# LS Industrial Systems Co., Ltd. GLOFA-GM Series

## **CNET** Driver

Support version

OS

V4.0 and over



XDesignerPlus 4.0.0.0 and over

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Thank you for using TOP series of M2I corporation.

Please read this manual carefully to know connection methods and procedures of "TOP to External device".

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Select the correct example in your case according to "1. System configuration".

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A section for usable address to communicate with external device.



## 1. System configuration

System configuration of TOP and "LS Industrial System Co., Ltd. - GLOFA GM Series CNET"

Series	CPU	Link I/F	Comm. Type	System setting	Cable
			RS-232C	3.1 setting ex 1	5.1 cable diagram 1
		G3L-CUEA(K7F-CUEA) <b>*1)</b>	132320	<u>(5 Page)</u>	<u>( 41 Page )</u>
GMR	GMR-CPUA		RS-422 ( 4 wire )	3.2 setting ex 2	5.2 cable diagram 2
Givint	GMR-CPUB			<u>(7 Page)</u>	<u>( 42 Page )</u>
			RS-485 ( 2 wire )	3.3 setting ex 3	5.3 cable diagram 3
				<u>(9 Page)</u>	<u>(43 Page)</u>
			RS-232C	3.1 setting ex 1	5.1 cable diagram 1
		$(\neg \exists I = (IIE\Delta(K/E = (IIE\Delta) *1))$		<u>(5 Page)</u>	<u>( 41 Page )</u>
GM1	GM1-CPUA		RS-422 ( 4 wire )	3.2 setting ex 2	5.2 cable diagram 2
	GM1-CPUB			<u>(7 Page)</u>	<u>( 42 Page )</u>
			RS-485(2 wire)	3.3 setting ex 3	5.3 cable diagram 3
				<u>(9 Page)</u>	<u>(43 Page)</u>
			RS-232C	3.1 setting ex 1	5.1 cable diagram 1
				<u>(5 Page)</u>	<u>( 41 Page )</u>
GM2	GM2-CPUA	G3L-CUEA(K7F-CUEA) *1)	RS-422 ( 4 wire )	3.2 setting ex 2	5.2 cable diagram 2
	GM2-CPUB			<u>(7 Page)</u>	<u>( 42 Page )</u>
			RS-485 ( 2 wire )	3.3 setting ex 3	5.3 cable diagram 3
				<u>(9 Page)</u>	<u>(43 Page)</u>
			RS-232C	3.1 setting ex 1	5.1 cable diagram 1
				<u>(5 Page)</u>	<u>(41 Page)</u>
GM3	GM3-CPUA	G3L-CUEA(K7F-CUEA) *1)	RS-422 ( 4 wire )	3.2 setting ex 2	5.2 cable diagram 2
				<u>(7 Page)</u>	<u>(42 Page)</u>
			RS-485 ( 2 wire )	3.3 setting ex 3	5.3 cable diagram 3
				<u>(9 Page)</u>	( 43 Page )
			RS-232C	3.1 setting ex 1	5.1 cable diagram 1
	GM4-CPUA			<u>(5 Page)</u>	<u>(41 Page)</u>
GM4	GM4-CPUB	G4L-CUEA(K4F-CUEA) *1)	RS-422 ( 4 wire )	3.2 setting ex 2	5.2 cable diagram 2
	GM4-CPUC			(7 Page)	(42 Page)
			RS-485 ( 2 wire )	3.3 setting ex 3	5.3 cable diagram 3
				<u>(9 Page)</u>	(43 Page)
		CPU with a built in Cnet	RS-232C	3.4 setting ex 4 ( 11 Page )	5.4 cable diagram 4 ( 44 Page )
	-				
		CPU with a built in Cnet	RS-422 ( 4 wire )	3.5 setting ex 5 (13 Page)	5.2 cable diagram 2 ( 42 Page )
	GM6-CPUA *2)		RS-485 ( 2 wire )	3.6 setting ex 6 (15 Page)	5.3 cable diagram 3 ( 43 Page )
GM6	GM6-CPUB *3)				5.1 cable diagram 1
	GM6-CPUC *2)	G6L-CUEB(K3F-CU2A) *1)	RS-232C	3.7 setting ex 7 (17 Page)	( 41 Page )
			RS-422 ( 4 wire )	3.8 setting ex 8	5.2 cable diagram 2
				( 19 Page )	( 42 Page )
		G6L-CUEC(K3F-CU4A) *1)		3.9 setting ex 9	5.3 cable diagram 3
			RS-485 ( 2 wire )	( 21 Page )	(43 Page)

**\*1)** Name of module in brackets is name of old type.

\*2) GM6-CPU A/C type only has a built in RS-232C Cnet in CPU module.

\*3) GM6-CPU B type only has a built in RS-422 Cnet in CPU module.



				TOP	<b>배한민국대표 터치패널</b> ouch Operation Panel
Series	CPU	Link I/F	Comm. Type	System setting	Cable
	G7M-D_20U *4) G7M-D_30U *4) G7M-D_40U *4) G7M-D_60U *4)	CPU with a built in Cnet, Ch0	RS-232C	<u>3.10 setting ex 10</u> ( 23 Page )	5.4 cable diagram 4 (44 Page)
		CPU with a built in Cnet, Ch1	RS-485	<u>3.11 setting ex 11</u> ( 25 Page )	5.5 cable diagram 5 ( 45 Page )
GM7U		G7L-CUEB	RS-232C	<u>3.12 setting ex 12</u> ( 27 Page )	5.1 cable diagram 1 ( 41 Page )
		G7L-CUEC	RS-422 ( 4 wire )	<u>3.13 setting ex 13</u> ( 29 Page )	5.2 cable diagram 2 ( 42 Page )
			RS-485 ( 2 wire )	<u>3.14 setting ex 14</u> ( <u>31 Page )</u>	5.3 cable diagram 3 (43 Page)
		G7M-D_20A *6) G7M-D_30A *6) G7M-D_40A *6)	RS-232C	<u>3.15 setting ex 15</u> ( 33 Page )	5.4 cable diagram 4 (44 Page)
	G7M-D_10A *5) G7M-D_20A *6) G7M-D_30A *6) G7M-D_40A *6) G7M-D_60A *6)		RS-485	<u>3.16 setting ex 16</u> ( 35 Page )	<u>5.5 cable diagram 5</u> <u>( 45 Page )</u>
GM7			RS-232C	<u>3.12 setting ex 12</u> ( 27 Page )	5.1 cable diagram 1 ( 41 Page )
			RS-422 ( 4 wire )	<u>3.13 setting ex 13</u> ( 29 Page )	5.2 cable diagram 2 ( 42 Page )
			RS-485 ( 2 wire )	<u>3.14 setting ex 14</u> ( <u>31 Page)</u>	5.3 cable diagram 3 ( 43 Page )

\*4) If you don't use an extension communication module, use both CH0 and CH1. If you use an extension communication module (Dip switch of built-in Cnet is Off : It is set to use an extension communication module), can't use built-in RS-232C of Ch0 and can use built-in RS-485 Cnet of Ch1.

\*5) "G7M-D[10A" type can use only one built-in Cnet. If dip switch of built-in Cnet is On, It is built-in RS-232C channel. If dip switch of built-in Cnet is Off, It is built-in RS-422 channel. And it can't use an extension module.

\*6) "G7M D 20A ~ D 60A" CPU economical type can use only "built in Cnet Ch0(RS-232C) of PC connection loader port".

If you don't use an extension communication module(Dip switch of built-in Cnet is Off : It is set to use an extension communication module), can't use built-in Cnet.

#### Connection configuration

• 1 : 1(TOP 1 unit to External device 1 unit) connection – It is available with RS232C/422/485.



• 1 : N(TOP 1 unit to External device N unit) connection - It is available with RS422/485.





## 2. Selection of TOP, External device

Select a external device which is communicated to the TOP.

	HMI / PLC Uint		
Series XTOP Series	Vendor LS Industrial Systems		
Model XTOP15TX-SA/SD	PLC Model GLOFA-GM Series CNET		
	PLC		
Vendor	Model		
M2I Corporation	GLOFA-GM Series CNET		
MITSUBISHI Electric Corporation	GLOFA-GM Series CPU Direct		
OMRON Industrial Automation	GLOFA-GM Series FENET		
LS Industrial Systems	GLOFA-GM(CPUC Type) Series CNET		
MODBUS Organization	MASTER-K(10S/30S/60S/100S) Series Computer Link		
SIEMENS AG.	MASTER-K(10S/30S/60S/100S) Series LOADER		
Rockwell Automation (AB)	MASTER-K(10S1) Series Computer Link		
GE Fanuc Automation	MASTER-K(10S1) Series LOADER		
PANASONIC Electric Works	MASTER-K(200S/300S/1000S) Series FENET		
YASKAWA Electric Corporation	MASTER-K(500H/1000H) Series Computer Link		
YOKOGAWA Electric Corporation	MASTER-K(500H/1000H) Series LOADER		
Schneider Electric Industries	MASTER-K(50H/200H) Series LOADER		
KDT Systems	MASTER-K(80S/120S/200S/300S/1000S) Series CNET		
RS Automation(SAMSUNG)	MASTER-K(80S/120S/200S/300S/1000S) Series CPU Direct		
HITACHI IES	STARVERT Inverter Series LSBus		
FATEK Automation Corporation	XCODE RFID HF Reader Series IH-1306/1307		
DELTA Electronics	XGT Series(XGI/XGR), XGB Series(XEC) CNET		
KOYO Electronic Industries	XGT Series(XGI/XGR), XGB Series(XEC) CPU Direct		
VIGOR Electric Corporation	XGT Series(XGI/XGR), XGB Series(XEC) FENET		
Comfile Technology	XGT Series(XGK), XGB Series(XBC/XBM) CNET		
Dongbu(DASAROBOT)	XGT Series(XGK), XGB Series(XBC/XBM) CPU Direct		
ROBOSTAR	XGT Series(XGK), XGB Series(XBC/XBM) FENET		
Bosch Rexroth AG			
LS MECAPION (Metronix)			
UIGEN Motor (OTIS)			

Setting	g Items		Description	
TOP	Series		ch is communicated with externa s diagram below before download	
		Series	OS Version	
		XTOP / HTOP	V4.0	
	Name	Select a TOP model wh	ich is communicated with externa	al device.
External Device	Vendor	Select vendor of the ex Select " <u>LS Industrial Sys</u>	ternal device which is communica stems Co., Ltd″.	ated with TOP.
	PLC	Select a model name of the external device which is communicated with TOP. Select "GLOFA-GM Series CNET". Check whether the external device you want to use is connectable or not		
		in "1. System configura	2	



## 3. Example of system setting

Set Communication interface of TOP and external device as below.

