# MITSUBISHI Electric Corporation MELSEC-AnN Series Computer Link Driver

Compatibl OS e version XDesignerPlus

4.0.0.0 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

### Page 3

### external devices

Select TOP model and external device..

## **3.** Example of Page 4

### system settings

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 setting

### details

Page 20

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 23

Explains cable specifications required for access.

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

## **6.** Support address

### Page 26

Check available addresses to communicate with external devices

referring to this chapter.



## 1. System configuration

The System configuration of TOP and "MITSUBISHI Electric Corporation – MELSEC-AnN Series Computer Link" is as below.

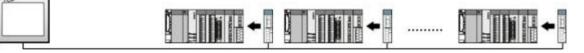
Series	CPU	Link I/F	Method	System settings	Cable
		AJ71C24	RS-232C		
	A1NCPU A2NCPU A2NCPU-S1 A3NCPU	AJ71C24-S3 AJ71C24-S6 AJ71C24-S8	RS-422 ( 4 wire )		
		AJ71UC24	RS-232C		
		AJ710C24	RS-422 ( 4 wire )		
MELSEC AnN Series	A1SCPU A1SJCPU A1SJHCPU	A1SJ71C24-R2 A1SJ71UC24-R2	RS-232C		
	A1SHCPU A2SHCPU	A1SJ71C24-R4 A1SJ71UC24-R4	RS-422 ( 4 wire )		
	A0J2CPU A0J2HCPU	A0J2-C214-S1	RS-422 ( 4 wire )		
	A2CCPUC24	CPU integrated Link port	RS-232C		

#### Connection configuration

• 1 : 1(1 TOP and 1 External Device) Connection - It is a configuration for RS232C/422/485 communication.



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





## 2. Selecting TOP model and external devices

Select the external devices to connect to TOP.

S Industrial Systems MELSEC-AnA(A2	
Vendor 121 Corporation ITSUBISHI Electric Corporation DMRON Industrial Automation S. Industrial Systems MELSEC-ANA(A2)	PLC Model Device Station) s ETHERNET
121 Corporation         CC-LINK(Remote           IITSUBISHI Electric Corporation         MELSEC-A Series           DMRON Industrial Automation         MELSEC-AnA Se           S. Industrial Systems         MELSEC-AnA(A2)	Model Device Station) 3 ETHERNET
121 Corporation         CC-LINK(Remote           IITSUBISHI Electric Corporation         MELSEC-A Series           DMRON Industrial Automation         MELSEC-AnA Se           S. Industrial Systems         MELSEC-AnA(A2)	Device Station) s ETHERNET
ITSUBISHI Electric Corporation MRON Industrial Automation S Industrial Systems MELSEC-AnA(A2	S ETHERNET
MRON Industrial Automation MELSEC-AnA Se S Industrial Systems MELSEC-AnA(A2	
S Industrial Systems MELSEC-AnA(A2	ries Computer Link
IODBUS Organization MELSEC-AnA(A2	A/A3A) Series CPU Direct
	U/A3U/A4U/A2US/A2USH) Series CPU Direct
MELSEC-AnN (AU	0J2) Series CPU Direct
Rockwell Automation (AB) MELSEC-AnN (A2	2N,A3N) Series CPU Direct
GE Fanuc Automation MELSEC-AnN Ser	ries Computer Link
ANASONIC Electric Works MELSEC-AnN(An	S,A0J2H) Series CPU Direct
ASKAWA Electric Corporation MELSEC-FX Serie	es CPU Direct
OKOGAWA Electric Corporatio MELSEC-FX Serie	es Computer Link
Schneider Electric Industries MELSEC-FX Serie	es Positioning Controller - FX2N-10/20GM
CDT Systems MELSEC-Q (UDE	Type) Series CPU ETHERNET
RS Automation(SAMSUNG) MELSEC-Q Series	s CPU Direct
ITTACHI IES MELSEC-Q Series	s ETHERNET(QJ71E71)
ATEK Automation Corporation MELSEC-Q Series	s SERIAL(QJ71C24,Format1)
ELTA Electronics MELSEC-Q Series	s SERIAL(QJ71C24,Format5)
COYO Electronic Industries MELSEC-Q(00CP	U/01CPU) Series CPU Direct
/IGOR Electric Corporation MELSEC-Q(00JCI	PU) Series CPU Direct
Comfile Technology MELSERVO-J2 Set	eries
ongbu(DASAROBOT) MELSERVO-J3 S	eries
ROBOSTAR 🚽	

Setting	details		Contents	
		Select the name of a TOP series t	hat is to be connected to PLC.	
		Before downloading the settings,	install the OS version specified in	n the table below according to
	Series	TOP series.		
ТОР		Series	Version name	
		XTOP / HTOP	V4.0	
	Name	Select the model name of TOP pr	oduct.	
		Select the manufacturer of externa	al devices to be connected to TC	)P.
	Manufacturer	Please Choose "MITSUBISHI Electr	ric Corporation".	
External device		Select the model series of externa	I devices to be connected to TO	Р.
	PLC	Please select "MELSEC-AnN Series Computer Link".		
		Please check, in the "1. System co	onfiguration", if the relevant exter	rnal device is available to set a
		system configuration.		



