MITSUBISHI Electric Corporation
MELSEC-FX Series
Computer Link Driver

Compatible version	OS	4.0.0.0 or higher
	XDesignerPlus	4.0.0.0 or higher

CONTENTS

Thank you for using M2I's "Touch Operation Panel(M2I TOP) Series". Please read out this manual and make sure to learn connection method and process of TOP – External device"

1. System configuration

The communication system configuration of TOP and "MELSEC-FX Series Computer Link of MITSUBISHI Electric Corporation" is as follows.

CPU	Link I/F *주1)	Method	System settings	Cable
FX3G-14M□ FX3G-24M□	FX3G-232-BD FX3U-232ADP+ FX3G-CNV-ADP	RS-232C	3.1 설정 예제 13.1 Configuration Exercise 1 (5 page)	5.1 cable table 1 (17 page)
	FX3G-485-BD FX3U-485ADP+FX3G-CNV-ADP	RS422 (4 wire)	3.2 Configuration Exercise 2 (8 page)	5.2 cable table 2 (18 page)
		RS-485 (2 wire)	3.3 Configuration Exercise 3 (11 page)	5.3 cable table 3 (19 page)
FX3G-40M□ FX3G-60M□	In case if Channel 1 (ch1) is used			
	FX3G-232-BD (Connect to the connector 1 of additional unit) FX3U-232ADP + FX3G-CNV-ADP	RS-232C	3.1 설정 예제 13.1 Configuration Exercise 1 (5 page)	5.1 cable table 1 (17 page)
	FX3G-485-BD (Connect to the connector 1 of additional unit) FX3U-485ADP + FX3G-CNV-ADP	RS422 (4 wire)	3.2 설정 예제 23.2 Configuration Exercise 2 (8 page)	5.2 cable table 2 (18 page)
		RS-485 (2 wire)	3.3 Configuration Exercise 3 (11 page)	5.3 cable table 3 (19 page)
	In case if Channel 2 (ch2) is used			
	FX3G-232-BD (Connect to the connector 1 of additional unit) FX3U-232ADP + FX3U-■ADP + FX3G-CNV-ADP	RS232C	3.1 설정 예제 13.1 Configuration Exercise 1 (5 page)	5.1 cable table 1 (17 page)
	FX3G-485-BD (Connect to the connector 1 of additional unit) FX3U-485ADP + FX3U-■ADP + FX3G-CNV-ADP	RS422 (4 wire)	3.2 Configuration Exercise 2 (8 page)	5.2 cable table 2 (18 page)
		RS-485 (2 wire)	3.3 Configuration Exercise 3 (11 page)	5.3 cable table 3 (19 page)
FX3UC-□MT/D FX3UC-□MT/DSS	In case if Channel 1 (ch1) is used			
	FX3U-232ADP	RS-232C	3.1 설정 예제 13.1 Configuration Exercise 1 (5 page)	5.1 cable table 1 (17 page)
	FX3U-485ADP	RS422 (4 wire)	3.2 Configuration Exercise 2 (8 page)	5.2 cable table 2 (18 page)
		RS-485 (2 wire)	3.3 Configuration Exercise 3 (11 page)	5.3 cable table 3 (19 page)
	In case if Channel 2 (ch2) is used			
	FX3U-232ADP + FX3U-■ADP	RS-232C	3.1 설정 예제 13.1 Configuration Exercise 1 (5 page)	5.1 cable table 1 (17 page)
	FX3U-485ADP + FX3U-■ADP	RS422 (4 wire)	3.2 Configuration Exercise 2 (8 page)	5.2 cable table 2 (18 page)
		RS-485 (2 wire)	3.3 Configuration Exercise 3 (11 page)	5.3 cable table 3 (19 page)
FX3UC-32MT-LT FX3U	In case if Channel 1 (ch1) is used			
	FX3U-232-BD FX3U-232ADP + FX3U-CNV-BD	RS-232C	3.1 설정 예제 13.1 Configuration Exercise 1 (5 page)	5.1 cable table 1 (17 page)
	FX3U-485-BD FX3U-485ADP + FX3U-CNV-BD	RS422 (4 wire)	3.2 Configuration Exercise 2 (8 page)	5.2 cable table 2 (18 page)

		RS-485 (2 wire)	3.3 Configuration Exercise 3 (11 page)	5.3 cable table 3 (19 page)
	In case if Channel 2 (ch2) is used			
	FX3U-232ADP + FX3U-□BD, FX3U-232ADP + FX3U-■ADP + FX3U-CNV-BD	RS-232C	3.1 설정 예제 13.1 Configuration Exercise 1 (5 page)	5.1 cable table 1 (17 page)
	FX3U-485ADP + FX3U-□BD FX3U-485ADP + FX3U-■ADP + FX3U-CNV-BD	RS422 (4 wire)	3.2 Configuration Exercise 2 (8 page)	5.2 cable table 2 (18 page)
		RS-485 (2 wire)	3.3 Configuration Exercise 3 (11 page)	5.3 cable table 3 (19 page)

☞ Continue on the next page.

CPU	Link I/F *Caution1)	Method	System settings	Cable
FX2N	FX2N-232-BD FX2NC-232ADP + FX2N-CNV-BD	RS-232C	3.1 설정 예제 13.1 Configuration Exercise 1 (5 page)	5.1 cable table1 (17 page)
	FX2N-485-BD FX0N-485ADP + FX2N-CNV-BD FX2NC-485ADP + FX2N-CNV-BD	RS422 (4 wire)	3.2 Configuration Exercise 2 (8 page)	5.2 cable table 2 (18 page)
		RS-485 (2 wire)	3.3 Configuration Exercise 3 (11 page)	5.3 cable table 3 (19 page)
FX1N FX1S	FX1N-232-BD FX2NC-232ADP + FX1N-CNV-BD	RS-232C	3.1 설정 예제 13.1 Configuration Exercise 1 (5 page)	5.1 cable table 1 (17 page)
	FX1N-485-BD FX0N-485ADP + FX1N-CNV-BD FX2NC-485ADP + FX1N-CNV-BD	RS422 (4 wire)	3.2 Configuration Exercise 2 (8 page)	5.2 cable table 2 (18 page)
		RS-485 (2 wire)	3.3 Configuration Exercise 3 (11 page)	5.3 cable table 3 (19 page)
FX2NC FX1NC FX0N	FX2NC-232ADP	RS-232C	3.1 설정 예제 13.1 Configuration Exercise 1 (5 page)	5.1 cable table 1 (17 page)
	FX0N-485ADP FX2NC-485ADP	RS422 (4 wire)	3.2 Configuration Exercise 2 (8 page)	5.2 cable table 2 (18 page)
		RS-485 (2 wire)	3.3 Configuration Exercise 3 (11 page)	5.3 cable table 3 (19 page)

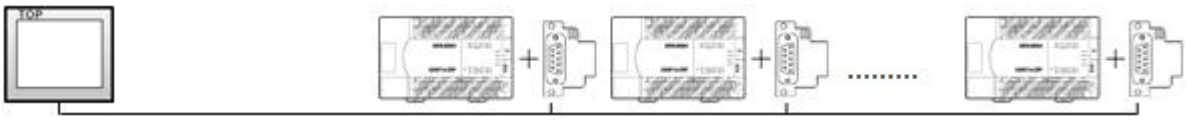
*Caution1) One of (232, 422, 485, USB) will be included on □ of Link I/F row.

