# MITSUBISHI Electric Corporation MELSEC-Q Series FTHFRNFT(0J71E71) Driver

Compatibl e version	I OS	Over 4.0	
	XDesignerPlus	Over 4.0.0.0	

# 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. TOP Types and External Page 3

#### Selection

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 details Page 10

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. Support address

### Page 12

Check available addresses to communicate with external devices

referring to this chapter.



# 1. System configuration

System configuration of TOP and "MITSUBISHI Electric Corporation - MELSEC-Q Series Ethernet(QJ71E71)"

Series	CPU	Link I/F	Method	System settings	Cable				
			Ethernet						
		0171571	QJ71E71 (UDP)						
	QUUCPU	QUVIEVI	Ethernet						
	QUUICPU		( TCP )						
	QUICPU		Ethernet						
	QUZCPU		(UDP)						
	QUZHCPU	QIVIE/I-B2	Ethernet						
	QUEHCPU		( TCP )						
	QIZHCPU		Ethernet						
	Q25HCPU		(UDP)			×* <b>7</b> 1)			
	QU3UDECPU	Q1/TE/T-R2	Ethernet						
	Q04UDEHCPU		( TCP )						
	QUOUDEHCPU		Ethernet						
	QI3UDEHCPU	0171571 100	(UDP)						
MELSEC-Q	Q260DEHCP0	QJ/1E/1-100	Ethernet		I wisted Pair cable	_,			
			( TCP )						
			Ethernet						
			(UDP)						
		QIVIE/I-B2	Ethernet						
	Q02UCPU		(TCP)						
	Q03UDCPU		Ethernet						
	Q04UDHCPU		(UDP)						
	Q06UDHCPU	Q1/1E/1-05	Ethernet						
	Q13UDHCPU		(TCP)						
	Q26UDHCPU		Ethernet						
		0171571 100	(UDP)						
		Q1/1E/1-100	Ethernet						
			( TCP )						

\*Caution1) Twisted pair cable

- This means STP(Shielded Twisted Pair cable) or UTP (Unshielded Twisted Pair cable) category 3,4,5.

- You can connect to configurational device such as hub, transceiver depends on the configuration and in this case, use direct cable.

Possible Connecting Configuration

• 1 : 1 Connection(1 TOP and 1 External Device) Connection



- 1 : N Connection (1 TOP and several external devices) Connection





# 2. Selecting TOP model and external devices

Select the external devices to connect to TOP.

Series	XTOP Series		Vendor MITSUBISH Electric Corporation				
Model	XTOP15TX-SA/SI	>	PLC Model MELSEC-Q Series ETHERNET(QJ71E71)				
			PLC				
	Vendor		Model				
M2I Corporati	ion	-	CC-LINK(Remote Device Station)				
MITSUBISHI B	Electric Corporation		MELSEC-A Series ETHERNET				
OMRON Indu	strial Automation		MELSEC-AnA Series Computer Link				
LS Industrial	Systems		MELSEC-AnA(A2A/A3A) Series CPU Direct				
MODBUS Org	ganization		MELSEC-AnA(A2U/A3U/A4U/A2US/A2USH) Series CPU Direct				
SIEMENS AG		Е	MELSEC-AnN (A0J2) Series CPU Direct				
Rockwell Auf	tomation (AB)		MELSEC-AnN (A2N,A3N) Series CPU Direct				
GE Fanuc Au	tomation		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	A Electric Corporatio		MELSEC-FX Series Computer Link				
Schneider Ele	ectric Industries		MELSEC-FX Series Positioning Controller - FX2N-10/20GM				
KDT Systems	3		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	ronics		MELSEC-Q Series SERIAL(QJ71C24,Format5)				
KOYO Electro	onic Industries		MELSEC-Q(00CPU/01CPU) Series CPU Direct				
VIGOR Electr	ric 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					
		TOP series. (ATOP / CTOP Series of	loes not support ethernet communication.)					
ТОР	Series	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.						
Communicatio	Manufacturer	Please select MITSUBISHI Electric Corporation						
		Select the model series of external devices to be connected to TOP						
II Device	PLC	Please select "MELSEC-Q SERIES E	THERNET(QJ71E71)".					
		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

Set the system as below.