## 3. Example of system settings

Regarding of communication interface settings for TOP and MELSEC-AnN Computer Link, we suggest as below.

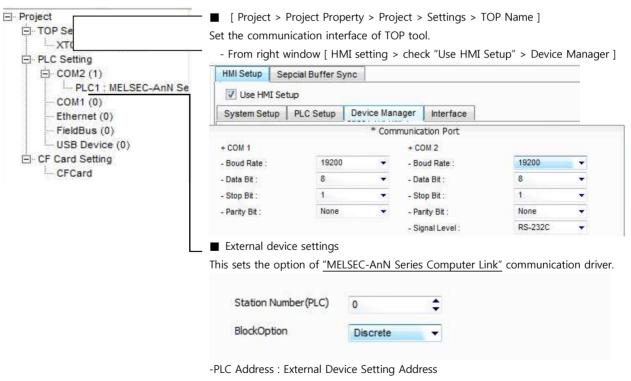
#### 3.1 Example of settings 1

The system is set as below.

Details		ТОР	MELSEC-AnN Series	Remark
Serial level (port/cha	annel)	RS-232C (COM2)	RS-232C	User
	anner	N3-232C (COM2)	13-2320	settings
			0	User
Address(PLC Addres	(S)	—	0	settings
		10	200	User
Serial baud rate	[BPS]	19.	200	settings
	(D.(J		2	User
Serial data bit	[Bit]		3	settings
	(D.(J		1	User
Serial stop bit	[Bit]		1	settings
Serial parity bit	[Bit]		DNE	User
	נטוגן			settings

#### (1) XDesignerPlus setup

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





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 Se	tting Rotary S	Setting Information	
	1	_	Protocol Mode form 2
<b>2.</b> Commur	ication Setting	Dip Switch will be set as b	elow.
DIP Switch	Settings	Setting Information	( ON / OFF )
-(1)/11	OFF	Choose Communication Channel	( RS-422 / RS-232C )
-(3W12	ON	Setting Data bit	(8/7)
SW13	OFF		
- (SW14	ON	Setting the 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	OFF	Transmission side Termination Resistance	(Yes / No)
SW24	OFF	Receiving side Termination Resistance	(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 the Serial communication card address 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-AnN Series	Remark
Serial level (port/char		RS-232C (COM2)	RS-232C	User
	inel)	N3-252C (COWIZ)	13-2320	settings
Address (DLC Address)	\		0	User
Address(PLC Address	)		0	settings
Carial based as to		10	200	User
Serial baud rate	[BPS]	19.	200	settings
	(D)(1)		2	User
Serial data bit	[Bit]		3	settings
Carial stars bit	(D)(1)		1	User
Serial stop bit	[Bit]	-	1	settings
Sorial parity hit	[D:+1	NC	DNE	User
Serial parity bit	[Bit]	NC.	JINE	settings

#### (1) XDesignerPlus setup

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

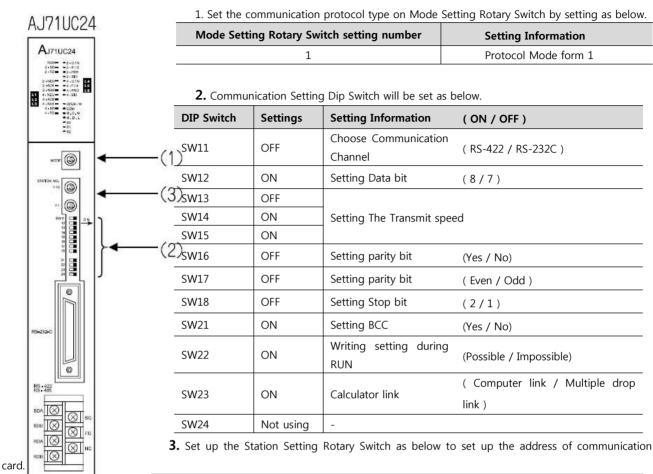
TOP1	- From right v	vindow, [ H	IMI setting	> check "Use HM	I setup" > Dev	ice Manager
⊡ COM2 (1)	HMI Setup Se	pcial Buffer S	ync			
PLC1 : <u>MELSEC-AnN Se</u> COM1 (0)	🔽 Use HMI Set	up				
- Ethernet (0)	System Setup	PLC Setup	Device Mana	ager Interface		
··· FieldBus (0)			* Comn	nunication Port		
USB Device (0)	+ COM 1			+ COM 2		=
E CF Card Setting	- Boud Rate :	19200	1	- Boud Rate :	19200	<b>•</b>
CFCard	- Data Bit :	8		- Data Bit :	8	<b>•</b> 1
	- Stop Bit :	1		- Stop Bit :	1	
	- Parity Bit :	None		- Parity Bit :	None	•
				- Signal Level :	RS-232C	<b>*</b>
	External devi	ce settings				
	This sets the op	tion of "M	ELSEC-AnN	Series Computer	Link" communi	cation driver.
	Station Num	ber(PLC)	0	¢		
	BlockOption		Discrete	25.22		



