YASKAWA Electric Corporation Machine Controller MP900 Series Ethernet Driver

Supported version TOP Design Studio V1.0 or higher



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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 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 "YASKAWA Electric Corporation – MP900 Series Ethernet" is as follows:

Series	CPU	Link I/F	Communication method	System setting	Cable
MP900	MP920	Ethernet Port on 218IF-01	Ethernet(TCP/UDP)	3. TOP communication setting 4. External device 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.

Select Device				
PLC select [Ethernet]	1			
Filter : [All]		~	Search :	
			Model	del 🔾 Vendor
Vendor	Model			
M2I Corporation	^ 🌮 .	Мр900		
MITSUBISHI Electric Corporation	8	Mp2000		
OMRON Industrial Automation	- È	Mp3000		
LS Industrial Systems		High Speed Ethernet Se	rver	
MODBUS Organization		CD 100		
SIEMENS AG.		SR 100		
Rockwell Automation				
GE Fanuc Automation				
PANASONIC Electric Works				
YASKAWA Electric Corporation				
YOKOGAWA Electric Corporation	•			
Schneider Electric Industries				
KDT Systems				
RS Automation	~			
		4 a i		10
		Dack	Next	Cancel
Select Device				x
PLC Setting[Mp900]				
Alias Name : PLC1		Bind IP : Auto	\sim	
Interface : Ethernet		~	_	
Protocol : Extended	Memobus RTU	~	(Comm Manual
String Save Mode : First LH H	Cha	ange		
String Save Mode : First LH HI	L Cha	inge		
String Save Mode : First LH HI	L Cha	inge		
String Save Mode : First LH HI	└ Cha	(Second)		
String Save Mode : First LH H String Save Mode : First LH H Operate Condition : AND Change Condition : TimeOut Condition	Cha	Inge		Edit
String Save Mode : First LH H	Chained and the second seco	(Second)		Edit
String Save Mode : First LH H Use Redundancy Operate Condition : AND Change Condition : TimeOut Condition Primary Option IP 192	5 :	(Second)		Edit
String Save Mode : First LH H Use Redundancy Operate Condition : AND Change Condition : TimeOut Condition Primary Option IP Ethernet Protocol Trop	5 : 168 •	nge (Second) 0 () 1 ()		Edit
String Save Mode : First LH HI Use Redundancy Operate Condition : AND Change Condition : TimeOut Condition Primary Option IP Ethernet Protocol TCP Port I022	5 : 168 •	nge (Second) 0 0 1 0		Edit
String Save Mode : First LH HI Use Redundancy Operate Condition : AND Change Condition : TimeOut Condition Primary Option IP 192 Ethernet Protocol Port 1024 Timeout	5 : 168 • 	nge (Second) 0 € 1 €		Edit
String Save Mode : First LH HI Use Redundancy Operate Condition : AND Change Condition : TimeOut Condition Primary Option IP 192 Ethernet Protocol Port 1024 Timeout 1000 Seed Wait	Cha 5 : 168 ↓ ∞ ∞ msec msec	nge (Second)		Edit
String Save Mode : First LH HI Use Redundancy Operate Condition : AND Change Condition : TimeOut Change Condition : Condition Primary Option IP Ethernet Protocol TCP Port 1024 Timeout 1000 Send Wait 0	Cha 5 168 (*) * * * * * * * * * *	(Second)		Edit
String Save Mode : First LH H Use Redundancy Operate Condition : AND Change Condition : TimeOut Condition Primary Option IP 192 Ethernet Protocol Port 1024 Timeout 1000 Send Wait 0 HMI Port 1025	Cha Cha 5 0 168 € ✓ 5 0 5 0 5 0 5 0 5 0 5 0 5 0 5 0	nge (Second) 0 2 1 2 1		Edit
String Save Mode : First LH H Use Redundancy Operate Condition : AND Change Condition : TimeOut Condition Primary Option IP Ethernet Protocol Port 1000 Send Wait HMI Port 1025	L Cha 5 : 168 € ✓ 5 : 5 : 5 : 5 : 5 : 5 : 5 : 5 :	nge (Second) 0		Edit
String Save Mode : First LH H Use Redundancy Operate Condition : AND Change Condition : TimeOut Condition Primary Option IP Ethernet Protocol TCP Port 1024 Timeout 1000 Send Wait 0 HMI Port 1025	Cha Cha 5 : 168 € ✓ 168 € ✓ msec msec € msec €	nge (Second) 0 0 1 0		Edit
String Save Mode : First LH HI Use Redundancy Operate Condition : AND Change Condition : TimeOut Condition Primary Option IP 192 Ethernet Protocol TCP Port 1024 Timeout 1000 Send Wait 0 HIMI Port 1025	Cha Cha 5 : 168 ↓ √ ↓ 168 ↓ 168 ↓ 168 ↓ 100 msec ↓ 100 msec ↓	nge (Second) 0 0 1 0		Edit