Details	ТОР	MELSEC-Q Series	Remark
IP Address*Caution1)Caution2)	192.168.0.50	192.168.0.51	User settings
Protocol	UDP	UDP	User settings
Port	1025 <sub>DEC</sub> (401 <sub>HEX</sub> )	5005 <sub>DEC</sub> (138D <sub>HEX</sub> )	User settings

\*Caution1) TOP and external devices' network address (front part of IP address 192.168.000) has to be identical. \*Caution2) Please do not use the same IP address in the same network.

#### (1) XDesignerPlus setup

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

	Set the communication interface of TOP tool.										
PLC Setting COM2 (0)	- From right window [ HMI Setup > check Use HMI Setup > Device Manager ]										
	HMI Setup Sepcial Buffer Sync										
COM1 (0)	🕼 Use HMI Setup										
Ethernet (1) PLC1 : MELSEC-Q Serie	System Setup PLC Setup Device Manager Interface rie * Network										
FieldBus (0)	- IP address 192 168 10 50 1										
USB Device (U)	- Subnet mask 255 A 255 A 0 A										
CFCard	- Gateway : 192 \$ 168 \$ 0 \$ 1 \$										
	- From right window [ HMI Setup > check Use HMI Setup > PLC Setup ]										
	HMI Setup Sepcial Buffer Sync										
	Vise HMI Setup										
	System Setup PLC Setup Device Manager Interface (PLC1) MELSEC-Q Series ETHERNET(QJ71E71)										
	PLC IP: 192 \$ 168 \$ 0 \$ 50 \$										
	Read Port : 5005 C Time Out : 1000 C nsec.										
	Write Port : 5005 C Wait before send : 0 C insec.										
	TOP Port : 1025 C Protocol : UDP -										
	External device settings It sets the option of communication driver in "MELSEC-Q SERIES ETHERNET(QJ71E71)" PLC Comm Info										
	IP Address (PLC) : 192 ♀, 168 ♀, 0 ♀, 51 ♀										
	Read Port (0~65535) : 5005										
	Write Port (0~65535) : 5005										
	Device Read Type Discrete 👻										
	- IP Address (PLC): Type the IP address that the external device was given.										
	- Reading port / writing port: Choose the port number that will be used for ethe										

communicate to external device.



#### (2) External device settings

Please set up using MELSEC series Ladder Software "GX Developer" as below. Please refer the PLC user manual for more detailed information if you need.



- TOP and external devices' network address (front 3 digits of IP address 192.168.000) must be identical.
  - Please do not use the same IP address in the same network.
- 1. From "GX Developer" project window, double click[Parameter] > [PLC parameter] to pop up [Q parameter setting] Dialog Box.
- 2. Please select [I/O Assignment] tab from [Q parameter setting] Dialog Box.

3. Please set the [Type], which the communication module is installed, to "Intelligent" from [I/O Assignment(\*)] box.

	Slot	Тура	e (	Model name	Points	1	StartXY 🔺	
0	PLC	PLC	-			-		Switch setting
1	0(*-0)	Intelli.	-		32points	-	0000	Detailed antice
2	1(*-1)	Intelli.	-	QJ71E71	32points	-	0020	Detailed setting
3	2(*-2)		-			-		
4	3(*-3)		-			-		
5	4(*-4)		-			-		
6	5(*-5)		-			-		
7	6(*-6)	11 A.	-			+		

Leaving this setting blank will not cause an error to occur,

4.

