it as an object.
- ☞ If you assign a tag to the set up device of an object, you can change the addresses of devices at a time.
- ☞ It is available to register up to 10,000.

번호	이름	타입	주소	비고
SourceA	BIT	HW0001F		
SourceB	BIT	HW0001F		
SourceA_V1	BIT	HW0001E		
SourceA_V2	BIT	HW0001E		
SourceA_V3	BIT	HW0001E		
SourceB_V1	BIT	HW0001E		
SourceB_V2	BIT	HW0001E		
SourceB_V3	BIT	HW0001E		

Simulation

Off-line program simulation

- ☞ You can confirm the drawing data on a PC without a XGT Panel.
- ☞ Device monitoring and operation can be checked on a PC.
- ☞ The simulator supports same operations as a XGT Panel.
- ☞ Data errors and normal operations could be checked before XP-Builder transmits the drawing data to the HMI.

Arial : ABCDEFGHIJKLMNOPQRSTUVWXYZ
 Book : ABCDEFGHIJKLMNOPQRSTUVWXYZ
 Impact : ABCDEFGHIJKLMNOPQRSTUVWXYZ
 Helvetica : ABCDEFGHIJKLMNOPQRSTUVWXYZ
 Tahoma : ABCDEFGHIJKLMNOPQRSTUVWXYZ
 Time : ABCDEFGHIJKLMNOPQRSTUVWXYZ
 Verdana : ABCDEFGHIJKLMNOPQRSTUVWXYZ

가나다라마바사아자차카타파하
 가나다라마바사아자차카타파하
 가나다라마바사아자차카타파하
 가나다라마바사아자차카타파하

GIF animation

- ☞ You can use GIF animation to take effects according to the state of specified bit. You can make and add a movie clip of the actual spot to inform users accurately. (A movie clip file can be produced using a commercial GIF animator program.)



Script

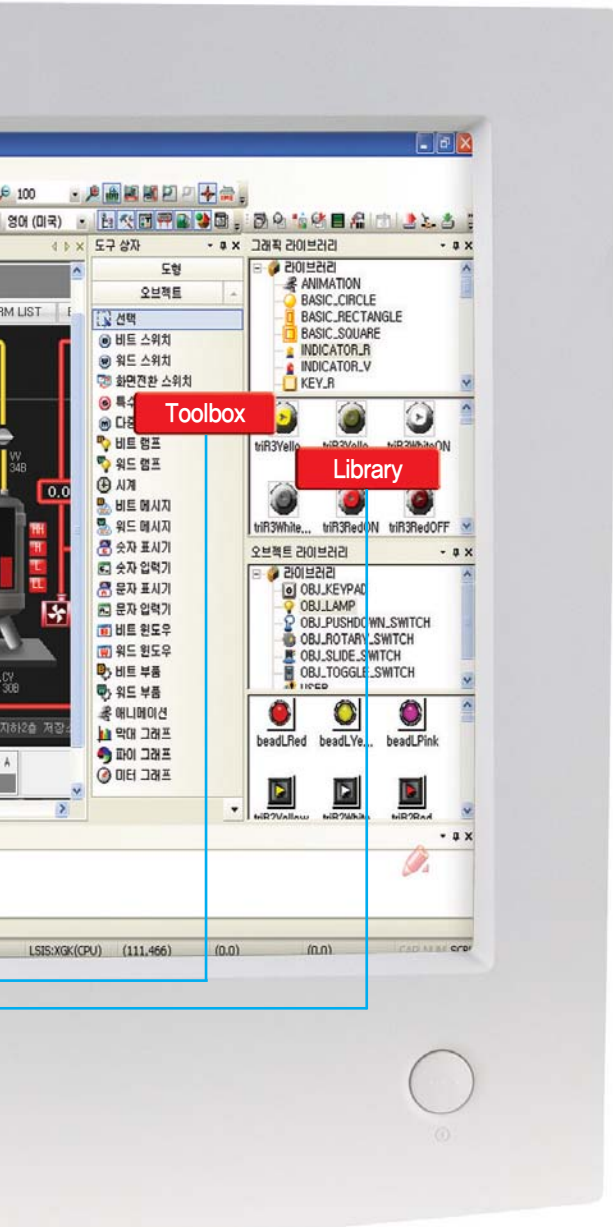
Flexible script language

- ☞ Script language can supplement the offered object function to draw the data.
- ☞ Script language is a structured language such as C programming language for the convenience of users.
- ☞ Script language with complex arithmetic operations and various functions can reduce a load of external controllers.
- ☞ Grammar inspection can validate the script languages.