Settings			Cont	tents	
ТОР	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. Please select "YASKAWA Electric Corporation".		1	
	PLC	Select the external device to be connected to the TOP.			
		Model	Interface		Protocol
		MP900 Series	Ethernet		Set Users
		Supported Protocol			
		Extended MEMOBUS RTU		Extended MEM	10BUS ASCII
Please check the system configuration in Chapter 1 to se		ter 1 to see if t	the external device you want to		
		connect is a model whose syste	m can be config	ured.	



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 Options > "Use HMI Setup" Check > Edit > Ethernet]
 - Set the TOP communication interface in TOP Design Studio.



Items	ТОР	External device	Remarks
IP Address*Note 1) Note 2)	192.168.0.50	192.168.0.51	
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 > PLC Settings > ETHERNET > "PLC1 : Mp900"]
 - Set the options of the MP900 Series Ethernet communication driver in TOP Design Studio.

Project Option		×
Change HMI[H] Kange PLC[C] Change PLC[C] Change PLC[C]		
Change HMI[H] Add PLC [A] Change PLC[C] C Delete PLC[D] Change HMI[H] Add PLC [A] Change PLC[C] C Delete PLC[D] PLC Setting[Mp900] Alas Name : PLC1 Alas Name : PLC1 Bind IP : Auto Protocol : Extended Memobus RTU Protocol : Extended Memobus RTU String Save Mode : First LH HL Change Device Setting PLC Setting[Mp900] USBDevice (o) USBDevice (o) Protocol : Extended Memobus RTU String Save Mode : First LH HL Change Device Setting Primary Option IP 192 5 158 0 0 1 5 Ethernet Protocol TCP Port 1024 7 Timeout 1000 7 msec Send Wait 0 7 msec	Cor	nm Manual
	Apply	Close
* The above settings are examples recommended by the company.		

Items	Settings	Remarks
Interface	Select "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.	
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.	
HMI Port	Enter the Ethernet communication port number of the TOP.	



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]

	G	Ethernet ×
Run	🔯 System	Port Ethernet Port : ETH1 • 0 •
MNC	PLC Se	Link Speed : Auto MAC Address : 00:15:1D:05:38:C5 IP Address : 192.168.0.50 Sound
VNC Viewer	<u>ا</u>	Subnet Mask : 255.255.0 Gateway : 192.168.0.1 Default Gateway
Screen	Ethernet	DNS (1) : DNS (2) : Ethernet
shot	Diagnostic M	Primary IP : 192.168.0.50 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)	192.168.0.50	192.168.0.51	
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, <u>192</u>, <u>168</u>, <u>0</u>, 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]



* The above settings are examples recommended by the company.

ltems	Settings	Remarks
Interface	Select "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.	
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.	
HMI Port	Enter the Ethernet communication port number of the TOP.	



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 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.

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	Contents		Check		Remarks	
System	How to connect the system		OK	NG	1 Custom configuration	
configuration	Connection cable name		OK	NG	1. System configuration	
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 name (module n		ame (module name)	OK	NG		
	Protocol (mode)		ОК	NG		
	Setup Prefix		OK	NG	4 External device setting	
	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 Extended MEMOBUS - 218IF-01/02

Set as below using "MP Series" Ladder Software "MPE720". For more detailed setting method than that described in this example, refer to the PLC user manual.



