YASKAWA Electric Corporation

MEMOBUS Ethernet Driver

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5	Supported Device	
6	Device Code and Address Code	
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Introduction

This manual describes how to connect the Display and the External Device (target PLC).

In this manual, the connection procedure will be described by following the below sections:

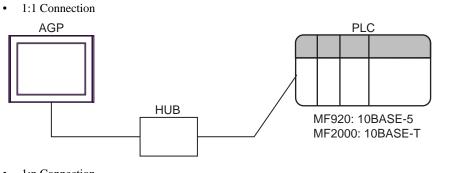
1	System Configuration This section shows the types of External Devices which can be connected and SIO type.	"1 System Configuration" (page 3)
2	Selection of External Device Select a model (series) of the External Device to be connected and connection method.	"2 Selection of External Device" (page 5)
3	Example of Communication Settings This section shows setting examples for communicating between the Display and the External Device.	"3 Example of Communication Setting" (page 6)
4	Setup Items This section describes communication setup items on the Display. Set communication settings of the Display with GP-Pro EX or in off-line mode.	"4 Setup Items" (page 36)
		·
	Operation	

1 System Configuration

The system configuration in the case when the External Device of YASUKAWA Electric Corporation and the Display are connected is shown.

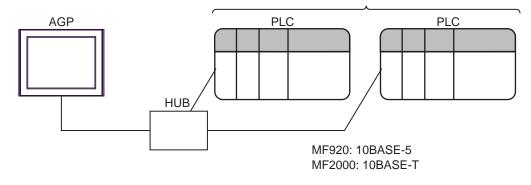
Series	CPU	Link I/F	Interface	Setting Example
MP900	0 MP920 Ethernet port on 218IF-01 (10BASE-5)		Ethernet (TCP)	Setting Example 1 (page 6)
WI 900		Ethernet (UDP)	Setting Example 2 (page 10)	
		Ethernet port on 218IF-01	Ethernet (TCP)	Setting Example 3 (page 14)
	MP2300	Ellernet port on 21011-01	Ethernet (UDP)	Setting Example 4 (page 18)
	MP2200	Ethernet port on 218IF-02	Ethernet (TCP)	Setting Example 1 (page 6) Setting Example 2 (page 10) Setting Example 3 (page 14) Setting Example 4
		Ellernet port on 21011-02	Ethernet (UDP)	
		Ethernet connector on CPU unit	Ethernet (TCP)	(page 32) Setting Example 5 (page 22) Setting Example 6
MP2000		Ethernet (UDP)		
WII 2000	MP2310	Ethernet port on 218IF-01		
	MP2300S	Ethernet port on 21611-01	Ethernet (UDP)	
			Ethernet (TCP)	
		Ethernet port on 218IF-02	Ethernet (UDP)	
		Ethernet connector on CPU unit	Ethernet (TCP)	
	MP2400	Earemet connector on Cr O unit	Ethernet (UDP)	

Connection Configuration



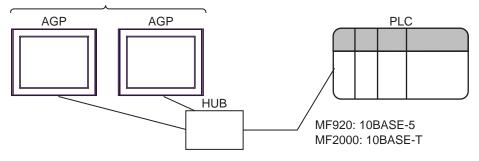
1:n Connection

The max number of PLC : n *1



- *1 The maximum 32 PLCs connection by UDP connection, the maximum 16 PLCs connection by TCP connection.
 - n:1 Connection

The max number of AGP : 10



2 Selection of External Device

Select the External Device to be connected to the Display.

💰 New Project File					×
GP-Pro	Device/PL	C			
	Maker	YASKAWA Electric C	orporation		•
	Series	MEMOBUS Ethernet			-
	🗖 Use S	ystem Area	E	efer to the manual of th	is Device/PLC
	Connection	n Method			
	Port	Ethernet (UDP)	•		
				<u>Go to De</u> r	vice/PLC Manual
Back	(<u>B)</u> Cor	mmunication Settings	New Logic	New Screen	Cancel

Setup Items	Setup Description		
Maker	Select the maker of the External Device to be connected. Select "YASUKAWA Electric Corporation".		
Driver	Select a model (series) of the External Device to be connected and connection method. Select "MEMOBUS Ethernet". Check the External Device which can be connected in "MEMOBUS Ethernet" in system configuration.		
	Check this option to synchronize the system data area of the Display and the device (memory) of the External Device. When they are synchronized, you can use the ladder program of the External Device to switch the display or to display a window on the Display.		
Use System Area			
	This can also be set in GP-Pro EX or in the Display's off-line mode.		
	Cf. GP-Pro EX Reference Manual "5.17.6 [System Settings] Setting Guide, [Display Unit] Settings Guide, System Area Settings"		
	Cf. Maintenance/Troubleshooting Manual "2.15.1 Settings common to all Display models, [Main Unit Settings] Settings Guide, System Area Settings"		
Port	Select the Display port to be connected to the External Device.		

3 Example of Communication Setting

Examples of communication settings of the Display and the External Device, recommended by Pro-face, are shown.

3.1 Setting Example 1

Settings of GP-Pro EX

Communication Settings

To display the setting screen, select [Device/PLC Settings] from [System setting window] in workspace.

Device/PLC1	
Summary	Change Device/PLC
Maker VASKAWA Electric Corporation Driver MEMOBUS Ethernet	Port Ethernet (TCP)
Text Data Mode 1 Change	
Communication Settings	
Port No. 1024 📻 🔽 Auto	
Timeout 3 💼 (sec)	
Retry D	
Wait To Send 🛛 📑 (ms) Default	
Device-Specific Settings	
Allowable No. of Device/PLCs 16 Unit(s) 🔢	
No. Device Name Settings	
1 PLC1 IIP Address=192.168.001.001,Port No.=1024,	Data Lode=BINAHY

Device Setting

To display the setting screen, click I ([Setting]) of External Device you want to set from [Device-Specific Settings] of [Device/PLC Settings].

When you connect multiple External Device, click if from [Device-Specific Settings] of [Device/PLC Settings] to add another External Device.

💰 Individual D	evice Settings		×	
PLC1				
IP Address 192. 168. 1. 1 Port No. 1024				
Diata Code	BINARY	O ASCII	Default	
		OK (<u>0</u>)	Cancel	

- Check with a network administrator about IP address. Do not set the duplicate IP address.
- Set IP address on the External Device for IP address in Device-specific settings.
- You need to set IP address on the display in the off-line mode of the display.

Communication setting of communication module 218IF by ladder software. (Check the operation in MPE720 Version5.32)

- Ladder Software Setting
- 1 Start ladder software, make an order folder and a PLC folder in a root folder.

Select the connected PLC at the time of PLC folder making.

2 Click the right button of the PLC which select logon in the displayed menu.

NOTE • Logon after confirming that a check does not begin [online] of a displayed menu.

• Refer to User's Manual of the PLC about a method of logon.

- **3** Double-click the [Definition folder]-[Module constitution] of the PLC folder, and display [Engineering Manager].
- 4 Select the rack classification and link I/F, the pull-down menu in [Controller] of [Engineerring Manager]. Set the number corresponding to the slot number that a communication module uses. Select the communication module, setting contents are displayed to [Module details] of [Enginnering Manager].
- 5 Double-click the number part at No. in [Module details].

Double-click the slot number connecting the ethernet unit.

Setur	Setup Description	
Transmission parameter	This Station IP address	PLC IP address
Connection parameter	My Port	PLC port No.
	DST. IP Address ^{*1}	GP-Pro EX IP address
	DST. Port ^{*1}	GP-Pro EX port No.
Connection parameter	Connection type	ТСР
	Protocol type	expansion memobus
	Code	BIN

*1 When you check the [Auto] of a port number in the communication setting of the GP-Pro EX, set the IP address and the port number to "0.0.0.0" and "00000", respectively.

6 Double-click the "No.00", and set serial communication.

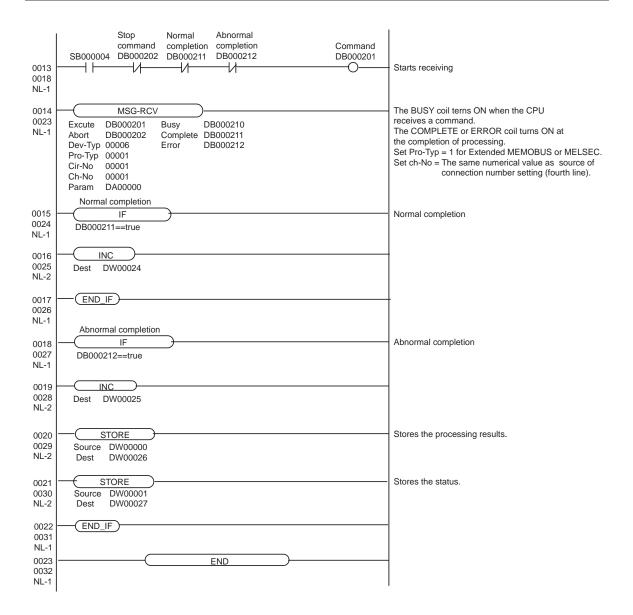
Use serial communication setting to forward communication setting and the ladder program to the PLC.

- 7 Save setting content and finish [Engineering Manager].
- **8** Make the communication ladder "high speed drawing".
 - ** Adder Program for Communication" (page 8)
- **9** Turn the DIP switch "INIT" of a communication module to ON, and supply the power.
- 10 Forward communication setting and a ladder program to a communication module.
- **11** Log on the PLC in online and write the transferred data to the flash memory.
- 12 Turn the PLC power and the INIT DIP switch to OFF. Then, turn the PLC power to ON.

- Check with a network administrator about IP address. Do not set the duplicate IP address.
- Please refer to the manual of the ladder software for more detail.

Ladder Program for Communication

	First scan after startup	
0000	IF	Sets parameters in the first scan after startup.
0000	SB000001==true	(Low-speed scan (DWG L): SB000003 High-speed scan (DWG H): SB000001)
NL-1		High-speed scall (DWG H). SB000001)
0004		Clears DWG registers to zero.
0001 0001	FOR	Clears Dwg registers to zero.
NL-2	∨ariable I Init 00000	
112 2	Max 00031	
	Step 00001	
0002	(STORE)	
0002 NL-3	Source 00000	
INL-3	Dest DW000001	
0003	(END_FOR)	
NL-2		
INL-2		
0004	STORE)	Sets the connection number.
0004	Source 00001	
NL-2	Dest DW00002	
0005	STORE	Sets the coil offset.
0005	Source 00000	
NL-2	Dest DW00008	
0006	(Sets the input relay offset.
0006	Source 00000	
NL-2	Dest DW00009	
0007	- STORE	Sets the input register offset.
0007	Source 00000	
NL-2	Dest DW00010	
8000	(STORE)	Sets the holding register offset.
8000	Source 00000	
NL-2	Dest DW00011	
0009	STORE	Wright range: LO
0009	Source 00000	
NL-2	Dest DW00012	
0010		Wright range: HI
0010	Source 0000065534	
NL-2	Dest DW00013	
0011	END_IF	
0011		
NL-1		
		I. I



3.2 Setting Example 2

- Settings of GP-Pro EX
- Communication Settings

To display the setting screen, select [Device/PLC Settings] from [System setting window] in workspace.