Various script use

- ☞ XP-Builder has various script usages such as global script, object script, etc.
- ☞ Global script operates with On/Off signal of an assigned device. It is able to run a script operation by periods using a special device.
- ☞ The object script is available to do a target device operation of the object.
- ☞ Script can be operated at the moment when a screen is opened (or closed).

Useful script toolbox and error inspection.



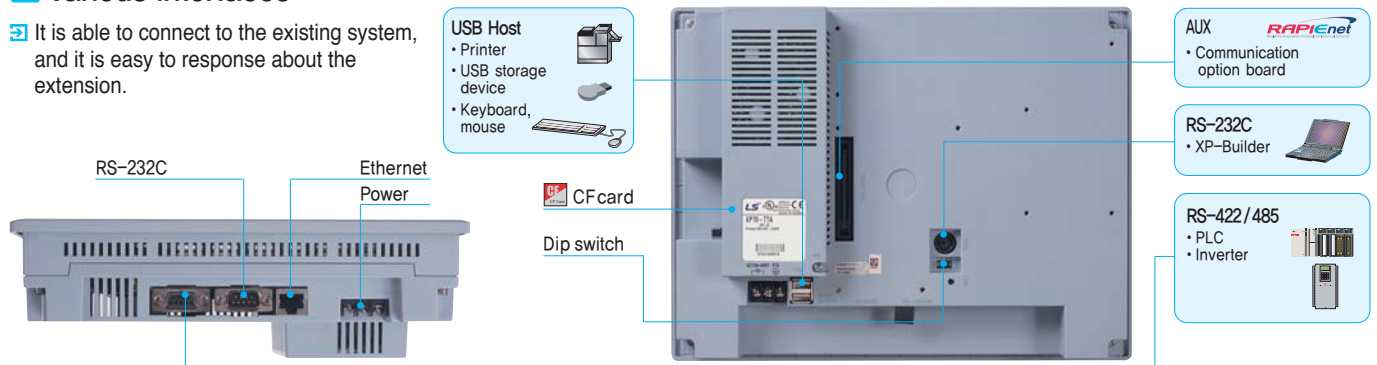
XGT Panel *XP* Series Specification

Interface and system organization

XGT Panel provides reliable quality and responsible technology

Various interfaces

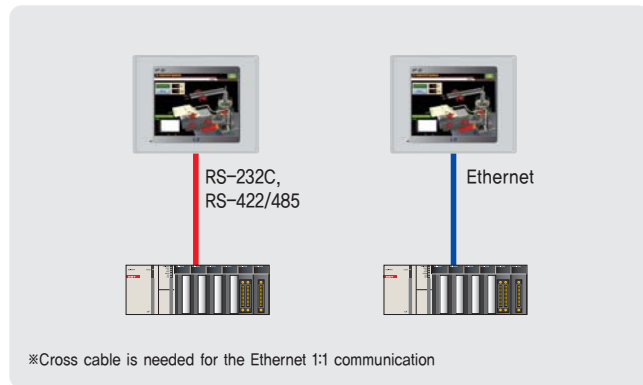
It is able to connect to the existing system, and it is easy to response about the extension.