Do not use duplicate IP addresses over the same network.

■ Operation I : "PC and PLC connection method" : set communications as follows(Operation II, Operation III), but before connect PC and PLC.

1. Run "Communication Manager" program.

(Path : Start \rightarrow Program \rightarrow "YE_Applications" \rightarrow "Communication Manager")

2. Run "Logical Port Setting" to set the port type and details.

(Path : File \rightarrow Setting...)

3. After PC and PLC are connected, save, and follow below operation.

■ Operation II : "MPE720" Create Project : (root) > [Group Folder] > [Order Folder] > [Controller Folder] Register

1. To register the device you want to use in "MPE720", follow "[Group Folder] > [Order Folder] > [Controller Folder]" path.

(Caution) In the "MPE720" left project window, Right-Click,

and follow the parent path through the [New] entry.

2.Register the Controller Type for the device you wish to use in the Controller Configuration window, which appears when registering a new [Controller Folder]

3. Double-click the newly registered [Controller Folder] to bring up the [Log on to the controller] window and enter "User Name" and "Password" to form project



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■ Operation III : "Communication Setting" : [Engineering Manager] – [Module Configuration] window

1. [Definition Folder] – [Module Configuration] double click to bring up [Engineering Manager] – [Module Configuration] window.

2. In the Module Configuration window, register the appropriate [Rack] – [Slot] location [Module Type].

3. Double-click the appropriate [Slot Number] to display the Settings window. The information to be set is as follows.

Transmission Parameters	Status
-------------------------	--------

folders as shown on the left.

┌ CP-218 Transmission P	arameters	
Station Setting		
IP Address	: 192 168 0 51 -	(0-255)
MEMOBUS Setting		
Response Time	: 0 🕂 s	(0-255)
Count of Retry	: 0 🕂 time	(0-255)
-		

CP-218 Connection Parameter

	CN	Local Port	Node IP Address	Node Port	Connect Type	Protocol Type	Code	Nc -
- [01	01024	192.168.000.050	01025	TCP 💌	Extended MEMOBUS 🖉 💌	BIN 💌	
- [02				-	-	•	

Items		Settings	Remarks	
Transmission parameter	Station Setting IP Address	192.168.0.51	PLC IP address	
Connection parameter Local Port		1024	PLC Port number	
Node IP Address		192.168.0.50	HMI IP Address	
Node Port		1025	HMI Port Number	
	Connect Type	ТСР	Set Users	
	Protocol Type	Extended MEMOBUS	Fixed	
			Follow protocol	
	Code	BIN	RTU : Select BIN	
			ASCII: Select ASCII	



■ Operation IV : Ladder Program : MSG-RCV function

1. Register the [MSG–RCV] function ([Instruction Pallet] menu - [System] tab]) into the [Ladder Works] Software, referring to the example below. Refer to the Ladder Software manual for more information. (%Caution: Set the value of [Dev-Type] to "6" for 218IF-01 and "218IF-02 to "16".)