*Caution1) One of (232,485) will be included on ■ of Link I/F row.

■ Connection configuration

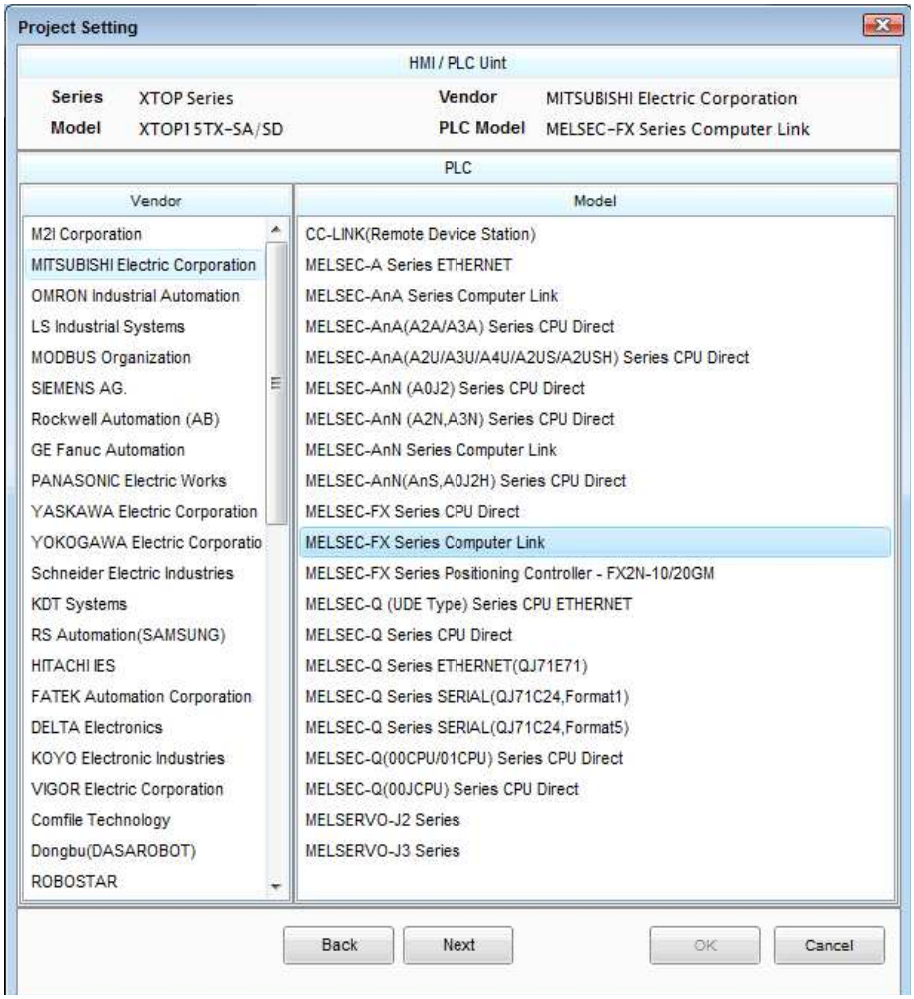
・1 : 1(1 TOP and 1 External Device) Connection - it is for RS232C/422/485 communication.

・1 : N(1 TOP and Several External Devices) Connection - It is for RS422/485 Communication.



2. Selecting TOP model and external devices

Select the external devices to connect to TOP.



Setting details		Contents
TOP	Series	Select the name of a TOP series that is to be connected to PLC. Before downloading the settings, install the OS version specified in the table below according to TOP series. Series: XTOP / HTOP — Version name: V4.0
	Name	Select the model name of TOP product.
Communication Device	Manufacturer	Select the manufacturer of external devices to be connected to TOP. Please select "MITSUBISHI".
	PLC	Select the model series of external devices to be connected to TOP. Please select "MELSEC-FX Series Computer Link". Please check, in the "1. System configuration", if the relevant external device is available to set a system configuration.

3. Example of system settings

Regarding of communication interface settings in TOP and external devices, we suggest as below.

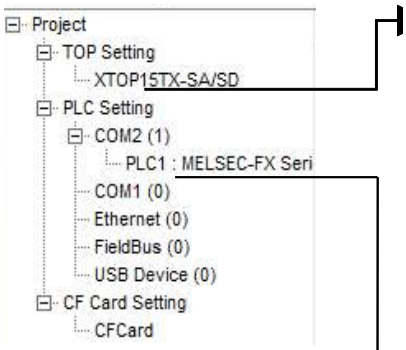
3.1 Example of settings 1

The system is set as below.

Details		TOP	MELSEC-FX Series	Remark
Serial level (port/channel)		RS-232 (COM2)	Regular/RS-232	User settings
Address(PLC Address)		—	0	User settings
Serial baud rate	[BPS]	19200	19200	User settings
Serial data bit	[Bit]	8	8	User settings
Serial stop bit	[Bit]	1	1	User settings
Serial parity bit	[Bit]	NONE	NONE	User settings
Protocol		—	Dedicated protocol (Format 1)	User settings

(1) XDesignerPlus setup

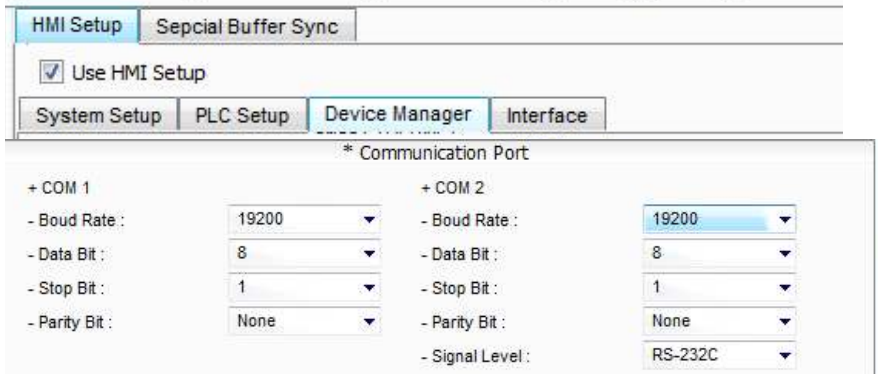
After setting the below details in [Project > Project Settings], download the detailed settings using TOP tool.