"GX	□ <mark>認</mark> (Unset project) 市-歸 Program	<sup>vork Pa</sup> Network parameter	
	E Stostant	Ethernet/CCTE/MELSE	CNET
	Parameter	MELSECNET / MIN	Л
	Network param	CC-Link	
	Bevice memory	Cancel	
	🔤 🖳 Device init		

5. It is to set up [Network Parameter MNET/10H Ethernet Settings].

	Module 1	
Network type	Ethernet 🗸	
Starting I/O No.	0020	
Network No.	1	
Total stations		
Group No.	0	
Station No.	1	
Mode	On line 🗾 👻	
Details	Settings	
Network type	Ethernet	
Starting I/O No.	Please set input, output address in e	thernet module.
Starting I/O No. Network No.	Please set input, output address in e Appoint by User	thernet module.
Starting I/O No. Network No. Group No.	Please set input, output address in e Appoint by User Appoint by User	thernet module.
Starting I/O No. Network No. Group No. Station No.	Please set input, output address in e Appoint by User Appoint by User Appoint by User	thernet module.



Continue on the next page.

대한민국대표 터치패널 Touch Operation Panel Ethernet operations Operational setting: Initial timing Communication data code Do not wait for OPEN ( Communications impossible at STOP time ) Miways wait (0) OF LIN ( Communication possible at STOP time ) Binary code On C ASCII code Router relay param IP address Send frame setting Station No.<->IP information Input format DEC, -€ Ethernet(V2,0) FTP Parameters IP address 192 168 0 51 C IEEE802,3 E-mail settings Interrupt setting 🔽 Enable Write at RUN time TCP Existence confirmation setting Use the KeepAlive C Use the Ping End Cancel

	Protocol	Open system		Fixed buf	fer	Fixed buffer communication procedure		Pairing open		Existence confirmation	Host station Port No.	Transmission target device IP address	Transmission target device Port No.
1	UDP 🔻		٠	Send	Ŧ	Procedure exist 🕒	4	Disable	Ŧ	No confirm 🔄	· 138D	192.168. 0.50	0401
2	-		•		•	•	٠		Ŧ		•		
3	-		•		•	•	•		Ŧ		•		
4	-		•		•		•		•		•		
5	-		•		•	•	•		Ŧ		•		
6	-		-		•	•	•		Ŧ	•	•		
7	-		-		•	•	•		Ŧ		•		
8	-		•		•	•	•		•		•		
9	-		-		•	•	•		Ŧ		•		
10	-		•		•	•	•		Ŧ		•		
11	-		-		•	•	•		Ŧ		•		
12	-		-		•	•	•		Ŧ		•		
13	-		•		•	•	٠		•				
14	-		•		•		•		Ŧ		•		
15	-		•		•		•		•				
16	-		-		-		•		-				

#### 6. [Ethernet Operation Settings]

Details	Settings
Communication data code	Binary code _(Fixed)
Initial timing	Always wait for OPEN (communication possible at Stop time) _(Fixed)
IP address	IP address of MELSEC-Q Ethernet communication module, Assigned by User
Send frame setting	Ethernet(V2.0) _(fixed)
Enable Write at RUN time	Assigned by User (Writing authorization setting during PLC CPU RUN)
TCP existence confirmation setting	Use the keep alive

#### 7. [Open Settings]

Details	Settings
Protocol	UDP
Open system	Not using
Fixed buffer	Assigned by User (Not related with TOP-MELSEC-Q communication)
Fixed buffer communication Procedure	Assigned by User (Not related with TOP-MELSEC-Q communication)
Paring opening	Assigned by User (Not related with TOP-MELSEC-Q communication)
Existence confirmation	Assigned by User (all confirm/no confirm can be used)
Host station port No.	Connection port number of MELSEC-Q Ethernet
Transmission target device IP address	IP of TOP (destination)
Transmission target device Port No.	Connection port number of TOP (Destination)

#### 8. Please confirm if you need the settings below.

Details	Settings
Initial Settings	It is the setting for timer regarding of TCP connection. You can change if you need.
Routing Information	If you use the subnet mask or a router, this setting is mandatory.
Auto-open UDP port	(1) Execute from the list 1~6 of PLC Setups in this example.



(Always	allow		(2) You can communicate	via UDP without [Open Setting] if you set the XDesignerPlus as below.
communicat	tion on	port	IP Address	IP that [Ethernet Operation Settings] assigned to PLC
number 500	00)		Read /Write Port	5000

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



#### 3.2 Example of Settings 2

Set the system as below.