System organization

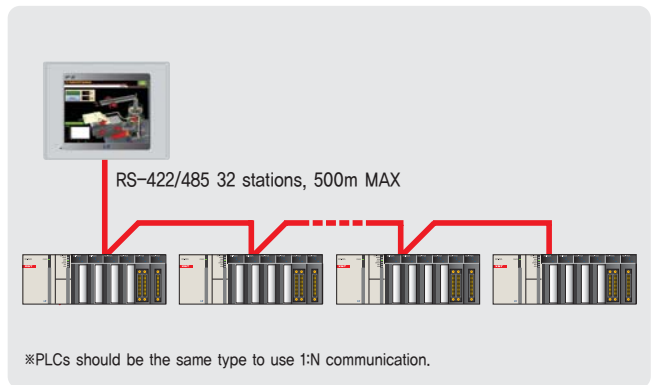
1 : 1 Serial / Ethernet communication

One PLC to one XGT Panel



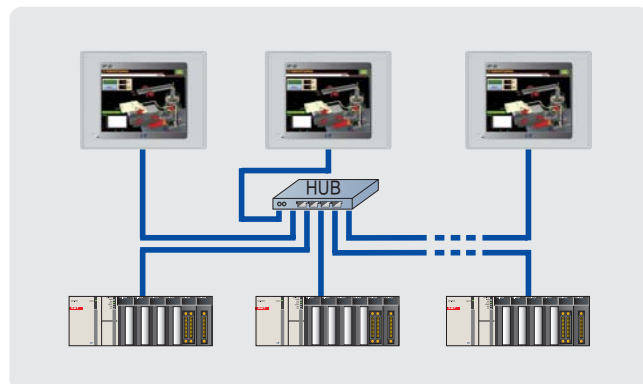
1 : N Serial communication

Multiple PLCs to one XGT Panel



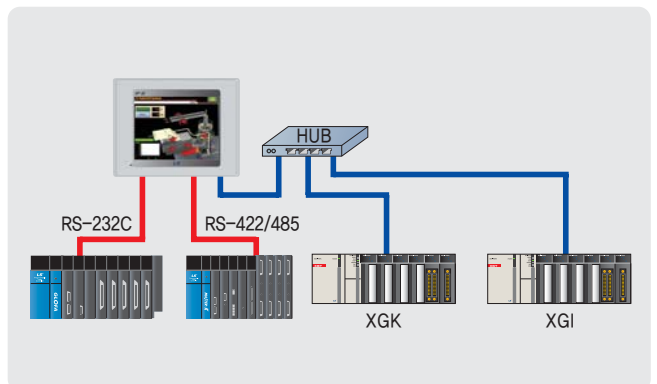
N : M (Ethernet communication)

Multiple PLCs to multiple XGT Panels



Simultaneous communication with 4 controllers

4 kinds of PLCs to one XGT Panel



Cable

The technology began to offer better operating environment

Cable standards and wiring method

Ethernet cable standards and wiring

Item	Description																																								
Cable standard	<ul style="list-style-type: none"> Type: UTP / FTP / STP cable Standard: CAT.5 / Enhanced CAT.5 / CAT.6 																																								
Direct cable	Communicate with a PC or a PLC/Controller through a hub. <table border="1" style="display: inline-table; vertical-align: top;"> <tr><td>1</td><td>wh/or</td><td>←</td><td>wh/or</td><td>1</td></tr> <tr><td>2</td><td>or</td><td>←</td><td>or</td><td>2</td></tr> <tr><td>3</td><td>wh/grn</td><td>←</td><td>wh/grn</td><td>3</td></tr> <tr><td>4</td><td>blu</td><td>←</td><td>blu</td><td>4</td></tr> <tr><td>5</td><td>wh/blu</td><td>←</td><td>wh/blu</td><td>5</td></tr> <tr><td>6</td><td>grn</td><td>←</td><td>grn</td><td>6</td></tr> <tr><td>7</td><td>wh/brn</td><td>←</td><td>wh/brn</td><td>7</td></tr> <tr><td>8</td><td>brn</td><td>←</td><td>brn</td><td>8</td></tr> </table> Ethernet Jack	1	wh/or	←	wh/or	1	2	or	←	or	2	3	wh/grn	←	wh/grn	3	4	blu	←	blu	4	5	wh/blu	←	wh/blu	5	6	grn	←	grn	6	7	wh/brn	←	wh/brn	7	8	brn	←	brn	8
	1	wh/or	←	wh/or	1																																				
2	or	←	or	2																																					
3	wh/grn	←	wh/grn	3																																					
4	blu	←	blu	4																																					
5	wh/blu	←	wh/blu	5																																					
6	grn	←	grn	6																																					
7	wh/brn	←	wh/brn	7																																					
8	brn	←	brn	8																																					
Cross cable	Connect with a PC or a PLC/Controller directly (1:1 connection). <table border="1" style="display: inline-table; vertical-align: top;"> <tr><td>1</td><td>wh/or</td><td>←</td><td>wh/grn</td><td>1</td></tr> <tr><td>2</td><td>or</td><td>←</td><td>grn</td><td>2</td></tr> <tr><td>3</td><td>wh/grn</td><td>←</td><td>wh/or</td><td>3</td></tr> <tr><td>4</td><td>blu</td><td>←</td><td>blu</td><td>4</td></tr> <tr><td>5</td><td>wh/blu</td><td>←</td><td>wh/blu</td><td>5</td></tr> <tr><td>6</td><td>grn</td><td>←</td><td>or</td><td>6</td></tr> <tr><td>7</td><td>wh/brn</td><td>←</td><td>wh/brn</td><td>7</td></tr> <tr><td>8</td><td>brn</td><td>←</td><td>brn</td><td>8</td></tr> </table>	1	wh/or	←	wh/grn	1	2	or	←	grn	2	3	wh/grn	←	wh/or	3	4	blu	←	blu	4	5	wh/blu	←	wh/blu	5	6	grn	←	or	6	7	wh/brn	←	wh/brn	7	8	brn	←	brn	8
1	wh/or	←	wh/grn	1																																					
2	or	←	grn	2																																					
3	wh/grn	←	wh/or	3																																					
4	blu	←	blu	4																																					
5	wh/blu	←	wh/blu	5																																					
6	grn	←	or	6																																					
7	wh/brn	←	wh/brn	7																																					
8	brn	←	brn	8																																					