#### 3.1 Example 1

Set your system as below.

Item		ТОР	GLOFA-GM Series	Note
Serial Signal Level (port/channel)		RS-232 (COM2)	RS-232	User set
Station number (PLC	C Address)	—	0	User set
Serial Baud rate	[BPS]	38	8400	User set
Serial Data bit	[Bit]	8		User set
Serial Stop bit	[Bit]		1	User set
Serial Parity bit	[Bit]	Ν	ONE	User set
Run Mode		privat	te mode	User set

#### (1) XDesignerPlus Setting

Set [Project >Project property] of XDesignerPlus as below and download it to TOP machine.

PLC Setting	-Right Window : [HMI Setting > Check HMI Setting using > Device manager] *Communication Port					
- COM2 (1)	+ COM 1			+ COM 2		
PLC1 : Glofa GM (LINK) COM1 (0)	- Boud Rate :	38400	×	- Boud Rate :	38400	Ŧ
Ethernet (0)	- Data Bit :	8	•	- Data Bit :	8	•
FieldBus (0)	- Stop Bit :	1	•	- Stop Bit :	1	*
	Devit Dit.	None	-	- Parity Bit :	None	•
USB Device (0)	- Parity Bit :	110110		2-27-27-27-27-27-27-27-27-27-27-27-27-27		
	■ External device set Set [PLC Comm Info] of	ib	л Ser	- Signal Level :	RS-232C	•
CF Card Setting	General device set	ib		- Signal Level :	R5-232C	•
CF Card Setting	General device set	ib		- Signal Level :	RS-232C	•
CF Card Setting	General device set	ib		- Signal Level :	R5-232C	•
CF Card Setting	Generation of the set	ıp ıf <u>"GLOFA-GI</u>		- Signal Level :	RS-232C	•



#### (2) External device setup - link type

Run "Cnet Frame Editor" program of communication system setting tool of GLOFA-GM series for communication setting and set as below. If you want to change communication interface, modify refer to PLC manual.

1. Connect to RS-232 port of CPU unit and PC with [GLOFA GM loader cable].

 MODE Rotary switch of Cnet communication module set <u>"3"(private communication</u> mode) and reset power of PLC.

3. Run "Cnet Frame Editor".

7.

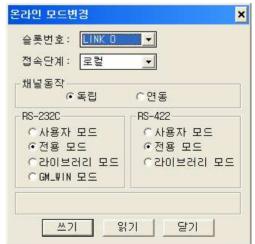
4. Run [Option > Select communication port] and select PC connection port and PLC "private" on Dialog Box and push "OK" button.

- 5. Run [Online > Connect] and connect to PC and external device.
- 6. Set communication setting at "Cnet Frame Editor".

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파일 온라인 <mark>옵션</mark> 모니터 도움말	
· 통신채널 · RS232 side · RS422 :	side
- <mark>기본 파라메터</mark> 국변 00 ✔ 통신방식 널 모뎀 ✔ 초기화 명	ag atz
통신속도 38400 ▼ 데이타 비트 8 ▼ 패리티 None ▼ 정지 비트 1 ▼	모니터등록 크기 0 4x32 © 16x20
Select [Online > Write].	쓰기 (untitled.frm)
Set as below on Dialog Box and click write.	슬롯번호 : <mark>SLOT 0 ▼</mark> 쓰기

Select [Online > Online mode change].
 Set as below on Dialog Box and click write.

Item	Setting ex	contents
Slot number	SLOT 0	Slot of Cnet module
Comm. option	Default parameter	Write contents



C RS 422

C RS 2320

○ 기본 파라메터
 ○ 프레임

이기본 + 프레임

통신 옵션

**9.** Select [Online > Change operation]. Set communication card setup slot and RS-232C and click "communication run" on Dialog Box.

	Item	Setting ex	contents			
	Slot number	SLOT 0	Slot of Cnet module			
	Comm. type	RS-232C				
	Item	Setting ex	contents			
	Slot number	SLOT 0	Slot of Cnet module			
	CH operation	independence				
X	XDesignerPlus Ver2:0aCommunication Manual					

or communication setting and set as [GLOFA GM loader cable] PC ( 9pin) signal pin RD 2 SD 3 SD 3

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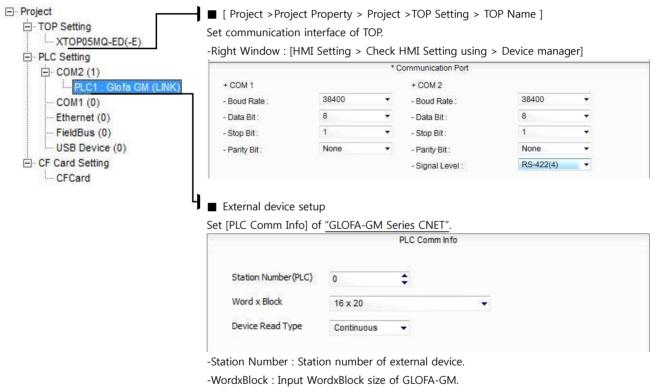
#### 3.2 Example 2

#### Set your system as below.

Item		ТОР	GLOFA-GM Series	Note
Serial Signal Level (port/channel)		RS-422 (4 wire, COM2)	RS-422	User set
Station number (PLC	C Address)	—	0	User set
Serial Baud rate	[BPS]	38	8400	User set
Serial Data bit	[Bit]		8	User set
Serial Stop bit	[Bit]		1	User set
Serial Parity bit	[Bit]	Ν	ONE	User set
Run Mode		privat	te mode	User set

#### (1) XDesignerPlus Setting

Set [Project >Project property] of XDesignerPlus as below and download it to TOP machine.





GM(9pin)

signal

RD

SD

¢۲

pin

2

3

5

PC (9pin)

pin

2

E

signal

RD

SD

ŝ

#### (2) External device setup - link type

Run "Cnet Frame Editor" program of communication system setting tool of GLOFA-GM series for communication setting and set as below. If you want to change communication interface, modify refer to PLC manual.
[GLOFA GM loader cable]

1. Connect to RS-232 port of CPU unit and PC with [GLOFA GM loader cable].

2. MODE Rotary switch of Cnet communication module set <u>"3"(private communication</u> mode) and reset power of PLC.

3. Run "Cnet Frame Editor".

7.

- 4. Run [Option > Select communication port] and select PC connection port and PLC"only" on Dialog Box and push "OK" button.
- 5. Run [Online > Connect] and connect to PC and external device.
- 6. Set communication setting at "Cnet Frame Editor".

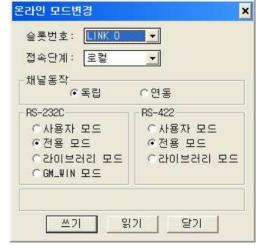
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파일 온라인 옵션 모니터 도움말	
·통신채널 CRS232 side · RS422 side	
-기본 파라메터 국변 00 ▼ 통신방식 RS 422 ▼ 초기화 명령 ATZ	
통신속도 38400 ✔ 데이타 비트 8 ✔ 모니터등록 크기 패리티 None ✔ 정지 비트 1 ✔ ⓒ 16x20	
Select [Online > Write].	

Set as below on Dialog Box and click write.



Select [Online > Online mode change].
 Set as below on Dialog Box and click write.

Item	Setting ex	contents
Slot number	SLOT 0	Slot of Cnet module
Comm. option	Default parameter	Write contents



**9.** Select [Online > Change operation]. Set communication card setup slot and RS-232C and click "communication run" on Dialog Box.

Item	Setting ex	contents
Slot number	SLOT 0	Slot of Cnet module
CH operation	independence	
RS-422	Privation mode	

**XDesignerPlus Ver2.0 Communication Manual** 



Item	Setting ex	contents
Slot number	SLOT 0	Slot of Cnet module
Comm. type	RS_422	



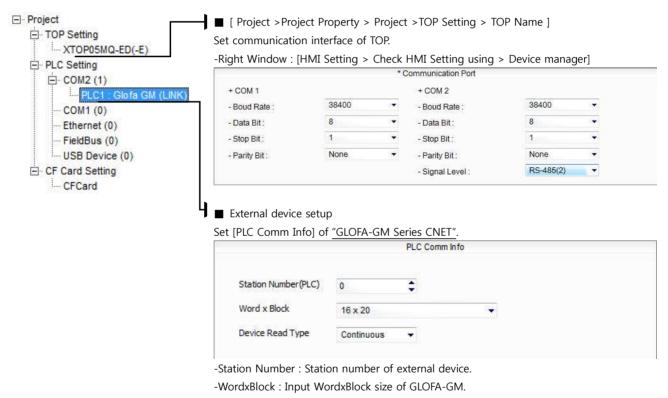
#### 3.3 Example 3

#### Set your system as below.

Item		ТОР	GLOFA-GM Series	Note	
Serial Signal Level (port/channel)		RS-485 (2 wire, COM2)	RS-485	User set	
Station number (PLC Address)		—	0	User set	
Serial Baud rate	[BPS]	38	38400		
Serial Data bit	[Bit]		8		
Serial Stop bit	[Bit]		1		
Serial Parity bit	[Bit]	Ν	User set		
Run Mode		privat	User set		

#### (1) XDesignerPlus Setting

Set [Project >Project property] of XDesignerPlus as below and download it to TOP machine.





#### (2) External device setup - link type

Run "Cnet Frame Editor" program of communication system setting tool of GLOFA-GM series for communication setting and set as below. If you want to change communication interface, modify refer to PLC manual.

1. Connect to RS-232 port of CPU unit and PC with [GLOFA GM loader cable].

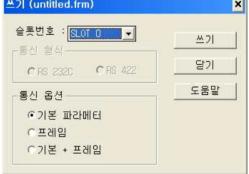
2. MODE Rotary switch of Cnet communication module set "3" (private communication mode) and reset power of PLC.

