ReleaseNote - XG5000 V4.76

1. Improvements and additions

(1) Addition of DNP3 server service

The DNP3 server service, a protocol used to collect various types of data and control devices, has been added. For usage instructions, please refer to the XGI-EFMTB user manual.

- Communication module: XGL-EFMxB O/S V8.80 or higher
- CPU: XGI-CPUx V4.30 or higher, XGI-CPUUN V2.00 or higher, XGI-CPUZx V1.50 or higher

🍋 🍖 🖌 🗸 🔒 💷 😒 4 🏦 test *			L0			
🕌 🚠 Network Configuration			L1			
🖣 - 🔝 Undefined Network						
– <u> </u> LSPLC [B0S0 X0 – 🎟 Motion Control Module		Open				
- 🗞 System Variable - 🏢 LSPLC(XGI-CPUUN		Add Item			•	Smart Extension
는 ซy Global/Direct Varia	E	Сору		Ctrl+C		DNP
🍬 🛺 Parameter 🗕 🕒 Basic Parameter		Paste		Ctrl+V		Network
– 🧰 I/O Parameter	×	Delete		Delete		Communication Module
Local Ethernet P	s.	Properties			-	P2P Communication
≱- 👩 Scan Program ⊳- 💦 NewProgram		rioperties			_	High-speed Link Communication
- 🛱 User Eunction/Eunc		Communication N	Aodule Settir	ng and Diagnosis	•	User Frame
– 📻 Üser Function/Fund – 📑 User Data Type – 😋 Library			L7			Add a Group
- Library			L8			Add Slave
Project Navigator Motion	HS L	ink P2P Win	L9			Views Connection

(2) Addition of smart extension

A module that upgrades the CENT module for existing drives has been added. THE use of these modules makes drive setup simpler and more efficient

- iS7_CENT
- S100_CENT
- H100_CENT
- G100_CENT
 - 1) Detailed settings screen

After adding smart extension, you can add modules in the detailed settings screen. You can change the module type to "Drive" and select it from the module name. If it is connected online to the PLC, it can be added using the [Auto Scan] function.

EB No.	Module Type	Module Name	Module Version	EDS Version	Station No.	IP Address
1	Drive	G100_CENT	1.40		1	192.168.1.101
2	Drive	H100_CENT	1.20		2	192.168.1.102
3	Drive	S100_CENT V	1.10		3	192.168.1.103
4	Drive	IS7_CENT	1.10		4	192.168.1.104
4						

Note) Please note that if the CENT module version is different when connecting communication, it will not operate properly.

2) Detailed settings screen

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After adding smart extension, you can add modules in the detailed settings screen. You can change the module type to "Drive" and select it from the module name. If it is connected online to the PLC, it can be added

LSPLC [B0S0 EB01(#1) - G100_CEN	IT: SlaveName01] ×		
Sets Communication Device	Apply All Parameters		
Communication device Informat	Fail Safe Lost Cmd Mode Lost Cmd Time Lost Preset F Provides Basic Input Parameters Inverter_Model Inverter_Capacity	None 1.0 sec 0.00 Hz	ĺ
	Inverter_Input_Voltage Inverter_SW_Version Input Parameter Para Status-1 Para Status-2	□ □ □ ☑ □ Output_Current □	
	Para Status-3 Para Status-4 Para Status-5 Para Status-6 Para Status-7		
	Para Status-9 Para Status-9 Para Status-10 Para Status-11		
4	Para Status-12 Para Status-3 Set input parameter 3.		-

Note) When writing to PLC, the parameters are reflected in the drive parameters (COM).

 Batch parameter application This is a function that applies module parameters and smart extension variables used in communication devices to other modules as well. This feature can only be applied to the same model/version.

[How to use]

 Run the smart extension variable batch application menu in the project tree Select the module to be copied from the project tree, right-click, and execute 'Batch Application Of Smart Extension Variables'.

Project		▼ ₽ × LSPLC [B0S0	EB01(#1) - G100_CENT:
test * A - Metwork Configuration A - Metwork Configuration A - Metwork	т	B Connect	meter
– 🔝 EB01(#1) – G10 [–] – 🔝 EB02(#2) – H10		Add Item	• 4
- EB03(#3) - S10	Ē	Сору	Ctrl+C
– EB04(#4) – iS7_ – EB05(#5) – G10	E	Paste	Ctrl+V
	Х	Delete	Delete 🦼
- 🖏 System Variable		Refresh Size	
Global/Direct Variables		Batch Application Of Smart Exten	sion Variables
Image: A constraint of the second	رو	Properties	
└── ── I/O Parameter └── Local Ethernet Parame	əter	•	
Project Navigator Motion HS Lin	1k	P2P Win	

 Add in the smart extension variable batch application window If you want to batch apply to other modules in the smart extension variable registration window, run the context menu and select "Apply smart extension variables in bulk" to display the application window.

В	atch A	pplicati	on Of Sm	nart Extension Va	riables		×
						parameters and smart exte on of the selected EB numb	
		Select	EB No.	Module Name	Module Version	Communication Device	Station No/IP
	1	<	EB05	G100_CENT	1.40	SlaveName05	5

Select the modules you want to apply in bulk and then select the Apply button.

(3) Added cable diagnostics function

This function measures the length of the cable connected to the communication module.

XGL-EFMTB O/S V9.00 or higher

[How to use]

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1) In System Diagnostics, select the communication module, right-click, and select Cable Diagnostics.

Project	▼ ₽ ×	NewProgram[Program]	× LSPLC	×				
🏹 🍖 🎤 🗸 🔒 🏭 😒 4 🏤 test *					00	01	02	03	
 ▲ A Retwork Configuration ▲ I Undefined Network ▲ D LSPLC [B0S0 XGL-EFM] 	T(B)(T	0	XGP-xxxx	XGI- CPUUN	XGL- EFMTE	3 XG I-D24x	XGQ-TR4×	XGL- EFMFB	
- IIII Motion Control Module - 🗞 System Variable - IIII LSPLC(XGI-CPUUN)-STOF				RUN					
- 🙄 Global/Direct Variables - 💶 Parameter			XGT	STOP Rem			0000		
Basic Parameter			П				0000		
🗆 🗖 Local Ethernet Paramete	r			P.S.			0000	P1	
🎍 🔂 Scan Program						Detailed Mo	odule Inform	ation	
- 🔚 User Function/Function Blo	ck					Status By Se			
– 🎫 User Data Type – 🔂 Library					<u>``</u> _	Media Info			
				100		Autoscan			
		0		100 Base/t		System Log Ping Test			
Project Navigator Motion HS Link .	P2P Win						edia inform	ation	
Function/FB	→ 中 ×					View Comn	nunication N	Aodule Log	
Most Recently Used	▼ Edit					Save Comn	nunication N	1odule Log	
Function Name						Remote OS	download		
runction Name						Loopback T	est		
		System informatio				Cable Diag	nostics		
		Base 0 : X6			1	System Syn	chronization	ı	
			SI-OPHIN			1			

(4) Addition of EDS file user configuration function

A function has been added to allow users to set data by dynamically configuring parameter sizes when the Config Format of the ConnectionXX item in the EDS file is empty.

aram	eter Settings C	onfig. Setti	ngs			
	_	-	-			
Para	meter: Reserved	1				
Size:	10	Byte				
		5,15				
	Parameter items	Data size	Hexadecimal	Decimal		
1	Reserved	80				
2	Reserved0	8	00			
3	Reserved1	8	00			
4	Reserved2	8	00			
5	Reserved3	8	00			
6	Reserved4	8	00			
7	Reserved5	8	00			
8	Reserved6	8	00			
9	Reserved7	8	00			
10	Reserved8	8	00			
11	Reserved9	8	00			

(5) Encoder parameter position device initial value improvement

Motion data - A function has been added so that the default value of the "Position Device" item of the encoder parameter is displayed differently depending on the modular motion control module (XGF-XM32E) and XGI-CPUZ3/5/7 types.

1) XGF-XM32E: %ID0

XM32E_00	Encoder parameter 🛛 🗙		
Group	Parameter name	Encoder 1	Encoder 2
	Location Device	%ID0	
	Unit	0: pulse	
	Pulse/Rev Value	8192 pls	
Dania Catting	Travel Distance Per Rotation	10 pls	
Basic Setting	Maximum Value	2147483647 pls	
	Minimum Value	-2147483648 pls	
	Speed Unit	0: Unit/sec	
	Position Filter Time Constant	0 ms	

2) XGI-CPUZ: %ID256

LSPLC.Enco	oder parameter 🛛 🗙		
Group	Parameter name	Encoder 1	Encoder 2
	Location Device	%ID256	
	Unit	0: pulse	
	Pulse/Rev Value	8192 pls	
Denia Catting	Travel Distance Per Rotation	10 pls	
Basic Setting	Maximum Value	2147483647 pls	
	Minimum Value	-2147483648 pls	
	Speed Unit	0: Unit/sec	
	Position Filter Time Constant	0 ms	

(6) Addition of EtherNet/IP Additional Path function

To support changing the parameters of the IO-Link Master, an Additional Path (Hex) item has been added to the parameter settings of the acyclic client operation mode block.

Pa	rameter Settings	-		×
P	arameter Settings			
	Parameter:			
	Parameter items	Conten	ts	
	Service Code(Hex)	1		
	Class(Hex)	A		
	Instance(Hex)	FF		
	Attribute(Hex)	AC		
	Additional Path(Hex)	01,02		

(7) Strengthening PLC password input

In response to requests to strengthen PLC security functions, the minimum length of the password has been changed to 4 characters and must include numbers and special characters.

(8) XBM-H2 16-point, 14-point types added

XBM-H2 16-point and 14-point types have been added.

- XBM-DN16H2
- XBM-DP16H2
- XBM-DR14H2

(9) Enhanced P2P parameter setting error detection (XGB PLC)

When there is an error in the P2P order registered in the project tree, a warning has been changed to an error when writing.

(10) Bit String type added to EDS

In EDS, you can specify the desired fixed value for each bit and set the initial value.

iramet	er Settings								
arame	ter Settings	Config.	Settings						
Param Size:	neter: Assem		Byte						
1	Configuration	Parameter		Data size 64	Hexadecima 00	0	Decin	nal	Ţ
2			.MyBitStringParam		0054007F	5505	151	T	İ
						3: 4: 5: 6: 7:	Enum Stri Enum Stri Enum Stri Enum Stri Enum Stri Enum Stri Enum Stri	ing N+3 ing N+4 ing N+5 ing N+6 ing N+7	

(11) Change order of continuous paste tab movement

In the continuous paste dialog box, the tab movement order has been changed to make it easier to use the keyboard.

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(12) Improved CPUZ3, CPUZ5, CPUZ7 PLC version display BSW dates have been changed to RTE dates, and the order of items in the BSW and RTE versions has changed.

LC Performance M	otion Info. Password	DI C RTC
	information of PLC.	FLUNIC
Category	Contents	<u> </u>
PLC Type	XGI-CPUZ7	
BL Version	Ver. 2.3.1.51	
BSW Version	Ver. 2.03	
RTE Version	Ver. 1.51	
RTE Date	2023.12.21	
HW Version	Ver. 1.0	
PLC Mode		
RST/STOP/RUN Switc	STOP	
PLC Status	OK	
Connection Status	Local	
Mode Switch Source	XG5000	
Force Input	OFF	
Force Output	OFF	
1/0 Module Skip	OFF	
Fault Mask	OFF	
RST/Overall RST Block		
D/CLR/Overall D.CLR Serial Number	OFF/OFF 500C602065D	
PLC Name	MLPLC	
CPU Module Temperatu	27	
CPU Module Humidity	20	
	37	
MCU Temperature		

(13) Addition of EDS parameter type Types of values that can be entered in the settings window have been added. (real numbers, strings, etc.)

rame	eter Settings Config. Settings				
Paran Size:	neter: Assem1 0 Byte				
	Parameter items	Data size	Hexadecimal	Decimal	_
+	Configuration Assembly	192	00	0	
1		32		-16777216	
2	Configuration Assembly. Fixed Notation	:02			
2	Configuration Assembly. Fixed Notation Configuration Assembly. Floating Point Notation			-999999986991104	

arame	ter Settings	Config. Settings				
Param	neter: Assem					
Size: 0 Byte						
		Parameter items		Hexadecimal	Decimal	
1	Configuration		2080	00	0	
2	Configuration.My_STRING_Parameter		520		String TEST	
3	Configuration.My_SHORTSTRING_Parameter		520		AABBCCDD	
				•••••••••••••••••••••••••••••••••••••••		

(14) Changes in terms related to EIP Terminology related to XG5000 EIP-related operation modes and default settings has been changed.

ltem	Before	Now	Chinese
Operation Mode	Implicit Client	Implicit Connection	Implicit Connection
	Explicit Client	Explicit Connection	Explicit Connection
Standard Settings	Implicit Server	Implicit Target	Implicit Target

(15) Options dialog box improvement

Improvements have been made so that default settings are displayed when a higher level item is selected in the options dialog box.

Options	? ×						
	Default folder for new projects:						
···· Basic Settings ···· New Project Defi	C:\XG5000\Projects Find						
Common Editor Font/Color	Save Document						
Online Others	Number of backup file(s): 3 (0 - 20) Number of recent projects to display: 5 (0 - 20)						
En LD	Number of recent projects to display: 5 (0 - 20) Open previous project when starting the XG5000						
Font/Color							
	Autosave						
Font/Color	Autosave File Path:						
- Basic Settings	C:\Users\autoteam\AppData\Roaming\XG5000\Autosav Find						
	Enabled Additional Functions:						
۰	Step number:						
Reset Category	OK Cancel Apply						

(16) XG-TCON parameter backup/restore function added

The existing parameter read/write functions have been subdivided into read/write/backup/restore. Please check the table below for a brief description of the function. Please refer to the product manual for details.

Button	Detail of function
Read	Read parameters from module
Write	Write parameters in the parameter setting window to the module
Restore	Reading parameters from the module after recovering parameters saved in
	the module
Back up	Save parameters in module

ype K: -200 ~ 1300 °C of Permission of 1300.0 of -200.0 scale 1300.0 ort of -200.0 scale 1300.0 ort of 1 nort of 1 root Disable IT 0.0 S 0.0	 K:-200 ~ 1300 °C Permission 1300.0 -200.0 1300.0 -200.0 1300.0 -200.0 0.0 	K: -200 ~ 1300 °C Permission 1300.0 -200.0 1300.0 -200.0 1 Disable	K: -200 ~ 1300 °C Permission 1300.0 -200.0 1300.0 -200.0 1	OK Cancel Default
of sput 1300.0 of scale -200.0 scale 1300.0 scale -200.0 oint of slue 1 root Disable IT 0.0	1300.0 -200.0 1300.0 -200.0 1 Disable	1300.0 -200.0 1300.0 -200.0 1	1300.0 -200.0 1300.0 -200.0 1	
ppt 1300.0 of scale -200.0 scale 1 noot Disable IT 0.0	-200.0 1300.0 -200.0 1 Disable	-200.0 1300.0 -200.0 1	-200.0 1300.0 -200.0 1	Default
-200.0 scale 1300.0 scale -200.0 oint of 1 noot Disable IT 0.0	1300.0 -200.0 1 Disable	1300.0 -200.0 1	1300.0 -200.0 1	Default
scale -200.0 oint of 1 root Disable IT 0.0	-200.0 1 Disable	-200.0 1	-200.0 1	Deradi
oint of 1 noot Disable IT 0.0	1 Disable	1	1	
root Disable	Disable			
T 0.0		Disable		Read
			Disable	- neud
0.0		0.0	0.0	Write
NS 0.0	0.0	0.0	0.0	
type Weighted averag	e Weighted average	Weighted average	Weighted average	Restore
alue 0	0	0	0	- ACSTON
limit 1300.0	1300.0	1300.0	1300.0	Backup
nit 1300.0	1300.0	1300.0	1300.0	Dackup
nit -200.0	-200.0	-200.0	-200.0	
limit -200.0	-200.0	-200.0	-200.0	
′S 0.0	0.0	0.0	0.0	
ation od Internal RJC	Internal RJC	Internal RJC	Internal RJC	
RJC 0.0		0.0	0.0	
	it 1300.0 it -200.0 imit -200.0 S 0.0 stion d Internal RJC	it 1300.0 1300.0 it -200.0 -200.0 imit -200.0 -200.0 S 0.0 0.0 stion Internal RJC Internal RJC	it 1300.0 1300.0 1300.0 it -200.0 -200.0 -200.0 imit -200.0 -200.0 -200.0 S 0.0 0.0 0.0 stion d Internal RJC Internal RJC Internal RJC	it 1300.0 1300.0 1300.0 1300.0 it -200.0 -200.0 -200.0 -200.0 -200.0 imit -200.0 -200.0 -200.0 -200.0 -200.0 -200.0 S 0.0 0.0 0.0 0.0 Internal RJC I

(17) Improvement of XG5000 communication library

For small PLC models (XGB), we have improved to support ReadDevice_Block and WriteDevice_Block.

(18) Added simulator communication interface

A function has been added to exchange data through dedicated communication for the XG5000 simulator. In addition to the existing API communication through XimUtil.dll, data can be exchanged through Ethernet-specific communication. (XGCommLib can also be used.)

(19) Addition and improvement of commands

The following commands have been added and improved. For instructions on how to use the command, please refer to the command manual.

- Addition of positioning command
 - READPDO/WRITEPDO
 - READSDOEX/WRITESDOEX
 - SAVESDOEX
 - TTPEX
 - PTPEX
 - JOGEX
 - JOGDEX
 - FCS2

- Added XBC-U, XBM-H, XBM-H2, XBM-HP commands
 - XORGM
 - XTTP
 - XPTP
 - XREADPDO
 - XWRITEPDO
 - XREADSDO
 - XWRITESDO
 - XSAVESDO
- XEC-U, XEM-H2, XEM-HP
 - XPM_ORGM
 - XPM_JOGD
 - XPM_TTP
 - XPM_PTP
 - XPM_READPDO
 - XPM_WRITEPDO
 - XPM_READSDO
 - XPM_WRITESDO
 - XPM_SAVESDO
 - CP_MSG
- Addition of command axis range according to addition of XGF-XM32E module
 - XPM_TRUN

(20) Cycloidal Curve function added to the cam curve in the cam block setting function

I

NewProgram[Pro	gram] 💉	CAM Block 1 ×							
AM operation speed	[Unit/ Sub axis n	nax speed [Unit/s] Sub	axis max accelera	ition [Sub axis	max jerk [Unit/s3	1)			
1.00000		0.00000	0.00000		0.00000				
: →: →: ×	points] 101/32	1 nodes] 2 / 360 [Numi 2768	Der of CAM	CAM Profile	Unchecke *	Characteristic C	urve data view	Export	
Main Axis Aosition	Sub Axis Position	CAM Curve	Connection Speed	Connection Acceleration	Connection Jerk	Number of points	 Interpolation Type 		
0.00000	0.00000	Straight Line				1	Linear		
1.00000	100.00000	Cycloidal	Γ	Г	Г	100	Linear		
_			ļļ	ļ	ļ	ļļ		•	
		-							
000 + 000		Positio	on	Velocity -	Acceler	ation	- Jerk		
600-		100-					·····		
8000 500	180	90-							
2000 400 2000 300 1000 200	160	80-							
	140	70-							
000 200	120-	60							
0+ 0+		1							Sub axis max
-100	100-	50			/				
000 -200-	80	40-							
1000200 - 2000300 - 3000400 - 3000500 -	60	30-							
-400	40-	20-							
3000 -500	20	10-							
4000 -600-									
	= <u>0</u> _	0							Sub axis max

(21) EtherCAT slave automatic connection - Added function to set node switch to axis number

When automatically connecting a slave, the [Match slave station number and axis number] option has been added, and a convenience function has been added to match the switch number with the axis when using a node switch.

(22) Added virtual node switch setting function

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A function that can be used by setting up a virtual node switch on a slave that does not have a physical node switch has been added.

Slave Information		×
Slave Information S	lave Configuration	Node Switch Settings
Station Number	1]
Node Switch		
Node Switch Current	1]
Virtual Node Switch	þ	Write
	Reset Settings	Read Curren
		OK Cancel

(23) Addition of firmware batch update function through EtherCAT FoE

A function to batch update the firmware of EtherCAT slaves of the same type has been added.

4. Willindefined Network	agnostics	ndard informa						
Motion Control Module	Star	ndard informa	luon					
System Variable	Eth	herCAT Paran	neter Error			EtherCAT error inform	ation1	
LSPLC(XMC-E32A)-STOP/War	Nu	imber of conr	ected Ether	0		EtherCAT error inform	ation2	
- 🙄 Global/Direct Variables	Eth	nerCAT maste	r STATE	-		EtherCAT Error3		
	Sen	nd/Receive Cou	unt Re	set Count				
🖌 🕂 Motion Data	Eth	nerCAT Numb	er of frames	tr		EtherCAT PDO error o	ount	
EtherCAT Parameter	Eth	EtherCAT Number of frames r			PDO working counter error n			
A Master	Eth	herCAT Packe	t Loss			EtherCAT PDO Error O	Count(M	
- ⊕ Axis Parameter - ∰ Axis Group Parameter - ∰ NC Parameter - ₯ NC Program - ☆ CAM Data		Name	STATE	AL Status Code [0x134~5]	DL Status [0x110~1		Rx Error [0x301/3/5/7]	Inv. Frame [0x300/2/4/6]
CAM Block	Sla	ave 1		ve Revision Informa	tion			
Main Task				ve error history				
⊳ 🔥 NewProgram – 🔿 Periodic Task				ange Slave Status				
O Initialization Task				ve Connection Statu	-		_	
💼 User Function/Function Block			Up	date Firmware	•	Individual Update		
– 🌉 User Data Type						Batch Update		
니 역 Library								

Firmware Update - Select Target Slave	?	×
B	DP) Rev1)
Caution Select the target slave to update firmware. Switches the slave to BootStrap state when the After completion, put the slave into Init state for OK		et.

(24) [XG-PM] XBF-PN04B/08B, XGF-PN4B/8B/16B I/O control function setting function added

A function that can be used by setting EtherCAT I/O in the positioning module has been added. The supported versions for each product related to the function are as follows.

- XBF-PN4B/8B: O/S V2.4 or higher
- XGF-PN4B/8B/16B: O/S V2.5 or higher

(25) [XG-PM] Add PTP test operation function

A test operation function related to PTP (Point to Point) operation that can be used in the positioning module has been added. The supported versions for each product related to the function are as follows.

- XBF-PN4B/8B: O/S V2.4 or higher
- XGF-PN4B/8B/16B: O/S V2.5 or higher

Command Tool			* 3
Error Reset	Item	Rst. Axis Error	Run
Indirect Start	Step	0	Run
	Pos.	0 pls	
	Spd.	0 pls/s	
	Dwell	0 ms	
	M Code	0	Dure
Direct Start	Accel.	No.1	Run
	Decel.	No.1	
	Coord.	ABS	
	Туре	0: POS	
	Pos.1	0 pls	
	Pos.2	0 pls	
	Spd.	0 pls/s	
	Dwell	0 ms	
PTP	Repeat	0	Run
	Accel.	No.1	
	Decel.	No.1	
	Coord.	ABS	
	Туре	0: POS	
Decel.	Time	0 ms	Run
Restart			Run
Inching Opr.	Pos.	0 pls	Run
Start JOG	~~	< >	>>
Stop JOG			

(26) [XG-PM] Added multi-axis slave support

A multi-axis setting function that can be used in the positioning module has been added. The supported versions for each product related to the function are as follows.

- XBF-PN4B/8B: O/S V2.4 or higher

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- XGF-PN4B/8B/16B: O/S V2.5 or higher

Workspace × ×	C C	onnect Axis		×
Item				
Engine test(XGI-CPUUN) ★				
ia-@ New(XGF-PN8B,Base0,Slot4)-Offline		Axis	Slave/Slot/Virtual axis	
GAM Data	1	Axis 1	Virtual Axis	
- 🐼 Common Parameter	2	Axis 2	Slave 1(iX7M(4-axis) EtherCAT drive) - # 000	
🖨 🐵 EtherCAT parameter	3	Axis 3	Slave 1(iX7M(4-axis) EtherCAT drive) - # 001	
G Master ⊟ G Slave	4	Axis 4	Slave 1(iX7M(4-axis) EtherCAT drive) - # 002	
iave 1(iX7M(4-axis) EtherCAT drive)	5	Axis 5	Slave 1(iX7M(4-axis) EtherCAT drive) - # 003	1
🖙 🐎 SDO parameter	6	Axis 6	Disable	
🗄 💼 #1 Axis data (Virtual axis)	7	Axis 7	Disable	
ia- 💼 # 2 Axis data (Slave 1(iX7M(4-axis) EtherCAT drive) ia- 💼 # 3 Axis data (Slave 1(iX7M(4-axis) EtherCAT drive)	8	Axis 8	Disable	
 ⊡ main # 3 Axis data (Slave 1(iX/M(4-axis) EtherCAT drive) ⊡ main # 4 Axis data (Slave 1(iX/M(4-axis) EtherCAT drive)	–	7013 0		
🖶 👼 # 5 Axis data (Slave 1(iX7M(4-axis) EtherCAT drive)				
🖻 💼 # 6Axis Data				
ia⊸o∰ #7Axis Data ia⊸o∰ #8Axis Data				
				Ĩ
	🗹 D	isplays i	tems that are not linked to an axis only	
		lisnlavs l	inked items only	
		iopiayor		
			Revert edits	
T [®] Project			OK Cancel	
■t ^ª Project			Revert edits OK Cancel	

2. Error Correction

(1) EtherNet/IP array type tag error correction

When entering an array type tag in the module P2P block and smart extension EIP detailed settings, the data type has been modified to allow input as long as the number of data is correct.

(2) Fix EDS file analysis error

A program abnormal termination error occurred when a data type not supported by XG5000 was declared, which has been fixed.

(3) Correction of XGR parameter saving and restoration errors

When saving a project file, an error where the communication module setting data was not saved if the base number was declared as 8 or higher was fixed.

(4) Correcting high-speed link and P2P item reading errors

When opening or reading from a PLC, if there are no high-speed link and P2P parameters, the high-speed link and P2P items and data of the project are deleted.

(5) Correcting axis group parameter errors in motion projects

PCS Settings – An error where the value was unconditionally changed to 1 when entering a value in the 'Z-axis rotation' item has been corrected.

(6) Correction of high-speed link station number change error

There was an error where the station number was changed to a different station number when opening the high-speed link block added in the old version of XG5000 in the new version, which has been corrected.

(7) Fix EDS file min/max/default value analysis error

An error where the item was displayed with an incorrect value when the min/max/default value was set to hexadecimal has been fixed.

(8) Fixed drag-drop error in EIP configuration window

An error where the program would terminate abnormally when adding an EDS item from the EDS information window to the EIP configuration window by dragging and dropping has been fixed.

(9) T20/O2T Size size error correction

When setting the Input Only or Output Only I/O type, the data size has been modified to be set to 0 regardless of the T2O/O2T Size setting value.

(10) Fix XGF-XM32E project restoration error

If the module name was duplicated, an error occurred in which opening from the PLC was not performed properly, so the duplicate module name was changed to the default value.

(11) Fix XGF-XM32E test error

Fixed an issue where I/O parameters could not be written for the XGF-XM32E module with shared memory configured.

(12) Fix device finding error

We have corrected an issue where, when bits (words containing bits) are selected in the device search window and batch search is set, the number of files in the batch cannot be searched properly.

(13) Smart extension parameter conversion error correction

Fixed an issue where smart extension parameters were not converted when converting an XGI-CPUUN project to an XGI-CPUZx project.

(14) Correcting EOF character notation error when creating EDS file

When creating an EDS file by executing the [Project]-[Export EtherNet/IP EDS file] menu in the XEL-BSSRx project, the EOF (NULL) code at the end of the file has been modified to be deleted.

(15) Fix device change error

We have corrected a problem where the IW0.0 format is used in a ladder program and the IW0.0 format is changed to %IX0.0.0 when the [Change to change type] item is checked in the device change window and the change is performed.

(16) Fixed Korean variable auto-completion problem

When using Windows 11 22H2 or later, we have fixed an issue where auto-completion was not possible when entering Korean variables in the variable selection dialog box.

(17) Fixed automatic variable retain duplication error

We have corrected an issue where key values in the [Automatic Variable Retain Value] table are duplicated for automatically assigned variables with the same variable name and retain attribute set in the global variable and local variable lists of the program.

(18) LOAD\$ monitoring error correction

An issue where strings were displayed in blue as if they were different but matched when using \$= in a function/function block has been corrected.

(19) Correction of data trace window display error

Fixed the issue where the data trace window was not visible when the window was closed and the extended monitor was removed after executing data trace on the extended monitor.

(20) Fix USB drive installation error for Drive CM

We have corrected a problem where USB drive files for Drive CM were not installed properly.

(21) SFC action limiter 'SL' operation error correction

The insensitivity error when executing the 'SL' limiter has been fixed.

- Applicable models: XEM-H2, XEM-HP

(22) Correction of ENO output error of user function block

An operation error when a VAR_OUTPUT type variable was used as an ENO output variable of a general function has been corrected. (Related models: XEC-U, XEM-H2, XEM-HP, XEC-H (V5.00 or higher))

(23) TLS connection option application error correction

We have corrected an error where the "Use TLS" option, which can only be used for Local Ethernet/Ethernet, is reflected in other connection settings during connection settings.

(24) Fixed ladder overlap error when pasting continuously

In a program containing OR logic, if the entire line is not selected, an issue where the program overlaps when pasting consecutively has been fixed.

(25) Fixed message pop-up error when deleting parameters (XGB PLC)

An issue where a communication error message box was displayed when selecting network parameters when deleting parameters has been fixed.

(26) Command error correction

- 1) Correcting the problem of buffering positioning command error notation error
- 2) Correction of calculation error when using ANY_CMP BOOL type or R device
- 3) When using FCS command Modebus ASCII, exception handling is added if it is outside the ASCII range.
- 4) Fixed issue where XPM SVPRD axis value was not applied properly
- 5) Correction of SF_EDM command operation error during Safety F/B

(27) XG-PM error correction

1) Fixed the network view display error of multi-port slave when uploading EtherCAT parameters of XGF-M32E slave.

2) A readability issue in the servo settings window that occurred in the English version has been corrected.3) The readability issue of the module information window that occurred in the English version has been corrected.

4) The readability issue of axis parameter display that occurred in the English version has been corrected.

5) In the English version, an issue where the driving data focus was not maintained at the position specified by the user has been corrected.

(28) Correction of Generic EtherNet/IP EDS file setting error

An issue where data was not entered in the Parameter-Config Setting window when setting up an EIP block using a Generic EtherNet/IP EDS file has been fixed.

ReleaseNote - XG5000 V4.75

1. Improvements and additions

(1) Optimization of XGI-CPUZ program capacity

The capacity of the execution program has been improved by optimizing the program capacity of XGI-CPUZ.

(2) XGI-CPUZ performance optimization–Optional use of MCS/MCSCLR instructions

An option has been added to increase program execution speed when MCS/MCSCLR instructions are not used.

[Setting]

In the 'PLC Properties' windo	w, select the 'Options' tab.
PLC Property	×
PLC Options	
Sets options for the PLC.	
Basic Settings	
Use External Variable Using MCS/MCSCLR	
✓ Online edit	
Multi-User Edit Duri	Do Not Use
Using MCS/MCSCLR f	unction in the program
Use the MCS/MCSCLR fu (Applies only to XGI-CPU	Z3/5/7 models)
	OK Cancel

(3) Addition of XGI-CPUZ instruction

The following commands have been added. For instructions on how to use the command, please refer to the command manual.

- ANY_CMP
- ANY_CMP_EQ
- ANY_CMP_NE
- GROUP_SUM
- GROUP_SCH

(4) In XG5000 V4.75, XGI-CPUZ series, if the O/S version is lower than V1.51 (RTE), the following message window will be displayed and program writing and writing during execution will not occur. (Impact of capacity optimization and performance optimization)

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2. Error Correction

(1) Correcting RAPIEnet setting error of XGL-EFMTB module in XGI-CPUZ model

An issue where the user-set RAPIEnet settings were changed to 'disable' has been fixed.

(2) Correcting project comparison errors

The built-in FEnet comparison problem of XGB PLC has been fixed.

(3) Fix abnormal termination problem related to EIP communication

The issue where XG5000 terminates abnormally when the EDS file registered in the project file is not present on the user's PC has been fixed.

(4) Fixed abnormal termination issue when forced writing during run.

An issue where an error occurred after the forced write process was completed during run has been fixed.

(5) Fixed issues related to XGS-CPU01A (Safety CPU) model

The following problems in Safety PLC have been fixed.

- 1) Project read failure (open from PLC failure)
- 2) Simulator not working phenomenon
- 3) When saving history, some contents are not saved in the CSV file.

(6) Command improvements and error corrections

1) XGI-CPUZ 'TICK_ET' command error correction

- 2) XGI-CPUZ, XMC command exception handling added
- ARY GET •
- ARY PUT
- ARY CMP
- ARY CMP EQ
- ARY CMP NE

3) XGI-CPUZ, XMC instruction error correction

- ARY MOVE
- ARY MOVE32
- ANY MOVE
- ANY_MOVE2
- GROUP_MOVE GROUP_MOVE32
- GROUP_FIND
- LIFO

Г

ReleaseNote - XG5000 V4.74

1. Improvements and additions

(1) Addition of XGF-XM32E module

 The 32-axis motion control module (XGF-XM32E) has been added. The XGF-XM32E is integrated into the XG5000, allowing programming directly on the XG5000 without the need for XG-PM. Please note that the XGF-XM32E is only compatible with XGI-CPUUN and XGI-CPUZ3/5/7. For detailed information about the module's functions, please refer to the product manual.

(2) Expansion of the communication bandwidth between CPU/modules

 This parameter is used to define operational options for the system within the basic parameters. The expansion of the communication bandwidth between CPU/modules is only available in XGI-CPUUN. If the parameter values stored in the PLC are different, a CPU reset is required for the changes to take effect.

[Setting]

- In the Basic Parameter Setting window, you select the System Options.



 The status of the CPU/module bandwidth expansion in the PLC can be checked in the PLC information window.

Category	Contents	
CPU Type	XGI-CPUUN	_
CPU Version	Ver. 2.00	
CPU Mode	STOP	
Mode Switch		
CPU State	OK	
Connection Status	Local	
Last CPU Mode Change	XG5000	
Forced Input	OFF	
Forced Output	OFF	
Skip I/O	OFF	
Fault Mask	OFF	
Disable RST/Overall RS	OFF/OFF	
Disable D.CLR/Overall D	OFF/OFF	
CPU/Module Bandwidth	ON	
Disable D.CLR/Overall D	OFF/OFF	

(3) Improvement in the representation of Smart Expansion I, Q addresses

 In smart expansion, when displaying the devices for input/output variables, an improvement has been made to refer to the options [%MX0 => %MW0.0 in Display Format] or [%IW0.0.0 => %IW0 in Display Format] in the [Master Settings] tab for representation

(4) Improvement in the representation of smart expansion EDS

- In smart expansion, when adding communication devices using the EtherNet/IP protocol, an improvement has been made to display the EDS version.

(5) Improvement in DNS address display - Allowing input of '0.0.0.0

- When configuring the address settings of the Ethernet module, an improvement has been made to allow input of '0.0.0.0' for the gateway and DNS. If you are not using a gateway or DNS, you can enter the value of '0.0.0.0' for both.

(6) Improvement in the modification notification window during multi-user runtime

- When using the modification feature during multi-user runtime, the issue of losing focus on the currently edited window due to the write notification window of another user's runtime has been improved..

(7) Improvement to allow writing SDO (Servo) parameters during [XG-PM] runtime

In the XGF-M32E product, previously, parameter write operations were restricted due to safety
specifications when the module was operating in run mode or when the driving axis connected to
the servo was in operation. However, currently, it is now possible to perform SDO parameter write
operations when the module is in run mode and the connected driving axis to the servo is not in
operation.

2. Error Correction

(1) Correction of the multiple deletion error in user frames

- When selecting multiple user frames for deletion, the issue of them not being deleted properly has been resolved.

(2) Correction of SubExclusiveOwner input error

- In the EIPT module P2P block configuration window, the issue of incorrect tags being input in the local tag column for array type tags in SubExclusiveOwner type blocks, where the data count did not match, has been resolved.

(3) Correction of network browsing error

- The issues of displaying an error message stating the inability to perform commands during Ethernet connection discovery in network browsing and the problem of duplicate display of the same IP address have been resolved.

(4) Correction of device discovery dialog display error

- The issue of displaying the device type as XGI in the device discovery window after changing from XGI PLC to XGK PLC has been resolved.

(5) Correction of current value change error in variable monitoring

- The issue of the previous or next value of an array-type variable being changed to 0xFF when modifying the current value in the monitoring window has been resolved.

(6) Correction of system diagnostic error in XGR PLC

- The issue of displaying the NAK message window when right-clicking (executing the context menu) in the system diagnostic has been resolved.

(7) Correction of operational error when calling function block commands within XECS UDFBs

- Fixed an issue where input operand values could not be passed when using function block commands within a user-defined function block.

(8) "Coordinate system type" and "Coordinate system parameter 1" change error correction

- The issue of incorrect data being displayed in the current value of the 'Load Cell Sensitivity' item when running the 'Calibration' window under the 'Special Module Monitor' of the XBF-LD02S module has been resolved.

(9) Correction of PC resume from power-saving mode error-

- The issue of abnormal termination of the PLC connection when entering PC power-saving mode and the subsequent error of failed read/write operations upon reconnection has been resolved.

(10) Improvement in trend monitor configuration error

- In trend monitoring, the issue of always changing to automatic alignment of the Y-axis when modifying trend settings has been resolved.

(11) Correction of memory reference error

- In IEC-based models, the issue of incorrect memory referencing for array elements when direct address allocation is used for arrays has been resolved.

(12) Fixed XGI-CPUZ structure data type information display error.

- The problem in which detailed information of the XGI-CPUZ structure data type was not displayed in the English version of XG5000 has been fixed.

[Target Struct]

- Encoder

Γ

- _MC_Common
- _MC_Axis
- MC_AxesGroup
- _ECAT_Master
- _ECAT_Slave
- _NC_Channel
- _NC_ChannelAxis
- _MemCard
- _momouru

(13) Smart expansion communication error correction

- If the communication device of smart expansion includes an inverter, an issue where communication throughout the smart expansion does not work after writing a project has been fixed.

ReleaseNote - XG5000 V4.73

1. Improvements and additions

- (1) Improved entry conditions for modification during run Supports only XGK-N automatic assignment projects.
- If the user cancels after editing the program, it is a function that can be modified during running if the program matches.

[Step]

Change start condition of modification during XGK run in PLC property to [match program].

