BINAR ELEKTRONIK :

Bifas UHS Series Etherent

Supported version TOP Design Studio V1.4.4 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".

1. System configuration

The system configuration of TOP and "BINAR ELEKTRONIK - Bibas UHS3 Series Etherent" is as follows:

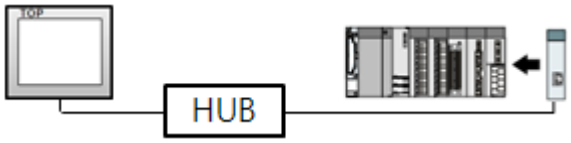
Series	CPU	Link I/F	Communication method	Communication setting	Cable
Bifas UHS Series	-	-	TCP	3. TOP communication setting	Twisted pair cable*Note 1)

*Note 1) Twisted pair cable

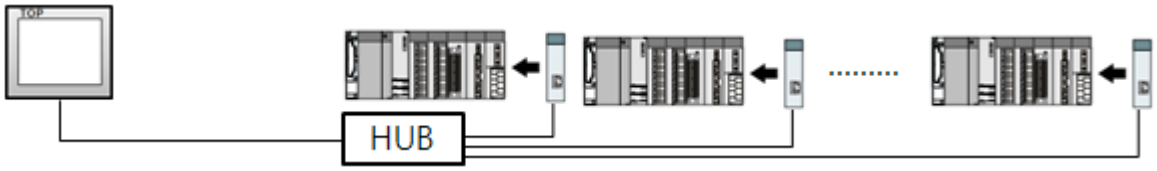
- Refer to STP (Shielded Twisted Pair Cable) or UTP (Unshielded Twisted Pair Cable) Category 3, 4, 5.
- Depending on the network configuration, you can connect to components such as the hub and transceiver, and in this case, use a direct cable.

■ Connectable configuration

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

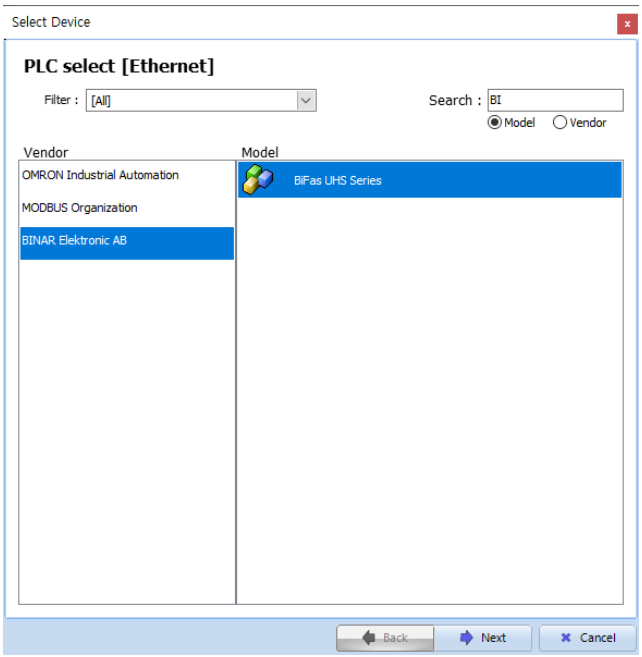


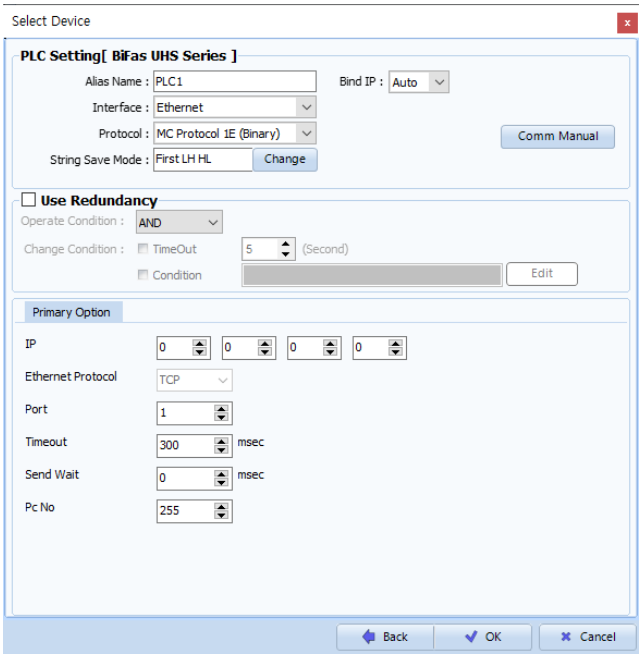
• 1:N connection (one TOP and multiple external devices) connection



2. External device selection

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





Settings		Contents
TOP	Model	Check the TOP display and process to select the touch model.
External device	Vendor	Select the vendor of the external device to be connected to TOP. Select "OTHERS Manufacture".
	PLC	Select the external device to be connected to the TOP.