3. Run "Cnet Frame Editor".

7.

- 4. Run [Option > Select communication port] and select PC connection port and PLC"only" on Dialog Box and push "OK" button.
- 5. Run [Online > Connect] and connect to PC and external device.
- 6. Set communication setting at "Cnet Frame Editor".

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파일 온라인 옵션 모니터 도움말		
RS232 side · RS422 side		
-기본 파라메터 국변 00 ▼ 통신방식 RS 485 ▼ 초기화 명령	ATZ	
통신속도 38400 ✔ 데이타 비트 8 ✔	-모니터등록 크기	
패리티 None    정지 비트 ┃ ▼ Select [Online > Write].	△기 (untitled.frm)	×
Set as below on Dialog Box and click write.	슬루버호 : [3] 00 80	



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8. Select [Online > Online mode change]. Set as below on Dialog Box and click write.

Item	Setting ex	contents	
Slot number	SLOT 0	Slot of Cnet module	
Comm. option	Default parameter	Write contents	

		● 독립	이연동
9.	Select [Online > Change operation]. Set communication card setup slot and RS-422 and click "communication run" on Dialog Box.	RS-232C 이사용자 모드 이전용 모드 이라이브러리 모드 이GM_WIN 모드	RS-422 오사용자 모드 오전용 모드 오라이브러리 모드

온라인 모드변경

-채널동작

슬롯번호: LINK 0

접속단계: 로컬

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Item	Setting ex	contents
Slot number	SLOT 0	Slot of Cnet module
CH operation	independence	
RS-422	Privation mode	

**XDesignerPlus Ver2.0 Communication Manual** 

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Item	Setting ex	contents
Slot number	SLOT 0	Slot of Cnet module
Comm. type	RS_422	



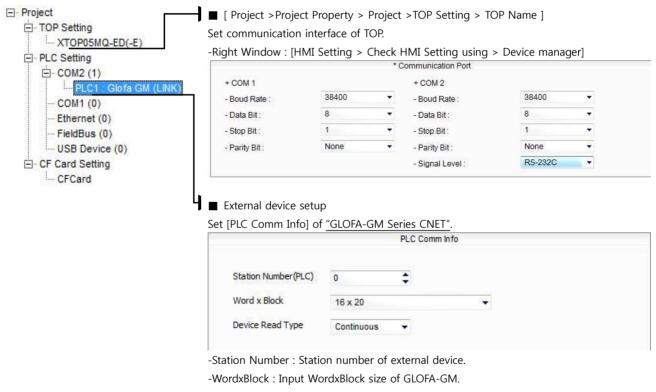
#### 3.4 Example 4

#### Set your system as below.

Item		ТОР	GLOFA-GM Series	Note
Serial Signal Level (port/channel)		RS-232 (COM2)	RS-232	User set
Station number (PLC Address)		—	0	User set
Serial Baud rate	[BPS]	38	38400	
Serial Data bit	[Bit]		User set	
Serial Stop bit	[Bit]		1	
Serial Parity bit	[Bit]	Ν	User set	
Run Mode		priva	te mode	User set

#### (1) XDesignerPlus Setting

Set [Project >Project property] of XDesignerPlus as below and download it to TOP machine.



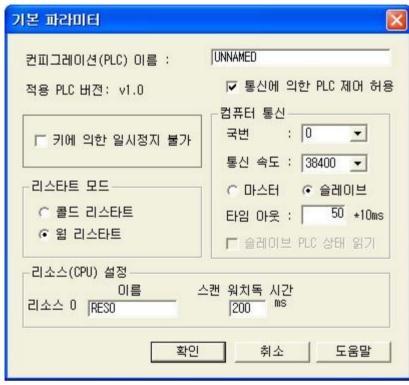


#### (2) External device setup - Built in Cnet type

Run GLOFA GM series Ladder Software "GM\_WIN" and set as below.

If you want to change communication interface, modify refer to PLC manual.

- 1. Connect to RS-232 port of CPU unit and PC with [GLOFA GM loader cable].
- 2. Run GM\_WIN program, and create new project about [GM6].
- 3. Double click [Parameter > Default parameter] on project dialog and set as below.



4. Run [Online > Connect] and connect to PC and external device.

5. Select [Write] menu and download communication setting to external device.

[GLOFA GM loader cable]

PC ( 9pin)		GN	l(9pin)
signal	pin	pin	signal
RD	2	2	RD
SD	3	3	SD
<u>ر</u> م	Ę	Ę	<u>در</u>



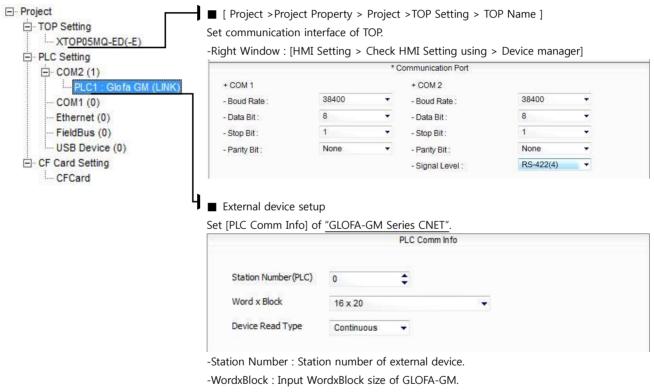
#### 3.5 Example 5

#### Set your system as below.

Item		ТОР	GLOFA-GM Series	Note
Serial Signal Level (port/channel)		RS-422 (4 wire, COM2)	RS-422	User set
Station number (PLC Address)		—	0	User set
Serial Baud rate	[BPS]	38	38400	
Serial Data bit	[Bit]	8		User set
Serial Stop bit	[Bit]		1	
Serial Parity bit	[Bit]	Ν	User set	
Run Mode		privat	User set	

#### (1) XDesignerPlus Setting

Set [Project >Project property] of XDesignerPlus as below and download it to TOP machine.



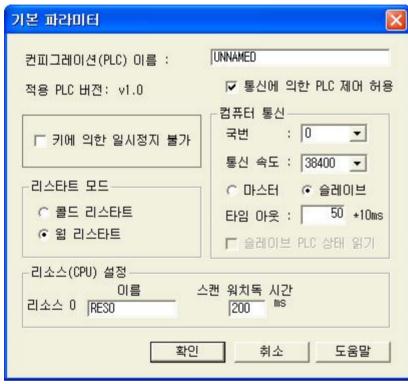


#### (2) External device setup - Built in Cnet type

Run GLOFA GM series Ladder Software "GM\_WIN" and set as below.

If you want to change communication interface, modify refer to PLC manual.

- 1. Connect to RS-232 port of CPU unit and PC with [GLOFA GM loader cable].
- 2. Run GM\_WIN program, and create new project about [GM6].
- 3. Double click [Parameter > Default parameter] on project dialog and set as below.





5. Select [Write] menu and download communication setting to external device.

[GLOFA GM loader cable]

PC ( 9pin)		GN	l(9pin)
signal	pin	pin	signal
RD	2	2	RD
SD	3	3	SD
<u>ر</u> م	Ę	Ę	<u>در</u>



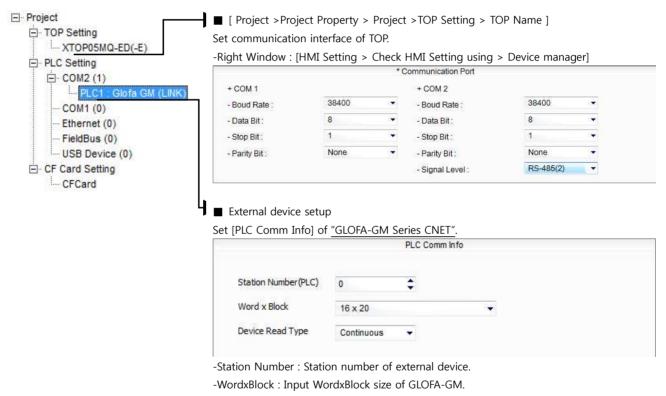
#### 3.6 Example 6

#### Set your system as below.

Item		ТОР	GLOFA-GM Series	Note
Serial Signal Level (port/channel)		RS-485 (2 wire, COM2)	RS-485	User set
Station number (PLC Address)		—	0	User set
Serial Baud rate	[BPS]	38400		User set
Serial Data bit	[Bit]	8		User set
Serial Stop bit [Bit]		1		User set
Serial Parity bit	[Bit]	Ν	ONE	User set
Run Mode		privat	te mode	User set

#### (1) XDesignerPlus Setting

Set [Project >Project property] of XDesignerPlus as below and download it to TOP machine.



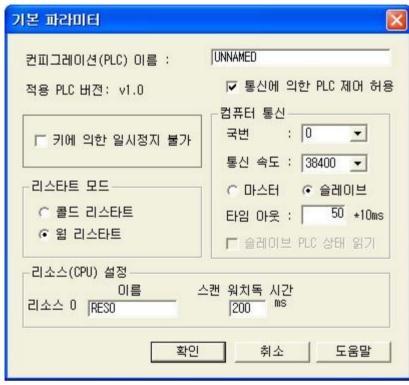


#### (2) External device setup - Built in Cnet type

Run GLOFA GM series Ladder Software "GM\_WIN" and set as below.

If you want to change communication interface, modify refer to PLC manual.

- 1. Connect to RS-232 port of CPU unit and PC with [GLOFA GM loader cable].
- 2. Run GM\_WIN program, and create new project about [GM6].
- 3. Double click [Parameter > Default parameter] on project dialog and set as below.