NOTE

- Ethernet setting**
 - Ethernet setting is on the XGT Panel.
 - Communication parameters with a PLC/controller are set up on the XP-Builder.
- 1:1 connection**
 - Under the conditions that is impossible to use a LAN, a one-to-one connection with a cross cable is suited to send/receive a project data.
- Making a cable**
 - If a Lock part of the Ethernet jack is damaged, it cannot be fixed to a RJ45 connector (Ethernet connector). It occurs a contact badness.
 - A Plug Cover is recommended.

Tool cable standards and wiring

Item	Description																																								
Cable standard	<ul style="list-style-type: none"> Name: PMC-310S (Download cable) Length: A soft tube type 1m 																																								
Structure and wiring	Direct connection to a PC <table border="1" style="display: inline-table; vertical-align: top;"> <tr><td>1</td><td></td><td>←</td><td>CD</td><td>1</td></tr> <tr><td>2</td><td>RD</td><td>←</td><td>RD</td><td>2</td></tr> <tr><td>3</td><td>SG</td><td>←</td><td>SD</td><td>3</td></tr> <tr><td>4</td><td></td><td>←</td><td>SG</td><td>4</td></tr> <tr><td>5</td><td></td><td>←</td><td>DSR</td><td>6</td></tr> <tr><td>6</td><td>SD</td><td>←</td><td>RTS</td><td>7</td></tr> <tr><td></td><td></td><td>←</td><td>CTS</td><td>8</td></tr> <tr><td></td><td></td><td>←</td><td></td><td>9</td></tr> </table> 	1		←	CD	1	2	RD	←	RD	2	3	SG	←	SD	3	4		←	SG	4	5		←	DSR	6	6	SD	←	RTS	7			←	CTS	8			←		9
	1		←	CD	1																																				
2	RD	←	RD	2																																					
3	SG	←	SD	3																																					
4		←	SG	4																																					
5		←	DSR	6																																					
6	SD	←	RTS	7																																					
		←	CTS	8																																					
		←		9																																					

XP30-BTE connector pin assignment

Item	Description																		
Wiring	<table border="1" style="display: inline-table; vertical-align: top;"> <tr><td>1</td><td>2</td><td>3</td><td>4</td><td>5</td><td>6</td><td>7</td><td>8</td><td>9</td></tr> <tr><td>TX</td><td>RX</td><td>SG</td><td>TX+</td><td>TX-</td><td>RX+</td><td>RX-</td><td>SG</td><td>FG</td></tr> </table> 	1	2	3	4	5	6	7	8	9	TX	RX	SG	TX+	TX-	RX+	RX-	SG	FG
	1	2	3	4	5	6	7	8	9										
TX	RX	SG	TX+	TX-	RX+	RX-	SG	FG											