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.



Station Setting	g Rotary Switch	Setting Information
X10	0	
X1	0	Set serial communication card address to '0'

4. Reset the power after setting Dip Switch



#### 3.3 Examples of Setting 3

The system is set as l	below.			
Details		ТОР	MELSEC-AnN Series	Remark
Serial level (port/ch	annel)	RS-232C (COM2)	RS-232C	User settings
Address(PLC Addres	55)	—	0	User settings
Serial baud rate	[BPS]	19.	200	User settings
Serial data bit	[Bit]		8	User settings
Serial 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.

PLC Setting	HMI Setup S	epcial Buffer S	whe			
E-COM2 (1)	Use HMI S		, inc			-
COM1 (0)				1		
Ethernet (0)	System Setup	PLC Setup	Device Manage	r Interface		_
- FieldBus (0)			* Comm	unication Port		
USB Device (0)	+ COM 1			+ COM 2		
· CF Card Setting	- Boud Rate :	1920	• 00	- Boud Rate :	19200	•
CFCard	- Data Bit :	8	*	- Data Bit :	8	•
	- Stop Bit :	1		- Stop Bit :	1	
	- Parity Bit :	Non	• •	- Parity Bit :	None	•
				- Signal Level :	RS-232C	¥
	■ External dev	vice settinas				
		-		ios Computor Lip	« communicatio	on drive
	This sets the o		ELSEC-ANN Ser	ies Computer Lin		in anve
	Station Nur	mber (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.

NEU O ACK O NAK O	Mode Set	ing Rotary Swi	Setting Information		
CN O PIS O PIRO O tilo O		1		Protocol Mode form 1	
ao O	<b>2.</b> Commu	inication Setting	g Dip Switch will be set as	below.	
~	DIP Switch	Settings	Setting Information	( ON / OFF )	
€	SW03	Not using	-		
DE ORM1 ORM2 ORM3 ORM4		ON	Writing setting dur RUN	ing (Possible / Impossible)	
FORM	SW05	OFF			
	SW06	ON	Setting The Transmit speed		
	SW07	ON			
	SW08	ON	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. Reset the power after setting Dip Switch



#### 3.4 Examples of Setting 4

The system is set as below.

Details		ТОР	MELSEC-AnN Series	Remark		
Serial level (port/cha		RS-232C (COM2) RS-232C		User		
		KS-ZSZC (COMZ)	K3-232C	settings		
Adduces (DLC Adduce	>		0	User		
Address(PLC Addres	55)		0	settings		
Carial haved rate		10	200	User		
Serial baud rate	[BPS]	19.	19200			
	[D:+]		2	User		
Serial data bit	[Bit]		3	settings		
	(0.11			User		
Serial stop bit	[Bit]	-	1			
Serial parity bit	[D:+]		DNE	User		
Serial 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 PLC Setting COM2 (1)	HMI Setup	nt window, [ HI	and a second				
	Use HMI	Sepcial Buffer S Setup	ync				
Ethernet (0)	System Setu	IP PLC Setup	Device Ma	anager	Interface		
FieldBus (0) USB Device (0) CF Card Setting			* Comr	nunicatio	n Port		
	+ COM 1			+ COM 2			
	- Boud Rate :	9600		- Boud Rate :		9600	
CFCard	- Data Bit :	8		- Data	Bit:	8	
	- Stop Bit :	1	•	- Stop	Bit :	1	
	- Parity Bit :	Odd	•	- Parity	/Bit:	Odd	8.1
				- Signa	al Level :	RS-232C	1.00
	External d	evice settings					
		option of "ME	SEC-AnN	Series	Computer Li	nk" communi	cation driv
		option of the		Series			
		lumber(PLC)	0		-		

-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.