■ [Project > Project Property > Project > Settings > TOP Name]

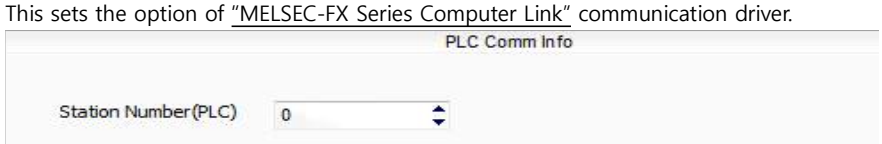
Set the communication interface of TOP tool.

- From right window [HMI Setting > check "Use HMI Setup" > Device Manager]



■ External device settings

This sets the option of "MELSEC-FX Series Computer Link" communication driver.



-PLC Address : External Device Setting Address

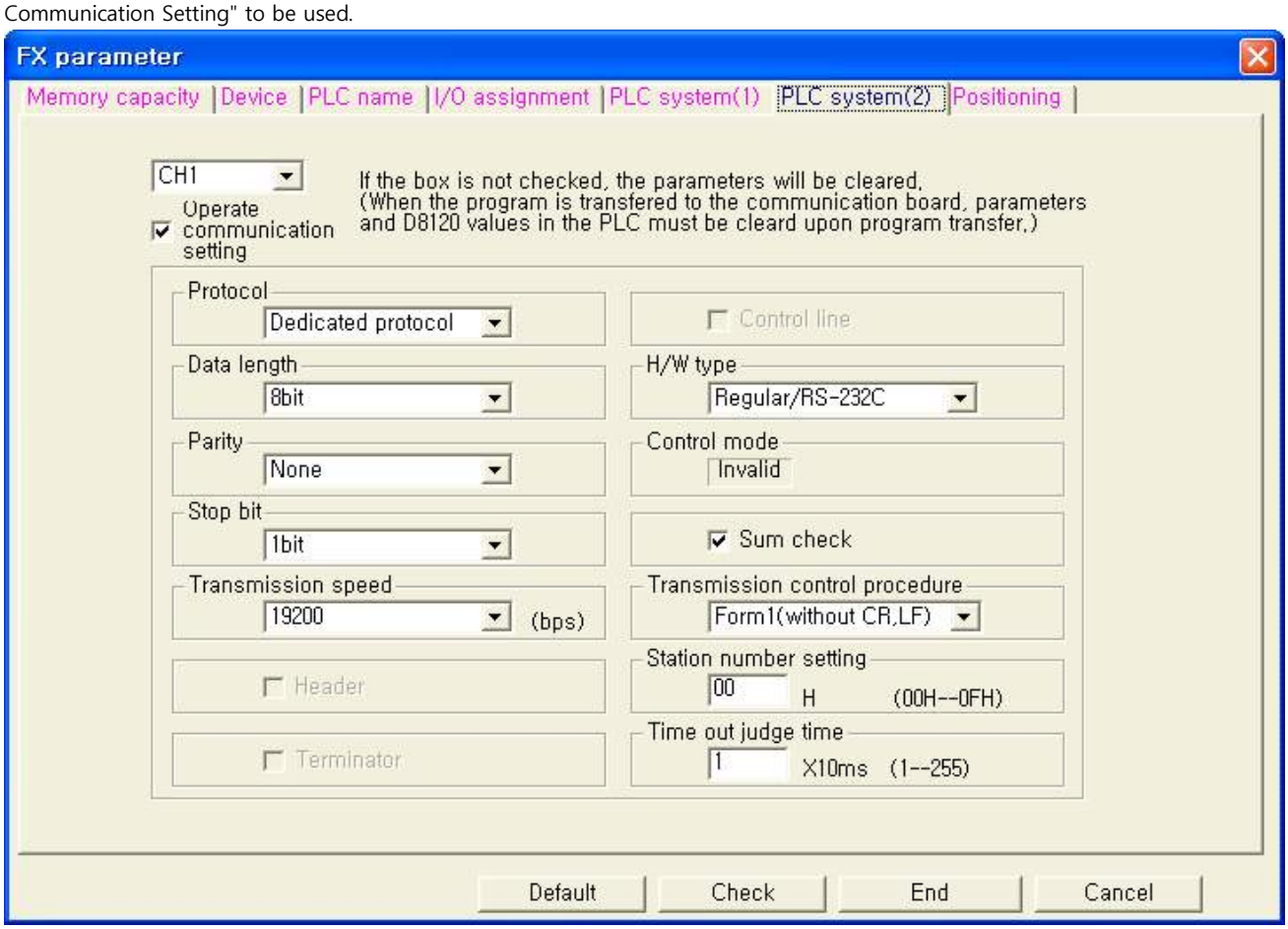
(2) External device settings

There are two different methods of communication settings for MELSEC-FX series Ladder Software "GX Developer"; one is Parameter setting and the other one is the data setting of "special data register" of PLC. Please refer to the PLC user manual for more detailed information if you need.

■ Method 1 : Parameter setting in "GX Developer"

1. From project window, double click [Parameter] > [PLC parameter] to pop up [FX parameter setting] Dialog Box.

2. Please set up as below after selecting [PC system settings (2)] Tab from [FX Parameter] dialog box and select "Operate Communication Setting" to be used.



Details	Selected Information	Remark
CH	"CH1" or "CH2"	Select a channel that is desired to perform communication setting. (Only available to set on FX3UC, FX3U, FX3G.)
Operate Communication Setting	Check to utilize	**(Fixed)**
Protocol	Dedicated protocol	**(Fixed)**
Data length	8bit	Possible to change
Parity	none	Possible to change
Stop Bit	1bit	Possible to change
Transmission Speed	19200	Possible to change
H/W type	Regular/RS-232C	Possible to change
Sum check	Check to utilize	**(Fixed)**
Transmission control procedure	Form1(without CR,LF)	**(Fixed)**
Station number setting	00	Possible to change
Time out judge time	1	Possible to change

3. Please reset PLC after sending parameters that has been set from [Online] > [Write to PLC].

■ Method 2 : Input data in "Special Data Register" of PLC

It is to input data in the special data register of MELSEC-FX Series. Please reset the power of PLC after input.
Input data as below in the setting object to set up the setting value.