RS-232C cable standards and wiring

Item	Description																		
Cable standard	<ul style="list-style-type: none"> (UL) Style 2464 AWG24 cable is recommended. Max cable length is 15m. Shielded cables are recommended. 																		
Structure and wiring	Connect to PLC or Controller (1:1). <ul style="list-style-type: none"> Connector pin of the XGT Panel D-Sub 9P, Male connector <table border="1" style="display: inline-table; vertical-align: top;"> <tr><td>1</td><td></td></tr> <tr><td>2</td><td>RD</td></tr> <tr><td>3</td><td>SD</td></tr> <tr><td>4</td><td></td></tr> <tr><td>5</td><td>SG</td></tr> <tr><td>6</td><td></td></tr> <tr><td>7</td><td></td></tr> <tr><td>8</td><td></td></tr> <tr><td>9</td><td></td></tr> </table> 	1		2	RD	3	SD	4		5	SG	6		7		8		9	
	1																		
2	RD																		
3	SD																		
4																			
5	SG																		
6																			
7																			
8																			
9																			

NOTE

- Communication setting**
 - Communication parameters with a PLC/controller are set up on the XP-Builder.
 - Refer to the communication user manual about the communication wiring with a PLC/controller.
 - XGT Panel does not support a flow control.
- Making a cable**
 - Under the conditions that is impossible to use a LAN, a one-to-one connection with a cross cable is suited to send / receive a project data.
 - Make a cable meet PLC/controller's standard requirements.

RS-422/485 cable standards and wiring

Item	Description																		
Cable standard	<ul style="list-style-type: none"> (UL) Style 2464 AWG22 cable is recommended. Max cable length is 500m. Shielded cables are recommended. 																		
Structure and wiring	Connect to PLC or Controller (1:1). <ul style="list-style-type: none"> Connector pin of the XGT Panel D-Sub 9P, Female connector <table border="1" style="display: inline-table; vertical-align: top;"> <tr><td>1</td><td></td></tr> <tr><td>2</td><td></td></tr> <tr><td>3</td><td>SG</td></tr> <tr><td>4</td><td>TX+</td></tr> <tr><td>5</td><td>TX-</td></tr> <tr><td>6</td><td>SG</td></tr> <tr><td>7</td><td></td></tr> <tr><td>8</td><td>RX+</td></tr> <tr><td>9</td><td>RX-</td></tr> </table> 	1		2		3	SG	4	TX+	5	TX-	6	SG	7		8	RX+	9	RX-
	1																		
2																			
3	SG																		
4	TX+																		
5	TX-																		
6	SG																		
7																			
8	RX+																		
9	RX-																		

NOTE

- Communication setting**
 - Communication parameters with a PLC/controller are set up on the XP-Builder.
 - Refer to the communication user manual about the communication wiring with a PLC/controller.
 - Set up a terminal resistance using a dip switch.
- Making a cable**
 - A cable should be produced as a male type because the XGT Panel's connector is a female type.
 - Connect the 4th(TX+) to the 8th(RX+) and the 5th(TX-) to the 9th(RX-) to make a RS-485 cable.

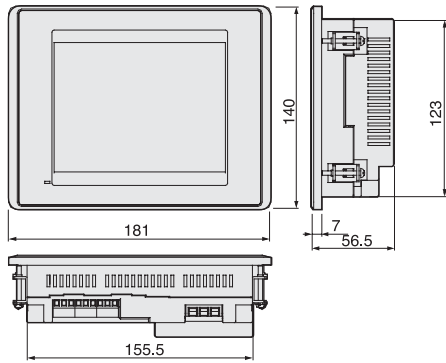
DIP switch		Description of the switch	
	1	No use	
	2	A	Normal operation (Default)
		B	Update Windows CE
	3	A	Watchdog On (Default)
		B	Watchdog Off
	4	A	RS-422/485 terminal resistance (120Ω)
		B	No RS-422/485 terminal resistance