PLC Property	X
PLC Options	
Sets options for the PLC.	
 Basic Settings Variable/Comment 	Memory
✓ Online edit	incinory
Modification start co,	Exact match 📃
	Exact match Program match
Modification start con Select the modification sta auto-assignment run edit, If [Match Program] is sel affect program execution	art condition XGK ected, edits that do not are ignored,
	OK Cancel

Write a program and write it to PLC. (Exact match state)

글로벌/직접변수 💉	NewProgram[프로그램] *)	×			
var01					P00000
					—< >-
var02					
var03					

Edit the program. (Program mismatch condition)

0	var01					P00000
	var02					
	var03 					
	es -					

Press Ctrl+Z to undo the edited content. (Program matching status)

var01				P00000
0	 	 	 	
var02				
var03				

It is possible to switch to edit mode during the run.

var01				P00000
var02				
var03				

[Notice]

Γ

Monitoring mode does not use [match program] conditions. Monitoring is possible after entering edit during run.

You do not need to change the option every time if you change 'default value for new project' to [match program] in XG5000 options.

Options	? X
- XG5000 - New Project Defi - Common Editor - Font/Color - Online - Others - LD - Font/Color - Advanced - SFC - Font/Color - ST/IL(IEC) - Font/Color - Font/Color - Font/Color	Set defaults to be applied when creating a new project.
•	Modification start condition XGK run edit Select the modification start condition XGK auto-assignment run edit, If [Match Program] is selected, edits that do not affect program execution are ignored.
Reset Category	OK Cancel Apply

[Constraints]

1. It is applied only to the auto-assignment project, and if a program with the option applied is downloaded to the PLC, it cannot be read with a previous version.

2. Parameter matching - Timer/counter/latch and automatic allocation area information must match. (Basic parameters and auto-assigned parameters)

3. Program types and configurations must match, and user functions and function blocks must match.

4. The attributes of global and local variables must match.

(2) Improved editing of array comments

- It has been improved so that the comment of an array declared as a global variable can be edited in edit mode during multi-user run.

(3) Improved search function for both array and user data types

Added find and replace functions for memory allocation and comments for arrays and user data type variables. You can use the [Find All] and [Replace All] functions in the Find/Replace window.

(4) Change the default value of holding input when a communication device error occurs

 In the [Communication device setting]-[Basic operation parameter] window of smart extension, the default value of [Maintain input when communication device error occurs] has been changed from [Setting] to [Disabled].

NewProgram[Program] 💉	LSPLC [BOSO Smart Extension]	×					
Smart Extension Master Setting Communication Device Settings	 Communication Device Settings Sets All I/O parameters 	Communication Device Settings Sets All I/O parameters Standard Input Filter: 3 rms					
Allocate Input/Output Variables	Settings	Setting	Detailed description				
Allocate Diagnostic Variables Connection View	Run CPU->Continue output when stopped		Set: Continue output when stopped Unset: Clear output when stopped				
EIP Cycle/Details	Keep output when a CPU or communication device error occurs	Γ	Set: Keep output Unset: Clear output				
	Exchange EB or modules while running(hot swap)		Set: Continue running when breakdown occu resolved return to normal operation Unset: Error when breakdown				
	Use redundant power	Γ	Sets when use redundant power				
	Keep input when a communication device error occurs		Set: Keep input Unset: Clear input				
	 Supports all EB hot swap, m Supports expansion driver 		t swap supports only expansion driver device				

(5) Expansion of the number of smart extension bases

- The maximum number of bases for smart expansion has been improved to support up to 127. As the maximum number of extensions of 127 depends on the version of XGL-EFMT, please refer to the product user manual.

(6) Expansion of the number of cam profiles and cam points

- The maximum number of cam profiles and cam points in PLCs that support the motion function has been changed.
 - XMC-E32A, XMC-E32C, LSMMT: 100/65536 (Before: 32/32768)
 - XMC-E16A: 50/32768 (Before: 16/16384)
 - XMC-E08A: 25/16384 (Before: 8/8192)
- To use this function, you must use an O/S that supports extended cam profiles and cam points. For details, please refer to the product user manual.

(7) Add label and subroutine division mode

- Supported only when using multi-user edit function during run(XGI-CPUUN)

- Added option to split based on count usage of labels and subroutines in edit mode during multiuser runs. This can be useful if you use a lot of labels and subroutines in a specific program.
- Usage-based division divides based on the total usage of the program, and does not change even if labels/subroutines are added/deleted when modified during run.

PLC Property	×
PLC Options	
Sets options for the PLC.	
 Basic Settings Variable/Comment Use External Variable Online edit Multi-User Edit Duri Split mode Select th, 	Use
Split mode Select the	label/subroutine assig
	OK Cancel

(8) Distribution of new Drive CM

- A new version has been applied. (V0.89 -> V1.00)

(9) Improved double coil inspection – with set/reset coil

Double Coil Inspection Improved to select whether or not to include set/reset coils.

Program Check -	LSPLC		?	×
Program Check	Duplicate Coil C	heck		
Checking Devic	ce Specification —			
Direct Varia	ble Area			
🗸 I Area	🔽 Q Area	🗹 M Area		
🗌 R Area	W Area			
🗌 Other Area				
Automat	ic Variable			
Special	-			
PID Flag) nication Flag			
	-			
Checking Option				
Function(Bl	ock) Output et and Reset Coil			
	a and Neser Coll			
			1	
	ОК	Cancel	Ap	ply

(10) Improved display of checkout message when replacing all

Improved functions related to modification options during multi-user run
 Improved so that the checkout message box is displayed only once when replacing all with edit during run while using the multi-user edit during run option. In addition, it has been improved so that the checkout message box is not displayed even when there is nothing to replace.

(11) Expansion of simultaneous access to XGI-CPUZ – supports up to 8 people

- It has been improved so that 8 users can access at the same time in XGI-CPUZ.

(12) Add IP address and rotary switch interlock function - XBL-EIPT

- The "Apply host address rotary switch value (1 to 89)" check box has been added. If the check box

is selected, the last digit of the IP address of XBL-EIPT is set as the rotary switch value set by the user.

Standard Settings - EtherNet/IP						
Basic Settings						
IP Address:	192 . 168 . 1 . 2					
Subnet Mask:	255 . 255 . 255 . 0					
Gateway:	192 . 168 . 1 . 1					
DNS Server:	0.0.0.1					
Reception Waiting Time:	15 sec(2 - 255)					
Use Tag	✓ Apply Host Address Rotary Switch Value (1~89)					
	ОК С	ancel				

(13) Config Setting setting function added - XBL-EIPT

A function to change Config in XBL-EIPT has been added.

_	Parameter items	Data size		Decimal	4	
1		96	00	0		
2	Config.Reserved	72	00 D. Disabled	0 0. Disabled	-	
3	Config.Quick Connect Config.Eth 1 Custom Setup	1	0: Disabled 0: Auto-negotiate	0: Disabled 0: Auto-negotiate		
4 5	Config.Eth 2 Custom Setup		0: Auto-negotiate	0: Auto-negotiate		
0 6	Config.Reserved	5	00 Auto-negotiate	0. Auto-negotiate		
7	Config.Reserved	16	00	0		

(14) High-speed link block expansion function – up to 700

- It has been improved to transmit and receive up to 700 words in XGI-CPUUN, XGL-EFMTB/EFMFB/EFMHB and XOL-RCPUA. To transmit/receive blocks of up to 700 words, check "Use high-speed link block extension" in advanced settings. However, it can be used only for RAPIEnet station type.

Communication M	Communication Module Setting and Diagnosis $ imes$								
Communication Module Setting and Diagnosis									
Module type:	XGL-EFMT(B)		-						
Base No.:	• 00								
Slot No.:	00 -								
High-speed link index:	01			•					
Communication	Communication Period Settings								
Period	200 msec		-	Advanced					
CPU error: CPU stop:		⊖ Lat		 Clear Clear 					
_		1							
	Register Slave		OK	Cancel					
Advanced				×					
Time Settings									
Receive Timeout(1~255):	Default			x 10ms					
Use Extension N	Node								
	Start Address W1000	4 0	ize	×					
			Oł	Cancel					

Γ

Index	Station type	Mode	Station number	Block number	Module Type	Read (Transmit) Area	Variable name	Variable name comment	Read area Word size
0	RAPIEnet	1. Send		0	GENERIC	%MW100			700

(15) Improved reading of large-capacity comments

 When the direct variable comment is stored in the built-in flash, the program can be read even if the comment data is not valid. When saving variable comments directly to the built-in flash, be careful not to cancel or remove the cable while writing.

(16) Improved forced write during run – line engine

- When forced writing during run, the behavior of line edge commands has been improved. For support by PLC O/S, please refer to the product user manual.

(17) Save last read/write state

- When reading/writing a project, the status of the last selected item is saved in the project file. To save the last read/write status in the project file, please refer to Option XG5000 - Others. The read/write status of SDO parameters of motion controllers such as XMC is not saved in the project file.

Options	?	×
XG5000 New Project Defi Common Editor Font/Color Online Others LD Font/Color Advanced SFC Font/Color ST/L(IEC) Font/Color	Sets miscellaneous options. Others Save the latest read/write st.,. Do not save Do not save Save	
	Save the latest read/write status Save the latest read/write item status in current project file,	
Reset Category	OK Cancel Ap	oply

(18) Improved user data type input

Variable input of user data in ladder programs has been improved.



(19) Data memory write improvement

- When writing data memory, it has been improved so that PLC memory can be saved as a file. Saved files can be loaded from the project tree.

Write to PLC		
Inhibit Program Upload		
Sets link enable with parameters		
·····································	OK	
	Cance	9
······································	Setting	I
····· ✓ IIII I/O parameter	Clear PL	<u>C</u>
Selected data memory is written to the PLC. Do you want to save data memory stored in PLC a	s a file?	
Yes No Image: Reset]Chet [base2, slot1] Image: Reset]FEnet [base2, slot0] Image: Reset]FEnet [base2, slot1] Image: Reset]Chet [base2, slot10] Image: Reset]Chet [base2, slot11] Image: Reset]Chet [base2, slot11] Image: Reset]Chet [base2, slot11] Image: Reset]Chet [base2, slot11]	Cancel	

(20) Current screen status All window application function

A toolbar button has been added so that the view options of the current ladder program can be applied to all ladder windows. View options are also stored in the registry, so you can use the same view options in the future.

🛱 👯 🚺 🔀 関 🛛 🗙 📕 🔅 🕞 🚽	
apply all windows	
Applies view properties of the current program to all program windows.	

(21) IL file export/import

Γ

 A function to export or import a program written in ladder in the XGK project to IL language has been added. You can also edit the program using a general text editor such as Notepad. Text is stored as Unicode. (XGK automatic allocation is not supported.)

(22) Add refresh size check function

Added refresh size inspection function (except block type). You can check the refresh size for each module in the I/O parameter window, and you can also check whether the refresh size is exceeded during program inspection.

P00029	h Size		1088 /	1(
Base	Slot	Module Name	Refre	Γ
0	0	FEnet:XGL-EFMT(B) (Fast Ethernet Module, Electrical Master)	16	1
0	1	FEnet:XGL-EFMT(B) (Fast Ethernet Module, Electrical Master)	16	
0	2	Output Module:XGQ-TR8A/B (Transistor Output, 64 Contacts (0.1A, Sink Output/S	4	
0	3	Input Module:XGI-D28A/B (DC 24V Input, 64 Contacts)	4	
0	4	Analog Input Module:XGF-AV8A (A/D Voltage Input Type(8 Channels))	12	1
0	5	Analog Output Module:XGF-DV8A (D/A Voltage Output Type(8 Channels))	12	
0	6	High Speed Counter Module:XGF-H08A (High Speed Counter Pulse(OC), Input Typ	25	
0	7	Temp. Measuring Module:XGF-TC4S (Temperature Input Type(Isolated-type, 4 Cha	30	
0	8	Temp. Measuring Module:XGF-TC4S (Temperature Input Type(Isolated-type, 4 Cha	30	-
0	9	Positioning Module:XGF-PN8B (Position Control, EtherCAT Network Type(8 axis))	3	1
0	10	Cnet:XGL-C42A/B (Cnet Module(RS-422/485, RS-422/485))	16	
0	11	Cnet:XGL-C42A/B (Cnet Module(RS-422/485, RS-422/485))	16	
1	0	Temp. Measuring Module:XGF-TC4S (Temperature Input Type(Isolated-type, 4 Cha	30	
1	1	Temp. Measuring Module:XGF-TC4S (Temperature Input Type(Isolated-type, 4 Cha	30	-
1	2	Temp. Measuring Module:XGF-TC4S (Temperature Input Type(Isolated-type, 4 Cha	30	-
1	3	Temp. Measuring Module:XGF-TC4S (Temperature Input Type(Isolated-type, 4 Cha	30	1

Check Program

check Program
and the state of t
PLC: "LSPLC"
I/O Parameter is being checked
Error P0020: Maximum data refresh size has been exceeded.(Max.: 1024 Words, Current: 1088 Words)
Module FEnet:XGL-EFMT(B) (Fast Ethernet Module, Electrical Master) (Base 00, Slot 00) Refresh Size: 16
Module FEnet:XGL-EFMT(B) (Fast Ethernet Module, Electrical Master) (Base 00, Slot 01) Refresh Size: 16
Module Output Module:XGQ-TR8A/B (Transistor Output, 64 Contacts (0.1A, Sink Output/Source Output)) (Base 00, Slot 02) Refresh Size: 4
Module Input Module:XGI-D28A/B (DC 24V Input, 64 Contacts) (Base 00, Slot 03) Refresh Size: 4
Module Analog Input Module:XGF-AV8A (A/D Voltage Input Type(8 Channels)) (Base 00, Slot 04) Refresh Size: 12
Module Analog Output Module:XGF-DV8A (D/A Voltage Output Type(8 Channels)) (Base 00, Slot 05) Refresh Size: 12
Module High Speed Counter Module:XGF-HO8A (High Speed Counter Pulse(OC), Input Type(8 Channels)) (Base 00, Slot 06) Refresh Size: 25
Module Temp. Measuring Module:XGF-TC4S (Temperature Input Type(Isolated-type, 4 Channels)) (Base 00, Slot 07) Refresh Size: 30
Module Temp. Measuring Module:XGF-TC4S (Temperature Input Type(Isolated-type, 4 Channels)) (Base 00, Slot 08) Refresh Size: 30
Module Positioning Module:XGF-PN88 (Position Control, EtherCAT Network Type(8 axis)) (Base 00, Slot 09) Refresh Size: 3
Module Cnet:XGL-C42A/B (Cnet Module(RS-422/485, RS-422/485)) (Base 00, Slot 10) Refresh Size: 16
Module Cnet:XGL-C42A/B (Cnet Module(RS-422/485, RS-422/485)) (Base 00, Slot 11) Refresh Size: 16
Module Temp. Measuring Module:XGF-TC4S (Temperature Input Type(Isolated-type, 4 Channels)) (Base 01, Slot 00) Refresh Size: 30
•

(23) Project file saving improvement – EDS, EtherCAT XML file saving

- EDS and EtherCAT XML files used in the project have been improved to be saved together with the project file. Since the information is contained within the project file, it can be used normally

even in environments without EDS and EtherCAT XML files.

(24) Add preset command flag variable - XGF-HO8A

- A flag has been added to check whether the multi-channel high-speed counter product (XGF-HO8A) operates preset commands.
- The figure below is an example in which a flag is added when a multi-channel high-speed counter product is mounted on base 0 and slot 0 in the PLC system.

V Glo	🔽 Global Variable 🖸 Direct Variable Comment 🚺 Flag									
	Variable Kind	Variable	Туре	Address	Initial Value	Retain	Used	EIP/OPC UA	НМІ	Comment
1	VAR_GLOBAL	_0001_CH0_PRESET	BOOL	%UX0.1.5						High-speed Counter Module: Channel 0 Preset Command Flag
2	VAR_GLOBAL	_0001_CH1_PRESET	BOOL	%UX0.1.13						High-speed Counter Module: Channel 1 Preset Command Flag
3	VAR_GLOBAL	_0001_CH2_PRESET	BOOL	%UX0.1.21						High-speed Counter Module: Channel 2 Preset Command Flag
4	VAR_GLOBAL	_0001_CH3_PRESET	BOOL	%UX0.1.29						High-speed Counter Module: Channel 3 Preset Command Flag
5	VAR_GLOBAL	_0001_CH4_PRESET	BOOL	%UX0.1.37						High-speed Counter Module: Channel 4 Preset Command Fag
6	VAR_GLOBAL	_0001_CH5_PRESET	BOOL	%UX0.1.45						High-speed Counter Module: Channel 5 Preset Command Flag
7	VAR_GLOBAL	_0001_CH6_PRESET	BOOL	%UX0.1.53						High-speed Counter Module: Channel 6 Preset Command Flag
8	VAR_GLOBAL	_0001_CH7_PRESET	BOOL	%UX0.1.61						High speed Counter Module: Channel 7 Preset Command Flag

(25) Function/function block name string search (Ctrl + K) automatic registration function added

- A function has been added to automatically register the name of the function/function block as the content to be searched for when the search string (Ctrl + K) is executed after selecting the function/function block. Both function/function block and user function/function block are supported.
- (26) Increase the instance reservation size for user function blocks(2,000 → 32,000 BYTE)
- The instance reservation size for user function blocks has been changed from 2,000 bytes to 32,000 bytes. The ability to make runtime modifications is also available for function block arrays or user-defined data types that include larger instance sizes.

User Function/Function Bl	ock ×							
Program Password A	dvanced							
Set advanced settings.								
Retain Use retain when y	No							
▲ Online edit								
Use edit during ru	in Yes							
Total Auto-Alloc V	32000 bytes							
Current Auto Alloc	40 bytes (0.1%)							
Pulse								
Total Auto-Alloc Variable Size The total auto-allocatable variable size during online edit.								
	8~32000 bytes, and it is d in units of 8 bytes.							
	OK Cancel							

2. Error Correction

(1) Fix text reading error of direct variable comment

- Fixed a problem where double quotation marks ("") were not read normally in direct variable comments.

(2) Fixed smart extension module name display error – EtherNet/IP

- Fixed the problem that the model name of the module is displayed incorrectly when reading smart expansion parameters when there is no EDS file in use.

(3) Ladder program conversion error corrected – loop

- The problem of not operating properly when function/function block is used in a nested loop in a ladder program has been fixed.

(4) Fixed memory reference error – XGB/XGK

- When pasting a program, the problem that the memory reference function for the device containing the command does not work normally has been fixed.

(5) Corrected error in current value change dialog box – Enter key

- Fixed an issue where pressing the Enter key in the Change Current Value dialog would not close the dialog.

(6) Fixed Hangul input error - Find/Replace

- Fixed a problem where the order of the input Korean characters was changed when clicking the Find Next button in the Find/Replace window with the mouse.

(7) Fixed SSQ connection operation error

- Fixed SSQ connection issues, including samples gallery, latest version check.

(8) "Coordinate system type" and "Coordinate system parameter 1" change error correction

- Fixed the problem that the setting values of "Coordinate System Type" and "Coordinate System Parameter 1" are initialized when changing the value of "Interpolation Operation Blending Allowable Angle Limit" in axis group parameter.
- (9) Correction of reading area word size and storage area word size display error High Speed Link
- Fixed an issue where a comment was displayed instead of size in read area/storage area (block type)

(10) Fix system history display error

- The problem of calculation errors and some system histories not being displayed normally has been fixed.

(11) M area retain input error corrected

- The problem that only up to 6 digits can be entered in the memory area setting in XGI-CPUZ has been fixed.

(12) Fix EIP Detailed Settings Missing Find All Error

Fixed a problem where EIP detailed settings could not be found by Find All.

(13) Fixed command error

- Fixed XGI-CPUZ, XMC command problems ARY_AVE, ARY_CMP, SUB_CAL, DECO, TRUNC, ASC_TO_BYTE, RSET)
- Fixed GROUP_FIND command problem Modified to process normally (ENO output) when there is no finding condition

(14) Error correction when inputting EIP detailed setting local/remote tag direct

variable

- Smart expansion EIP detailed setting The problem of inputting direct variables in local/remote tags was detected as an error in program inspection has been fixed.

(15) Fix new project creation error

- Fixed an intermittent error message when creating a new project.

(16) Correct error step display error of operation error

The problem that the wrong error step is displayed when an operation error occurs in a situation where operation continues in case of an operation error has been set has been fixed.

(17) Corrected output variable device allocation error of CENT option module

- Fixed an issue where devices of output variables were assigned incorrectly in smart expansion master variables.

(18) EIP setting error correction

- Fixed the following errors related to EIP settings.
 - Restoration error for EDS item whose T2O/O2T RPI value is constant when setting P2P block
 - Restoration error when the number of data is inconsistent when entering an ARRAY type global variable in a local tag
 - Transmission data error when directly entering variables in remote tag in smart expansion EIP detailed setting

(19) Fixed LD coil pasting error

- Fixed a problem where a new line was created when pasting a coil in LD.

(20) Fix task number display error during editing during XGB-XBCH run

- A notational error about task number during modification during run has been corrected. The error has nothing to do with the actual operation of the task.

(21) Fixed N Configurator slave configuration error

- Fixed the problem that the parameter configuration is abnormally displayed when reading the previously written configuration information when copying/pasting the set slave.

(22) Other

- Fixed other issues and intermittent crashes.

Γ

ReleaseNote - XG5000 V4.72

1. Error Correction

(1) XGI/XGR/XEC/XMC CPU malfunction when Label or SBRT(subroutine) is added through online editing

- When adding a [Label]/[SBRT] through online editing after [Open from PLC] in the PLC using the [Label], the CPU malfunctioned due to internal overlapping with the previously registered [Label] has been improved.

(2) Fix other errors

* XG5000 V4.72 is a version that has improved the above errors in the previous V4.71 version.

Γ
ReleaseNote - XG5000 V4.71

1. Improvements and additions

(1) Added [Continuous Paste] function

This is a function for pasting a large amount of the area copied to the clipboard in the LD editor.

[Step]

After executing copy function in LD, click XG5000 menu [Edit]-[Continuous Paste] or pop-up menu [Continuous Paste].

Edit	Find/Replace	View	Online	Monitor [
£	Undo			Ctrl+Z	
\mathbf{P}				Ctrl+Y	
X°	Cut Ctrl+X				
Ē	Сору			Ctrl+C	
Ē	Paste			Ctrl+V	
	Continuous Past	e			
×	Delete			Delete	
	Select All			Ctrl+A	
	Insert Mode			Insert	
*	Insert Line			Ctrl+L	
•	Delete Line			Ctrl+D	
R	Insert Cell			Ctrl+I	
6	Delete Cell			Ctrl+T	

In the [Continuous Paste] setting window, set [Number of Continuous], [Paste Direction], and [Increment Value Setting] and click the [Execution] button. The increment value is copied to the variable name to be pasted, with the variable value increased by the increment value.

Increments can reflect the increments of copies in batches by selecting [Batch Reflection of Increments]. Alternatively, the increment value of that copy in the list can be set separately.

Continuous F	Paste				?	×	
Continuous Paste continues pasting the selected range down or to the right from the current cursor position by incrementing the device number included in the cut or copied ladder.							
Number Of	Continuous 2	• Paste		Oowr	n 🔿 Rigl	ht	
🗹 Comment	t	🗌 Batch Refle	ction Of Increments:		nental Value Setti e (-9999 ~ 9999)	ng	
	Туре	Original	Comn	nent	Сору		
1	BOOL	ENO			ENO_1		
2	SINT	IN1			IN1_1		
3	SINT	OUT			OUT_1		
4	SINT	IN2			IN2_1		
						•	
				Execu	tion Cance	1	

When you click [Execution] button, paste is executed as shown in the picture below and is automatically registered in the local variable.

<i>L0</i>						510
		ADD EN ENO				EN0
L1	IN1	-IN1 OUT-				
L2	IN2	-IN2				
L3						
L4						
L5						
L6						
L7						
L8						
L9						
L10						

LO	En ADD	ENO
<u></u>		
	IN1 -IN1 OUT-	
 L3	IN2 -IN2	
L3 L4		
	En_1 ADD EN_EN_EN_EN_EN_EN_EN_EN_EN_EN_EN_EN_EN_E	ENO_1
L5		
<i>L6</i>	IN2_1 -IN2	
L7		
<i>L8</i>		ENO_2
<i>L9</i>	IN1_2 -IN1 OUT-	
L10	IN2_2 -IN2	
L11		

[Notice]

Γ

* [Continuous Paste] function cannot exceed 65536 lines for bottom paste and 31 columns for right paste.

* Copied blocks cannot be pasted beyond 100.

* [Continuous Paste] is not applied to CPT function.

* In case of direct variable, if it exceeds the direct variable area, it is displayed as '?' and is not executed.



(2) Improved LD drag & drop

It can be dragged and dropped by moving the mouse to the border of the selected cursor.

(3) Added [Renounce] function for Connection/Permission status

In CPUs that support multi-connection, the function to give up write permission has been added. It can be used when you want to monitor only without modifying the program. It is possible to change from the write permission mode to the read-only mode by using the [Renounce] button.

P	PLC Connection/Permission Status						
	Connection	Permission	IP	Connectio	on ID		
	Connecting	Permission	192.168.250.222	ETHERN	ET ME		
	Waiting for	Read-only	-				
	Waiting for	Read-only	-				
	Waiting for	Read-only	-				
	Request	Renounce	Refres	h	Close		

(4) Added XGB Renewal product

XGB Renewal products (XGB-XBCH, XGB-XECH type O/S version 5.0 or higher) have been added.

New Project		? ×
Project Project name: File directory:	C:\XG5000\Projects	OK Cancel
_ PLC		
CPU Series:	XGB]
CPU type:	XBC-DxxxH 🔹	
PLC Name:	LSPLC	

[Compatibility]

XGB-XECH CPU module needs attention in terms of compatibility as follows depending on O/S version. (XGB-XBCH has no restrictions)

In case of CPU O/S V5.00 or higher, XG5000 V4.71 or higher version must be used.

CPU O/S	Function	XG5000			
CFU 0/3	Function	Less than V4.71	V4.71 or higher		
	Read Program	0	0		
Loop than V/E 00	Monitor	0	0		
Less than V5.00	Write Program	0	0		
	Online Editing	0	0		
	Read Program	0	0		
VE 00 or higher	Monitor	0	0		
V5.00 or higher	Write Program	X(Not supported)	0		
	Online Editing	X(Not supported)	0		

If you try to write to an unsupported version, it will not complete normally. Please refer to the product user manual for details.

(5) Added [Sampling Mode] function related to XBF-TC04RT/XBF-TC04TT module in XG-TCON

This function is supported by XBF-TC04RT V1.9 or higher.

Г

nput Paramete	Control Paramet	er Output Parameter				
Parameter	Туре	LOOP0	LOOP1	LOOP2	LOOP3	OK
	Input type	K: -200 ~ 1300 °C	K: -200 ~ 1300 °C	K: -200 ~ 1300 °C	K: -200 ~ 1300 °C	
	Short circuit	Permission	Permission	Permission	Permission	Cancel
Input type	Upper limit of effective input	1300.0	1300.0	1300.0	1300.0	
input type	Lower limit of effective input	-200.0	-200.0	-200.0	-200.0	Default
	Upper limit of scale	1300.0	1300.0	1300.0	1300.0	berduit
	Lower limit of scale	-200.0	-200.0	-200.0	-200.0	
	Input BIAS	0.0	0.0	0.0	0.0	
Input process	Average type	Weighted average	Weighted average	Weighted average	Weighted average	Read
	Average Value	0	0	0	0	
	High upper limit	1300.0	1300.0	1300.0	1300.0	Write
Input alarm	Upper limit	1300.0	1300.0	1300.0	1300.0	
	Lower limit	-200.0	-200.0	-200.0	-200.0	
	Low lower limit	-200.0	-200.0	-200.0	-200.0	
	Alarm HYS	0.0	0.0	0.0	0.0	
Cold junction	Compensation method	Internal RJC	Internal RJC	Internal RJC	Internal RJC	
compensation	External RJC	0.0	0.0	0.0	0.0	
Sampling M	lode peed Mode (0.5s / 4l esolution Mode (2s /					

(6) Added input type related to XGF-TC4RT/XBF-TC04RT module in XG-TCON

Two types (Pt100: -200.00~300.00°C, Pt100: -200.00~100.00°C) have been added, and XGF-TC4RT supports V3.6 or higher and XBF-TC04RT supports V1.8 or higher.

(7) Improved XG-TCON trend monitor function

Improved to keep the graph when changing "Maximum Sample Display".

When changing the graph color, the entire graph color is improved.

(8) EtherCAT Slave - Added user-selected SDO parameter editing function

Added a function to manage only the parameters selected by the user.

NC_PART[Program]	× 1.Slave ×		
General Information	Parameter type —	Pa	rameter change during operation
PDO Setting			
SDO Parameter	All		Allow parameter(Individual) change during operatio Copy Sewngs
Init Command	Index	Name	Note) * Applied when Unit Set Value
Online Service	1000:00	Device T <mark>urce</mark>	
C.T	🗹 1001:00	Error Reg	Add to user-selected parameters
Set Timeout	🗹 1003:00	Predefined Er	Delete from user-selected parameters
	🗹 1003:01	Standard error fie	Set Initial Value
	🗹 1003:02	Standard erri	Add to Init Command
	🗹 1003:03	Standard erri	
	🗹 1003:04	Standard ern 🌱	Decimal
	🗹 1003:05	Standard ern	Hex

The user-selected parameters added by the user can be checked by selecting [User Selection] among the parameter types.

NC_PART[Program]	× 1.Slave ×	
General Information		
PDO Setting		
SDO Parameter	All	-
Init Command		Nar
Online Service	Manufacturer-Spec	vice
Set Timeout	User Selection	ned
	🗹 1003:01	Standard error

Only the SDO parameter selected in [EtherCAT Parameter] - [Master] - [SDO parameter read/write operation mode] option can be read/written.



(9) Added copy function in [EtherCAT Slave] – [SDO parameter]

Added a function to copy the SDO parameter of the current slave to another slave.

In addition to all/manufacturer specific/CiA 402 groups, user-selected parameters can also be copied.

The copy destination slave is limited to the same slave product.

Project 👻 🕈 🗶	NC_PART[Program] ×	1.Slave × Maste	r X	
IIII IIII IIII IIII IIII IIII IIIIIIII	General Information		P	arameter change during operation
4- 攝 Network Configuration	PDO Setting			
- III Undefined Network	SDO Parameter	All		Conv Settings ? X
L 🕂 XMC-E08A [Local Ethernet				Copy Settings ? ×
– 💎 System Variable	Init Command	🗹 Index	Name	Coriginal
A- IIII XMC-E08A(XMC-E08A)-RUN/	Online Service	r 🗹 1000:00	Device Typ	Slave 1(L7NH - Standard EtherCAT drive)
⊢ ^e v Global/Direct Variables ≁- 🖬 Parameter	o	🗹 1001:00	Error Regist	Slave I(LINIT - Standard EtherCAI drive)
Basic Parameter	Set Timeout	- 🖬 1003:00	Predefined Error	Parameter type All 🝷
- m I/O Parameter		🗹 1003:01	Standard error field	All
⊳- Internal Parameter		🖬 1003:02	Standard error f	Target Manufacturer-Specific
🖅 Motion Data		🗹 1003:03	Standard error f	CiA 402
- 📰 EtherCAT Parameter		🗹 1003:04	Standard error f	Slave 2(L/NH - Standard EtherCAT drive)
A Aaster		- 2 1003:05	Standard error f	
A- m Slave		- 2 1003:06	Standard error f	
Slave 1(L7NH - Stand		- 1003:07	Standard error f	
4- • Axis Parameter		- 1003:08	Standard error f	
Axis 1(Virtual axis)		Inn3.n9	Standard error f	
Axis 2(Virtual axis)		- I 1003:0A	Standard error fi	
– 📑 Axis 3(Virtual axis)		- I 1003:08	Standard error fi	
Axis 4(Virtual axis)		- I 1003:00	Standard error fi	
Axis 5(Slave 1(L7NH - St			Standard error fi Standard error fi	
└ 📄 Axis 6(Slave 2(L7NH - St ↓- 🖬 Axis Group Parameter				
- Mais Group Parameter		🗹 1003:0E		
		🖬 1003:0F		
- 🗈 NC Channel 1			Standard error field	
📙 📄 Channel		🖬 1008:00	Device Nam	
Axis (Axis 1)				Caution
V Axis (Axis 2)				This function overwrites the source parameters with the
	lonitor 3			selected destination parameters. To avoid unexpected
A- 🛷 CAM Data	PLC Prog	ram Variable/De	vice Value	behavior, ensure that the selected source parameters and destinations are correct.
CAM Profile				☐ Agree to copy the selected source parameter type to the ta
A- O Main Task				
┝-[C₀ NC_PART ▷-[C₀ 부가축(3~6축)				OK Cancel

(10) [XG-PM] Added automatic project saving function when downloading program or online editing

- Added a function to restore a project lost due to unexpected termination of the application by adding a save option when downloading the program or modifying it during run.

- It can be set in [Tools] - [Options] - [XG-PM] - [Save the project when writing or modified program] option.

Options		?	×
-XG-PM Common Editor Font/Color Online - LD - Font/Color - ST - Font/Color - ST - Font/Color	Default folder for new projects:		
Reset category	OK Cancel	App	oly

(11) Added command

The following commands have been added. For information on command operation and supported models, please refer to the manual.

1

XGI-CPUE	- INLATCH,
XGI-CPUH	- FCS
XGI-CPUS	- ADD_CAL, SUB_CAL
XGI-CPUU	- M_SET_IP, M_NET_INFO, M_GET_LED
	- GROUP_MOVE, GROUP_MOVE32, GROUP_FILL, GROUP_FILL32,
	GROUP_SCH, GROUP_SUM, GROUP_ROTATE, GROUP_SHIFT, GROUP_FIND,
	- ANY_MOVE, ANY_MOVE2, ANY_CMP, ANY_CMP_EQ, ANY_CMP_NE
	- ARY_SCH2
	- CP_MSG
	- SET_DENTS_PARAM
	- TICK_CUR, TICK_ET
	- SIZEOF
XGI-CPUUN	- SIZEOF
ХМС	- SET_IP, GET_IP
	- ADD_CAL, SUB_CAL
	- ARY_SCH2
	- SIZEOF
	- ARY_MOVE32, ARY_FLL32
XGI-CPUZ	- SIZEOF
	- ARY_MOVE32, ARY_FLL32
XGB	- XGB L_NET_INFO
	※ XGB: XBC-U(V2.20 or higher), XBM-H(V1.50 or higher), XBM-H2(V2.30 or
	higher), XBM-HP(V2.30 or higher) XGB(IEC): XEC-U(V2.20 or higher), XEM-
	H2(V2.30 or higher), XEM-HP(V2.30 or higher)

2. Error Correction

Γ

(1) [XG-PM] Ladder broken when reading from PLC

An upload operation error caused by a user function/function block update error has been corrected. When downloading the program, the user function/function block update is performed to correct the operation error caused by the mismatch between the general program and the user function/function block.

ReleaseNote - XG5000 V4.70

1. Improvements and additions

(1) Added XGI-CPUZ model

XGI-CPUZ3/5/7 models have been added. For detailed specifications of XGI-CPUZ3/5/7, refer to the XGI-CPUZ CPU user manual.

٦

It	em	XGI-CPUZ7	XGI-CPUZ5	XGI-CPUZ3			
Operation Method		Main task/Cycle Task : fixed period and cyclic operation Initialization task :Only once at the time of entering the RUN					
				-			
Control cycle		Main Task Time : 1ms ~		•			
		Cycle Task Time : Multip	ble setting of main task(2~4,000ms)			
Calculation	Default(LD)	6.5 ns/command					
	MOVE	5.2 ns/command					
processing speed (Basic Instructions	Real calculation	±: 31 ns(S), 121 ns(D) x : 31 ns(S), 119 ns(D)					
		÷: 34 ns(S), 142 ns(D)					
		10MB:	4MB:	2MB:			
Program memory	Capacity	sequence+motion 10MB: NC control	sequence+motion 5MB: NC control	sequence+motion 5MB: NC control			
	Real/Virtual Axes	Axis 32	Axis 16	Axis 8			
Motion Control	Dedicated Virtual Axis	Axis 4	Axis 2	Axis 1			
	Slave (real axis)	64 Slave	32 Slave	16 Slave			
	Memory type	Micro SD/SDHC					
External memory	File system	FAT32					
	Service	Program back-up/restoration, Booting operation					
	USB Device	Loader service (XG5000)					
	USB Host	Supported devices: Wi-F	⁻ i Dongle				
	Wi-Fi	Web Server					
		Service setting in local E	Ethernet parameter of X	G5000			
Built-in		XGT server - dedicated communication					
communication port		Third-party protocol support(MODBUS TCP server)					
	Ethernet	FTP server					
		NTP client					
		Web Server					
		Socket service					
		(LS electric and third-pa	rty client service corres	pondence)			
Security		Project password TLS support: Loader s	service, Web Server,	FTP server			

(2) Added dark theme function

Γ

For those who use the monitor for a long time, a dark theme function has been added. The theme can be set in the menu [Tools] – [Customize] – [Color]. Changed color theme will be applied after restarting the XG5000.

Blue Th	ieme]							
Customize								×
Commands	Toolbars	Tools	Keyboard	Menu	Color	Options		
Color The	me:							
blue			*					
(Changed software)	color them	ne will b	e applied a	fter resta	nting th	le		
0							Close	

aa - XG5000		- 🗆 ×
Project Edit Find/Replace View Online Mon	tor Debug Tools Window Help	
	. tai \$ C > % Tai tai X \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$	
	▝▝▝▝▝▝▝▝▝▝▝▝▝▝▝▝▝▝▝▝`▌▌▝▋▖▋▝▋▝▋▌▌▌▌▖ ▞፟፟፟፟፟፟፟፟፟፟፟፟፟፟፟፟፟፟፟፟፟፟፟፟፟፟፟፟፟፟፟፟፟	
Esc F3 F4 sF1 csA sF2 csS aR aF F5 F6 sF8 sF9 Project	F9 F11 sF3 sF4 sF5 sF6 F10 sF7 C1 C4 C5 C6 () E E E E E E E E E E E E E E E E E E	
		Syst
∡ ∰aa *		1 B
Betwork Configuration	L1	ata
- System Variable		ů –
LSPLC(XGI-CPUZ7)-Offline	12	_ Ö
- Global/Direct Variables	%MX0 MOVE	E State Stat
Basic Parameter	13	System catalog EDS information
Local Ethernet Parameter	IN IN OUT	<u> </u>
- El EtherCAT Parameter	L4	
Master Slave	15	
- 🎻 Motion Data		
 Axis Parameter 	LØ	
– 🧑 Axis Group Parameter – 📷 NC Parameter	17	
– 💦 NC Program		
- 🧬 CAM Data	LB	
CAM Block	19	
⊿- o Main Task ⊳- ि NewProgram		
Periodic Task	110	
Project Navigator HS Link Window P2P Window		
Function/FB 🚽 🕂 🗙		
Most Recently Used Edit	Monitor 1 Valiable/Device Value Type Device	~ # ×
Function Name		
MOVE		
		•
	Monitor 1 Monitor 3 Monitor 4 Result Check Pr., Find 1 Find 2 Commun. Cross	
	LSPLC 🔃 Row 7, Col 1 Overwrite 🔓 🔅 🗸 🏶 🖏 🖓 🕅 10	ii. + — — — — — — — — — — — — — — — — — —

[Dark Theme]





(3) Added frame capture function

Frame capture function has been added to XGL-EFMTB.