Model	Interface	Protocol
Bifas UHS Series	Ethernet	MC Protocol 1E(binary)

Please check the system configuration in Chapter 1 to see if the external device you want to connect is a model whose system can be configured.

3. TOP communication setting

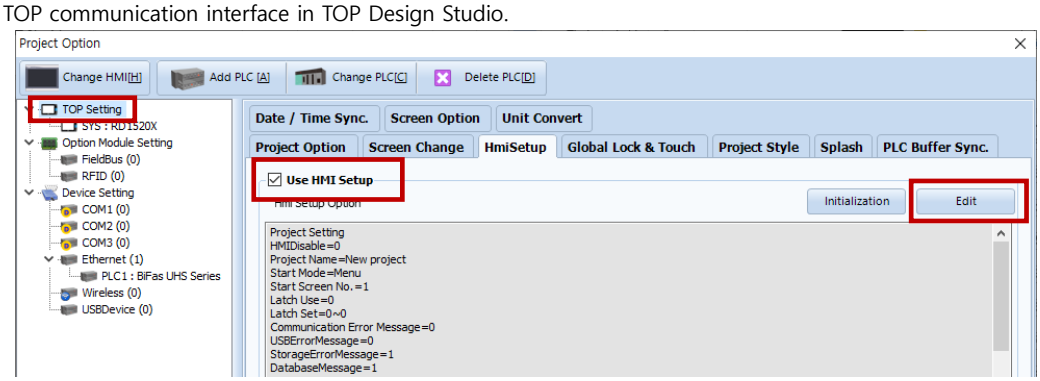
The communication can be set in TOP Design Studio or TOP main menu. The communication should be set in the same way as that of the external device.

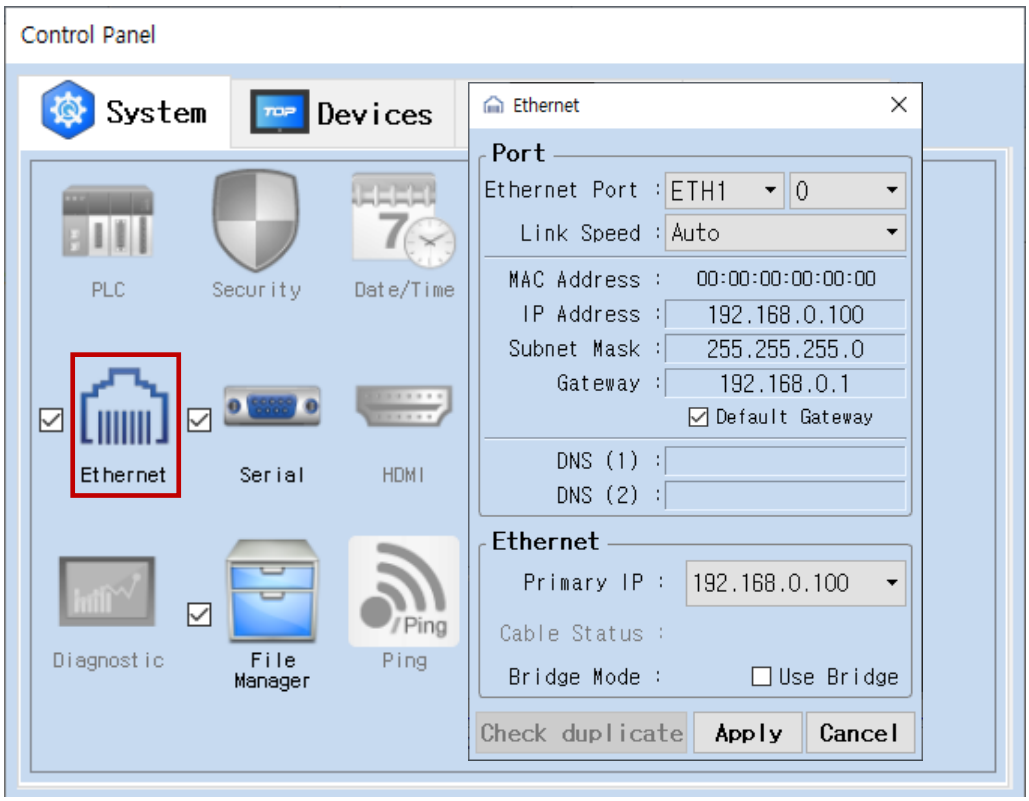
3.1 Communication setting in TOP Design Studio

(1) Communication interface setting

■ [Project > Project Property > TOP Setting] → [Project Option > "Use HMI Setup" Check > Edit > Ethernet]

– Set the TOP communication interface in TOP Design Studio.





