MITSUBISHI Electric Corporation MELSEC-AnA Series Computer Link Driver

Compatibl e version

4.0 or higher 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 Page 2

It explains device for connection, setup of, cable and structural system. Please choose proper system referring to this point.

2. Selecting TOP model

and external devices

Page 3

Select TOP model and external device..

3. Example of system settings Page 4

It explains setup example for communication connection between the device and external terminal.

Select example according to the system you choose in "1. System structure"

4. Communication settings

Page 16

details

It explains the way of configuring TOP communication. If external setup is changed, make sure to have same setup of

TOP with external device by referring to this chapter.

5. Cable diagram

Page 19

Explains cable specifications required for access.

Select proper cable specifications according to the system you chose in "1. System configuration".

6. Support address

Page 22

Check available addresses to communicate with external devices $$1\mbox{/}25$$ referring to this chapter.

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OS

XDesignerPlus

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1. System configuration

The system configuration of TOP and "MELSEC-AnA Series Computer Link" of "MITSUBISHI Electric Corporation" is as below.

Series	CPU	Link I/F	Method	System settings	Cable
	A2ACPU	AJ71C24-S6	RS-232C		
	A2ACPU-S1	AJ71C24-S8	RS-422 (4 wire)		
	A3ACPU A2UCPU		RS-232C		
MELSEC	A2UCPU-S1	AJ71UC24			
AnA	A3UCPU		RS-422 (4 wire)		
Series	A4UCPU				
	A2USCPU A2USHCPU-S1	A1SJ71C24-R2	RS-232C		
		A1SJ71UC24-R2	N3-232C		
		A1SJ71C24-R4	RS-422 (4 wire)		
		A1SJ71UC24-R4	K3-422 (4 WIFE)		

■ Connection configuration

1:1 (1 TOP and 1 external device) connection - configuration that is possible in RS232C/422/485 communication.



• 1 : N(1 TOP and several external devices) connection - configuration that is possible in RS422/485 connection.





2. Selecting TOP model and external devices

Select the external devices to connect to TOP.

			HMI / PLC Uint		
Series	XTOP Series		Vendor MITSUBISHI Electric Corporation		
Model	XTOP15TX-SA/S	5D	PLC Model MELSEC-AnA Series Computer Link		
			PLC		
	Vendor		Model		
M2I Corporation			CC-LINK(Remote Device Station)		
MITSUBISHI Electric Corporation			MELSEC-A Series ETHERNET		
OMRON Industrial Automation			MELSEC-AnA Series Computer Link		
LS Industrial	Systems		MELSEC-AnA(A2A/A3A) Series CPU Direct		
MODBUS Org	anization		MELSEC-AnA(A2U/A3U/A4U/A2US/A2USH) Series CPU Direct		
SIEMENS AG		111	MELSEC-AnN (A0J2) Series CPU Direct		
Rockwell Aut	tomation (AB)		MELSEC-AnN (A2N,A3N) Series CPU Direct		
GE Fanuc Au	itomation		MELSEC-AnN Series Computer Link		
PANASONIC	Electric Works		MELSEC-AnN(AnS,A0J2H) Series CPU Direct		
YASKAWA B	Electric Corporation		MELSEC-FX Series CPU Direct		
YOKOGAWA	Electric Corporatio		MELSEC-FX Series Computer Link		
Schneider Ele	ectric Industries		MELSEC-FX Series Positioning Controller - FX2N-10/20GM		
KDT Systems	B ()		MELSEC-Q (UDE Type) Series CPU ETHERNET		
RS Automatic	on(SAMSUNG)		MELSEC-Q Series CPU Direct		
HITACHI IES			MELSEC-Q Series ETHERNET(QJ71E71)		
FATEK Autor	nation Corporation		MELSEC-Q Series SERIAL(QJ71C24,Format1)		
DELTA Electr	onics		MELSEC-Q Series SERIAL(QJ71C24,Format5)		
KOYO Electro	onic Industries		MELSEC-Q(00CPU/01CPU) Series CPU Direct		
VIGOR Electr	ic Corporation		MELSEC-Q(00JCPU) Series CPU Direct		
Comfile Technology			MELSERVO-J2 Series		
Dongbu(DAS	AROBOT)		MELSERVO-J3 Series		
ROBOSTAR		+			