4. Run [Online > Connect] and connect to PC and external device.

5. Select [Write] menu and download communication setting to external device.

[GLOFA GM loader cable]

PC ( 9pin)		GN	l(9pin)
signal	pin	pin	signal
RD	2	2	RD
SD	3	3	SD
<u>ر</u> م	Ę	Ę	<u>در</u>



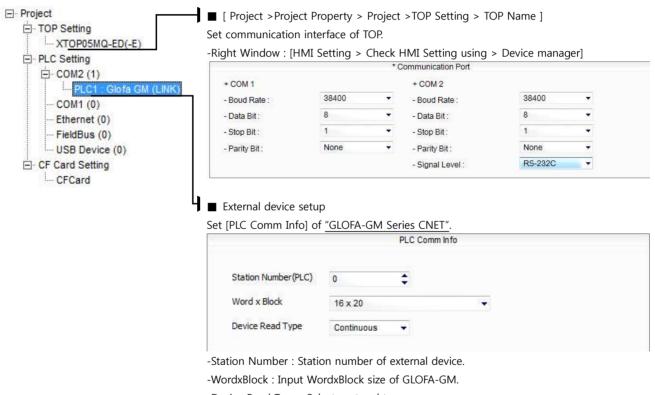
#### 3.7 Example 7

#### Set your system as below.

Item		ТОР	GLOFA-GM Series	Note
Serial Signal Level (port/channel)		RS-232 (COM2)	RS-232	User set
Station number (PLC Address)		—	0	User set
Serial Baud rate	[BPS]	38400		User set
Serial Data bit	[Bit]		8	User set
Serial Stop bit	[Bit]	1		User set
Serial Parity bit	[Bit]	NONE		User set
Run Mode		priva	te mode	User set

#### (1) XDesignerPlus Setting

Set [Project >Project property] of XDesignerPlus as below and download it to TOP machine.





GM(9pin)

signal

RD

SD

¢۲

pin

2

3

5

PC (9pin)

pin

2

E

signal

RD

SD

ŝ

#### (2) External device setup - link type

Run "Cnet Frame Editor" program of communication system setting tool of GLOFA-GM series for communication setting and set as below. If you want to change communication interface, modify refer to PLC manual.
[GLOFA GM loader cable]

1. Connect to RS-232 port of CPU unit and PC with [GLOFA GM loader cable].

 MODE Rotary switch of Cnet communication module set <u>"1"(private communication</u> mode) and reset power of PLC.

3. Run "Cnet Frame Editor".

7.

- 4. Run [Option > Select communication port] and select PC connection port and PLC"only" on Dialog Box and push "OK" button.
- 5. Run [Online > Connect] and connect to PC and external device.
- 6. Set communication setting at "Cnet Frame Editor".

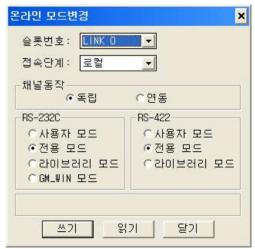
😹 프레임 편집기 (untitled.frm) 📃 🗖 🗙
파일 온라인 옵션 모니터 도움말
· 통신채널 ● RS232 side
기본 파라메터 국변 00 ▼ 통신방식 널 모뎀 ▼ 초기화 명령 ATZ
통신속도 38400 ▼ 데이타비트 8 ▼ 모니터등록 크기 패리티 None ▼ 정지비트 1 ▼ ●16×20
Select [Online > Write].

Set as below on Dialog Box and click write.



Select [Online > Online mode change].
 Set as below on Dialog Box and click write.

Item	Setting ex	contents
Slot number	SLOT 0	Slot of Cnet module
Comm. option	Default parameter	Write contents



**9.** Select [Online > Change operation]. Set communication card setup slot and RS-232C and click "communication run" on Dialog Box.

Item	Setting ex	contents
Slot number	SLOT 0	Slot of Cnet module
Comm. type	RS-232C	
Item	Setting ex	contents
Slot number	SLOT 0	Slot of Cnet module
CH operation	independence	
RS-232C	Privation mode	

**XDesignerPlus Ver2.0 Communication Manual** 





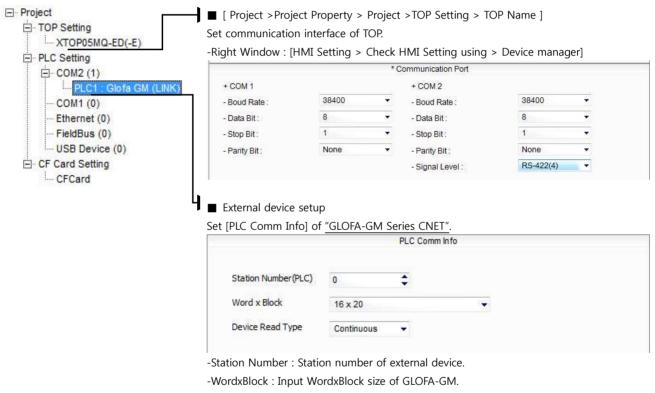
#### 3.8 Example 8

#### Set your system as below.

Item		ТОР	GLOFA-GM Series	Note
Serial Signal Level (port/channel)		RS-422 (4 wire, COM2)	RS-422	User set
Station number (PLC Address)		—	0	User set
Serial Baud rate	[BPS]	38	8400	User set
Serial Data bit	[Bit]		8	User set
Serial Stop bit [Bit]		1		User set
Serial Parity bit	[Bit]	Ν	ONE	User set
Run Mode		privat	te mode	User set

#### (1) XDesignerPlus Setting

Set [Project >Project property] of XDesignerPlus as below and download it to TOP machine.





#### (2) External device setup - link type

Run "Cnet Frame Editor" program of communication system setting tool of GLOFA-GM series for communication setting and set as below. If you want to change communication interface, modify refer to PLC manual.

1. Connect to RS-232 port of CPU unit and PC with [GLOFA GM loader cable].

 MODE Rotary switch of Cnet communication module set <u>"1"(private communication</u> mode) and reset power of PLC.

3. Run "Cnet Frame Editor".

7.

- 4. Run [Option > Select communication port] and select PC connection port and PLC"only" on Dialog Box and push "OK" button.
- 5. Run [Online > Connect] and connect to PC and external device.
- 6. Set communication setting at "Cnet Frame Editor".

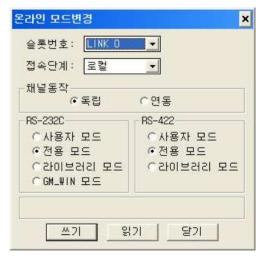
🤹 프레임 편집기 (untitled.frm)	- 🗆 🗙
파일 온라인 옵션 모니터 도움말	
RS232 side · RS422 side	
-기본 파라메터 국변 00 ✔ 통신방식 RS 422 ✔ 초기화 명령 ATZ	
통신속도 38400 ▼ 데이타 비트 8 ▼ 모니터등록 3 패리티 None ▼ 정지 비트 1 ▼ ● 16×20	371-
Select [Online > Write].	]    )

Set as below on Dialog Box and click write.



Select [Online > Online mode change].
 Set as below on Dialog Box and click write.

Item	Setting ex	contents
Slot number	SLOT 0	Slot of Cnet module
Comm. option	Default parameter	Write contents



**9.** Select [Online > Change operation]. Set communication card setup slot and RS-422 and click "communication run" on Dialog Box.

Item	Setting ex	contents
Slot number	SLOT 0	Slot of Cnet module
CH operation	independence	
RS-422	Privation mode	

**XDesignerPlus Ver2.0 Communication Manual** 



Item	Setting ex	contents
Slot number	SLOT 0	Slot of Cnet module
Comm. type	RS_422	



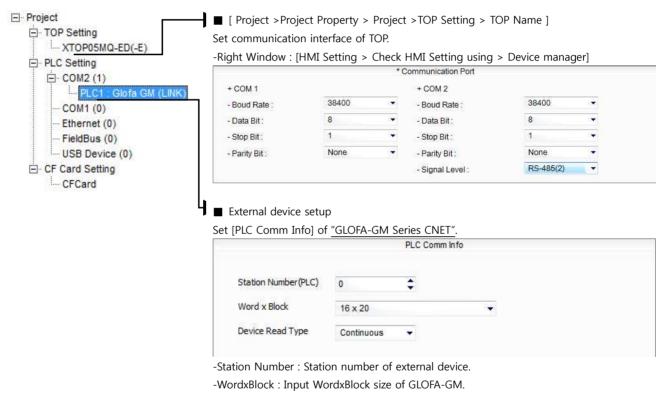
#### 3.9 Example 9

#### Set your system as below.

Item		ТОР	GLOFA-GM Series	Note
Serial Signal Level (port/channel)		RS-485 (2 wire, COM2)	RS-485	User set
Station number (PLC Address)		—	0	User set
Serial Baud rate	[BPS]	38	8400	User set
Serial Data bit	[Bit]		8	User set
Serial Stop bit [Bit]		1		User set
Serial Parity bit	[Bit]	Ν	ONE	User set
Run Mode		privat	te mode	User set

#### (1) XDesignerPlus Setting

Set [Project >Project property] of XDesignerPlus as below and download it to TOP machine.





GM(9pin)

signal

RD

SD

¢۲

pin

2

3

5

PC (9pin)

pin

2

3

5

signal

RD

SD

¢۲

#### (2) External device setup - link type

Run "Cnet Frame Editor" program of communication system setting tool of GLOFA-GM series for communication setting and set as below. If you want to change communication interface, modify refer to PLC manual.
[GLOFA GM loader cable]

1. Connect to RS-232 port of CPU unit and PC with [GLOFA GM loader cable].

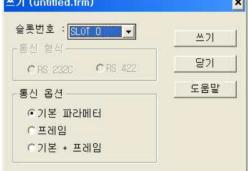
 MODE Rotary switch of Cnet communication module set <u>"1"(private communication</u> mode) and reset power of PLC.

3. Run "Cnet Frame Editor".

7.

- 4. Run [Option > Select communication port] and select PC connection port and PLC"only" on Dialog Box and push "OK" button.
- 5. Run [Online > Connect] and connect to PC and external device.
- 6. Set communication setting at "Cnet Frame Editor".

🤹 프레임 편집기 (untitled.frm)	- <b>-</b> ×
파일 온라인 옵션 모니터 도움말	
C RS232 side	• RS422 side
-기본 파라메터 국변 00 ▼ 통신방식 RS 485 ▼	초기화 명령 ATZ
통신속도 38400 ✓ 데이타 비트 8	-모니터등록 크기 - 4x32
패리티 None ▼ 정지 비트 1	✓ 16×20
Select [Online > Write]. Set as below on Dialog Box and click write.	쓰기 (untitled.frm) 승롯번호 : ☞이미미 ★



Select [Online > Online mode change].
 Set as below on Dialog Box and click write.

Item	Setting ex	contents
Slot number	SLOT 0	Slot of Cnet module
Comm. option	Default parameter	Write contents

RS-2320	RS-422
이사용자 모드	이사용자 모드
⊙전용 모드	⊙전용 모드
으라이브러리 모드	이라이 보험의
CGM_WIN 모드	

슬롯번호: LINK D ▼

온라인 모드변경

**9.** Select [Online > Change operation]. Set communication card setup slot and RS-232C and click "communication run" on Dialog Box.