1. This sets communication protocol form on Mode Setting Rotary	Switch as below.
Made Catting Batan Cattal anti-	

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

DIP Switch	Settings	Setting Information	( ON	/ OFF )
SW11	OFF			
SW12	ON	Setting the Transmit speed		
SW13	ON			
SW14	ON	Setting Data bit		(8/7)
SW15	OFF	Setting parity bit		(Yes / No)
SW16	OFF	Setting parity bit	(Ever	n / Odd )
SW17	OFF	Setting Stop bit	(2/1	L )
SW18	ON	Setting BCC	(Yes /	No)
SW19	ON	Select Main Channel		
SW20	OFF	Writing setting during RUN	(Possi	ble / Impossible)

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

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 the Serial communication card address to '0'	

4. Resert the power after setting Dip Switch

#### 3.5 Examples of Setting 5



#### The system is set as below.

Details		ТОР	MELSEC-AnN Series	Remark
Serial level (port/ch	appal)	RS-422 (4 wire, COM2)	RS-422	User
			N3-422	settings
	>			User
Address(PLC Addres	55)	_	0	settings
	(556)		19200	
Serial baud rate	[BPS]	15	3200	settings
	(0.11)		0	User
Serial data bit	[Bit]		8	settings
	(0.11		1	User
Serial stop bit	[Bit]		settings	
Carial parity bit	[D:+1	N		User
Serial parity bit	[Bit]		ONE	settings

#### (1) XDesignerPlus setup

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

PLC Setting		nt window [HM	and the second		030 11111 5		
⊡ COM2 (1)	HMI Setup	Sepcial Buffer S	ync				
	Use HMI	Setup					
Ethernet (0)	System Setu	p PLC Setup	Device	Manager	Interface		
FieldBus (0)			* Cor	nmunication	Port		
USB Device (0)	+ COM 1	+ COM 1 + COM 2					
E CF Card Setting	- Boud Rate :	19200		- Boud Ra	ate :	19200	
CFCard	- Data Bit :	8	•	- Data Bit	:	8	÷
	- Stop Bit :	1		- Stop Bit	r.	1	•
	- Parity Bit :	None		- Parity B	it :	None	
				- Signal L	evel :	RS-422(4)	•
	External de	evice settings					
	Set the optior	n of Communic	ation D	river "MEL	SEC-AnN Se	ries Comput	ter Link".
	Station N	umber(PLC)	0				
			u u	18			
	BlockOpti		Discret				



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 Settin	g Rotary Swit	ch setting number	Setting Information
		5		Protocol Mode form 1
1	<b>2.</b> Communio	cation Setting I	Dip Switch will be set as be	elow.
	DIP Switch	Settings	Setting Information	( ON / OFF )
			Choose	
	SW11	ON	Communication	(RS-422 / RS-232C)
•	-(1)		Channel	
		ON	Setting Data bit	(8/7)
	SW13	OFF		
1	SW14	ON	Setting The Transmit sp	beed
	- (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	OFF	Transmission side Termination Resistance	(Yes / No)
	SW24	OFF	Receiving side Termination Resistance	(Yes / No)

card.

Station Setting	Rotary Switch	Setting Information
X10	0	
X1	0	Set the serial communication card address to '0'

4. Reset the power after setting Dip Switch



#### 3.6 Examples of Setting 6

The system is set as below.

Details		ТОР	MELSEC-AnN Series	Remark
Serial level (port/cha	nnol)	RS-422 (4 wire, COM2)	RS-422	User
	innei)		N3-422	settings
Address(PLC Addres	c)		0	User
Address(PLC Addres	5)	_	0	settings
Serial baud rate	נססכו	10	200	User
Serial Daug Tale	[BPS]	19.	settings	
Serial data bit	[D]+1		8	User
	[Bit]		D	settings
Sorial stop bit	[D]+1		1	User
Serial stop bit	[Bit]	-	1	
Serial parity bit	[Bit]	NC	DNE	User
	[Dit]			settings

#### (1) XDesignerPlus setup

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

E PLC Setting		vindow [HMI Sepcial Buffer S		eneek		ip i Device	
PLC <u>1 : MELSEC-AnN Se</u> - COM1 (0)	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1		1.0				
Ethernet (0)	System Setup	PLC Setup	Device I	Manager	Interface		
- FieldBus (0)			* Com	munication	Port		
USB Device (0)	+ COM 1 - Boud Rate : - Data Bit : - Stop Bit : - Parity Bit : External devi	19200 8 1 None	× • •	+ COM 2 - Boud F - Data B - Stop B - Parity I - Signal	kate: it: it: 3it:	19200 8 1 None RS-422(4)	* * *
	This sets the op	tion of <u>"MELS</u>	EC-AnN S	Series Co	mputer Link"	communicati	on driver
	Station Nun BlockOption	1 50 57 12	0 Discrete	¢ •			



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.

