MITSUBISHI Electric Corporation MELSEC Q Series

CPU Ethernet Driver

Supported version TOP Design Studio V1.0 or higher



CONTENTS

We would like to thank our customers for using M2I's "Touch Operation Panel (M2I TOP) Series". Read this manual and familiarize yourself with the connection method and procedures of the "TOP and external device".

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Describes the devices required for connection, the setting of each device, cables, and configurable systems.

2. External device selection Page 3

Select a TOP model and an external device.

3. TOP communication setting Page 4

Describes how to set the TOP communication.

4. External device setting Page 9

Describes how to set up communication for external devices.

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Refer to this section to check the addresses which can communicate with an external device.



1. System configuration

The system configuration of TOP and "MITSUBISHI Electric Corporation - MELSEC Q CPU Ethernet" is as follows.

Series	CPU	Link I/F	Communication method	Communication setting	Cable
MELSEC-Q	QUDE QUDEH QUDV	CPU Built-in Ethernet	Ethernet (TCP/UDP)	<u>3. TOP</u> communication <u>setting</u> <u>4. External device</u> <u>setting</u>	Twisted pair cable ^{*Note 1)}

*Note 1) Twisted pair cable

- Refer to STP (Shielded Twisted Pair Cable) or UTP (Unshielded Twisted Pair Cable) Category 3, 4, 5.

- Depending on the network configuration, you can connect to components such as the hub and transceiver, and in this case, use a direct cable.

Connection configuration

• 1:1 (one TOP and one external device) connection







2. External device selection

■ Select a TOP model and a port, and then select an external device.

					•
PLC select [E	thernet]				
Filter: [All]			\sim	Search :	-
				() M	Iodel 🔘 Vendor
Vendor M2I Corporation		Model			
	rooration		MELSEC Q Series		
	rporation		MELSEC FX Series		
OMRON Industrial Auto	omation		MELSEC AnN/AnS Series		
LS Industrial Systems		8	MELSEC AnA/AnU Series		
MODBUS Organization			MELSEC IO-R. Series		
SIEMENS AG.			MELSEC IO E Series		
Rockwell Automation			MELSEC IQ-P Series		
GE Fanuc Automation					
PANASONIC Electric W	orks				
YASKAWA Electric Corp	poration				
YOKOGAWA Electric Co	orporation				
Schneider Electric Indu	stries				
KDT Systems					
RS Automation		-			
PLC Setting[MEL	SEC Q Series	;]			
Alias Name	PLC1		Bind IP : Auto	\sim	
Interface	: CPU Etherne	t	~	_	
Protoco	I : MC Protocol	3E (Binary)	~		Comm Manual
String Save Mede	Einet I H HI	Cha	0.000		
String Save Mode	: First LH HL	Cha	nge		
String Save Mode	CY	Cha	nge		
String Save Mode Use Redundan Operate Condition : Change Condition :	E: First LH HL CY AND ~ TimeOut	Cha 5	(Second)		
String Save Mode	First LH HL Cy AND V TimeOut Condition	Cha 5	(Second)		Edit
String Save Mode	AND V Condition	5	(Second)		Edit
String Save Mode Use Redundan Operate Condition : Change Condition : Primary Option IP	First LH HL CY AND V TimeOut Condition 192	5 (100)	(Second)		Edit
String Save Mode	First LH HL CY AND TimeOut Condition 192	Cha	(Second)		Edit
String Save Mode Use Redundan Operate Condition : [Change Condition : [Primary Option IP Ethernet Protocol Port	First LH HL CY AND Condition	Cha	(Second) (Second) 50		Edit
String Save Mode Use Redundan Operate Condition : Change Condition : Primary Option IP Ethernet Protocol Port Timeout	First LH HL CY AND TimeOut TimeOut UDP 4000 1000	Cha	(Second)		Edit
String Save Mode Use Redundan Operate Condition : Change Condition : I Primary Option I P Ethernet Protocol Port Timeout Send Wait	EPISTLH HL CV AND V TimeOut Condition	Cha 5 (168 () msec	nge ((Second) 0 (Second)		Edit
String Save Mode	Image:	Cha 5 (168) 7 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9	(Second) •<		Edit
String Save Mode	Image: First LH HL CV TimeOut TimeOut UDP 4000 1000 1000 5	Cha 5 (168 () 7 2) msec 2) msec	nge (Second)		Edit
String Save Mode	Image: First LH HL CV TimeOut TimeOut UDP UDP 1000 0 5	Cha 5 Cha 168 P 2 S 3 msec 2 S 3 msec	(Second) 0 50		Edit
String Save Mode	Image: First LH HL CV AND TimeOut Condition 192 UDP 4000 1000 1000 5	Cha 5 (168) 7 (168)	(Second) 0 \$0 50 \$1		Edit