Item	Setting ex	contents
Slot number	SLOT 0	Slot of Cnet module
CH operation	independence	
RS-422	Privation mode	

**XDesignerPlus Ver2.0 Communication Manual** 

×



Item	Setting ex	contents
Slot number	SLOT 0	Slot of Cnet module
Comm. type	RS_422	



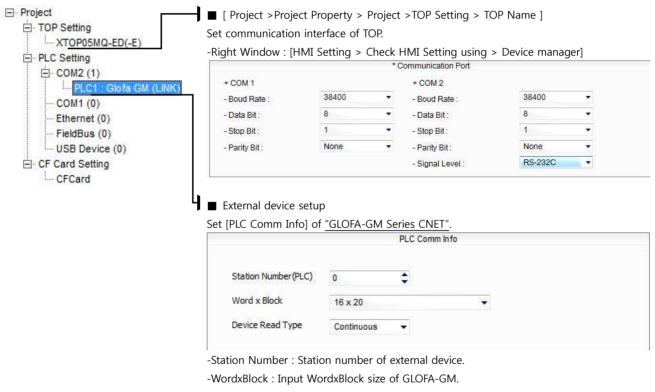
#### 3.10 Example 10

#### Set your system as below.

Item		ТОР	GLOFA-GM Series	Note
Serial Signal Level (p	port/channel)	RS-232 (COM2)	RS-232	User set
Station number (PLC	C Address)	—	0	User set
Serial Baud rate	[BPS]	38400		User set
Serial Data bit	[Bit]	8		User set
Serial Stop bit	[Bit]	1		User set
Serial Parity bit	[Bit]	NONE		User set
Run Mode		private mode		User set

#### (1) XDesignerPlus Setting

Set [Project >Project property] of XDesignerPlus as below and download it to TOP machine.





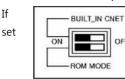
#### (2) External device setup - Built in Cnet Type

OFF

Run Ladder Software "GM\_WIN" of GLOFA-GM series for communication setting and set as below.

If you want to change communication interface, modify refer to PLC manual.

#### 1. Connect to RS-232 port of CPU unit and PC with [GLOFA GM loader cable].



2.

you use built in Cnet(RS-232C), "BUILT IN CNET" DIP switch to "ON'.



3

с

SD

ŝ

SD

sc

3

Run GM\_WIN and create new project about [GM7U].

3. Double click [Parameter > Default parameter] on project dialog and select CH0 and set as below.

통신 채널 0 🛛 🔀
통신 방식 자국번 :
프로토콜 및 전송 모드 마스터설정시 타임아웃 : 500 ms
전용 C 마스터 C 슬레이브 상태읽기 등록목록 C LG 인버터
Modbus C 마스터 C 슬레이브 전송 모드 : ASCII
사용자 정의
이 마스터 등록목록 이 슬레이브
달기

4. Run [Online > Connect] and connect to PC and external device.

5. Select [Write] menu and download communication setting to external device.



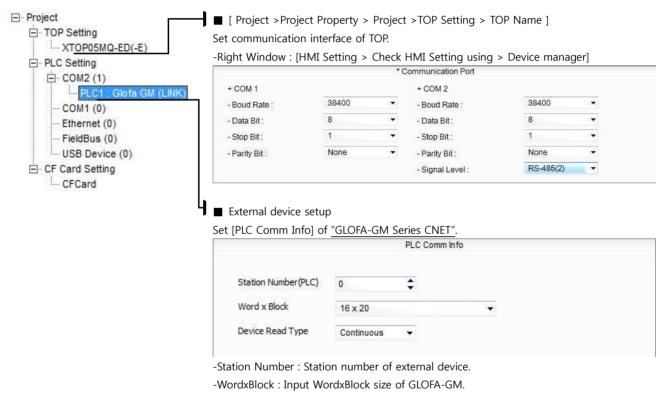
#### 3.11 Example 11

#### Set your system as below.

Item		ТОР	GLOFA-GM Series	Note
Serial Signal Level (p	oort/channel)	RS-485 (2 wire, COM2)	RS-485	User set
Station number (PLC	Address)	—	0	User set
Serial Baud rate	[BPS]	38400		User set
Serial Data bit	[Bit]	8		User set
Serial Stop bit	[Bit]	1		User set
Serial Parity bit	[Bit]	NONE		User set
Run Mode		private mode		User set

#### (1) XDesignerPlus Setting

Set [Project >Project property] of XDesignerPlus as below and download it to TOP machine.





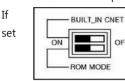
#### (2) External device setup - Built in Cnet Type

OFF

Run Ladder Software "GM\_WIN" of GLOFA-GM series for communication setting and set as below.

If you want to change communication interface, modify refer to PLC manual.

#### 1. Connect to RS-232 port of CPU unit and PC with [GLOFA GM loader cable].



2.

you use built in Cnet(RS-232C), "BUILT IN CNET" DIP switch to "ON'.

[GLOFA GM loader cable] PC (9pin) GM(9pin) signal pin signal pin RD 2 RD 2

3

с

SD

ŝ

SD

sc

3

Run GM\_WIN and create new project about [GM7U].

3. Double click [Parameter > Default parameter] on project dialog and select CH1 and set as below.

통신 채널 1
통신 방식 자국번 :
프로토콜 및 전송 모드 마스터설정시 타임아웃 : 500 ms
전용
○ 마스터 ○ 슬레이브 전송 모드 : ▲SCI ☑ 사용자 정의
이 마스터 등록목록 이 슬레이브 이 무수순 통신
달기

4. Run [Online > Connect] and connect to PC and external device.

5. Select [Write] menu and download communication setting to external device.



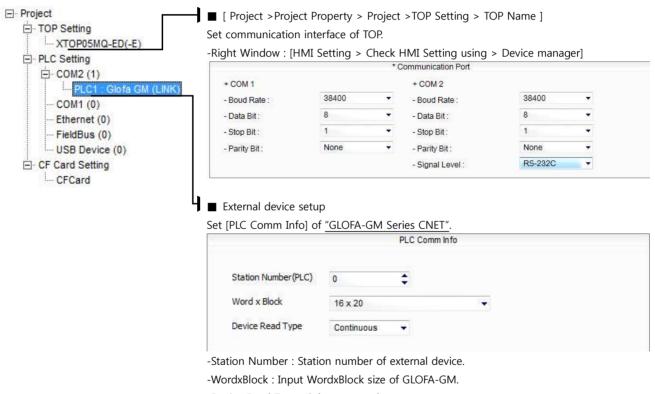
#### 3.12 Example 12

#### Set your system as below.

Item		ТОР	GLOFA-GM Series	Note
Serial Signal Level (	port/channel)	RS-232 (COM2) RS-232		User set
Station number (PLC	C Address)	—	0	User set
Serial Baud rate	[BPS]	38400		User set
Serial Data bit	[Bit]	8		User set
Serial Stop bit	[Bit]	1		User set
Serial Parity bit	[Bit]	NONE		User set
Run Mode		private mode		User set

#### (1) XDesignerPlus Setting

Set [Project >Project property] of XDesignerPlus as below and download it to TOP machine.





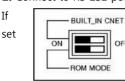
#### (2) External device setup - Built in Cnet Type

OFF

Run Ladder Software "GM\_WIN" of GLOFA-GM series for communication setting and set as below.

If you want to change communication interface, modify refer to PLC manual.

#### 1. Connect to RS-232 port of CPU unit and PC with [GLOFA GM loader cable].



2.

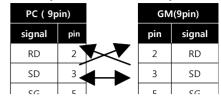
you use built in Cnet(RS-232C), "BUILT IN CNET" DIP switch to "ON'.

Run GM\_WIN and create new project about [GM7U].

3. Double click [Parameter > Default parameter] on project dialog and set as below. (In case of GM7U series, select [CH 0] at "communication parameter" dialog box.)

통신파라미터 🛛 🔀
통신 방식 자국번 :
프로토콜 및 전송 모드 마스터설정시 타임아웃 : 500 ms
전용 C 마스터 C 슐레이브 상태읽기 등록목록 C 슐레이브
Modbus C 마스터 C 슬레이브 전송 모드 : ASC11
사용자 정의 이 마스터 등록목록 등록목록 등록목록 등 등록목록 등 등록목록 등 등록 등 등록
FIELDBUS 이 마스터 이 슬레이브
달기

[GLOFA GM loader cable]



4. Run [Online > Connect] and connect to PC and external device.

5. Select [Write] menu and download communication setting to external device.



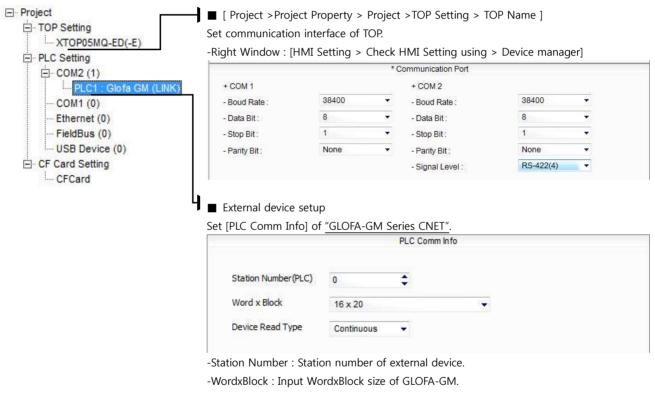
#### 3.13 Example 13

#### Set your system as below.

Item		ТОР	GLOFA-GM Series	Note
Serial Signal Level (p	oort/channel)	RS-422 (4 wire, COM2)	RS-422	User set
Station number (PLC	C Address)	—	0	User set
Serial Baud rate	[BPS]	38400		User set
Serial Data bit	[Bit]	8		User set
Serial Stop bit	[Bit]	1		User set
Serial Parity bit	[Bit]	NONE		User set
Run Mode		private mode		User set

#### (1) XDesignerPlus Setting

Set [Project >Project property] of XDesignerPlus as below and download it to TOP machine.



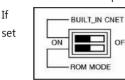


OFF

Run Ladder Software "GM\_WIN" of GLOFA-GM series for communication setting and set as below.