Device/PLC 1	
Summary Change Device/PLC	
Maker VASKAWA Electric Corporation Driver MEMOBUS Ethernet Port Ethernet (UDP)	
Text Data Mode 1 Change	
Communication Settings	
Port No. 1024 📑	
Timeout 3 😑 (sec)	
Retry 2	
Wait To Send 0 📑 (ms) Default	
Device-Specific Settings	
Allowable No. of Device/PLCs 32 Unit(s) 📊	
No. Device Name Settings 1 PLC1 IP Address=192.168.001.001,Port No.=1024,Data Code=BINARY	_

Device Setting

To display the setting screen, click III ([Setting]) of External Device you want to set from [Device-Specific Settings] of [Device/PLC Settings].

When you connect multiple External Device, click in from [Device-Specific Settings] of [Device/PLC Settings] to add another External Device.

💕 Individual D	evice Settings		×
PLC1			
IP Address Port No.	192. 168. 1024	1. 1	
Data Code	BINARY	O ASCII	Default
		OK (<u>O</u>)	Cancel

- Check with a network administrator about IP address. Do not set the duplicate IP address.
- Set IP address on the External Device for IP address in Device-specific settings.
- You need to set IP address on the display in the off-line mode of the display.

Communication setting of communication module 218IF by ladder software. (Check the operation in MPE720 Version5.32)

- Ladder Software Setting
- 1 Start ladder software, make an order folder and a PLC folder in a root folder.

Select the connected PLC at the time of PLC folder making.

2 Click the right button of the PLC which select logon in the displayed menu.

NOTE • Logon after confirming that a check does not begin [online] of a displayed menu.

• Refer to User's Manual of the PLC about a method of logon.

- **3** Double-click the [Definition folder]-[Module constitution] of the PLC folder, and display [Engineering Manager].
- 4 Select the rack classification and link I/F, the pull-down menu in [Controller] of [Engineerring Manager]. Set the number corresponding to the slot number that a communication module uses. Select the communication module, setting contents are displayed to [Module details] of [Enginnering Manager].
- 5 Double-click the number part at No. in [Module details].

Double-click the slot number connecting the ethernet unit.

Setup	Setup Description	
Transmission parameter	This Station IP address	PLC IP address
	My Port	PLC port No.
Connection parameter	DST. IP Address	GP-Pro EX IP address
	DST. Port	GP-Pro EX port No.
	Connection type	UDP
	Protocol type	expansion memobus
	Code	BIN

6 Double-click the "No.00", and set serial communication.

Use serial communication setting to forward communication setting and the ladder program to the PLC.

- 7 Save setting content and finish [Engineering Manager].
- 8 Make the communication ladder "high speed drawing".

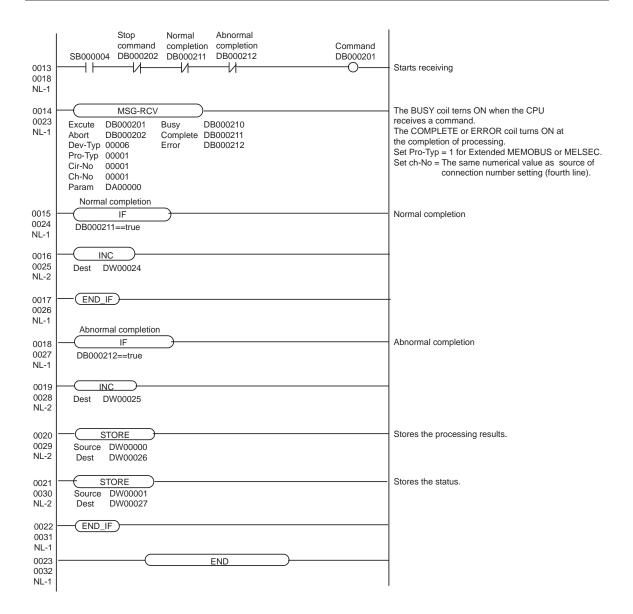
** Adder Program for Communication" (page 12)

- **9** Turn the DIP switch "INIT" of a communication module to ON, and supply the power.
- 10 Forward communication setting and a ladder program to a communication module.
- **11** Log on the PLC in online and write the transferred data to the flash memory.
- 12 Turn the PLC power and the INIT DIP switch to OFF. Then, turn the PLC power to ON.

- Check with a network administrator about IP address. Do not set the duplicate IP address.
- Please refer to the manual of the ladder software for more detail.

Ladder Program for Communication

First scan after startup Sets parameters in the first scan after startup. (Low-speed scan (DWG L): SB00001 High-speed scan (DWG H): SB00001) 0001 FOR Variable I Init 00000 Max 00031 Step 00001 Clears DWG registers to zero. 0002 STORE Source 00000 Dest DW000001 Clears DWG registers to zero. 0003 END_FOR Sets the connection number. 0004 STORE Source 00001 Sets the connection number. 0004 STORE Source 00001 Sets the connection number. 0005 STORE Source 00000 Dest DW00002 Sets the coll offset. 0006 STORE Source 00000 Dest DW00008 Sets the input relay offset. 0006 STORE Source 00000 Dest DW00009 Sets the input relay offset. 0007 STORE Source 00000 Dest DW00010 Sets the input register offset. 0008 STORE Source 00000 Dest DW00010 Sets the holding register offset. 0009 STORE Source 00000 Dest DW00012 Wright range: L0 0009 STORE Dest DW00013 Wright range: HI 0010 NL-2 Dest DW00013 Wright range: HI			
0000 NL-1 III IIII IIIIII IIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIII		First scan after startup	
NL-1 SB000001==true FOR Clears DWG registers to zero. Variable I Init 0000 NL-2 Step 00001 Wax 00031 Step Step 0002 STORE Source 00000 Dest 0003 END_FOR Sets the connection number. 0004 Storce 00001 Dest DW00002 0005 STORE Sets the coll offset. 0006 STORE Sets the coll offset. 0007 Source 00000 Dest DW00008 0006 STORE Sets the input relay offset. 0007 Storce 00000 Dest DW00009 0007 Storce 00000 Dest DW00010 0008 Storce 00000 Dest DW00010 0008 Store 00000 Dest DW00011 0009 Store 00000 Dest Wright range: LO 0009 Store 00000 Dest Wright range: HI 0011 END_IF Dest DW00013 </td <td></td> <td>—(F)——</td> <td></td>		—(F)——	
0001 FOR Variable I Init Clears DWG registers to zero. 001 Init 00000 Max 0000 Step 00001 002 Source 00000 Dest DW000001 003 END_FOR Sets the connection number. 004 STORE Source Sets the connection number. 004 STORE Source Sets the coll offset. 005 STORE Source Sets the coll offset. 005 STORE Source Sets the input relay offset. 006 STORE Source Sets the input register offset. 0006 STORE Source Sets the input register offset. 0007 STORE Source Sets the input register offset. 0007 STORE Source Sets the input register offset. 0008 STORE Source Sets the holding register offset. 0009 Dest DW00010 0009 Source 00000 Dest 0009 Source 00000000 NL-2 Dest DW00012 0009 Source 0000065534 Dest 0001 Sets Wright range: HI 0001 Sets <t< td=""><td></td><td>SB000001==true</td><td></td></t<>		SB000001==true	
OOOI NL-2 Variable Init OOOO Max OOOOI Step 0002 STORE Source 00000 0003 Dest DW000001 0003 Dest DW000001 0004 STORE Source Sets the connection number. 0004 STORE Source Sets the coll offset. 0005 STORE Source Sets the coll offset. 0005 STORE Source Sets the input relay offset. 0006 STORE Source Sets the input relay offset. 0006 STORE Source Sets the input relay offset. 0006 STORE Source Sets the input register offset. 0006 STORE Source Sets the input register offset. 0007 Store Sets the input register offset. 0008 Source Sets the holding register offset. 0008 Source Wright range: LO 0009 Source Wright range: HI 0009 Source DW00013 0010 Source DW00013	INL-I		riigh-speed scan (DWG TI). Sb00000T)
OOOI NL-2 Variable Init OOOO Max OOOOI Step 0002 STORE Source 00000 0003 Dest DW000001 0003 Dest DW000001 0004 STORE Source Sets the connection number. 0004 STORE Source Sets the coll offset. 0005 STORE Source Sets the coll offset. 0005 STORE Source Sets the input relay offset. 0006 STORE Source Sets the input relay offset. 0006 STORE Source Sets the input relay offset. 0006 STORE Source Sets the input register offset. 0006 STORE Source Sets the input register offset. 0007 Store Sets the input register offset. 0008 Source Sets the holding register offset. 0008 Source Wright range: LO 0009 Source Wright range: HI 0009 Source DW00013 0010 Source DW00013	0001		Clears DWG registers to zero
NL-2 Init 00000 Max Max 00001 Step 00001 0002 STORE Source Source 0000 Dest DW000001 0003 END_FOR Sets the connection number. 0004 Source Sets the connection number. 0004 STORE Sets the connection number. 0004 Source Sets the coll offset. 0005 STORE Sets the coll offset. Sets the coll offset. Sets the coll offset. 0006 STORE Sets the input relay offset. Sets the input relay offset. Sets the input register offset. 0007 STORE Sets the input register offset. Sets the input register offset. 0007 STORE Sets the input register offset. Sets the input register offset. 0007 Storce 00000 Sets the holding register offset. 0008 Storce 00000 Sets the holding register offset. 0008 Storce 00000 Sets the holding register offset. 0009 Source 00000 Sets the input register offset. 0009 <			
Max 00031 Step Step 00001 0002 NL-3 STORE Dest DW000001 0003 0003 NL-2 END_FOR Sets the connection number. 0004 STORE Source 00001 Sets the coll offset. 0005 SOURCE 00000 NL-2 Sets the coll offset. Sets the input relay offset. 0006 STORE Source 00000 Dest DW00008 Sets the input relay offset. 0006 STORE Source 00000 Dest DW00009 Sets the input relay offset. 0007 STORE Source 00000 Dest DW00010 Sets the input register offset. 0007 STORE Source 00000 Dest DW00010 Sets the holding register offset. 0008 STORE Source 00000 Dest DW00011 Sets the holding register offset. 0009 Store 00000 Dest DW00012 Wright range: LO 0009 Source 00000 Source 0000065534 Dest DW00013 Wright range: HI 0010 Store DW00013 Wright range: HI			
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NL-2 Dest DW00009 0007 Source 00000 0007 Source 00000 NL-2 Dest DW00010 0008 STORE Sets the input register offset. 0008 Source 00000 NL-2 Dest DW00010 0008 Source 00000 NL-2 Dest DW00011 0009 Store Wright range: LO 0009 Source 00000 NL-2 Dest DW00012 0010 Store 00000 Source 00000 Wright range: HI 0010 Store 0000065534 Dest DW00013 Wright range: HI	0006	- STORE	Sets the input relay offset.
O007 STORE Sets the input register offset. 0007 NL-2 Dest DW00010 0008 STORE Sets the holding register offset. 0008 Source 00000 0009 STORE Wright range: LO 0009 Store 00000 0009 Store Wright range: LO 0010 Store Wright range: HI 0010 Store DW00013			
OUT OTOL 0007 NL-2 Dest DW00010 0008 STORE Sets the holding register offset. 0008 Source 00000 NL-2 Dest DW00010 0009 STORE Wright range: LO 0009 Source 00000 NL-2 Dest DW00012 0010 STORE Wright range: HI 0010 Source 0000065534 NL-2 Dest DW00013	NL-2	Dest DW00009	
OUT OTOL 0007 NL-2 Dest DW00010 0008 STORE Sets the holding register offset. 0008 Source 00000 NL-2 Dest DW00010 0009 STORE Wright range: LO 0009 Source 00000 NL-2 Dest DW00012 0010 STORE Wright range: HI 0010 Source 0000065534 NL-2 Dest DW00013			
NL-2 Dest DW00010 0008 STORE Sets the holding register offset. 0008 Source 00000 Dest DW00011 Wright range: LO 0009 Store 0000 0009 Source 00000 0010 Store Wright range: LO 0010 Store 0000065534 0011 END_IF Wright range: HI		- (<u>STORE</u>)	Sets the input register offset.
OO08 STORE Sets the holding register offset. 0008 Source 00000 Dest DW00011 Wright range: LO 0009 STORE Wright range: LO Wright range: HI 0010 STORE Wright range: HI Wright range: HI 0011 END_IF Mright range: HI Mright range: HI			
0008 NL-2 Source 00000 Dest Wright range: LO 0009 0009 STORE Dest Wright range: LO 0010 STORE Dest Wright range: HI 0010 Store 000065534 Dest Wright range: HI 0011 END_IF Image: HI Image: HI	NL-2	Dest DW00010	
0008 NL-2 Source 00000 Dest Wright range: LO 0009 0009 STORE Dest Wright range: LO 0010 STORE Dest Wright range: HI 0010 Store 000065534 Dest Wright range: HI 0011 END_IF Image: HI Image: HI			
NL-2 Dest DW00011 0009 STORE Wright range: LO 0009 Source 00000 NL-2 Dest DW00012 0010 STORE Wright range: HI 0010 Source 0000065534 NL-2 Dest DW00013			Sets the holding register offset.
0009 STORE Wright range: LO 0009 Source 00000 Dest DW00012 0010 STORE Wright range: HI 0010 Source 0000065534 Wright range: HI 0010 Source 0000065534 Utight range: HI 0011 END_IF Utight range: HI			
OU009 NL-2 Source 00000 Dest Wright range: HI 0010 Store 0000065534 Wright range: HI 0010 Source 00000065534 Dest DW00013 0011 END_IF 0011 END_IF 0011	INL-Z	Dest DW00011	
OU009 NL-2 Source 00000 Dest Wright range: HI 0010 Store 0000065534 Wright range: HI 0010 Source 00000065534 Dest DW00013 0011 END_IF 0011 END_IF 0011			
NL-2 Dest DW00012 0010 STORE Wright range: HI 0010 Source 0000065534 NL-2 Dest DW00013 0011 END_IF			Wright range: LO
O010 STORE Wright range: HI 0010 Source 0000065534 Dest DW00013 0011 END_IF END_IF			
Olio Source 0000065534 NL-2 Dest DW00013 0011 END_IF	INL-Z	Dest DW00012	
Olio Source 0000065534 NL-2 Dest DW00013 0011 END_IF	0040		Wright range: HI
NL-2 Dest DW00013			wight lange. In
0011 0011 0011			
0011		2000 2000010	
0011	0011	END IF	
I			
	I		