XGT Panel XP Series Specification

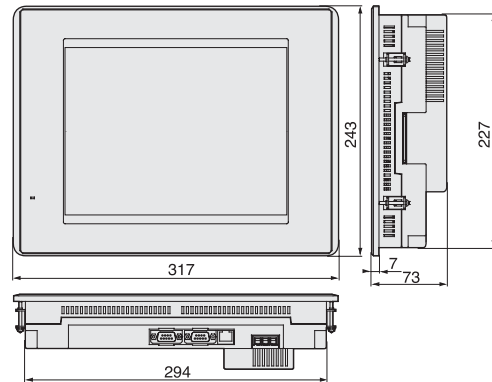
Dimension

Unit : mm

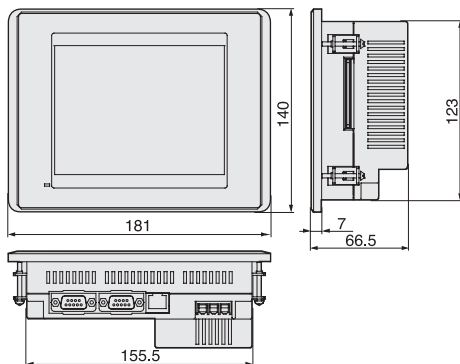
XP30-BTE / TTE



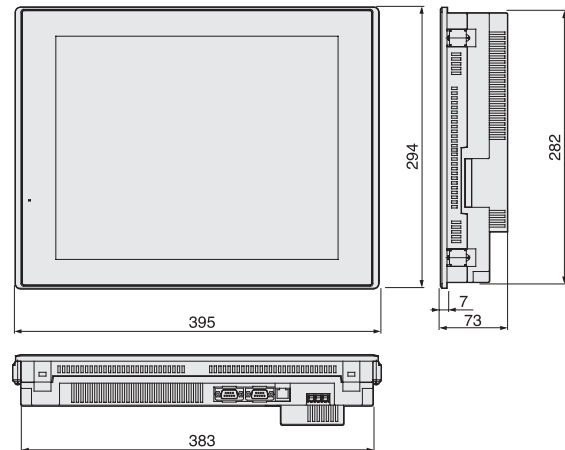
XP70-TTA / XP80-TTA



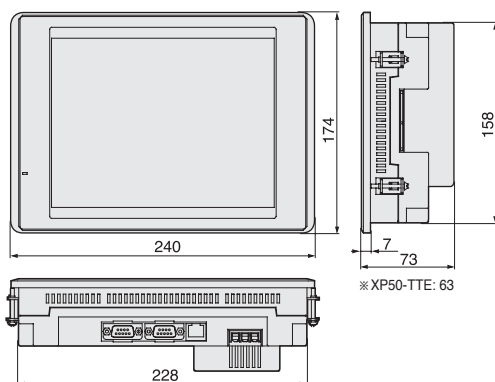
XP30-BTA / TTA



XP90-TTA



XP50-TTA / TTE



EXTENSION TOTAL SOLUTION TRANSMISSION

General information

No.	Item	Description	Standard		
1	Ambient temperature	0°C~+50°C			
2	Storage temperature	-20°C~+60°C			
3	Ambient humidity	10~85% RH, without dew condensation			
4	Storage humidity	10~85% RH, without dew condensation			
5	Vibration resistance	Occasional vibration		10 times each direction (X, Y, and Z)	IEC 61131-2
		Frequency	Amplitude		
		5 ≤ f < 9Hz	3.5mm		
		9 ≤ f ≤ 150Hz	9.8%		
		Continuous vibration			
		Frequency	Amplitude		
5 ≤ f < 9Hz	1.75mm				
9 ≤ f ≤ 150Hz	4.9%				
6	Shock resistance	* Maximum shock acceleration: 147% (15g) * Authorization time: 11ms * Pulse waveform: Half-sine wave (3 times each of X, Y, and Z)	IEC 61131-2		
7	Noise resistance	Square wave impulse noise	AC : ±1,500V DC : ±1,000V	LSIS Standards	
		Electrostatic discharge	Voltage : 6kV (Contact discharge)	IEC 61131-2, IEC 61000-4-2	
		Radiated electromagnetic field noise	27 ~ 500MHz, 10V/m	IEC 61131-2, IEC 61000-4-3	
		Fast transient / Burst noise	Power module / Digital IO, Analog IO, Communication interface	2kV / 1kV	IEC 61131-2, IEC 61000-4-4
8	Operating ambience	Free from corrosive gases and excessive dust			
9	Altitude	Up to 2,000m(6,562ft)			
10	Pollution degree	Less than equal to 2			
11	Cooling method	Air-cooling			