Items	TOP	External device	Remarks
IP Address*Note 1) Note 2)	192.168.255.50	192.168.255.1	
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.

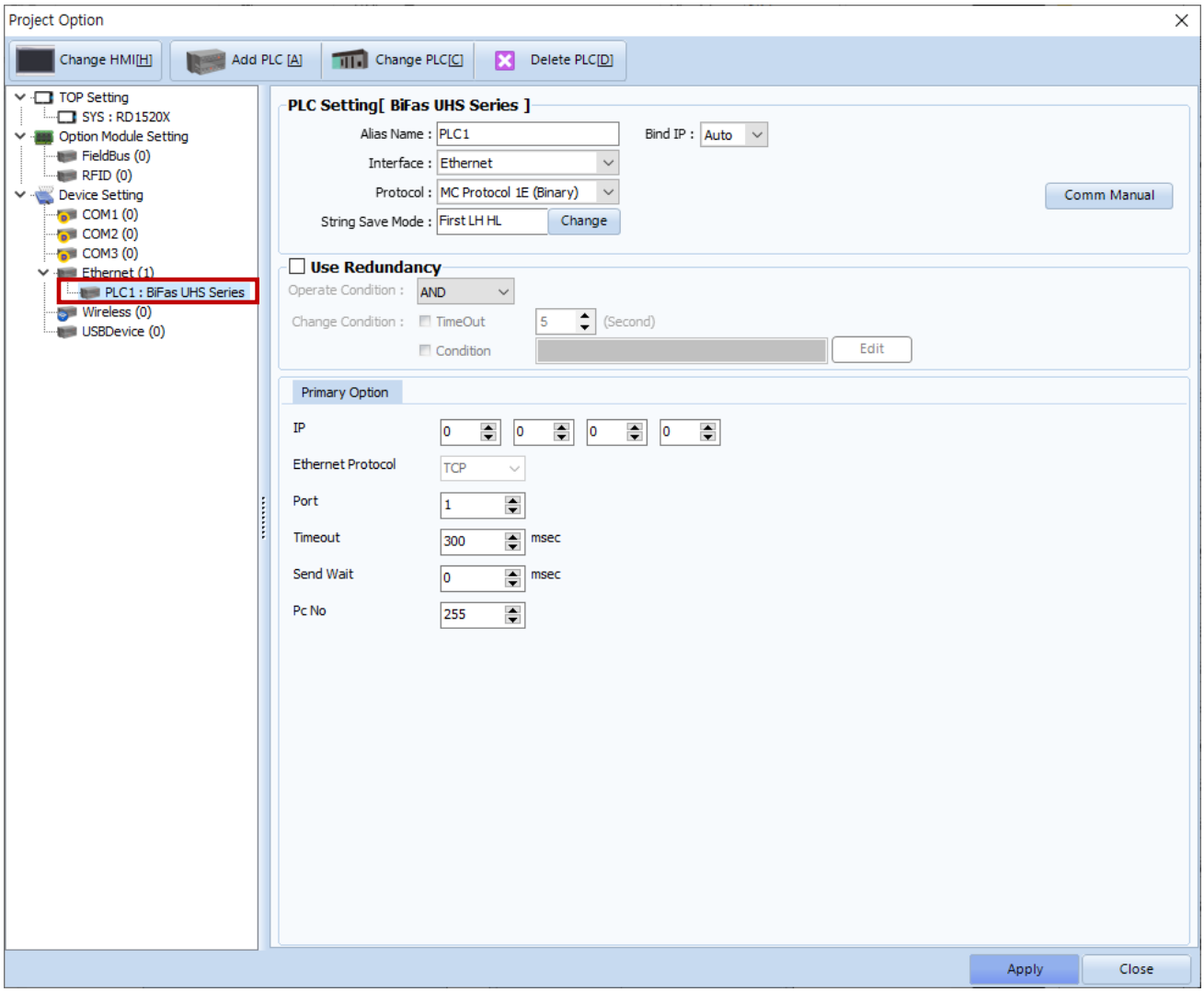
* The above settings are examples recommended by the company.