3.3 Setting Example 3

Settings of GP-Pro EX

Communication Settings

To display the setting screen, select [Device/PLC Settings] from [System setting window] in workspace.

Device/PLC 1		
Summary		Change Device/PLC
Maker VASKAWA Electric Corporation	Driver MEMOBUS Ethernet	Port Ethernet (TCP)
Text Data Mode 1 <u>Change</u>		
Communication Settings		
Port No. 🛛 🔂 🛃 🗹 Auto	2	
Timeout 3 📑 (sec)		
Retry 0 🚍		
Wait To Send 🛛 📑 (ms)	Default	
Device-Specific Settings		
Allowable No. of Device/PLCs 16 Unit(s)		
	Settings P Address=192.168.001.001,Port No.=1024,D	 Data Code=BINARY

Device Setting

To display the setting screen, click I ([Setting]) of External Device you want to set from [Device-Specific Settings] of [Device/PLC Settings].

When you connect multiple External Device, click if from [Device-Specific Settings] of [Device/PLC Settings] to add another External Device.

💰 Individual De	💣 Individual Device Settings 🛛 🔀				
PLC1					
IP Address Port No.	192. 168. 1024	1. 1			
Data Code	BINARY	O ASCII	Default		
		OK (<u>0</u>)	Cancel		

- Check with a network administrator about IP address. Do not set the duplicate IP address.
- Set IP address on the External Device for IP address in Device-specific settings.
- You need to set IP address on the display in the off-line mode of the display.

Communication setting of communication module 218IF-01 by ladder software. (Check the operation in MPE720 Ver.5.32)

- Ladder Software Setting
- 1 Start ladder software, make an order folder and a PLC folder in a root folder.

Select the connected PLC at the time of PLC folder making.

2 Click the right button of the PLC which select logon in the displayed menu.

NOTE • Logon after confirming that a check does not begin [online] of a displayed menu.

• Refer to User's Manual of the PLC about a method of logon.

- **3** Double-click the [Definition folder]-[Module constitution] of the PLC folder, and display [Engineering Manager].
- 4 Select the rack classification and link I/F, the pull-down menu in [Controller] of [Engineerring Manager]. Set the number corresponding to the slot number that a communication module uses. Select the communication module, setting contents are displayed to [Module details] of [Enginnering Manager].
- 5 Double-click the number part at No. in [Module details].

Double-click the slot number connecting the ethernet unit.

Setup Items		Setup Description
Transmission parameter	This Station IP address	PLC IP address
	My Port	PLC port No.
	DST. IP Address ^{*1}	GP-Pro EX IP address
Connection perometer	DST. Port ^{*1}	GP-Pro EX port No.
Connection parameter	Connection type	ТСР
	Protocol type	expansion memobus
	Code	BIN

*1 When you check the [Auto] of a port number in the communication setting of the GP-Pro EX, set the IP address and the port number to "0.0.0.0" and "00000", respectively.

6 Double-click the "No.1", and set serial communication.

Use serial communication setting to forward communication setting and the ladder program to the PLC.

- 7 Save setting content and finish [Engineering Manager].
- 8 Make the communication ladder "high speed drawing" where "6" is set for [Dev-Typ].

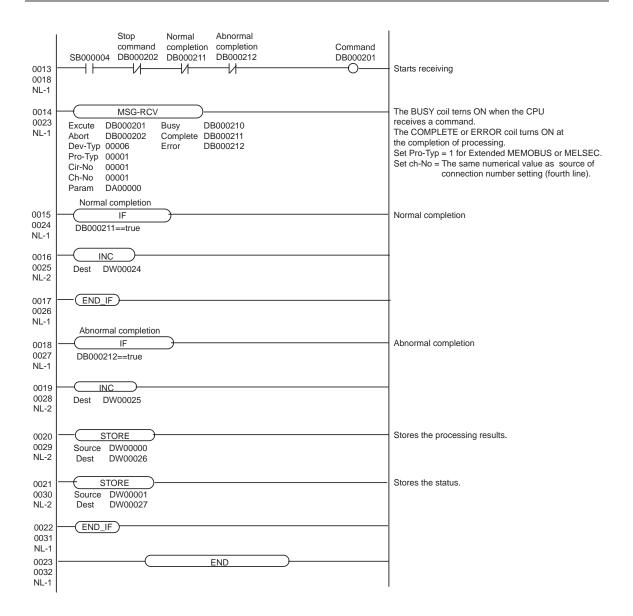
** Adder Program for Communication" (page 16)

- **9** Turn the DIP switch "INIT" of a communication module to ON, and supply the power.
- 10 Forward communication setting and a ladder program to a communication module.
- **11** Log on the PLC in online and write the transferred data to the flash memory.
- 12 Turn the PLC power and the INIT DIP switch to OFF. Then, turn the PLC power to ON.

- Check with a network administrator about IP address. Do not set the duplicate IP address.
- Please refer to the manual of the ladder software for more detail.