Settings		Contents				
ТОР	Model	Check the TOP display and process to select the touch model.				
External device	Vendor	Select the vendor of the externa Please select "MITSUBISHI Elect	lect the vendor of the external device to be connected to TOP. Pase select "MITSUBISHI Electric Corporation".			
	PLC	Select the external device to be	connected to the TOP.	Drotocol		
		MELSEC Q Series	CPU Ethernet	Set Users		
		Supported Protocol				
		MC Protocol 3E (BINARY)	MC Protocol 3E (ASCII)	MELSOFT Connection		
		Please check the system config connect is a model whose syste	guration in Chapter 1 to see if m can be configured.	the external device you want to		



3. TOP communication setting

The communication can be set in TOP Design Studio or TOP main menu. The communication should be set in the same way as that of the external device.

3.1 Communication setting in TOP Design Studio

(1) Communication interface setting

- [Project > Project properties > TOP settings] → [Project option > Check "Use HMI settings" > Edit > Ethernet]
 - Set the TOP communication interface in TOP Design Studio.



Items	ТОР	External device	Remarks
IP Address*Note 1) Note 2)	192.168.0.100	192.168.0.50	
Subnet Mask	255.255.255.0	255.255.255.0	
Gateway	192.168.0.1	192.168.0.1	

*Note 1) The network addresses of the TOP and the external device (the first three digits of the IP, 192. 168.0.0) should match.

*Note 2) Do not use duplicate IP addresses over the same network.

* The above settings are $\underline{examples}$ recommended by the company.

Items	Description
IP Address	Set an IP address to be used by the TOP to use over the network.
Subnet Mask	Enter the subnet mask of the network.
Gateway	Enter the gateway of the network.



(2) Communication option setting

■ [Project > Project properties > PLC settings > ETHERNET > "PLC1 : MELSEC-Q Series"]

- Set the options of the communication driver of MELSEC Q Series CPU Ethernet in TOP Design Studio.

Project Option			×
Change HMI[<u>H</u>] Mdd	PLC [A] TIT Change PLC[C] Delete PLC[D]		
Change HMI[] TOP Setting SYS: RD1520X Option Module Setting FieldBus (0) FieldBus (0) COM1 (0) COM1 (0) COM2 (0) COM3 (0) FieldBus (1) FieldBus (2) Wreless (0) Wreless (0) Wiseless (0) USBDevice (0)	PLC Setting[MELSEC Q Series] Alas Name : PLC1 Interface : CPU Ethernet Protocol MC Protocol 3E (Binary) V String Save Mode : First LH HL Change Condition : Interface : Condition Change Condition : Interface : Condition Port 4000 © Port 4000 © meac Send Wait 0 © msec Retry 5 ©	Co	mm Manual
		Apply	Close

Items	Settings	Remarks
Interface	Select "CPU Ethernet".	Refer to "2. External
Protocol	Select the communication protocol between the TOP and an external device.	device selection".
IP	Enter the IP address of the external device.	
Ethernet Protocol	Select the Ethernet protocol between the TOP and an external device.	
Port	Enter the Ethernet communication port number of an external device.	Reference the table
		below
TimeOut (ms)	Set the time for the TOP to wait for a response from an external device.	
SendWait (ms)	Set the waiting time between TOP's receiving a response from an external	
	device and sending the next command request.	

MELSEC Q Series CPU communication port number

Protocol	Port number		Remarks
MC Protocol 3E (UDP)	Port number given in [Built-in Ethernet Port Setting > Open Setting]		
(recommended)			
MC Protocol 3E (TCP) (N:1)	When using multiple TOPs, it is recomm		
MELSOFT Connection (UDP)	QnUDEH: 5006 DEC	QnUDV/QnUDPV : 5001 DEC	Fixed
MELSOFT Connection (TCP)	5007 _{DEC}		Fixed



3.2. Communication setting in TOP

* This is a setting method when "Use HMI Setup" in the setting items in "3.1 TOP Design Studio" is not checked.

■ Touch the top of the TOP screen and drag it down. Touch "EXIT" in the pop-up window to go to the main screen.