Special Register		Data	
Channel 1	Channel 2 (FX3UC, FX3U, FX3G)	Setting data (Hexadecimal Number)	Remark
D8120	D8420	6891	Serial Parameter Setting Data
D8121	D8421	0	PLC address
D8129	D8429	1	Time out judge time

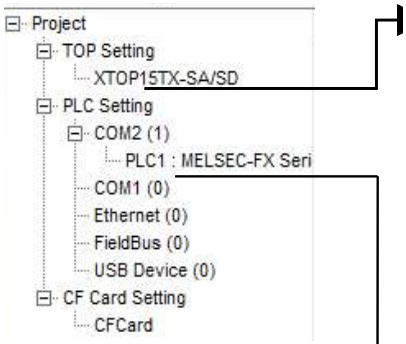
3.2 Example of Settings 2

The system is set as below.

Details		TOP	MELSEC-FX Series	Remark
Serial level (port/channel)		RS-422 (4 wire, COM2)	RS-422/485	User settings
Address(PLC Address)		—	0	User settings
Serial baud rate	[BPS]	19200	19200	User settings
Serial data bit	[Bit]	8	8	User settings
Serial stop bit	[Bit]	1	1	User settings
Serial parity bit	[Bit]	NONE	NONE	User settings
Protocol		—	Dedicated protocol (Format 1)	User settings

(1) XDesignerPlus setup

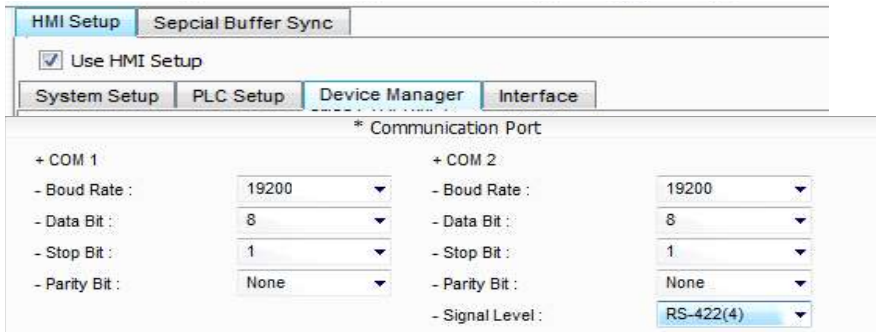
After setting the below details in [Project > Project Settings], download the detailed settings using TOP tool.



■ [Project > Project Property > Project > Settings > TOP Name]

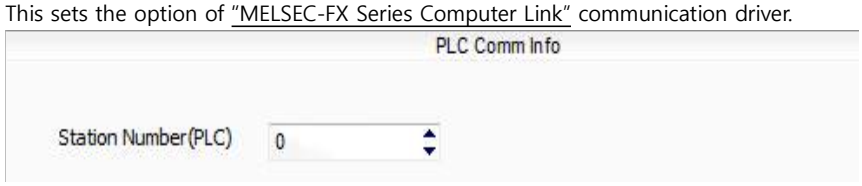
Set the communication interface of TOP tool.

- From right window [HMI Setting > check "Use HMI Setup" > Device Manager]



■ External device settings

This sets the option of "MELSEC-FX Series Computer Link" communication driver.



-PLC Address : External Device Setting Address

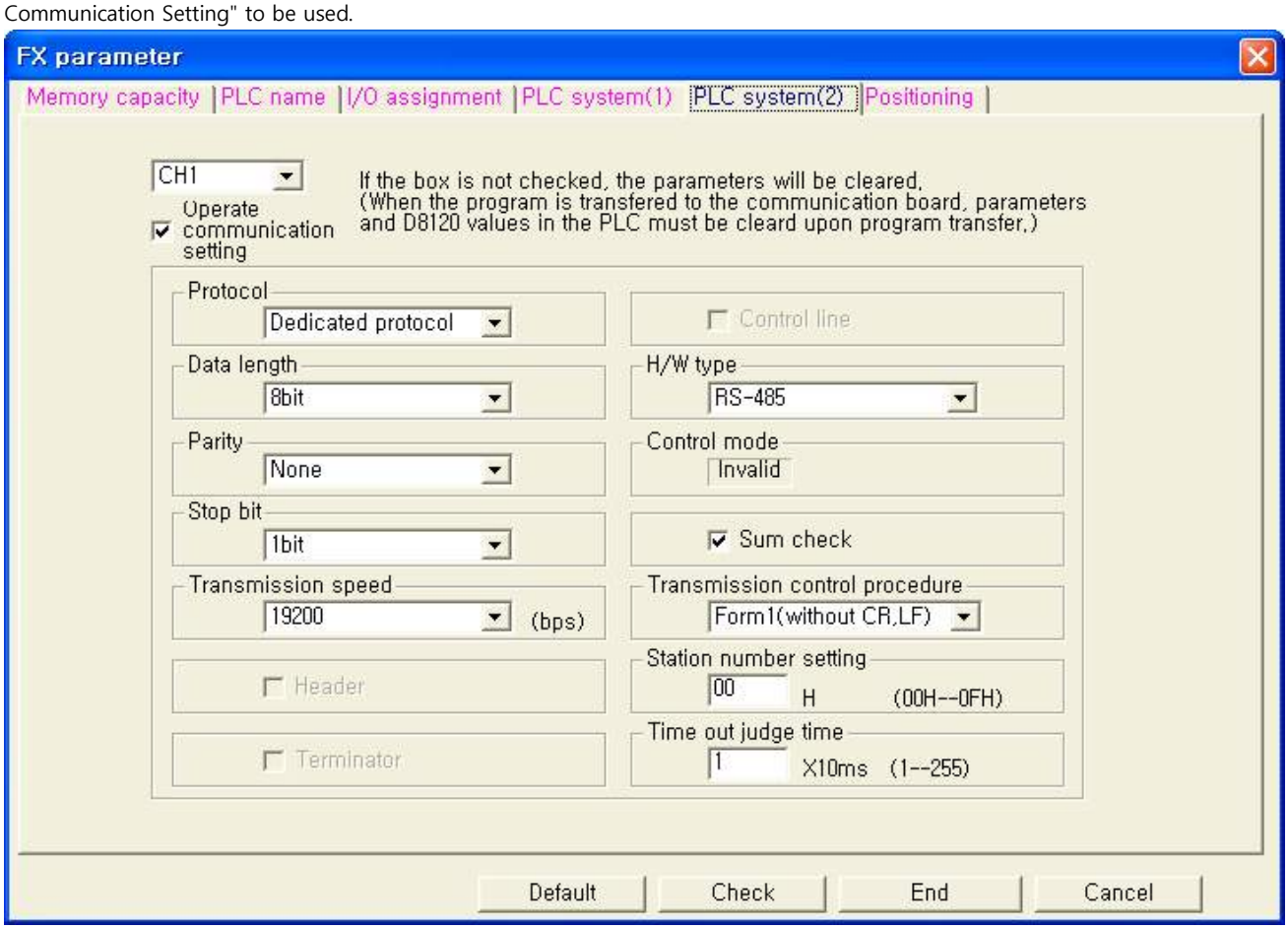
(2) External device settings

There are two different methods of communication settings for Melsec-FX series Ladder Software "**GX Developer**"; one is Parameter setting and the other one is the data setting of "**special data register**" of PLC. Please refer the PLC user manual for more detailed information if you need.