Ladder Program for Communication

First scan after startup Sets parameters in the first scan after startup. (Low-speed scan (DWG L): SB00001 High-speed scan (DWG H): SB00001) 0001 FOR Variable I Init 00000 Max 00031 Step 00001 Clears DWG registers to zero. 0002 STORE Source 00000 Dest DW000001 Clears DWG registers to zero. 0003 END_FOR Sets the connection number. 0004 STORE Source 00001 Sets the connection number. 0004 STORE Source 00001 Sets the connection number. 0005 STORE Source 00000 Dest DW00002 Sets the coll offset. 0006 STORE Source 00000 Dest DW00008 Sets the input relay offset. 0006 STORE Source 00000 Dest DW00009 Sets the input relay offset. 0007 STORE Source 00000 Dest DW00010 Sets the input register offset. 0008 STORE Source 00000 Dest DW00010 Sets the holding register offset. 0009 STORE Source 00000 Dest DW00012 Wright range: L0 0009 STORE Dest DW00013 Wright range: HI 0010 NL-2 Dest DW00013 Wright range: HI			
0000 NL-1 III IIII IIIIII IIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIII		First scan after startup	
NL-1 SB000001==true FOR Clears DWG registers to zero. Variable I Init 0000 NL-2 Step 00001 Wax 00031 Step Step 0002 STORE Source 00000 Dest 0003 END_FOR Sets the connection number. 0004 Storce 00001 Dest DW00002 0005 STORE Sets the coll offset. 0006 STORE Sets the coll offset. 0007 Source 00000 Dest DW00008 0006 STORE Sets the input relay offset. 0006 STORE Sets the input register offset. 0007 Storce Source Sets the input register offset. 0007 Store Source Sets the holding register offset. 0008 Store Store Sets the holding register offset. 0009 Store Source Sets the holding register offset. 0008 Store Source Sets the holding register offset.		—(F)——	
0001 FOR Variable I Init Clears DWG registers to zero. 001 Init 00000 Max 0000 Max Clears DWG registers to zero. 0002 Stop 00001 Step 0000 0003 Dest DW000001 Dest DW000001 0004 Storre 00001 Sets the connection number. 0004 Storre 00001 Dest DW00002 0005 Storre 0000 Dest DW00002 0005 Storre 0000 Dest DW00008 0006 Storre 00000 Dest DW00009 0006 Store 00000 Dest DW00009 0007 Storre 00000 Dest DW00010 008 Store 00000 Dest DW00010 008 Storre 00000 Dest DW00011 009 Source 0000065534 Wright range: LO NL-2 0010 Storre 0000065534 Dest DW00013 0011 END_IF UN0013 Wright range: HI		SB000001==true	
OOOI NL-2 Variable Init OOOO Wax OOOOO Max OOOOO Store 0002 Store 00000 Step OOOO 0003 Set DW000001 Sets Sets 0004 Store 00001 Sets Sets 0003 END_FOR Sets Sets Sets 0004 Store 00001 Sets Sets 0004 Store 00001 Sets Sets 0005 Store 00000 Sets Sets 0005 Store 00000 Sets Sets Sets 0006 Store 00000 Sets Sets Sets Sets 0006 Store 00000 Dest DW00009 Sets	INL-I		riigh-speed scan (DWG TI). Sb00000T)
OOOI NL-2 Variable Init OOOO Wax OOOOO Max OOOOO Store 0002 Store 00000 Step OOOO 0003 Set DW000001 Sets Sets 0004 Store 00001 Sets Sets 0003 END_FOR Sets Sets Sets 0004 Store 00001 Sets Sets 0004 Store 00001 Sets Sets 0005 Store 00000 Sets Sets 0005 Store 00000 Sets Sets Sets 0006 Store 00000 Sets Sets Sets Sets 0006 Store 00000 Dest DW00009 Sets	0001		Clears DWG registers to zero
NL-2 Init 00000 Max Max 00001 Step 00001 0002 STORE Source Source 0000 Dest DW000001 0003 END_FOR Sets the connection number. 0004 Source Sets the connection number. 0004 STORE Sets the connection number. 0004 Source Sets the coll offset. 0005 STORE Sets the coll offset. Sets the coll offset. Dest 0006 STORE Sets the input relay offset. Sets the input register offset. 0006 STORE Sets the input register offset. Sets the input register offset. 0007 STORE Sets the input register offset. Sets the input register offset. 0007 Storce 00000 Dest DW00010 Sets the holding register offset. 0008 Storce 00000 Dest DW00011 Sets the input register offset. 0009 Source 00000 Dest DW00012 Wright range: LO 0010 Source 0000005534 Dest D			
Max 00031 Step Step 00001 0002 NL-3 STORE Dest DW000001 0003 0003 NL-2 END_FOR Sets the connection number. 0004 STORE Source 00001 Sets the coll offset. 0005 SOURCE 00000 NL-2 Sets the coll offset. Sets the input relay offset. 0006 STORE Source 00000 Dest DW00008 Sets the input relay offset. 0006 STORE Source 00000 Dest DW00009 Sets the input relay offset. 0007 STORE Source 00000 Dest DW00010 Sets the input register offset. 0007 STORE Source 00000 Dest DW00010 Sets the holding register offset. 0008 STORE Source 00000 Dest DW00011 Sets the holding register offset. 0009 Store 00000 Dest DW00012 Wright range: LO 0009 Source 00000 Source 0000065534 Dest DW00013 Wright range: HI 0010 Store DW00013 Wright range: HI			
O002 NL-3 STORE Source 0000 Dest DW000001 0003 NL-2 END_FOR 0004 STORE Source 00001 NL-2 Sets the connection number. 0004 STORE Source 00000 Dest DW00002 Sets the coil offset. 0005 SOURCE 00000 NL-2 Sets the coil offset. 0006 SUCE 00000 Dest DW00009 Sets the input relay offset. 0007 SOURCE 00000 Dest DW00009 Sets the input register offset. 0007 NL-2 Store 00000 Dest DW00009 Sets the holding register offset. 0007 NL-2 Store 00000 Dest DW00010 Sets the holding register offset. 0008 NL-2 Store 00000 Dest DW00010 Wright range: LO 0009 NL-2 Store 00000 Dest DW00012 Wright range: HI 0009 NL-2 Store DW00013 Wright range: HI			
0002 NL-3 Source 00000 Dest DW000001 0003 NL-2 END_FOR 0004 STORE 0004 Source 00001 0005 STORE 0005 STORE 0005 STORE 0005 STORE 0005 STORE 0006 Storce 00000 NL-2 Dest DW00008 0006 Storce 00000 NL-2 Dest DW00009 0006 Storce 00000 NL-2 Dest DW00009 0007 Storce 00000 NL-2 Dest DW00009 0007 Storce 00000 NL-2 Dest DW00010 0008 Store 00000 NL-2 Dest DW00010 0008 Store 00000 NL-2 Dest DW00011 0009 Source 00000 NL-2 Dest DW00012 0009 Source 00000 NL-2 Dest DW00013 0010 Store 00000 NL-2 Dest DW00013		Step 00001	
0002 NL-3 Source 00000 Dest DW000001 0003 NL-2 END_FOR 0004 STORE 0004 Source 00001 0005 STORE 0005 STORE 0005 STORE 0005 STORE 0005 STORE 0006 Storce 00000 NL-2 Dest DW00008 0006 Storce 00000 NL-2 Dest DW00009 0006 Storce 00000 NL-2 Dest DW00009 0007 Storce 00000 NL-2 Dest DW00009 0007 Storce 00000 NL-2 Dest DW00010 0008 Store 00000 NL-2 Dest DW00010 0008 Store 00000 NL-2 Dest DW00011 0009 Source 00000 NL-2 Dest DW00012 0009 Source 00000 NL-2 Dest DW00013 0010 Store 00000 NL-2 Dest DW00013	0002		
NL-3 Dest DW000001 0003 END_FOR Sets the connection number. 0004 STORE Sets the coil offset. 0005 STORE Sets the coil offset. 0005 STORE Sets the coil offset. 0006 STORE Sets the coil offset. 0007 Source 00000 Dest NL-2 Dest DW00009 0006 STORE Sets the input relay offset. 0007 Source 00000 Dest NL-2 Dest DW00010 0007 Store Sets the input register offset. 0007 Store Sets the holding register offset. 0007 Store Dest DW00010 0008 Source 00000 Dest DW00011 0008 Source 00000 NL-2 Dest DW00012 0009 Source 00000 Dest Wright range: LO 0010 Store 000000 Wright range: HI 0010 Source 0000065534 Dest DW00013			
0003 0003 NL-2 END_FOR 0004 STORE Source 00001 Dest DW00002 Sets the connection number. 0005 STORE Source 00000 Dest DW00008 Sets the coil offset. 0006 STORE Source 00000 Dest DW00009 Sets the input relay offset. 0007 STORE Dest DW00009 Sets the input register offset. 0007 STORE Dest DW00010 Sets the input register offset. 0008 STORE Dest DW00010 Sets the holding register offset. 0008 STORE Dest DW00011 Sets the holding register offset. 0009 STORE Dest DW00012 Wright range: LO 0009 STORE Dest DW00013 Wright range: HI 0010 STORE Dest DW00013 Wright range: HI	NL-3		
0003 NL-2 STORE Sets the connection number. 0004 Source 00001 Dest DW00002 Sets the coil offset. 0005 STORE Source 00000 Dest DW00008 Sets the input relay offset. 0006 STORE Source 00000 Dest DW00009 Sets the input relay offset. 0007 STORE Source 00000 Dest DW00009 Sets the input register offset. 0007 STORE Source 00000 Dest DW00010 Sets the input register offset. 0008 STORE Source 00000 Dest DW00010 Sets the holding register offset. 0008 STORE Source 00000 Dest DW00011 Wright range: LO 0009 STORE Dest DW00012 Wright range: HI 0010 Store 0000065534 Dest DW00013 Wright range: HI		2001 2000000	
NL-2 Store Sets the connection number. 0004 Source 00001 Dest DW00002 0005 Store Sets the coil offset. 0005 Store Sets the coil offset. 0006 Store Sets the input relay offset. 0007 Store Sets the input relay offset. 0007 Store Sets the input relay offset. 0007 Store Sets the input register offset. 0007 Store Source offset. 0007 Store Sets the input register offset. 0008 Store Sets the holding register offset. 0008 Store Source offset. 0009 Store Wright range: LO 0010 Store Store Wright range: HI 0010 Store DW00013 Wright range: HI 0011 END_IF Wright range: HI Source NU	0003	(END_FOR)	
0004 0004 NL-2 STORE Source 00001 Dest DW00002 Sets the connection number. 0005 0005 NL-2 STORE Source 00000 Dest DW00008 Sets the coil offset. 0006 NL-2 STORE Dest DW00009 Sets the input relay offset. 0007 NL-2 STORE Dest DW00009 Sets the input register offset. 0007 NL-2 STORE Dest DW00010 Sets the input register offset. 0008 NL-2 STORE Dest DW00010 Sets the holding register offset. 0008 NL-2 STORE Dest DW00011 Sets the holding register offset. 0009 NL-2 STORE Dest DW00012 Wright range: LO 0009 NL-2 Source 00000 Dest DW00012 Wright range: HI 0010 OU10 NL-2 Store Dest DW00013 Wright range: HI			
0004 NL-2 Source 00001 Dest DW00002 Sets the coil offset. 0005 0005 STORE Source 00000 Dest DW00008 Sets the coil offset. 0006 STORE Source 00000 Dest DW00009 Sets the input relay offset. 0007 STORE Source 00000 Dest DW00009 Sets the input register offset. 0007 STORE Source 00000 Dest DW00010 Sets the holding register offset. 0008 STORE Dest DW00011 Sets the holding register offset. 0009 STORE Dest DW00011 Sets the holding register offset. 0009 STORE Dest DW00012 Wright range: LO 0010 STORE Dest DW00013 Wright range: HI 0010 Store 0000065534 Dest DW00013 Wright range: HI	NL-2		
0004 NL-2 Source 00001 Dest DW00002 Sets the coil offset. 0005 0005 STORE Source 00000 Dest DW00008 Sets the coil offset. 0006 STORE Source 00000 Dest DW00009 Sets the input relay offset. 0007 STORE Source 00000 Dest DW00009 Sets the input register offset. 0007 STORE Source 00000 Dest DW00010 Sets the holding register offset. 0008 STORE Dest DW00011 Sets the holding register offset. 0009 STORE Dest DW00011 Sets the holding register offset. 0009 STORE Dest DW00012 Wright range: LO 0010 STORE Dest DW00013 Wright range: HI 0010 Store 0000065534 Dest DW00013 Wright range: HI			Sate the connection number
NL-2 Dest DW00002 0005 STORE Sets the coll offset. 0005 Dest DW00008 0006 STORE Sets the input relay offset. 0006 STORE Sets the input relay offset. 0007 Source 00000 NL-2 Dest DW00009 0007 Storce Sets the input relay offset. 0007 Source Sets the input register offset. 0007 Source Sets the holding register offset. 0008 STORE Sets the holding register offset. 0008 STORE Sets the holding register offset. 0008 Storce 00000 NL-2 Dest DW00011 0008 Storce 00000 NL-2 Dest DW00012 0009 Source 00000 NL-2 Dest DW00012 010 Storce 0000065534 Dest DW00013 Wright range: HI 0011 END_IF END_IF			Sets the connection number.
0005 0005 NL-2 STORE Source 00000 Dest DW00008 Sets the coil offset. 0006 0006 STORE Source 00000 Dest DW00009 Sets the input relay offset. 0007 0007 STORE Source 00000 Dest DW00010 Sets the input register offset. 0008 STORE Source 00000 Dest DW00010 Sets the holding register offset. 0008 STORE Source 00000 Dest DW00011 Sets the holding register offset. 0009 STORE Dest DW00012 Wright range: LO 0010 STORE Dest DW00013 Wright range: HI			
OU05 NL-2 OU000 Source OU000 Dest DW00008 0006 0006 STORE Source Sets the input relay offset. 0007 STORE Dest Sets the input register offset. 0007 Storce Sets the input register offset. 0008 STORE Dest Sets the input register offset. 0008 STORE Dest Sets the holding register offset. 0008 STORE Dest Sets the holding register offset. 0009 Storce 00000 Dest Wright range: LO 0010 Store 00000 Dest Wright range: HI 0010 Storce 0000005534 Dest Wright range: HI 0011 END_F Wright range: HI			
0005 NL-2 Source 00000 Dest Source 00000 Dest Sets the input relay offset. 0006 NL-2 STORE Dest Sets the input relay offset. Sets the input register offset. 0007 NL-2 Store Source Sets the input register offset. 0007 NL-2 Source Source Sets the input register offset. 0008 NL-2 Store Source Sets the holding register offset. 0008 NL-2 Store Sets the holding register offset. 0009 NL-2 Store Sets the holding register offset. 0009 NL-2 Store Wright range: LO 0010 Store Store Wright range: HI 0010 Store DW00013 Wright range: HI	0005	STORE	Sets the coil offset.
NL-2 Dest DW00008 0006 STORE Sets the input relay offset. 0007 Dest DW00009 0007 STORE Sets the input register offset. 0007 Source 00000 Dest 0007 Source 00000 Dest 0008 STORE Sets the input register offset. 0008 STORE Sets the holding register offset. 0008 STORE Sets the holding register offset. 0009 Storce 00000 Dest DW00011 0009 Source 00000 Wright range: LO 0010 Store 0000065534 Wright range: HI 0011 END_IF Wright range: HI	0005		
0006 NL-2 Source 0000 Dest Source 00000 0007 NL-2 STORE Dest Sets the input register offset. 0008 STORE Dest Sets the holding register offset. 0008 STORE Dest Sets the holding register offset. 0008 Source 0000 Dest Wright range: LO 0009 STORE Dest Wright range: LO 0010 Store 0000065534 Dest Wright range: HI 0011 END_IF Wright range: HI	NL-2	Dest DW00008	
0006 NL-2 Source 0000 Dest Source 00000 0007 NL-2 STORE Dest Sets the input register offset. 0008 STORE Dest Sets the holding register offset. 0008 STORE Dest Sets the holding register offset. 0008 Source 0000 Dest Wright range: LO 0009 STORE Dest Wright range: LO 0010 Store 0000065534 Dest Wright range: HI 0011 END_IF Wright range: HI			
NL-2 Dest DW00009 0007 Source 00000 0007 Source 00000 NL-2 Dest DW00010 0008 STORE Sets the input register offset. 0008 Source 00000 NL-2 Dest DW00010 0008 Source 00000 NL-2 Dest DW00011 0009 Store Wright range: LO 0009 Source 00000 NL-2 Dest DW00012 0010 Store 00000 Source 00000 Wright range: HI 0010 Store 0000065534 Dest DW00013 Wright range: HI	0006	- STORE	Sets the input relay offset.
O007 STORE Sets the input register offset. 0007 NL-2 Dest DW00010 0008 STORE Sets the holding register offset. 0008 Source 00000 0009 STORE Wright range: LO 0009 Store 00000 0009 Store Wright range: LO 0010 Store Wright range: HI 0010 Store DW00013			
OUT OTOL 0007 NL-2 Dest DW00010 0008 STORE Sets the holding register offset. 0008 Source 00000 NL-2 Dest DW00010 0009 STORE Wright range: LO 0009 Source 00000 NL-2 Dest DW00012 0010 STORE Wright range: HI 0010 Source 0000065534 NL-2 Dest DW00013	NL-2	Dest DW00009	
OUT OTOL 0007 NL-2 Dest DW00010 0008 STORE Sets the holding register offset. 0008 Source 00000 NL-2 Dest DW00010 0009 STORE Wright range: LO 0009 Source 00000 NL-2 Dest DW00012 0010 STORE Wright range: HI 0010 Source 0000065534 NL-2 Dest DW00013			
NL-2 Dest DW00010 0008 STORE Sets the holding register offset. 0008 Source 00000 Dest DW00011 Wright range: LO 0009 Store 0000 0009 Source 00000 0010 Store Wright range: LO 0010 Store 0000065534 0011 END_IF Wright range: HI		- (<u>STORE</u>)	Sets the input register offset.
OO08 STORE Sets the holding register offset. 0008 Source 00000 Dest DW00011 Wright range: LO 0009 STORE Wright range: LO Wright range: HI 0010 STORE Wright range: HI Wright range: HI 0011 END_IF Mright range: HI Mright range: HI			
0008 NL-2 Source 00000 Dest Wright range: LO 0009 0009 STORE Dest Wright range: LO 0010 STORE Dest Wright range: HI 0010 Store 000065534 Dest Wright range: HI 0011 END_IF Image: HI Image: HI	NL-2	Dest DW00010	
0008 NL-2 Source 00000 Dest Wright range: LO 0009 0009 STORE Dest Wright range: LO 0010 STORE Dest Wright range: HI 0010 Store 000065534 Dest Wright range: HI 0011 END_IF Image: HI Image: HI			
NL-2 Dest DW00011 0009 STORE Wright range: LO 0009 Source 00000 NL-2 Dest DW00012 0010 STORE Wright range: HI 0010 Source 0000065534 NL-2 Dest DW00013			Sets the holding register offset.
0009 STORE Wright range: LO 0009 Source 00000 Dest DW00012 0010 STORE Wright range: HI 0010 Source 0000065534 Wright range: HI 0010 Source 0000065534 Utight range: HI 0011 END_IF Utight range: HI			
OU009 NL-2 Source 00000 Dest Wright range: HI 0010 Store 0000065534 Wright range: HI 0010 Source 00000065534 Dest DW00013 0011 END_IF 0011 END_IF 0011	INL-Z	Dest DW00011	
OU009 NL-2 Source 00000 Dest Wright range: HI 0010 Store 0000065534 Wright range: HI 0010 Source 00000065534 Dest DW00013 0011 END_IF 0011 END_IF 0011			
NL-2 Dest DW00012 0010 STORE Wright range: HI 0010 Source 0000065534 NL-2 Dest DW00013 0011 END_IF			Wright range: LO
O010 STORE Wright range: HI 0010 Source 0000065534 Dest DW00013 0011 END_IF END_IF			
Olio Source 0000065534 NL-2 Dest DW00013 0011 END_IF	INL-Z	Dest DW00012	
Olio Source 0000065534 NL-2 Dest DW00013 0011 END_IF	0040		Wright range: HI
NL-2 Dest DW00013			wight lange. In
0011 0011 0011			
0011		2000 2000010	
0011	0011	END IE	
I			
	I		