[Step]

Γ

- 1. Click [Communication Module Setting and Diagnosis] [System Diagnosis].
- 2. Select Communication Module(XGL-EFMTB) Run Context Menu
- 3. Click [View Communication Module Log].



4. Select [Frame Log].

Module Log		×
Event History Communication Lo	g Error Frame Log	
Standard Information	Select View Log Range © View by HEX Previous Log First Log Read All	Save File
Slot No.: 0	OView by ASCII	Delete Log Capture Frames
No Date Time	Description	_
1 2022-07-04 13:53: 2 2022-07-04 13:53: 3 2022-07-04 13:53: 4 2022-07-04 13:53: 5 2022-07-04 13:54: 6 2022-07-04 13:54: 7 2022-07-04 13:54: 9 2022-07-04 13:54: 10 2022-07-04 13:54: 12 2022-07-04 13:54: 13 2022-07-04 13:54: 13 2022-07-04 13:54: 13 2022-07-04 13:54: Frame Data Details:	5.9 01 00 5E 7F FF FA 00 E0 4C 68 07 34 08 00 45 00 00 CB B0 73 00 00 01 11 FA 50 A9 6.9 01 00 5E 7F FF FA 00 E0 4C 68 07 34 08 00 45 00 00 CB B0 74 00 00 01 11 FA 4F A9 4.6 FF FF FF FF FF FF FF 00 E0 4C F7 C4 21 08 00 45 00 00 F0 79 D6 00 00 80 11 48 F7 C0 A 1.4 FF FF FF FF FF FF FF 00 E0 4C F7 C4 21 08 00 45 00 00 4E 79 D7 00 00 80 11 49 98 C0 A 2.2 FF FF FF FF FF FF 00 E0 4C F7 C4 21 08 00 45 00 00 4E 79 D8 00 00 80 11 49 97 C0 A 2.9 FF FF FF FF FF FF F0 0E 04 CF7 C4 21 08 00 45 00 00 4E 79 D9 00 00 80 11 49 96 C0 A 3.7 FF FF FF FF FF FF 00 E0 4C F7 C4 21 08 00 45 00 00 4E 79 D9 00 00 80 11 49 96 C0 A 3.7 FF FF FF FF FF FF 00 E0 4C F7 C4 21 08 00 45 00 00 4E 79 D9 00 00 80 11 49 96 C0 A 4.4 FF FF FF FF FF F0 00 E0 4C F7 C4 21 08 00 45 00 00 4E 79 DA 00 00 80 11 49 95 C0 A 4.4 FF FF FF FF FF F0 00 E0 4C F7 C4 21 08 00 45 00 00 4E 79 DA 00 00 80 11 49 94 C0 A 5.2 FF FF FF FF FF FF F0 00 E0 4C F7 C4 21 08 00 45 00 00 4E 79 DC 00 00 80 11 49 93 C0 A 5.9 FF FF FF FF FF FF FF 00 E0 4C F7 C4 21 08 00 45 00 00 4E 79 DC 00 00 80 11 49 93 C0 A 5.9 FF FF FF FF FF FF FF 00 E0 4C F7 C4 21 08 00 45 00 00 4E 79 DC 00 00 80 11 49 92 C0 A 6.7 FF FF FF FF FF FF FF FF FF 00 E0 4C F7 C4 21 08 00 45 00 00 4E 79 DC 00 00 80 11 49 92 C0 A	FE 74 65 EF FE 74 65 EF 8 FA DE CO 8 FA DE CO
		Close

5. Click [Frame capture].

Start Disable	Close

The captured file can also be checked in Wireshark.

[Step] (a) Save file button. (b) Execute [Wireshark]. (c) Click [File] – [Import from Hex Dump]. (d) Click the Browse button to select the saved txt file. Wireshark · Import From Hex Dump File: Browse… (e) Click [Import]. 🚄 Wireshark - Import From Hex Dump \times File: C:/Users/jyleee/Desktop/프레임 이력.txt Browse… Hex Dump Regular Expression Offsets: 💿 Hexadecimal Decimal ◯ Octal O None Direction indication: Timestamp format: %H:%M:%S,%f (No format will be applied) Encapsulation Encapsulation Type: Ethernet \sim No dummy header Ethernet Ethertype (hex): O IPv4 Protocol (dec): ○ UDP Source port: ○ TCP Destination port: ○ SCTP Tag: O SCTP (Data) PPI: ExportPDU
 Dissector data Maximum frame length:

×

_	tR7G3I1.p				aluza	Statistics	Talap	hony	Wireloce	Tools	Help							-	-		×
					-	· 🗟 🗿 🛛		-			neip										
Apply :					~ ~	<u>≍ n 7</u>	<u> </u>		44	• 12										-	- - +
No.		Time	·· (Cui-				Sou				Decti	nation			Protoco		ngth	Info			- 1
¥0,			03 17	08.1	15.00	.000001			74:a1	. 8t			02:05	.00	0x88fe		-	Ethernet	тт		
						.000002			74:a1			_	02:05		0x88fe			Ethernet			
						.000003			74:a1			_	02:05		0x88fe			Ethernet			
						.000004			74:a1			_	02:05		0x88fe			Ethernet			
						.000005			74:a1			_	02:05		0x88fe			Ethernet			
						.000006			74:a1			-	02:05		0x88fe			Ethernet			
						.000007			74:a1			_	02:05		0x88fe			Ethernet			
						.000008			74:a1			_	02:05		0x88fe		128	Ethernet	II		
						.000009			74:a1				02:05		0x88fe			Ethernet			
	10 2	022-	03-17	08:3	35:09	.000010						_	02:05		0x88fe	2	128	Ethernet	II		
	11 2	022-	03-17	08:3	35:09	.000011						_	02:05		0x88fe	2	128	Ethernet	II		
	12 2	022-	03-17	08:3	35:09	.000012			_ 74:a1			-	02:05		0x88fe	2	128	Ethernet	II		
	13 2	022-	03-17	08:3	35:09	.000013	LSL	GIndu	_ 74:a1	:8f	LGE1	ectr	02:05	:99	0x88fe	2	128	Ethernet	II		
	14 2	022-	03-17	08:3	5:09	.000014			_ 74:a1			_	02:05		0x88fe	2	128	Ethernet	II		
	15 2	022-	03-17	08:3	5:09	.000015			_ 74:a1				02:05		0x88fe	2	128	Ethernet	II		
			-			1024 bit		-													
		-			_	a1:8f (f), D≤	st: L0	Elect	tr_02:	05:99	(00:e0	:91:0	2:05	5:99)			
				_		:99 (00:															
			_		8f (00:0b:29	9:74:8	a1:8f)												
	pe: Unl			ste)																	
 Data 				241-04	-010	00000001	4030	2202	620004	24.0220	20040		40000	2260400							
		00001	600006	1001	10010	00000001	140322	2203C	620001.	210220	20010	00000	180086	0360100	J						
	xt: 🔶																				
[L	ength:	114]																			

(f) The contents of the saved frame can be checked in Wireshark.

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(4) Improved [Reset Individual Module] function

Improved the problem of remaining in I/O skip state when resetting individual modules while relay connection or remote connection of XGL-EFMTB is unstable. The improved [Reset Individual module] function is supported depending on the O/S version.

- Supported products: XGI-CPUUN O/S V1.8 or higher

(5) Improved Ethernet Remote 1 speed

When Ethernet remote 1 is connected, data can be transmitted in the maximum size.

[Step]

1. Click [Online] - [Connection Settings].

2. Select the method as [Ethernet Module], the step as [Remote 1], the read/write data size in PLC run mode as [Maximum], click [Connect].

Connectior	n Settings - LSPLC	?	×								
Setting	Setting Options										
🗿 Manu	O Manual Setting O Network Browsing										
Connect	Connection Settings										
Type:	Ethernet Module \vee	Settings									
Depth:	Remote 1 🔍 🗸	View									
General Timeout	General Timeout Interval: 5 🔹 sec										
Retrial T	imes:	1 🚔 tim	es								
	Read / Write data size in PLC run mode										
* Send	* Send maximum data size in stop mode.										
Conne	d OK	Cance									
	, , , , , , , , , , , , , , , , , , , ,										

Notice

- The models and O/S versions to which the remote connection speed improvement is applied are as follows.
- High performance XGI V1.8 or higher
- High performance XGK V1.9 or higher (planned)
- General XGK V5.2 or higher (planned)
- General XGI V4.4 or higher (planned)
- XGR V3.0 or higher

(6) Improved CAM profile and CAM point

The number of cam profiles and cam points has been expanded.

Item	Before	After		
XMC-E32A XMC-E32C LSMMT	CAM profile: 32 CAM point: 32,768	CAM profile: 100 CAM point: 65,536		
XMC-E16A	CAM profile: 16 CAM point: 16,385	CAM profile: 50 CAM point: 32,768		
XMC-E08A	CAM profile: 8 CAM point: 8,192	CAM profile: 25 CAM point: 16,384		

(7) Word type variable/device binary number monitoring function

During monitoring, the monitor value of the variable is displayed in binary.

[Step]

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1. Register an arbitrary variable in the monitor window.

Mon	itor 1						
	PLC	Program	Variable/Device	Value	Туре	Device/Variable	Comment
1	LSPLC	<global></global>	%MW0	HEX 16#1234	WORD		[]
2				()			

2. Click Context Menu - View as Binary.

IBIT 234 WORD Image Change Current Value Briefly View Options Binary	I	Value		pe	Device/Variable	
Change Current Value Briefly View Options	ſ	HEXI 16#1234				
View Options			1	Change Cu	rrent Value	
	ſ			Briefly		
Binary				View Optio	ns	Þ
				Binary		

Mon	itor 1						
	PLC	Program	Variable/Device	Value	Туре	Device/Variable	Comment
1	LSPLC	<global></global>	%MW0	2 2#0001 0010 0011 0100	WORD		
2	-						

3. When changing the current value, it can be entered using binary numbers.



(8) Improved GROUP command device search

Added functions to find used device, device and memory reference for GROUP command in XGI model. However, it is possible only when parameters for index and size are used as constants.



[Used Device]

Used Device																	
Find: Device		🕄 Refre	sh														
	WORD	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	0
2 2MW0 (2MX0) 2MW1 (2MX16) 2MW2 (2MX32) 2MW3 (2MX48) 2MW3 (2MX48) 2MW4 (2MX64)	U 1 1 1 1 1													0			
%MW10 (%MX160) %MW11 (%MX176) %MW12 (%MX192) %MW13 (%MX208) %MW14 (%MX224)	1 1 1 1																•

[Find Device]

Find 1
$\overset{\boxtimes}{\longleftrightarrow} \xrightarrow{\boxtimes} \times$
In LSPLC, finding address "mw1" NewProgram[Program](Row 1, Col 0): - VAR - %MW1
1 address(es) found.

[Cross Reference]

Cross Reference	e						
Device Name	Variable	IN/OUT	PLC	Program	Position	Comment	Information
%MW0	-	INPUT	LSPLC	NewProgram[Row 1, Col 0		GROUP_MOVE.SRC
%MW1		INPUT	LSPLC	NewProgram[Row 1, Col 0		GROUP_MOVE.SRC
%MW10		OUTPUT	LSPLC	NewProgram[Row 1, Col 3		GROUP_MOVE.DST
%MW11		OUTPUT	LSPLC	NewProgram[Row 1, Col 3		GROUP_MOVE.DST
%MW12		OUTPUT	LSPLC	NewProgram[Row 1, Col 3		GROUP_MOVE.DST
%MW13		OUTPUT	LSPLC	NewProgram[Row 1, Col 3		GROUP_MOVE.DST
%MW14		OUTPUT	LSPLC	NewProgram[Row 1, Col 3		GROUP_MOVE.DST
%MW2		INPUT	LSPLC	NewProgram[Row 1, Col 0		GROUP_MOVE.SRC
%MW3		INPUT	LSPLC	NewProgram[Row 1, Col 0		GROUP_MOVE.SRC
%MW4		INPUT	LSPLC	NewProgram[Row 1, Col 0		GROUP_MOVE.SRC

(9) Improved [Import from File] of User Function/Function Block

When importing a user function/function block from a file, it has been improved to overwrite the program and local variables if a function/function block with the same name already exists in the project. If there is a change in the user function/function block, it can be updated more easily.

(10) Added user data auto-complete function

A function for auto-completion when entering a member of a user data type in the variable selection dialog box has been added. After the variable name of the user data type being used, you can select it from the list by entering the '.' character.

(11) Device search function for [PDO Variable] information window of EtherCAT Master

Device search, used device, and cross reference functions have been added for the device set in the PDO variable information window of the EtherCAT Master.

(12) String type in Node ID Type of OPC UA

String type has been added to Node ID Type in OPC UA function of XGL-EFMTB communication module.

(13) Added [Zoom-in] and [Zoom-out] function in ST program window

Added [Zoom-in]/[Zoom-out] (50~200%) function in ST/IL(IEC)/NC program window.

(14) Added function of batch adjustment of row height of variable monitor window

A function has been added for batch adjustment by changing the row height after selecting all rows in the variable monitor window.

(15) Added option [Always show direct variable comment window]

When inputting a variable in the editor, an option has been added to create the direct variable comment window regardless of whether there is a comment in the target variable. This option allows the Enter key action to display a dialog for the variable/description.



(16) Improved find target selection

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Added a selection button to quickly select what to find and a function to select only programs or variables/comments in the multiple windows.

Find/Replace	
Find what: All coil mw1 Look in O Current window Image: Multiple windows Image: Multiple windows	Find Next Find All Select V
Options Direction Including all type Find Devices with range Output to Find 2	Select <u>A</u> ll Select Con <u>t</u> act Only Select <u>C</u> oil Only
Find Devices with range Number of devices: 0 Area: X(Bit) B(Byte) W(Word) D(Double Word) L(Long)	
Multiple Selection	? X

Multiple Selection	? X	
aa aa Scan Program Scan Program V Local Variable St St V Local Variable V Local Variable V Local Vari	OK Cancel Select ▼ Select Progran Select Variable	n Only e/Comment Only

(17) Improved maximum number of local Ethernet dedicated connections (XMC)

The number of dedicated connections for local Ethernet of XMC type has been expanded to 8. To use the extended number, use the latest version of XMC O/S. When writing parameters, download may be restricted depending on the OS version.



(18) Added communication module variable

In XGL-EFMxB V8.60 and XGL-Cx2B V6.0 or later, variables that are turned ON when there is a user-defined communication receive frame and OFF when the receive frame is read have been added. In the case of the slot where the Cnet module is installed, the variable name and description have been modified.

(19) Added module reservation function(XGB)

A function has been added that allows you to reserve by assigning only the module's score without designating a specific module. By using the reservation function, the same program can be operated regardless of I/O type. 64 points are fixedly assigned to the slot for which the module reservation is set.

Slot	Module	Comment	Input Filter	Emergency Ou	Input info.	Output Inform
0(main)	XBC-DN/DP60S (DC 24		3 Standard(ms)	Default	P00000 ~ P0	P00040 ~ P0
1	XBE-RY08A/B (Relay Ou			Default		P00080 ~ P0
2	XB-IN64				P00120~P0	
3	XB-IN64				P00160~P0	
4	XBE-RY08A/B (Relay Ou			Default		P00200 ~ P0
5	XBE-RY08A/B (Relay Ou			Default		P00240 ~ P0
6	XBE-RY08A/B (Relay Ou			Default		P00280 ~ P0
			, an	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,		
9						
10	•					

[Step: Module reservation setting]

- 1. Set in the I/O parameter window.
- 2. Select the "XB-IN64" module in the slot that requires module reservation.
- 3. Execute write to apply to product.



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[Step: Cancel module reservation]

- 1. Set in the I/O parameter window.
- 2. Select the module to be actually mounted instead of the "XB-IN64" slot.
- 3. Execute write to apply to product.
- 4. Turn off the CPU power.
- 5. Mount the actual module to the product and turn on the power.

The module reservation function can be used from the CPU O/S version or higher below.

CPU	O/S 버전	CPU	O/S 버전
XGB-XBCS	V2.50	XGB-XECS	V2.40
XGB-XBCH	V3.30	XGB-XECH	V2.50
XGB-XBCU	V2.20	XBG-XECU	V2.20
XGB-XBCXS	V1.20	XGB-XEMH2	V2.30
XGB-XBMH	V1.50	XGB-XEMHP	V2.30
XGB-XBMH2	V2.30		
XGB-XBMHP	V2.30		
XGB-XBMS	V3.90		

(20) Add Axis/Axis group parameter (XMC)

For details, refer to the XMC user manual.

[Axis group parameter]

- Interpolation operation blending angle limit function Interpolation operation blending angle limit', 'Interpolation operation blending allowable angle
- Coordinate system operation look-ahead function 'Coordinate system look-ahead setting'
- Coordinate system operation output filter function 'Coordinate system output filter time constant'

[Axis parameters]

• Coordinate system operation maximum acceleration limit function - 'Maximum allowable acceleration in coordinate system operation', 'Maximum allowable deceleration in coordinate system operation'

(21) Improved EtherCAT automatic connection speed

By providing the option to read SDO parameters when auto-connecting EtherCAT slaves applied to XMC and XGI-CPUZ product groups, speed is improved when only essential operations for EtherCAT auto-connection are performed except for reading SDO parameters.

(22) Added EtherCAT parameter Touch probe position 1/2 negative value

Added setting function required to extend touch probe function of XMC and XGI-CPUZ family.

(23) Improved Cross Reference column selection storage

Device	Variable	IN/OUT	PLC	Program	Position	Comm	ient	Information
	INST	INPUT	LSPLC	NewProm	D O			XPM_SMPEX
	INST1	INPUT	LSPLC	NewPro	Find			XPM_SMPEX
	INST3	INPUT	LSPLC	NewPro	Select Ro	w	•	Show all
	INST4 INST5	INPUT INPUT	LSPLC LSPLC	NewPro NewPro	Lock Dat Delete D			Device Variable
				-				IN/OUT PLC Program
								Position Comment Instruction

Improved to save column selection and width in Cross Reference function.

(24) Improved Paste options for direct variable comments

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It has been improved so that the [Show confirmation message] option is applied even for direct variables with comments when pasting.



(25) Added motion data trace formula graph view

In the Trace Value View dialog box, the value for the formula graph has also been improved.

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ace informa mpling Free	quency: 1 X Control period	[1.0 Total Samples:	6774 View se	tting
	%MX10	NewProgram::IN1	Math Graph	
-1	OFF	29	58.0000000	
0	OFF	G	14848.0000000	
1	ON	0	0.000000	
2	OFF	0	0.000000	
3	OFF	31	62.000000	
4	OFF	0	16384.0000000	
5	ON	0	0.000000	
6	OFF	0	0.000000	
7	OFF	34	68.000000	
8	OFF	0	17920.0000000	
9	ON	0	0.000000	
10	OFF	0	0.000000	
11	OFF	37	74.000000	
12	OFF	0	19456.0000000	
13	ON	0	0.000000	
14	OFF	0	0.000000	
15	OFF	40	80.000000	
16	OFF	0	20992.0000000	
17	ON	0	0.000000	
18	OFF	0	0.000000	
19	OFF	43	86.000000	
20	OFF	0	22528.0000000	
21	ON	0	0.000000	
22	OFF	0	0.000000	
23	OFF	46	92.000000	
24	OFF	0	24064.0000000	
25	ON	0	0.000000	
26	OFF	0	0.000000	
27	OFF	49	98.000000	
28	OFF	3	25600.0000000	

(26) Added Instruction

The following instructions have been added. For details, refer to the instruction manual.

- High Performance XGK (XGK-CPUxN)
 - MSETDNETS
 - High Performance XGI (XGI-CPUUN)
 - CP_MSG
 - SET_DNETS_PARAM
 - GROUP_SCH
 - GROUP_SUM
 - TICK_CUR, TICK_ET
- XGI (XGI-CPUx)
 - SET_CNET_PARAM
 - GET_CNET_PARAM
- XMC

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- GROUP_MOVE, GROUP_MOVE32
- GROUP_FILL, GROUP_FILL32
- GROUP_ROTATE
- GROUP_SHIFT
- ANY_MOVE, ANY_MOVE2

(27) Improved local Ethernet settings menu

The Ethernet menu used for local Ethernet settings in the high-performance CPU has been improved to the Ethernet Module menu and [Local Eth./Wi-Fi] menu. When using local Ethernet in the high-performance CPU, please use the [Local Eth./Wi-Fi] – [Local] menu.

1

Item	Туре	Depth	Type before change
When using high-performance CPU Local Ethernet (XGK/XGI-N, XGB-U)	Local Eth./Wi-Fi	Local	Ethernet
When using remote 1 and 2 using communication module	Ethernet Module	Remote 1 Remote 2	Ethernet
When using XGI-CPUZ Wi-Fi	Local Eth./Wi-Fi	Local	-

Connectio	n Settings - LSPLC	?	×	Connectio	n Settings - LSPL	.C	?	×
Setting C	ptions			Setting C	Options			
O Manu	ual Setting ONetwork	Browsing		O Manu	ual Setting 🔿 Ne	twork Bro	owsing	
Connecti	on Settings			Connecti	on Settings			
Type:	Local Eth./Wi-Fi 🛛 🗸	Settings		<u>T</u> ype:	Local Eth./Wi-Fi	~	<u>S</u> ettings	
Depth:	RS-232C USB Ethernet Module Modem	View		Depth:	Local	~	⊻iew	
General	Extension Base USB Remote Service			General				
Timeout	Local Eth./Wi-Fi	5 🔹 sec		Timeout	Interval:	5	▲ sec	
Retrial Ti	imes:	1 🔹 tim	es	<u>R</u> etrial T	imes:	1	➡ tim	es
Read / W	/rite data size in PLC run n	node		Read / W	/rite data size in PLC	run mod	e	
	ormal 💽 Maximum			\bigcirc No	ormal O <u>M</u> axim	um		
* Send	d maximum data size in st	op mode.		* Send maximum data size in stop mode.				
Conne	oK OK	Cance		Conng	ect OK		Cance	

(28) Improved instruction help

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The instruction help used in XG5000 has been improved from the existing Adobe Acrobat file (PDF) to the Help file (CHM).



2. Error Correction

(1) Fixed the problem that error codes are displayed as numbers in the smart extension service tab

The smart extension service has been modified so that it can be displayed normally as a string for the error code of the slot.

(2) Fixed ladder copy & paste problem

The problem that copy & paste does not work in the ladder edit window has been fixed when the project window is in an auto-hide state.

(3) Fixed the problem that data swap in nConfigurator goes down in reverse

The problem that the opposite value to the set value goes down in the actual module when setting the data swap item in the Slave Properties window in nConfigurator for Profibus communication has been fixed.

(4) Fixed the problem of saving motion status window

The problem that the contents set through the monitor item setting of the motion status window is not saved when reopening after saving the project file has been fixed.

(5) Fixed the nConfigurator EDS file saving problem

Fixed the problem that if the vendor name provided in the EDS file is 32 or more characters, it is not saved in the NConfigurator that set the EDS.

(6) Fixed the ladder code conversion problem

Fixed an issue where when using a line edge (R_EDGE) contact in an OR circuit, it would not work due to a code conversion error.



(7) Fixed the [Replace All] problem(XGK/XGB)

The problem that [Replace All] for bit devices does not work for devices with the same bit and word device types at [Replace All] has been fixed.

(8) Fixed the BYTE assignment problem in PDO variable information window

The problem that BYTE assignment for PDO variable information of EtherCAT parameter is not possible has been fixed.

(9) Added the user function and function block name restrictions

It has been modified so that ladder contact instructions (LOAD, LOADP, LOADN, ...) cannot be used when entering user function and function block names.

(10) Fixed the memory allocation problem for array types (BIT, BYTE, SINT, USINT) (XGK Auto-allocation)

The problem that setting cannot be made when memory allocation for array types (BIT, BYTE, SINT, USINT) is performed in the XGK Auto-allocation project has been fixed.

(11) Fixed the memory pasting problem of variables

The problem that memory allocation is deleted when pasting a variable allocated memory in the flag area to the global variable window has been fixed.

(12) Fixed the NC program infinite compilation problem

Fixed an issue that caused compile time delays when compiling intended infinite loop code.

(13) Fixed the message (An invalid argument was found) pop-up problem when setting EDS data

Fixed the problem that the block could not be set normally and a user message (An invalid argument was found) popped up when using some EDS data (XGL-EFMxB smart extension or XGL-EIPT P2P block).

(14) Fixed the parameter input problem when O2T size is 0

The problem that O2T Size is 0 in smart extension but remote tag column is activated and block setting cannot be completed has been fixed.

(15) Fixed the problem of not displaying system variables for P2P blocks

The problem that the data size is not reflected in the system variable for continuous type and WRITE type blocks in FEnet P2P block has been fixed. An issue with different colors displayed in the program has also been fixed.

(16) Fixed the smart extension EIP detailed setting block T2O value range problem

The problem that 50ms cannot be set for T2O RPI/O2T RPI item in EIP detailed setting of XGL-EFMxB module smart extension has been fixed.

(17) Fixed BCC Settings dialog SWAP Settings control display problem

Fixed the issue where NONE was always displayed when re-opening after setting the value of the SWAP setting control in the BCC setting dialog box.

(18) Fixed the problem of comparison operation instruction in simulator mode (XBMHP, XBMH2)

The problem that incorrect operation result is output when R device is used as an argument of DWORD type comparison operation instruction (D=, D>, etc.) in simulator mode has been fixed.

(19) Fixed the problem when using select statement in ST program (XECE)

The problem that selection statements (IF~ELSE, CASE) do not work in ST program has been fixed.

(20) Fixed the problem that the project folder is not deleted

Fixed the problem that the existing project folder is not deleted in Windows Explorer after saving the project as a different name. This is a phenomenon that occurs because the files used in the existing project continue to remain.

(21) Fixed the program display problem when including FF instruction

The problem that the FF command is not displayed normally when reading from PLC has been fixed.

(22) Fixed the LD Program paste problem

The problem that the content copied from XG5000 is not pasted after copying from XG-PM has been fixed.

(23) Fixed the address translation problems for XMC remote I/O address space

The problem that the display form of the address is changed when reading from PLC when an address corresponding to the remote area is input in XMC has been fixed. Ex) %IX10.0.0 \rightarrow Change to %IX10240

(24) Fixed the command problem

The problem that commands malfunction in some models has been fixed.

- CPU error occurs when using ARY_SCH2_USINT
- ANY_MOVE2_BOOL If INDX_D is 8 or higher
- XPM_SSTEX step number is displayed
- Some commands do not work in user function blocks XPM_GET, SEND_UDATA

(25) Fixed timeout problem when connecting to XGB Enet Remote 1

Fixed an issue where a timeout occurred when connecting to Remote 1 in XGB models.

(26) Fixed the problem that the station number set in XGL-EFMxB is changed to 0

The problem that XGL-EFMxB station number is initialized to 0 when an old version project is opened in XG5000 V4.7 (2022-07-19) version has been fixed.

(27) Fixed the problem that XG-PM does not execute

The problem that XG-PM does not execute when there is no recent file information has been fixed.

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ReleaseNote - XG5000 V4.61

1. Error Correction

(1) XGI/XGR/XEC/XMC CPU malfunction when Label or SBRT(subroutine) is added through online editing

- When adding a [Label]/[SBRT] through online editing after [Open from PLC] in the PLC using the [Label], the CPU malfunctioned due to internal overlapping with the previously registered [Label] has been improved.

(2) Fix other errors

* XG5000 V4.61 is a version that has improved the above errors in the previous V4.60.6 version.

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ReleaseNote - XG5000 V4.60.5 (Beta)

1. Improvements and additions

(1) Improved copy of comments when pasting variables directly(IEC)

When copying/pasting in the LD program, it has been improved to select whether or not to copy the variable comments directly.

(2) Added Function(XGI-CPUUN)

For details, refer to the XGI/XGR/XEC/XMC instruction book.

- GROUP_SCH
- GROUP_SUM

2. Error Correction

(1) Ladder copy and paste not working

The error that copy & paste does not work normally in the LD edit window has been improved when the project window is automatically hidden.

(2) Fix command problem

The problem that commands malfunction in some models has been fixed.

- Problem in communication parameter change when using B contact pulse.
- Problem when DATA type of ARY_SCH2 Function is USINT.

Notice

XG5000 V4.60.5 is a beta version with several functions and errors corrected in V4.60. Please refer to the Release Note and use it only when necessary. Otherwise, please use the official version of XG5000 V4.60. (Additional functions may not work depending on the product O/S version.) Γ
ReleaseNote - XG5000 V4.60.4 (Beta)

1. Improvements and additions

(1) 'Auto variables retain value' maintenance function

A function that can save or restore retain values for Auto variables(variables that are not directly addressed by the user).

- Retain: A function to keep the data generated during operation in the warm restart mode even when the PLC restarts from the stop mode.

1) Functional description

This is the function to write the 'Auto variables retain value' stored inside the XG5000 project when writing the program. The [Auto variables retain value] saved in the XG5000 project is the value read during [open from PLC] and can also be read through [Online]-[Read].

[Select 'Auto variables retain value' when reading]

- When [Open from PLC], 'Auto variables retain value' is read together by default.
- The default value for 'Read' is unchecked. (However, if it has already been selected once, it is maintained until the project is closed.)



[Select 'Auto variables retain value' when writing]

• When writing, the default value of 'Auto variables retain value' is unchecked. (However, if it has already been selected once, it is maintained until the project is closed.)



2) Constraint description

[Read 'Auto Variables Retain Value']

- When [Online] [Read], it is possible to read 'Auto variables retain value' without selecting a
 program.
- If the program stored in XG5000 and the program in PLC are different, different values may be saved. Please be careful.

(Please use only when you want to read the 'Auto variables retain value' repeatedly after reading the program.)



[Write 'Auto Variables Retain Value']

• If no program is selected, writing is not possible. Please be sure to select it with the program.



[Initialize 'Auto Variables Retain Value']

When the address or property of a variable is changed, it is initialized to 0 or applied to the initial value entered by the user.

- Auto variables with newly added retain
- When the data type of Auto variables is changed
- When the properties of an array are changed (size, type, dimension)
- User data type or variable added to user function block
- When the program name is changed

3) Notice

- If 'Auto variables retain value' is not selected when writing a program after the Auto variables address has been changed, the value of the Auto variables in the PLC may be changed to an arbitrary value (if the initial value is set, it is changed to the initial value).
 Write the program by setting the 'Auto variable retain value' together.
- If there is a value that is changed during PLC RUN mode, it must be read in the STOP mode. Even if it is the STOP mode, the value changed through communication such as HMI is not maintained.
- If the Auto variables are changed by using the 'Reallocate All Auto-allocation variables' function or by using the 'Use edit during run' option in the user function/function block, use this 'Auto variables retain value' maintenance function when writing the program.

EDI	FIND/REPLACE VIEW ONLINE	MONITO		
Ω	Undo	Ctrl+Z		
2	Redo	Ctrl+Y		
Ж	Cut	Ctrl+X		
B	Сору	CtrI+C		
æ	Paste	CtrI+V		
$\boldsymbol{\times}$	Delete	Delete		
	Select All	Ctrl+A		
•€	Insert Line	Ctrl+L		
•₽	Add Line(M)	Ctrl+M		
×	Delete Line	Ctrl+D		
	Export into Text File			
	Import Variables from File			
	Register Module Variable Comment	5	User Function/Function Block	×
	Network variable automatic registra		Program Password Advanced	
	Add EXTERNAL Variable		Set advanced settings.	
	Move Item Up		✓ Retain Use retain when variabl No	
	Move Item Down		ose retain when variabi, No ▲ Online edit	
			Use edit during run Yes	
	Remove all unused variable/comme	nt 🕨	Total Auto-Alloc Variabl 800 bytes Current Auto Allocated V 624 bytes (78,0%)	
	Reallocate All Auto-allocation Varial	oles	▷ Pulse	

Γ

• This function is possible only when the restart mode is set to 'Warm restart' in the basic parameter. In 'Cold restart' mode, it operates with 0 or the initial value specified by the user.

Mode Parameter	Cold	Warm
Default	Initializing as '0'	Initializing as '0'
Retain	Initializing as '0'	Maintaining the previous value
Initial value	Initializing as a user-defined value	Initializing as a user-defined value
Retain & initialization	Initializing as a user-defined value	Maintaining the previous value

Basic Operation Settings	Output Control Settings
Fixed scan time: 10 ms mode (1 ~ 999ms)	Output during debugging
Time Settings	☐ Keep output when an error occurs ☐ Keep output when converting RUN->STOP
Watchdog Timer: 500 ms (10 ~ 1000ms)	Keep output when converting STOP->RUN
Standard Input Filter: 3 ~ ms	SOE History
Restart Method Cold restart Warm restart	Save the latest SOE events Save the first SOE events
Reset Switch Setup	D.CLR Overall Reset Switch Setup
Disable Reset switch	Disable D.CLR reset switch
Disable the overall reset switch	Disable overall D.CLR reset switch

 If the 'Show selection dialog when executing Open from PLC' option is set, 'Auto variable retain value' can be set even when opening from PLC.

Options		?	\times
- XG5000 - New Project Defa - Common Editor - Font/Color - Online - LD - Font/Color - Advanced - SFC - Font/Color - Font/	Monitor Display type Unsigned decimal Signed decimal Hexadecimal Arrow As instruction (All languages except for ST) MOV Series Command Displayed in Signed Decimal (XGK) Monitoring Forced I/O Status I/O Highlight When BIT value is changed, displays current value		
	Float data display type		
	Etc View connection settings when connecting Show Message when changing the PLC mode Show selection dialog when executing Open from PLC		
< >			
Reset Category	OK Cancel	A	oply

- The 'Auto variable retain value' maintenance function can be applied only when 'Write' in STOP mode. It is not applied to 'Online editing' or 'Online force editing'.
- The XEC type does not support the 'Auto variables retain value' maintenance function.

4) User guide

The following is the procedure for modifying the program of the user function block in which 'Auto variables retain value' maintenance function is set.

- ① Switch PLC to stop mode.
- 2 When 'Open from PLC' or 'Read' from PLC, select 'Program' and 'Auto variables retain value'.
- ③ Modify the program of the user function/function block or change the 'Use edit during run' option.
- ④ When writing a program, select the 'Program' and 'Auto variables retain value'.

2. Error Correction

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(1) When registering Ethernet/IP tags, the error message of the size of the tag has been corrected.



Notice

XG5000 V4.60.4 is a beta version with several functions and errors corrected in V4.60. Please refer to the Release Note and use it only when necessary. Otherwise, please use the official version of XG5000 V4.60. (Additional functions may not work depending on the product O/S version.)

ReleaseNote - XG5000 V4.60.3 (Beta)

1. Improvements and additions

(1) In the [Compare with PLC] menu, when the EB item of smart extension is different, the phenomenon that project comparison is not performed has been improved.

I

Compare with PLC		?	×
Current project: PLC:			
Image: Construction Image: Construction Image: Constretion Image: Constretion <td>01 DME</td> <td>Comp Open Pro</td> <td>ject</td>	01 DME	Comp Open Pro	ject
< >> <	>		
Result:	Ŧ		
1 ==== Compare NewPLC with NewPLC Basic Settings ====	^	View Det	tails
3 ==== Compare NewPLC with NewPLC High-speed Link ====		Save Lo	bg
5 ==== Compare NewPLC with NewPLC P2P(EIP) ====			
6 7 ==== Compare NewPLC with NewPLC Smart Extension ====			
8 ==== Compare NewPLC with NewPLC EB01(#192.168.1.182) - XGL-DBDF: XGL_DBDF.	-		
9 ==== Compare NewPLC with NewPLC EB02(#2) - XGL-DBDT: SlaveName02 ====			
10 EB No. section(s) different '2' <> '' 11			
11 12 ==== Compare NewPLC with NewPLC Basic Settings ====			
13			
14 ==== Compare NewPLC with NewPLC Global/Direct Variables ====	\mathbf{v}		

(2) When entering a device in the [Master]-[PDO variable] tab of the EtherCAT parameter, the message "Device is assigned duplicated." has been improved.

"The device is included in the set area (Duplicate device area). Please set it to a different area."

General Inform	atio											
PDO Variable	Form	at:		н	EX	\sim Variable setting						
Diagnostics		_	_									
	Used	Frame	e:			1	150/151	4 [bytes]				
			tation	Rx/Tx	Object	Object Name				Variable	Туре	Devic
		1	umber		index 0x1601	1. Rx PDO parameter	6					
	2	-			0,1001			_EC001_RxPDO_	1601 0 0	Controlword	UINT	%QW64
	3	-						_EC001_RxPDO_			DINT	%QD33
	4	-						_EC001_RxPDO			×	%QW68
	5	-						EC001 RxPDO				%QD35
	6			Tx 🖻	0x1A01	1. Tx PDO parameter	6					mw100
	7							_EC001_TxPDO_		The device is included in the set area (%MW Please set it to a different area.	100 ~ %MW111).	%IW64
	8							_EC001_TxPD0_	<u> </u>	Please set it to a unierent area.		%ID33
	9							_EC001_TxPDO_				%ID34
	10							_EC001_TxPD0_			확인	%IW70
	11							_EC001_TxPD0_				%ID36
	12							_EC001_TxPDO_	1A01_5_D	ligital_Inputs	UDINT	%ID37

(3) In the diagnostic variable list of smart extension, only WORD type devices were available, but BIT type devices can be set in BYTE units as well.



(4) The [Save Module History] function has been added to XG-PM. By using this function, information related to module and XG-PM can be saved at once.



(5) Increase the number of [User Data Type]

The number of items that can be used within a [User Data Type] has been changed from 1,023 to 4,095. If more than 1,023 types in one [User Data Type] are used, it may not be opened in the old version of XG5000. (Display message using latest version)

2. Error Correction

- (1) When opening from PLC in the XMC project, the problem that the PLC option [Use External Variable] is changed and not uploaded has been fixed.
- (2) The problem that the memory of input/output/diagnostic variables registered in global variables in smart extension is edited during Multi-User Online Editing has been fixed.
- (3) Use the global variable automatically assigned as retain in the user function block or PB program. After writing multi online editing, open from PLC and start editing while running again. At this time, the problem that the program of user function block and PB is displayed in edit state has been fixed.
- (4) The problem that the [Online]-[Read] menu is activated during editing during run has been fixed.
- (5) After executing the [Edit]-[Import Variables from File] menu in the global variable list, it has been improved so that online editing cannot be started when connecting to the PLC.
- (6) The problem that the [Edit]-[Insert/Add/Delete Line] menu is activated while editing a user function block during run has been fixed.
- (7) If there is a structure in the input parameter of the user function block, the problem that a compilation error occurs when the input structure member of the user function block is used in the program has been fixed.
- (8) The problem of abnormal termination when deleting the window created with the [Window]-[New Window] menu with the master and slave windows of EtherCAT parameters open in the XMC project has been fixed.
- (9) The problem in which the initial value of the variable added while editing the user function block during execution is set has been fixed.
- (10) The problem that the variables of VAR_INPUT, VAR_OUTPUT, and VAR_INOUT are changed by string replacement while editing the user function block during execution has been fixed.
- (11) When XG5000 V4.60 is installed while the old version is installed, the problem that the existing XGService is not updated to XG5000 V4.60 has been fixed.