Setting details		Contents				
		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				
	Series	TOP series.		_		
ТОР		Series	Version name	_		
		XTOP / HTOP	V4.0	_		
_	Name	Select the model name of TOP product.				
		Select the manufacturer of external devices to be connected to TOP.				
	Manufacturer	Choose "MITSUBISHI Electric Corporation".				
External device		Select the model series of externa	al devices to be connected to TO	P.		
		Choose "MELSEC-AnA Series Computer Link".				
	PLC	Please check, in the "1. System co	onfiguration", if the relevant exte	rnal device is available to set a		
		system configuration.				



3. Example of system settings

Regarding of communication interface setting in TOP and "MELSEC-AnA Series Computer Link", we suggest as below.

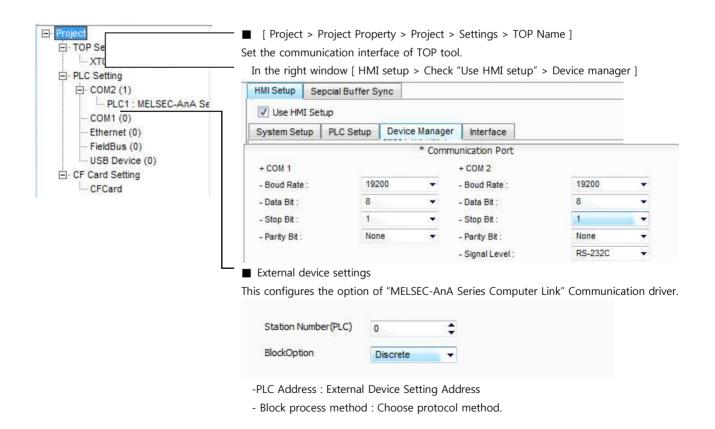
3.1 Example of settings 1

The system is set as below.	
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Details		ТОР	MELSEC-AnA Series	Remark
Serial level (port/cha	annel)	RS-232C (COM2)	RS-232C	User
	inner)	N3-232C (COM2)	N3-232C	settings
Address (DLC Address			0	User
Address(PLC Address)		_	0	settings
		10	User	
Serial baud rate	[BPS]	19200		settings
Serial data bit	[D]:+1		0	User
Serial Gala Dil	[Bit]		3	settings
Carial stap bit	(0.1)		1	User
Serial stop bit	[Bit]		L	settings
Serial parity bit	[Bit]	NC	DNE	User
	נטונן			settings

(1) XDesignerPlus setup

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





(1)

(3)

(2)

Set the communication setting by using DIP Switch of Serial Communication Unit. Please see PLC User Manual for more detail setup method.



Communication is possible when RUN LED of Serial Communication Unit is ON.

AJ71UC24

 RUN
 -2.07%

 2.50
 -2.975

 2.50
 -2.975

 2.50
 -2.980

 2.50
 -2.980

 2.60
 -4.07%

 2.50
 -4.075

 2.50
 -4.075

 2.50
 -4.00

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L1 12 1. Set the communication protocol form on Mode Setting Rotary Switch as below.

Mode Setting Rotary Switch setting number	Setting Information
1	Protocol Mode form 1

2. Communication Setting Dip Switch will be set as below.

DIP Switch	Settings	Setting Information	(ON / OFF)	
		Choose		
SW11	OFF	Communication	(RS-422 / RS-232C)	
		Channel		
SW12	ON	Setting Data bit	(8/7)	
SW13	OFF			
SW14 ON		Setting Transmit speed		
SW15	ON			
SW16	OFF	Setting parity bit	(Yes / No)	
SW17	OFF	Setting parity bit	(Even / Odd)	
SW18	OFF	Setting Stop bit	(2/1)	
SW21	ON	Setting BCC	(Yes / No)	
SW22	ON	Writing setting during	(Possible / Impossible)	
51122		RUN		
SW23	OFF	Transmission side	(Yes / No)	
51125		Termination Resistance	(10)	
SW24	OFF	Receiving side	(Yes / No)	
3**27		Termination Resistance	(10)	

3. Set up the Station Setting Rotary Switch as below to set up the address of communication card.

Station Setting	Rotary Switch	Setting Information
X10	0	
X1	0	Serial communication card number is set to '0'

4. Reset the power after setting Dip Switch



3.2 Example of Settings 2

The system is set as below.