3.4 Setting Example 4

- Settings of GP-Pro EX
- Communication Settings

To display the setting screen, select [Device/PLC Settings] from [System setting window] in workspace.

Device/PLC 1	
Summary Change Device/PLC	
Maker VASKAWA Electric Corporation Driver MEMOBUS Ethernet Port Ethernet (UDP)	
Text Data Mode 1 Change	
Communication Settings	
Port No. 1024 📑	
Timeout 3 😑 (sec)	
Retry 2	
Wait To Send 0 📑 (ms) Default	
Device-Specific Settings	
Allowable No. of Device/PLCs 32 Unit(s) 📊	
No. Device Name Settings 1 PLC1 IP Address=192.168.001.001,Port No.=1024,Data Code=BINARY	_

Device Setting

To display the setting screen, click I ([Setting]) of External Device you want to set from [Device-Specific Settings] of [Device/PLC Settings].

When you connect multiple External Device, click in from [Device-Specific Settings] of [Device/PLC Settings] to add another External Device.

💰 Individual D	evice Settings		×
PLC1			
IP Address Port No.	192. 168. 1024	1. 1	
Data Code	BINARY	🔿 ASCII	Default
		OK (<u>0</u>)	Cancel

- Check with a network administrator about IP address. Do not set the duplicate IP address.
- Set IP address on the External Device for IP address in Device-specific settings.
- You need to set IP address on the display in the off-line mode of the display.

Communication setting of communication module 218IF-01 by ladder software. (Check the operation in MPE720 Ver.5.32)

- Ladder Software Setting
- 1 Start ladder software, make an order folder and a PLC folder in a root folder.

Select the connected PLC at the time of PLC folder making.

2 Click the right button of the PLC which select logon in the displayed menu.

NOTE • Logon after confirming that a check does not begin [online] of a displayed menu.

• Refer to User's Manual of the PLC about a method of logon.

- **3** Double-click the [Definition folder]-[Module constitution] of the PLC folder, and display [Engineering Manager].
- 4 Select the rack classification and link I/F, the pull-down menu in [Controller] of [Engineerring Manager]. Set the number corresponding to the slot number that a communication module uses. Select the communication module, setting contents are displayed to [Module details] of [Enginnering Manager].
- 5 Double-click the number part at No. in [Module details].