C24	Mode Setting I	Rotary Switch	setting nun	nber	Setting Information
-2-0/N -2-P(5		5			Protocol Mode form 1
2-50 4-0/N L4 4-9/5 L5 4-9/5 L5	<b>2.</b> Communica	tion Setting Di	p Switch wil	l be set as belov	<i>N</i> .
/m M	DIP Switch	Settings	Setting In	nformation	( ON / OFF )
	SW11	ON	Choose C Channel	Communication	( RS-422 / RS-232C )
•	—(1) SW12	ON	Setting D	ata bit	(8/7)
		OFF	Setting The Transmit spee		
	SW14	ON			ed
	SW15	ON			
◀	-(2 <sup>\$W16</sup>	OFF	Setting pa	arity bit	(Yes / No)
	SW17	OFF	Setting pa	arity bit	(Even / Odd)
	SW18	OFF	Setting St	op bit	(2/1)
	SW21	ON	Setting B	CC	(Yes / No)
	SW22	ON	Writing s RUN	setting during	(Possible / Impossible)
	SW23	ON	Calculator	r link	( Computer link / Multiple drop link )
	SW24	Not using	-		
	<b>3.</b> Set the Sta	ition Setting Re	otary Switch	as below to set	up the address of communication ca
	Station Set	ing Rotary Sw	/itch	Settin	g Information
	X10		0		
	X1		0	Set the Serial	communication card address to '0'

4. Reset the power after setting Dip Switch)



#### 3.7 설정 예제 7

#### The system is set as below.

Details		ТОР	MELSEC-AnN Series	Remark	
Serial level (port/channel)		RS-422 (4 wire, COM2)	RS-422	User	
	inner)	K3-422 (4 WILE, COWIZ)	N3-422	settings	
Address (DLC Address	-)		0	User	
Address(PLC Address	5)	—	0	settings	
Serial baud rate	rial baud rate [BPS] 19200				
Serial daug rate	[BPS]	19.	settings		
Conial data bit			User		
Serial data bit	[Bit]		8		
Carrial stars bit	stop bit [Bit] 1			User	
Serial stop bit				settings	
Serial parity bit	[Ri+]	NC	DNE	User	
	[Bit]			settings	

#### (1) XDesignerPlus setup

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

Use HMI Setup	I Buffer Sy	/nc						
System Setup PL		-	Use HMI Setup					
	.C Setup	Device Man	ager	Interface				
		* Com	munica	tion Port				
+ COM 1				DM 2				
- Boud Rate :	19200	•	- Boud Rate :		19200	÷		
- Data Bit :	8		- Da	ta Bit :	8	•		
- Stop Bit :	1		- Sto	p Bit :	2	*		
- Parity Bit :	None		- Par	rity Bit :	None			
			- Sig	nal Level :	RS-422(4)	8		
This sets the option	of <u>"MELS</u> PLC) 0		eries (	Computer Link"	communication	n driver.		
	<ul> <li>Boud Rate :</li> <li>Data Bit :</li> <li>Stop Bit :</li> <li>Parity Bit :</li> <li>External device so This sets the option Station Number (F BlockOption</li> </ul>	Boud Rate : 19200     Data Bit : 8     Stop Bit : 1     Parity Bit : None      External device settings This sets the option of <u>"MELS</u> Station Number(PLC) 0     BlockOption	Boud Rate :     19200     1     Data Bit :     Stop Bit :     1     Parity Bit :     None     This sets the option of <u>"MELSEC-AnN Sec</u> Station Number(PLC)     0     BlockOption     Discrete	Boud Rate :     19200     100     100     100     100     100     100     100     100     100     100     100     100     100     100     100     100     100     100     100     100     100     100     100     100     100     100     100     100     100     100     100     100     100     100     100     100     100     100     100     100     100     100     100     100     100     100     100     100     100     100     100     100     100     100     100     100     100     100     100     100     100     100     100     100     100     100     100     100     100     100     100     100     100     100     100     100     100     100     100     100     100     100     100     100     100     100     100     100     100     100     100     100     100     100     100     100     100     100     100     100     100     100     100     100     100     100     100     100     100     100     100     100     100     100     100     100     100     100     100     100     100     100     100     100     100     100     100     100     100     100     100     100     100     100     100     100     100     100     100     100     100     100     100     100     100     100     100     100     100     100     100     100     100     100     100     100     100     100     100     100     100     100     100     100     100     100     100     100     100     100     100     100     100     100     100     100     100     100     100     100     100     100     100     100     100     100     100     100     100     100     100     100     100     100     100     100     100     100     100     100     100     100     100     100     100     100     100     100     100     100     100     100     100     100     100     100     100     100     100     100     100     100     100     100     100     100     100     100     100     100     100     100     100     100     100     100     100     100     100     100     100     100     100     100     100     100     100     100     100     100     100     100	Boud Rate :     19200     Boud Rate :     Data Bit :     Stop Bit :     Parity Bit :     None     Parity Bit :     Signal Level :   External device settings This sets the option of <u>"MELSEC-AnN Series Computer Link"</u> Station Number(PLC)	Boud Rate : 19200      Boud Rate : 19200     Data Bit : 8     Stop Bit : 1     Parity Bit : None     Parity Bit : None     Signal Level : RS-422(4)   External device settings This sets the option of <u>"MELSEC-AnN Series Computer Link"</u> communication Station Number(PLC)     O     BlockOption     Discrete		