If you want to change communication interface, modify refer to PLC manual.

### 1. Connect to RS-232 port of CPU unit and PC with [GLOFA GM loader cable].



2.

you use built in Cnet(RS-232C), "BUILT IN CNET" DIP switch to "ON'.

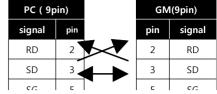
Run GM\_WIN and create new project about [GM7U].

3. Double click [Parameter > Default parameter] on project dialog and set as below.

통신파라미터	
┌통신 방식	
자국번 : 0	
	이터 비트 : 8 💌
	지 비트 : 1 🔹
- 통신 채널	
☞ RS232C 널모뎀 또는 RS422/485	
	초기화 명령 :
○ RS2320 다이얼업 모뎀	TZ
프로토콜 및 전송 모드	
	바임아웃 : 500 ms
전용	
C 마스터 F 슐레이브	. 상태읽기 _ 등록목록 _
④ 슬레이브 Modbus	
C 슬레이브 전송 모드 1	ASCII
사용자 정의	
이 마스터	등록목록
○ 슬레이브	
FIELDBUS	
이 마스터 이 이 이 이 이 이 이 이 이 이 이 이 이 이 이 이 이 이 이	등록목록
○ 슬레이브	
	달기

4. Run [Online > Connect] and connect to PC and external device.

5. Select [Write] menu and download communication setting to external device.





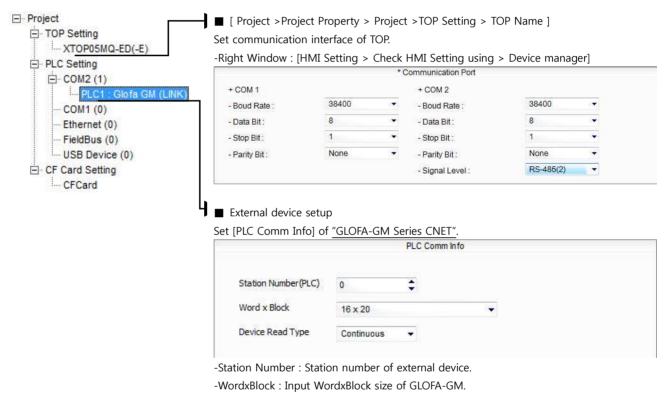
## 3.14 Example 14

#### Set your system as below.

Item		ТОР	GLOFA-GM Series	Note
Serial Signal Level (p	oort/channel)	RS-485 (2 wire, COM2)	RS-485	User set
Station number (PLC	C Address)	—	0	User set
Serial Baud rate	[BPS]	38	8400	User set
Serial Data bit	[Bit]		8	User set
Serial Stop bit	[Bit]		1	User set
Serial Parity bit	[Bit]	N	ONE	User set
Run Mode		privat	te mode	User set

## (1) XDesignerPlus Setting

Set [Project >Project property] of XDesignerPlus as below and download it to TOP machine.



-Device Read Type : Select protocol type.

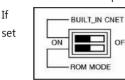


OFF

Run Ladder Software "GM\_WIN" of GLOFA-GM series for communication setting and set as below.

If you want to change communication interface, modify refer to PLC manual.

### 1. Connect to RS-232 port of CPU unit and PC with [GLOFA GM loader cable].



2.

you use built in Cnet(RS-232C), "BUILT IN CNET" DIP switch to "ON'.

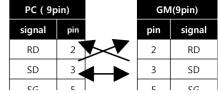
Run GM\_WIN and create new project about [GM7U].

3. Double click [Parameter > Default parameter] on project dialog and set as below.

통신파라미터	
┌통신 방식	
자국번 : 0	
	이터 비트 : 8 💌
	지비트 : 1 -
·····································	
☞ RS232C 널모뎀 또는 RS422/485	
	초기화 명령 :
○ RS2320 다이얼업 모뎀	TZ
프로토콜 및 전송 모드	
	바임아웃 : 500 ms
전용	
C 마스터 F 슐레이브	. 상태읽기 _ 등록목록 _
④ 슬레이브 Modbus	
C 슬레이브 전송 모드 1	ASCII
사용자 정의	
이 마스터	등록목록
○ 슬레이브	
FIELDBUS	
이 마스터 이 이 이 이 이 이 이 이 이 이 이 이 이 이 이 이 이 이 이	등록목록
○ 슬레이브	
	달기

4. Run [Online > Connect] and connect to PC and external device.

5. Select [Write] menu and download communication setting to external device.





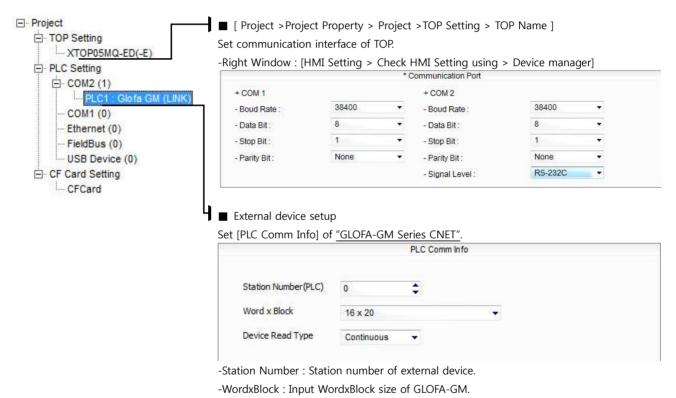
### 3.15 Example 15

Set your system as below.

Item		ТОР	GLOFA-GM Series	Note
Serial Signal Level (p	oort/channel)	RS-232 (COM2)	RS-232	User set
Station number (PLC	Address)	—	0	User set
Serial Baud rate	[BPS]	38	8400	User set
Serial Data bit	[Bit]		8	User set
Serial Stop bit	[Bit]		1	User set
Serial Parity bit	[Bit]	Ν	ONE	User set
Run Mode		privat	te mode	User set

## (1) XDesignerPlus Setting

Set [Project >Project property] of XDesignerPlus as below and download it to TOP machine.



-Device Read Type : Select protocol type.

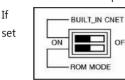


OFF

Run Ladder Software "GM\_WIN" of GLOFA-GM series for communication setting and set as below.

If you want to change communication interface, modify refer to PLC manual.

### 1. Connect to RS-232 port of CPU unit and PC with [GLOFA GM loader cable].



2.

you use built in Cnet(RS-232C), "BUILT IN CNET" DIP switch to "ON'.

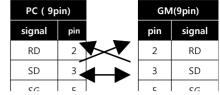
Run GM\_WIN and create new project about [GM7U].

3. Double click [Parameter > Default parameter] on project dialog and set as below.

통신파라미터	
┌통신 방식	
자국번 : 0	
	이터 비트 : 8 💌
	지 비트 : 1 🔹
- 통신 채널	
☞ RS232C 널모뎀 또는 RS422/485	
	초기화 명령 :
○ RS2320 다이얼업 모뎀	TZ
프로토콜 및 전송 모드	
	바임아웃 : 500 ms
전용	
C 마스터 F 슐레이브	. 상태읽기 _ 등록목록 _
④ 슬레이브 Modbus	
C 슬레이브 전송 모드 1	ASCII
사용자 정의	
이 마스터	등록목록
○ 슬레이브	
FIELDBUS	
이 마스터 이 이 이 이 이 이 이 이 이 이 이 이 이 이 이 이 이 이 이	등록목록
○ 슬레이브	
	달기

4. Run [Online > Connect] and connect to PC and external device.

5. Select [Write] menu and download communication setting to external device.





## 3.16 Example 16

'M-D
10A model of GM7 Series is only supported RS-485 communication.

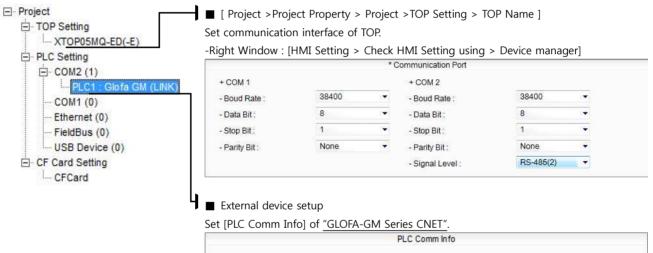
 $\Delta$ 'M-D $\Box$ 10A model of GM7 Series can use one of the RS-485 and RS-232C communication of CH 0.

#### Set your system as below.

Item		ТОР	GLOFA-GM Series	Note
Serial Signal Level (p	oort/channel)	RS-485 (2 wire, COM2)	RS-485	User set
Station number (PLC	C Address)	—	0	User set
Serial Baud rate	[BPS]	38	8400	User set
Serial Data bit	[Bit]		8	User set
Serial Stop bit	[Bit]		1	User set
Serial Parity bit	[Bit]	Ν	ONE	User set
Run Mode		priva	te mode	User set

### (1) XDesignerPlus Setting

Set [Project >Project property] of XDesignerPlus as below and download it to TOP machine.



		PLC Comm In	fo
Station Number(PLC)	0	\$	
Word x Block	16 x 20		•
Device Read Type	Continuous	*	

-Station Number : Station number of external device.

-WordxBlock : Input WordxBlock size of GLOFA-GM.

-Device Read Type : Select protocol type.

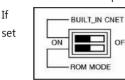


OFF

Run Ladder Software "GM\_WIN" of GLOFA-GM series for communication setting and set as below.

If you want to change communication interface, modify refer to PLC manual.

### 1. Connect to RS-232 port of CPU unit and PC with [GLOFA GM loader cable].



2.

you use built in Cnet(RS-232C), "BUILT IN CNET" DIP switch to "ON'.

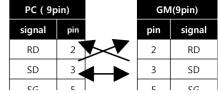
Run GM\_WIN and create new project about [GM7U].