Double-click the slot number connecting the ethernet unit.

Setup Items		Setup Description
Transmission parameter This Station IP address I		PLC IP address
	My Port	PLC port No.
	DST. IP Address	GP-Pro EX IP address
Connection parameter	DST. Port	GP-Pro EX port No.
	Connection type	UDP
	Protocol type	expansion memobus
	Code	BIN

6 Double-click the "No.1", and set serial communication.

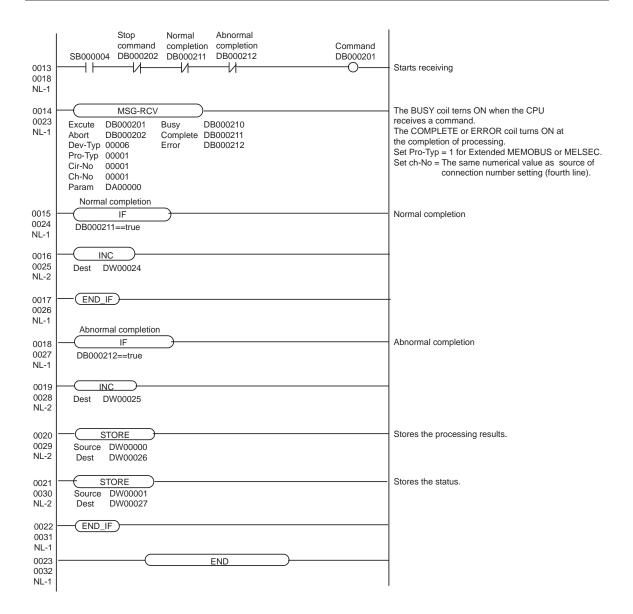
Use serial communication setting to forward communication setting and the ladder program to the PLC.

- 7 Save setting content and finish [Engineering Manager].
- 8 Make the communication ladder "high speed drawing" where "6" is set for [Dev-Typ]. [™] ◆ Ladder Program for Communication" (page 20)
- **9** Turn the DIP switch "INIT" of a communication module to ON, and supply the power.
- 10 Forward communication setting and a ladder program to a communication module.
- 11 Log on the PLC in online and write the transferred data to the flash memory.
- 12 Turn the PLC power and the INIT DIP switch to OFF. Then, turn the PLC power to ON.

- Check with a network administrator about IP address. Do not set the duplicate IP address.
- Please refer to the manual of the ladder software for more detail.

Ladder Program for Communication

	First scan after startup	
0000	—(F	Sets parameters in the first scan after startup.
0000 NL-1	SB000001==true	(Low-speed scan (DWG L): SB000003 High-speed scan (DWG H): SB000001)
INL-1		High-speed scall (DWG H). SB000001)
0004		Clears DWG registers to zero.
0001 0001	- FOR	Clears DWG registers to zero.
NL-2	Variable I Init 00000	
112 2	Max 00031	
	Step 00001	
0002	(STORE)	
0002 NL-3	Source 00000	
INL-3	Dest DW000001	
0003	(END_FOR)	
0003 NL-2		
0004	STORE	Sets the connection number.
0004	Source 00001	
NL-2	Dest DW00002	
0005	—(store)———	Sets the coil offset.
0005	Source 00000	
NL-2	Dest DW00008	
0006	(Sets the input relay offset.
0006	Source 00000	
NL-2	Dest DW00009	
0007	- ()	Sets the input register offset.
0007	Source 00000	
NL-2	Dest DW00010	
0008		Sets the holding register offset.
0008 NL-2	Source 00000	
INL-2	Dest DW00011	
0009	(STORE)	Wright range: LO
0009	Source 00000	
NL-2	Dest DW00012	
0010	()	Wright range: HI
0010	Source 0000065534	
NL-2	Dest DW00013	
0011	-(_END_IF)	———
0011 NL-1		
INL-1		
		-



3.5 Setting Example 5

- Settings of GP-Pro EX
- Communication Settings

To display the setting screen, select [Device/PLC Settings] from [System setting window] in workspace.

Device/PLC1		
Summary		Change Device/PLC
Maker VASKAWA Electric Corporation	Driver MEMOBUS Ethernet	Port Ethernet (TCP)
Text Data Mode 1 <u>Change</u>		
Communication Settings		
Port No. 🛛 🔂 🛃 🗹 Auto	2	
Timeout 3 📑 (sec)		
Retry 0 🚊		
Wait To Send 🛛 📑 (ms)	Default	
Device-Specific Settings		
Allowable No. of Device/PLCs 16 Unit(s) 📷		
	Settings P Address=192.168.001.001,Port No.=1024,I	 Data Code=BINABY

Device Setting

To display the setting screen, click I ([Setting]) of External Device you want to set from [Device-Specific Settings] of [Device/PLC Settings].

When you connect multiple External Device, click if from [Device-Specific Settings] of [Device/PLC Settings] to add another External Device.

💰 Individual D	🐔 Individual Device Settings 🛛 🛛 🔀				
PLC1					
IP Address Port No.	192. 168. 1024	1. 1			
Data Code	BINARY	C ASCII	Default		
		OK (<u>0</u>)	Cancel		

- Check with a network administrator about IP address. Do not set the duplicate IP address.
- Set IP address on the External Device for IP address in Device-specific settings.
- You need to set IP address on the display in the off-line mode of the display.

Communication setting of communication module CPU unit by ladder software. (Check the operation in MPE720 Ver.6)

- Ladder Software Setting
- 1 Start ladder software, make an order folder and a PLC folder in a root folder.

Select the connected PLC at the time of PLC folder making.

2 Click the right button of the PLC which select logon in the displayed menu.

NOTE • Logon after confirming that a check does not begin [online] of a displayed menu.

• Refer to User's Manual of the PLC about a method of logon.

- **3** Double-click the [Definition folder]-[Module constitution] of the PLC folder, and display [Engineering Manager].
- 4 Select the rack classification and link I/F, the pull-down menu in [Controller] of [Engineerring Manager]. Set the number corresponding to the slot number that a communication module uses. Select the communication module, setting contents are displayed to [Module details] of [Enginnering Manager].
- 5 Double-click the number part at No. in [Module details].

Double-click the slot number connecting the ethernet unit.

6 Select [Transmission Parameters] tab, and set the setup items as follows.

Setup Items	Setting Value	
IP Address	192.168.1.2	
Subnet Mask	255.255.255.0	

- 7 Click [Easy Setting] in [Transmission Parameters] tab to display [Message Communication Easy Setting] dialog box.
- **8** Set the setup items as follows, and click [OK].

Setup Items	Setting Value
MP Series Port No.	1024
Communication protocol Type	Extended MEMOBUS
Connect Type	ТСР
Code	BIN
Node Port IP Address ^{*1}	192.168.1.1
Other Device Port No. ^{*1}	1024

*1 Set the IP address and the port number of the Display. When you check the [Auto] of a port number in the communication setting of the GP-Pro EX, set the IP address and the port number to "0.0.0.0" and "00000", respectively.

- 9 Double-click [Setting] to display [Automatically Reception Setting] dialog box.
- 10 Select "Enable" of [Automatically Reception], and click [OK].
- **11** Turn the DIP switch "INIT" of a communication module to ON, and supply the power.
- 12 Forward communication setting and a ladder program to a communication module.
- **13** Log on the PLC in online and write the transferred data to the flash memory.
- 14 Turn the PLC power and the INIT DIP switch to OFF. Then, turn the PLC power to ON.

- Check with a network administrator about IP address. Do not set the duplicate IP address.
- Please refer to the manual of the ladder software for more detail.

3.6 Setting Example 6

Settings of GP-Pro EX

Communication Settings

To display the setting screen, select [Device/PLC Settings] from [System setting window] in workspace.

Device/PLC1		
Summary		Change Device/PLC
Maker VASKAWA Electric Corporation	Driver MEMOBUS Ethernet	Port Ethernet (UDP)
Text Data Mode 1 <u>Change</u>		
Communication Settings		
Port No. 1024 📑		
Timeout 3 📑 (sec)		
Retry 2		
Wait To Send 🛛 📑 (ms)	Default	
Device-Specific Settings		
Allowable No. of Device/PLCs 32 Unit(s)		
	5ettings [] IP Address=192.168.001.001,Port No.=1024,]	Data Code=BINARY
Communication Settings Port No. 1024 Timeout 3 Retry 2 Wait To Send 0 Device-Specific Settings Allowable No. of Device/PLCs 32 Unit(s) No. Device Name		Data Code=BINARY

Device Setting

To display the setting screen, click I ([Setting]) of External Device you want to set from [Device-Specific Settings] of [Device/PLC Settings].

When you connect multiple External Device, click if from [Device-Specific Settings] of [Device/PLC Settings] to add another External Device.

💰 Individual D	evice Settings		×
PLC1			
IP Address Port No.	192. 168. 1024	1. 1	
Data Code	BINARY	C ASCII	Default
		OK (<u>0</u>)	Cancel

- Check with a network administrator about IP address. Do not set the duplicate IP address.
- Set IP address on the External Device for IP address in Device-specific settings.
- You need to set IP address on the display in the off-line mode of the display.

Communication setting of communication module CPU unit by ladder software. (Check the operation in MPE720 Ver.6)

- Ladder Software Setting
- 1 Start ladder software, make an order folder and a PLC folder in a root folder.

Select the connected PLC at the time of PLC folder making.

2 Click the right button of the PLC which select logon in the displayed menu.

NOTE • Logon after confirming that a check does not begin [online] of a displayed menu.

• Refer to User's Manual of the PLC about a method of logon.

- **3** Double-click the [Definition folder]-[Module constitution] of the PLC folder, and display [Engineering Manager].
- 4 Select the rack classification and link I/F, the pull-down menu in [Controller] of [Engineerring Manager]. Set the number corresponding to the slot number that a communication module uses. Select the communication module, setting contents are displayed to [Module details] of [Enginnering Manager].
- 5 Double-click the number part at No. in [Module details].

Double-click the slot number connecting the ethernet unit.

6 Select [Transmission Parameters] tab, and set the setup items as follows.

Setup Items	Setting Value
IP Address	192.168.1.2
Subnet Mask	255.255.255.0

- 7 Click [Easy Setting] in [Transmission Parameters] tab to display [Message Communication Easy Setting] dialog box.
- **8** Set the setup items as follows, and click [OK].

Setup Items	Setting Value
MP Series Port No.	1024
Communication protocol Type	Extended MEMOBUS
Connect Type	UDP
Code	BIN
Node Port IP Address ^{*1}	192.168.1.1
Other Device Port No. ^{*1}	1024

*1 Set the IP address and the port number of the Display.