■ Method 1 : Parameter setting in "GX Developer"

1. From project window, double click [Parameter] > [PLC parameter] to pop up [FX parameter setting] Dialog Box.

2. Please set up as below after selecting [PC system settings (2)] Tab from [FX Parameter] dialog box and select "Operate Communication Setting" to be used.



Details	Selected Information	Remark
CH	"CH1" or "CH2"	Select channel that is desired to perform communication setting. (Only available to set on FX3UC, FX3U, FX3G.)
Operate Communication Setting	Check to utilize	**(fixed)**
Protocol	Dedicated protocol	**(fixed)**
Data length	8bit	Possible to change
Parity	none	Possible to change
Stop Bit	1bit	Possible to change
Transmission Speed	19200	Possible to change
H/W type	RS-485	Possible to change
Sum check	Check to utilize	**(fixed)**
Transmission control procedure	Form1(without CR,LF)	**(fixed)**
Station number setting	00	Possible to change
Time out judge time	1	Possible to change

3. Please reset the PLC after sending parameters that has been set from [Online] > [Write to PLC].

■ Method 2 : Input data in "Special Data Register" of PLC

It is to input data in the special data register of MELSEC-FX Series. Please reset the power of PLC after input.
Input data as below in the setting object to set up the setting value.

Special Register		Data	
Channel 1	Channel 2 (FX3UC, FX3U, FX3G)	Setting data (Hexadecimal Number)	Remark
D8120	D8420	6091	Serial Parameter Setting Data
D8121	D8421	0	PLC address
D8129	D8429	1	Time out judge time

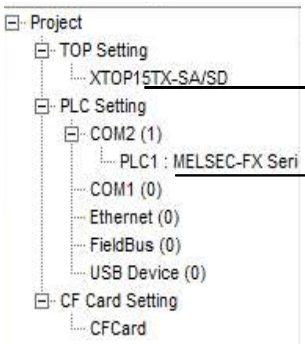
3.3 Examples of Setting 3

The system is set as below.

Details	TOP	MELSEC-FX Series	Remark
Serial level (port/channel)	RS-485 (2 wire, COM2)	RS-422/485	User settings
Address(PLC Address)	—	0	User settings
Serial baud rate [BPS]	19200	19200	User settings
Serial data bit [Bit]	8	8	User settings
Serial stop bit [Bit]	1	1	User settings
Serial parity bit [Bit]	NONE	NONE	User settings
Protocol	—	Dedicated protocol (Format 1)	User settings

(1) XDesignerPlus setup

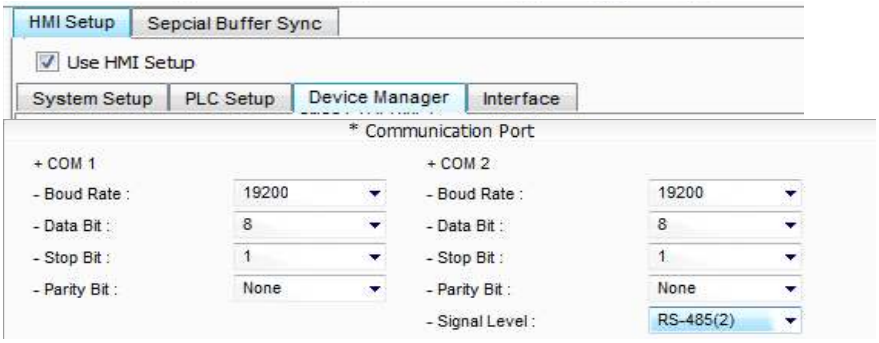
After setting the below details in [Project > Project Settings], download the detailed settings using TOP tool.



■ [Project > Project Property > Project > Settings > TOP Name]

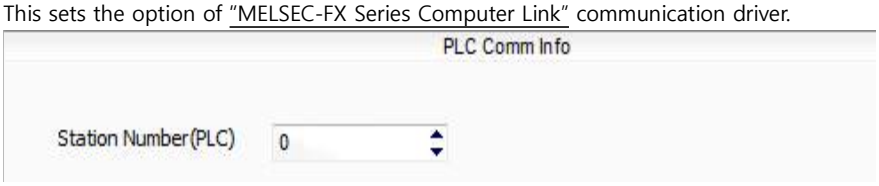
Set the communication interface of TOP tool.

- From right window [HMI Setting > check "Use HMI Setup" > Device Manager]



■ External device settings

This sets the option of "MELSEC-FX Series Computer Link" communication driver.