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

■ [Project > Project Property > Device Setting > Ethernet > "PLC1 : Bifas UHS Series"]

– Set the options of the Bifas UHS Series communication driver in TOP Design Studio.

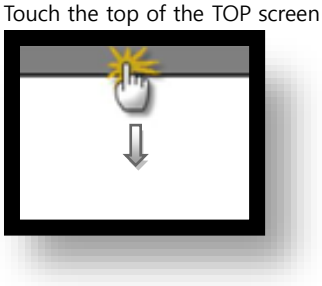


Items	Settings	Remarks
Interface	Select "Ethernet".	Refer to "2. External device selection".
Protocol	Select "MC Protocol 1E(Binary)".	
IP	Enter the IP address of the external device.	
Ethernet Protocol	Select the Ethernet Protocol between the TOP and an external device.	Fixed
Port	Enter the Ethernet communication port number of the external device.	Fixed
TimeOut (ms)	Set the time for the TOP to wait for a responCse 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.	
Pc No	Configure PC number.	

3.2. Communication setting in TOP

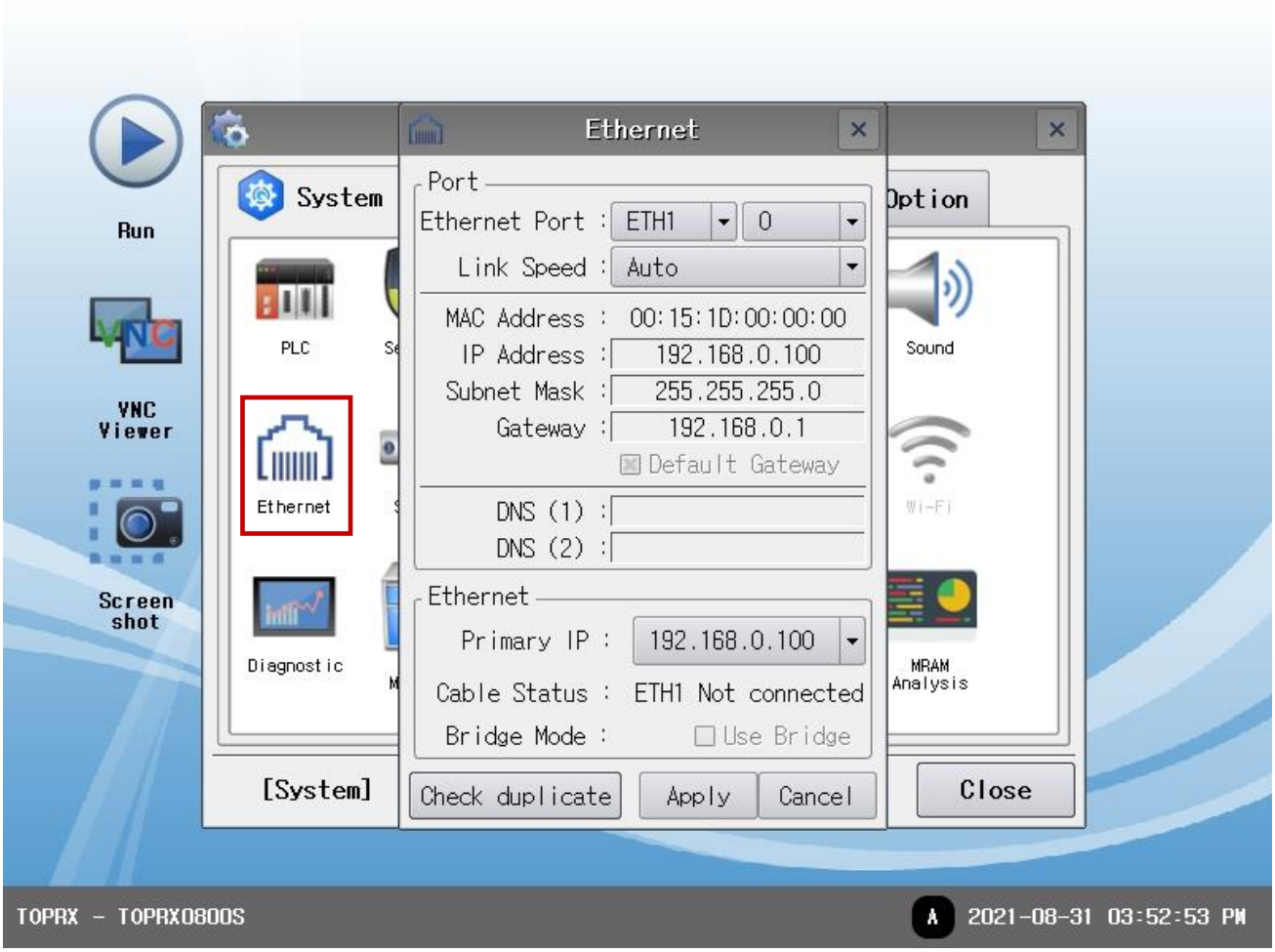
*** This is a setting method when "Use HMI Setup" in the setting items in "3.1 TOP Design Studio" is not checked.**