- 9 Double-click [Setting] to display [Automatically Reception Setting] dialog box.
- 10 Select "Enable" of [Automatically Reception], and click [OK].
- **11** Turn the DIP switch "INIT" of a communication module to ON, and supply the power.
- 12 Forward communication setting and a ladder program to a communication module.
- 13 Log on the PLC in online and write the transferred data to the flash memory.
- 14 Turn the PLC power and the INIT DIP switch to OFF. Then, turn the PLC power to ON.

- Check with a network administrator about IP address. Do not set the duplicate IP address.
- Please refer to the manual of the ladder software for more detail.

3.7 Setting Example 7

Settings of GP-Pro EX

Communication Settings

To display the setting screen, select [Device/PLC Settings] from [System setting window] in workspace.

Device/PLC 1		
Summary		Change Device/PLC
Maker VASKAWA Electric Corporation	Driver MEMOBUS Ethernet	Port Ethernet (TCP)
Text Data Mode 1 <u>Change</u>		
Communication Settings		
Port No. 🛛 🔂 🛃 🗹 Auto	2	
Timeout 3 📑 (sec)		
Retry 0 🚍		
Wait To Send 🛛 📑 (ms)	Default	
Device-Specific Settings		
Allowable No. of Device/PLCs 16 Unit(s)		
	Settings P Address=192.168.001.001,Port No.=1024,D	 Data Code=BINARY

Device Setting

To display the setting screen, click I ([Setting]) of External Device you want to set from [Device-Specific Settings] of [Device/PLC Settings].

When you connect multiple External Device, click if from [Device-Specific Settings] of [Device/PLC Settings] to add another External Device.

💰 Individual D	evice Settings		×
PLC1			
IP Address Port No.	192. 168. 1024	1. 1	
Data Code	BINARY	C ASCII	Default
		OK (<u>0</u>)	Cancel

- Check with a network administrator about IP address. Do not set the duplicate IP address.
- Set IP address on the External Device for IP address in Device-specific settings.
- You need to set IP address on the display in the off-line mode of the display.

Communication setting of communication module 218IF-02 by ladder software. (Check the operation in MPE720 Ver.5.32)

- Ladder Software Setting
- 1 Start ladder software, make an order folder and a PLC folder in a root folder.

Select the connected PLC at the time of PLC folder making.

2 Click the right button of the PLC which select logon in the displayed menu.

NOTE • Logon after confirming that a check does not begin [online] of a displayed menu.

• Refer to User's Manual of the PLC about a method of logon.

- **3** Double-click the [Definition folder]-[Module constitution] of the PLC folder, and display [Engineering Manager].
- 4 Select the rack classification and link I/F, the pull-down menu in [Controller] of [Engineerring Manager]. Set the number corresponding to the slot number that a communication module uses. Select the communication module, setting contents are displayed to [Module details] of [Enginnering Manager].
- 5 Double-click the number part at No. in [Module details].

Double-click the slot number connecting the ethernet unit.

Setup Items		Setup Description
Transmission parameter This Station IP address		PLC IP address
	My Port	PLC port No.
Connection	DST. IP Address ^{*1}	GP-Pro EX IP address
	DST. Port ^{*1}	GP-Pro EX port No.
Connection parameter	Connection type	ТСР
	Protocol type	expansion memobus
	Code	BIN

*1 When you check the [Auto] of a port number in the communication setting of the GP-Pro EX, set the IP address and the port number to "0.0.0.0" and "00000", respectively.

6 Double-click the "No.1", and set serial communication.

Use serial communication setting to forward communication setting and the ladder program to the PLC.

- 7 Save setting content and finish [Engineering Manager].
- 8 Make the communication ladder "high speed drawing" where "16" is set for [Dev-Typ].
 - ** Adder Program for Communication" (page 30)
- **9** Turn the DIP switch "INIT" of a communication module to ON, and supply the power.
- 10 Forward communication setting and a ladder program to a communication module.
- **11** Log on the PLC in online and write the transferred data to the flash memory.
- 12 Turn the PLC power and the INIT DIP switch to OFF. Then, turn the PLC power to ON.

- Check with a network administrator about IP address. Do not set the duplicate IP address.
- Please refer to the manual of the ladder software for more detail.

Ladder Program for Communication

	First scan after startup	
0000		Sets parameters in the first scan after startup.
0000	SB000001==true	(Low-speed scan (DWG L): SB000003 High-speed scan (DWG H): SB000001)
NL-1		High-speed scall (DWG H). SB000001)
0004		Clears DWG registers to zero.
0001 0001		Clears DWG registers to zero.
NL-2	∨ariable I Init 00000	
112 2	Max 00031	
	Step 00001	
	, 	
0002	(STORE)	
0002 NL-3	Source 00000	
INL-3	Dest DW000001	
0003 · 0003	(END_FOR)	
NL-2		
112 2		
0004	STORE	Sets the connection number.
0004	Source 00001	
NL-2	Dest DW00002	
0005		Sets the coil offset.
0005	Source 00000	
NL-2	Dest DW00008	
0006	- (Sets the input relay offset.
0006	Source 00000	
NL-2	Dest DW00009	
0007	-(Sets the input register offset.
0007 NL-2	Source 00000	
INL-2	Dest DW00010	
0008 0008		Sets the holding register offset.
0008 NL-2	Source 00000 Dest DW00011	
	Dest DW00011	
0009		Wright range: LO
0009 NL-2	Source 00000	
INL-2	Dest DW00012	
		Which transmit II
0010		Wright range: HI
0010 NL-2	Source 0000065534	
	Dest DW00013	
0044		
0011 0011	-(_END_IF)	
NL-1		

0013 0018 NL-1	Stop Normal Abnormal command completion completion Comm SB000004 DB000202 DB000211 DB000212 DB00	0201
0014 0023 NL-1	MSG-RCV Excute DB000201 Busy DB000210 Abort DB000202 Complete DB000211 Dev-Typ 00016 Error DB000212 Pro-Typ 00001 Cir-No 00001 Ch-No 00001 Param DA00000	The BUSY coil terns ON when the CPU 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).
0015 0024 NL-1	Normal completion IF DB000211==true	Normal completion
0016 0025 NL-2	Dest DW00024	
0017 0026 NL-1	Abnormal completion	
0018 0027 NL-1	DB000212==true	Abnormal completion
0019 0028 NL-2	Dest DW00025	
0020 0029 NL-2	Source DW00000 Dest DW00026	Stores the processing results.
0021 0030 NL-2	Source DW00001 Dest DW00027	Stores the status.
0022 0031 NL-1		
0023 0032 NL-1	END	

3.8 Setting Example 8

- Settings of GP-Pro EX
- Communication Settings

To display the setting screen, select [Device/PLC Settings] from [System setting window] in workspace.

Device/PLC 1	
Summary Change Device/PLC	
Maker VASKAWA Electric Corporation Driver MEMOBUS Ethernet Port Ethernet (UDP)	
Text Data Mode 1 Change	
Communication Settings	
Port No. 1024 📑	
Timeout 3 😑 (sec)	
Retry 2	
Wait To Send 0 📑 (ms) Default	
Device-Specific Settings	
Allowable No. of Device/PLCs 32 Unit(s) 📊	
No. Device Name Settings 1 PLC1 IP Address=192.168.001.001,Port No.=1024,Data Code=BINARY	_

Device Setting

To display the setting screen, click I ([Setting]) of External Device you want to set from [Device-Specific Settings] of [Device/PLC Settings].

When you connect multiple External Device, click in from [Device-Specific Settings] of [Device/PLC Settings] to add another External Device.

💰 Individual D	evice Settings		×
PLC1			
IP Address Port No.	192. 168. 1024	1. 1	
Data Code	BINARY	🔿 ASCII	Default
		OK (<u>0</u>)	Cancel

- Check with a network administrator about IP address. Do not set the duplicate IP address.
- Set IP address on the External Device for IP address in Device-specific settings.
- You need to set IP address on the display in the off-line mode of the display.

Communication setting of communication module 218IF-02 by ladder software. (Check the operation in MPE720 Ver.5.32)

- Ladder Software Setting
- 1 Start ladder software, make an order folder and a PLC folder in a root folder.

Select the connected PLC at the time of PLC folder making.

2 Click the right button of the PLC which select logon in the displayed menu.

NOTE • Logon after confirming that a check does not begin [online] of a displayed menu.

• Refer to User's Manual of the PLC about a method of logon.

- **3** Double-click the [Definition folder]-[Module constitution] of the PLC folder, and display [Engineering Manager].
- 4 Select the rack classification and link I/F, the pull-down menu in [Controller] of [Engineerring Manager]. Set the number corresponding to the slot number that a communication module uses. Select the communication module, setting contents are displayed to [Module details] of [Enginnering Manager].
- 5 Double-click the number part at No. in [Module details].

Double-click the slot number connecting the ethernet unit.

Setu	Setup Description	
Transmission parameter This Station IP address		PLC IP address
Connection parameter	My Port	PLC port No.
	DST. IP Address	GP-Pro EX IP address
	DST. Port	GP-Pro EX port No.
	Connection type	UDP
	Protocol type	expansion memobus
	Code	BIN

6 Double-click the "No.1", and set serial communication.

Use serial communication setting to forward communication setting and the ladder program to the PLC.

- 7 Save setting content and finish [Engineering Manager].
- 8 Make the communication ladder "high speed drawing" where "16" is set for [Dev-Typ]. ^(C)
 ^(C)
- **9** Turn the DIP switch "INIT" of a communication module to ON, and supply the power.
- 10 Forward communication setting and a ladder program to a communication module.
- 11 Log on the PLC in online and write the transferred data to the flash memory.
- 12 Turn the PLC power and the INIT DIP switch to OFF. Then, turn the PLC power to ON.

- Check with a network administrator about IP address. Do not set the duplicate IP address.
- Please refer to the manual of the ladder software for more detail.