-PLC Address : External Device Setting Address

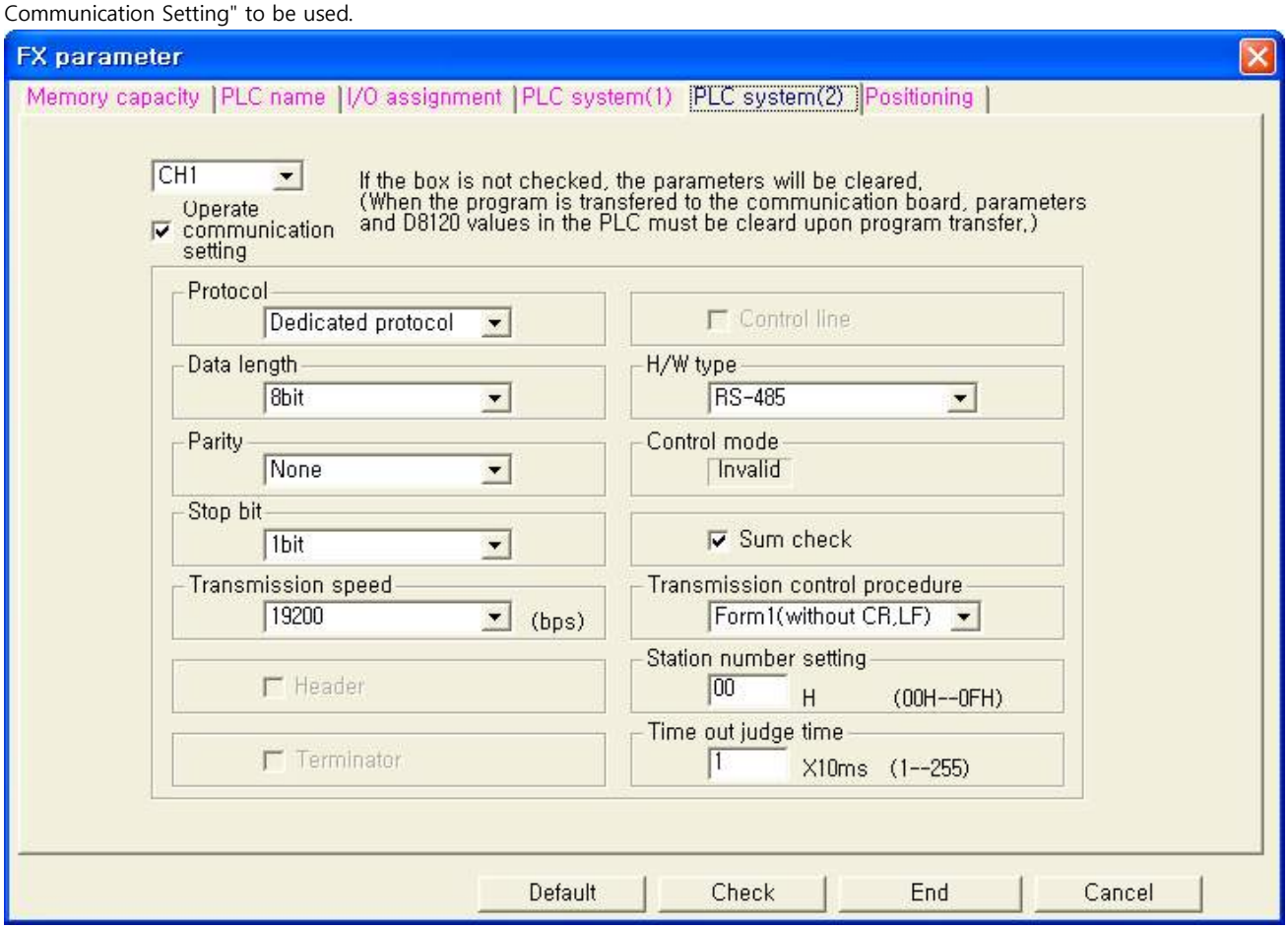
(2) External device settings

There are two different methods of communication settings for MELSEC-FX series Ladder Software "**GX Developer**"; one is Parameter setting and the other one is the data setting of "**special data register**" of PLC. Please refer the PLC user manual for more detailed information if you need.

■ Method 1 : Parameter setting in "GX Developer"

1. From project window, double click [Parameter] > [PLC parameter] to pop up [FX parameter setting] Dialog Box.

2. Please set up as below after selecting [PC system settings (2)] Tab from [FX Parameter] dialog box and select "Operate Communication Setting" to be used.



Details	Selected Information	Remark
CH	"CH1" or "CH2"	Select channel that is desired to perform communication setting. (Only available to set on FX3UC, FX3U, FX3G.)
Operate Communication Setting	Check to utilize	**(fixed)**
Protocol	Dedicated protocol	**(fixed)**
Data length	8bit	Possible to change
Parity	none	Possible to change
Stop Bit	1bit	Possible to change
Transmission Speed	19200	Possible to change
H/W type	RS-485	Possible to change
Sum check	Check to utilize	**(fixed)**
Transmission control procedure	Form1(without CR,LF)	**(fixed)**
Station number setting	00	Possible to change
Time out judge time	1	Possible to change

3. Please reset PLC after sending parameters that has been set from [Online] > [Write to PLC].

■ Method 2 : Input data in "Special Data Register" of PLC

It is to input data in the special data register of MELSEC-FX Series. Please reset the power of PLC after input.
Input data as below in the setting object to set up the setting value.

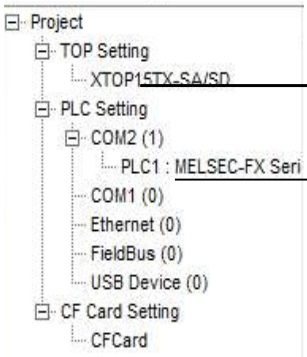
Special Register		Data	
Channel 1	Channel 2 (FX3UC, FX3U, FX3G)	Setting data (Hexadecimal Number)	Remark
D8120	D8420	6091	Serial Parameter Setting Data
D8121	D8421	0	PLC address
D8129	D8429	1	Time out judge time

4. Communication settings details

Communication settings are available at XDesignerPlus or TOP main menu. Communication settings must be identical with the external devices.

4.1 XDesignerPlus settings details

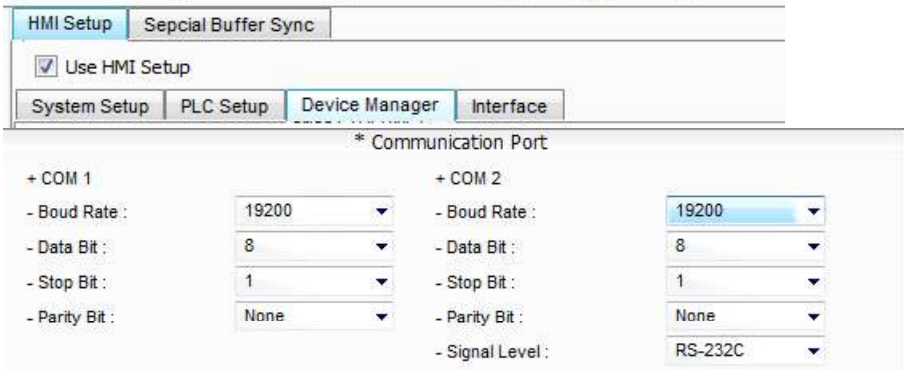
Select [Project > Project attributes] to show the below window.



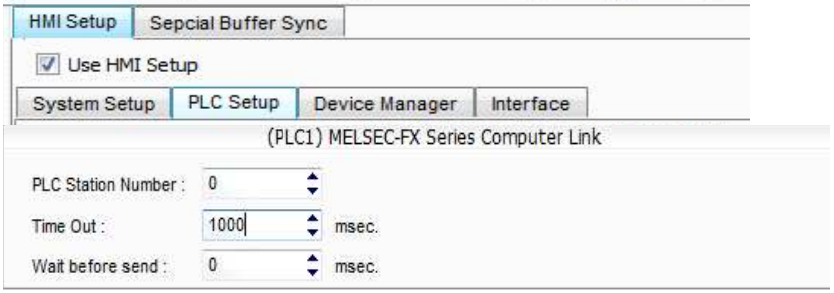
■ [Project > Project Property > Project > Settings > TOP Name]

Set the communication interface of TOP tool.