- (12) The problem of abnormal termination when operating with the older version of XGService (V4.50 or lower) has been fixed.
- (13) The problem of connecting to PLC in read-only mode has been corrected.
- (14) It has been modified to disable the SDO save function of the EtherCAT slave without the SDO save function in the XMC project.
- (15) Set the setting driver [LS INV 485 Client] in the P2P block window of the Cnet communication module. The problem that the list is not displayed when selecting an inverter variable after setting the P2P function to WRITE has been fixed.
- (16) When an array type tag is used in the P2P block window of the EtherNet/IP module, an error occurred in the comparison between the size of parameter content and the number of arrays has been fixed.
- (17) An error occurred in storing the device address of the array type remote tag when displaying the set block in the smart extension EIP detailed setting window has been fixed.
- (18) The problem of abnormal termination of XG5000 when executing forced I/O setting window in XMC has been fixed.
- (19) The problem that GSD Syntax error occurs when Slave_Family of GSD is 12 in Pnet nConfigurator has been fixed.
- (20) After the XGI-CPUUN OS version upgrade, the problem that [Open from PLC] cannot be opened in the latest version of XG5000 has been fixed.

Notice

XG5000 V4.60.3 is a beta version with several functions and errors corrected in V4.60. Please refer to the Release Note and use it only when necessary. Otherwise, please use the official version of XG5000 V4.60. (Additional functions may not work depending on the product O/S version.) ReleaseNote - XG5000 V4.60.1 (Beta)

1. Error Correction

(1) Fixed subroutine information creation failure error (E2033) (XGK automatic allocation)

If the same label is used in the XGK auto-allocation program, the problem that subroutine information creation failure error is displayed when [Online Editing] after [Open from PLC] has been fixed. In order to use it normally, please write the program on Stop mode.

(2) Fixed MOVE function problem in ST program(XGI, XGR, XMC)

The problem that the value of the REAL type variable cannot be copied when using the MOVE function in the ST program has been fixed.

(3) Fixed the problem that user function block members are initialized

When an array type is used for input/output of user function blocks, some members are initialized to 0 and abnormal termination problems have been fixed.

(4) Fixed the problem of coils connected to normally closed contacts when array index exceeded error occurred

Fixed an error where the corresponding output did not work when the bit array was used as a normally closed contact when an index exceeded error occurred.

(5) "Cnet status error" message is displayed(XMC-E32A)

Fixed an error where "System error, Cnet status error" was displayed in the module error history list.

(6) Fixed auto scan problem during smart extension

If RAPIEnet is enabled in FEnet communication module and smart extension service is added, the problem that RAPIEnet protocol is set as EtherNet/IP protocol has been fixed if auto scan is performed in smart extension.

(7) Fixed the EtherCAT setting problem(XMC)

Problems related to the configuration of the PDO address calculation information of EtherCAT parameters and the problem of not being able to recover when the slave port connection information is abnormal has been fixed.

(8) Other abnormal termination error correction

The abnormal termination problems have been fixed.

Notice

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XG5000 V4.60.1 is a beta version with several functions and errors corrected in V4.60.

Please refer to the Release Note and use it only when necessary.

Otherwise, please use the official version of XG5000 V4.60.

(Additional functions may not work depending on the product O/S version.)

ReleaseNote - XG5000 V4.6

1. Improvements and additions

(1) Added the "Use online edit" option of the User Function/Function Block(XGI, XEC, XGR)

The "Use online edit" option has been added to the User Function/Function Block [Properties...] – [Advanced].



(2) Added large comment function(XGK-N)

Added ability to use large comment for XGK-N (XGK-CPUSN/HN/UN V1.62 or higher).

Comments up to 8 MB can be used.



(3) Added the program protection mode

Program protection mode is a function that can be downloaded without displaying the program contents for the project for which the password is set. In order to use the program protection mode, the project password and the protect program option must be set.

[Steps]

1. In the project tree, select the [Properties...].

2. In [Project] - [Password] tap, select "Permit open protection mode without password".

Project		×
Project Password		
Previous Passwo	ord	
Password:	Delete	
- New password -		
Password:	(Max. 8 characters)	
Confirm password:		
Protect program		
Permit open p	rotection mode without password(XGK Auto)	
	OK Cancel	

[How to use]

If you open a project with protection mode, you can select the edit mode by using the Yes/No/Cancel buttons in the message box.



1. When [OK] is clicked - Protection mode

Opens the project in protection mode without entering a password. The contents of the project are not displayed and only actions related to download can be executed. The selected PLC item can be downloaded, but the contents cannot be checked. To open in edit mode, close the project and then reopen it.



2. When [No] is clicked - Project edit mode

If you know the password, you can open the project in edit mode.

When it is opened in edit mode, all functions are available, including changing the protect program option.

Project 👻 🕈	× Project ×
2: 司 2: → 🔒 🗰 😒 ⊿ 覊 XGK_Sample	Project Password Previous Password
고 疆 Network Configuration - L 錮 Undefined Network - 喻 System Variable	Password: Delete
- - - - - - - - - - - - -	New password Password: Confirm password: Protect program
- 薗 Device Auto-allocation Parameter - 阗 Local Ethernet Parameter ⊿- ਗ Scan Program ▷- NewProgram - 働 User Function/Function Block	Permit open protection mode without password(XGK Auto) OK Cancel

****** The protection mode is also applied when opening from PLC.

[Notice]

- Protection mode only supports V4.60 or higher, so it cannot be opened from PLC in lower version.

- If you open a project with protected mode under V4.60, you need to know the password to open it.

- If there is a PLC that does not support the protected mode in the project, a warning message is displayed when saving.

- Program writing is not allowed if it does not support protection mode.
- [Online] [Read] operation is not supported.
- When [Compare projects], it always operates in password mode.

(4) Added password setting function for each program(XGK Auto-allocation)

A password setting function for each program has been added to the XGK Auto-allocation project. Projects with passwords cannot be opened in versions below V4.6.

Project	▼ A × NewProgram[Program	1	_
	G	Program	×
▲ 疆 XGK_Sample ▲ 疆 Network Configuration □ □ 岡 Undefined Network	0	Program Password	
- System Variable - ∰ XGK-Auto(XGK-CPUSN)-S' - SGlobal/Direct Variables	STOP	Previous Password	
-		Password: Delete	
⊿- 🛃 Scan Program ⊳- 📾 NewProgram		New password	
–	Open	Password: (Max. 8	
	Add Item	Confirm	
æ	Import From File Export to File	password:	
	Export Network Settings to File		
* @e			
	Move Up		
	Move Down		
	Sort		
	Multi-Users Edit During Run Mode		
	Open Project Path from Explorer		
e	Properties		
	Add to Library	ОК	Cancel
	Refresh User Function/FB		

(5) Added Navigator function

The tag added to the rung comment of the LD program is displayed, and it is a function to move directly to the comment when clicked.

[Steps]

1. Select [EDIT] - [Insert Comment/Lable].

2. In the dialog box, enter a comment with tags and click the [OK] button.

Rung Comment	?	×
Comment:		
[#TAG] Add TAG_Example		^
		\sim
Add Tag Delete Tag OK	Can	cel

4. Go to the navigator window and click [Refresh all].



5. If you double-click an item, it moves to the corresponding location.



[Toolbar Description]

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- 1. Navigate to next item (\checkmark) Move to the next item among all items.
- 2. Navigate to previous item () Move to the previous item among all items.
- 3. Navigate to next item in the group $(\underline{\bullet})$ Moves to the next item in the group.
- 4. Navigate to previous item in the group ($\overline{\Delta}$) Moves to the previous next item in the group.
- 5. Grouping (1) Select how to group by program or tag name.
- 6. Refresh all () Refresh all items.

[Notice]

- 1. Items displayed in the navigator do not refresh automatically.
- 2. Tag comments used in SFC's Action/Transition program are not displayed.
- 3. If it has been edited since it was refreshed, it cannot be moved to the exact location.
- 4. When the grouping attribute is changed, the entire item is automatically updated.
- 5. When all items are refreshed, they are changed to the collapsed state, and if the name is the same, the state is remembered.

(6) Improved the program activation function (XGI, XGR, XEC, XGK Auto-allocation)

It has been improved to activate the program by double-clicking the program in the project that includes local variable.





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Visualize comparisons within the tree: After comparison, show Match / Mismatch according to the result.
 Result: After comparison, the result is displayed in the [Result] list. Mismatches are displayed in front of the index for easy identification.

(3) Up/Down: Search the contents of the list based on the item selected in the tree of (1).

(4) View Details: When selecting an item in the tree in (1) after [Compare], if [View Details] is supported, the [View Details] button is activated. At this time, the item in the tree to be compared with the selected item is also selected.

View Details			×		
Northeast Criteria: Low - Criteria: Commercial Context					
XGI_Sample WhilexPLC(XGI-CPLUR)-Offline WScan Program WhilexProgram	xGl_Sample2WhevPLC(xGl-CPUUR)-OffineWiscen ProgramWhevProgram				
10	^ LO		2		
	27				
	12	MOXE			
		EN ENO			
L/	 13	IN IN OUT OUT			
12	 1.4				

(5) Save Log: Export the comparison result of (2) to a log file (*.log; text-based).



(1) Export Report: Exports the contents of the [View Details] window as a report file (*.html; including images).

(2) Criteria(search intensity): Set the intensity to explore visualized differences.

- Low: Low Intensity (e.g. Searching for Rung Units in LD Programs)
- Normal: Normal intensity (e.g. Row unit search in LD program)

(3) Navigation button: Find the differences visualized. Each button is disabled / enabled according to the context.

- First: Moves to the beginning of the compared differences.
- Prev: Moves to the previous item based on the currently compared difference.
- Next: Moves to the next item based on the currently compared differences.
- Last: Moves to the end of the compared differences.
- (4) Confirm: Exit the [View details] and return to the [Compare Projects] window.
- (5) Combo box: From the selected items in the [Compare Projects] window, you can select items that can
- be viewed in detail. (Currently only LD available)
- (6) Displays the status of the current detail view window.
- (7) Display navigation-related status.
- (8) Displays the set search intensity.
- (9) Shows the location of the differences you are currently exploring.

Project comparison related functions will be upgraded and additionally developed.

[Notice]

Description of [View Details] (visualization)

- Changed: (Something) It means that the compared items are different.
 - ✓ Different parts of detailed comparison items are expressed in red.
 - ✓ If all detailed comparison items are different, the entire row or rung is colored in red.

- Inserted: (Something) It means that it only exists in the current project.
 - \checkmark What the user has added to the current project
- Deleted: (Something) It means that it only exists in the project to compare.
 - The part that is deleted based on the current project in the comparison target project opened by the user.
- Dummy: ////////// In the case of a rung with a different number of source and target project rows, it means the part added to match the pair of rows.
- When exporting the report of the [View details], the image file is stored under the path specified by the user (..\#ExportResources\Time Information\) and is saved as an HTML file using this.

(8) Added a function to specify the background color of rung comments

Options			?	×
-XG5000 -Project Default -Common Editor -Online -Online -DD -Font/Color -SFC -Font/Color -ST/LL(IEC) -Font/Color	Items: Text font Diagram Display error (incomplet Block mask Background color at ori Text Variable text Device comment Constant Rung comment Output comment Label Subroutine Step number Invalid variable Safety function block of Edited rung(online edit) Comment Background (Color: Default		×
Reset Category		OK Cancel	A	pply

In the LD program, the background color of the comment is displayed in the color set in the option.

LO	а					Ь	
L1							
Comment	Comment Ba	ckground					

- XG5000 Project Default - Common Editor Font/Color - Online Control Color Font/Color Font/Color Font/Color Advanced SFC Font/Color Font/Color Font/Color Font/Color Font/Color Font/Color Font/Color Font/Color Font/Color Font/Color Font/Color Font/Color Font/Color ST/IL(IEC) Font/Color	ptions		î	? ×
Line Edit with Ctrl key Edit lines using Ctrl+Arrow keys,	- XG5000 - Project Default - Common Editor - Font/Color - Online - LD - Font/Color - Advanced - SFC - Font/Color - Font/Color - ST/IL(IEC)	Edit and Move Cursor Priority when editing variables Move Cursor if not in Quick I Move Cursor (Variable)Device Paste Assistance when inserting Auto insert contact Show Keyboard Shortcut Restore auto cursor mode Line Edit with Ctrl key Bit Display(IEC) Show monitor value of conta Line Edit with Ctrl key	Variable priority Hold Cursors Hold Cursors Paste including variables Do not use Do not use Do not use Use Maintain input format	

(9) Added a function to input a line in the LD edit window by combining [Ctrl + arrow] keys

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Horizontal or vertical lines can be added by clicking Ctrl + Arrow in the LD edit window.

XGI_Sample.NewProgram[Program] * ×					XGI_Sample.NewProgram[Program] * ×					
LO				10						
L1				L1						

If there is already a line in that direction, it will be deleted.

XGI_Sample.NewProgram[Program] * ×	XGI_Sample.NewProgram[Program] * ×					
L0	L0					
L1	L1					

If there are other editing tools (contacts, Function/Function block) other than the line, only the cursor moves.

XGI_	Sample.NewProgram[Program] * X	XGI_Sample.NewProgram[Program] * ×							
10	%MX1	10	%MX1						
L 1		L1							

(10) Added automatic English conversion function when inputting a device(XGK)

An option has been added to select whether to automatically switch to English when selecting the device input box in the [Add Variable/Comment] dialog box.

Add Variable/Co	?	×					
Device:							
<u>V</u> ariable:	aa						
Co <u>m</u> ment:							
Comment Input first							
Convert to English when device editing							
	ОК	Cano	el				

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(11) Added a function to save the last setting state in the [Add Variable/Comment] dialog box

The function has been improved to remember the settings when the [Add Variable] dialog box is closed and activate the remembered controls when the dialog box is reopened.

(12) Improved find function – Display Function/Function Block

It has been improved to display the Function/Function block used in the search result window. Productivity can be improved by reducing the user's additional action steps while also making it easier to understand what's involved.

Find 1				
🔁 😒	×			
In NewF	PLC, finding "cnt"			
Nev	wProgram[Program](Row 12, Col 0):	- VAR -	cnt	ADD(cnt, 128)
Nev	wProgram[Program](Row 16, Col 0):	- VAR -	cnt	ADD(%MB2, IN2, OUT1)
Nev	wProgram[Program](Row 20, Col 0):	- VAR -	cnt	ADD(%MB2, IN2, OUT1)
3 string	(s) found.			

(13) Improved editing of smart extension variables

Memory allocation of synchronized global variables in the input/output variable allocation window of Smart Extension has been improved to be editable.

Smart Extension — Master Setting	Forma	ıt:	Hexadecima	al Variab	le Setting Synchronize				
Communication Device Settings Allocate Input/Output Variables		EB No.	Station No/IP	Slot number	Variable name	Туре	Device	Monitor value	Comment
Allocate Diagnostic Variables	1	EB01 🗉	1	Slot00 🖃					XGF-AV8A (A/D Voltage Input Type(
- Connection View	2				_0000_EB01_0000_ERR	BOOL	%MX16000	1	Analog Input Module: Error Flag
EIP Cycle/Details	3				_0000_EB01_0000_RDY	BOOL	%MX16015		Analog Input Module: Ready Flag
EP Cycle/Details	4				_0000_EB01_0000_CH0_ACT	BOOL	%MX16016		Analog Input Module: CH0 Activatio
	5				_0000_EB01_0000_CH1_ACT	BOOL	%MX16017		Analog Input Module: CH1 Activatio
	6				_0000_EB01_0000_CH2_ACT	BOOL	%MX16018		Analog Input Module: CH2 Activatio
	7				_0000_EB01_0000_CH3_ACT	BOOL	%MX16019		Analog Input Module: CH3 Activation
	8				_0000_EB01_0000_CH4_ACT	BOOL	%MX16020		Analog Input Module: CH4 Activatio
	9				_0000_EB01_0000_CH5_ACT	BOOL	%MX16021		Analog Input Module: CH5 Activation
	10				_0000_EB01_0000_CH6_ACT	BOOL	%MX16022		Analog Input Module: CH6 Activation
	11				_0000_EB01_0000_CH7_ACT	BOOL	%MX16023		Analog Input Module: CH7 Activation
	12				_0000_EB01_0000_CH0_DATA	INT	%MW1002		Analog Input Module: CH0 Output
	13				_0000_EB01_0000_CH1_DATA	INT	%MW1003		Analog Input Module: CH1 Output
	14				_0000_EB01_0000_CH2_DATA	INT	%MW1004		Analog Input Module: CH2 Output
	15				0000 EB01 0000 CH3 DATA	INT	%MW1005		Analog Input Module: CH3 Output
	16				0000 EB01 0000 CH4 DATA	INT	%MW1006		Analog Input Module: CH4 Output
	17				_0000_EB01_0000_CH5_DATA	INT	%MW1007		Analog Input Module: CH5 Output
	18				_0000_EB01_0000_CH6_DATA	INT	%MW1008		Analog Input Module: CH6 Output
	19				_0000_EB01_0000_CH7_DATA	INT	%MW1009		Analog Input Module: CH7 Output

	lobal Variable	Direct Variable Com	nment 🛛 💆	Flag						
	Variable Kind	Variable	Туре	Address	Initial Value	Retain	Used	EIP/OPC UA	HMI	Comment
7	VAR_GLOBAL	_0000_RING_TOPO	BOOL	%LX60149		Г	Г			FEnet: Ring topology state(above Ver 6.0)
8	VAR_GLOBAL	_0000_EB01_0000_	INT	%MW1002		Г	Г			Analog Input Module: CH0 Output
9	VAR_GLOBAL	_0000_EB01_0000_	ARRAY[07]	%MW1002		Г	Г			Analog Input Module: Each CH Output
10	VAR_GLOBAL	_0000_EB01_0000_	INT	%MW1003		Г	Г		Γ	Analog Input Module: CH1 Output
11	VAR_GLOBAL	_0000_EB01_0000_	INT	%MW1004		Г	Г			Analog Input Module: CH2 Output
12	VAR_GLOBAL	_0000_EB01_0000_	INT	%MW1005		Г	Г			Analog Input Module: CH3 Output
13	VAR_GLOBAL	_0000_EB01_0000_	INT	%MW1006		Г	Г		Γ	Analog Input Module: CH4 Output
14	VAR_GLOBAL	_0000_EB01_0000_	INT	%MW1007		Г	Г			Analog Input Module: CH5 Output
15	VAR_GLOBAL	_0000_EB01_0000_	INT	%MW1008		Г	Г			Analog Input Module: CH6 Output
16	VAR_GLOBAL	_0000_EB01_0000_	INT	%MW1009		Г	Г			Analog Input Module: CH7 Output
17	VAR_GLOBAL	_0000_EB01_0000_	BOOL	%MX16000		Г	Г			Analog Input Module: Error Flag
18	VAR_GLOBAL	_0000_EB01_0000_	BOOL	%MX16015		Г	Г			Analog Input Module: Ready Flag
19	VAR_GLOBAL	_0000_EB01_0000_	BOOL	%MX16016		Г	Г			Analog Input Module: CH0 Activation Status
20	VAR_GLOBAL	_0000_EB01_0000_	ARRAY[07]	%MX16016		Г	Г			Analog Input Module: Each CH Active
21	VAR_GLOBAL	_0000_EB01_0000_	BOOL	%MX16017		Г	Г			Analog Input Module: CH1 Activation Status
22	VAR_GLOBAL	_0000_EB01_0000_	BOOL	%MX16018		Г	Г		Γ	Analog Input Module: CH2 Activation Status
23	VAR_GLOBAL	_0000_EB01_0000_	BOOL	%MX16019		Г	Г			Analog Input Module: CH3 Activation Status
24	VAR_GLOBAL	_0000_EB01_0000_	BOOL	%MX16020		Γ	Г			Analog Input Module: CH4 Activation Status
25	VAR_GLOBAL	_0000_EB01_0000_	BOOL	%MX16021		Г	Г		Γ	Analog Input Module: CH5 Activation Status
26	VAR GLOBAL	0000 EB01 0000	BOOL	%MX16022	•	Γ	Г	Г	Г	Analog Input Module: CH6 Activation Status

(14) Added ARRAY type function for EIP tag (XGK Auto-allocation)

ARRAY type function has been added to enable EIP tag setting in XGK Auto-allocation. The ARRAY type can only be used with EIP tags and cannot be used in programs.

• 🗗 🗀 🖌 🔒 🗰 😘 ጭ XGK_Sample		obal Variable	Device Comment	💆 Flag						
고 퍭 Network Configuration		Variable Kind	Variable	Туре	Device	Latch	Used	EIP/OPC UA	HMI	Comment
- System Variable	1	VAR_GLOBAL	aaa	ARRAY[09] OF WORD	M0000		Г	v	Г	
A GK-Auto(XGK-CPUSN)-Offline	2	VAR_GLOBAL	bbb	ARRAY[09] OF WORD	M0200		Г	•		
Global/Direct Variables Global/Direct Variables Global/Direct Variables Global/Direct Variables Global Carlot Parameter Global Carlot Parameter Global Carlot Parameter Global Carlot Parameter Global Variables Global Var										

(15) Added option to use EXTERNAL variable

When using a global variable in an IEC project, it has been improved to select whether to use an External variable in a local variable. This option can be set in [PLC Property].

LC Property	
PLC Options	
Sets options for the PLC.	
 Basic Settings Variable/Comment Savi, Use External Variable Multi-User Edit During R, 	Memory Disable
Use External Variable Register global variables into VAR_EXTERNAL_CONST in t	VAR_EXTERNAL or

(16) Added function to use retain property as default when declaring user function/function block variables(IEC)

Added "Use retain when variable declaration" option in User Function/Function Block [Property] – [Advanced]. If this option is enabled, the retain property is used by default when declaring a variable. It can be used in IEC-type projects.

User Fur	User Function/Function Block								
Progra	m Password	Advanced							
Set advanced settings.									
	⊿ Retain								
	lse retain wh	en variable o	declaration	Yes	\sim				
)nline edit								
	lse edit durin:		No						
	otal Auto-Alle	0 bytes							
	Current Auto Allocated Variable Size DE) 0 bytes								
	> Pulse								

(17) Added [Export into Text File...] and [Import from File...] function in direct variable comments A function to export/import direct variable comments in the global/direct variable window as a CSV(Comma Separated Values) file has been added.

(18) Added XGF-TC4RT module variable

The following module variables related to input/output alarm have been added.

xx_CHy_IAOFF	Chx Block Input Alarm (OS V3.20 or later)
xx_CHy_OAOFF	Chx Block Output Alarm (OS V3.20 or later)

(19) Remove 10- slot extension base in I/O parameter (XGK, XGI)

Deleted 10-slot extension base that were not sold. The base previously set to 10 slots is maintained.

⊕ 🗊 Base 00 : Default	Apply Current Consumption
🛓 🗂 Base 01 : Default	
⊕ 🗇 Base 02 : Default	Base module setup ? ×
⊕ ∰ Base 03 : Default ⊕ ∰ Base 04 : Default	
Base 04 : Default	Slot Number 12 V
⊕ 🗇 Base 06 : Default	4 0× 5
iaf Base 07 : Default	
	6

(20) Added power module capacity check function

When writing I/O parameter, a capacity check function has been added.

XG5000

Base 00's current consumption is 4960mA. Please check the module of each base, it may be the cause of malfunction when the consumption exceeds the limit. ×

(21) Added NC channel (total 2 channels)

For XMC model, it has been added to set NC channel 2 by adding an additional 1 from the existing 1 NC channel.



NewProgram	n[Program] 🗙 🗍 NC Channel paramete	er 💉 NC Channel/Axis	parameter - NC Channel 1	×			
Group	Name	X Axis	Y Axis	Z Axis	A Axis	B Axis	C Axis
Axis	Setting the orientation for the modular	0: Two-way		0: Two-way		0: Two-way	
	Position of 2nd home	0 mm		0 mm		0 mm	
Origin	Position of 3th home	0 mm		0 mm		0 mm	
	Position of 4th home	0 mm		0 mm		0 mm	
	Rapid traverse acceleration	500 mm/s2		500 mm/s2		500 mm/s2	
	Rapid traverse deceleration	500 mm/s2		500 mm/s2		500 mm/s2	
Rapid Traverse	Rapid traverse jerk	0 mm/s3		0 mm/s3		0 mm/s3	
	Rapid traverse speed	10000 mm/m		10000 mm/m		10000 mm/m	
	Dry run speed	10000 mm/m		10000 mm/m		10000 mm/m	
	Min. value of the G22 for the X, Y, Z axis	0 mm		0 mm		0 mm	
	Max. value of the 3rd (X, Y, Z axes)	0 mm		0 mm		0 mm	
Traverse Area	Min. value of the 3rd no-transfer zone range of the X, Y, and Z axes	0 mm		0 mm		0 mm	
	Max. value of the 3rd no-transfer zone range of the X, Y, and Z axes	0 mm		0 mm		0 mm	
	Scaling	0		0		0	
Auxiliary Settings	Overrun amount of positioning in one direction	0 mm		0 mm		0 mm	

NewProgram	n[Program] 🗙 🗍 NC Channel paramet	er 🗙 📜 NC Channel/Axi	s parameter - NC Channel 1	NC Channel/Axis	parameter - NC Channel 2 ×		
Group	Name	X Axis	Y Axis	Z Axis	A Axis	B Axis	C Axis
Axis	Setting the orientation for the modular		0: Two-way		0: Two-way		0: Two-way
	Position of 2nd home		0 mm		0 mm		0 mm
Origin	Position of 3th home		0 mm		0 mm		0 mm
	Position of 4th home		0 mm		0 mm		0 mm
	Rapid traverse acceleration		500 mm/s2		500 mm/s2		500 mm/s2
Rapid Traverse R R D M M M	Rapid traverse deceleration		500 mm/s2		500 mm/s2		500 mm/s2
	Rapid traverse jerk		0 mm/s3		0 mm/s3		0 mm/s3
	Rapid traverse speed		10000 mm/m		10000 mm/m		10000 mm/m
	Name Setting the orientation for the modular Position of 2nd home Position of 4th home Rapid traverse acceleration Rapid traverse deceleration Rapid traverse geed Dry run speed Min. value of the G22 for the X, Y, Z axis Max. value of the G32 for the C, Y, Z axis Max. value of the C and (X, Y, Z axis)		10000 mm/m		10000 mm/m		10000 mm/m
	Min. value of the G22 for the X, Y, Z axis		0 mm		0 mm		0 mm
			0 mm		0 mm		0 mm
Rapid Traverse R R Traverse Area			0 mm		0 mm		0 mm
			0 mm		0 mm		0 mm
	Scaling		0		0		0
Auxiliary Settings			0 mm		0 mm		0 mm

(22) Improved project read/write function at the same time

When read/write is currently in progress, a function to prevent other users from proceeding with read/write has been added. This function is to prevent simultaneous reading and writing to the same PLC, and it is a function to exclusively block read/write.

User action	Other users
Read	Read - possible
	Write - impossible
Write	Read - impossible
	Write - impossible

If another user reads/writes to the same PLC first, the following dialog box is displayed and you cannot proceed any further.

Waiting	×
Waiting for other user's operation to be done	
DCH57	
	Cancel

Users who are reading/writing from PLC in use can see who is using the PC name by displaying the PC name. Click [Cancel] to return to the previous state.

If there is no user currently reading/writing, the dialog box is automatically closed and proceeds to the next step.

(23) Use of forced input/output of general devices(XGI-CPUUN)

A function has been added so that a general device can be set as forced I/O. M, W areas are available.

[Settings in the LD editor]

This is how to set general device forced I/O in LD editor.

Place the cursor on the general device for forced I/O setting, and click the Enter key or double-click the mouse.

27 %WX0	%WX1

Click the [Foced I/O].

Change Current Value		?	×
Name: %MX0			
Type: BOOL			
Range: (0 ~ 1)			
Set value			
Value: 0 1 (TRUE)	🖲 0 (F.	ALSE)	
Forced I/OV	Ж	Can	cel

Enter the settings and values in Forced I/O Settings and click [OK].

Change Current Value	?	×
Name: %MX0		
Type: BOOL		
Range: (0 ~ 1)		
Set value		
Value: 1 (TRUE)	(FALSE)	
Forced I/O	Can	cel
Forced I/O setting		
Forced input: ODisable	Enable	e
Forced Value: 0 (FALSE)	🖲 1 (TR	UE)

[Smart Extension – Allocate Input/Output Variables]

This is a method to set general device as forced I/O for input/output variables of smart extension.

Double-click Smart Extension in the project tree.



Click [Allocate Input/Output Variables].

mart Extension										
···· Master Setting	Forma	at:	Hexa	lecimal	✓ Variat	le Setting Synchronize				
Communication Device Settings		EB No.	Station N	/IP	Slot number	Variable name	Туре	Device	Monitor value	Comment
Allocate Input/Output Variables	1		82		Slot00	Tanabio Hamo	1,00	201100	monitor value	XGF-DV4A (D/A Voltage Output T
Allocate Diagnostic Variables	2	<u>i –</u>				0002 EB01 0000 CH0 ERR	BOOL	%MX16000	0	Analog Output Module: CH0 Erro
- Connection View	3					0002 EB01 0000 CH1 ERR	BOOL	%MX16001		Analog Output Module: CH1 Erro
- EIP Cycle/Details	4					0002 EB01 0000 CH2 ERR	BOOL	%MX16002	0	Analog Output Module: CH2 Erro
	5					_0002_EB01_0000_CH3_ERR	BOOL	%MX16003	0	Analog Output Module: CH3 Erro
	6					0002 EB01 0000 RDY	BOOL	%MX16015		Analog Output Module: Ready Fl
	7					0002 EB01 0000 CH0 ACT	BOOL	%MX16016		Analog Output Module: CH0 Acti
	8					0002 EB01 0000 CH1 ACT	BOOL	%MX16017	0	Analog Output Module: CH1 Acti
	9					_0002_EB01_0000_CH2_ACT	BOOL	%MX16018	0	Analog Output Module: CH2 Acti
	10					_0002_EB01_0000_CH3_ACT	BOOL	%MX16019	0	Analog Output Module: CH3 Acti
	11					0002_EB01_0000_OUTEN	WORD	%MW1002	0x0000	Analog Output Module: Output E
	12					0002 EB01 0000 CH0 OUTEN	BOOL	%MX16032	0	Analog Output Module: CH0 Out
	13					0002 EB01 0000 CH1 OUTEN	BOOL	%MX16033		Analog Output Module: CH1 Out
	14					_0002_EB01_0000_CH2_OUTEN	BOOL	%MX16034	0	Analog Output Module: CH2 Out
	15					_0002_EB01_0000_CH3_OUTEN	BOOL	%MX16035	0	Analog Output Module: CH3 Out
	16					_0002_EB01_0000_CH0_DATA	INT	%MW1003	0x0000	Analog Output Module: CH0 Inp
	17					0002 EB01 0000 CH1 DATA	INT	%MW1004	0x0000	Analog Output Module: CH1 Inp
	18					0002 EB01 0000 CH2 DATA	INT	%MW1005	0x0000	Analog Output Module: CH2 Inp
	19					0002 EB01 0000 CH3 DATA	INT	%MW1006	0x0000	Analog Output Module: CH3 Inp
	20					0002_EB01_0000_CH_ERR_ARY	ARRAY[03] OF BOOL	%MX16000		Analog Output Module: Each CH
	25					_0002_EB01_0000_CH_ACT_ARY		%MX16016		Analog Output Module: Each CH
	30					0002 EB01 0000 CH OUTEN ARY		%MX16032		Analog Output Module: Each CH
	35					0002 EB01 0000 CH DATA ARY		%MW1003		Analog Output Module: Each CH

After placing the cursor on the variable to set [Forced I/O], it can be set by pressing the Enter key or double-clicking the mouse.

mart Extension									
Master Setting	Form	at:	Hexadecima	Variab	le Setting Synchronize				
Communication Device Settings		EB No.	Station No/IP	Slot number	Variable name	Туре	Device	Monitor value	Comment
Allocate Input/Output Variables	1	EB01 🖬		Slot00					XGF-DV4A (D/A Voltage Output Ty
Allocate Diagnostic Variables	2				0002 EB01 0000 CH0 ERR	BOOL	%MX16000	0	Analog Output Module: CH0 Error
Connection View	3				_0002_EB01_0000_CH1_ERR	BOOL	%MX16001	0	Analog Output Module: CH1 Error
EIP Cycle/Details	4				0002 EB01 0000 CH2 ERR	BOOL	%MX16002		Analog Output Module: CH2 Error
	5				0002 EB01 0000 CH3 ERR	BOOL	%MX16003	0	Analog Output Module: CH3 Error
	6				0002 EB01 0000 RDY	BOOL	%MX16015	0	Analog Output Module: Ready Flag
	7					BOOL	%MX16016		Analog Output Module: CH0 Activa
	8				0002_EB01_0000_CH1_ACT	BOOL	%MX16017	0	Analog Output Module: CH1 Activa
	9				0002 EB01 0000 CH2 ACT	BOOL	%MX16018		Analog Output Module: CH2 Activa
	10				0002 EB01 0000 CH3 ACT	BOOL	%MX16019		Analog Output Module: CH3 Activa
	11				0002 EB01 0000 OUTEN	WORD	%MW1002		Analog Output Module: Output En
	12				_0002_EB01_0000_CH0_OUTEN	BOOL	%MX16032		Analog Output Module: CH0 Outpu
	13								Analog Output Module: CH1 Outpu
	14				0002 EB01 0000 CH2 OUTEN	Change Current Value	? ×		Analog Output Module: CH2 Outpu
	15				0002 EB01 0000 CH3 OUTEN	Name: %MX16032			Analog Output Module: CH3 Outpu
	16				_0002_EB01_0000_CH0_DATA			0x0000	Analog Output Module: CH0 Input
	17				0002 EB01 0000 CH1 DATA	Type: BOOL		0x0000	Analog Output Module: CH1 Input
	18				0002 EB01 0000 CH2 DATA	Range: (16#00 ~ 16#01)		0x0000	Analog Output Module: CH2 Input
	19				0002 EB01 0000 CH3 DATA			0x0000	Analog Output Module: CH3 Input
	20				_0002_EB01_0000_CH_ERR_ARY				Analog Output Module: Each CH E
	25				_0002_EB01_0000_CH_ACT_ARY				Analog Output Module: Each CH A
	30				0002 EB01 0000 CH OUTEN ARY	Set value			Analog Output Module: Each CH C
	35				0002 EB01 0000 CH DATA ARY				Analog Output Module: Each CH Ir
	40			Slot01		Value: 1 (TRUE)	0 (FALSE)		XGF-DC8A (D/A Current Output Ty
	41				_0002_EB01_0001_CH0_ERR			0	Analog Output Module: CH0 Error
	42				0002 EB01 0001 CH1 ERR	Forced I/OV OK	Cancel		Analog Output Module: CH1 Error
	42				0002 EP01 0001 CH2 EPP			0	Appleg Output Medule: CH2 Erro

Γ

Also, you can set forced I/O for each slot at once. Right-click the mouse - Click [Set Forced I/O].

mart Extension										
Master Setting	Forma	at:	Hexadecim	al 🗸 Variab	le Setting Synchronize					
Communication Device Settings		EB No.	Station No/IP	Slot number	Variable name	Туре	Device	Monitor value	Comment	
Allocate Input/Output Variables	1		82	Slot00 🖃		100-5			XGF-DV4A (D/A Voltage	Output
Allocate Diagnostic Variables	2	i			0002 EB01 0000 CH0 ERR	BOOL	%MX16000	0	Analog Output Module: (CH0 Err
Connection View	3				_0002_EB01_0000_CH1_ERR	BOOL	%MX16001	0	Analog Output Module: (CH1 Err
EIP Cycle/Details	4				_0002_EB01_0000_CH2_ERR	BOOL	%MX16002	0	Analog Output Module: (CH2 Err
	5				_0002_EB01_0000_CH3_ERR	BOOL	%MX16003	0	Analog Output Module: (CH3 Err
	6				_0002_EB01_0000_RDY	BOOL	%MX16015	0	Analog Output Module: F	Ready F
	7				_0002_EB01_0000_CH0_ACT	BOOL	%MX16016	0	Analog Output Module: (CH0 Ac
	8				_0002_EB01_0000_CH1_ACT	BOOL	%MX16017	0	Analog Output Module: (CH1 Ac
	9				0002 EB01 0000 CH2 ACT	BOOL	%MX16018	0	Analog Output Module: (CH2 Ac
	10				0002 EB01 0000 CH3 ACT	BOOL	%MX16019	0	Analog Output Module: (CH3 Ac
	11				_0002_EB01_0000_OUTEN	WORD	%MW1002	0x0000	Analog Output Module: (Output I
	12				_0002_EB01_0000_CH0_OUTEN	BOOL	%MX16032	0	Analog Output Module: (CH0 OL
	13				_0002_EB01_0000_CH1_OUTEN	BOOL	%MX16033		Set Forced I/O	
	14				_0002_EB01_0000_CH2_OUTEN	BOOL	%MX16034		Cut	Ctrl+
	15				0002 EB01 0000 CH3 OUTEN	BOOL	%MX16035			
	16				0002 EB01 0000 CH0 DATA	INT	%MW1003	0)	Сору	Ctrl+
	17				0002 EB01 0000 CH1 DATA	INT	%MW1004	0	Paste	Ctrl+
	18				0002 EB01 0000 CH2 DATA	INT	%MW1005	0	Delete	Delet
	19				_0002_EB01_0000_CH3_DATA	INT	%MW1006	0)		
	20				_0002_EB01_0000_CH_ERR_ARY	ARRAY[03] OF BOOL	%MX16000		Expand all variables	
	25				_0002_EB01_0000_CH_ACT_ARY	ARRAY[03] OF BOOL	%MX16016		Collapse all variables	
	30				_0002_EB01_0000_CH_OUTEN_ARY	ARRAY[03] OF BOOL	%MX16032		Analog Output Module: E	Each C
	35				0002 EB01 0000 CH DATA ARY	ARRAY[03] OF INT	%MW1003		Analog Output Module: E	Each C

All BIT type variables of the currently selected slot are displayed in the forced I/O setting dialog box.

I

- You can check the position you want to set through the EB number and slot number.

- It is possible to set whether to use the general device forced I/O by checking/unchecking the general device permission.

Foro	ed I/	'O setting		>
EB:	1 Sk	ot: 0		Permit General Devic
	Ge	neral Device]	
Γ		Address	Enabl Set Valu	Category
	0	%MX16000	0001	_0002_EB01_0000_CH0_ERR
	1	%MX16001	0001	_0002_EB01_0000_CH1_ERR
	2	%MX16002	0001	_0002_EB01_0000_CH2_ERR
	3	%MX16003	0001	_0002_EB01_0000_CH3_ERR
	4	%MX16015		_0002_EB01_0000_RDY
	5	%MX16016	O 0 1 O 1 O	_0002_EB01_0000_CH0_ACT
	6	%MX16017	001	_0002_EB01_0000_CH1_ACT
	7	%MX16018	001	_0002_EB01_0000_CH2_ACT
	8	%MX16019		_0002_EB01_0000_CH3_ACT
	9	%MX16032		_0002_EB01_0000_CH0_OUTEN
	10	%MX16033		_0002_EB01_0000_CH1_OUTEN
	11	%MX16034		_0002_EB01_0000_CH2_OUTEN
	12	%MX16035	O 0 1 O 1 O	_0002_EB01_0000_CH3_OUTEN
<u> </u> <	9			>
		De	elete All Se	elect All Apply OK Cancel

If you click [Select All], all devices are set to forced I/O.