First scan alter startup	
	 Sets parameters in the first scan after startup. (Low append again (DWG L): SE000002
SB000001==true	(Low-speed scan (DWG L): SB000003 High-speed scan (DWG H): SB000001)
	Clears DwG registers to zero.
Init 0000	
Max 00031	
Step 00001	
STORE	-
Source 00000	
Dest DW000001	
END FOR	-
	 Sets the connection number.
Source 00001	
Dest DW00002	
	 Sets the coil offset.
Source 00000	
Dest DW00008	
-(Sets the input relay offset.
Source 00000	
Dest DW00009	
-(Sets the input register offset.
Source 00000	
Dest DW00010	
STORE	 Sets the holding register offset.
Source 00000	
Dest DW00011	
STORE	— Wright range: LO
Source 00000	
Dest DW00012	
	- Wright range: HI
Source 0000065534	
Dest DW00013	
END_IF Stop Normal Abnormal	1
command completion completion Command	
SB000004 DB000202 DB000211 DB000212 DB000201	Otarta anasisina
	Starts receiving
MSG-RCV	 The BUSY coil terns ON when the CPU
Excute DB000201 Busy DB000210	receives a command.
Excute DB000201 Busy DB000210 Abort DB000202 Complete DB000211	receives a command. The COMPLETE or ERROR coil turns ON at
Excute DB000201 Busy DB000210 Abort DB000202 Complete DB000211 Dev-Typ 00006 Error DB000212	receives a command. The COMPLETE or ERROR coil turns ON at the completion of processing.
Excute DB000201 Busy DB000210 Abort DB000202 Complete DB000211 Dev-Typ 00006 Error DB000212 Pro-Typ 00001	receives a command. The COMPLETE or ERROR coil turns ON at the completion of processing. Set Pro-Typ = 1 for Extended MEMOBUS or MELSEC. Set et No. = The serve propried value as source of
Excute DB000201 Busy DB000210 Abort DB000202 Complete DB000211 Dev-Typ 00006 Error DB000212 Pro-Typ 00001 Cir-No 00001	receives a command. The COMPLETE or ERROR coil turns ON at the completion of processing. Set Pro-Typ = 1 for Extended MEMOBUS or MELSEC. Set ch-No = The same numerical value as source of connection number setting (fourth line)
Excute DB000201 Busy DB000210 Abort DB000202 Complete DB000211 Dev-Typ 00006 Error DB000212 Pro-Typ 00001 Cir-No 00001 Ch-No 00001 Error DB000212	receives a command. The COMPLETE or ERROR coil turns ON at the completion of processing. Set Pro-Typ = 1 for Extended MEMOBUS or MELSEC. Set ch-No = The same numerical value as source of connection number setting (fourth line).
Excute DB000201 Busy DB000210 Abort DB000202 Complete DB000211 Dev-Typ 00006 Error DB000212 Pro-Typ 00001 Cir-No 00001 Ch-No 00001 Param DA00000	receives a command. The COMPLETE or ERROR coil turns ON at the completion of processing. Set Pro-Typ = 1 for Extended MEMOBUS or MELSEC. Set ch-No = The same numerical value as source of connection number setting (fourth line).
Excute DB000201 Busy DB000210 Abort DB000202 Complete DB000211 Dev-Typ 00006 Error DB000212 Pro-Typ 00001 Cir-No 00001 Ch-No 00001 Param DA00000 Normal completion	receives a command. The COMPLETE or ERROR coil turns ON at the completion of processing. Set Pro-Typ = 1 for Extended MEMOBUS or MELSEC. Set ch-No = The same numerical value as source of connection number setting (fourth line).
Excute DB000201 Busy DB000210 Abort DB000202 Complete DB000211 Dev-Typ 00006 Error DB000212 Pro-Typ 00001 Cir-No 00001 Ch-No 00001 Param DA00000 Normal completion IF	receives a command. The COMPLETE or ERROR coil turns ON at the completion of processing. Set Pro-Typ = 1 for Extended MEMOBUS or MELSEC. Set ch-No = The same numerical value as source of connection number setting (fourth line). Normal completion
Excute DB000201 Busy DB000210 Abort DB000202 Complete DB000211 Dev-Typ 00006 Error DB000212 Pro-Typ 00001 Cir-No 00001 Ch-No 00001 Param DA00000 Normal completion IF DB000211==true	receives a command. The COMPLETE or ERROR coil turns ON at the completion of processing. Set Pro-Typ = 1 for Extended MEMOBUS or MELSEC. Set ch-No = The same numerical value as source of connection number setting (fourth line). Normal completion
Excute DB000201 Busy DB000210 Abort DB000202 Complete DB000211 Dev-Typ 00006 Error DB000212 Pro-Typ 00001 Cir-No 00001 Ch-No 00001 Param DA00000 Normal completion IF DB000211==true	receives a command. The COMPLETE or ERROR coil turns ON at the completion of processing. Set Pro-Typ = 1 for Extended MEMOBUS or MELSEC. Set ch-No = The same numerical value as source of connection number setting (fourth line). Normal completion