3. Double click [Parameter > Default parameter] on project dialog and set as below.

통신파라미터	
┌통신 방식	
자국번 : 0	
	이터 비트 : 8 💌
	지비트 : 1 -
·····································	
☞ RS232C 널모뎀 또는 RS422/485	
	초기화 명령 :
○ RS2320 다이얼업 모뎀	TZ
프로토콜 및 전송 모드	
	바임아웃 : 500 ms
전용	
C 마스터 F 슐레이브	. 상태읽기 _ 등록목록 _
④ 슬레이브 Modbus	
C 슬레이브 전송 모드 1	ASCII
사용자 정의	
이 마스터	등록목록
○ 슬레이브	
FIELDBUS	
이 마스터 이 이 이 이 이 이 이 이 이 이 이 이 이 이 이 이 이 이 이	등록목록
○ 슬레이브	
	달기

4. Run [Online > Connect] and connect to PC and external device.

5. Select [Write] menu and download communication setting to external device.





# 4. Communication setting

Communication setup can be set on XDesignerPlus or TOP Main Menu. The setting should be the same with the external device.

## 4.1 XDesignerPlus setting

Select [Project >Project property] of XDesignerPlus as below.

E TOP Setting			-	>TOP Setting > TO	JP Name j	
XTOP05MQ-ED(-E)	Set communication int	erface of TO	P.			
PLC Setting	-Right Window : [HMI	Setting > Cł			> Device manage	jer]
- COM2 (1)			* C	communication Port		
PLC1 : Glofa GM (LINK	+ COM 1			+ COM 2		
COM1 (0)	- Boud Rate :	38400		- Boud Rate :	38400	
Ethernet (0)	- Data Bit :	8	2.	- Data Bit :	8	
FieldBus (0)	- Stop Bit ;	1	•	- Stop Bit :	1	
USB Device (0)	- Parity Bit :	None		- Parity Bit :	None	• •
CF Card Setting				- Signal Level :	RS-485(2)	-
	System Setup PLC S	etup Device	e Man	(PLC3) GLOFA-GM S	eries CNET	
	PLC Station Number	: 0		•		
	Time Out :	1000		msec.		
	Wait before send :	0		msec.		
	■ External device setu Set [PLC Comm Info] o	•				
	0			PLC Comm Info		
	Station Number(PLC)	0		•		
	Station Number(PLC) Word x Block	0 16 x 20		÷		

### ■ Setting communication Interface

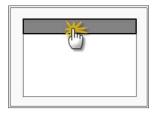
Item	Description	
Serial Signal Level	Setup signal level(RS-232C/422/485) of PLC connected with COM2/1 port. (COM1 only RS-232C)	
Serial Baud Rate	Setup [communications Baud rate] of PLC connected with COM2/1 port.	
Serial Data Bit	Setup [Data Bit] of PLC connected with COM2/1 port.	
Serial Stop Bit	Setup [Stop Bit] of PLC connected with COM2/1 port.	
Serial Parity Bit	Setup [Parity Bit] of PLC connected with COM2/1 port.	
Time Out [ x100 mSec ]	Setup [Time Out] of PLC connected with COM2/1 port. (Timeout: waiting time for answer of PLC)	
Send Wait [ x10 mSec ]	Setup [Send Wait] of PLC connected with COM2/1 port.	
	(Send Wait: communicate after waiting setting time when touch screen requires communications.)	
Station Num. in Diag.[0~31]	Setup [Station Num.(0~31)] using "4.3 Communication Diagnosis"	



## 4.2 Set TOP Main Menu

- When a buzzer is on during the power reset, touch 1 spot at the upper LCD to move to "TOP Management Main" display.

- Set up driver interface at TOP according to below <b>Step1</b> $\rightarrow$ <b>Step2</b> .	
(Press "TOP COM 2/1 setup" in <b>Step 1</b> to change setup at <b>Step 2</b> .)	



Step 1. [ PLC setup ] - Setup driver interface.

PLC setup				
PLC Address : 00		Communication		
Timeout : 1000 [mSec]	Timeout : 1000 [mSec]			
Delay time of transmission : 0 [ms	ec]			
TOP COM 2/1 : RS - 232C , 38400 TOP COM 2/1 setup commun	, 8 , 1 , NONE			
Step 1-Reference.			_	
Details	Contents			
PLC address [0~65535]	Address of other device. Select between [0 - 65535].		_	
Timeout [ x1 mSec ]	Set up TOP's response waiting time from external device at [0 -	- 5000 ] x 1 mSec.	_	

Delay time of transmission [	Set up TOP's waiting time between response receiving - next command request transmission
x1 mSec ]	from external device at [ 0 – 5000 ] x 1 mSec.
TOP COM 2/1	TOP's Interface setup to external device.

Step 2. [ PLC setup ] > [ TOP COM2/COM1 Setting ] – Setup relevant port's serial parameter.

Port Settings				
* Serial communication	COM 1 Port			
+ COM-1 Port	Communication			
- Baud rate : 38400 [BPS]	Interface Settings			
- Data bit : 8 [BIT]				
- Stop bit : 1 [BIT]				
- Parity bit : NONE [BIT]				
- Signal level : RS – 232C				
+ COM-2 Port	COM-2 Port			
- Baud rate : 38400 [BPS]	Communication			
- Data bit : 8 [BIT]	Interface Settings			
- Stop bit : 1 [BIT]				
- Parity bit : NONE [BIT]				
- Signal level : RS – 232C				
Step 2-Reference.				

 Details
 Contents

 Baud rate
 External device – select serial communication speed between TOPs.

 Data bit
 External device – select serial communication data bit between TOPs.

 Stop bit
 External device – select serial communication stop bit between TOPs.

 Parity bit
 External device – select serial communication parity bit check method between TOPs.

 Signal level
 External device – select serial communication method between TOPs.



## 4.3 Communication Diagnosis

■ TOP - Confirming interface setting condition between external devices

- Move to Menu by clicking the top side of LCD screen as resetting the power of TOP.

- Confirms if Port [COM 2 or COM 1] setting that is willing to use in [Communication Settings] matches with the setting of external devices.

Port Communication Issue Diagnosis

- PLC Setting > TOP [ COM 2 or COM 1 ] click "Communication Diagnosis" button.

- Diagnosis dialog box will pop up on the screen, you can judge by following information that is shown on box no. 3 section.

OK!	Communication setting normal
Time Out Error!	Abnormal Communication setting.
	- Error in the setting situation of Cable and TOP / External device (reference
	: Communication Diagnosis sheet)

■ Communication Diagnosis Sheet

- Please refer to the information below if you have a problem between external devices and communication connection.

Designer Versio	1	O.S Versio	n			
Details	Contents				Cor	nfirm
System	Name of CPU				ОК	NG
configuration	Name of confront port that is communicating	5			ОК	NG
	System Connection Method	1:1	1:1	N N:1	ОК	NG
Connection Cable	Name of Cable				ОК	NG
PLC setup	Setup address				OK	NG
	Serial baud rate			[BPS]	OK	NG
	Serial data bit			[BIT]	ОК	NG
	Serial Stop bit		ОК	NG		
	Serial parity bit			[BIT]	ОК	NG
	Assigned Address Limit				ОК	NG
TOP setup	Setup port	COM 1		COM 2	ОК	NG
	Name of Driver				ОК	NG
	Confront Address	Project Property	Setup		ОК	NG
		When D Communication	iagnosin	9	ОК	NG
	Serial baud rate			[BPS]	ОК	NG
	Serial data bit			[BIT]	ОК	NG
	Serial Stop bit			[BIT]	ОК	NG
	Serial parity bit			[BIT]	ОК	NG



# 5. Cable diagram 11

This Chapter introduces cable wiring guidance for communication between TOP and PLC concerned. (The cable diagrams in this section may differ from the recommendations of "LS Industrial Systems Co., Ltd.")

# 5.1 Cable Diagram Table 1

■ 1:1 Connection

(A) XTOP COM 2 Port(9pin)

XTOP COM2			Cable Wiring	PLC			
Pin Assignment *1	Signal	Pin No.	Cable Wiring	Pin No.	Signal	Pin Assignment *1	
	CD			1	CD		
	RD	2		2	RD	1227	
<b>1 5</b>	SD	3	_	3	SD	<b>1 5</b>	
	DTR	4		4	DTR		
6 9	SG	5		5	SG	6 9	
Front View of D-SUB 9 Pin (male, convex)	DSR	6		6	DSR	Front View of D-SUB 9Pin	
	RTS	7		7	RTS	(male, convex)	
	CTS	8		8	CTS		
		9		9			

\*1) Pin assignment of the cable connector is seen on the face of Front View.

(B) XTOP CO	(B) XTOP COM 2 Port(15pin)								
XTOP COM2				PLC					
Pin Assignment *1	Signal	Pin No.	Cable Wiring	Pin No.	Signal	Pin Assignment *1			
	CD			1	CD				
	RD	2		2	RD				
	SD	3		3	SD	<b>1 5</b>			
	DTR	4		4	DTR				
9 15	SG	5		5	SG	6 9			
Front View of D-SUB 15 Pin	DSR	6		6	DSR	Front View of D-SUB 9Pin			
(male, convex)	RTS	7		7	RTS	(male, convex)			
,	CTS	8		8	CTS	,			
		9		9					

\*1) Pin assignment of the cable connector is seen on the face of Front View.

(B) XTOP/AT	(B) XTOP/ATOP COM 1 Port(6pin)							
XTOP/ATOP	COM 1 por	ť	1	PLC				
Pin Assignment *1	Signal	Pin No.	Cable Wiring	Pin No.	Signal	Pin Assignment *1		
				1	CD			
6 4 2	RD	2		2	RD	1 5		
$\begin{pmatrix} \circ & \bullet \end{pmatrix}$	SG	3	▲ ↓ '	3	SD	$\left( \begin{array}{c} \circ & \circ \end{array} \right)$		
		4	L L L L L L L L L L L L L L L L L L L	4	DTR	6 9		
5 3 1		5	⊢	5	SG	Front View of		
Front View of D-SUB 6 Pin	SD	6		6	DSR	D-SUB 9Pin		
(male, convex)				7	RTS	(male, convex)		
				8	CTS			

### (B) XTOP/ATOP COM 1 Port(6pin)

 $\mathbf{1}^{1}$  Pin assignment of the cable connector is seen on the face of Front View.



## ■ 1 : 1 Connection

(A) XTOP COM 2 Port(9pin)

XTOP COM2			Cable Mining	PLC		
Pin Assignment *1	Signal	Pin No.	Cable Wiring	Signal	Pin Assignment	
1 5 0 0 6 9 Front View of D-SUB 9 Pin (male, convex)	RDA RDB SG SDA SDB	1 2 3 4 5 6 7 8 9		SDA SDB RDA RDB SG	RDA RDB SDA SDB SG FG	

\*1) Pin assignment of the cable connector is seen on the face of Front View.