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.

NAC CONT. 07N CONT. 7/5 CONT. 980 CONT. 40 CONT.	Mode Settin	g Rotary Swit	ch setting number	Set	ting Information
COE CI VO/6		5		Pro	tocol Mode form 1
	2. Communi	cation Setting I	Dip Switch will be set as	below.	
алына (Ж)-т	DIP Switch	Settings	Setting Information	( ON )	/ OFF )
# # #	— (3) ŚW01	OFF	Not using		
₩ <b></b>	— (1\$w02	ON	Computer link	Comp	uter Link / Multiple drop link
	SW03	OFF	Not using		
	SW04	ON	Writing setting durin	ng RUN	(Possible / Impossible)
	SW05	OFF			
- CD -	SW06	ON	Setting The Transmit	t speed	
40	SW07	ON			
= 422 / 465 24 - R4	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)

Station Setting	Rotary Switch	Setting Information
X10	0	
X1	0	Set the serial communication card address to '0'

4. Reset the power after setting Dip Switch)



#### 3.8 Examples of Setting 8

The system is set as below.

Details	ТОР	MELSEC-AnN Series	Remark	
Serial level (port/channel)	RS-422 (4 wire, COM2)	RS-422	User	
		113-422	settings	
Address (DLC Address)		0	User	
Address(PLC Address)	_	0	settings	
Carriel leaved rate [DDC]	erial baud rate [BPS] 19200			
Serial baud rate [BPS]	19	settings		
Serial data bit [Bit]			User	
Serial data bit [Bit]		8		
Cavial stars bit (Dit)	Serial stop bit [Bit] 1		User	
			settings	
Serial parity bit [Bit]		DNE	User	
Serial parity bit [Bit]			settings	

#### (1) XDesignerPlus setup

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

E PLC Setting	- From right windo	Buffer S	and a start	IECK U	se mini Setup		iger j
PLC1: MELSEC-AnN Se	Use HMI Setup	Duner of	iic				
COM1 (0) Ethernet (0)		C Setup	Device Mana	ager 📔	Interface		
FieldBus (0) USB Device (0) CF Card Setting CFCard			* Com	municati	ion Port		
	+ COM 1 + COM 2						
	- Boud Rate :	19200	÷	- Boud	d Rate :	19200	•
	- Data Bit :	8	N•+	- Data	Bit :	8	<b>(</b>
	- Stop Bit :	1	( <b>*</b> )	- Stop	Bit :	1	•
	- Parity Bit :	None		- Parit	y Bit:	None	
				- Sign	al Level :	RS-422(4)	
	External device se This sets the option of Station Number(PL BlockOption	c) 0	EC-AnN Seri	ies Com	nputer Link" co	ommunication di	river.



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.

<b>1.</b> Set the communication	protocol form on Mode Setting Rotary Switch a	as below.