Details		ТОР	"MELSEC-AnA Series"	Remark
Serial level (port/char	anel)	RS-232C (COM2)	RS-232C	User
	inel)	N3-252C (COWIZ)	13-2320	settings
Address(DLC Address	\ \		0	User
Address(PLC Address)		—	0	settings
		10	User	
Serial baud rate	[BPS]	192	settings	
Carriel data hit	(D:+1		2	User
Serial data bit	[Bit]		3	settings
Conial store hit	(D:+1		1	User
Serial stop bit	[Bit]	1		settings
Serial parity bit	[Bi+]	NONE		User
	[Bit]			settings

(1) XDesignerPlus setup

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

⊡ COM2 (1)	HMI Setup Se	pcial Buffer S	ync			
	System Setup	PLC Setup	Device Manager	Interface		
FieldBus (0) USB Device (0)			* Comn	nunication Port		
G CF Card Setting ☐ CFCard	+ COM 1 - Boud Rate : - Data Bit : - Stop Bit : - Parity Bit :	8	200 - - - -	+ COM 2 - Boud Rate : - Data Bit : - Stop Bit : - Parity Bit : - Signal Level :	19200 8 1 None RS-232C	
	External dev	5	f "MELSEC-And s	Series Computer Lin	k" Communication	n driv

-PLC Address : External Device Setting Address

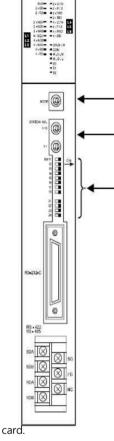


Set the communication setting by using DIP Switch of Serial Communication Unit. Please see PLC User Manual for more detail setup method.



Communication is possible when RUN LED of Serial Communication Unit is ON.

Mode Setting	Rotary Switch	Setting Information	
1			Protocol Mode form 1
2. Communicat	ion Setting Dip	Switch will be set as below	<i>I.</i>
DIP Switch	Settings	Setting Information	(ON / OFF)
SW11	OFF	Choose Communication Channel	(RS-422 / RS-232C)
SW12	ON	Setting Data bit	(8/7)
SW13	OFF		
SW14	ON	Setting Transmit speed	
SW15	ON		
SW16	OFF	Setting parity bit	(Yes / No)
SW17	OFF	Setting parity bit	(Even / Odd)
SW18	OFF	Setting Stop bit	(2/1)
SW21	ON	Setting BCC	(Yes / No)
SW22	ON	Writing setting during RUN	(Possible / Impossible)
SW23	ON	Calculator link	(Computer link / Multiple drop link)
SW24	Not using	-	



3. Set up the Station Setting Rotary Switch as below to set up the address of communication

Station Setting	Rotary Switch	Setting Information
X10	0	
X1	0	Serial Communication Card number is set to '0'

4. Power reset after setting Dip Switch)



3.3 Example of Settings 3

The system is set as l	below.				
Details		ТОР	"MELSEC-AnA Series"	Remark	
Serial level (port/channel)		RS-232C (COM2)	RS-232C	User settings	
Address(PLC Addres	55)	—	0	User settings	
Serial baud rate	[BPS]	19.	User settings		
Serial data bit [Bit]			8		
Serial stop bit	rial stop bit [Bit] 1			User settings	
Serial parity bit	[Bit]	NC	DNE	User settings	

(1) XDesignerPlus setup

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

COM2 (1) 	In the right window. ["Use HMI Setup"> D	evice manager]	
	Use HMI Setup				
····FieldBus (0)	System Setup PLC Setu	Device Manager	Interface		
⊡ USB Device (0) ⊡ CF Card Setting CFCard		* Con	nmunication Port		
	+ COM 1 - Boud Rate :	19200 👻	+ COM 2 - Boud Rate :	19200	÷
	- Data Bit :	8 🗸	- Data Bit : - Stop Bit :	8	•
	- Stop Bit :	1		1	
	- Parity Bit :	None 👻	- Parity Bit :	None	-
			- Sign <mark>al</mark> Level :	RS-232C	•
	External device settin	-			
	This configures the optio	on of <u>"MELSEC-AnA</u>	Series Computer Link	<u>Communication</u>	drive

-PLC Address : External Device Setting Address



Set the communication setting by using DIP Switch of Serial Communication Unit. Please see PLC User Manual for more detail setup method.