(1) Communication interface setting

■ [Main screen > Control panel > Ethernet]

	ō	Ethernet ×
Run	System	Port Ethernet Port : ETH1 • 0 •
MC	PLC Se	MAC Address : 00:15:1D:05:38:C5 IP Address : 192.168.0.100
VNC Viewer		Subnet Mask : 255.255.0 Gateway : 192.168.0.1 Default Gateway
	Ethernet	DNS (1) :
Screen shot	Diagnostic	Primary IP : 192.168.0.100 Cable Status : ETH1 Connected
	[System]	Bridge Mode : Use Bridge Check duplicate Apply Cancel Close

Items	ТОР	External device	Remarks
IP Address*Note 1) Note 2)	192.168.0.100	192.168.0.50	
Subnet Mask	255.255.255.0	255.255.255.0	
Gateway	192.168.0.1	192.168.0.1	

*Note 1) The network addresses of the TOP and the external device (the first three digits of the IP, 192.168.0.0) should match.

*Note 2) Do not use duplicate IP addresses over the same network.

* The above settings are examples recommended by the company.

Items	Description
IP Address	Set an IP address to be used by the TOP to use over the network.
Subnet Mask	Enter the subnet mask of the network.
Gateway	Enter the gateway of the network.



(2) Communication option setting

■ [Main screen > Control panel > PLC]

	õ	1001	PLC	×	
Bun	🔯 System	Driver(ETH)	PLC1(MELSEC Q Series) -		
nan		Interface	CPU Ethernet 💌		
		Protocol	MC Protocol 3E (Bir 💌		
WNC	PLC S	Bind IP	Auto		
VNC		IP	192 🖨 168 🖨 0 🌲 50 🖨		
Viewer	പ്രം ഭ	Ethernet	UDP 💌		
	Ethernet	Port	4000		
<u> </u>		Timeout	1000 🖨 msec		
Screen	1 mil	Send Wait	0 🖨 msec		
shot		Retry	5		
	Diagnostic				
	[System]	Diagnostic	Ping Test	Apply Cancel	

Items	Settings	Remarks
Interface	Select "CPU Ethernet".	Refer to "2. External
Protocol	Select the communication protocol between the TOP and an external device.	
IP	Enter the IP address of the external device.	
Ethernet Protocol	Select the Ethernet protocol between the TOP and an external device.	
Port	Enter the Ethernet communication port number of an external device.	Reference the table
		below
TimeOut (ms)	Set the time for the TOP to wait for a response from an external device.	
SendWait (ms)	Set the waiting time between TOP's receiving a response from an external	
	device and sending the next command request.	

MELSEC Q Series CPU communication port number

Protocol	Port number		Remarks
MC Protocol 3E (UDP)	Port number given in [Built-in Ethernet F		
(recommended)			
MC Protocol 3E (TCP) (N:1)	When using multiple TOPs, it is recomm		
MELSOFT Connection (UDP)	QnUDEH : 5006 DEC	QnUDV/QnUDPV : 5001 DEC	Fixed
MELSOFT Connection (TCP)	5007 dec		Fixed



3.3 Communication diagnostics

■ Check the interface setting status between the TOP and an external device.

- Touch the top of the TOP screen and drag it down. Touch "EXIT" in the pop-up window to go to the main screen.

- Check whether the port (ETH1/ETH2) settings you want to use are the same as those of the external device in [Control panel > Ethernet].

Diagnosis of whether the port communication is normal or not

- Touch "Communication diagnostics" in [Control Panel > PLC].

- The Diagnostics dialog box pops up on the screen and determines the diagnostic status.

ОК	Communication setting normal
Time Out Error	Communication setting abnormal
	- Check the cable, TOP, and external device setting status. (Reference: Communication diagnostics sheet)

Communication diagnostics sheet

- If there is a problem with the communication connection with an external terminal, please check the settings in the sheet below.

Items	Conte	ents	Check		Remarks
System	How to connect the sys	OK	NG	1 System configuration	
configuration	Connection cable name	2	OK	NG	
ТОР	Version information		OK	NG	
	Port in use		OK	NG	
	Driver name		OK	NG	
	Other detailed settings		OK	NG	
	Relative prefix	Project setting	OK	NG	2. External device selection
		Communication diagnostics	ОК	NG	3. Communication setting
	Ethernet port setting	IP Address	OK	NG	
		Subnet Mask	OK	NG	
		Gateway	OK	NG	
External device	CPU name	OK	NG		
	Communication port na	OK	NG		
	Protocol (mode)	ОК	NG		
	Setup Prefix	OK	NG	4. External device cotting	
	Other detailed settings	OK	NG	4. External device setting	
	Ethernet port setting	IP Address	OK	NG	
		Subnet Mask	OK	NG	
		Gateway	OK	NG	
	Check address range		ОК	NG	<u>5. Supported addresses</u> (For details, please refer to the PLC vendor's manual.)