Ge	neral Devic	_		
	Address	Enabl	0001000	Category
0	%MX16000			_0002_EB01_0000_CH0_ERR
1	%MX16001			_0002_EB01_0000_CH1_ERR
2	%MX16002 %MX16003			_0002_EB01_0000_CH2_ERR
 	2/2003 2003 2003 2003 2003 2003 2003 200	<u> </u>		_0002_EB01_0000_CH3_ERR 0002_EB01_0000_RDY
4	%MX16015			_0002_EB01_0000_ED1
5 6	%MX16016	⊻		_0002_EB01_0000_CH1_ACT
7	%MX16018	▼		0002_EB01_0000_CH2_ACT
8	2MX16019			_0002_EB01_0000_CH3_ACT
9	%MX16032			0002_EB01_0000_CH0_OUTEN
10	%MX16033	· ·	house the second	0002 EB01 0000 CH1 OUTEN
11	%MX16034			0002 EB01 0000 CH2 OUTEN
12	%MX16035			0002 EB01 0000 CH3 OUTEN

Ge	neral Device	_			
	Address	Enabl	Set Valu	Category	
0	%MX16000			_0002_EB01_0000_CH0_ERR	
1	%MX16001			_0002_EB01_0000_CH1_ERR	
2	%MX16002			_0002_EB01_0000_CH2_ERR	
3	%MX16003			_0002_EB01_0000_CH3_ERR	
4	%MX16015			_0002_EB01_0000_RDY	
5	%MX16016		0 0 1	_0002_EB01_0000_CH0_ACT	
6	%MX16017		0 0 1	_0002_EB01_0000_CH1_ACT	
7	%MX16018		0 0 1	_0002_EB01_0000_CH2_ACT	
8	%MX16019			_0002_EB01_0000_CH3_ACT	
9	%MX16032		0	_0002_EB01_0000_CH0_OUTEN	
10	%MX16033		0001	_0002_EB01_0000_CH1_OUTEN	
11	%MX16034		0 0 1	_0002_EB01_0000_CH2_OUTEN	
12	%MX16035		0 0 1	_0002_EB01_0000_CH3_OUTEN	

If you click [Delete All], all devices set for forced I/O are deleted.

Γ

If you click the [OK] or [Apply] button, the set forced I/O is downloaded to PLC.

Forced I/O Setup				? ×
	ot: 0 ~			Permit I/Q Device Output Permit I/Q Device Input Permit General Device Forced device list
Set by Device %QW0.0.0 Enable	%QW0.0.1	Set by Variable Name %QW0.0.2 Enable Setting	%QW0.0.3 Enable	Show Enables Only
0 0 0 1 0 0 1 0 0 1 0 1 0 0 1 1 0 0 1 2 0 0 1 2 0 0 2 3 0 0 3 4 0 0 4 5 0 0 5 6 0 0 6 7 0 0 7 8 0 8 9 0 0 9 10 0 10 11	16 16 17 17 18 19 19 21 20 21 23 23 24 24 25 25 26 26 27 27	32 32 33 33 34 34 35 35 36 36 37 37 38 39 39 39 40 40 41 41 42 42 43 43	48 48 49 49 50 50 51 51 52 52 53 54 54 54 55 55 56 56 57 57 58 58 59 59	94MX 16000 94MX 16001 94MX 16003 94MX 16015 94MX 16015 94MX 16017 94MX 16017 94MX 16017 94MX 16017 94MX 16019 94MX 16039 94MX 16034 96MX 16034
12 0 12 13 0 13 14 0 14 15 0 15	28 0 0 28 29 0 0 29 30 0 0 30 31 0 31	44 44 45 45 46 46 47 47	60 60 61 61 62 62 63 63	Delete
Enable Input	Output Variable	s Delete All	Select All Apply	OK Cancel

For I/Q devices, the existing forced I/O setting dialog box is displayed.

Check the [Forced I/O Setup]

How to check the set general device forced I/O.

Click [Online] - [Forced I/O Setup].

You can check the set general device Forced I/O by moving to [General device] tab.

ise:	0 ~	Slot:	0 ~				Permit I/Q De	
		1					Permit Gener	
Se	t by Device		neral Device	Set by Var	iable Name		Forced device lis	-
	Address	Enab			Category		Show Enables	s Only
0	%MX0		000				%MX0	
1	%MX16000		00				%MX 16000	
2	%MX16001		00				%MX16001	
3	%MX16002	$\mathbf{\overline{\mathbf{v}}}$	000				%MX16002	
4	%MX16003	•	00 🖲				%MX16003 %MX16015	
5	%MX16015	•	000				%MX16015	
6	%M×16016		000			 	%MX16017	
7	%M×16017		000				%MX16018	
8	%M×16018		000				%MX16019	
9	%M×16019	V	000				%MX16032 %MX16033	
10	%M×16032		000			 	%MX16033	
11	%MX16033		000			 	%MX16035	
12	%MX16034	7	000			 		
13	%MX16035	7	000			 		
							Delet	te .

By clicking [Delete All], you can delete all general device forced I/O set so far.

[Notice]

[Delete All] and [Select All] will delete and select I and Q devices as well.

After selecting the device you want to delete from the set devices, you can selectively delete it by clicking the [Delete] button.

lase:	0 ~	Slot: 0 V		Permit I/Q Device Inp
Set	by Device	General Device	Bet by Variable Name	Permit General Device
	Address	Enab Set	Category	Show Enables Only
0 1 2 3 4 5 6 7 8 9 10 11 12 13 14	2MX0 2MX16000 2MX16002 2MX16002 2MX16002 2MX16005 2MX16015 2MX16016 2MX16018 2MX16018 2MX16018 2MX16032 2MX16033 2MX16034 2MX16035 2WX555	V C 0 V C 0 V C 0 V C 0 V C 0 V C 0 V C 0 V C 0 V C 0 V C 0 V C 0 V C 0 V C 0 V C 0 V C 0 V C 0 V C 0 V C 0		9 9 MX0 9 MX16000 9 MX16001 9 MX16003 9 MX16015 9 MX16015 9 MX16015 9 MX16016 9 MX16017 9 MX16018 9 MX16018 9 MX16032 9 MX16033 9 MX16034 9 MX16035 9 WX555
En	able Input	Output	ables Delete All Select All	Apply OK Cance

[Notice]

Γ

If you enable [Options] - [Online] - [Monitoring Forced I/O Status] option, you can easily check the forced I/O set in the LD edit window and the input/output variable assignment window.



In the LD edit window

- When the setting is "Allow", the background is yellow.

- When the value is "1(TRUE)", the background is displayed in green.

10		<u> </u>
LI	XWXO	XWX1
12	XLX0	%LX1
1.3		

In [Allocate Input/Output Variables], when the setting is "Allow", the background is yellow.

Smart Extension Master Setting	Forma	t:	Hexadecimal	Varial	ble Setting Synchronize				
1			Tiexduceinia	- venier	bic occarig over a synchronize				
Communication Device Settings		EB No.	Station No/IP	Slot number	Variable name	Туре	Device	Monitor value	Comment
Allocate Input/Output Variables	113				_0002_EB04_0001_CH6_ACT	BOOL	%MX128534	0	Analog Output Module: CH6 Activati
Allocate Diagnostic Variables	114				_0002_EB04_0001_CH7_ACT	BOOL	%MX128535	0	Analog Output Module: CH7 Activati
Connection View	115				_0002_EB04_0001_OUTEN	WORD	%MW8034	0x007F	Analog Output Module: Output Enab
EIP Cycle/Details	116				0002_EB04_0001_CH0_OUTE	BOOL	%MX128544	1	Analog Output Module: CH0 Output
	117				0002 EB04 0001 CH1 OUTE	BOOL	%MX128545	1	Analog Output Module: CH1 Output
	118				0002 EB04 0001 CH2 OUTE	BOOL	%MX128546	1	Analog Output Module: CH2 Output
	119				_0002_EB04_0001_CH3_OUTE	BOOL	%MX128547	1	Analog Output Module: CH3 Output
	120				0002 EB04 0001 CH4 OUTE		%MX128548	1	Analog Output Module: CH4 Output
	121				0002 EB04 0001 CH5 OUTE		%MX128549	1	Analog Output Module: CH5 Output
	122				0002 EB04 0001 CH6 OUTE	<u>.</u>	%MX128550	1	Analog Output Module: CH6 Output
	123				0002 EB04 0001 CH7 OUTE		%MX128551	0	Analog Output Module: CH7 Output

(24) Improved to maintain user data type memory allocation.

When memory is allocated using a variable as a user data type, the memory allocation of the member variable is maintained even if the member variable name is changed in the user data type.

Ex) Memory allocation is maintained even if the member variable of the user data type is changed from "RESERVED" to "RES".

	Variable	Туре	Address	Initial Value
1	NEW.RESERVED0	ARRAY[07]	%MW500	
2	NEW.RESERVED0[0]	WORD	%MW500	
3	NEW.RESERVED0[1]	WORD	%MW501	
4	NEW.RESERVED0[2]	WORD	%MW502	-
5	NEW.RESERVED0[3]	WORD	%MW503	
6	NEW.RESERVED0[4]	WORD	%MW504	
7	NEW.RESERVED0[5]	WORD	%MW505	
8	NEW.RESERVED0[6]	WORD	%MW506	
9	NEW.RESERVED0[7]	WORD	%MW507	
10	NEW.RESERVED1	ARRAY[05]	%MB1016	
11	NEW.RESERVED1[0]	USINT	%MB1016	
12	NEW.RESERVED1[1]	USINT	%MB1017	
13	NEW.RESERVED1[2]	USINT	%MB1018	
14	NEW.RESERVED1[3]	USINT	%MB1019	
15	NEW.RESERVED1[4]	USINT	%MB1020	
16	NEW.RESERVED1[5]	USINT	%MB1021	
17	NEW.RESERVED2	ARRAY[05]	%MB1022	
18	NEW.RESERVED2[0]	USINT	%MB1022	
19	NEW.RESERVED2[1]	USINT	%MB1023	
20	NEW.RESERVED2[2]	USINT	%MB1024	
21	NEW.RESERVED2[3]	USINT	%MB1025	
22	NEW.RESERVED2[4]	USINT	%MB1026	

	Variable	Туре	Address	Initial Value
1	NEW.RES0	ARRAY[07]	%MW500	
2	NEW.RES0[0]	WORD	%MW500	
3	NEW.RES0[1]	WORD	%MW501	
4	NEW.RES0[2]	WORD	%MW502	
5	NEW.RES0[3]	WORD	%MW503	
6	NEW.RES0[4]	WORD	%MW504	
7	NEW.RES0[5]	WORD	%MW505	
8	NEW.RES0[6]	WORD	%MW506	
9	NEW.RES0[7]	WORD	%MW507	
10	NEW.RES4	ARRAY[05]	%MB1016	
11	NEW.RES4[0]	USINT	%MB1016	
12	NEW.RES4[1]	USINT	%MB1017	
13	NEW.RES4[2]	USINT	%MB1018	
14	NEW.RES4[3]	USINT	%MB1019	
15	NEW.RES4[4]	USINT	%MB1020	
16	NEW.RES4[5]	USINT	%MB1021	
17	NEW.RES5	ARRAY[05]	%MB1022	
18	NEW.RES5[0]	USINT	%MB1022	
19	NEW.RES5[1]	USINT	%MB1023	1
20	NEW.RES5[2]	USINT	%MB1024	
21	NEW.RES5[3]	USINT	%MB1025	

(25) Option to change monitor current value.

Γ

An option setting has been added to display the previous value when the current value of the bit device is changed during program monitoring. This option can be set in [TOOLS]-[Options].

Options		?	×
	Monitor Display type O Unsigned decimal Signed decimal Hexadecimal Mov Series Command Displayed in Signed Decimal (XGK) Mov Series Command Displayed in Signed Decimal (XGK) Movitoring Forced I/O Status I/O Highlight When BIT value is changed, indix Float data display type Ploating Point Display Fixed Point Display Fixed Point Display		
	Ltc ↓ View connection settings when connecting ↓ Show Message when changing the PLC mode ↓ Show selection dialog when executing Open from PLC		
Reset Category	OK Cancel	Ар	ply

Default: Don't show as current value (show inverted value)

If the option is set, the current value is displayed when the current value is changed.

				_
%MX0	Change Current Value ? X	%MX0	Change Current Value ? ×	
	Name: %MXO Type: BOOL Range:(0 ~ 1)		Name: %MXO Type: BOOL Range: (0 ~ 1)	
	Set value <u>V</u> alue: 0 1 (IRUE) <u>D (FALSE)</u> Forced <u>1</u> /OV OK Cancel		Set value Value: () (TRUE) () (EALSE) Forced I/OV () CALSE	

(26) Improvement of the expression method for variable types in the hierarchical structure in the

[Monitor] window.

PLC	Program	Variable/Device	Value	Туре	Device/Variable
NewPLC	<pre><global></global></pre>	Axis_Monitoring		Axis_monitor	
		Axis_Monitoring.ECODE_SV		Servo_Teaching	
		Axis_Monitoring.ECODE_SV.Save_Position		Servo_lamp	
		Axis_Monitoring.ECODE_SV.Save_Position.RESERVED0 ARRAY[07] OF WOF		ARRAY[07] OF WORD	
		Axis Monitoring.ECODE SV.Save Position.RESERVED0[0]		WORD	
		Axis_Monitoring.ECODE_SV.Save_Position.RESERVED0[1]		WORD	
		Axis Monitoring.ECODE SV.Save Position.RESERVED0[2]		WORD	
		Axis Monitoring.ECODE_SV.Save Position.RESERVED0[3]		WORD	
		Axis Monitoring.ECODE SV.Save Position.RESERVED0[4]		WORD	
		Axis Monitoring.ECODE_SV.Save_Position.RESERVED0[5]		WORD	
		Axis Monitoring.ECODE SV.Save Position.RESERVED0[6]		WORD	
		Axis Monitoring.ECODE SV.Save Position.RESERVED0[7]		WORD	
				ARRAY[05] OF USINT	
				ARRAYIO51 OF USINT	
				ARRAYI051 OF USINT	
				ARRAY[05] OF USINT	
		Axis Monitoring.ECODE SV.Save Position.RESERVED5		ARRAY[05] OF USINT	

By applying the expression method according to the depth of the hierarchy, it has been improved to more clearly understand the hierarchical structure in the [monitor] window.

[Remark]

- After selecting a variable, right-click the mouse and select [Add to Variable Monitor] or [Add to Current Variable Monitor] to monitor.
- In the case of added hierarchical type variables, you can expand/reduce them by using the [+]/[-] buttons in the monitor window.

(27) Modbus communication address improvement with our inverter(drive).

When setting the inverter variable, the same address as the inverter instruction manual is displayed. The address used in actual communication is "Address – 1", but it has been modified so that communication is possible without "Address -1".



(28) "Pt1000" sensor type added to the input parameter of XBF-TC04RT in XG-TCON.

In XG-TCON, "Pt1000" sensor type is added to the input parameter of XBF-TC04RT. This function is supported from XBF-TC04RT module firmware V1.50, and temperature conversion is not performed when "Pt1000" is set in module firmware V1.40 or lower.

Parameter setting -New

Input Parameter	Control Parameter	r Output Parameter			
Parameter	Туре	LOOP0	LOOP1	LOOP2	LOOP3
	Input type	Pt100: -200 ~ 85(🗸	Pt100: -200 ~ 850 °C	Pt100: -200 ~ 850 *C	Pt100: -200 ~ 850 °C
	Short circuit	Pt100: -200 ~ 850 °C	Permission	Permission	Permission
	Upper limit of effective input	JPt100: -200 ~ 600 * Pt1000: -200 ~ 850 *(850.0	850.0	850.0
Input type	Lower limit of effective input	-200.0	-200.0	-200.0	-200.0
1	Upper limit of scale	850.0	850.0	850.0	850.0
1	Lower limit of scale	-200.0	-200.0	-200.0	-200.0

(29) Added EDS Revision No. check function to XG-CANopen.

The function to set whether to check product code and Revision No. in XG-CANopen has been added.

The default values are shown in the figure below. (Compatibility with existing products)

🔇 NetProject - XG-CANopen - [test]		
Project Edit View Online Tools Window Hel		
		: Q Q 🔽 🗸 🖿
Project ×	Properties	
CANopen Network(XBC-DxxxH)	Error Control Setting Reception Transmis	sion Diagnostic
Etest(B00,S01: XBL-CMEA)	PDO Variable Table Area: D00000 D	00100 D00200
	Diagnostic Variables Size: 100	100 48
	3/28.	100
	Output data settings in case of emergen	cy
	CPU error: OLatch	Clear
Service Contract Cont	CPU stop: O Latch	Clear
Library × X	Configure slave information comparison i	tem
	Item Check Slave PRODUCT CODE	Value
E CANopen ▲	Check Slave PRODUCT CODE Check Slave REVISION No.	Do not check
🚊 🛅 Drives and motion control		
S100 CANopen (Is_s100_C		Apply
SV-iG5A CANopen (LS_IG 🗸		

X The revision check function is supported from XBL-CMEA V1.40.

(30) "CRC16 CCITT FALSE" BCC item added.

"CRC16 CCITT FALSE" item has been added to BCC setting of user frame definition for Cnet module.

BCC Settings X					
Method: CRC16 CCITT FALSE <>					
Start position					
Start HEAD V Segment: 0					
End position					
Before BCC End of area Settings					
End area: HEAD V Segment: 0					
ASCII conversion Swap NONE V					
OK Cancel					

Γ

(31) Improved XGL-EFMTB timeout setting.

The server/client timeout setting range has been improved. It can be set in 1 second or 10 millisecond increments. For details, refer to the product user manual.


(32) Improved XGL-RMEB slave communication error handling.

In case of communication error with the connected slave, a processing method for input data has been added. For details, refer to the product user manual.

1

Comm&unication N	Aodule Setting	and Diagnosis	×
Communication Mc	dule Setting and	Diagnosis	
Module type:	XGL-RMEA/B	\sim	
Base No.:	00 ~		
Slot No.:	02 ~		
High-speed link	01		\sim
Communication Pe Period type:	riod Settings 200 msec	~	
Output Data Setti	ngs In Case of E	mergency	
CPU error:		OLatch	Clear
CPU stop:		OLatch	Clear
Input Data when s	lave error occur	red	
Slave Error:		● Latch	🔾 Clear
		OK	Cancel

(33) Input data item is added to Dnet master property in nConfigurator.

When the master cable is removed, an option to choose whether to keep or clear the input data has been added.

Master properties	ф.
≞ 2↓ □	
General Information	
Product Name	XGL-DMEB
Device Type	Master
Product Type Name	Communication Adapter
Vendor Name	LS ELECTRIC
EDS File Name	XGL-DMEB.EDS
EDS Revision	1.0
General Settings	
MAC ID	0
Description	Master0
Startup Behavior	Automatic Release
Endian Mode	Little
Auto Addressing	On
Application Diagnostics	Activated Slaves Only
Input Data	Previous value when bus-off
	Previous value when bus-off
	Clear when bus-off

(34) Improved RAPIEnet+ auto scan comparison function.

ſ

Improvements have been made to compare EIP devices when clicking compare in RAPIEnet+ Auto Scan.

RAPIEne	et+ Autoscan						-		×
Base Slot	0 4	Link type Topology	RAPIEnet+ RING	RAPIEnet No. Station Collisio	3 Empty			Save Stop	
_	_								^
4									
1		192.168.1.12	- 📮	192.168.1.2	192.168.1.	6		192.168.1.3	
9		192.168.1.5	- 📭	192.168.1.111	192.168.1.	143		192.168.1.14	1
									~
< Add:	Delete	: Chan	ge:						> .::
Connect ca	ib Discor	nnect				Retry		Close	

(35) Diagnosis function of extension slave has been added.

1. Click [Online]-[Communication module setting and diagnosis]-[System Diagnosis] of the XG5000 menu.



2. If you right-click the mouse after placing the cursor on the module, the available diagnostic functions are displayed.

The supported features are:

- Slave Module Information
- Media Information
- RAPIEnet media information
- View Communication Module Log
- Save Communication Module Log



1

(36) EIP view function added

Additional diagnostic information is displayed.

In addition to the existing IP information, Vendor Code, Device Type, Product Code, and Revision information are additionally displayed. You can insert any icon you want.



[Remark]

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- The default icon (PLC icon) is displayed unless the user sets the icon separately.

(37) Improvements related to multidimensional arrays

Improvements have been made so that multidimensional arrays can be used in the array command.

(38) Added new command

The following commands have been added. Please refer to the user manual for details.

Array comparison - ANY_CMP, ANY_CMP_EQ, ANY_CMP_NE

Positioning related commands – Buffering operation commands, a non-preemptive operating commands Serial communication (Cnet) module setting command – SET_CNET_PARAM, GET_CNET_PARAM General communication module setting command(XGK-CPUHN) - CPMSG

(39) Add module - XGF-PN16B (Standard positioning EtherCAT network type, 16 axes)

- Supports module setting function according to the release of XGF-PN16B module.

2. Error Correction

(1) Fixed the problem of timer/counter error in XGK Auto-allocation project.

The problem that is displayed as an error when a timer/counter type variable declared as WORD type in the XGK Auto-allocation project is used for the contact point in the LD program has been fixed.

(2) Fixed the problem of monitoring error when array type variable of user function block is used.

The problem that the array value is displayed incorrectly in the monitor mode when the array type is used in the VAR_INPUT and VAR_IN_OUT parameters of the user function block has been fixed.

(3) Fixed global/direct variable window update error.

The problem that the direct variable comment window is not immediately updated when reading large comment (direct variable) has been fixed.

(4) Fixed an error in which all contents of the device description were deleted when the PLC type was changed.

In the case of XGK programming (Auto-allocation) project, the problem that all contents of device comments are deleted when PLC type is changed has been fixed.

(5) Fixed an error in the search operation in the global/direct variable window

The problem that the device cannot be moved to the device when a variable is entered after selecting "Declared List" in the global/direct variable window has been fixed.

(6) Fixed an error where the editor was not activated when the Find/Replace window was closed with the ESC key.

The problem that the editor was not activated again when the Find/Replace window was not pinned and the window was closed by pressing the ESC key has been fixed.

(7) Correction of ANY_PTR type command problem

Fixed a problem with the ANY_PTR type command.

- Problem when using ANY_PTR type instruction for VAR_INPUT and VAR_IN_OUT of user function/function block
- Problems when using a variable that has an array as a structure member in an ANY_PTR type instruction.

(8) Fixed XGL-PMEB Sendix Multiturn Encoder slave problem.

The problem that communication was not working properly when downloading by adding Sendix Multiturn Encoder slave to XGL-PMEB module in nConfigurator has been fixed.

(9) Fixed an error displaying I/O module names

Fixed a problem that displays internal I/O for block type PLC as 'Unknown', and synchronizing with I/O parameters.

(10) Fixed an error saving Variable/Comment

Fixed a problem missing edited Variable/Comment if currently editing window closed

(11) Fixed an error in checking constant (false negative)

Constant used an input variable in user function and function block in XGK Auto-Allocation type, displays an error even though the data type is compatible.

(12) Fixed an error in the XMC EtherCAT parameter information configuration

Fixed a problem with configuring EtherCAT parameters Syncmanager information applied to the XMC.

(13) Fixed an error that did not save when "reading text file" in direct variable comments

Fixed the problem that when the project is closed immediately, it is not saved in the project because the saving or not is not changed after "reading text file" in the direct variable comment window.

(14) Fixed an error about Find/Replace

The problem that the device used in the program cannot be found has been fixed when a device is entered in Find what in the Find/Replace Device window. (XGI project)

(15) Fixed an error of memory allocation in the user data type item setting

When copying and pasting from an Excel file to set the memory allocation of member variables in the dialog box, the problem of pasting into the memory allocation column of array member variables has been fixed. Memory allocation is possible only at the start address of the array, and the user cannot allocate memory for array member variables. (XGI project)

(16) Fixed an error of the input type in DECO Function

An error where input variable type other than INT type was input in the DECO function has been fixed.

(17) Fixed an error of "online force edit"

The problem that a communication error message occurs when executing "online force edit" has been fixed.

(18) Fixed a XMC index variable error

If the variable used as the index of the array is set to retain, the problem that the program is not displayed normally when opened from PLC has been fixed.

(19) Fixed an error of global variable memory reference

If local and global variables are used as the same variable, an error where data was incorrectly displayed when referring to memory has been fixed.

(20) Fixed an error about an array type of UDFB

The problem that the first WORD is initialized to 0 when an array is used as VAR_INPUT of the user function block has been fixed.

(21) Fixed an error of nConfigurator slave setting

The problem that the parameter length is calculated incorrectly when setting multiple duplicate modules has been fixed.

3. XG-PM

(1) Added Cam block editor(XGF-M32E)

- The cam block function creates a cam profile by setting the cam curve, connection speed, connection acceleration, and connection jerk. Added the following features.

- [CAM block editor]



- [Cam block operation function block]

Provides the ability to read/write/save cam blocks and create cam profiles while driving.

	Cam block operation command	function			
1	LS_READCAMBLOCPROPERTY	Read specified cam block properties			
2	LS_WRITECAMBLOCPROPERTY	Write specified cam block properties			
2	LS_READCAMBLOCKNODE	Read specified cam block node data			
3	LS_WRITECAMBLOCKNODE	Write specified cam block node data			
4	LS_GENERATECAMDATA	Create cam profile from specified cam block			
5	LS_SAVECAMBLOCK	Save designated cam block data (backup)			

Notice

1. The following version is required to use CAM block editor and function block.

- XGF-M32E OS version 1.40 or higher and XG-PM 3.3 or higher

2. If the CAM block is modified with a Function Block and is not saved with the LS_SaveCamBlock FB, the cam block data is not backed up.

(2) Improved CAM Profile point

- Improvements have been made so that up to 100 points can be set per cam profile and cam points can be set up to 32768 points.
- When creating a cam profile, more detailed cam settings are possible than before.



Notice

- 1. The following version is required to use the cam profile point extension function.
 - XGF-M32E OS version 1.40 or higher and XG-PM 3.3 or higher
- 2. Under XGF-M32E OS version 1.40, the warning is output when downloading after setting more than 100 cam profile points and only 100 point data can be written.

(3) Added XGF-PN16B Module (XGK/XGI/XGR)

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- XGF-PN16B(16-axis product) is added to the network-type module.

New Project	? ×
Project information	
Project Name: TEST Module	New
File Position: U:VXG5UUU\xgpm\TEST	APM Type n Collector O Line Drive
PLC series Module T O XGK O XGB	XGF-PN8A XGF-PN4B XGF-PN8B
CPU Type: XGI-CPUUN V Program 1 Program 1	Name: XGF-PN168 XGF-M32E Language CD CST
Project description Module D	Description
×	~
	OK Cancel

(4) Improved read/write speed of operation data and cam data

- Operation data and cam data read/write speed has been improved. In the existing network-type positioning product, read/write was performed on the entire data including the area not set by the user. In the improved version, data is read only by the number of steps and points set by the user. As a result, the user setup time has been significantly improved compared to the previous one.
- System view monitor speed has been improved by more than 50% compared to the previous one.
- Servo parameter read/write speed has been improved by more than 30% compared to the previous one.

Notic	
1.	The following version is required to apply the operation data and servo
	parameter read/write speed improved version.
	- XGF-PN16B 2.20 or higher and XG-PM 3.3 or higher
	- XGF-PN4B/XGF-PN8B and XBF-PN04B/XBF-PN08B will be supported later
2.	In case of cam data read/write speed improvement and system view monitor
	speed improvement, it has been improved in XG-PM 3.3 or higher regardless
	of module OS version.

(5) Added function to apply to all axes of parameters

- [Apply to all axes] option has been added to detailed parameter settings for convenience when setting multiple axes.

٦

rameter				- Detailed descriptio	n		
	Item	1 Axis	8 A:				
	Axis type	0: Real	0: R				
	Unit	0: pulse	0: pi			Chapter4 Positioning Parameter and Operation Da	
	Pulses per rotation	524288 pls	52428				
	Travel per rotation	20000 pls	20000				
	Unit multiplier	0: x1	0:>	4.2 Basic P	aramatar		
	Speed command unit	0: Unit/Time	0: Unit/	HIZ DUSIC F	arameter		
	Speed limit	2000000 pls/s	2000000	Here description	bes about basic parameter of po	stioning module	
	Acc. time1	500 ms	500	P There we want	bee about basic parameter of por	and any module.	
	Acc. time2	1000 ms	1000	4.2.1 Basic pa	rameter		
	Acc. time3	1500 ms	1500		sic parameter Item	Setting range	
	Acc. time4	2000 ms	2000				
Basic	Dec. time 1	500 ms	500			m :1 ~ 2,147,483,647 [X10 ⁻³ m/min] Inch :1 ~ 2,147,483,647 [X10 ⁻³ lnch/min]	
Parameter	Dec. time 2	1000 ms	1000		Speed limit	degree : 1 ~ 2,147,483,647 [X10 ⁻ incivinin] degree : 1 ~ 2,147,483,647 [X10 ⁻³ degree/min]	
	Dec. time 3	1500 ms	1500			pulse : 1 - 2,147,483,647 [pulse/sec]	
	Dec. time 4	2000 ms	2000		Acceleration time 1		
	Dec. time for emg. stop	0 ms	0 m	Acceleration time 2		1	
	Encoder select	0: Incremental Encoder	0: Increment	1	Acceleration time 2 1 ~ 2,147,483,647 [ms]		
	Cur. pos. compenstion amount	0 pls	0 p		Acceleration time 4		
	Current speed filter time constant	0 ms	0 m	Deceleration time 1		_	
	User defined position display	0	0		Deceleration time 2 Deceleration time 3	1 ~ 2,147,483,647 [ms]	
	magnification	•	×		Deceleration time 4	1	
	User defined speed display	0	0	Decele	ration time for EMG stop	1~2,147,483,647 [ms]	
	magnification	- በ: 1%	0·1		Puise per rotation	1~200.000.000	
	Torque command unit				Travel per rotation		
	Velocicy sync. operation mode	0: CSP - Command Pos. Ref.	0: CSP - Comm		unit (bit 2 ~ 3) Unit multiplier (bit 4 ~ 5)	0:Pulse, 1:mm, 2:Inch, 3:Degree 0:x 1, 1: x 10, 2: x 100, 3: x 1000	
					Speed command unit (bit 6)	0: unit/time, 1: rpm	
				Control word	Encoder select (bit 7)	0:Incremental Encoder, 1:Absolute Encoder	
					Current position display		
					correction(bit 8 ~ 15)	0~255	

Γ

ReleaseNote - XG5000 V4.52.3 (Beta)

1. Improvements and additions

(1) Improved communication speed of Local Ethernet(XGK-CPUxN, XGI-CPUUN) Program download/upload speed via local Ethernet has been improved.

2. Error Correction

(1) Fixed a problem to display the instruction help file(PDF)

The problem that the instruction help file was not displayed normally depending on the Acrobat Reader version has been fixed.

(2) Fixed a problem when entering the ESC key in the Find/Replace dialog box

The problem that the shortcut key does not work after pressing the ESC key in the Find dialog box has been fixed.

(3) Fixed the problem of saving the [Retain Area Group Setting] setting in the [Basic Parameter Setting]

The problem with saving and restoring retain group settings has been fixed.

(4) Fixed the disappearance of comments when changing PLC type

The problem that the variable/comment disappears when the PLC type is changed to XGK-CPUUN \rightarrow XGK-CPUHN has been fixed.

(5) Fixd the problem of XMC EtherCAT slave configuration

The problem that EtherCAT slaves were not added to the extended EtherCAT slaves has been fixed.

(6) Fixed the problem of the parameter of XGL-PMEB DP V0

The problem of not communicating with the slave(XGL-PMEB DP V0) has been fixed. ex) Sendix Encoder

(7) Other abnormal termination error correction

The abnormal termination problems have been fixed.

Notice

Γ

XG5000 V4.52.3 is a beta version with several functions and errors corrected in V4.52.

Please refer to the Release Note and use it only when necessary.

Otherwise, please use the official version of XG5000 V4.52.

(Additional functions may not work depending on the product O/S version.)

ReleaseNote - XG5000 V4.52.2 (Beta)

1. Error Correction

(1) Fixed a problem where the VAR_EXTERNAL and VAR_EXTERNAL_CONSTANT types were not displayed (IEC project)

Fixed a problem where VAR_EXTERNAL and VAR_EXTERNAL_CONSTANT types were not displayed in the variable type when adding a variable or editing a variable in the variable selection dialog box.

Select V	/ariable			? ×
	Variable Edit		? ×	ОК
Variable Li Local Va	Variable:	bbb	ОК	Cancel w Variable
Program Li List:	Data Type:	BOOL	✓ Cancel	t Variable
- LISC	Variable Kind:	VAR	\sim	te Variable
	Address:	VAR VAR_CONSTANT VAR EXTERNAL		
1	Initial Value:		iaon	
2	Trigger:	✓ Retain		
	Description:			
-				
-				
			>	-
				6

(2) Fixed [Open from PLC] problem in XGK general type and XGB project

If an R bit device (e.g., R18000.F) is used for the positive transition-sensing contact (-|P|-) and the negative transition-sensing contact (-|N|-), there is a problem that an error occurs in the logic when [Open from the PLC].

If you downloaded it with V4.52 and V4.52.1, you will need to rewrite it with V4.52.2.



(3) Other abnormal termination error correction

Notice

Γ

XG5000 V4.52.2 is a beta version with several functions and errors corrected in V4.52. Please refer to the Release Note and use it only when necessary. Otherwise, please use the official version of XG5000 V4.52. (Additional functions may not work depending on the product O/S version.)

ReleaseNote - XG5000 V4.52.1 (Beta)

1. Improvements and additions

(1) [Smart Extension] Added keep input function when a communication device error occurs

An option to set whether or not to keep the input when an error occurs during communication with the communication device has been added. In the [Communication device operation setting] window of [Smart Extension] tab, the [Keep input when a communication device error occurs] can be set. (XGL-EFMTB V8.43 or later)

mart Extension Master Setting Communication Device Settings	Communication Device Settings Sets All I/O parameters		Standard Input Filter 3 \checkmark ms	
Allocate Input/Output Variables Allocate Diagnostic Variables Connection View EIP Cycle/Details	Settings	Setting	Detailed description	~
	Keep output when a CPU or communication device error occurs		Set: Keep output Unset: Clear output	
	I Exchange EB or modules =		Set: Continue running when breakdown o resolved return to normal operation Unset: Error when breakdown	
	Use redundant power	Γ	Sets when use redundant power	
	Keep input when a communication device error occurs	N	Set: Keep input Unset: Clear input	
	<			Ť
	* Supports all EB hot swap, moo ** Supports expansion driver d		ap supports only expansion driver device	

If [Enables Master Communication Device] is unset in the [Basic Parameter] window of [Set Communication Device] tab, the [Keep input when a communication device error occurs] setting can be set only for the corresponding slave.

- Sets Communication Device	Name: Sla	veName01	
I/O Parameters	- Communication Device	e Settings —	
Communication device Informa	Enables Master Co	mmunication	Device
Smart Extension Variables			
	Settings	Setting	Detailed description
	Run CPU->Continue output when stopped		Set: Continue output when stopped Unset: Clear output when stopped
	Keep output when a C or communication dev error occurs		Set: Keep output Unset: Clear output
	Exchange EB or modu while running(hot swa		Set: Continue running when breakdown occurs, when resolved return to normal operation Unset: Error when breakdown
	Use redundant power		Sets when use redundant power
	Keep input when a communication device error occurs		Set: Keep input Unset: Clear input
	* Supports all EB hot sv ** Supports expansion of	1.1	ot swap supports only expansion driver device nly

(2) Added a confirmation message when clicking the [Synchronize] button.

Γ

The following message has been added when clicking the [Synchronize] button in the [Allocate Input/Output Variables] window of the [Smart Extension].

- "When variable synchronization is executed, the smart extension variable name is changed to the variable name declared in the global variable list. The global variable is set smart extension property and restricted on variable editing. Would you like to proceed?"

NewPLC [B0S0 Smart Extension]	×	NewPLC [B050) EB01(#1) - XG	L-DB	DT: SlaveName	01]	×	
NewPLC [B050 Smart Extension] Smart Extension Master Setting Communication Device Settings Allocate Input/Output Variables Monte Diagnostic Variables Connection View EIP Cycle/Details	Form Form 1 2 3 4 5 6 7 8 9 10 11		Hexad Station No 1 XG5000 We exad the The re	hen V tensio	Slot numb Slot00 /ariable synchro on variable nar d in the globa	Variabl	mart extension property and ng.	
	12 13				:		예(Y) 아니요(N) 0000 FB01 0000 CH2 DATA	

2. Error Correction

- (1) RAPIEnet auto scan image not displayed error correction
- (2) Breakpoint list/condition menu selection deactivation error correction
- (3) Correction of the error that the smart extension input/output area disappears in the multiproject
- (4) Fixed an error where warning message was not displayed when XGR M area retain was changed.
- (5) Correction of time constant compilation error in ST program
- (6) EDS parsing error correction (product name and version blank handling)
- (7) Fixed an error that does not auto-scroll when searching for direct variables
- (8) Correction of ARY output error in XEC-DxxxU/XEM-DxxxHP UDFB
- (9) EIP detailed setting parameter download data error correction
- (10) Initial value setting window Dual monitor display error correction
- (11) Correction of data size calculation error when applying only some stations in the smart extension wizard
- (12) Correction of write speed drop error during XGK multi-program run
- (13) Fixed an error in which ONE IP was released when uploading in V4.52 after setting XGR CPU ONE IP in V4.30
- (14) EtherCAT SDO parameter item read/write activation error correction
- (15) Correction of contact selection window display error after Ctrl+F is finished
- (16) Fixed port information error when operating XMC general slave [Up]/[Down]
- (17) Corrected I/O type window deactivation error in smart extension EIP service
- (18) Line Edge malfunction error correction (when undoing operation after pasting)
- (19) Correction of errors that are written during run in the state of program inconsistency (when changing PLC)
- (20) Other abnormal termination error correction

Notice

XG5000 V4.52.1 is a beta version with several functions and errors corrected in V4.52.

Please refer to the Release Note and use it only when necessary.

Otherwise, please use the official version of XG5000 V4.52.

(Additional functions may not work depending on the product O/S version.)

Γ

ReleaseNote - XG5000 V4.52

1. Improvements and additions

(1) Added multi connection function (XGI-CPUUN)

Three XG5000s can be connected to the PLC CPU module at the same time through local Ethernet. Up to 4 XG5000s can use simultaneous connection to one CPU module.

The status of XG5000 currently connected to PLC can be checked.

[Steps]

1.	1. Select [ONLINE] – [Change Mode] - [Check Connection Status]								
PI	LC Connection,	/Permission Sta	itus		×				
	Connection	Permission	IP	Connection	ID				
	Connecting	Permission	Permission 192.168.250.11 ETHERNET						
	Connecting	Read-only							
	Connecting	Read-only	192.168.250.1	ETHERNET	ME				
	Waiting for	Read-only -							
	Request	Refresh Close							

Connection Status: Connection Status, Permission Status, Connection Method are displayed. Request: It is used when in Read-only status and when you want to request write permission. Refresh: The connection information is updated to the latest state. Close: Close the dialog box.