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

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

DIP Switch	Settings	Setting Information	( ON / C	DFF )		
SW10	ON	Computer link / Multiple dr	Computer link / Multiple drop link 선택			
SW11	ON	Select Channel	Select Channel			
SW12	ON	Writing setting during RUN	Writing setting during RUN (Possible / Impossible)			
SW13	OFF					
SW14	ON	Setting TheTransmit speed	Setting TheTransmit speed			
SW15	ON					
SW16	ON	Setting Data bit	Setting Data bit (8/7)			
SW17	OFF	Setting parity bit	(Yes / No	o)		
SW18	OFF	Setting parity bit	Setting parity bit (Even / Odd )			
SW19	OFF	Setting Stop bit	Setting Stop bit (2/1)			
SW20	ON	Setting BCC	(Yes / No	0)		

#### 3. Set the End resistor dip switch as below.

DIP Switch	Settings	Setting Information (ON / OFF )			
SW21	OFF	Not using			
SW22	OFF	Transmission side Termination Resistance (Yes / No)			
SW23	OFF	Receiving side Termination Resistance (Yes / No)			

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

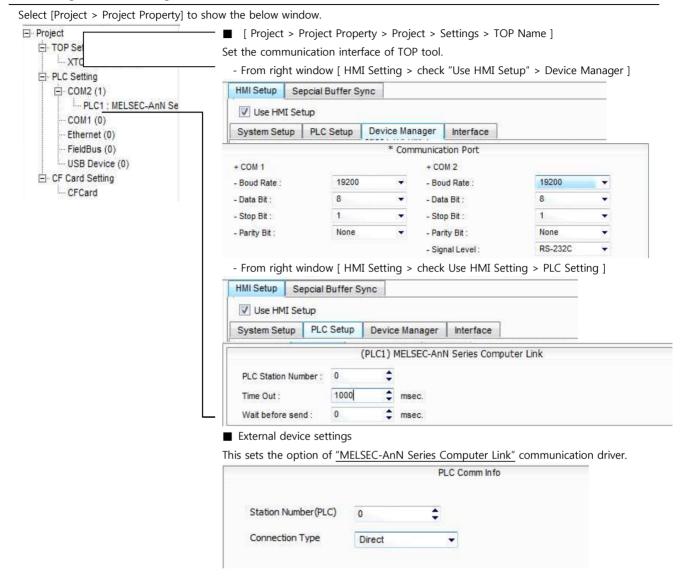
Station Setting	Rotary Switch	Setting Information
X10	0	
X1	0	Set the serial communication card address to '0'



## 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
Circul Invel	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 [	Set up TOP's waiting time between response receiving – next command request transmission from
x10 mSec]	
Receiving Wait Time [ x10	external device at [0 - 5000] x 1mSec.



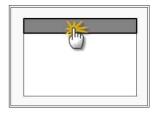
mSec]	
PLC address [0~65535]	Address of other device. Select between [ 0 – 65535 ].



### 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 <b>Step1</b> to change setup at <b>Step2</b> .)	



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

Setup					
Address : 00	Cc	ommunication			
eout : 1000 [mSec]	In	terface Settings			
ay time of transmission : 0 [mSe	c]				
P COM 2/1 : RS - 232C , 19200					
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 1mSec.				
TOP COM 2/1	TOP's Interface setup to external device.	· · ·			

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	

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

- Confirm the set of interface state between the TOP and the external device
- 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 Vers	sion				
Details	Contents							mation
System	Name of CPU							NG
configuration	Name of cor communicating	front port that is					ОК	NG
	System Connect	ion Method	1:1		L: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]	OK	NG	
	Serial Stop bit	[BIT]			OK	NG		
	Serial parity bit				[BIT]	OK	NG	
	Assigned Addres					ОК	NG	
TOP setup	Setup port	СОМ	1		COM 2	ОК	NG	
	Name of Driver				•		OK	NG
	Confront Addres	Project Proper	ty Setup			ОК	NG	
			When Communicatic	Diagnosi n	ng		ОК	NG
	Serial baud rate				[BPS]	ОК	NG	
	Serial data bit				[BIT]	ОК	NG	
	Serial Stop bit				[BIT]	ОК	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. (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 CONNECTION		(9 pir				
xTOP COM2 pin arrangement * Of Number caution 1) Signal			Cable Connection Pin Of Number Signal		LC pin arrangement * caution 1)	
1 5 0 0 6 9 Front View of	CD RD SD DTR SG	1 2 3 4 5	•	1 2 3 4 5	FG SD RD RTS CTS	Front view of Communication cable connecter
D-SUB 9 Pin (male, up)	DSR RTS CTS	6 7 8 9	•	6 7 8 20	DSR SG CD DTR	D-SUB 25 Pin (male, up)

\*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		
	RD	2		2	SD		
1 8	SD	3		3	RD		
(° °)	DTR	4		4	RTS	Front view of	
9 15 Front View of	SG	5	•	5	CTS	Communication cable connecter	
D-SUB 15 Pin	DSR	6	•	6	DSR	D-SUB 25 Pin	
(male, up)	RTS	7		7	SG	(male, up)	
	CTS	8		8	CD		
		9		20	DTR		

(B) XTOP COM 2 Port (15 pin)