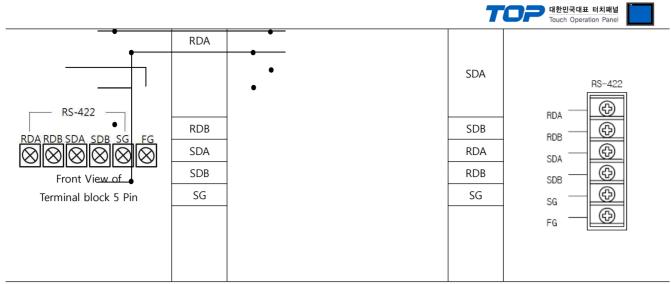
### (B) XTOP COM 2 Port(15pin)

XTOP COM2			Cable Wiring	PLC		
Pin Assignment *1	Signal	Pin No.		Signal	Pin Assignment	
1 8 0 0 9 15 Front View of D-SUB 15 Pin (male, convex)	_	1		SDA	RDA RDB SDA SG FG	
	(omis	ssion)		SDB RDA		
	_	10		RDB		
	RDA	11		SG		
	RDB	12				
	SDA	13				
	SDB	14				
	SG	15	coop op the face of Front View			

\*1) Pin assignment of the cable connector is seen on the face of Front View.

(C) ATOP COM 2 Port(Terminal block 5 pin)

ATOP COM2		Coble Wiring	PLC		
Pin Assignment *1	Signal	Cable Wiring	Signal	Pin Assignment	



\*1) Pin assignment of the cable connector is seen on the face of Front View.1

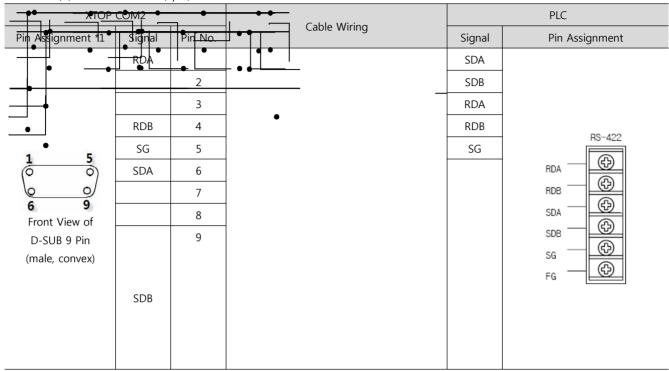
■ 1 : N connection – Connect as below refer to 1:1 connection.

TOP	Cable Wiring	PLC	Cable Wiring	PLC
Signal	Cable Winng	Signal		Signal
RDA				
		SDA		SDA
		3077		
RDB		SDB		SDB
SDA		RDA		RDA
SDB		RDB		RDB
SG		SG		SG



### ■ 1 : 1 Connection

(A) XTOP COM 2 Port(9pin)



\*1) Pin assignment of the cable connector is seen on the face of Front View.RDARDA

(B) XTOP COM 2 Port(15pin)

ХТОР СОМ2			Cable Wiring	PLC	
Pin Assignment *1	Signal	Pin No.		Signal	Pin Assignment
1 8	Ι	1		SDA	RS-422
	(omis	ssion)		SDB	rda 🕀
9 15				RDA	RDB - O
Front View of	Ι	10		RDB	sda — 🕀
D-SUB 15 Pin (male, convex)	RDA	11		SG	SDB - 🕀
(male, convex)	RDB	12			sg 🔶
	SDA	13			FG - G
	SDB	14			
	SG	15			

\*1) Pin assignment of the cable connector is seen on the face of Front View.

### (C) ATOP COM 2 Port (Terminal block 5 pin)

ATOP COM2		Cable Wiring	PLC		
Pin Assignment *1	Signal	Cable Wiring	Signal	Pin Assignment	
			SDA	RS-422	
RS-422	RDB		SDB		
	SDA		RDA		
	SDB		RDB	RDB SDA	
	SG		SG	SDB - CD	
				SG D	



\*1) Pin assignment of the cable connector is seen on the face of Front View.

Cable Wiring

■ 1 : N / N : 1 connection – Connect as below refer to 1:1 connection.

ТОР
Signal
RDB
SDA
SDB
SG

PLC
Signal
SDA
SDB
RDA
RDB
SG

PLC
Signal
SDA
SDB
RDA
RDB
SG



# 5.4 Cable Diagram Table 4

### ■ 1:1 Connection

(A) XTOP COM 2 Port(9pin)

XTOP COM2		• ·		PLC			
Pin Assignment *1	Signal	Pin No.	Cable Wiring	Pin No.	Signal	Pin Assignment *1	
1 5 0 0 6 9 Front View of D-SUB 9 Pin (male, convex)	CD	1 2		1 2	RD1	1 5 0 0 6 9 Front View of D-SUB 9Pin (male, convex)	
	SD	3		3	SD1		
	DTR	4		4	RD2		
	SG	5		5	SG	4	
	DSR	6		6			
	RTS	7		7	SD2		
	CTS	8		8			
		9		9			

\*1) Pin assignment of the cable connector is seen on the face of Front View.

(B) XTOP COM 2 Port(15pin)

(B) XTOP CO	(B) XTOP COM 2 Port(Ispin)							
XTOP COM2			Cable Mirian	PLC				
Pin Assignment *1	Signal	Pin No.	Cable Wiring	Pin No.	Signal	Pin Assignment *1		
	CD	1		1				
1 8	RD	2		2	RD1			
	SD	3		3	SD1	1 5		
00	DTR	4		4	RD2			
9 15	SG	5		5	SG	6 9		
Front View of D-SUB 15 Pin	DSR	6		6		Front View of D-SUB 9Pin		
(male, convex)	RTS	7		7	SD2	(male, convex)		
,	CTS	8		8				
		9		9				

\*1) Pin assignment of the cable connector is seen on the face of Front View.



1 (B) XTOP(A)	TOP COM 1	Port(6pin)					
ΧΤΟΡ/ΑΤΟΡ	COM 1 por	rt			PLC		
Pin Assign <del>ment *1</del>	Signal	Pin No.	Cable Wiring	Pin No.	Signal	Pin Assignment *1	
		1		1			
		2		2			
	RD		•		RD1	$ \begin{array}{cccc} 1 & 5 \\ 0 & 0 \\ 0 & 0 \end{array} $	
5 0 1	SG	3		3	SD1	6 9	
5 Front View of		4		4	RD2	Front View of D-SUB 9Pin	
D-SUB 6 Pin		5		5	SG	(male, convex)	
(male, convex)	SD	6		6		(	
				7	SD2		
				8			
				9			

\*1) Pin assignment of the cable connector is seen on the face of Front View.

## ■ 1 : 1 Connection

(A) XTOP COM 2 Port(9pin)

XTOP COM2			Califa Million	PLC		
Pin Assignment *1	Signal	Pin No.	Cable Wiring	Signal	Pin Assignment	
	RDA			+		
		2				
<b>1 5</b>		3				
6 9 Front View of D-SUB 9 Pin	RDB	4	•			
	SG	5				
	SDA	6			- +	
(male, convex)		7			RS485	
		8				
	SDB	9				

\*1) Pin assignment of the cable connector is seen on the face of Front View.

(B) XTOP CC	(B) XTOP COM 2 Port(15pin)							
ктор	хтор сом2		Cable Wiring		PLC			
Pin Assign <u>ment *1</u>	Signal	Pin No.		Signal	Pin Assignment			
1 8	_			+				
9 9 Front View of	(omis	ssion)		-				
	_	10						
	RDA	11			- + DC 195			
D-SUB 15 Pin (male, convex)	RDB	12			R3403			
(male, convex)	SDA	13						
	SDB	14						
	SG	15						

1\*1) Pin assignment of the cable connector is seen on the face of Front View.RDA

(C) ATOP COM 2 Port(Terminal block 5 pin)

ATOP COM2		Cable Wiring	PLC		
Pin Assignment *1	Signal	Cable Wiring	Signal	Pin Assignment	
			+		
	RDB		-		
RS-422 RDA RDB SDA SDB SG FG	SDA				
	SDB				
$\otimes \otimes \otimes \otimes \otimes \otimes \otimes$	SG				
Front View of				- + DS/85	
Terminal block 5 Pin				K3403	

\*1) Pin assignment of the cable connector is seen on the face of Front View.

## ■ 1 : N / N : 1 N connection – Connect as below refer to 1:1 connection.

ТОР	Direction of	PLC	Direction of	PLC
Signal	cable connection and signal	Signal	cable connection and signal	Signal

XDesignerPlus Ver2.0 Communication Manual





RDA	
RDB	
SDA	
SDB	
SG	

+	
	-

	·	
	-	



# 6. Available Address

The available address of device are as below.

Device(address) range might be different according to series/type of CPU. TOP Series are capable of supporting maximum address range which is available in external Device.

Be careful get out of address range.

model	WORD	Address range
GM1	%I(input)	%IW00.0.0 ~ %IW63.7.3
	%Q(output)	%QW00.0.0 ~ %QW63.7.3
	%M(inner memory)	%MW00000 ~ %MW65535
GM2	%I(input)	%IW00.0.0 ~ %IW31.7.3
	%Q(output)	%QW00.0.0 ~ %QW31.7.3
	%M(inner memory)	%MW00000 ~ %MW65535
GM3, GM4	%I(input)	%IW00.0.0 ~ %IW07.7.3
	%Q(output)	%QW00.0.0 ~ %QW07.7.3
	%M(inner memory)	%MW00000 ~ %MW32767
GM6, GM7	%I(input)	%IW00.0.0 ~ %IW07.7.3
	%Q(output)	%QW00.0.0 ~ %QW07.7.3
	%M(inner memory)	%MW00000 ~ %MW16383

Jot number(slot number next CPU is 0)

Base number(start number is 0)

 $\approx$  card number explanation - Card number of 16 point card is 0. If it is 32 point card, card number of 0~15 bit is 0, card number of 16~31 bit is 1. If it is 64 point card, card number of 0~15 bit is 0, card number of 16~31 bit is 1, card number of 32~47 bit is 2, card number of 48~63 bit is 3.