Excute DB000201 Busy DB000210 Abort DB000202 Complete DB000211 Dev-Typ 00006 Error DB000212 Pro-Typ 00001 Cir-No 00001 Ch-No 00001 Param DA00000 Normal completion IF DB000211==true	receives a command. The COMPLETE or ERROR coil turns ON at the completion of processing. Set Pro-Typ = 1 for Extended MEMOBUS or MELSEC. Set ch-No = The same numerical value as source of connection number setting (fourth line). Normal completion
Excute DB000201 Busy DB000210 Abort DB000202 Complete DB000211 Dev-Typ 00006 Error DB000212 Pro-Typ 00001 Cir-No 00001 Ch-No 00001 Param DA00000 Normal completion IF DB000211==true INC Dest DW00024	receives a command. The COMPLETE or ERROR coil turns ON at the completion of processing. Set Pro-Typ = 1 for Extended MEMOBUS or MELSEC. Set ch-No = The same numerical value as source of connection number setting (fourth line). Normal completion
Excute DB000201 Busy DB000210 Abort DB000202 Complete DB000211 Dev-Typ 00006 Error DB000212 Pro-Typ 00001 Cir-No 00001 Ch-No 00001 Param DA00000 Normal completion IF DB000211==true INC Dest DW00024	receives a command. The COMPLETE or ERROR coil turns ON at the completion of processing. Set Pro-Typ = 1 for Extended MEMOBUS or MELSEC. Set ch-No = The same numerical value as source of connection number setting (fourth line). Normal completion
Excute DB000201 Busy DB000210 Abort DB000202 Complete DB000211 Dev-Typ 00006 Error DB000212 Pro-Typ 00001 Cir-No 00001 Ch-No 00001 Param DA00000 Normal completion IF DB000211==true INC Dest DW00024 END_IF	receives a command. The COMPLETE or ERROR coil turns ON at the completion of processing. Set Pro-Typ = 1 for Extended MEMOBUS or MELSEC. Set ch-No = The same numerical value as source of connection number setting (fourth line). Normal completion
Excute DB000201 Busy DB000210 Abort DB000202 Complete DB000211 Dev-Typ 00006 Error DB000212 Pro-Typ 00001 Cir-No 00001 Ch-No 00001 Param DA00000 Normal completion IF DB000211==true INC Dest DW00024 END_IF Abnormal completion	receives a command. The COMPLETE or ERROR coil turns ON at the completion of processing. Set Pro-Typ = 1 for Extended MEMOBUS or MELSEC. Set ch-No = The same numerical value as source of connection number setting (fourth line). Normal completion
Excute DB000201 Busy DB000210 Abort DB000202 Complete DB000211 Dev-Typ 00006 Error DB000212 Pro-Typ 00001 Ch-No 00001 Ch-No 00001 Param DA00000 Normal completion IF DB000211==true INC Dest DW00024 (END_IF) Abnormal completion	receives a command. The COMPLETE or ERROR coil turns ON at the completion of processing. Set Pro-Typ = 1 for Extended MEMOBUS or MELSEC. Set ch-No = The same numerical value as source of connection number setting (fourth line). Normal completion
Excute DB000201 Busy DB000210 Abort DB000202 Complete DB000211 Dev-Typ 00006 Error DB000212 Pro-Typ 00001 Ch-No 00001 Param DA00000 Normal completion IF DB000211==true INC Dest DW00024 END_IF Abnormal completion IF DB000212==true	 receives a command. The COMPLETE or ERROR coil turns ON at the completion of processing. Set Pro-Typ = 1 for Extended MEMOBUS or MELSEC. Set ch-No = The same numerical value as source of connection number setting (fourth line). Normal completion Abnormal completion
Excute DB000201 Busy DB000210 Abort DB000202 Complete DB000211 Dev-Typ 00006 Error DB000212 Pro-Typ 00001 Ch-No 00001 Param DA00000 Normal completion IF DB000211==true INC Dest DW00024 END_IF Abnormal completion IF DB000212==true	 receives a command. The COMPLETE or ERROR coil turns ON at the completion of processing. Set Pro-Typ = 1 for Extended MEMOBUS or MELSEC. Set ch-No = The same numerical value as source of connection number setting (fourth line). Normal completion Abnormal completion
Excute DB000201 Busy DB000210 Abort DB000202 Complete DB000211 Dev-Typ 00006 Error DB000212 Pro-Typ 00001 Cir-No 00001 Param DA00000 Normal completion IF DB000211==true INC Dest DW00024 END_IF Abnormal completion IF DB000212==true INC	receives a command. The COMPLETE or ERROR coil turns ON at the completion of processing. Set Pro-Typ = 1 for Extended MEMOBUS or MELSEC. Set ch-No = The same numerical value as source of connection number setting (fourth line). Normal completion Abnormal completion