4. External device setting

4.1 MC Protocol 3E (Binary / Ascii) setting

Use the MELSEC series Ladder Software "**GX Developer or GX Works**" to set as follows. For more detailed setting methods than described in this example, refer to the PLC user manual.



Step 1. Double-click [Parameter] - [PLC parameter] in the [GPPW] software project window to open the [Q parameter setting].

Step 2. Select the [Built-in Ethernet port] tab in the [Q parameter setting] window to configure as below.

Q Parameter Setting	
PLC Name PLC System PLC File PLC RAS Boot File Program SFC D	evice I/O Assignment M
IP Address Setting	Open Setting
IP Address 192 168 0 50	FIP Setting
Subnet Mask Pattern	Time Setting
Default Router IP Address	
Communication Data Code © Binary Code © ASCII Code	
Enable online change (FTP, MC Protocol)	
Disable direct connection to MELSOFT	
Do not respond to search for CPU (Built-in Ethernet port) on network	:

Items		Description	
IP address	IP	MELSEC-Q CPU Ethernet port assigned IP	
	Subnet mask pattern	Set when using subnet mask	
	Default router IP	Set when using router	
Communication data code		User settings (Binary code / ASCII code)	
Enable online	change (FTP, MC protocol)	Enable	
Disable direct	connection to MELSOFT	Not used	
Do not respos	d to search for CPU(Built-In Ethernet Port)on network	Not used	



Step 3. Click [Open setting] in [Built-in Ethernet port] tab of the [Q parameter setting] window to set the following matters.

× Αα	Add PLC ports as many as TOP units.									
► lt	is rec	ommer	ided to use UDP (MC	Pro	otocol) in the v	vireless TOPR	H Series or in a	noisy enviro	onment.	
Bui	lt-in E	thernet	Port Open Setting						×	
									Decimal	
	IP Address/Port No. Input Format DEC									
	Protocol Open System TCP Connection Host Station Port No.					Host Station Port No.	Destination IP Address	Destination Port No.	Start Device to Store Predefined Protocol Operation Status	
	1	UDP 🤜	 MC Protocol 	-	-	4000				
	2	TCP 🖣	MELSOFT Connection	•	•					
	3	TCP 🔻	MELSOFT Connection	•	•					
	4	TCP 🗖	MELSOFT Connection	•	-					

Items	Description	Remarks	
IP Address or Port No	Select "DEC" (decimal).		
Input Format			
Protocol	Set the external device's	Set Users	_
	Ethernet protocol to UDP.		
	(TCP for N:1		
	communication)		
Open system	Select "MC Protocol".	Fixed	
Host station port No	Set the external device's	Set Users	-
(PLC port number)	Ethernet communication		
	port number.		

× The picture below is an example of communicating with TOP 16 units. However, the communication speed is reduced to 1/16.

► As shown in the picture below, when multiple TOPs are connected to the CPU, set "Send Wait (ms)" to "10~20 ms" in the TOP's communication option to reduce the load on PLC.

► As CPU Ethernet communication cannot designate the Destination IP/Port, it is easy for the user to make a serious mistake of using the same PLC port for N TOPs in case of N:1 communication. To prevent this, we recommend using TCP. In case of Ethernet communication card, it is possible to designate the Destination IP / Port, so it is faster to use UDP.

Built-in Ethernet Port Open Setting

	N:1 Communication=TCP			PLC Port	IP Addre	ss/Port No. In	put Format DEC	
	Protocol	Open System	TCP Connection	Host Station	Destination IP Address	Destination Port No.	Start Device to St Predefined Proto	ore col
1	TCP 👻	MC Protocol 🔹 💌	-	4001				
2	TCP 👻	MC Protocol 🔹 🔻	-	4002	* CDU Ethor		vication	
3	TCP <	MC Protocol 🔹	-	4003	CPU Ethernet communication cannot designate Destination IP/Port; TCP is recommended when using N:1 communication			
4	TCP 👻	MC Protocol 🔹	-	4004				
5	TCP 👻	MC Protocol 🔹	-	4005				
6	TCP 👻	MC Protocol 🔹 💌	-	4006				
7	TCP 👻	MC Protocol 🔹 👻	-	4007				
8	TCP 👻	MC Protocol 🔹 👻	-	4008	* Ethernet communication card			
9	TCP 👻	MC Protocol 🔹	-	4009	cannot de	signate Des	tination	
10	TCP 👻	MC Protocol 🔹	-	4010	ID/Dort: it	ic factor to		
11	TCP 👻	MC Protocol 🔹	-	4011		is faster to		
12	TCP 👻	MC Protocol 🔹	-	4012				
13	TCP 👻	MC Protocol 🔹	-	4013				
14	TCP 👻	MC Protocol 🔹	-	4014				
15	TCP 👻	MC Protocol 🔹	-	4015				
16	TCP 👻	MC Protocol 🔹	-	4016				