Communication is possible when RUN LED of Serial Communication Unit is ON.

SJ71UC24-R2 NEU O NEU O AKK O ACK O NEK O NEK O EN O DN O				col form on Mode Setting Rot	Setting Information
0 NAK 0 0 IN 0 0 PIS 0 0 IN 0 0 IN 0 0 IN 0 0 SP 0			1		Protocol Mode form 1
	(1)		Setting Dip Sv	witch will be set as below.	
@◀		Switch	Settings	Setting Information	(ON / OFF)
 □□ ₩00E	(2) swo)3	Not using	-	
HE NOOE 1-FORM 3-FORM 3-FORM 5-MOPORM	SWC)4	ON	Writing setting during RUN	(Possible / Impossible)
R9-232-C	SWC)5	OFF		
00	SWC)6	ON	Setting Transmit speed	
0000	SWC)7	ON		
	SWC)8	ON	Data bit	(8/7)
J71UC24-R2	SWC)9	OFF	Setting parity bit	(Yes / No)
	SW1	.0	OFF	Setting parity bit	(Even / Odd)
	SW1	1	OFF	Setting Stop bit	(2/1)
	SW1	.2	ON	Setting BCC	(Yes / No)

3. Reset the power after setting Dip Switch.



3.4 Example of Settings 4

The system is set as below.

Details		ТОР	"MELSEC-AnA Series"	Remark
Serial level (port/channel)		RS-422 (4 wire, COM2)	RS-422	User
	inner)		113-422	settings
			0	User
Address(PLC Addres	5)	— 0		settings
Serial baud rate		10	200	User
Serial baud rate [BPS]		192	settings	
	(0.1)		2	User
Serial data bit	[Bit]		3	settings
Carriel stars hit	[D];1]		1	User
Serial stop bit	[Bit]	-	1	settings
Serial parity bit	[D]+1	NC	DNE	User
Senai parity bit	[Bit]		JINE	settings

(1) XDesignerPlus setup

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

PLC Setting	In the right win	dow [HMI	setup > Cheo	ck "Use HMI Setup"	' > Device mana	ager
 COM2 (1) PLC1 : MELSEC-AnA Se COM1 (0) Ethernet (0) FieldBus (0) USB Device (0) CF Card Setting CFCard 	HMI Setup Se	pcial Buffer S	ync			
	🔽 Use HMI Set	up				
	System Setup	PLC Setup	Device Mana	ager Interface		
			* Comm	unication Port		
	+ COM 1			+ COM 2		
	- Boud Rate :	19200		- Boud Rate :	19200	-
	- Data Bit :	8	(•	- Data Bit :	8	•
	- Stop Bit :	1		- Stop Bit :	1	
	- Parity Bit :	None	•	- Parity Bit :	None	
				- Signal Level :	RS-422(4)	-

External device settings

This configures the option of <u>"MELSEC-AnA Series Computer Link"</u> Communication driver.

Station Number(PLC)	0	•
BlockOption	Discrete	•

-PLC Address : External Device Setting Address



Set the communication setting by using DIP Switch of Serial Communication Unit. Please see PLC User Manual for more detail setup method.



Communication is possible when RUN LED of Serial Communication Unit is ON.

N	lode Setting Ro	otary Switch s	etting number	Setting Information
		5		Protocol Mode form 1
2.	Communication	Setting Dip S	witch will be set as bel	ow.
	DIP Switch	Settings	Setting Informatio	n (ON/OFF)
(1)	SW11	ON	Choose Communication Channel	(RS-422 / RS-232C)
(3)	SW12	ON	Setting Data bit	(8/7)
	SW13	OFF		
(2) SW14 SW15	SW14	ON	Setting Transmit speed	
	SW15	ON		
	SW16	OFF	Setting parity bit	(Yes / No)
	SW17	OFF	Setting parity bit	(Even / Odd)
	SW18	OFF	Setting Stop bit	(2/1)
	SW21	ON	Setting BCC	(Yes / No)
	SW22	ON	Writing setting du RUN	ring (Possible / Impossible)
	SW23	OFF	Transmission Stransmission	side (Yes / No) Ince
	SW24	OFF	Receiving Stream	side (Yes / No)

3. Set up the Station Setting Rotary Switch as below to set up the address of communication card.

Station Setting	Rotary Switch	Setting Information
X10	0	
X1	0	Set-up of Serial communication card address "0"

4. Reset the power after setting Dip Switch.

_



3.5 Example of Settings 5

The system is set as below.