Excute DB000201 Busy DB000210 Abort DB000202 Complete DB000211 Dev-Typ 00006 Error DB000212 Pro-Typ 00001 Cir-No 00001 Param DA00000 Normal completion IF DB000211==true INC Dest DW00024 IF Abnormal completion IF DB000212==true INC DB000212==true DB000212==true	receives a command. The COMPLETE or ERROR coil turns ON at the completion of processing. Set Pro-Typ = 1 for Extended MEMOBUS or MELSEC. Set ch-No = The same numerical value as source of connection number setting (fourth line). Normal completion Abnormal completion
Excute DB000201 Busy DB000210 Abort DB000202 Complete DB000211 Dev-Typ 00006 Error DB000212 Pro-Typ 00001 Cir-No 00001 Param DA00000 Normal completion IF DB000211==true INC Dest DW00024 END_IF Abnormal completion IF DB000212==true INC Dest DW00025	 receives a command. The COMPLETE or ERROR coil turns ON at the completion of processing. Set Pro-Typ = 1 for Extended MEMOBUS or MELSEC. Set ch-No = The same numerical value as source of connection number setting (fourth line). Normal completion Abnormal completion
Excute DB000201 Busy DB000210 Abort DB000202 Complete DB000211 Dev-Typ 00006 Error DB000212 Pro-Typ 00001 Cir-No 00001 Ch-No 00001 Param DA00000 Normal completion IF DB000211==true INC Dest DW00024 END_IF Abnormal completion IF DB000212==true INC Dest DW00025 STORE	receives a command. The COMPLETE or ERROR coil turns ON at the completion of processing. Set Pro-Typ = 1 for Extended MEMOBUS or MELSEC. Set ch-No = The same numerical value as source of connection number setting (fourth line). Normal completion Abnormal completion Stores the processing results.
Excute DB000201 Busy DB000210 Abort DB000202 Complete DB000211 Dev-Typ 00006 Error DB000212 Pro-Typ 00001 Cir-No 00001 Param DA00000 Normal completion IF DB000211==true INC Dest DW00024 END_IF Abnormal completion IF DB000212==true INC Dest DW00025 Store Source DW00000	 receives a command. The COMPLETE or ERROR coil turns ON at the completion of processing. Set Pro-Typ = 1 for Extended MEMOBUS or MELSEC. Set ch-No = The same numerical value as source of connection number setting (fourth line). Normal completion Abnormal completion Stores the processing results.
Excute DB000201 Busy DB000210 Abort DB000202 Complete DB000211 Dev-Typ 00006 Error DB000212 Pro-Typ 00001 Cir-No 00001 Param DA00000 Normal completion IF DB000211==true INC Dest DW00024 END_IF Abnormal completion IF DB000212==true INC Dest DW00025 Store DW00000 Dest DW00026	 receives a command. The COMPLETE or ERROR coil turns ON at the completion of processing. Set Pro-Typ = 1 for Extended MEMOBUS or MELSEC. Set ch-No = The same numerical value as source of connection number setting (fourth line). Normal completion Abnormal completion Stores the processing results.
Excute DB000201 Busy DB000210 Abort DB000202 Complete DB000211 Dev-Typ 00006 Error DB000212 Pro-Typ 00001 Cir-No 00001 Param DA00000 Normal completion IF DB000211==true INC Dest DW00024 END_IF Abnormal completion IF DB000212==true INC Dest DW00025 Store Store Store	 receives a command. The COMPLETE or ERROR coil turns ON at the completion of processing. Set Pro-Typ = 1 for Extended MEMOBUS or MELSEC. Set ch-No = The same numerical value as source of connection number setting (fourth line). Normal completion Abnormal completion Stores the processing results. Stores the status.
Excute DB000201 Busy DB000210 Abort DB000202 Complete DB000211 Dev-Typ 00006 Error DB000212 Pro-Typ 00001 Cir-No 00001 Param DA00000 Normal completion IF DB000211==true INC Dest DW00024 END_IF Abnormal completion IF DB000212==true INC Dest DW00025 Store DW00000 Dest DW00026 Store DW00001 Source DW00001	 receives a command. The COMPLETE or ERROR coil turns ON at the completion of processing. Set Pro-Typ = 1 for Extended MEMOBUS or MELSEC. Set ch-No = The same numerical value as source of connection number setting (fourth line). Normal completion Abnormal completion Stores the processing results. Stores the status.
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4.2 Extended MEMOBUS - CPU Built-in Ethernet Port