Details	ТОР	MELSEC-Q Series	Remark
IP Address*Caution1)Caution2)	192.168.0.50	192.168.0.51	User settings
Protocol	ТСР	ТСР	User settings
Port	1025DEC ( 401HEX ) *caution3)	5005 <sub>DEC</sub> (138D <sub>HEX</sub> )	User settings

\*Caution1) TOP and external devices' network address (front part of IP address 192.168.000) has to be identical.

\*Caution2) Please do not use the same IP address in the same network.

\*caution3) this is only applicable when Fullpassive is selected in Open Settings.

#### (1) XDesignerPlus setup

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

	- From right	- From right window [ HMI Setup > check Use HMI Setup > Device Manager ]											
COM2 (0)	HMI Setup Se	HMI Setup Sepcial Buffer Sync											
COM1 (0)	Use HMI Set	מט											
Ethernet (1)	System Setup	PLC Setup	Device Manager				Interface						
PLC1 : MELSEC-Q Serie			4			3	* Ne	two	rk				
FieldBus (0)	- IP address		192		168	*	0		50	•			
The CF Card Setting	- Subnet mask	695	255	-	255	-	255	-	0	×.			
CFCard	- Gateway :	1	192	-	168	-	0	-	1	T.			
	- Outerray .	- Galeway.											
	- From right	t window	[ HMI	Se	tup >	> cł	neck	Use	HMI S	Setup >	PLC Setup	]	
	HMI Setup Se	pcial Buffer	Sync										
	📝 Use HMI Setup												
	System Setup	System Setup PLC Setup											
		(PLC1) MELSEC-Q Series ETHERNET(QJ71E71)											
	PLC IP :	192	\$ 168		; 0	÷	50	÷				Weeks	
	Read Port :	5005	\$						Time Ou	)ut :	1000	‡msec.	
	Write Port :	5005		\$	1				Wait before send :		0	¢ msec.	
	TOP Port :	1025	<b>\$</b>						Protocol :		TCP	-	
	— ■ External de	vice setti	nas										
	It sets the ont	ion of co	mmun	nica	tion (	driv	er in	"М	FLSFC-	O SERIE	S FTHERN	FT(OI71F71)"	
			innun	nee		F	PLC Co	mm I	Info	Q JEIGE			
	IP Address (	PLC) :	192	\$	. 168	÷	<b>\$</b> ,0		\$, 51	( <b>(</b>			
	Read Port (0	0~65535) :	5005	(			\$						
	Write Port (	)~65535) :	5005	8			\$						
	Device Read	Device Read Type											
	Device Reduitype Discrete												

- Device reading method : It is for selecting protocol method that will attempt to communicate to external device.



#### (2) External device settings

Please set up using MELSEC series Ladder Software "GX Developer" as below. Please refer the PLC user manual for more detailed information if you need.



TOP and external devices' network address (front 3 digits of IP address 192.168.000) must be identical.

Please do not use the same IP address in the same network.

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

2. Please select [Q parameter setting] Dialog Box에서(in) [I/O Assignment] tab.

3. Please set the [Type] which the communication module is installed to "Intelligent" from [I/O Assignment(\*)] box.

-	Slot	Тури	е	Model name	Points		StartXY 🔺	
0	PLC	PLC	-			+		Switch setting
1	0(×-0)	Intelli.	-		32points	-	0000	
2	1(*-1)	Intelli.	-	QJ71E71	32points	-	0020	Detailed setting
3	2(*-2)		-			-		
4	3(*-3)		-			-		
5	4(*-4)		-			-		
6	5(*-5)		-			-		
7	6(*-6)		-			-		IIo

4 ....