Step 4. After transmitting the parameters set in [Online] > [Write to PLC], reset PLC.



4.2 MELSOFT Connection setting

Use the MELSEC series Ladder Software "**GX Developer or GX Works**" to set as follows. For more detailed setting methods than described in this example, refer to the PLC user manual.

- <u>^</u>.
- The network addresses of the TOP and the external device (the first three digits of the IP, $\underline{192}$. <u>168</u>.0.0) should match.
 - Do not use duplicate IP addresses over the same network.

Step 1. Double-click [Parameter] - [PLC parameter] in the [GPPW] software project window to open the [Q parameter setting].

Step 2. Select the [Built-in Ethernet port] tab in the [Q parameter setting] window to configure as below.

PLC Name PLC System PLC File PLC RAS Boot File Program SFC Device I/O Assignment IP Address Setting Input Format DEC Image: FTP Setting FTP Setting IP Address 192 168 0 50 Time Setting Subnet Mask Pattern Image: Setting Image: Setting Image: Setting Image: Setting Image: Setting Default Router IP Address Image: Setting Image: Setting Image: Setting Image: Setting Communication Data Code Image: Setting Image: Setting Image: Setting Image: Setting Image: Subnet Mask Pattern Image: Setting Image: Setting Image: Setting Image: Setting Communication Data Code Image: Setting Image: Setting Image: Setting Image: Setting Image: Setting Image: Setting Image: Setting Image: Setting Image: Setting Image: Setting Image: Setting Image: Setting Image: Setting Image: Setting Image: Setting Image: Setting Image: Setting Image: Setting Image: Setting Image: Setting<	Parameter Setting		Territoria de la composición de la composicinde la composición de la composición de la composición de
IP Address Setting Input Format DEC IP Address 192 168 0 Subnet Mask Pattern Default Router IP Address Communication Data Code Image: Binary Code Image: Code <tr< th=""><th>PLC Name PLC System PLC File P</th><th>LC RAS Boot File Program SFC</th><th>Device I/O Assignment</th></tr<>	PLC Name PLC System PLC File P	LC RAS Boot File Program SFC	Device I/O Assignment
Input Format DEC FTP Setting FTP Setting Time Setting Ti	- IP Address Setting		Open Setting
IP Address 192 168 0 50 Subnet Mask Pattern		Input Format DEC 💌	
Subnet Mask Pattern	IP Address	192 168 0 50	FTP Setting
Default Router IP Address	Subnet Mask Pattern		Time Setting
Communication Data Code Binary Code ASCII Code Enable online change (FTP, MC Protocol) Disable direct connection to MELSOFT Do not respond to search for CPU (Built-in Ethernet port) on network	Default Router IP Address		
 Binary Code ASCII Code Enable online change (FTP, MC Protocol) Disable direct connection to MELSOFT Do not respond to search for CPU (Built-in Ethernet port) on network 	Communication Data Code	7	
 ASCII Code Enable online change (FTP, MC Protocol) Disable direct connection to MELSOFT Do not respond to search for CPU (Built-in Ethernet port) on network 	Binary Code		
 Enable online change (FTP, MC Protocol) Disable direct connection to MELSOFT Do not respond to search for CPU (Built-in Ethernet port) on network 	C ASCII Code		
Disable direct connection to MELSOFT Do not respond to search for CPU (Built-in Ethernet port) on network	Enable online change (FTP	, MC Protocol)	
Do not respond to search for CPU (Built-in Ethernet port) on network	Disable direct connection t	o MELSOFT	
	Do not respond to search t	for CPU (Built-in Ethernet port) on net	work

Items		Settings
IP address	IP	MELSEC-Q CPU Ethernet port assigned IP
	Subnet mask pattern	Set when using subnet mask
	Default router IP	Set when using router
Communication data code		Binary code (fixed)
Enable online change (FTP, MC protocol)		Enable
Disable direct connection to MELSOFT		Not used
Do not respos	d to search for CPU(Built-In Ethernet Port)on network	Not used

Step 3. Click [Open setting] in the [Built-in Ethernet port] tab of the [Q parameter setting] window to set the following matters.