Details		ТОР	"MELSEC-AnA Series"	Remark
Serial level (port/channel)		RS-422 (4 wire, COM2)	RS-422	User
	inner)		113-422	settings
			0	User
Address(PLC Addres	5)	— 0		settings
Serial baud rate		10	200	User
Serial baud rate [BPS]		192	settings	
	(0.1)		2	User
Serial data bit	[Bit]		3	settings
Carriel stars hit	[D];1]		1	User
Serial stop bit	[Bit]	-	1	settings
Serial parity bit	[D]+1	NC	DNE	User
Senai parity bit	[Bit]		JINE	settings

(1) XDesignerPlus setup

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

E- COM2 (1)	HMI Setup	Sepcial Buffer Sy	/nc				
COM1 (0)	🔽 Use HMI	Setup					
Ethernet (0)	System Setu	p PLC Setup	Device Mar	nager	Interface		
FieldBus (0) USB Device (0)			* Com	munica	tion Port		
- CF Card Setting	+ COM 1			+ CC	DM 2	-	
CFCard	- Boud Rate :	19200	(Ť)	- Bo	ud Rate :	19200	-
	- Data Bit :	8	•	- Da	ta Bit :	8	
	- Stop Bit :	1		- Sto	op Bit :	1	
	- Parity Bit :	None	(💌)	- Par	rity Bit :	None	-
				- Sig	nal Level :	RS-422(4)	
	This configure	evice settings s the option of (mber(PLC) 0	'MELSEC-AI	nA Ser	ies Computer L	<u>ink</u> " Communica	tion

-PLC Address : External Device Setting Address



Set the communication setting by using DIP Switch of Serial Communication Unit. Please see PLC User Manual for more detail setup method.



Communication is possible when RUN LED of Serial Communication Unit is ON.

AJ71UC24	Mode Settin	g Rotary Swite	ch setting number	Setting Information
HUM		5		Protocol Mode form 1
	2. Commun	ication Setting	Dip Switch will be set as be	low.
40.0.L 30. 31 32	DIP Switch	Settings	Setting Information	(ON / OFF)
	(1\$W11	ON	Choose Communication Channel	(RS-422 / RS-232C)
	(3 ^{SW12}	ON	Setting Data bit	(8/7)
~[@ `	SW13	OFF		
	SW14	ON	Setting Transmit speed	
	(2 ^{SW15}	ON		
	SW16	OFF	Setting parity bit	(Yes / No)
	SW17	OFF	Setting parity bit	(Even / Odd)
	SW18	OFF	Setting Stop bit	(2/1)
	SW21	ON	Setting BCC	(Yes / No)
	SW22	ON	Writing setting during RUN	(Possible / Impossible)
	SW23	ON	Calculator Link	(Computer link / Multiple dro
⊗ ∞	30025			link)
	SW24	Not using	-	

Station Setting	Rotary Switch	Setting Information
X10	0	
X1	0	Serial Communication Card number is set to '0'

4. Reset the power after setting Dip Switch)



3.6 Example of Settings 6

The system is set as below.

Details		ТОР	"MELSEC-AnA Series"	Remark
Serial level (port/channel)		RS-422 (4 wire, COM2)	RS-422	User
		K3-422 (4 WIRE, COWIZ)	13-422	settings
Address(PLC Address)			0	User
		_	0	settings
Serial baud rate [B]	PS]	19	User	
	-2]	13.	settings	
Serial data bit [Bi	+1		User	
Serial data bit [Bi	IJ		settings	
Sorial stop bit	+1		User	
Serial stop bit [Bi	IJ		settings	
Serial parity bit [Bi	+1		DNE	User
	IJ			settings