X 🖃 🚰 (Unset project)	vork Parameter] - [Ethernet/CC IE/MELSECNET].
⊡ 🐨 Program ⊡ 🐨 Device comment	Network parameter 🛛 🔀
🖻 📝 Parameter	(Ethernet/CC TE/MELSECNET)
Network param	MELSECNET / MINI
Device memory	CC-Link
🖳 🖳 Device init	Cancel

5. Set up [Network Parameter MNET/10H Ethernet Settings].

	Module 1	
Network type	Ethernet 🗸	
Starting I/O No.	0020	
Network No.	1	
Total stations		
Group No.	0	
Station No.	1	
Mode	On line 🗾	
Details	Settings	
Details Network type	Settings Ethernet	
Details       Network type       Starting I/O No.	Settings Ethernet Please set input, output address in ether	net module.
Details       Network type       Starting I/O No.       Network No.	Settings Ethernet Please set input, output address in ethern Appoint by User	net module.
Details         Network type         Starting I/O No.         Network No.         Group No.	Settings Ethernet Please set input, output address in ether Appoint by User Appoint by User	net module.
Details         Network type         Starting I/O No.         Network No.         Group No.         Station No.	Settings Ethernet Please set input, output address in ethern Appoint by User Appoint by User Appoint by User	net module.



Continue on the next page.





		_						_		_					
	Protoc	:ol	Open system		Fixed but	fer	Fixed buffer communication procedure		Pairing open		Existence confirmation		Host station Port No.	Transmission target device IP address	Transmission target device Port No.
1	TCP	٠	Unpassive	٠	Send	٠	Procedure exist	•	Disable	٠	No confirm	٠	138D		
2		-		-		-		Ŧ		-		-			
3		•		Ŧ		Ŧ		•		Ŧ		Ŧ			
4		•		-		•		•		-		•			
5		•		-		Ŧ		Ŧ		Ŧ		Ŧ			
6		•		•		•		Ŧ		•		•			
7		•		-		Ŧ		Ŧ		•		Ŧ			
8		•		•		•		Ŧ		•		•			
9		•		-		Ŧ		Ŧ		•		Ŧ			
10		•		•		•		•		•		•			
11		•		•		•		Ŧ		•		•			
12		•		•		•		Ŧ		Ŧ		•			
13		•		•		•		Ŧ		•		•			
14		•		-		Ŧ		•		-		•			
15		-		-		Ŧ		•		-		Ŧ			
16		-		-		*		-		-		*			

#### 6. [Ethernet Operation Settings]

Details	Settings
Communication data code	Binary code _(Fixed)
Initial timing	Always wait for OPEN (communication possible at Stop time) _(Fixed)
IP address	IP address of MELSEC-Q Ethernet communication module, Assigned by User
Send frame setting	Ethernet(V2.0) _(fixed)
Enable Write at RUN time	Assigned by User (Writing authorization setting during PLC CPU RUN)
TCP existence confirmation setting	Use the keep alive

#### 7. [Open Settings]

Details	Settings
Protocol	ТСР
Open system	Unpassive / Fullpassive
Fixed buffer	Assigned by User (Not related with TOP-MELSEC-Q communication)
Fixed buffer communication Procedure	Assigned by User (Not related with TOP-MELSEC-Q communication)
Paring opening	Assigned by User (Not related with TOP-MELSEC-Q communication)
Existence confirmation	Assigned by User (all confirm/no confirm can be used)
Host station port No.	Connection port number of MELSEC-Q Ethernet (Hexadecimal number)
Transmission target device IP address	Not using
Transmission target device Port No.	Not using

8. Please confirm if you need the settings below.

Details	Settings
Initial Settings	It is the setting for timer regarding of TCP connection. You can change if you need.
Routing Information	If you use the subnet mask or a router, this setting is mandatory.