[Request and grant permission]



When requesting permission, XG5000 with write permission displays a confirmation message to accept or reject the permission request.

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However, in the case of write and online modification status, the permission request is automatically denied.



[Note]

Γ

- You can also request write permission through the menu [Online]-[Current connection status]-[Request].
- Multi connection function works only with XGI-CPUUN O/S V1.62 or higher.
- When using XG5000 V4.52 or earlier, there are restrictions on functions.

(2) Change the project information saving file

The internal files (.wstx, .vmt, .cst, .dst) created when saving the project file are integrated into one file (.stat). When opening with a new version, previously created files are deleted.

The following improvements have been made to saving project state.

-Ladder program scrolling position memory

-Variable window and local variable window information (size, column width, position, etc.)

(3) Project tree collapsing and expanding function

This is a function that allows you to easily collapse or expand sub-items in the project tree.



[Collapse all child item]

After selecting an item, click [Collapse all child item].

Items of level 2 or lower are folded based on the selected item. (Grandchild level)



[Expand all child item]

After selecting an item, click [Expand all child item]. All items are expanded based on the selected item.

Project 👻 🤻 🛠
Ra 🙃
⁴ 洋 Expand all child item
Expand all selected items.
– 懮 System Variable
🚈 🌐 NewPLC(XGI-CPUUN)-Offline
– ъ Global/Direct Variables
🎍 💽 Parameter
🗕 🔲 Basic Parameter
– 🚾 I/O Parameter
🛛 🗆 🔟 Local Ethernet Parameter
🖅 👩 Scan Program
🚣 📾 NewProgram
– 🔯 Local Variables
🗆 📾 Program
–
– 폖 User Data Type
Library
-

(4) Create Custom network group

This is a function to create custom groups, not by Network Type.

[Steps]

Γ

Right-click on [Network Configuration] in the project tree. Select [Custom network] as the network type, then click the [OK] button.

New Network		×
Name:	NewNetwork	
Network Type:	Custom network	~
	ОК	Cancel

After clicking [Custom network], click [Add Item – Communication Module] to add the communication module to be added.

k 🗗 👛
h. n. 🥽
Image: Construction Image: Constructi

[Note]

-Nested folder structure is not supported.

-It can be moved by drag & drop.

-Project information is saved in the upload (XGI series) or comment (XGK series) area.

-When deleting a module, you can delete the communication module at once or move to the basic network.



(5) Improved the function of deleting CAM Profile

It has been improved to be deleted even in online status.

(6) Improved the function of changing the direct variables

When changing a device, the [Change to the new format] function has been added, and it has been improved to change to %MX0 = %MW0.0.

Find/Replace	▼ ₽ ×	Find 1
Find what: Select All %4QX0.0.0 Reglace: %4WW2.0 Look in • Qurrent window Multiple windows • Qurrent window Multiple windows • Qurput to Find 2 • Qurput to Find 2 • Change to the new format • Range: Line • Mumber of devices: 10 Area: × X(Bit) B(Byte) □ D(Double Word) L(Logng)	Eind Next Find <u>A</u> ll <u>Replace</u> Replace <u>A</u> ll	In NewPLC, replacing address "%QX0.0.0" NewProgram[Program](Row 5, Col 31): -{} %QX0.0.0 => %MIW2.0 NewProgram[Program](Row 6, Col 31): -{} %QX0.0.1 => %MIW2.1 NewProgram[Program](Row 7, Col 31): -{} %QX0.0.2 => %MIW2.2 NewProgram[Program](Row 7, Col 31): -{} %QX0.0.3 => %MIW2.2 NewProgram[Program](Row 9, Col 31): -{} %QX0.0.4 => %MIW2.3 NewProgram[Program](Row 9, Col 31): -{} %QX0.0.4 => %MIW2.4 S address(es) replace. South and Sout
Monitor 1 Monitor 2 Monitor 3 Monitor 4 Find/Rep		Result Check Program Find 1 Find 2 Communication Cross Reference

(7) Improved variables list display performance

When a variable is added or deleted, the list of global variables or local variables is maintained.

- The added variable is added to the last line.

Γ

Glob	al/Direct Variables	×					•	N	łewProgram[Program] ×	
V Glo	bal Variable D	rect Variable Comment	🔋 Flag					10	FF. AA	^
	Variable Kind	Variable	Туре	Address	Initial Value	Retain	U	L1		
1	VAR_GLOBAL	AA	BOOL							
2	VAR_GLOBAL	88	BOOL				1	12		
3	VAR_GLOBAL	CC	BOOL				1	10		
4	VAR_GLOBAL	DD				Г	1	23		
5	VAR_GLOBAL	EE	BOOL				1	14		
6	VAR_GLOBAL	FF	BOOL							
7							1	L5		

- For the deleted variable, the corresponding line is deleted.

Select	t Variable				?	×
Variable	s cc			AT 🛃	OK	
Variable	e List				Cano	el
OLoca	l Variable 🛞 Global Varial	ble O Direct Variable	OFlag		New Var	iable
Global	Variable				Edit Var	iable
List:	All		Y		Delete Va	riable
List:			1		Delete Va	riable
	Variable Kind	Variable	Туре	Addres	Delete Va	riable
1 2		Variable AA BB	1		Delete Va	riable
1	Variable Kind VAR_GLOBAL	AA	Type BOOL		Delete Va	riable
1 2	Variable Kind VAR_GLOBAL VAR_GLOBAL	AA BB	Type BOOL BOOL		Delete Va	riable

Glo	bal Variable D	irect Variable Comment	💐 Flag				4	0	FF						A
	Variable Kind	Variable	Туре	Address	Initial Value	Retain U	H	Select Va						? X	·····
	VAR_GLOBAL	AA	BOOL					Select va	anable					· ^ 1	
	VAR_GLOBAL	BB	BOOL					Variable:	EE				A' 🙆	ОК	
	VAR_GLOBAL	DD													
	VAR_GLOBAL	EE	BOOL					Variable List				0.7		Cancel	
	VAR_GLOBAL	FF	BOOL					O Local Vari	iable 💿 Global Varia	ble Obrect Va	riable	OFlag		New Variable	
								Global Variat	ble					Edit Variable	
								List: A	AII.			`	1		
													_	Delete Variable	
									Variable Kind	Variable		Туре	Addres		
								1	VAR_GLOBAL	AA	F	BOOL			
								2	VAR_GLOBAL	BB	F	BOOL			
								3	VAR_GLOBAL	EE		BOOL			
								4	VAR_GLOBAL	FF	F	BOOL			

Project 💌 🕸 🗙	Glob	al/Direct Variables	×					•	Ne	lewProgram[Program] ×
10 Ø 🗅	V Glo	bal Variable 💿 🛛	rect Variable Comment	Tiag					LO	EF. AA
A To as A A A A A A A A A A A A A A A A A A		Variable Kind	Variable	Туре	Address	Initial Value	Retain	U	L1	
Direction - System Variable	1	VAR_GLOBAL	AA	BOOL				1		
WewPLC(XGI-CPUUN)-Offline Global/Direct Variables	2	VAR_GLOBAL	88 DD	BOOL				_	12	
Parameter Basic Parameter	4	VAR_GLOBAL	FF	BOOL					L3	
- 12 VO Parameter	5							-1	14	

- Even when the global variable window is opened again, it is displayed in its previous state.

Project 👻 🕂 🗙	Nev	vProgram[Program]	Global/Direct V	ariables ×							
12 🗇 👛	V Glo	bal Variable D	rect Variable Comment	💐 Flag							
▲ 礰 aa ★ ↓- 礰 Network Configuration □ □ @ Undefined Network		Variable Kind	Variable	Туре	Address	Initial Value	Retain	Used	EIP/OPC UA	нмі	Comment
- 🎧 System Variable	1	VAR_GLOBAL	AA	BOOL							
MewPLC(XGI-CPUUN)-Offline	2	VAR_GLOBAL	BB	BOOL							
– 🍓 Global/Direct Variables	3	VAR_GLOBAL	DD	~							
⊿- 🐼 Parameter ⊢ ï⊠ Basic Parameter	4	VAR_GLOBAL	FF	BOOL							
– 📴 I/O Parameter	5										

(8) Added function to remove unused variables/comment variables

A function to remove variables that are not used by local variables has been added.

[Steps]

- 1. Activate the global variable window
- Click the menu [EDIT]-[Remove all unused variable/comment]-[Local Variable]. 2.



(9) Added function to move variable column header

A function to move the position of the column header in the variable window (Global variable, Local variable, User data type) has been added.

[Steps]

Move to the column position while clicking the column header with the mouse cursor. 1.

- Global/Direct Variables Global/Direct Variables ×													
V Global Variable D Direct Variable Comment													
	Variable Kind Variable Type Address Initial Value Retain Used EIP/OPC UA HMI Comment												
1	VAR_GLOBAL	AA	BOOL	%IX0.0.0						contact1			
2	VAR_GLOBAL	BB	BOOL	%QX0.1.0						output1			
3	VAR_GLOBAL	FF	BOOL	%IX0.0.1						contact2			
4													

6	Global/Direct Variables ×												
V	V Global Variable D Direct Variable Comment Image: State S												
	Variable	Variable Kind	Туре	Address	Initial Value	Retain	Used	EIP/OPC UA	нмі	Comment			
1	AA	VAR_GLOBAL	BOOL	%IX0.0.0						contact1			
2	BB	VAR_GLOBAL	BOOL	%QX0.1.0						output1			
3	FF	VAR_GLOBAL	BOOL	%IX0.0.1						contact2			
4		l											

. . . .

Glo	bal/Direct Variables ×													
VG	V Global Variable D Direct Variable Comment													
	Variable	Comment	Variable Kind	Туре	Address	Initial Value	Retain	Used	EIP/OPC UA	нмі				
1	AA	contact1	VAR_GLOBAL	BOOL	%IX0.0.0									
2	BB	output1	VAR_GLOBAL	BOOL	%QX0.1.0									
3	FF	contact2	VAR_GLOBAL	BOOL	%IX0.0.1									
4														

- Local Variables

Γ

Glo	Global/Direct Variables X NewProgram[Local Variables] ×												
	Variable	Comment	Variable Kind	Туре	Address	Initial Value	Retain	Used	EIP/OPC UA	нмі			
1	AA	contact1	VAR_EXTERNAL	BOOL	%IX0.0.0		Г	v					
2	FF	contact2	VAR_EXTERNAL	BOOL	%IX0.0.1		Г						
3	BB	output1	VAR_EXTERNAL	BOOL	%QX0.1.0		Г	Г					

- User Data Type

G	lobal/Direct Variables 🛛 🗙	NewProgra	am[Local Variables]	🗶 aa 🗙									
	Variable	Туре	Address	Initial Value	Retain	Comment							
1	aa	BOOL	0.0		Г	BOOL	BOOL Type						
2	bb	WORD	2.0		Г	WORD	WORD Type						
3			Г										
G	lobal/Direct Variables 🛛 🗙	NewProgra	am[Local Variables]	🗶 aa 🗙									
	Variable		Comment		T	уре	Address	Initial Value	Retain				
1	aa	BOOL Type			BOOL		0.0		Г				
2	bb	WORD Type			WORD)	2.0		Г				
3									Г				

[Note]

- When copying from the variable window, it is copied in the current view.

- If the column header order is different, a validation error may occur.

(10) Added User data type validation

A function to check the maximum number of members of the user data type has been added. If the number of members exceeds 1,023, it is detected as an error.

(Even if ARRAY or other user data type is used for the user data type, it is counted as one)

	Variable	Туре	Address	Initial Value	Retain	Comment
009	aa1009	BOOL	126.0		Г	BOOL Type
010	aa1010	BOOL	126.1	-	Г	BOOL Type
011	aa1011	BOOL	126.2		Г	BOOL Type
012	aa1012	BOOL	126.3		Г	BOOL Type
013	aa1013	BOOL	126.4		Г	BOOL Type
014	aa1014	BOOL	126.5		Г	BOOL Type
015	aa1015	BOOL	126.6		Г	BOOL Type
016	aa1016	BOOL	126.7		Г	BOOL Type
017	aa1017	BOOL	127.0		Г	BOOL Type
1018	aa1018	BOOL	127.1		Г	BOOL Type
1019	aa1019	BOOL	127.2		Г	BOOL Type
1020	aa1020	BOOL	127.3		Г	BOOL Type
1021	aa1021	BOOL	127.4		Г	BOOL Type
1022	aa1022	BOOL	127.5		Г	BOOL Type
1023	aa1023	BOOL	127.6		Г	BOOL Type
1024	aa1024	BOOL	127.7		Г	BOOL Type
1025		1			Г	
026					Г	
027						
028						
029						
1030 1031	-					
031						
	+	+	1	1	<u> </u>	
eck Pr	ogram					
	X 3 1 Error(s)	0 Warning(14 Maccanal			
	PLC: "N			2)		

aa[User-defined Type Variable] is being checked...

Error V0043: User defined data type variable has exceeded the maximum number(1023).

(11) Improved IEC project variable input/registration function

- Improvements have been made to keep the variable name being entered even if the variable type is selected.
- The auto-complete function has been turned into an option.
- The option has been improved to operate as an icon.

[Description]

Select Variable	e			
Variable:				<u>Pa</u>
Variable List O Local Variable	Global Variable	O Direct Variable	OF	ag

Add direct variable comment(E): Creates Direct Variable Comment window when registering a variable.

Auto translate to English (IM): Convert the default language to English when creating a new variable on the New Variable Window.

Auto complete variable name(): Enable auto completion of variable type and name.

(12) Improved Function block instance selection(XMC)

When registering instance type variables, the Function Block selection method has been improved.

Before Select Vi		orovemen	t]					?	×
<u>V</u> ariable:	IN			Sec. 1	a service	lirect variable co	mment	OK	
Variable Li		O <u>G</u> lobal Variab	le O Direct \		AU <u>t</u> o En	glish conversion		Canc <u>N</u> ew Va	
Variable A	dd					? ×		Edit Var	riable
<u>V</u> ariable:		IN				ОК		<u>D</u> elete V	ariabl
<u>D</u> ata Typ	e:	ARRAY			~	Cancel			
Variable <u>k</u>	(ind:	VAR			~		dres		
O ARR	R SW] OF ? × OK] OF		Array Type FB_INST OK	C	ancel	
ANA_R: ANA_SI ANA_SI ANA_T APM_C APM_C APM_C APM_C APM_E APM_E APM_E APM_E APM_I APM_I APM_IS	EL EL_R SW SW_R TEA IN RD ST MG NCRD PRE LT IC		Cancel	De	vice/Ve		ck Progra		ror(s)

[After improvement]

Γ

Yariable: N Image: Cancel of the construction
OK Cancel Not Available

(13) Improved Device comments (XGK automatic allocation)

In the Add Device Comment dialog box, the cursor is positioned on the comment item.

(14) Improved automatic registration of module variables

When [EDIT]-[Register Module Variable Comments], variables related to smart expansion are not added. Smart expansion variables can be registered in the following procedure.

[Steps]

1. [Smart Extension] - [Allocate Diagnostic Variables] - [Variable Setting]

The variables previously declared in the [Register Special Module Variables] dialog box have been improved to be displayed on the screen. The default value varies according to the variable's registration and editing status.

- Unchanged or edited variable-Clear check box
- Added variable-check box selection

III All Base00. Slot01: XGF-M32E (EtherCAT Network		Apply	Variable Kind	Variable	Туре	Address	
Base00, Slot03: XGF-M32E (EtherCAT Network	31	~	VAR GLOBAL	_0001_A26_RDY	BOOL	%UX0.1.41	Car
Base00, Slot00: XGL-EFMT(B) (Fast Ethernet N	32	~	VAR GLOBAL	0001 A27 RDY	BOOL	%UX0.1.42	
	33	~	VAR GLOBAL	0001 A28 RDY	BOOL	%UX0.1.43	
	34	v	VAR_GLOBAL	_0001_A29_RDY	BOOL	%UX0.1.44	
	35	v	VAR_GLOBAL	_0001_A30_RDY	BOOL	%UX0.1.45	
	36	v	VAR_GLOBAL	_0001_A31_RDY	BOOL	%UX0.1.46	
	37	v	VAR_GLOBAL	_0001_A32_RDY	BOOL	%UX0.1.47	
	38	v	VAR_GLOBAL	_0001_OPR_CMD	BOOL	%UX0.1.48	
	39	v	VAR_GLOBAL	_0001_A_RDY_ARY	ARRAY[031]	%UX0.1.16	
	10	П	VAR_GLOBAL	_0003_RUN	BOOL	%UX0.3.0	
	40		VAR_GLOBAL	_0003_RUN	BOOL	%UX0.3.0	
	41	П	VAR_GLOBAL	Err_State	BOOL	%UX0.3.1	
	41		VAR_GLOBAL	_0003_ERR	BOOL	%UX0.3.1	
	42		VAR_GLOBAL	_0003_COMM	BOOL	%UX0.3.2	
	42		VAR_GLOBAL	_0003_COMM	BOOL	%UX0.3.2	
	43		VAR_GLOBAL	_0003_LINKUP_INF	BOOL	%UX0.3.14	
	43		VAR_GLOBAL	_0003_LINKUP_INF	BOOL	%UX0.3.14	
	44		VAR_GLOBAL	_0003_RDY	BOOL	%UX0.3.15	
	44		VAR_GLOBAL	_0003_RDY	BOOL	%UX0.3.15	
	45		VAR_GLOBAL	_0003_A01_RDY	BOOL	%UX0.3.16	
	40		VAR_GLOBAL	_0003_A01_RDY	BOOL	%UX0.3.16	
	46	П	VAR_GLOBAL	_0003_A02_RDY	BOOL	%UX0.3.17	
	40		VAR_GLOBAL	_0003_A02_RDY	BOOL	%UX0.3.17	

예) _0003_RUN: Unchanged variable Err_state: Edited variable _0001_A32_RDY: Added variable

(15) Added LD option

Γ

(a) Invalid variable color

It can be used to identify the declared and non-declared variables in the LD program.

NewPro	ogram[Program] × [I/C	D Parameter 🗙 👘 NewPLC [BOSO Smart Extension] 🗙	
LO	aaa 		
L1	Options	? >	×
L2	Grand School Refault	Items: Font:	
L3	Common Editor Font/Color	Text font Diagram Display error(incomplet	≤
L4	⊡Online ⊡LD	Block mask Background color at on	
L5	Font/Color Advanced	Text Variable text Device comment Constant	
L6	Font/Color	Rung comment Output comment	
L7	Font/Color	Label Subroutine Step number	
L8		Invalid variable Safety function block c Edited rung(online edit)	- ا
L9		Invalid variable	
L10			┙╽
L11			
L12			
L13			
L14			
L15 <	Reset Category	OK Cancel Apply	

Include variables when pasting

When pasting a ladder program, set whether or not to register the variable list. The default value is 'Paste with variable'.

٦

(b) Added Auto Insert contact option

You can use the function to insert the contact by using the Enter key.

		? ×
 → XG5000 → Project Default → Common Editor → Font/Color → Online → Common → Font/Color → Advanced → SFC → Font/Color → Font/Color → Font/Color → Font/Color 	Move Cursor (Variable)Device Ho When pasting Wr Assistance when inserting Auto insert contact Us Show Keyboard Shortcut Do Restore auto cursor mode Do Display Bit Display(IEC) Ma	ariable priority old Cursors old Cursors hen pasting variables with LD se o not use o not use aintain input format now

When entering the Enter key in the LD program, a contact is added at the cursor position.



(c) Show Keyboard Shortcut

Added option to keep last selected tool in LD editing tool.



If you enter a shortcut key in the LD program, the item corresponding to the shortcut key is added to the LD program, and the tool bar selection status is maintained.

	Դ HPF \$sF1	H₽'⊦ CSA	-IN⊦ sF2	-IM⊦ csS	⊿⊑ aR	₋₽ aF	F5	F6	sF8	₩ sF9	-(-)- F9	-(/)- F11	-(S)- sF3	-(R)- sF4	(P) sF5	-(N)- sF6	{F} F10	₽ SF7	ዛ ሥ c3	4.∕⊬ ¢4	4РР С5	4NH C6
NewP	rogram	(Prog	jram)	×																		
LO																						
L1																						
			_			_																
L2	Ι.																					
						_																

By hitting Enter, you can enter the last tool selected.



(d) Restore auto cursor mode

When editing LD program with a mouse, you can use the function to restore to cursor mode again.



After selecting an item from the LD tool toolbar,

K + + + + / + + PF + PF + NF + MF + 加 + 加 - ル - ー I → 米 + () + (/) + (S) + (R) + (P) + (N) + (F) + ロ + 1 + 1 / + 4 / + 4 PF + NP Esc F3 F4 sF1 csA sF2 csS aR aF F5 F6 sF8 sF9 F9 F11 sF3 sF4 sF5 sF6 F10 sF7 c3 c4 c5 c6

Click the desired position in the LD program to add the selected item in the tool bar.

NewP	rogram[Program] ×
L0	
L1	
L2	
1.3	

Once the addition is complete, the toolbar is restored to cursor mode.

(e) Bit Display(IEC)

Γ

Added option to display bits in IEC projects. The input format can be maintained or displayed as an offset based on BOOL, BYTE, WORD, DWORD and LWORD. However, copy/paste works in the input format.

Options		? ×
XG5000 Project Default Common Editor Font/Color Online ID Font/Color Advanced SFC Font/Color ST/IL(IEC) Font/Color	Set detailed options for the LD Editor.	Hold Cursors Hold Cursors When pasting variables with LD Do not use Do not use Maintain input format X0 B0.0 W0.0 L0.0
Reset Category		OK Cancel Apply

(16) Use of declared variable when replacing string

When replacing a string, when changing a global variable to an already declared global variable, it has been modified to be automatically registered.
(17) Inequality sign display for comparison function

The comparison function has been improved to be displayed with an inequality sign.

1

Function/Function Block	? ×
Name EQ	✓ Search
View all ANY Type Functions in the Function Edit Function Block Instance Name First Ust Durction Function Function Block Function/Function Block Category Function	
Angle Conversion Array Operation Bit Operation Bit Operation Bit Operation Bit Operation Distributing Clock Common Control Function Information Category Comparison Description: 'Equal to' comparison BOOL - EN ENO - BOOL ANY - IN1 OUT - BOOL ANY - IN2	Ma <u>x</u> . No. of input: 8 No. of Input: 2
Help	OK Cancel

L8	 	
	EN	= ENO-
L9	 	OUT
L10		OUT
	 IN2	
L11		

However, when find/replace a string, It must be entered as EQ.

(18) Improved contact/coil search function

Γ

The existing [Find Contact/Coil] function has been subdivided into [Find Next Contact] and [Find Next Coil]. In addition, the problem that the value of 'What to find' is changed after finding the contact/coil has been improved.

ltem	Description	Action
Initial Shortcut	Find Next Contact	Ctrl + Shift + D
Кеу	Find Next Coil	Ctrl + Shift + F
Find Item	Common	LD program excluding library (excluding local
		variable window)
	Direct Variable(Device)	Multiple windows(Same as Find Device)
	Variable(Auto Allocate)	Current window(Same as Find String)
	Variable(Address)	Multiple windows(Same as Find Device)
After selecting a	When executing Find Next	Go to the next same contact
contact	Contact	
	When executing Find Next	Go to the next same coil
	Coil	
After selecting a	When executing Find Next	Find the contact of the coil
coil	Contact	
	When executing Find Next	Go to the next duplicate coil
	Coil	

[Find Next Contact], [Find Next Coil] operations are as follows.

(19) Improved Used Device

The input/output variables and diagnostic variable areas used in smart expansion have been improved to be displayed on the Used Device.



Used Device																																
Find: Device			- (2 R	efres	h																										
		W	ORD	· ·	15	14		13		12		11	1	0	9		8		7		3	5	5	4		3		2		1		0
		-	0		0	1	0 1	0		0		0	-	0	-	0	1 0		0	-	0	-	0	0		0	1	0		0	-	0
%MW1000 (%MX16		1			1																					2		2		2		2
%MW1001 (%MX16	016)	1																								2		2		2		2
%MW1002 (%MX16		1	1																							2		2		2		2
%MW1003 (%MX16	048)	1	2		iow I	Devic		-																 	2	******	×					
%MW1004 (%MX16		1	2	1	iew i	Devic	: 036	•																			\sim		1			1
%MW1005 (%MX16		1	2																													
%MW1006 (%MX16		1	2		PLC	: Ne	vPLC																									
%MW1007 (%MX16		1																											1			
%MW1008 (%MX16		1			Devi	ce use	d:%	MW 1	1001																							
%MW1009 (%MX16		1				-			1.		_				-	1.		r	Instru	- 1			-	 ~			_					
%MW1010 (%MX16		1				Pro	gram			Devic	-		iable		Туре		N/OU				1.1	ositic		LO	mme	nt			1			1
%MW1011 (%MX16		1							%N	4W10	001	Inpu	t/Out	<u>۷</u>	VORD	- IN	IPUT,	'O S	martE	xten	S	(0,2)										
%MW1012 (%MX16		1																											1	l		
%MW1013 (%MX16		1																											1			
%MW1014 (%MX16		1																														
%MW1015 (%MX16		1																														
94.6.7000 (94.6700	-1EC1	-		11																									1	f	1	1

(20) Added drive models when setting P2P blockP2P

Drive latest models (M100, G100, L100) have been added.

/ariable	:: 0x10000				ОК
Inverte	r: iG5A \checkmark	Group:	CommonExt	\checkmark	Cancel
	iG5A iP5A	Address	Read/Write	^	
1	MiC5	0x0300	R		
2	CalE5	0x0301	R		
3	In iv5	0x0302	R		
4	SV S100	0x0303	R		
5	Ruiv5L	0x0305	R		
6	CdC100	0x0306	R		
7	Ke ^{M100} G100	0x0307	R		
8	K€L100	0x0308	R		
9	Output Current	0x0310	R		
10	Output frequency	0x0311	R		
11	Output RPM	0x0312	R		
12	Motor Feedback Speed	0x0313	R		
13	Output Voltage	0x0314	R		
14	DCLink Voltage	0x0315	R		
15	Output Power	0x0316	R		
16	Output Torque	0x0317	R		
17	PID Reference	0x0318	R		
18	PID Feedback	0x0319	R	¥	

(21) Added the function [Limit auto negotiation speed to 100Mbps] in XGL-EFMxB

[Steps]

Γ

- 1. Click the FEnet module in the project tree.
- 2. After selecting [Advanced] tap, check [Limit auto negotiation speed to 100Mbps].

				Sets EIP Server	Advanced	
-Specify a d	edicated proto	col user	port			
NONE	~	TCP	Port No.		0	
		UDP	Port No.		0	

[Note]

[Limit auto negotiation speed to 100Mbps]

When using a 4-wire cable, it is used when the speed is not negotiated at 1 Gbps. For details on 100Mbps auto-negotiation speed limit, refer to the communication module manual.

(22) Smart extension station number display

It has been improved so that you can check the station number or IP address (Ethernet IP) for the EB of the smart extension in the project tree. The display format is EB number (# station number) or EB number (#IP address).



(23) Display slot number in system diagnosis window

The slot number of the module (communication, special, IO, etc.) excluding power and CPU can be checked.



(24) Improved the function [Import Device from File] in Device Monitoring

The operation of opening device monitor file created in different types of PLC has been improved.

Before improvement: All device memories are initialized to 0.

After improvement: Data values are held for as much as a valid memory size.유효한 메모리 크기만큼 데이터 값이 유지됩니다.

(25) Improved current consumption calculation

It has been improved to calculate the current consumption according to the detailed type of the module such as XGL-EFMx(B).

The estimated current consumption per base can be checked by pressing the [Current Consumption] button in the I/O parameter.

Base 00 : Default	Apply	Current Consumption	Estimate	d Current Consumption	?	×
	Slot 0	Module XGF-AV8A (A/D Voltage Input Type(8 Channe	<u> </u>	: The calculated estimates may diffe		actual.
Slot 02 : Default	1	XGL-EFMF(B) (Fast Ethernet Module, Optical	Base	Current Consumption(m	A)	
Slot 04 : Default	2					2,130
Slot 05 : Default	3					
Slot 06 : Default	4					
Slot 07 : Default	6					
⊕ ⊕ ⊕ Base 01 : Default ⊕ ⊕ Base 02 : Default	7					
Base 02 : Default	8					
Base 04 : Default	9					
⊕∰ Base 05 : Default	10					
Base 06 : Default ♥	11					
All Base Set Base						

(26) Improved address calculator function

An issue that caused the cursor to move to the back when editing an intermediate value in the Address Calculator input window has been improved. Corrected so that the caret does not move even when editing.

(27) Added 2 types of XMC for moving magnet

A new XMC model has been added for moving magnet applications.

[Steps]

Γ

1. 1. In the new project setting dialog box, select CPU series as XMC.

New Project		? ×
Project name:		ОК
File directory:	C:\XG5000\Projects	Cancel
CPU Series	XMC V Product Name	
CPU type:	LSMMT-E32A V	
Programming Format: Program name:	LSMMT-E32A LSMMT-E32C XMC-E08A XMC-E16A	
Program Language:	XMC-E32A XMC-E32C	

HMF CSS

(28) Added New IEC command

- Added Closed Positive/Nagative contact (
- ARY_SCH2 Searching for data in an array



- ANY_MOVE, ANY_MOVE2 – Copy data

		MOVE			ANY_M	
	EN	ENO			EN	ENO-
SRC	SRC	DST-	DST	SRC	SRC	DST- DS
				TYPE	TYPE	
				INDX_S	INDX_S	
				INDX_D	INDX_D	
				SIZE	SIZE	

- GROUP_MOVE32, GROUP_FILL32 – 32-bit index extension

٦

	GROUP_	MOVE			GROUP_FI
	EN	ENO			EN ENO
SRC	SRC	DST-	DST	DATA	-DATA OUT- OUT
INDX_S	INDX_S	1 1 1 1		SRC	SRC
INDX_D	INDX_D			INDX	INDX
SIZE	SIZE			LEN	LEN

Please refer to the help for how to use the added command.

2. Error Correction

(1) Correction of navigation error when operation error occurs (XGK Auto Allocation)

Fixed a problem where the operation error occurrence location could not be found to the error location when a UDF or UDFB was included.

(2) Correction of basic network deletion error

Fixed an issue where the basic network was deleted

(3) Latch area setting error in basic parameter dialog box

An abnormal error occurred when entering a value outside the range of the latch area has been fixed.

(4) Correction of duplicate error of library function/function block and user function/function block When pasting a user function/function block, the problem of not being able to check the duplication with the function/function block in the library has been fixed. Duplicate names are appended with "_copy".

(5) Corrected an error where the description was not changed when the device was changed (XGK Auto Allocation)

Fixed a problem in which the device description was not changed when the device was replaced in the XGK Auto-Allocation project.

(6) High speed link, P2P parameter deletion error correction

Fixed a problem where XG5000 was abnormally terminated when selecting multiple (2 or more) items from the project tree and deleting them.

(7) Correction of parameter download error in Pnet - nConfigurator

Fixed a problem where parameters for specific slaves were not downloaded normally due to GSD analysis error.

(8) Fixed STRING_TO_*** direct variable input error

When entering a DWORD type device, the problem that the input error was displayed according to the address value has been fixed.





(9) Fixed an error in applying shortcut keys after [TOOLS] - [Setting File] - [Import]

Fixed a problem where the shortcut key was not reflected immediately after loading the Setting File.

(10) Abnormal termination error correction

Using the problem report reported by the XG5000 user, an abnormal termination problem has been corrected.

1

3. XG-PM

(1) XGF-M32E Module axis-slave connection function added

- Added a function for the user to directly control through PID control, etc. by connecting the servo drive as an EtherCAT slave without allocating it as an axis.
 - Added a setting that allows direct control of the servo drive without assigning it to an axis. One of the following can be selected in the [Connect Axis] dialog box according to the user's application.
 - a. Disable: Slave and axis not connected (direct control)
 - b. Virtual axis: Used as a virtual axis (controls a virtual axis without a physical device connected)
 - c. Slave 1~32: Connect the slave and axis (control through axis)



Note

XGF-M32E OS version 1.40 or higher is required to use the axis slave connection function.

- The virtual axis setting range has been extended to the existing real axis in addition to the dedicated virtual axis only. (Virtual axes can be set for 1 to 32 axes in addition to 4 axes (37 to 40 axes) for virtual axes.)
 - a. Dedicated virtual axis setting

- Like the existing virtual axis range, it is set in the 37~40 axis.



b. Virtual axis range extension

- Virtual axis can be set even in the range of real axis (Axis 1 to 32).



Note

As the virtual axis setting is provided through the [Connect Axis/Slave] function, the existing [Add Item]-[Slave]-[Virtual Axis] addition function has been deleted.

3) The maximum number of EtherCAT I/O slave connections has been extended from the existing 4 slaves to a maximum of 36 slaves.

a. The [Autoconnect] feature provides options for existing users as follows.

- EtherCAT I/O is assigned to slaves 33~36 when checking the assignment option to EtherCAT I/O slaves 33~36.

- If the EtherCAT I/O is more than 4 slaves, the operation must be performed after releasing the option below.

Ne Ne	etwork Slave Autoconnect	?	×
	Executes network slave auto connection.		
	Current network parameter and SDD(servo) parameter will b Will you continue?	e initialized	J .
	Includes SDO (Servo) parameter read		
	Assigned to EtherCAT I/O slaves 33-36 (compatible ope	ration up]
	OK	1 Ca	ncel
	UK	Lar	ncel

(2) Data trace result data saving/reading function added

- For the convenience of user analysis, a function to read the result data collected as a trace has been added after saving it.
 - 1) Save trace data

Γ

- a. In addition to the existing trace setting file (filename extension .ntr) file, it is saved as a trace data file (filename extension .ntd) file.
- b. After completing the trace, the current trace data is displayed on the screen. Then excute the [File]-[Save] or [File]-[Save As] menu. Trace data is saved when saving after setting a trace data file (*.ntd) in the file format.



- 2) Open trace data
 - a. Load the saved trace data file (*.ntd).

XG-PM Data	ne Trace Graph Trace pla	whark	ieln								
	III New(XQF-M32E, Bas			0 1/2 05 05 m							
a fail of the second			1000		metocole						
		l.;	~ 100.00	×							
	🕮 Open									×	
8	+ - + - + - +	This PC	Desktop + cap	ture		~ 0	Search capture			,p	
Ĩ	Organize - New fo	older					81			0	
.é-	- Downloads		Name	~	Date modified	Туре	Size				
	Documents #										
4	Fictures a		XGPMtrace.ntd		1/18/2021 2:52 #	M NTD File		1 KB			
	 OneDrive 										
2-	This PC										
	3D Objects										
0-	Desktop										
	Documents										
2-	🕹 Downloads										
	1 Music										
•	Pictures										
	Windows (C:)										
6	Lindons (c.)	~									
8-	File	e name:					Trace data file (*.	ntd)		~	
									Cancel		
0-							Öpen		Cancel		
-1.0	-0.8	-0.6	-0.4	-0.2	0.0	0.2 0	4 0.6			0.8	1.0



b. As shown in the figure below, you can view the previously saved trace results again.

Note

If the module type is different, the trace data is not compatible.

When reading trace data from a file If the currently set module and the module type stored in the trace data are different, the following data compatibility-related message is displayed and the file cannot be opened.



(3) XGF-PNxB, XBF-PN0xB-EtherCAT slave auto-connection function improvement using ESI file

- In the past, EtherCAT slaves other than the 5 company's EtherCAT slaves included in XG-PM and module OS do not support automatic connection function. There was a cumbersome aspect to perform the connection function separately.

By improving this, after searching for a slave on the current EtherCAT network, if there is a corresponding slave ESI file in the XG-PM folder, EtherCAT parameters can be written and connected automatically. -In the improved function, if you place the ESI file of the slave you want to connect to in the folder where the ESI file is located, restart the XG-PM application and perform automatic connection to the EtherCAT slave, you can automatically search and connect the currently connected slave.

1) Locate the ESI file

a. Place the mouse on the EtherCAT slave tree in the [ESI Library] tab and right-click the mouse.

b. Run the [ESI File Folder] menu. The ESI file folder referenced by the current XG-PM application is displayed on the Windows Explorer.

- c. Copy the ESI file of the newly connected slave to the corresponding folder.
- d. Restart XG-PM.
- e. Information of the ESI file added on the EtherCAT slave tree of the [ESI Library] tab is displayed.

2) Execution of automatic connection

- When automatic connection is performed, the following process is performed.
- a. Send slave auto search command: Requests the information of the slave currently connected to the module.
- b. Read Slave Information: Reads the currently connected EtherCAT slave information.
- c. Write network parameters: Based on the currently connected slave information, XG-PM configures network parameters and downloads them to the module.
- d. Slave connection command transmission: The connection command for EtherCAT connection is transmitted based on the downloaded network parameters.
- e. Servo parameter read: After connection is completed, the parameter information of the currently connected slave is automatically read.

Note

EtherCAT slave automatic connection function using ESI file is supported by XGF-PNxB, XBF-PN0xB OS version 2.1 or higher.

(4) XGF-PNxB, XBF-PN0xB-Added editing function to support EtherCAT PDO data write/read function with GETM/PUTM instruction from CPU

- In order to directly read or write the status of servo parameters in the positioning module, there are constraints on adding commands and using commands. To alleviate this inconvenience, EtherCAT PDO data writing/reading function through GET/PUT command was added, and an editing function to set the corresponding parameter in XG-PM was added.





Note

The function of writing/reading EtherCAT PDO data from CPU with GETM/PUTM instruction is supported by XGF-PNxB, XBF-PN0xB OS version 2.1 or later.

(5) Add operation parameter and servo parameter write and save function during axis operation or servo ON

- In order to improve user convenience, the following functions that were previously restricted in the positioning module have been improved.

1) It is possible to write operation parameters during operation or while the servo is on.

2) It is possible to write servo parameters while the servo is on.

3) Servo parameters can be saved in the servo-on state.

4) The version guide in which the corresponding function is operated is placed on each screen so that customers can easily check it.

5) On the servo parameter screen, parameters that cannot be changed when the servo is turned on are displayed.

CAN CAN CAN CON C	GF-PN48,Base0, M Data nmon Parameter work Parameter Axis Data Axis Data Axis Data	Slot1)-Or	lline	Arrowski Arrowski Arrowski
≜ll axes setting New(XGF-PN4B,B	ase0,Slot1)			~
	ase0,Slot1)	F	arameter	~

[Write project]-Support version guide

Γ

[SDO (Servo) parameter write and save]-Support version guide

SDO(Servo) parameter write	?	×
Item ☐ 22 New(XGF-PN4B,Base0,Slot1) ☐ 0, # 1Axis Drive(L7NH - Standar ☐ 0, # 2Axis Drive(L7NH - Standar ☐ 0, # 3Axis Drive(L7NH - Standar ☐ 0, # 4Axis Drive(L7NH - Standar	rd EtherCA rd EtherCA	NT NT
Note) OS version 2.10 or higher, parameters o saved during operation or servo-on. (current v		
OK	Ca	ancel

Parameter type All	Parameter change during operation Param (Individual) change during Op. Note) *Apply after power off>On		
Index	Name	Unit	Current Value
2000	Motor ID*		13
🗹 2001	Encoder Type*	-	2
- 2002	Encoder Pulse per Revolution*	pulse	524288
🗹 2003	Node ID	-	
2004	Rotation Direction Select	-	0
2005	Absolute Encoder Configuration*	-	1
2006	Main Power Fail Check Mode	-	0
2007	Main Power Fail Check Time	ms	20
2008	7SEG Display Selection	-	0

[Servo parameter screen]-Display parameters that cannot be changed

Note

The functions of writing operation parameters and writing and saving servo parameters during operation or while servo on are supported in XGF-PNxB, XBF-PN0xB OS version 2.1 or higher.