- From right window, [HMI setting > check "Use HMI setup" > Device Manager]

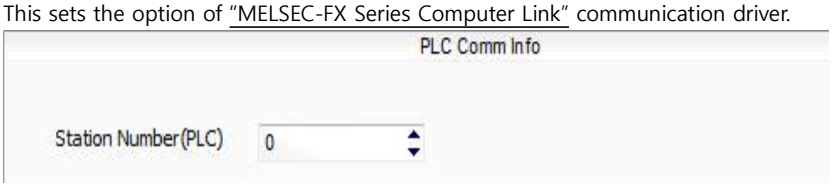


- From right window [HMI Setting > check "Use HMI Setting" > PLC Setting]



■ External device settings

This sets the option of "MELSEC-FX Series Computer Link" communication driver.



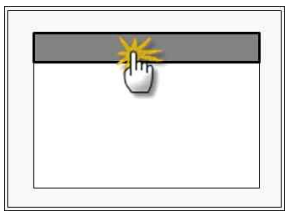
■ Communication Interface Settings

Details	Contents
Signal level	External device – select serial communication method between TOPs. (COM1 supplies RS-232C only)
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.
Time out [x100 mSec]	Set up TOP's waiting time from external device at [0 - 5000] x 1mSec.
Transmitting Delay Time [x10 mSec] Receiving Wait Time [x10 mSec]	Set up TOP's waiting time between response receiving – next command request transmission from external device at [0 – 5000] x 1 mSec.

PLC address [0~65535]	Address of other device. Select between [0 - 65535].

4.2 TOP main menu setup item

- 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 **Step1 → Step2**.
  (Press "TOP COM 2/1 setup" in **Step1** to change setup at **Step2**.)



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

PLC setup	
PLC Address : 00 Timeout : 1000 [mSec] Delay time of transmission : 0 [mSec] TOP COM 2/1 : RS - 232C , 19200 , 8 , 1 , NONE TOP COM 2/1 setup communication test	Communication Interface Settings

Step 1–Reference.

Details	Contents
PLC address [0~65535]	Address of other device. Select between [0 - 65535].
Timeout [x1 mSec]	Set up TOP's waiting time from external device at [0 - 5000] x 1mSec.
Delay time of transmission [x1 mSec]	Set up TOP's waiting time between response receiving – next command request transmission 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 setup] – Setup relevant port's serial parameter.

Port Settings	
* Serial communication + COM-1 Port - Baud Rate : 19200 [BPS] - Data bit : 8 [BIT] - Stop bit : 1 [BIT] - Parity bit : NONE [BIT] - Signal level : RS – 232C	COM 1 Port Communication Interface Settings
+ COM-2 Port - Baud Rate : 19200 [BPS] - Data bit : 8 [BIT] - Stop bit : 1 [BIT] - Parity bit : NONE [BIT] - Signal level : RS – 232C	COM-2 Port Communication Interface Settings

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.

■ Diagnosis whether a port communication is normal or not

- 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 Version		O.S Version					
Details	Contents					Confirm	
System configuration	Name of CPU					OK	NG
	Name of confront port that is communicating					OK	NG
	System Connection Method	1:1	1:N	N:1		OK	NG
Connection Cable	Name of Cable					OK	NG
PLC setup	Setup address					OK	NG
	Serial baud rate	[BPS]				OK	NG
	Serial data bit	[BIT]				OK	NG
	Serial Stop bit	[BIT]				OK	NG
	Serial parity bit	[BIT]				OK	NG
	Assigned Address Limit					OK	NG
TOP setup	Setup port	COM 1	COM 2			OK	NG
	Name of Driver					OK	NG
	Confront Address	Project Property Setup				OK	NG
		When Diagnosing Communication				OK	NG
	Serial baud rate	[BPS]				OK	NG
	Serial data bit	[BIT]				OK	NG
	Serial Stop bit	[BIT]				OK	NG
	Serial parity bit	[BIT]				OK	NG

5. Cable diagram

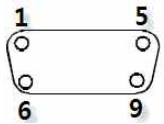
This Chapter is to introduce the Cable diagram for regular communication between TOP and relative devices. (The cable diagram that is introduced in this chapter might be different than suggested for MITSUBISHI Electric Corporation)

5.1 Cable diagram 1

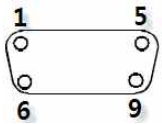
■ 1 : 1 Connection

(A) XTOP COM 2 Port (9 pin)

XTOP COM2			Cable Connection	PLC		
pin arrangement * caution 1)	Signal	Pin Number		Pin Number	Signal	**pin arrangement * caution 1)**
	CD	1		1	CD	
	RD	2		2	RD	
	SD	3		3	SD	
	DTR	4		4	DTR	
	SG	5		5	SG	
	DSR	6		6	DSR	
	RTS	7		7	RTS	
	CTS	8		8	CTS	
		9		9		



Front View of D-SUB 9 Pin (male, convex)

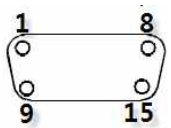


Front View of D-SUB 9 Pin (male, convex)

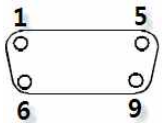
*Caution1) Pin arrangement is shown from connecting face in cable connection connecter.1

(B) XTOP COM 2 Port (15 pin)

XTOP COM2			Cable Connection	PLC		
pin arrangement * caution 1)	Signal	Pin Number		Pin Number	Signal	**pin arrangement * caution 1)**
	CD			1	CD	
	RD	2		2	RD	
	SD	3		3	SD	
	DTR	4		4	DTR	
	SG	5		5	SG	
	DSR	6		6	DSR	
	RTS	7		7	RTS	
	CTS	8		8	CTS	
		9		9		



Front View of D-SUB 15 Pin (male, convex)

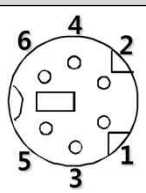


Front View of D-SUB 9 Pin (male, convex)

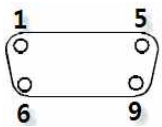
*Caution1) Pin arrangement is shown from connecting face in cable connection connecter.

(B) XTOP/ATOP COM 1 Port (6 Pin)

XTOP/ATOP COM 1 Port			Cable Connection	PLC		
pin arrangement * caution 1)	Signal	Pin Number		Pin Number	Signal	**pin arrangement * caution 1)**
		1		1	CD	
	RD	2		2	RD	
	SG	3		3	SD	
		4		4	DTR	
		5		5	SG	
	SD	6		6	DSR	



Front View of D-SUB 6 Pin



Front View of D-SUB 9 Pin (male, convex)

(male, convex)			7	RTS	
			8	CTS	
			9		

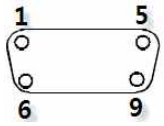
*Caution1) Pin arrangement is shown from connecting face in cable connection connecter.