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



## 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 property] to show the below window.

D TOP Se	– 🔳 [ Project :	> Project	prope	rty > P	roje	ect > 9	Sett	ings	> TO	P Nam	e ]	
	Set the comm	unication	interf	ace of	TOF	<sup>o</sup> tool.						
- PLC Setting	- From righ	t window	[ HMI	Setup	> C	heck	Use	HMI	Setu	p > De	evice Man	ager ]
COM2 (0)	HMI Setup Se	pcial Buffer :	Sync									
COM1 (0)	🔽 Use HMI Set	tup										
Ethernet (1)	System Setup	PLC Setup	Devi	ce Manag	ger	Interfa	ace	F				
	1					* Net	two	k				
USB Davice (0)	- IP address		192	<b>1</b> 68		0		50				
- CF Card Setting	Subnet mask	ac.	255	A 255		255		0				
CFCard	- Subiret mask	55	100	+ 100	1	0	-	1				
10.000 000000000	- Gateway :		192	¥ 100			•	1				
	- From righ	t window	[ HMI	Setup	> c	heck	Use	HMI	Setu	p > PL	C Setup ]	
	HMI Setup Se	pcial Buffer :	Sync									
	Use HMI Set	tup	2.0 111									
	System Setup	PLC Setup	Devi	ce Manar	ner	Interfa	ice	F				
			(PLC	1) MELS	EC-0	Q Serie	s ET	HERN	IET(Q	J71E71	)	
	PLC IP :	192	\$ 168	\$ 0	4	50	\$					
	Read Port :	5005	- 22	\$				Time	Out:		1000	\$ msec.
	Write Port :	5005		\$				Wait t	before	send :	0	‡msec.
	TOP Port :	1025		<b>.</b>				Proto	col :		UDP	2.
		1		Sel.								
L	External de	evice setti	ngs									
	It sets the opt	ion of co	mmun	ication	driv	ver in	"M	ELSEC	C-Q S	SERIES I	ETHERNE	T(QJ71E71)'
						PLC CO	num e	110				
	IP Address (	(PLC) :	192	\$ 16	8	\$.0		\$.	51	\$		
	Read Port (0	)~65535) :	5005			\$						
	Write Port (	0~65535):	5005			\$						

Communication Interface Settings				
Details	Contents			
IP Address	Setup the IP address that TOP receives in the network.			
Subnet mask	Input subnet mask of network			
Gateway	Input subnet mask of network			
PLC IP address	Input IP address that external device gets received.			
Read Port / Write Port	Choose port number that will be used for ethernet communication of external device.			
TOP port	Setting the TOP port number to connect with external device.			
PLC address [0~65535]	Address of other device. Select between [0 - 65535].			
Ethernet time out	Set up TOP's waiting time from external device at [0 - 99] x 100mSec.			
Delay time of transmission [ x1	Set up TOP's waiting time between response receiving - next command request transmission			
mSec ]	from external device at [ 0 – 5000 ] x 1 mSec.			





#### 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 ethernet setup" in Step 1 to change setup at Step 2.)



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

PLC setup	
PLC IP: 192.168.0.51	Communication Interface
Protocol : UDP	Settings
PLC Read Port : 5005	
PLC Write Port : 5005	
TOP Port : 1025	
PLC Address : 00	
Timeout : 1000 [mSec]	
Delay time of transmission : 0 [mSec]	
TOP IP : 192 . 168 . 0 . 50	
TOP Ethernet setting communication diagnosis	

#### Step 1–Reference.

tep I Reference.	
Details	Contents
PLC IP	It is an IP address that external device was given.
Protocol	Select the protocol method either UDP or TCP.
PLC Read Port	It is the port address that will be used for ethernet of external device.
PLC Write Port	It is the port address that will be used for ethernet of external device.
TOP port	Setting the TOP port number to connect with external device.
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 before	Set up TOP's waiting time between response receiving - next command request transmission
transmitting [ x1 mSec]	from external device at [ 0 – 5000 ] x 1 mSec.
TOP IP	Setup the IP address that TOP receives in the network.

#### Step 2. [PLC Setup] > [TOP Ethernet Setup] - Setup the serial parameter of correspond port.

Port Settings	
* Ethernet Communication	Ethernet Port
+ Network setting	Communication Interface
- MAC : 00 - 15 - ID - 00 - 30 - 52 (each device has different address)	Settings
- IP Address : 192. 168 . 0 . 50	
- Subnet mask : 255 255 . 255 . 0	
- Gateway : 192 168 . 0 . 1	
Stop 1 Beforence	

3					
	Details	Contents			
	MAC	Physical official address in the network.			
	IP Address	Setup the IP address that TOP receives in the network.			
	Subnet mask	An address that divides the network ID and host ID regarding of IP address.			
	Gateway	An address that connects a network to another network.			