(6) XGF-PN8B slave revision check function added

When connecting to EtherCAT, which was supported only in XGF-M32E module, a master option function that can check or not check the slave revision has been added.

Even if the ESI (EtherCAT Slave Information) file provided by some vendors and the version on the actual device do not match, it is possible to operate or check the slave after performing EtherCAT connection.

Item	Value
Slave Revision check	0:don't check
Servo con. less than the set No.	0:Unused

(7) Added INIT_DONE instruction in XGF-M32E

The INIT_DONE command and related flags (_INIT_DONE and _INIT_RUN) that can be used usefully when the initialization task is used for parameter initial value setting and basic operation addition have been added.

The initialization task is executed until the _INIT_DONE flag is On, and after it is On, the initialization task operation ends and the main task is executed.

To use this function, select [Basic parameter]-[Init task action setting] to _INIT_DONE and use it after downloading.

asic parameter	? X
Basic Operation Setup Memory area setting	
Basic Operation	
Main task period(M): 1 ms ~ (1/2/4 ms select one)	
Periodic task period(C): 10 ms (1~100ms)	
Restart Method	
⊖ ⊆old Restart	
Output Control	
Keep output when an error occurs	
Keep output when converting <u>B</u> UN->STOP	
Keep output when converting STOP->RUN	
- Init task action setting	
Only once	
Res. defaults	확인 취소

Note

Γ

The function of setting the operation of the initialization task through the _INIT_DONE flag is supported in XGF-M32E OS version 1.4 or higher.

(8) XGF-PNxB, XBF-PN0xB-Provide control time information and add control cycle user setting function

As the module control time increases as various functions of the module are added, the control cycle is exceeded. Accordingly, for the stable operation of the control, the user checks the actual control time, and if the control cycle is exceeded, the user recognizes and then a function to reset the control cycle has been added.

1) Control period user setting

- a. The control period can be set through [Common parameter] [Control period] parameter.
- b. Each value $(0 \sim 4)$ of 'control period setting' has the following meaning.
 - 0: Auto
 - 1: 1ms
 - 2: 2ms
 - 3: 3ms
 - 4: 4ms

알아두기				
The control period for	or [Auto] is as	follows.		
Control Period(ms)	XGF-PN4B	XGF-PN8B	XGF-PN04B	XGF-PN08B
1	1~2 Axis	1~2 Axis	1~2 Axis	1~2 Axis
2	3~4 Axis	3~6 Axis	3~4 Axis	3~5 Axis
3	-	7~8 Axis	-	6~8 Axis

2) Confirmation of control period information

a. The value of [Current Control Cycle' can be checked through Online-Module Information-Performance tab.

b. You can check the current control time and maximum control time information as well as the control cycle setting.

c. If the control period set in the common parameter is exceeded, it can be checked through the control period exceeded status information.

Special Module Info		n Performance performance information		
Item	module	performance information		
			1	
Control period s		Contents		
o o na or ponou o	etting	1 ms		
Control period e		OFF		
Cur. control pe	riod	0.4 ms	······	
Max. control pe	eriod	0.6 ms		
••••••				
1				
			Clo	se

Note

Control cycle setting and information check are available in XGF-PNxB, XBF-PN0xB OS version 2.1 or higher.

(9) XGF-M32E, XGF-PNxB, XBF-PN0xB – Added SDO read selection option when connecting to EtherCAT automatically

When the EtherCAT is automatically connected, SDO read is automatically performed. In some slaves, the number of SDOs is very high, so it takes a long time. By improving this, we added the ability to select SDO reading when automatically connected.

- 1) Selecting and canceling the SDO read option
 - Whether to include read or not can be set in the Network Slave Autoconnect confirmation dialog box.

Executes network slave auto connection. Current network parameter and SDO(servo) parameter will be initialized. Will you continue?	Current network parameter and SDD(servo) parameter will be initialized.	Netv	vork Slave Autoconnect ?	2	×
Will you continue?	Will you continue?		Executes network slave auto connection.		
Includes SDD (Servo) parameter read	Includes SDO (Servo) parameter read			alized.	
			🗹 Includes SDO (Servo) parameter read		

Note

Γ

SDO read option can be saved in each module of project when saving project file.

ReleaseNote - XG5000 V4.51

1. Improvements and additions

х Ш	Copy Ctr Paste Ctr Delete Del Move Up Move Down Rearrange Items Cable Redundancy Enable/Disable	, , , , , , , , , , , , , , , , , , ,	Add Slave Axis Axis Group Cam Profile NC Channel NC Channel/Axis	Cam Data Cam profile 1 Cam profil	<u>ж</u> Па	20 Open Add Item Import From File Export to File Cut Copy Paste Delete Move Up Move Down Rearrange Items Cable Redundancy Enable/Dis	Ctrl+X Ctrl+C Ctrl+V Delete able	Add Slave Axis Axis Group Cam Profile NC Channel NC Channel/Axis
Ċ	Slave Version Information Properties	_			Ċ	Slave Version Information Properties		

(1) Improved the function of adding items in the project tree (XMC)

Ex) It is possible to add a cam profile in the cam data, and to add a cam profile in the cam profile. Slave, axis, axis group, NC channel, cam profile, etc. are available

(2) LD editor address editing priority function added

This function is used to specify the priority for editing when a variable/device is mixed in the user program. The set options are applied when editing directly or editing variables.

[Steps]

Select 'Show all' as the view menu. Select [Edit] - [Edit Address Priority(View All)].



It can also be set in the XG5000 [Tools] - [Options].

Options		?	×
XG5000 Vroject Default Common Editor Font/Color Online L0 Font/Color Advanced SFC Font/Color ST/IL(IEC) Font/Color Font/Color	Set detailed options for the LD Editor.	when	
Reset Category	OK Cancel	Ap	ply

[Note]

Г

If View mode is not [Show All], it's prioritized according to the View mode.

- Device , Device/Variable, Device/Comment: Edit Device first
- Variable, Variable/Comment: Edit variable first
- Show All : Depends on option

(3) Export multiple user functions/function blocks to File and Import multiple user functions/function blocks form File

[Steps - Export]

- 1. Select the function block to be exported.
 - A mathematical structure
 A mathematical stru
- 2. Click the right button and select [Export to File...].



- 3. Select the folder where the file will be saved.
- [Steps Import]



2. In the file dialog, select the user function/function block you want to add and click the OK button.



(4) Keyboard Map

[Steps]

1. Click the menu. [Help] – [Keyboard Map...]

```
      HELP

      XG5000(XGK/XGB) Instruction Help

      XG5000(XGI/XGR/XEC/XMC) Instruction Help

      XGI/XGR/XEC/XMC Instruction Help

      XGI/XGR/XEC/XGR/XEC/XMC Instruction Help

      XGI/XGR/XEC/XGR/XEC/XMC Instruction Help

      XGI/XGR/XEC/XGR/XEC/XGR/XEC/XGR/XEC/XGR/XEC/XGR/XEC/XGR/XEC/XGR/XEC/XGR/XEC/XGR/XEC/XGR/XEC/XGR/XEC/XGR/XEC/XGR/XEC/XGR/XEC/XGR/XEC/XGR/XEC/XGR
```

Help Keyboard			×
Category: All Comman	nds 🗸 Show Acc	elerator for: Default 🗸 😪	
Command	Keys	Description	^
DebugGo	Ctrl+F9	Runs the program.	
DebugGoToCursor	Ctrl+F2	Runs to cursor.	
DebugSet/RemoveBreakpoints	Ctrl+F5	Sets or remove a breakpoint.	
DebugStepInto	Ctrl+F7	Steps into the user defined function/function block.	
DebugStepOver	Ctrl+F8	Executes a single command.	
EditAddLine(M)	Ctrl+M	Add a line above the selected line.	
EditBookmarkSet/Remove	Ctrl+B	Sets or remove a bookmark.	
EditCopy	Ctrl+C; Ct	Copies the selection to the Clipboard.	
EditCut	Ctrl+X	Cuts the current selection and saves it to the Clipboard.	
EditDelete	Delete	Deletes the selection.	
EditDeleteCell	Ctrl+T	Deletes a cell from the editor.	
EditDeleteLine	Ctrl+D	Deletes a line at the current position.	
EditInsertCell	Ctrl+I	Inserts one cell in the LD editor.	
EditInsertComment/Label	Ctrl+E	Inputs comment or label.	
EditInsertLine	Ctrl+L	Inserts a line at the current position.	
EditInsertMode	Insert	Changes the Program Edit Mode to Insert Mode.	
EditPaste	Ctrl+V; Sh	Inserts the Clipboard contents at the insertion point.	
EditRedo	Ctrl+Y	Redo last cancelled action.	
EditSelect/AddVariable	Ctrl+1	Select or add a variable to local variables window.	
EditSelectAll	Ctrl+A	Selects all items.	
EditToolsAction	F4	Inserts action.	
- transfer to the second secon	_	and the second	

[Note]

- 1: This function copies the selected item as text.
- 2: You can display the menu item by item.

Help Keyboard



(5) Password setting function for each program (IEC Project)

- This is a function to set the password for each program in the IEC project.

[Steps]

Γ

1. Select the program to set the password for.

2. Click the right mouse button and select "Properties...".



3. On the Password tab, enter a new password and confirm password. Supports passwords of up to 8 characters.

rogram			
Program Password	ł		
Previous Passwo	rd		
Password:		Delete	
New password			
Password:		(Max. 8	
Confirm		characters)	
password:			

4. If you double-click an item in the project tree, the [Confirm Password] dialog box is displayed.



[Note]

1. To support passwords varies by project type.

XGK/XGB - support

XGI/XEC - support

XGK/XGB Auto-allocation - Not supported

2. If password is set, this function is limited in the lower XG5000 version. (The project does not open.)

3. Programs with a password set are not printed.

(6) Communication module name setting function

This is a function to set and display the name of the communication module in the network configuration within the project tree.

[Steps]

Γ

- 1. Add a communication module to the project tree.
- 2. Click the right mouse button and click on the "Properties..." item.

⊿ 🔤 aaa *			-
👍 🎂 Network Configuration			_
🖕 🍘 Undefined Network			
L A NewPLC (BOSO XGL-EFMT(B)	(TA.	XGP-xxxx	0
– ъ System Variable		Open	
👍 🛅 NewPLC(XGI-CPUE)-Offline			-
– 🍓 Global/Direct Variables		Add Item	
👍 🐼 Parameter	D		-
🗧 📙 📴 Basic Parameter	۴ð	Copy Ctrl+C	
📃 🗆 🚾 I/O Parameter	Ē	Paste Ctrl+V	
🖕 👍 Scan Program	\mathbf{x}	Delete Delete	
🚽 🖾 NewProgram	• •		-
– 🔯 Local Variables	٢	Properties	
🔤 🗆 📠 Program			-
– 💼 User Function/Function Block		Communication Module Setting and Diagnosis	
– 🙋 User Data Type	_	P.S.	Г
🗆 🖵 👼 Library			I

3. Fill in the name and comment and click the OK button.

Prop	perty	×
	General	
	Туре	XGL-EFMT(B)
	Base	0
	Slot	0
	Name	Line 1
	Comment	Description of line 1
	omment	
Er	nter additional commen	ts for the communication module.
		OK Cancel
		OK Cancer



[Note]

- 1. All types of characters are entered.
- 2. There is no limit to the length that can be entered.
- 3. The entered information is saved in the upload or comment area.

(7) Smart extension EB base name setting and display function

[Steps]

1. Add the Smart Extension.

2. Click the [New] to add an extension base. The communication device name can be changed in [Basic parameter].

lame:	SlaveNa	ime05	
Commu	unication Device Sett	ings	
🗹 Enat	oles Master Commun	ication D	evice
	Settings	Setting	Detailed description
	PU->Continue t when stopped	Г	Set: Continue output when stopped Unset: Clear output when stopped
Keep output when an error occurs		Г	Keep output when an error occurs
	nge EB or modules running(hot swap)	Г	Set: Continue running when breakdown occurs, when resolved return to normal operation Unset: Error when breakdown
User	edundant power	Г	Sets when use redundant power

ē∰aaa ∗		
🍦 🐺 Network Cor	pfiguration	
	-	
🚽 🎍 🍘 Undefined		
	LC [B0S0 XGL-EFMT(B)(TAG)]: Line 1	
🔰 👘 🖓 Sm	art Extension	
— aq 1	New	
— 🗇 E	EB01 - XGL-DBDT: SlaveName01	
— 6 E	EB02 - XGL-DBDT: SlaveName02	
_ m E	EB03 - XGL-DBDT: SlaveName03	
	EB04 - XGL-DBDT: SlaveName04	
	EB05 - XGL-DBDT SlaveName05	
oto]		
ote]	ension here) enables the same of the verification	
	ension base) applies the same as the variable rules.	
Name:	122	
- Communication D	evice Settings	
🖂 Enghlag Maeta	r Communication Device	
	Communication Device	
	Detriled description	_
Settin	Oatting Datailed description	7
Settin Run CPU->Cor	G5000 Detailed description	7
Settin	Oatting Datailed description	7
Settin Run CPU->Cor	G5000 Detailed description X	
Settinr- Run CPU->Col output when st	G5000 Cotting characters are allowed:	
Settin Run CPU->Col output when st Keep output wh error occurs	G5000 Detailed description X	
Settin Run CPU->Col output when st Keep output wh error occurs Exchange EB o	G5000 Cotting Characters are allowed: Only alphabet capital/small letters and '_' are allowed in the	
Settin Run CPU->Col output when st Keep output wh error occurs	G5000 X The following characters are allowed: Only alphabet capital/small letters and `_' are allowed in the first letter. Only alphabet capital/small letters, `_', numbers are allowed in/after the second letter.	
Settin Run CPU->Coi output when st Keep output wh error occurs Exchange EB o while running(t	G5000 Cotting characters are allowed: Only alphabet capital/small letters and `_` are allowed in the first letter. Only alphabet capital/small letters, `_`, numbers are allowed	
Settin Run CPU->Col output when st Keep output wh error occurs Exchange EB o	G5000 X The following characters are allowed: Only alphabet capital/small letters and `_' are allowed in the first letter. Only alphabet capital/small letters, `_', numbers are allowed in/after the second letter.	
Settin Run CPU->Coi output when st Keep output wh error occurs Exchange EB o while running(t	G5000 X The following characters are allowed: Only alphabet capital/small letters and `_' are allowed in the first letter. Only alphabet capital/small letters, `_', numbers are allowed in/after the second letter.	
Settin Run CPU->Coi output when st Keep output wh error occurs Exchange EB o while running(t	G5000 X The following characters are allowed: Only alphabet capital/small letters and `_' are allowed in the first letter. Only alphabet capital/small letters, `_', numbers are allowed in/after the second letter. e.g. name1, _name1, NAME1, _NAME1	
Settin Run CPU->Coi output when st Keep output wh error occurs Exchange EB o while running(t	G5000 X The following characters are allowed: Only alphabet capital/small letters and `_' are allowed in the first letter. Only alphabet capital/small letters, `_', numbers are allowed in/after the second letter.	
Settin Run CPU->Coi output when st Keep output wh error occurs Exchange EB o while running(t	G5000 X The following characters are allowed: Only alphabet capital/small letters and `_' are allowed in the first letter. Only alphabet capital/small letters, `_', numbers are allowed in/after the second letter. e.g. name1, _name1, NAME1, _NAME1	
Settin Run CPU->Coi output when st Keep output wh error occurs Exchange EB o while running(t	G5000 X The following characters are allowed: Only alphabet capital/small letters and `_' are allowed in the first letter. Only alphabet capital/small letters, `_', numbers are allowed in/after the second letter. e.g. name1, _name1, NAME1, _NAME1	
Settin Run CPU->Coi output when st Keep output wh error occurs Exchange EB o while running(t	G5000 X The following characters are allowed: Only alphabet capital/small letters and `_' are allowed in the first letter. Only alphabet capital/small letters, `_', numbers are allowed in/after the second letter. e.g. name1, _name1, NAME1, _NAME1	
Settin Run CPU->Coi output when st Keep output wh error occurs Exchange EB o while running(h Use redundant	G5000	
Settin Run CPU->Coi output when st Keep output wh error occurs Exchange EB o while running(h Use redundant	G5000 X The following characters are allowed: Only alphabet capital/small letters and `_' are allowed in the first letter. Only alphabet capital/small letters, `_', numbers are allowed in/after the second letter. e.g. name1, _name1, NAME1, _NAME1	

Γ

(8) Improved [Allocate Input/Output Variables] and [Allocate Diagnostic Variables] of the Smart Expansion.

Editing functions (copy, delete, paste, cut) have been added for the device column in the [Allocate ~ variable] window of the smart extension. After allocating a new device, you can select all devices to use the copy, delete, paste, and cut functions.

(9) Improved editing of [module variable]

Editing functions (copy, delete, paste, cut, Undo/Redo, AutoFill) have been added to the variable and comment column for the global variable added through the menu[Register Module Variable Comments]. – Editable columns are displayed with a white background.

(10) Improved the memory allocation of user data type

In the case of memory allocation for user data type variables, we have improved to enable direct variable types of all types (BOOL, BYTE, WORD, DWORD, LWORD) from the formerly only available in LWORD type direct variable type. (However, it must be set to 64-bit size. %MB1, %MB2 not available, %MB0, %MB8 available)

(11) Added the [Synchronize] function in Smart Extension

[Synchronize] function has been added in the [Allocate Input/Output Variables] and [Allocate Diagnostic Variables] windows. If the address registered in the global variable and the address of the smart extension are the same, the global variable name and description are displayed.

(12) Improved the Online Editing about the global variables.

In the IEC project, online editing function for global variables has been added. When a global variable is modified, all programs referencing the variable are changed to edit status. However, it is not possible to modify the global variables used in the user function and user function block.

(13) Improved the address display of user data type

When an address is directly assigned to the user data type, a function to change the address display method has been added. This function is provided as a context menu in the grid window.

If you click the [Initial Value] after allocating memory to the user data type variable from the local variable, the user data type item setting window is created.

1

The sub-it	em of the variable"eee", the type"aa" is	set.								OK
										- Cano
	Variable	Туре	Addres	s	Initial Value	; F	etain	Comm	ent	Can
1	eee.ss	BOOL	%MX0							
2	eee.bb	WORD	%MW1							
3	eee.cc	WORD	%MW2	В	it View 🕨	XO				
						B0.0				
						WO.	0			
						D0.0				
						00.0	,			

(14) View [ANY Type Function]

A function to select ANY type support instructions from the function/function block list has been added. CPU Series: XGI, XMC

Language: LD

[Steps]

Γ

1. Check the [View ANY Type Function] in the Function/Function Block.

All function/function blocks for each data type that were automatically hidden are displayed in the function list.



(15) Added a function that can be modified about [Edit Function Block Instance Name]

This is a function that improves the convenience of modifying the function block instance name by placing the initial cursor position on the [Instance Name] in the Function/Function block dialog box.

[Steps]

1. Click the [Edit Function Block Instance Name].

2. When modifying the function block in use, the default cursor position moves to [Instance name].



(16) Added the Receive Timeout function in High-speed Link Communication

When adding a high-speed link, it provides the function to set the receiving timeout value in the high-speed link basic setting dialog box. If you press the [Advanced Settings] button in the communication module setting and diagnosis, the initial value is displayed as "Default value".

[Steps]

Γ

1. Select the [Add Item] – [High-speed Link Communication] in the project tree.

疆 aaa ★ ឯ- 聾 Network Configuration	^ <i>L0</i>					
- 🗊 Undefined Network						
- 🖧 NewPLC [B0S0 XGL-EEM	1T(B)(TAG)] Line 1					
2- 🗊 Smart Extension	Open					
– 💷 New – 🗂 EB01 – XGL-DB	Add Item	•	Smart Extension			
- 100 EB01 - XGL-DB - 100 EB02 - XGL-DB	Сору	CtrI+C	Network			
– 🗂 EB04 – XGL-DB 🛍	Paste	Ctrl+V	Communication Module			
EB05 - XGL-DB 🗙	Delete	Delete	P2P Communication			
- 븛 aa (BOSO XGL-EIPT) - 옱 aa (BOS1 XGL-EFMT 🖨	Properties		High-speed Link Communication			
- 🎲 System Variable	•		User Frame			
- 🗑 NewPLC(XGI-CPUE)-0	Communication Module Setting and Diagno	osis 🕨	Add a Group			
– 🎲 Global/Direct Variables ⊿- 🐼 Parameter ⊨ 🖾 Basic Parameter	- 🚱 Global/Direct Variables					
			Views Connection			

1

2. Click the [Advanced Settings] in the Communication Module Setting and Diagnosis dialog box.

C	Comm&unication I	Module Setting and Diagnosis	×					
	Communication Mo	odule Setting and Diagnosis						
	Module type:	XGL-EFMT(B) \lor						
	Base No.:	00 ~						
	Slot No.:	00 ~						
	High-speed link index:	01	~					
-	Communication Period Settings							
	Period type: 200 msec \checkmark Advanced Settings							
Advanced Settings X								
T	Time Settings							
Receive Timeout(1~255): Default x 10ms								
OK Cancel								
	S	ave Registration OK Cancel						

3. Set the Receive Timeout value and click the [OK] button. The Receive Timeout value can be input from 1 to 255.

Advanced Settings		×
Time Settings		
Receive Timeout(1~255):	200	x 10ms
	ОК	Cancel

(17) Added the IP conflict warning function in XMC

In case of local Ethernet IP address conflict in XMC type models, the error/warning and error history window displays the error code content and the corresponding IP conflict error message in the details and action items.

(18) Added the variable filtering function in the UDF/UDFB

Filtering by item is provided in the UDF and UDFB's local variable setting window. Filtering by the content of the star field, filtering by keyword, and sorting in ascending/descending order are available.

[Steps]

	-		-	-
◢ 靈 aa ★ ≱- 쿓 Network Configuration		L0		
└─ @ Undefined Network - `` System Variable @ NewPLC(XGI-CPUE)-Offline		L1		
- ъ Global/Direct Variables 4- 🐼 Parameter		L2		
⊢ I Basic Parameter └─ I/O Parameter		<i>L3</i>		
⊿- ਗ੍ਰ Scan Program ▷- 闘 NewProgram -		L4		
– 🜉 User Data Type		Open		
🗆 👼 Library		Add Item	Þ	PLC
		Import From File	•	Task
	Y	Export to File		Program
		Export Network Settings	to File	Function
	Ж	Cut	Ctrl+X	Function Block
	Ē	Сору	Ctrl+C	Library
	æ	Paste	Ctrl+V	Data Type
	\times	Delete	Delete	Data Memory

1. Select the [Add Item]-[Function] or [Add Item]-[Function Block] in User Function/Function Block menu.

2. Expand the added function/function block item and double-click the lower local variable item to display the local variables window. Set the variable in the local variables window.

	NewProgram[Program] × aa[Local Variables] ×								
	Variable Kind	Variable	Туре	Used	Comment				
1	VAR_RETURN	аа	BOOL	Г					
2	VAR_INPUT	cc	WORD		cc				
3	VAR_INPUT	bb	BYTE		bb				
4	VAR_OUTPUT	dd	BYTE	Г	dd				
5	VAR_OUTPUT	ee	DWORD	Г	ee				
6				Г					

3. Click on the header of a column to display the filtering window.

Γ

N	ewProgram[Program	i] 💉 aa[Local Varia	bles] ×		
	Variable Kind	Variable	Туре	Used	
1	VAR_RETURN	aa	Sort Des	cending	
2	VAR_INPUT	cc	Sort Asc	endina	
3	VAR_INPUT	bb			
4	VAR_OUTPUT	dd	Custom	Filter	
5	VAR_OUTPUT	ee	Clear Filt	ter	
6					0
			🗹 (Sele	ect All)	<u> </u>
			🗹 aa		
			✓ cc		
			⊻ bb		
			√ dd		-
				OK	Cancel
I R	OOL EN ENC	BOOL			

4. If you want to see only the items you want to display among the list items below, select/clear the check and click the [OK] button.

Ne	NewProgram[Program] aa[Local Variables] ×								
	Variable Kind	Variable 🔻	Туре	Used	Comment				
1	VAR_RETURN	aa	BOOL	Г					
2	VAR_INPUT	CC	WORD	Γ	cc				
5	VAR_OUTPUT	ee	DWORD	Г	ee				
6				Г					

5. If you select the [Custom Filter], the [Filtering by column "Name"] window is displayed. If you press the [OK] button after entering the keyword you want to search/display, the items in the column corresponding to the entered keyword are filtered and displayed. If you want to cancel the custom filter, select the [Clear Filter].

Filtering by column "Name"	×
Enter a text string to filter the contents of the grid control. The grid displays only the items that contain the specified string in the column, "Name".	OK Cancel
a	

6. If the column is [Sort Descending] while it is filtered, a user message is displayed. If you press the [ok] button, the filtered items are sorted and displayed in descending order. If filtering is not used, [Sort
Descending] will sort the entire item in descending order.



	NewProgram[Program	i] 💉 aa[Local Varia	ables] ×		
	Variable Kind	Variable 🔻	Туре	Used	Comment
1	VAR_OUTPUT	ee	DWORD	Г	ee
3	VAR_INPUT	cc	WORD	Γ	cc
5	VAR_RETURN	aa	BOOL		
6					

* Warning *

1. If you change the input and output parameters of the variable of the user function/function block, you cannot undo the existing alignment.

2. If the input and output variables of the user function/function block are changed and reflected in the scan program through the [Refresh User Function/FB], I/O variables of the user function/function block previously created in the scan program must be adjusted according to the modified I/O variables. It must be adjusted according to the parameters. (Input/output variables are not automatically changed according to the order of the changed parameters.)

- 💼 User Function/Function Blo		Open
⊿ ஞ aa └ ☑ Local Variables └ ጬ Program └ ጬ User Data Type └ ጬ Library	×	Add Item Import From File Export to File Export Network Settings to File
	* ₽ ×	Cut Ctrl+X Copy Ctrl+C Paste Ctrl+V Delete Delete Move Up Move Down Sort
t View High-speed Link View P2P on/FB ecently Used	<u>د</u>	Properties Add Library Refresh User Function/FB

(19) Added the variable filtering function in global variable

Filtering by item is provided for the global variable window. You can use filtering according to column content, filtering according to keywords and sorting in ascending/descending. Filtering function has been added for the [Direct Variable Comment] and [Flag] menu.

Ne	wProgram[Program]	× aa[Local Varia	bles] × a	a[Program] 💉	Global/Direct	Variable	es ×				
VG	lobal Variable D	Direct Variable Comment	💐 Flag								
	Variable Kind	Variable	Туре	Address	Initial Val	lue	Retain	Used	EIP/OPC UA	нмі	Comment
1	VAR_GLOBAL	aa	Sort Des	cending				Г	Π		
2	VAR_GLOBAL	bb	Sort Asce	ending	ſ			Г			
3	VAR_GLOBAL	CC	l ———		[Г			
			Custom F Clear Filt V (Sele V (Sele V aa V bb V cc	er	P Cancel						

(20) Refactoring(Rename Symbol)

Γ

[Rename Symbol] supports renaming of global and local symbols. Right-click the variable whose name you want to change in the variable window or editor, and then change it through [Refactoring]-[Rename Symbol].

	NewProgram[Program]] 🗙 aa[Loca	l Variables] 🗙 🗍	aa[Program] 🗙 🗍 G	Global/Direct Varial	oles 🗡	NewProgr	am[Local Va	riables]	× I/O Parameter ×
	Variable Kind	Variable	Туре	Address	Initial Value	Retain	Used	EIP/OPC UA	нмі	Comment
1	VAR_EXTERNAL	aa	BOOL			Г	Г		Г	
2	VAR_EXTERNAL	bb	POOL				F		Г	
3	VAR_EXTERNAL	CC	Refactoring		Find Sym	bolic Refere	ences		Г	
4		•	🖸 Undo	Ctrl+	Z Rename :	Symbol			Γ	
			C Redo	Ctrl+	Y					

When you click [Rename Symbol], all items in which the variable is used are searched and displayed.

			×
ename bb:			
b	Rename	Cancel	
Global/Direct Variables: VAR_GLOBAL BOOL bb Global/Direct Variables: VAR_GLOBAL BOOL bb Coal Variables Local Variables: VAR_EXTERNAL BOOL bb Program Gaa Coal Variables Program			

In the case of local variables and user function blocks, it is searched only in the local variable window and program.

If you double-click the searched item, you can move to the item.

After changing the name, click Change to change the name of the variable and you can check it in the result window. Also, you can double-click an item in the result window to move to that location.

(21) Refactoring(Rename Symbol in Online Editing mode)

Right-click the variable whose name you want to change in the editor or in the variable window in Online Editing mode, and then click [Refactoring]-[Rename Symbol].

Symbols such as global symbols or flags used in user function blocks cannot be modified during run and are displayed in gray as shown below.

1	VAR_GLOBAL	g_bool_rename	BOOL		Γ		₹	Γ		Г	
2	VAR_GLOBAL	g_bool_used_in_fb	BOOL		Г	-	$\overline{\mathbf{v}}$	Г		Г	
3					Г		Г	Г	-	Г	

(22) Added the [Hold Cursors] function when editing

When entering a Contact or Coil, a function to keep it in place has been added.

This function can be used when canceling the [Instant input mode] option in [TOOLS]-[Options]-[Common Editor] and selecting [TOOLS]-[Options]-[LD]-[Advanced]-[Hold Cursors].



Γ

When the F3 key is pressed, the contact is added and the cursor maintains the position where the contact was added.

10					
1.4	 				

When you press F3 again, the contact is inserted at the next position and the cursor moves as well.

10				
11	1			

For coils, clicking F9 adds the coil and the cursor stays in place.

10						Т

Clicking F9 again adds a coil to the next line and moves the cursor.

10					
L1					
12	 	 	 	 	_()

(23) Hold cursor function when inputting instruction operand in LD editor

The [TOOLS] – [Option] – [LD] – [Advanced] – [Move Cursor (Variable) Device] must be set to [Hold Cursors].

I

Options		?	\times
XG5000 Project Default Gommon Editor Gommon Edit	Set detailed options for the LD Editor.	or	
	váriable,		
Reset Category	OK Cancel	A	pply

If you place the cursor on the operand of the instruction and click Enter, the variable input dialog box is displayed.



input variab	le/Device(-[F]-	-)							?	×
ariable/Device:	M0004] Add to variable list] English typing mode		Modify	Delete			
Variables	◯ Flags	Item	System	~ All		Par	ameter No.:	1		
						E	Block Index;	1		
	Variable		Туре	Device	Used	System Variable			Comment	
				•						
<								OK		ncel

If you enter a variable and click [OK], the cursor remains in place without moving.

ADD	M0004	M0001	M0002

(24) In case of paste operation related to variable, blank line is automatically added if it is the last line

If you execute Paste Variable while the number of lines of data equals or exceeds the number of lines existing in the current window, a blank line is added after the last line of copied data. As shown in the example below, after pasting, you can immediately continue working on variables.

[Steps]

Г

1. Copy data

V GI	obal Variable	Direct Variable Comment	💐 Flag							
	Variable Kind	Variable	Туре	Address	Initial Value	Retain	Used	EIP/OPC UA	нмі	Comment
1	VAR_GLOBAL 💌	aa	BOOL				Г			
2	VAR_GLOBAL	bb	BOOL			Γ	Г			
3	VAR_GLOBAL	CC	BOOL			Γ	Г		Γ	
4						Γ	Г			

2. Select area to paste the copied data.

	NewPLC.NewProgram	[Program] × Nev	wPLC.aa[Local Va	riables] × N	ewPLC.aa[Program]	× Nev	vPLC.Globa	I/Direct Varia	bles 🗡	NewPLC.NewProgram[Local Variables] × NewPLC
	Variable Kind	Variable	Туре	Address	Initial Value	Retain	Used	EIP/OPC UA	нмі	Comment
1	VAR	abs	BOOL				Г			
2							Г			

3. Operation can be performed immediately following the blank line (line 5) added after pasting

	NewPLC.NewProgram	ı[Program] × Nev	wPLC.aa[Local Va	riables] × Ne	ewPLC.aa[Program]	× Nev	wPLC.Globa	I/Direct Varia	ables 🗡	NewPLC.NewProgram[Local Variables] × NewPL
	Variable Kind	Variable	Туре	Address	Initial Value	Retain	Used	EIP/OPC UA	нмі	Comment
1	VAR	abs	BOOL				Г			
2	VAR_EXTERN _	aa	BOOL			Г	Г		Г	
3	VAR_EXTERNAL	bb	BOOL			Г	Г		Γ	
4	VAR_EXTERNAL	CC	BOOL			Г	Г	Π	Г	
5		[<u>.</u>			Γ	Г			

Compare with	1 PLC				?	X
urrent project:		F	PLC:		Compa	are
	twork Configuration		🚊 🗹 🐨 Network Configuration	on	Cance	el
🗹 🗂	Undefined Network		🗹 🗇 Undefined Netw	ork	Open Proj	iect
i 🗹 🖬 Ne	WPLC(XGK-CPUHN)		🗄 ··· 🗹 🗂 NewPLC(XGK-CPUHN			,
···· 🗹 😭	Variable/Comment		····· 🗹 🔛 Variable/Comme			
÷ 🗹 🐼	Parameter		🖃 🗹 🐼 Parameter			
🔽	🛯 🔟 Basic Parameter		····· 🗹 🔟 Basic Parame	eter		
····· 🔽	🖸 🛄 I/O Parameter		🔤 🗹 🗹 🔤 🔤	er		
	Scan Program		🖃 🗹 🗐 Scan Program			
	NewProgram		···· 🗹 🏥 NewProgram	1		
	2 🕮 P2		⊻ 🛱 P2			
	2 🕮 P3					
	t1(0 Fixed Cycle:4ms, F	Priori	🖃 🗹 🔷 t1(0 Fixed Cycle	:4ms, Priori		
i 🔽	🕮 t1p					
٢		>	<	>		
	•	>	<	>		
esult 1 ==== Co	mpare NewPLC with New			>	-	
esult 1 ==== Co 2 The Varial				>	-	
esult 1 ==== Co 2 The Varial 3	ompare NewPLC with New ble/Comment is identical	vPLC Varia	able/Comment ====	>	-	
esult	mpare NewPLC with New ble/Comment is identical mpare NewPLC with New	vPLC Varia	able/Comment ====	>	•	
esult 1 ==== Co 2 The Varial 3 4 ==== Co 5 Comparing	mpare NewPLC with New ble/Comment is identical mpare NewPLC with New g basic parameter	vPLC Varia	able/Comment ====	>	•	
esult 1 ==== Co 2 The Varial 3 4 ==== Co 5 Comparing 6 Basic para	mpare NewPLC with New ble/Comment is identical mpare NewPLC with New	vPLC Varia	able/Comment ====	>		
esult 1 ==== Co 2 The Varial 3 4 ==== Co 5 Comparing 6 Basic para 7	mpare NewPLC with New ble/Comment is identical mpare NewPLC with New g basic parameter meters match.	vPLC Varia	able/Comment ==== ic Parameter ====	>		
esult 1 1 ==== Co 2 The Varial 3 ==== Co 4 ==== Co 5 Comparing 6 Basic para 7 8 8 ==== Co	mpare NewPLC with New ble/Comment is identical mpare NewPLC with New g basic parameter ameters match.	vPLC Varia	able/Comment ==== ic Parameter ====	>		
esult 1 1 ==== Co 2 The Varial 3 ==== Co 4 ==== Co 5 Comparing 6 Basic para 7 ==== Co 9 The I/O p	mpare NewPLC with New ble/Comment is identical mpare NewPLC with New g basic parameter meters match.	vPLC Varia	able/Comment ==== ic Parameter ====			
esult 1 1 ==== Co 2 The Varial 3 ==== Co 5 Comparing 6 Basic para 7 ==== Co 9 The I/O p 10 The I/O p	mpare NewPLC with New ble/Comment is identical mpare NewPLC with New g basic parameter ameters match. mpare NewPLC with New arameters match	vPLC Varia	able/Comment ==== ic Parameter ==== Parameter ====	^	•	
esult 1 ==== Co 2 The Varial 3 4 ==== Co 5 Comparing 6 Basic para 7 8 ==== Co 9 The I/O p 10 11 ==== Co	mpare NewPLC with New ble/Comment is identical ompare NewPLC with New g basic parameter ameters match. ompare NewPLC with New arameters match ompare NewPLC: NewPro	vPLC Varia vPLC Basi vPLC I/O	able/Comment ==== ic Parameter ==== Parameter ==== h NewPLC: NewProgram Program ==	^	-	
esult 1 ==== Co 2 The Varial 3 4 ==== Co 5 Comparing 6 Basic para 7 8 ==== Co 9 The I/O p 10 11 ==== Co 12 This rung	mpare NewPLC with New ble/Comment is identical mpare NewPLC with New g basic parameter ameters match. mpare NewPLC with New arameters match mpare NewPLC: NewPro i only exists in the curren	vPLC Varia vPLC Basi vPLC I/O	able/Comment ==== ic Parameter ==== Parameter ====	^	-	
esult 1 ==== Co 2 The Varial 3 4 ==== Co 5 Comparino 6 Basic para 7 8 ==== Co 9 The I/O p 10 11 ==== Co 11 === Co 12 This rung 13 * LOAD	mpare NewPLC with New ble/Comment is identical mpare NewPLC with New g basic parameter ameters match. mpare NewPLC with New arameters match mpare NewPLC: NewPro only exists in the curren P00000 vs. (N.A.)	vPLC Varia vPLC Basi vPLC I/O gram with	able/Comment ==== ic Parameter ==== Parameter ==== h NewPLC: NewProgram Program ==	^	•	
esult 1 ==== Co 2 The Varial 3 4 ==== Co 5 Comparing 6 Basic para 7 8 ==== Co 9 The I/O p 10 11 ==== Co 11 ==== Co 12 This rung 13 * LOAD 14 * MOV [C]	mpare NewPLC with New ble/Comment is identical mpare NewPLC with New g basic parameter ameters match. mpare NewPLC with New arameters match mpare NewPLC: NewPro i only exists in the curren	vPLC Varia vPLC Basi vPLC I/O gram with	able/Comment ==== ic Parameter ==== Parameter ==== h NewPLC: NewProgram Program ==	^	•	

(25) Improved the [Compare with PLC] function

- The contents of the comparison result have been changed from the [Result] window to the inside of the [Compare with PLC] window.