(1) XDesignerPlus setup

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

E- COM2 (1)	HMI Setup	Sepcial Buffer S	ync			
	Use HMI	Setup				
COM1 (0) Ethernet (0)	System Setu	p PLC Setup	Device Manager	Interface		
- FieldBus (0)			* Communic	ation Port		
USB Device (0)	+ COM 1		+ C	OM 2		
CF Card Setting	- Boud Rate :	19200	🔹 - Be	oud Rate :	19200	•
Critard	- Data Bit :	8	👻 - Da	ata Bit :	8	•
	- Stop Bit :	1	- St	top Bit :	1	
	- Parity Bit :	None	🔻 - Pa	arity Bit :	None	
			- Si	gnal Level :	RS-422(4)	•
	External de	evice settings	CRONDUR.			
		5	"MELSEC-AnA Se	eries Computer	Link" Communic	ation
	inis comgure.	s the option of	MELSEC ANA SC	enes computer		ation
	Station Nun	nber(PLC) 0				



Set the communication setting by using DIP Switch of Serial Communication Unit. Please see PLC User Manual for more detail setup method.



Communication is possible when RUN LED of Serial Communication Unit is ON.

XAK C SCANE, C/N C BDY, 7/5 C MO C S, DWA 380 C		Mode Settin	g Rotary Swit	ch setting number	Set	ting Information	
CON [] 40/4	-	5			Protocol Mode form 1		
1 €#1111	(2)	2. Communi	cation Setting	Dip Switch will be set as	below.		
	← (3)	DIP Switch	Settings	Setting Information	(ON ,	OFF)	
<u>黎(茶</u>)	← (1)	SW01	OFF	Not using			
		SW02	ON	Computer link	Comp	uter Link / Multiple drop link	
		SW03	OFF	Not using			
		SW04	ON	Writing setting during	J RUN	(Possible / Impossible)	
D -		SW05	OFF				
40		SW06	ON	Setting Transmit spee	d		
- 122 / 485 24 - R4		SW07	ON				
		SW08	ON	Setting Data bit	(8/7)	
		SW09	OFF	Setting parity bit	(Yes /	No)	
		SW10	OFF	Setting parity bit	(Even	/ Odd)	
		SW11	OFF	Setting Stop bit	(2/1	.)	
		SW12	ON	Setting BCC	(Yes /	No)	

3. Set up the Station Setting Rotary Switch as below to set up the address of communication

card.

Station Setting Rotary Switch		Setting Information
X10	0	
X1	0	Serial Communication Card number is set to '0'

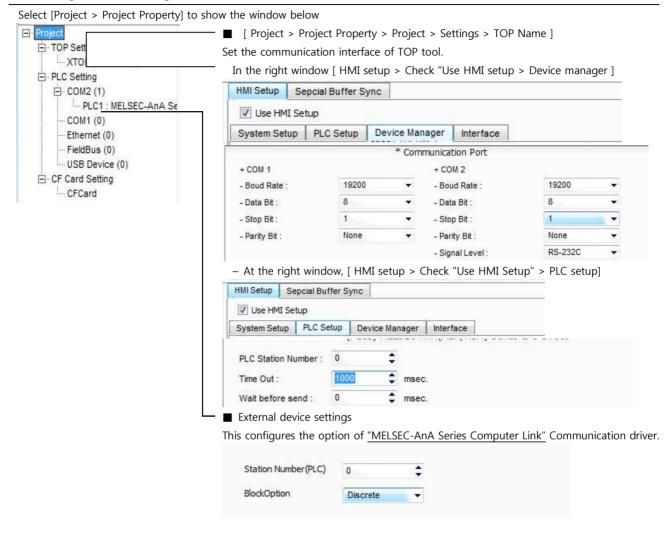
4. Reset the power after setting Dip Switch.



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



Communication Interface Settings

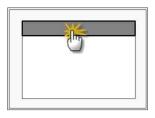
Details	Contents				
Circularia	External device - select serial communication method between TOPs. (COM1 supplies RS-232C				
Signal level	only)				
Baud rate	External device – select serial communication speed between TOPs.				
Data bit	External device – select serial communication data bit between 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 response waiting time from external device at [0 – 5000] x 1 mSec.				
Transmitting Delay Time [
x10 mSec]	Set up TOP's waiting time between response receiving – next command request transmission from				
Receiving Wait Time [x10	external device at [0 – 5000] x 1 mSec.				
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 \rightarrow Step2.	
(Press "TOP COM 2/1 setup" in Step 1 to change setup at Step 2.)	