	Protocol	Open system		TCP connection	Host station port No.	Transmission target device IP address	Transmission target device port No.
1	UDP 🗸	MELSOFT connection	r	•			

Items	Description	Remarks
Protocol	Set the external device's Ethernet protocol.	Set Users
Open system	Select "MELSOFT connection".	Fixed

% It must be the same as TOP's communication option setting. (Remark)

Step 4. After transmitting the parameters set in [Online] > [Write to PLC], reset PLC.

External device connection manual for TOP Design Studio



5. Supported addresses

The devices available in TOP are as follows:

The device range (address) may differ depending on the CPU module series/type. The TOP series supports the maximum address range used by the external device series. Please refer to each CPU module user manual and be take caution to not deviate from the address range supported by the device you want to use.

Device	Bit Address	Word Address Word Address NOT		32 BIT
Input Relay	X0000 ~ X1FFF (HEX)	X0000 ~ X1FF0 (HEX)	X***0 *Note 1)	
Output Relay	Y0000 ~ Y1FFF (HEX)	Y0000 ~ Y1FF0 (HEX)	Y***0 *Note 1)	
Internal Relay	M0000 ~ M61439	M0000 ~ M61424	M0000 + 16*n *Note 2)	
Special Relay	SM0000 ~ SM2047	SM0000 ~ SM2032	SM0000 + 16*n *Note 2)	
Latch Relay	L0000 ~ L32767	L0000 ~ L32752	L0000 + 16*n *Note 2)	
Annunciator	F0000 ~ F32767	F0000 ~ F32752	F0000 + 16*n *Note 2)	
Edge Relay	V0000 ~ V32767	V0000 ~ V32752	V0000 + 16*n *Note 2)	
Step Relay	S0000 ~ S8191	S0000 ~ S8176	S0000 + 16*n *Note 2)	
Link Relay	B0000 ~ BEFFF (HEX)	B0000 ~BEFF0 (HEX)	B***0 *Note 1)	
Special Link Relay	SB0000 ~ SB7FF0 (HEX)	SB0000 ~ SB7FF0 (HEX)	SB***0 *Note 1)	
Timer (contact)	TS00000 ~ TS25471	TS00000 ~ TS25456		
Timer (coil)	TC00000 ~ TC25471	TC00000 ~ TC25456		
Aggregate Timer (contact)	SS00000 ~ SS25471	SS00000 ~ SS25456		
Aggregate Timer (coil)	SC00000 ~ SC25471	SC00000 ~ SC25456		
Counter (contact)	CS00000 ~ CS25471	CS00000 ~ CS25456		L/H Note S)
Counter (coil)	CC00000 ~ CC25471	CC00000 ~ CC25456		
Timer (current value)	TN00000.0 ~ TN25471.15	TN00000 ~ TN25471		
Aggregate Timer (current value)	SN00000.0 ~ SN25471.15	SN00000 ~ SN25471		
Counter (current value)	CN00000.0 ~CN25471.15	CN00000 ~ CN25471		
Data Register	D0000000.0 ~ D4212223.15	D0000000 ~ D4212223	Binary Protocol	
	D000000.0 ~ D999999.15	D000000 ~ D999999	ASCII Protocol	
Special Data Register	SD0000.0 ~ SD2255.15	SD0000 ~ SD2255		
Link Register	W000000.0 ~ W4045FF.F	W000000 ~ W4045FF		
Link Special	SW0000.0 ~ SW7FFF.F	SW0000 ~ SW7FFF		
Index	Z00.0 ~ Z19.15	Z00 ~ Z19		
File Register		Custom range		

*Note 1) For bit addresses with hexadecimal "0~F" notations, use the initial 0 bit as the word address

*Note 2) When using a bit address that uses decimals, use a word address in units of "16"

*Note 3) The lower 16 BIT data of 32 BIT data is saved in the address whose screen has been registered, and the upper 16 BIT data is saved in the address next to the address whose screen has been registered.

(Ex) When saving 32BIT data hexadecimal data 12345678 in address D00100, it is saved in 16BIT device address as follows.

Items	32BIT	16BIT	
Address	D00100	D00100	D00101
Input data (hexadecimal)	12345678	5678	1234