- You can perform [Compare] continuously in the [Compare with PLC] window.
- The user selected items to be compared are highlighted so that they can be understood more clearly.
- Visualizes and provides results for the selected comparison item.
- You can find out different parts of [Result] more quickly.
- You can search by the selected item with the arrow buttons of [Result].
- The window size can now be adjusted.
- [Compare with PLC] function (algorithm) has been enhanced.

(26) Improved the Weighted Average(Filter) function in XGF-AD16A module

Parameter	CH 0	CH 1	CH 2	CH 3	CH 4	CH 5	CH 6	CH 7
Operation Channel	Disable	Disable	Disable	Disable	Disable	Disable	Disable	Disable
Input Range Setting	4~20mA	4~20mA	4~20mA	4~20mA	4~20mA	4~20mA	4~20mA	4~20mA
Output Data Type	0~16000	0~16000	0~16000	0~16000	0~16000	0~16000	0~16000	0~16000
Filter Processing	Disable	Disable	Disable	Disable	Disable	Disable	Disable	Disable
Filter Constant	1	1	1	1	1	1	1	1
Average Processing	Sampling 🗸	Sampling						
Average value	U	U	U	U	U	U	U	U
Hold Last Value	Disable	Disable	Disable	Disable	Disable	Disable	Disable	Disable

Separated weighted average (filter) setting function of analog input module XGF-AD16A.

(27) Added new instruction

- SETPORT/GETPORT (XBC type)
- GROUP_FILL, GROUP_ROTATE, GROUP_SHIFT, GROUP_FIND, GROUP_MOVE (XGI-CPUUN type)

Please refer to the instruction manual.

(28) Positive Transition-sensing, Negative Transition-sensing

A function to sense the up/down pulse for the previous state has been added. Supported models: All XGI models excluding XGB (IEC), all XMC models The position available in LD program is the same as "reverse contact".

Menu [Edit]-[Tools]-[Positive Transition-sensing, Negative Transition-sensing]

PROJECT	EDI	FIND/REPLACE VIE	EW ONLINE	MONIT	DR	DEBUG TOOLS WINDOW HELP	
🗅 🚅 🛱	£	Undo		Ctrl+Z	R		
	<u></u>	Redo		Ctrl+Y		Arrow Mode	Esc
	ж	Cut		Ctrl+X		Normally Open Contact	F3
Lac 10 14		Сору		Ctrl+C		Normally Close Contact	F4
	Ē	Paste		CtrI+V		Positive Transition-sensing Contact	Shift+F1
• • • • • • • • • • • • • • • • •	\mathbf{x}	Delete		Delete		Negative Transition-sensing Contact	Shift+F2
		Select All		Ctrl+A		Positive Transition-sensing	Alt+R
– 🏀 Sy 4- 🍘 Ne		Select All		CIII+A	14	Negative Transition-sensing	Alt+F
– – %		Insert Mode		Insert	4 4	Normally Open OR Contact	Ctrl+3
		Insert Line		Ctrl+L	4.⁄4	Normally Close OR Contact	Ctrl+4
	≱	Delete Line		Ctrl+D	4P#	Positive Transition-sensing OR Contact	Ctrl+5
	÷-	Insert Cell		Ctrl+I	٩NP	Negative Transition-sensing OR Contact	Ctrl+6
- ⊚ ⊳-1	×	Delete Cell		Ctrl+T	_	Horizontal Line	F5
		Register Module Varial	ble Comments	;	Т	Vertical Line	F6
		Network variable auto	matic registrat	tion		Fill Horizontal Line	Shift+F8
- 2		Optimize Program			÷	Coil	F9
	P	Insert Comment/Label.		Ctrl+E	-(/)-	Negated Coil	F11
		Edit Variable/Comment	t		(S)	SET Coil	Shift+F3
		Edits Device Comments	s		-(R)-	RESET Coil	Shift+F4
		Edit Address Priority(Vi	iew All)		(P)-	Positive Transition-sensing Coil	Shift+F5
	0	Set Block Mask			-(N)-	Negative Transition-sensing Coil	Shift+F6
	3	Remove Block Mask			*	NOT Instruction N	Shift+F9
		Bookmark		+	{F}	Instruction	F10
		Tools		+	₽	Extension Function	Shift+F7



(29) Added device function used for smart extension

Device functions used in sub-items related to smart expansion have been added. The items to which the used device function is added are as follows.

- Allocate Input/Output Variables
- Allocate Diagnostic Variables
- Advanced Settings
- Sets EIP Server

(30) Improved the Open Device Monitor File function

Improved the function to save the data even if the Saved Device Monitor file's PLC type is different.

2. Error Correction

(1) Fixed an error with XGK output comment upload(XG5000 V4.5 applied)

When opening from PLC, a problem in which the rung comment and the collision phenomenon occurred and displayed incorrectly has been fixed.

(2) Fixed an error with memory reference of XGK Auto-allocation variable

Fixed an issue where items declared as variables in the XGK auto-allocation project were not displayed in the memory reference.

(3) Fixed an issue with the EtherNet/IP tag mismatch problem in XGB IEC model

Fixed EtherNet/IP tag mismatch problem in IEC type models such as XGB-XECH and XEMH.

(4) Fixed the execution error (Windows XP)

A problem that does not run normally on Windows XP has been fixed.

(5) Fixed the EDS file revision error

An error that occurred when processing EDS files with different revision information has been corrected. When other files are used in an existing saved project, there is an error that the detailed EIP settings do not work normally, so when the revision information is different, a warning message is displayed in the user message and result window.

(6) Fixed an error with STRING_BYTE instruction in XMC PLC

Fixed an error where the output value was out of the range of the array.

(7) Fixed an error with Online Edit

Fixed an error that occurred when attempting to online edit an edited program after online force edit. As for XECU, the issue with elongated scan time after online editing from an older version has been fixed.

(8) Fixed an error with Compare function's operand

Fixed an error where the operand of Compare function was not editable.

(9) Fixed an error that occurred when opening a xgp file created from XG5000 V3.x

Fixed an error that failed to open project files from previous versions.

(10) Fixed an error with abnormal termination

When right clicking on Variable/Comment, When Program Checking, fixed an error with abnormal termination.

(11) Error with inserting device comment

Fixed an error with inserting device in the device comment section.

(12) Error with showing system variable

Fixed an issue with the wrong color representation with used Cnet P2P variable device.

(13) Fixed an error with inserting invalid EDS RPI value

Fixed an issue when inserting RPI values in microsecond.

(14) Fixed an error with inserting comments

Fixed an error with the comment insert menu.

(15) Error in string constant

Fixed an error in compiling string constant in User Function Block.

(16) Error in parsing nConfigurator

Fixed an error in parsing slave module in nConfigurator.

(17) Error in canceling Run Edit

Fixed an error in canceling Run Edit (Improper uploading source program stored the PLC).

(18) Fixed an error during Run Edit

Fixed an error where it failed to identify program difference, when opening a project in Run Edit.

3. XG-PM

Γ

(1) Added the save interface of SDO Parameter

[SDO parameter save] is a function to save to the slave after modifying the parameters on the [SDO parameter] screen. It was a function to save the SDO (servo) parameters of the connected slave (individual axis or all axes) and the axis designated in [Command axis]. In addition to the entire and slaves, we have added a function to select the storage target for each slave by reflecting the user's requirement to save the parameters for the selected multiple slaves.

(2) Added the XGF-M32E module initialization history in module history

Added module initialization history to reinforce customer data management history. Among the existing module history, you can check whether the module is initialized or not in the system history as follows.

Fror stat	us Error Log	Mode Change	Log System Log		
Index	Date	Time	Contents		^
0	2020-07-24	09:45:49.518	XG-PM,Write data,Module initialization		
■1	2020-07-24	09:46:45.995	System, Momently shut-down		
■2	2020-07-24	09:46:49.710	Reset,Power on reset		
■3	2020-07-24	11:24:34.555	XG-PM,Write data,Cam profile		
■4	2020-07-24	11:24:34.556	XG-PM,Write data,Master/Slave parameter		
■5	2020-07-24	11:24:34.556	XG-PM,Write data,Common parameter		
6	2020-07-24	11:24:34.561	XG-PM,Write data,Point data		
■7	2020-07-24	11:24:34.561	XG-PM,Write data,Parameter(1)		
8	2020-07-24	11:24:34.561	XG-PM,Write data,Axis group parameter(1)		
■9	2020-07-24	11:24:34.561	XG-PM,Write data,Axis group parameter(2)		
1 0	2020-07-24	11:24:34.561	XG-PM,Write data,Axis group parameter(3)		
■11	2020-07-24	11:24:34.561	XG-PM,Write data,Axis group parameter(4)		
1 2	2020-07-24	11:24:34.561	XG-PM,Write data,Axis group parameter(5)		
1 3	2020-07-24	11:24:34.561	XG-PM,Write data,Axis group parameter(6)		
■14	2020-07-24	11:24:34.561	XG-PM,Write data,Axis group parameter(7)		~
				<u>C</u> lear	

(3) Added the re-allocate Auto-allocated Variable

Added the function to re-allocate the address of auto-allocated variables.

(4) Improved program monitoring

Improved monitoring when multiple windows are open.

(5) Improved Write SDO Parameter

Improved the problem with EEPROM timeout when writing SDO parameter while connected to the servo.

(6) Improved UDFB of XGF-M32E

Improved the problem that UDFB stack area error occurs when the scan time is prolonged when using UDFB in periodic task.

Γ

ReleaseNote - XG5000 V4.50

1. Improvements and additions

(1) Added XGK multiple PB(program) online edit feature

Multiple PB online edit feature has been added to the high-performance XGK(XGK-CPUSN/CPUHN/CPUUN) CPUs. Now the user can access into two or more online edit mode, but cannot simultaneously write to the PLC. The following O/S version is required to use multiple PB(program) online edit feature.

- XGK-CPUSN/CPUHN/CPUUN O/S: V1.4 or later version

(2) Added online force edit feature

Online edit is now available, even when the PLC project and XG5000 project is different. Online force edit is only supported in PLCs that support Multiple PB.

- High-performance XGK CPU(excluding auto-allocation project) and IEC series(XGI, XGR, XEC)
- XGK-CPUSN/CPUHN/CPUUN O/S: V1.4 or later version

[Description]



- The edited program is merged with the online PLC program when using online force edit feature. For more information about online force edit please refer to the product manual.

Online Force Edit	×
Current Project	PLC Project
✓ PLC project backup (Saved path(₩OW BackUp))	OK Cancel

XGI Project

Γ

Current Project	PLC Project
Select All MewPLC Soloal/Direct Variables Scan Program Environ/Function Block BUSEr Function/Function Block BUDFL BUDFBL UDFBL UDFBL Ever Data Type BUSer Data Type	 Image: Second state of the secon

(3) Added find coil feature

If the selected device is a contact, then it finds the device's coil. If the selected device is a coil, then it finds the device's contact.



Find what:	Select All	\sim	%MX0	\sim	Find Next

(4) Improvement requested for selecting variable type when inserting variable

Improvements were made for the inconveniences when inserting global variables again in the XGI editor by opening the "Local Variables" window on the initial screen. When the Select Variables dialog opens, the previously inserted variable type windows opens.

(5) Added variable view options - View All

Added a view option that displays everything including variables/devices/Comments.

⊻ 🔟 脉	😼 😼 🗚	
VAR Comment		
VAR 	MOVE EN ENC)-
VAR2 Comment		
VAR2 %MW20	IN OUT	

Γ

(6) Improved the way Z Index is displayed in cross reference

Made improvements in cross reference, so that it displays the used memory as Z Index.



(7)	Show	unsigned	on	DMOV	function's	operand
-----	------	----------	----	------	------------	---------

[Steps]

I. [Project] – [New Project] to open the New Project dialog, then select XGK from the CPU Series and any of the CPU type. Next click the [OK] button.

New Project		?	×
Project Name: File Directory:	C:\XG5000\Projects	OI Can	
CPU Series	XGK v Product Name		
CPU Type:	XGK-CPUHN V		
Programming Format:	LD Programming ~		
Program Name:	NewProgram		
Program Language:	LD 🗸		
Project Description:			

II. Add the following contacts and DMOV function with the negative parameter in the LD editor.

l								
l		M00000				DMOV	-123	M0100
l	0							
L								

III. Click the [Start/Stop Simulator] icon in the project toolbar, and then click the [OK] button.



IV. After the simulation is initialized, double click the contact and click [OK] after checking that ON is selected.

Change	Current Value	?	×
Name:	M00000		
Type:	BIT		
Range:	: (0 ~ 1)		
Display	type: Unsigned		
Set v	alue		
Value	e: 🖲 1 (TRUE) 🛛 🔿	0 (FALSE)	
Force	I I/O▼ OK	Ca	incel

Γ

V. Check DMOV function's second parameter value.

						4294967173
				DMOV	-123	M0100
U						

VI. Select [Tools]-[Options] in the Project menu.

TOO	DLS	WINDOW	HELP
0	Tem	nperature Cor	ntrol
i	Pos	ition Control	
	Add	dress Calculat	or
	End	d Simulator	
	NC	Simulator	
	ASC	II Table	
1	Libr	rary Manager	
S 50	Libr	rary/Sample G	allery
	Cus	tomize	
	Opt	tions	
	Sett	ting File	•
	EDS	5	Þ
.00 00	NC	onfigurator	

VII. In the XG5000 – Online field, select [As instruction (all languages except for ST)] radio button and check the [MOV Series Command Displayed in Signed Decimal (XGK)] check box, then click [OK].

tions		?	×
XG5000 Gommon Editor Font/Color Online Doline Font/Color SFC Font/Color SFC Font/Color ST/IL (IEC) Font/Color	Monitor Display type Unsigned decimal Signed decimal Hexadecimal As instruction (All languages except for ST) MOV Series Command Displayed in Signed Decimal (XGK) Monitoring forced I/O status I/O highlight		
	Float data display type		
	Etc View connection settings when connecting Show Message when changing the PLC mode Show selection dialog when executing Open from PLC		
Reset category	OK Cancel Apply		

VIII. Check that DMOV function's parameter is now displayed in integers with sign.

				DMOV	-123	M0100

(8) Function block parameter can be omitted in LD

Added the feature to omit input parameters for function blocks. The omitted parameter value will act as 0. However, array and user data type cannot be omitted.





The settings on omitting input parameter can be found at Program Check window.

gram Check - N	JewPLC			?	>
Program Check	Duplicate Coil Check				
Check Items					
Incomplet	te Program Error				
Syntax/Pr	ogramming Error				
Unreferer	nced Label:	Warnin	g	\sim	
Unreferer	nced Subroutine:	Warnin	g	\sim	
🗹 Duplicate	Coil Error:	Warnin	g	\sim	
Others					
Strict che	ck on data type				
Data typ	e mismatch, but same	size: V	Varnin	g	\sim
Check pro	ogram size (Cannot onl	line-edit)			
Report un	used variables				
Omitted Fun	ction Variable:	Ign	iore	`	-
Check Range					
O Current P	rogram(NewProgram)				

Γ

(9) Added monitoring(BOOL type I/O variable) function block instance feature

Added monitoring feature for function blocks with BOOL type input/output. If the instance value is 1, then the power flow color will be displayed.



(10) Changed the number of parameters for user function and function block Changed the number of I/O parameters for user function and function block from 64 to 100. (EN, ENO, Return variables included)

(11) Find block mask feature

Added the feature to search for blocked mask in ladder programs.

[Steps]

Menu [Find/Replace]-[Find]-[Block Mask].

Searched block mask will be shown on the Result window. Double click it to go to that location.

Result	
🔁 🕭	×
	g block mask LC.NewProgram[Program] - Row 1, Col 0

L7	IN	ST
Block mas	т	N
	IN	Q
L8		
	PT	ET
L9		

.

(12) Added a new feature in Variable list[Add line]

With the new feature, a new line can be added right below the selected cell.

[Step]

- ① Activate variable window
- 2 Menu bar [Edit] [Add Line] or Tool bar [Edit] [Add Line]
- ③ Multiple lines will be added if multiple lines are selected.
- ④ The original function [Insert Line] can also be used when needed to increase usability and efficiency.

[Note]

- [Insert Line]: Insert a line in between the previous line and the current line.
- [Add Line]: Add a line after the current line.

TOOLS WINDOW HELP



View Variable Device View Flag						
	Variable		Туре	Device	Used	
1						
		<u> </u>	Undo	Ctrl		
		2	Redo	Ctrl	÷Υ	
		Ж	Cut	Ctrl	+X	
		6	Сору	Ctrl-	+C	
		Ē	Paste	Ctrl-	٠V	
		×	Delete	Dele	te	
		•6	Insert Line	Ctrl	+L	
		•₽	Add Line	Ctrl+	M	
		₽	Delete Line	Ctrl+	+D	

Context Menu

Γ

EDI	FIND/REPLACE	VIEW	ONLINE	MONITO
Ω	Undo			CtrI+Z
<u>_</u>	Redo			Ctrl+Y
Ж	Cut			Ctrl+X
₿ <mark>₽</mark>	Сору			Ctrl+C
e	Paste			Ctrl+V
×	Delete			Delete
	Select All			CtrI+A
•	Insert Line			Ctrl+L
• P	Add Line(M)			Ctrl+M
≹	Delete Line			Ctrl+D

(13) Improved the feature [Paste] in variable list

Line will be automatically added when variables are pasted from programs like Excel.

The improvement can also be seen when duplicate variables or multiple data are pasted. This improvement will make enhance user usability and experience.

	2				1	L	
	3	VAR_GLOBA	L AA	BOOL			
	4	VAR_GLOBA	L BB	BOOL			
	5	VAR_GLOBA	L CC	BOOL			
4	6	VAR_GLOBA	L DD	BOOL			
L	7						

1 VAR_GLOBAL ddd BOOL	ГГ
2	

Problem before improvement (Other program data -> Paste in to XG5000)

(14) Added 32 Bit Index function (Z Index Register)

32 Bit index function has been added for high-performance XGK(XGK-CPUHN, XGK-CPUSN, XGK-CPUUN) CPUs. 32 Bit Index can be set in the range of Z004 ~ Z254. This feature can be found in Basic Parameter dialog.



(15) Added SSQ library linkage feature

Added "Library/Sample Gallery" feature to download XG5000 engineering samples in conjunction with Solution Square (https://ssq.lselectric.co.kr), LS ELECTRIC's engineering knowledgebase website.

Menu – [Tools] – Library/Sample Gallery

Γ



The sample files that's organized with Tags in the SSQ Library can be downloaded.

sso Sample Gallery		×
Download Path: C:₩XG5000₩	+	 Search
으 All - 출 Sample - 요 All - 요 - 요 - 요 - 요 - 요 - 요 - 요 - 요	[Library] LS_LabelPrintST Tags: USER_LIBRARY Modified Date: 2020-05-14	Additional Information: [Link] R2R-20181023_0.xgwx Type: sample Likes: 0 MotionDesigner_0.zip Type: sample Likes: 0 IS_LabelPrint_SRC_0.zip Type: sample Likes: 0
		Download All Selected Open in Windows Explorer Open Sample in this project Open in new program
SOLUTION SQUARE		Close

(16) Added project auto save feature

Project auto save feature has been added. If the project is not saved for the specified amount of time after editing the project, the project file will be temporarily saved in the auto save location.

[Step]			
Menu [Tools]-[Opti	ions] then select XG5000.		
Options		?	\times
- XG5000 - Common Editor - Font/Color - Online - LD - Font/Color - SFC - SFC - ST/IL(IEC) - Font/Color	Default folder for new projects: C: \U00e7X55000\U00fWProjects Save Document Number of backup file(s): 3 (0 - 20) Number of recent prj to display: 5 (0 - 20) Open previous project when starting the XG5000 Autosave Autosave Denable Autosave 10 Min Autosave File Path: C: \U00e7XG5000 Enabled Additional Functions:	Find	
	Step number:		
Reset category	OK Cancel Apply		

Enable Autosave: Select whether to enable auto save. You can add up to 1~60 minutes. Autosave File Path: Specifies the location for the project file to be automatically saved.

(17) Improved XG5000 compare project feature

The existing project comparison feature has been improved as shown below. Further improvements will be carried out on the feature.

<Compare Project Example>

Result					
🐵 🔄 🗙					
programs match.					
==== Compare NewPLC1: 3 with NewPLC: 3 Program ====					
This rung only exists in the current project(Source). (Row 0, Col 0)					
LOAD M00000 vs. (N.A.)					
OUT M00001[Z000] vs. (N.A.)					
This rung only exists in the current project(Source). (Row 1, Col 0)					
LOAD M00001 vs. (N.A.)					
AND M00002 vs. (N.A.)					
OUT M00000[Z001] vs. (N.A.)					
2 section(s) different.					
(Cannot proceed Go to by double clicking the un-matching components.)					

- Comment, block mask, function, variables, etc can be compared.
- [Result] By double clicking the different (*) component in the window, it can automatically locate to the window.
 - \checkmark Ex) Finds the approximate location if the component only exists on one project.
- We have unified the project's display and operation between all PLC CPU series.

(18) Sort variables on Variable/Device input dialog

In the Variable/Device input dialog, double click on the header of the grid column to sort the variables. The feature has been modified to keep the dialog in alignment when reopened.

(19) Added variable edit feature in LD program

Select the variable to edit in the LD program, click [Edit Variable/Comment] menu, or use the shortcut key to open variable edit dialog.

- Global variable, local variable, direct variable, and direct variables with comment can be edited.
- Flag and induced type (Array, structure, function block)'s member variable is not provided.
- The feature is available for XGI, XGR, XGB(IEC), XGS, XMC CPU series.

(20) Added description for array types in user data type

This feature allows you to add a description of the array type members in the user data type. If the user data type is used, then the default description will be displayed.

You can edit the description that has been set through the user data type settings dialog.

- The feature is available for XGI, XGR, XGB(IEC), XGS, XMC CPU series.

	Variable	Туре	Address	Initial Value	Retain	
1	a	BOOL	0.0			commnet a
2	b	WORD	2.0			commnet b
3	c	DWORD	4.0			commnet c
4	d	ARRAY[04] O	8.0	<setting></setting>		commnet d
5				·····		
	The sub-item o	tem f the variable"d", the t	ype"ARRAY[04] (DF WORD" is set.		? ×
		f the variable"d", the t			Address	
		f the variable"d", the ty Vari		Туре	Address	ОК
	The sub-item of	f the variable"d", the t Vari d[0]		Type WORD	Address	ОК
		f the variable"d", the ty Vari		Туре	Address	ОК
	The sub-item of	f the variable"d", the t Vari d[0]		Type WORD	Address	ОК
	The sub-item o	f the variable"d", the ty Vari d[0] d[1]		Type WORD WORD	Address	ОК

(21) Add to variable monitor feature

The feature register variables in the variable monitor window through the [Monitor] menu or the context menu's [Add to Variable Monitor], [Add to Current Variable Monitor].

The feature is available in the following windows: Variable/Comment, Global/Direct Variable, Local variable, Program(LD, SFC, ST, IL(IEC))

(22) Added M Area retain setting feature

In Basic Parameter dialog's [Retain Area Setup] tab, you can set the retain area groups in the M area. The group has been expanded from 1 to 4 groups.

XGI-CPUUN CPU O/S: V1.60 or later version (Feature will be available for XGI CPU and XGR CPU in the later version.)

XGI-CPUUN CPU O/S: In versions earlier than V1.60, please use one area.

(23) Added multiple input for function and function block feature in the LD program

If the input parameter type of function or function block is BOOL type, then a line or contact can be added in the input parameter for LD programs. This feature is available for XGI, XGR, XGB(IEC), XMC CPU series.



(24) Added function block instance array feature (XMC only)

Γ

Array type can be used in task programs when initializing function block's instance variable. By using the FOR function as below, you can easily control multiple tasks easily. This feature is not available for user function block programs.

						FOR	5 ≻		
			INST[IDX]						
ter	np 	Enable	MC_POWER	Status-					
	Axis[IDX]	Axis		Axis-					
				Valid-					
				Error-					
				Error ID-					
0 1	N 	EN ENO							
	IDX	IN OUT	IDX						
							→ NEXT >		
	MOVE EN ENO								
0	- IN OUT-	IDX							
	변수 종류		변수		타입	메모리 할당	초기값	리테인	사 유 下
	VAR	Axis		ARRAY[0	4] OF UINT		<설정>	Ē	F
2	VAR	IDX		UINT				П	F
3	VAR	INST		ARRAY[0	4] OF MC_POWER			Г	Γ
4	VAR	temp		BOOL					F

(25) Improved LD edit features

When adding function/function block, line and the position is automatically relocated. <Current cursor location>

1

LO			
Ll			
L2			
L3			

<Insert MOVE using F10 >

LO		
Ll	MOVE	
L2	EN ENO	
L3	-IN OUT-	

<Insert MOVE using F10 >

LO		
L1	MOVE	MOVE
L2	EN ENO	EN ENO
12	-IN OUT-	-IN OUT-
L.3		

Contacts can be inserted when pasted (Insert Mode)

<Copying in Insert Mode>

LO					
Ll	%MX3	%MX4			
L2	%MX0	%MX1			
L3	· · · · · · · · · · · · · · · · · · ·				

<Paste after moving the cursor>

LO					
Ll	%MX3	%MX4			
L2	%MX0	%MX3	%MX4	%MX1	
L3	L				

Automatically linking the line when deleting a contact(Insert Mode)

<Select area that will be deleted >

Γ



<Use the Del key to delete the contacts>



(26) Display variable size

Variable size is now displayed in LD tooltip. Size is valid after compilation.

The unit of BIT and NIBBLE types are BIT, and the unit of data types greater than BYTE type is BYTE.

	EN M	OVE ENO	-
VALUE	IN	OUT	-
		le: VAL ARRAY[2	UE 099] OF BOOL

(27) Added Find Contact/coil feature

A new feature that finds and locates the coil that affects the contact, and vice versa, in the LD editor has been added.

1

```
Menu – [Find/Replace] – Find Contact/Coil
```

FIN	D/REPLACE	VIEW	ONLINE	MONITOR
<u>ð</u> å	Find Device	2		Ctrl+F
酋	Find Text			Ctrl+K
a+0 ⊉ 1	Replace De	vice		Ctrl+H
a+o M	Replace Tex	d		Ctrl+J
ñ	Find Again			Ctrl+F3
	Find Conta	ct/Coil	Ctrl	+Shift+F
	Go To			•

(28) Improved Run/Stop status bar

The status bar is green when the status is in Run mode, and red when the status is in Stop mode.

Find 1	Find 2	Communication	Cross Reference	Used Device	Duplicate Coil
		NewPLC1		RUN	L, USB, OK
Find 1	Find 2	Communication	Cross Reference	Used Device	Duplicate Coil
		NewPLC1		STOP	L, USB, OK

(29) Added display as string option

Γ

willogram

:wProgram

wProgram

wProgram

wProgram

wProgram

wProgram

wProgram

wProgram

I - VALUE

VALUE[0]

VALUE[1]

VALUE[2]

VALUE[3]

VALUE[4]

VALUE[5]

VALUE[6]

VALUE[7]

String option has been added in the variable monitor window.

ß	Change Current Value	
	Briefly	
	View Options	+
	Unsigned Decimal	
	Signed Decimal	
	Hexadecimal	
	String	
	Select All	Ctrl+A
Ж	Cut	CtrI+X
	Сору	Ctrl+C
Ē.	Paste	Ctrl+V
\times	Delete	Delete
	Register in Variable/Com	ment
	Register All	
₿	Set Monitor Pause	
# \$	Find Text	Ctrl+K
A	Find Again	CtrI+F3
9	Print	Ctrl+P

000000

BYTE

@ BYTE

'A' BYTE

'B' BYTE

'D' BYTE

FIBYTE

BYTE

BYTE

14

'C'

Έ

However, when changing the current value, use	the type set in the variable.

T

T

T

T

E,

T

Change Current Value	?	\times						
Name: VALUE[7]								
Type: BYTE								
Range: (-128 ~ 127 or 0 ~ 255)								
Set value								
Value: 70								
ОК	Can	icel						

(30) Display different color for online edited rung

To differentiate online edited rungs, a new feature, changing the color of edited rungs, has been added.



The color of the background and the rung can be personalized in the Options.

LO					
		MOVE EN ENO			
Ll	VALUE	-in out			
L2					
L3					
L4	%MX0	%MX2			
L5					
1.6					

(31) Added ordering feature within the library

Using the Library Manager, users can reorder the functions/function blocks. By clicking the OK button, changes will be applied to the project.





Γ



(32) Added XGB user frame, and BCC component (CRC ARC)

CRC ARC entry was added for BCC selections in the user frame defined TAIL for some XGB modules. CRC ARC entries are displayed only for predefined support modules, and can only be downloaded for OS versions that are supported.



Up	Down	Add BCC	Add Line	Delete Line				
	Segment	Frame	Size	Data	Assign memory	Conversion	Swap	Memory
	00	BCC	2	CRC ARC				Head00, BeforeBCC

XGB CPU	Applied	Applied version(O/S)
XGB-XBMS	•	V4.00
XGB-XBCH	•	V3.30
XGB-XBCS	•	V2.20
XGB-XBCE	•	V1.50
XGB-XBCU	•	V2.00
XGB-XBMH	•	V1.30
XGB-XBMHP	•	V2.20
XGB-XBMH2	•	V2.20
XGB-XBCXS	•	V1.20
XGB-XECH	•	V3.30
XGB-XECS	•	V2.10
XGB-XECE	•	V1.40
XGB-XECU	•	V2.00
XGB-XEMHP	•	V2.20
XGB-XEMH2	•	V2.20

(33) Added user defined port setting in FEnet module basic settings.

User can set the user port in FEnet Module(XGL type module)'s [Basic Settings] - [Advanced Settings]. (TCP

and UDP)

Γ

Standard Settings - FEnet								
Basic Settings	Host Table S	ettings	SNTP Setting	Sets EIP Server	Advanced Setting	gs		
Custom Por	t Setting							
NONE	~	тср	Port No.		0			
		UDP	Port No.		0			

User cannot designate the port used by the module.

- 161, UDP: SNMP server
- 502, TCP: Modbus/TCP server port
- 2002, TCP: LS Loader server port
- 2004, TCP: LS Dedicated server port
- 2005, UDP: LS Dedicated server port
- 2006, UDP: LS High speed link port
- 2007, UDP: LS Station list port
- 2008, UDP: LS Remote station list port
- 2222, UDP: EtherNet/IP Class1 IO port
- 4840, TCP: OPC UA server(default value, it depends on opc ua server settings)
- 5000, UDP: M社 server port
- 5002, TCP: M社 server port
- 44000, UDP: EtherNet/IP Broadcast port
- 44818, TCP, UDP: EtherNet/IP UCMM port

XG5000	×
	UDP port No. 161 is not available. (Reason: SNMP server)
	확인

(34) Improved host table settings

Added validation when using enable host table. If the address is missing or duplicate IP is inserted, then an error will pop up.

Standard S	Settings -	FEnet				×
Basic Set	tings Ho	st Table Settings	SNTP Setting	Sets EIP Server	Advanced	Settings
	Table Setti able host f	-				
			IP Address			
	1					
	XG5000					7
	AGSOOD				>	
		IP address can Please deactivat	not be set while te enable host ta	using enable host able or input an IF	t table. 9 address.	
					확인	

(35) Changed maximum size of EIP Server (500 \rightarrow 1400)

Expanded the EIP server settings and smart extension's EIP communication interval from 500 byte to 1400byte. To use 14000 byte the FEnet needs to be the latest version.

- XGL-EFMTB/EFMFB/EFMHB: V8.1 or later version

(36) Added SNTP port settings feature

Γ

SNTP feature has been added. By adding the IP and port number it can sync the PLC clock to the NTP server.

- XGL-EFMTB/EFMFB/EFMHB: V8.3 or later version

Standard Settings	s - FEnet				×
Basic Settings	Host Table Settings	SNTP Setting	Sets EIP Server	Advanced	Settings
SNTP (onization Settings— (Simple Network Tim te with SNTP Initializ				
NTP Server 1	IP A	ddress	Port N	umber	
Synchronizat	tion Cycle 3	30min		\sim	
Time Zone S	(UTC+09):00) Seoul		\sim	

2. Improved Smart Extension

Improved XGL-EFMTB's smart extension service.

PLC Area [WORD] ✓ Enable EB/slot diagnostic variables ✓ Fix the allocation of I/O module's input/output variable(64 contacts) Allocate extend device's memory per slot Switch to %MX0 => %MW0.0 format

(1) I/O module's I/O variable fixed allocation(64 point) feature

The contacts can be fixed to 64 points for the Smart IO module and the I/O module added to the smart adapter, or allocated to the number of fitted I/O module contacts.(at least 32 points)

(2) Allocate extend device's memory per slot

Allocate the memory of Smart IO module and Smart adapter's in terms of base, or in terms of slot.

(3) Display in %MX0 => %MW0.0 format

In a XGI project's Smart extension's I/O variable allocation window and Diagnostic Variable Assignment window BOOL type can now be displayed in WORD format.

(4) Address allocation of I/O module

Added a feature where I/O module's address can be allocated independently. For modules that have both input and output, it can be set as 'Input addresss/Output Address".

The feature above is only available when 'Allocate extend device's memory slot' is enabled.

L]						
	EB No.	Station No/IP	Slot number	Variable	Туре	Device	Monitor value	Comment
1	EB01 🖬 1	l	Slot00 🖃					
2				_0000_EB01_RI00	WORD	%MW1000		Input address 00 ~ 15
3]			_0000_EB01_RI00P00	BOOL	%MX16000		Input address 00
4]			_0000_EB01_RI00P01	BOOL	%MX16001		Input address 01
5]			_0000_EB01_RI00P02	BOOL	%MX16002		Input address 02

	EB No.	Station No/IP	Slot number	Variable	Туре	Device	Monitor value	Comment
19			Slot01 🖃					
20				_0000_EB01_RQ01	WORD	%MW1032		Output address 00 ~ 15
21				_0000_EB01_RQ01P00	BOOL	%MX16512		Output address 00
22				_0000_EB01_RQ01P01	BOOL	%MX16513		Output address 01
23				_0000_EB01_RQ01P02	BOOL	%MX16514		Output address 02

[Case 1: Default]

[Case 2: Input %MW1000, Output %MW2000]

Γ

LC Area [WORD]				
🗹 Enable EB/slot dia	gnostic variables			
Fix the allocation	of I/O module's input/o	utput variable(64 contacts)	
Allocate extend d	evice's memory per slo	t		
Switch to %MX0 =	=> %MW0.0 format	-		
Address	Start device	Size		^
Input/Output Vari	%MW1000	500		
Diagnostic	%MW1500	100		
			•	~

Forma	ormat: Hexadecimal Variable Setting									
	EB No.	Station No/IP	Slot number	Variable	Туре	Device	Monitor value	Comment		
1	EB01 🖃	1	Slot00 🖃			%MW1000				
2				_0000_EB01_RI00	WORD	%MW1000		Input address 00 ~ 15		
3	1			_0000_EB01_RI00P00	BOOL	%MX16000		Input address 00		
4	1			_0000_EB01_RI00P01	BOOL	%MX16001		Input address 01		
5				_0000_EB01_RI00P02	BOOL	%MX16002		Input address 02		

Forma										
	EB No.	Station No/IP	Slot number	Variable	Туре	Device	Monitor value	Comment		
19			Slot01 🖂		WORD	%MW2000				
20	1			_0000_EB01_RQ01	WORD	%MW2000		Output address 00 ~ 15		
21	1			_0000_EB01_RQ01P00	BOOL	%MX32000		Output address 00		
22				_0000_EB01_RQ01P01	BOOL	%MX32001		Output address 01		
23				_0000_EB01_RQ01P02	BOOL	%MX32002		Output address 02		

(5) Save, compare autoscan

(% Following feature is available on XGL-EFMTB V8.10 or late version)

Added a feature where the user can compare the previous RAPIEnet Autoscan result and the current RAPIEnet autoscan result.

Run RAPIEnet autoscan from [Online] > [Communication Module Setting and Diagnosis] > [System Diagnosis].



Click [Save] button to save the current RAPIEnet autsocan information to the module.

Click [Compare] button, to compare the current RAPIEnet autoscan information with the saved information.

	Autoscan										
									Save	Slave Diagno	osis
U	Base Slot	0	Link type	RAPIEnet	RAPIEnet No.	2	Station Collisio	Empty	Compare	Measure Cable	Dist.
т	SIOT]2	Topology	J LINE	Topology Setti	J RING]	J	Compare	Theosone counc	. Dist.
1											
Ε											
R											^
s		Local: 0	XGL-D	BDF: 12							
A											
H		L-(-									
Ű.											
1											
1											
1											~
	Disconnect	Add Cabl	e								
	1										
ł	Show user		and compare res	sults					Read F	etry Clos	æ
i.	_		Deculà	_		_		_			

(6) Added mark RAPIEnet Autoscan topology feature

(% Following feature is available on EFMTB V8.10 or late version)

If the topology information is different between the RAPIEnet autoscanned user topology and the current topology information, then mark and display the difference in the window.

To set the topology information, go to the project window [Undefined Network] > [Smart Extension] > [Master Setting] > [Topology Configuration].



NewProgram[Program] × Ne	wPLC X NewPLC	[B0S2 Smart Extension]	× Slave Configu	ration - B00S02 🗙
Smart Extension 	Master Setting Name: EB No.: Module: Image:	MasterName00 0 XGL-EFMF(B) FEnet_XGL.bmp	~ 	
	Control Frequency:	3 ms	Watchdog Timer:	50 ms
	Topology Configura	Ring	Line	(Min: 50 ms)
	Comment:			

Γ

Operate RAPIEnet Autoscan by [Online] > [Communication Module Setting and Diagnosis] > [System Diagnosis]



If the topology information differs than it will mark using red lines to show that the topology has been modified.

				· .			·	Save	Slave Diagnos
Base Slot	0	Link type Topology	RAPIEnet LINE	RAPIEnet No. Topology Setti	2	Station Collisio	Empty	Compare	Measure Cable
I	Local: 0	XGL-	DBDF: 12						
I									
	L	,	_						
onnect	Add Cab								

٦

If it's the opposite it will mark using blue lines.

3. Error Correction

(1) Fixed an error, when FEnet communication module is included in the network component, where partial smart extension diagnosis variables will not be added to the global variable or variable/comment list.

(2) Fixed issue with changing shortcut key

Fixed an issue with the intersection point of contact, coil and horizontal line.

(3) Fixed an error where rung description ignored blank spaces

Fixed an issue where if a rung description starts with blank spaces, the blank spaces were omitted.

(4) Fixed an error with creating a project folder during Save As...

Fixed an error where the folder won't show when clicking [Find] during Save As. If D:₩ is selected, the folder's name is created with the project's name.

Save As			?	\times
File name:	cccx3			
File directory:	D:₩cccx3	 		
Change project name			Find	
		ОК	Cano	el

(5) Fixed an issue when importing user data type

Fixed an issue that occurred when the user used [Read from text file] from the menu to read a file that was created from [Save to text file]. The variables weren't displayed properly on user data type window.

(6) Fixed an issue where CPT variable variables get deleted when clicking [Remove all unused variable/comments]

Fixed an issue where CPT variable variables get deleted when clicking [Remove all unused variable/comments]

(7) Fixed an error that occurs when comparing P2P triggering conditions

Fixed the issue where, the Compare Project feature wasn't able to detect the problem with P2p block triggering conditions.