Specification

Item	XP30-BTE/DC	XP30-BTA/DC	XP30-TTE/DC	XP30-TTA/DC	XP50-TTE/DC	XP50-TTA/DC	XP70-TTA/AC XP70-TTA/DC	XP80-TTA/AC XP80-TTA/DC	XP90-TTA/AC			
	Mono				Color							
Display description	Mono Blue LCD				TFT Color LCD							
Display Size (inch)	14cm (5.7")				21cm (8.4")		26cm (10.4")	31cm (12.1")	38cm (15")			
Resolution	320×240				640×480		800×600		1024×768			
Color	8-bit Gray Scale		256 Color	65,536 Color	256 Color	65,536 Color						
Backlight	LED			CCFL (whole LCD), auto On/ Off		CCFL(Replaceable, LCD) auto on/off						
	50,000Hours			60,000Hours		50,000Hours						
Contrast	Adjustable				Fixed							
Luminance	230cd/m ²		210cd/m ²	400cd/m ²	200cd/m ²	480cd/m ²	430cd/m ²	400cd/m ²	450cd/m ²			
Viewing angle	Up/Down(Degree)		20/40	80/80	70/50	20/20	50/60	45/65	45/75	50/60		
	Left/Right(Degree)		45/45	80/80	70/70	45/45	65/65	65/65	65/65	75/75		
Touch panel	4-Wire System Analog					8-Wire System Analog						
movement LED	Green : Run (Monitoring, download drawing data) Red : Error (Communication error, drawing data error)											
Memory	Display data		4MB	10MB	4MB	10MB	4MB	10MB	20MB			
	Backup data		128KB	512KB	128KB	512KB (logging, alarm, data saving)	128KB	512KB (logging, alarm, data saving)				
Ethernet	-		1ch, IEEE802.3, 10/100Base-T	-	1ch, IEEE802.3, 10/100Base-T	-	1ch, IEEE802.3, 10/100Base-T					
USB Interface	USB Host X 1	USB Host X 2	USB Host X 1	USB Host X 2	USB Host X 1	USB Host X 2						
Serial	RS-232C											
	RS-422/485											
CF memory card interface	-		CFcard (TYPE-I) X 1	-	CFcard (TYPE-I) X 1	-	CFcard (TYPE-I) X 1					
AUX interface	-		optional	-	optional	-	optional					
Certification	CE, UL, KCC											
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	240 x 174 x 63	240 x 174 x 73	317 x 243 x 73		395 x 294 x 73		
Panel Cut (W×H)mm	155.5 x 123											
Weight (kg)	0.62		0.75	0.62	0.75	1.2	1.4	2.2		2.4		
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							-		
	Watt (W)	AC	-							37	40	46
DC		5	8.5	5	8.5	13	20	27	30	-		

Controller with connectivity

Maker	LSIS				MODICON	Mitsubishi			OMRON	OEMax	ROCKWELL	KDT	DasaRobot	Matsushita	SIEMENS	PARKER	BYD AUTO	PROFACE	LS MECAPON	YASKAWA			
Model	GLFA-GM MASTER-K series	XGR/XGK/ XGI/XGB series	LSBUS [Drive]	MODBUS [Drive]	MODBUS	MELSEC Q	MELSEC AnN, AnS	MELSEC FX	CS/CJ Series	COMH	NX-CCU+	SLC500	Micro COMPACT/ CONTROL LOGIX	CIMON	IM-SIGMA	FP Series	S7-200	S7-300	Hi-Drive	Dedicated controller	Memory Link	VS/VP Drive	MEM OBUS
CPU Port	●	●	-	-	-	● (Except Gnd)	-	●	-	-	-	● (DP1)	● (DP1)	-	-	-	● (PPI)	● (MPI)	-	-	-	-	●
Link	●	●	●	●	●	●	●	●	●	●	●	-	-	●	●	●	-	●	●	●	●	●	●
Link [1:N]	●	●	●	●	●	●	●	●	●	●	●	-	-	●	●	●	-	●	●	●	●	●	●
Ethernet	●	●	-	-	●	-	-	-	●	-	-	-	Ethernet/IP	-	-	-	-	-	-	-	-	-	-

Green Innovators of Innovator



Safety Instructions

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

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