Set as below using "MP Series" Ladder Software "MPE720". For more detailed setting method than that described in this example, refer to the PLC user manual.



Do not use duplicate IP addresses over the same network.

■ Operation I : "PC and PLC connection method" : set communications as follows(Operation II, Operation III), but before connect PC and PLC.

1. Run "Communication Manager" program.

(Path : Start \rightarrow Program \rightarrow "YE_Applications" \rightarrow "Communication Manager")

2. Run "Logical Port Setting" to set the port type and details.

(Path : File \rightarrow Setting...)

3. After PC and PLC are connected, save, and follow below operation.

■ Operation II : "MPE720" Create Project : (root) > [Group Folder] > [Order Folder] > [Controller Folder] Register

1. To register the device you want to use in "MPE720", follow "[Group Folder] > [Order Folder] > [Controller Folder]" path.

(Caution) In the "MPE720" left project window, Right-Click,

and follow the parent path through the [New] entry.

2.Register the Controller Type for the device you wish to use in the Controller Configuration window, which appears when registering a new [Controller Folder]

3. Double-click the newly registered [Controller Folder] to bring up the [Log on to the controller] window and enter "User Name" and "Password" to form project folders as shown on the left.



■ Operation III : "Communication Setting" : [Engineering Manager] – [Module Configuration] window

1. [Definition Folder] – [Module Configuration] double click to bring up [Engineering Manager] – [Module Configuration] window.

2. In the Module Configuration window, register the appropriate [Rack] – [Slot] location [Module Type].

3. Double-click the [Slot Number] which the Ethernet UNIT is connected to display the Settings window.[Transmission Parameter] tabsettings information is as follows.

Items	Settings	Remarks
IP Address	192.168.0.51	PLC IP address
Subnet Mask	255.255.255.0	PLC Subnet Mask

4. From [Transmission Parameter] tab – click [Easy Setting], in [Message Communication Easy Setting] window set as follows, Click "OK" to save settings information.

Items	Settings	Remarks
MP Series Port No.	1024	PLC Port number
Communication protocol Type	Extended MEMOBUS	Fixed
Connect type	ТСР	Set Users
		Follow protocol
Code	BIN	RTU : Select BIN
		ASCII: Select ASCII
Node Port IP Address	192.168.0.50	HMI IP Address
Other Device Port No.	1025	HMI Port Number

5. Double-click [Setting] to set [Automatically Accepted] to "Enable" in the [Automatically Accepted Setting] window and save the settings by clicking "OK".



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	32bit	Remarks
MB	Coil	MB000000 ~ MB65535F	MB00000 ~ MB65535	L/H	
IB	Discrete Input	IB00000 ~ IBFFFFF	IB0000 ~ IBFFFF		*Note 1)
IW	Input Register	-	IW0000 ~ IWFFFF		*Note 1)
MW	Holding Register	-	MW00000 ~ MW65535		

*Note 1) Cannot be written