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

C setup					
C Address : 00		Communication			
neout : 1000 [mSec]		Interface Settings			
elay time of transmission : 0 [mSe	c]				
OP COM 2/1 : RS - 232C , 19200 ,					
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. [P	LC setup] >	[TOP COM2/COM1	Setting] -	Setup relevant	port's serial parameter.
-------------	--------------	-----------------	-------------	----------------	--------------------------

Port Settings	
* Serial communication	COM 1 Port
+ COM-1 Port	Communication
- Baud rate : 19200 [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 : 19200 [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 Version O.S Version

Designer version		0.5 Version				
Details	Contents	ŀ			Con	firm
System	Name of CPU				ОК	NG
configuration	Name of confront port that is communicating				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				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
	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 Dia Communication	agnosin	3	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

This Chapter is to introduce the Cable diagram for regular communication between TOP and relative devices. (Cable diagram that is being introduced in this chapter might differ from the suggestions of "Mitsubishi Electric Corporation".)

5.1 Cable diagram	n 1		-			
■ 1 : 1 Connection (A) XTOP CO	OM 2 Port ((9 pir				
XTOP	COM2	·			PI	_C
pin arrangement * caution 1)	Name of Signal	Pin Number	Cable Connection	Pin Number	Name of Signal	pin arrangement * caution 1)
	CD	1		1	FG	
1 5	RD	2		2	SD	
(° °)	SD	3		3	RD	
6 9	DTR	4		4	RTS	Based on the front
6 9 Based on the front side of	SG	5	•	5	CTS	side of Communication cable connecter
Communication	DSR	6	•	6	DSR	D-SUB 25 Pin
cable connecter	RTS	7		7	SG	(male, up)
D-SUB 9 Pin male	CTS	8		8	CD	
		9		20	DTR	

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

XTOP COM2					PLC		
pin arrangement * caution 1)	Name of Signal	Pin Number	Cable Connection	Pin Number	Name of Signal	pin arrangement * caution 1)	
	CD	1		1	FG		
1 8	RD	2		2	SD		
(° °)	SD	3		3	RD		
9 15	DTR	4		4	RTS	Based on the front	
Based on the front side of	SG	5	•	5	CTS	side of Communication cable connecter	
Communication	DSR	6	•	6	DSR	D-SUB 25 Pin	
cable connecter	RTS	7		7	SG	(male, up)	
D-SUB 15 Pin male	CTS	8		8	CD	(male, up)	
		9		20	DTR		

(B) XTOP COM 2 Port (15 pin)

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

(C) XTOP/ATO		Port (6 Pin				
XTOP/ATOP	COM 1 Por	ť		PLC		
pin arrangement * caution 1)	Name of Signal	Pin Numb <u>er</u>	Cable Connection	Pin Number	Name of Signal	pin arrangement * caution 1)
6 4 2		1	-	1	FG	
o X	RD	┝	-	2	SD	Based on the front
$\begin{array}{c} & & & \\ & & & \\ & & & \\ & & & \\ & &$	SG	•	• •	3	RD	side of Communication cable connecter D-SUB 25 Pin (male, up)

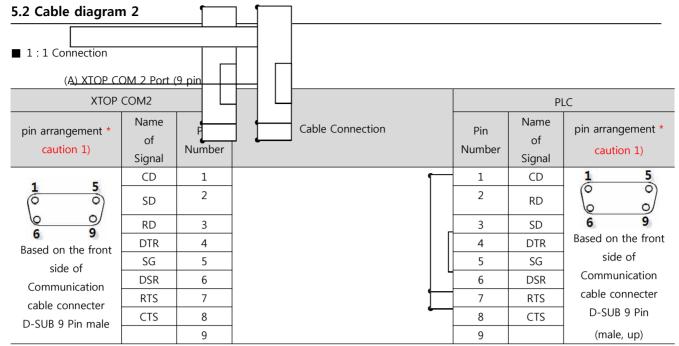
(C) XTOP/ATOP COM 1 Port (6 Pin)