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

(C) XTOP/AT		. Port ( 6 Pli	1)	-		
XTOP/ATOP COM 1 Port		ť		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	FG	
(°° ,	RD		-	2	SD	Front view of
5 3 Front View of	SG	•	••	3	RD	communication cable connecter D-SUB 25 Pin
D-SUB 6 Pin			•			(male, up)

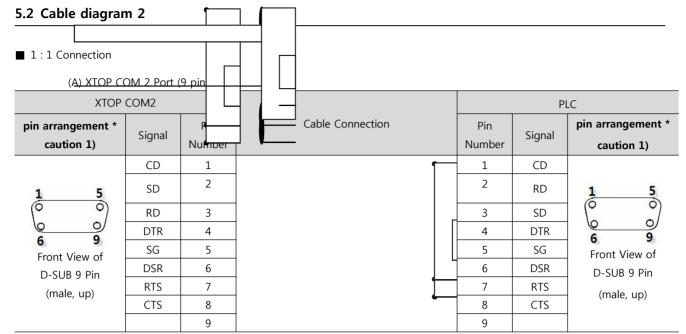
(C) XTOP/ATOP COM 1 Port ( 6 Pin)



		4	4	RTS
		5	5	CTS
(mala un)	SD	6	6	DSR
(male, up)			7	SG
			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 CO	DM 2 Port (	(15 pin)				
XTOP	COM2				PLC	
pin arrangement * caution 1)	Signal	Pin Number	Cable Connection	Pin Number	Signal	pin arrangement * caution 1)
	CD	1		1	CD	,
1 8	SD	2		2	RD	1 5
(ÕÕ)	RD	3		3	SD	(
6 0	DTR	4		4	DTR	
9 15	SG	5		5	SG	6 9
Front View of	DSR	6		6	DSR	Front View of
D-SUB 15 Pin	RTS	7		7	RTS	D-SUB 9 Pin
(male, up)	CTS	8		8	CTS	(male, up)
		9		9		

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

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

(B) XTOP/A			1)			
XTOP/ATOP	COM 1 Po	rt			PLC	
pin arrangement * caution 1)	Signal	Pin Number	Cable Connection	Pin Number	Signal	pin arrangement * caution 1)
		1		1	CD	
6 4 2	RD	2	•	2	RD	1 5
$\left( \circ \circ \circ \right)$	SG	3	• •	3	SD	( )
		4		4	DTR	
5 1		5	•	5	SG	6 9
<b>3</b> Front View of	SD	6	•	6	DSR	Front View of
D-SUB 6 Pin				7	RTS	D-SUB 9 Pin
(male, up)				8	CTS	(male, up)
(				9		

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



#### 5.3 Cable Table 3

#### ■ 1:1 Connection

(A) XTOP COM 2 Port (9 pin)

XTOP	COM2				PLC
pin arrangement * caution 1)	Signal	Pin Number	Cable Connection	Signal	Pin Arrangement
	RDA	1		SDA	
		2	•	SDB	
			•		
		3	•••	RDA	
<b>1 5</b>			•		
6 9 Front View of D-SUB 9 Pin (male, up)	RDB	4	•	RDB	SDB SC RDA SC RDA SC RDB SC RDC RDC
	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	• •			PLC
pin arrangement * caution 1)	Signal	Pin Number	Cable Connection	Signal	Pin Arrangement
	_	1		SDA	
	(Pa	iss)		SDB	
				RDA	SDA 🚫 SG
9 15 Front View of D-SUB 15 Pin (male, up)	_	10		RDB	SDB C IS FG RDA C RDB C RDB
	RDA	11		SG	
	RDB	12			
	SDA	13			
	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		
Front side of	SDA		RDA		
Terminal Block 5 Pin	SDB		RDB		
	SG		SG	RDB	

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

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

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

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 - X07FF	X0000 - X07F0
Output	Bit	Y0000 - Y07FF	Y0000 - Y07F0
Link relay	Bit	B0000 - B03FF	
Link register	Word		W0000 - W03FF
Special relay	Bit	F0000 - F0255	F0000 - F0240
Latch Relay	Bit	L0000 - L2047	
Internal Relay	Bit	M0000 - M2047	M0000 - M2032
Special relay	Bit	M9000 - M9255	M9000 - M9240
Data Register	Word		D0000 - D1023
Timer-Coil	Bit	TC000 - TC255	
Timer-Current	Word		TN000 - TN255
Timer-Point	Bit	TS000 - TS255	
Counter-Coil	Bit	CC000 - CC255	
Counter-Current	Word		CN000 - CN255
Counter-Point	Bit	CS000 - CS255	