■ 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]



Items	TOP	External device	Remarks
IP Address*Note 1) Note 2)	192.168.255.50	192.168.255.1	
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]

Items	Settings	Remarks
Interface	Select "Ethernet".	Refer to "2. External device selection".
Protocol	Select "MC Protocol 1E(Binary)".	
IP	Enter the IP address of the external device.	
Ethernet Protocol	Select the Ethernet Protocol between the TOP and an external device.	Fixed
Port	Enter the Ethernet communication port number of the external device.	Fixed
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.	
Pc No	Configure PC number.	

3.3 Communication diagnostics

■ Check the interface setting status between the TOP and 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 if the port (ETH1/ETH2) settings you want to use in [Control Panel > Ethernet] are the same as those of the external device.

■ 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.

OK	**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	Contents		Check		Remarks
System configuration	How to connect the system		OK	NG	1. System configuration
	Connection cable name		OK	NG	
TOP	Version information		OK	NG	2. External device selection 3. Communication setting
	Port in use		OK	NG	
	Driver name		OK	NG	
	Other detailed settings		OK	NG	
	Relative prefix	Project setting	OK	NG	
		Communication diagnostics	OK	NG	
	Ethernet port setting	IP Address	OK	NG	
		Subnet Mask	OK	NG	
		Gateway	OK	NG	
External device	CPU name		OK	NG	4. External device setting
	Communication port name (module name)		OK	NG	
	Protocol (mode)		OK	NG	
	Setup Prefix		OK	NG	
	Other detailed settings		OK	NG	
	Ethernet port setting	IP Address	OK	NG	
		Subnet Mask	OK	NG	
		Gateway	OK	NG	
	Check address range		OK	NG	5. Supported addresses (For details, please refer to the PLC vendor's manual.)

4. External device setting

- Refer to the manual of the external device and configure the communication options.

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 NOTE	32 BIT
Input Relay	X0000 ~ X1FFF (HEX)	X0000 ~ X1FF0 (HEX)	X***0 *Note 1)	L/H *Note 3)
Output Relay	Y0000 ~ Y1FFF (HEX)	Y0000 ~ Y1FF0 (HEX)	Y***0 *Note 1)	
Internal Relay	M0000.0 ~ M8176.15	M0000 ~ M8191		
	M9000.0 ~M9240.15	M9000 ~ M9225		
Latch Relay	L0000 ~ L8176	L0000 ~ L8191		
Annunciator	F0000 ~ F1FFF(HEX)	F0000 ~ F1FF0 (HEX)		
Link Relay	B0000 ~ B1FFF (HEX)	B0000 ~B1FF0 (HEX)		
Special Link Relay	SB0000 ~ SB7FF0 (HEX)	SB0000 ~ SB7FF0 (HEX)		
Timer (contact)	TS0000 ~ TS2047			
Timer (coil)	TC0000 ~ TC2547			
Aggregate Timer (contact)	SS0000 ~ SS2547			
Aggregate Timer (coil)	SC0000 ~ SC2547			
Counter (contact)	CS0000 ~ CS1023			
Counter (coil)	CC0000 ~ CC1023			
Timer (current value)		TN0000 ~ TN2047		
Counter (current value)		CN0000 ~ CN1023		
Data Register	D00000.0 ~ D8191.15	D0000 ~ D8191		
	D09000.0 ~ D9255.15	D0000 ~ D9255		
Special Data Register	SD0000.0 ~ SD2255.15	SD0000 ~ SD2255		
File Register	R0000.0 ~R8191.15			
Link register	W0000.0 ~ W1FFF(HEX)	W0000 ~ W1FF0(HEX)	W***0 *Note 1)	

*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 32 BIT data hexadecimal data 12345678 in address D00100, it is saved to 16 BIT device address as follows:

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