#### 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.

- [Main Menu >Communication setting] Confirm if detail in number 20~24 is identical to the setup information of "■Setup exercise 1".

- PLC Setup > Click the button in "Communication diagnosis" of TOP Ethernet.

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

OK!	Communication setting succeeded
Time Out Error!	Communication setting error
	- 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.

Details			Contents			Con	firm	
TOP	Version Information	ı	xDesignerPlus :		O.S :			
	Name of Driver						ОК	NG
	External device IP Address information						ОК	NG
	(xDesignerPlus	Subnet mask					ОК	NG
	Project setting)	Gateway					ОК	NG
	TOP Information	Protocol	UDP/IP			TCP/IP	ОК	NG
	(Main Device Menu Setting)	IP Address					ОК	NG
		Subnet mask					ОК	NG
		Gateway					ОК	NG
	Other specified setting info						ОК	NG
System configuration	System Connection Method		1:1	1:	N	N:1	ОК	NG
	Name of cable (Hub usage)		Direct (Use Hub)	)	Cr	oss (No Hub)	ОК	NG
External device	Name of CPU						ОК	NG
	Name of communio	cation device					ОК	NG
	Protocol(mode)						ОК	NG
	Other specified setting info						ОК	NG
	IP Address		(Local)		(Destinat	ion)	ОК	NG
	Port number		(Local)		(Destinat	ion)	ОК	NG
	Subnet mask						ОК	NG
	Gateway						ОК	NG
	Address range confirm (other docs)						OK	NG



### 5. Support address

Devices that are usable with TOP is 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 each CPU module user manual carefully for devices that you desired to use to prevent not getting out of range.

Device	Bit Address	Word Address	Word Address NOTE	32 BIT
Input Relay	X0000 - X1FFF (HEX)	X0000 - X1FF0 (HEX)	X***0 *caution1)	
Output Relay	Y0000 - Y1FFF (HEX)	Y0000 - Y1FF0 (HEX)	Y***0 *caution1)	
Internal Relay	M0000 - M32767	M0000 - M32752	M0000 + 16*n *caution2)	
Special Relay	SM0000 - SM2047	SM0000 - SM2032	SM0000+16*n *caution2)	
Latch Relay	L0000 - L32767	L0000 - L32752	L0000 + 16*n *caution2)	
Annunciator	F0000 - F32767	F0000 - F32752	F0000 + 16*n *caution2)	
Edge Relay	V0000 - V32767	V0000 - V32752	V0000 + 16*n *caution2)	
Step Relay	S0000 - S8191	S0000 - S8176	S0000 + 16*n *caution2)	
Link Relay	B0000 - B7FFF (HEX)	B0000 - B7FF0 (HEX)	B***0 *caution1)	
Special Link Relay	SB000 - SB7FF (HEX)	SB000 - SB7F0 (HEX)	SB***0 *caution1)	
Timer	TC00000 TC22007			
(contact)	1500000 - 1523087			
Timer	TC00000 TC22087			
(coil)	100000 - 1023087			
Aggregate Timer	500000 5522087			
(contact)	5500000 - 5525067			L/H
Aggregate Timer	500000 5022087			*caution3)
(coil)	300000 - 3023087			
Counter	CS00000 CS23087			
(contact)	C300000 - C323087			
Counter				
(coil)	CC00000 - CC25007			_
Timer				
(current value)		11100000 - 11123087		
Aggregate Timer		SNI0000 - SNI23087		
(current value)		51400000 - 51425087		
Counter				
(current value)		CIN00000 - CIN25087		
Data Register		D00000 - D25983		
Special Data		500000 - 502047		
Register		50000 - 3020 <del>1</del> 7		
File Register		Ser Defined Range		

\*Caution1) If the bit address is hexadecimal number '0~F', starting bit 0 bit shall be used as word address.

\*Caution2) If the bit address is decimal number, it shall be used as word address by every value of '16'.

\*Caution3) 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.

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

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