5.2 Cable diagram 2

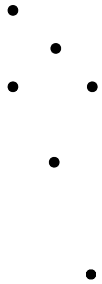
■ 1 : 1 Connection

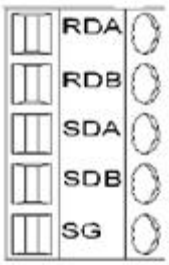
(A) XTOP COM 2 Port (9 pin)

XTOP COM2			Cable Connection	PLC	
pin arrangement * caution 1)	Signal	Pin Number		Signal	Pin Arrangement
	RDA	1		SDA	
		2		SDB	
		3		RDA	
	RDB	4		RDB	
	SG	5		SG	
	SDA	6			
		7			
		8			
	SDB	9			



Front View of D-SUB 9 Pin (male, convex)

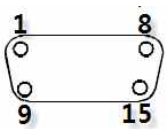




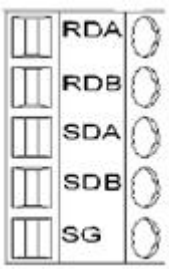
*Caution1) Pin arrangement is shown from connecting face in cable connection connecter.

(B) XTOP/ATOP COM 2 Port (15 Pin)

XTOP COM2			Cable Connection	PLC	
pin arrangement * caution 1)	Signal	Pin Number		Signal	Pin Arrangement
	-	1		SDA	
	(생략)			SDB	
				RDA	
	-	10		RDB	
	RDA	11		SG	
	RDB	12			



Front View of D-SUB 15 Pin (male, convex)



	SDA	13			
	SDB	14			
	SG	15			

*Caution1) Pin arrangement is shown from connecting face in cable connection connecter.

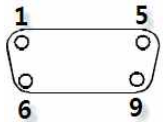
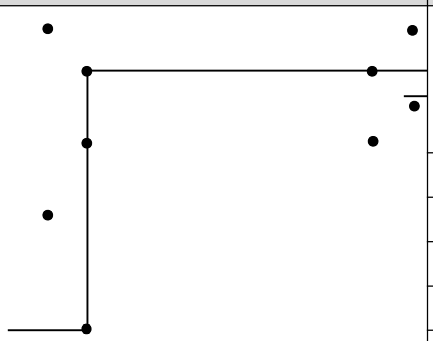
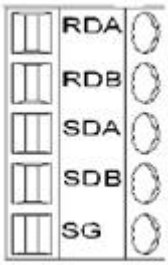
■ 1 : N Connection - Please connect referring to 1:1 connection as below.

TOP	Cable Connection and Signal Direction	PLC	Cable Connection and Signal Direction	PLC
Name of Signal		Name of Signal		Name of Signal
RDA		SDA		SDA
RDB		SDB		SDB
SDA		RDA		RDA
SDB		RDB		RDB
SG		SG		SG

5.2 Cable Table 3

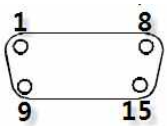
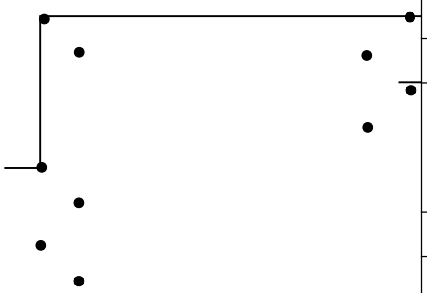
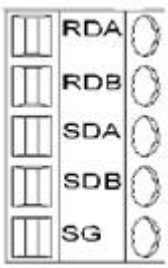
■ 1 : 1 Connection

(A) XTOP COM 2 Port (9 pin)

XTOP COM2			Cable Connection	PLC	
pin arrangement * caution 1)	Signal	Pin Number		Signal	Pin Arrangement
 Front View of D-SUB 9 Pin (male))	RDA	1		SDA	
		2		SDB	
		3		RDA	
	RDB	4		RDB	
	SG	5		SG	
	SDA	6			
		7			
		8			
	SDB	9			

*Caution1) Pin arrangement is shown from connecting face in cable connection connecter.

(B) XTOP COM 2 Port (15 pin)

XTOP COM2			**Cable Connection**		
pin arrangement * caution 1)	Signal	Pin Number		Signal	Pin Arrangement
 Front View of D-SUB 15 Pin (male)	–	1		SDA	
	(Pass)			SDB	
				RDA	
	–	10		RDB	
	RDA	11		SG	
	RDB	12			
	SDA	13			
	SDB	14			
	SG	15			

*Caution1) Pin arrangement is shown from connecting face in cable connection connecter.

■ 1 : N / N : 1 Connection - Please connect referring to 1:1 connection as below.

TOP	Cable Connection and Signal Direction	PLC
Name of Signal		Name of Signal
RDA		SDA
RDB		SDB
SDA		RDA
SDB		RDB
SG		SG

Cable Connection and Signal Direction	PLC
	Name of Signal
	SDA
	SDB
	RDA
	RDB
	SG

6. Support address

Devices that are usable with TOP are as below.

There might be difference in the range of device (address) by type / series of CPU module TOP series supports the maximum address range that external device series use Please refer to each CPU module user manual carefully for devices that you desired to use to prevent not getting out of range.

Type	Remark	Bit designated address	Word designated address	32 bit	Property
Input	Bit	X0000 – X0337	X0000 – X0320	L/H *caution1)	*Cautoin2) Caution3)
Output	Bit	Y0000 – Y0337	Y0000 – Y0320		* Caution 3)
STEP Relay	Bit	S0000 – S0999	————		
Internal Relay	Bit	M0000 – M3071	M0000 – M0192		
Special Relay	Bit	M8000 – M8255	————		* Caution 4)
Data Register	Word	D0000.00 – D7999.15	D0000 – D7999		
Special Register	Word	————	D8000 – D8255		* Caution 4)
Timer-Current	Word	————	TN000 – TN255		
Timer-Point	Bit	TS000 – TS255	————		
Counter-Point	Bit	CS000 – CS199 CS200 – CS255	————		
Counter-Current	Word	————	CN000 – CN199		
Counter-Current	Word	————	CN200 – CN255		* Caution 5)

*Caution1) The address will be saved where the 16BIT data which is subordinate to 32BIT data monitor registered and super ordinate 16BIT data will be saved right after the address that is monitor registered.

(예) If 32BIT data, 16 hexadecimal data 12345678 is saved to the address number D00100, it shall be saved with 16BIT device address as below.

Details	32BIT	16BIT	
Address	D00100	D00100	D00101
Input data (Hexadecimal Number)	12345678	5678	1234

*Caution2) Following data includes a section that cannot be written. Please use with caution.

*Caution3) If used as Word address, 20 (octal number) unit will be used. (ex. : X0, X20, X40, ..., X160)

*Caution4) Due to the usage of system followed by address as a special section, it might not be able to execute writing data. Please refer to the manual of external devices.

*Caution5) 32 BIT device