Ladder Program for Communication

	First scan after startup	
0000		Sets parameters in the first scan after startup.
0000 NL-1	SB000001==true	(Low-speed scan (DWG L): SB000003 High-speed scan (DWG H): SB000001)
INL-I		high-speed scan (Dwo H). Oboooot)
0001		Clears DWG registers to zero.
0001	Variable I	Clears DWG registers to zero.
NL-2	Init 00000	
	Max 00031	
	Step 00001	
0002	STORE	
0002	Source 00000	
NL-3	Dest DW000001	
	Dest Diversion	
0003	(END FOR)	
0003		
NL-2		
0004		Sets the connection number.
0004 NL-2	Source 00001	
INL-2	Dest DW00002	
0005		Sets the coil offset.
0005	Source 00000	
NL-2	Dest DW00008	
	2000 2000000	
0006		Sets the input relay offset.
0006	Source 00000	
NL-2	Dest DW00009	
0007	- (STORE)	Sets the input register offset.
0007	Source 00000	
NL-2	Dest DW00010	
8000	STORE	Sets the holding register offset.
8000	Source 00000	
NL-2	Dest DW00011	
0009	STORE	Wright range: LO
0009	Source 00000	
NL-2	Dest DW00012	
0010	C STORE	Wright range: HI
0010	Source 0000065534	
NL-2	Dest DW00013	
0011	-(END_IF)	
0011 NL-1		
INL-I		

0013 0018 NL-1	SB000004 DB000202 DB000211 DB000212 DB0	nmand 00201)
0014 - 0023 NL-1	MSG-RCV Excute DB000201 Busy DB000210 Abort DB000202 Complete DB000211 Dev-Typ 00016 Error DB000212 Pro-Typ 00001 Cir-No 00001 Ch-No 00001 Param DA00000	The BUSY coil terns ON when the CPU 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).
0015 0024 NL-1	Normal completion IF DB000211==true	Normal completion
0016 0025 NL-2	Dest DW00024	
0017 0026 NL-1	Abnormal completion	
0018 0027 NL-1	IF DB000212==true	Abnormal completion
0019 0028 NL-2	Dest DW00025	
0020 0029 NL-2	STORE Source DW00000 Dest DW00026	Stores the processing results.
0021 0030 NL-2	Source DW00001 Dest DW00027	Stores the status.
0022 · 0031 NL-1	END_IF)	
0023 0032 NL-1	()	

4 Setup Items

Set communication settings of the Display with GP-Pro EX or in off-line mode of the Display.

The setting of each parameter must be identical to that of External Device.

"3 Example of Communication Setting" (page 6)

NOTE

• Set the Display's IP address in off-line mode.

Cf. Maintenance/Troubleshooting Manual "2.5 Ethernet Settings"

4.1 Setup Items in GP-Pro EX

Communication Settings

To display the setting screen, select [Device/PLC Settings] from [System setting window] in workspace.

Device/PLC 1	
Summary Ch.	ange Device/PLC
Maker VASKAWA Electric Corporation Driver MEMOBUS Ethernet Port	Ethernet (TCP)
Text Data Mode 1 Change	
Communication Settings	
Port No. 1024 🚔 🗹 Auto	
Timeout 3 💼 (sec)	
Retry 0	
Wait To Send 0 👘 (ms) Default	
Device-Specific Settings	
Allowable No. of Device/PLCs 16 Unit(s)	
No. Device Name Settings No. Device Name Settings 1 PLC1 III PAddress=192.168.001.001, Port No.=1024, Data Control	de=BINARY

Setup Items	Setup Description
Port No.	Enter a port number of the External Device, using 1024 to 65535. Check into [Auto], and a port number is set automatically. NOTE Set the [Auto], when select the [Ethernet (TCP)] in [Connection Method] only.
Timeout	Use an integer from 1 to 127 to enter the time (s) for which Display waits for the response from External Device.
Retry	In case of no response from the External Device, use an integer from 0 to 255 to enter how many times the Display retransmits the command.
Wait To Send	Use an integer from 0 to 255 to enter standby time (ms) for the Display from receiving packets to transmitting next commands.

Device Setting

To display the setting screen, click I ([Setting]) of External Device you want to set from [Device-Specific Settings] of [Device/PLC Settings].

When you connect multiple External Device, click if from [Device-Specific Settings] of [Device/PLC Settings] to add another External Device.

💰 Individual D	evice Settings		×
PLC1			
IP Address Port No.	192. 168. 1024	1. 1	
Data Code	BINARY	C ASCII	Default
		OK (<u>0)</u>	Cancel

Setup Items	Setup Description
IP Address	 Set IP address of the External Device. NOTE Check with a network administrator about IP address. Do not set the duplicate IP address.
Port No.	Enter a port number of the External Device, using 256 to 65534.
Data Code	Select the data format in communication with the PLC.

4.2 Setup Items in Off-Line Mode



• Refer to the Maintenance/Troubleshooting manual for information on how to enter off-line mode or about the operation.

Cf. Maintenance/Troubleshooting Manual "2.2 Off-line Mode"

Communication Settings

To display the setting screen, touch [Device/PLC Settings] from [Peripheral Settings] in off-line mode. Touch the External Device you want to set from the displayed list.

Comm.	Device			
				Ĭ
MEMOBUS Ethernet			[TCP]	Page 1/1
	Port No.	Fixed	• Auto	
			1024 💌 🔺	
	Timeout(s)		3 🔻 🔺	
	Retry Wait To Send(ms)			
	_			2006/01/21
	Exit		Back	2006/01/31 15:42:04

Setup Items	Setup Description
Port No.	Enter a port number of the GP-Pro EX. The port number that input is assigned without being concerned with select of "Fixed" "Auto" by UDP connection. Select either of "Fixed" "Auto" by TCP connection. Enter a port number of the GP-Pro EX with "1024-65535", when select "Fixed". Assign automatically without affecting the input value, when select "Auto".
Timeout	Use an integer from 1 to 127 to enter the time (s) for which Display waits for the response from External Device.
Retry	In case of no response from the External Device, use an integer from 0 to 255 to enter how many times the Display retransmits the command.
Wait To Send	Use an integer from 0 to 255 to enter standby time (ms) for the Display from receiving packets to transmitting next commands.

Device Setting

To display the setting screen, touch [Device/PLC Settings] from [Peripheral Settings]. Touch the External Device you want to set from the displayed list, and touch [Device].

Comm.	Device			
MEMOBUS Ethernet			[TCP]	Page 1/1
Device	/PLC Name PLC	1		
	IP Address	192 168	1 1	
	Port No.		1024 💌 🔺	
	Data Code	• BINARY	ASCII	
				0886781701
	Exit		Back	2006/01/31 15:42:07

Setup Items	Setup Description
Device/PLC Name	Select the External Device for device setting. Device name is a title of External Device set with GP-Pro EX.(Initial value [PLC1])
IP Address	 Set IP address of the External Device. NOTE Check with a network administrator about IP address. Do not set the duplicate IP address.
Port No.	Enter a port number of the External Device, using 256 to 65534.
Data Code	Select the data format in communication with the PLC.

This address can be specified as system data area.

5 Supported Device

Range of supported device address is shown in the table below. Please note that the actually supported range of the devices varies depending on the External Device to be used. Please check the actual range in the manual of your External Device.

Device	Bit address	Word address	32 bits	Remarks
Enhancing Coil	EGMB000000 - EGMB65534F	EGMB00000 - EGMB65534		*1
Enhancing Input Relay	EGIB00000 - EGIB7FFFF	EGIB0000 - EGIB7FFF		*2
Coil	GMB00000 - GMB4095F	GMB0000 - GMB4095		
Input Relay	GIB00000 - GIB0FFFF	GIB0000 - GIB0FFF	<u>[[] H</u>	*2
Input Register		GIW0000 - GIW7FFF		<u>B i t</u> F] *2
Holding Register		GMW00000 - GMW65534		вit F

E

*1 When you write the bit address, the Display reads the word address corresponding to that of the External Device first. Then, it changes the target bit address among the word data once read and returns the word data to the External Device. Note that the correct data may not be written if you change the word address value in the ladder program while the Display reads the data of the External Device and returns it to the External Device.

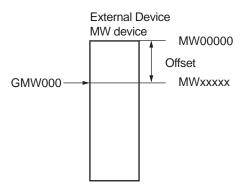
*2 Write disable

The address of GP becomes the address which added an offset to the real address of the PLC.

Device	Display on GP-Pro EX	Display on PLC
Enhancing Coil (Bit device)	EGMB000000 - EGMB65534F	MW000000+Offset - MW65534F+Offset
Enhancing Coil (Word device)	EGMB00000 - EGMB65534	MW00000+Offset - MW65534+Offset
Coil (Bit device)	GMB00000 - GMB4095F	MB00000+Offset - MB4095F+Offset
Coil (Word device)	GMB0000 - GMB4095	MB0000+Offset - MB4095+Offset
Enhancing Input Relay (Bit device)	EGIB00000 - EGIB7FFFF	IW00000+Offset - IW7FFFF+Offset
Enhancing Input Relay (Word device)	EGIB0000 - EGIB7FFF	IW0000+Offset - IW7FFF+Offset
Input Relay (Bit device)	GIB00000 - GIB0FFFF	IB00000+Offset - IB0FFFF+Offset
Input Relay (Word device)	GIB0000 - GIB0FFF	IB0000+Offset - IB0FFF+Offset
Input Register	GIW0000 - GIW7FFF	IW0000+Offset - IW7FFF+Offset
Holding Register	GMW00000 - GMW65534	MW00000+Offset - MW65534+Offset

Address relations of GP and PLC are as follows.

e.g) When you specify "GMW00000" in GP-Pro EX, the address of "MW00000" to which offset value is added, is specified as the actual address in the External Device. Offset value is described as "Head REG" in the ladder software.



NOTE • Please refer to the GP-Pro EX Reference Manual for system data area.

Cf. GP-Pro EXReference Manual "Appendix 1.4 LS Area (Direct Access Method)"Please refer to the precautions on manual notation for icons in the table.

"Manual Symbols and Terminology"

6 Device Code and Address Code

Use device code and address code when you select "Device Type & Address" for the address type in data displays.

Device	Device Name	Device Code (HEX)	Address Code
Coil	GMB	0080	Word Address
Input Relay	GIB	0081	Word Address
Enhancing Coil	EGMB	0090	Word Address
Enhancing Input Relay	EGIB	0091	Word Address
Input Register	GIW	0001	Word Address
Holding Register	GMW	0000	Word Address

7 Error Messages

Error messages are displayed on the screen of Display as follows: "No. : Device Name: Error Message (Error Occurrence Area)". Each description is shown below.

Item	Description	
No.	Error No.	
Device Name	Name of External Device where error occurs. Device name is a title of External Device set with GP-Pro EX.((Initial value [PLC1])	
Error Message	Displays messages related to the error which occurs.	
Error Occurrence Area	Displays IP address or device address of External Device where error occurs, or error codes received from External Device.	
	 NOTE IP address is displayed such as "IP address (Decimal): MAC address (Hex)". Device address is displayed such as "Address: Device address". Received error codes are displayed such as "Decimal [Hex]". 	

Display Examples of Error Messages

"RHAA035: PLC1: Error has been responded for device write command (Error Code: 2 [02H])"

NOTE
Refer to your External Device manual for details on received error codes.
Refer to "When an error is displayed (Error Code List)" in "Maintenance/Troubleshooting Manual" for details on the error messages common to the driver.

Error Code Peculiar to PLC

The error code peculiar to PLC is as follows.

Error	Code cause	
01	Function code error	
02	Address error for coil, input relay and register	
03	Number error for coil, input relay and register	