		4	4	RTS
Communication		5	5	CTS
Communication	SD	6	6	DSR
cable connecter D-SUB 6 Pin male			7	SG
D-SUB 6 PIN Male			8	CD
			20	DTR

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





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

(B) XTOP COM 2 Port (15 pin)

XTOP COM2				PLC		
pin arrangement * caution 1)	Name of Signal	Pin Number	Cable Connection	Pin Number	Name of Signal	pin arrangement * caution 1)
1 0	CD	1		1	CD	1 5
	SD	2		2	RD	$\begin{pmatrix} \circ & \circ \end{pmatrix}$
	RD	3		3	SD	6 9
9 15	DTR	4		4	DTR	Based on the front
Based on the front	SG	5		5	SG	side of
side of	DSR	6		6	DSR	Communication
Communication	RTS	7		7	RTS	cable connecter
cable connecter	CTS	8		8	CTS	D-SUB 9 Pin (male,
D-SUB 9 Pin male		9		9		up)

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

(B) XTOP/ATOP COM 1 Port (6 Pin)						
XTOP/ATOP	COM 1 Por	rt		PLC		
pin arrangement * caution 1)	Name of Signal	Pin Number	Cable Connection	Pin Number	Name of Signal	pin arrangement * caution 1)
6 4 2		1		1	CD	1 5
	RD	2	•	2	RD	(° °)
() 🗔 。)	SG	3	• •	3	SD	6 9
s ° I		4		4	DTR	Based on the front
3 3		5	•	5	SG	side of
Based on the front	SD	6		6	DSR	Communication
side of				7	RTS	cable connecter
Communication				8	CTS	D-SUB 9 Pin (male,
cable connecter				9		
D-SUB 6 Pin male						up)

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



5.3 Cable diagram 3

1:1 Connection

(A) XTOP CO	OM 2 Port ((9 pin)				
XTOP COM2				PLC		
pin arrangement * caution 1)	Name of Signal	Pin Number	Cable Connection	Name of Signal	Pin Arrangement	
	RDA	1		SDA		
		2	•	SDB		
		3	• •	RDA		
			•			
6 9 Based on the front		4	•	RDB		
side of Communication cable connecter D-SUB 9 Pin male	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		<u> </u>		PLC		
pin arrangement * caution 1)	Name of Signal	Pin Number	Cable Connection	Name of Signal	Pin Arrangement	
	_	1		SDA		
	(Pa	ass)		SDB		
1 8 0 0 9 15 Based on the front				RDA	SDA 🚫 🚫 SG	
side of Communication cable connecter D-SUB 15 Pin male	_	10		RDB	RDA 🚫 KO RDB	
	RDA	11		SG		
	RDB	12				
	SDA	13]		

		7	대한민국대표 터치패널 Touch Operation Panel
SDB	14		
SG	15		

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

ATOP COM2		Cable Connection	PLC		
pin arrangement * caution 1)	Signal		Signal	Pin Arrangement	
	RDA		SDA		
	RDB		SDB		
	SDA		RDA	SDB X SG	
front side of Communication cable connecter	SDB		RDB		
Terminal Block 5 Pin	SG		SG		

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

■ 1 : N Connection - Please connect by referring 1:1 connection.

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

Туре	Remark	Bit designated address	Word designated address
Input	Bit	X0000 - X1FFF	X0000 - X1FF0
Output	Bit	Y0000 - Y1FFF	Y0000 - Y1FF0
Link relay	Bit	B0000 - B1FFF	
Link register	Word		W0000 - W1FFF
STEP Relay	Bit	S0000 - S2047	
Special relay	Bit	F0000 - F2047	F0000 - F2032
Latch Relay	Bit	L0000 - L8191	
Internal Relay	Bit	M0000 - M8191	M0000 - M8176
Special relay	Bit	M9000 - M9255	M9000 – M9240
Data Register	Word		D0000 - D8191
Special Register	Word		D9000 - D9255
Timer-Coil	Bit	TC000 - TC2047	
Timer-Current	Word		TN000 – TN2047
Timer-Point	Bit	TS0000 - TS2047	
Counter-Coil	Bit	CC000 - CC1023	
Counter-Current	Word		CN000 – CN1023
Counter-Point	Bit	CS000 – CS1023	