MITSUBISHI ELECTRIC

Programmable Controller

MELSEC iQ-R series

MELSEC iQ-R EtherNet/IP Network Interface Module Function Block Reference

CONTENTS

1 MODULE FUNCTION BLOCK (FB) LIST

This chapter lists the module FBs of the MELSEC iQ-R series EtherNet/IP network interface module.

Name*1	Description
M+RJ71EIP91_Class1GetInputData	Acquires input data of the specified connection via the Class 1 communications.
M+RJ71EIP91_Class1SetOutputData	Sets output data of the specified connection via the Class 1 communications.

*1 FB names end in the FB version information such as "_00A"; however, this reference manual leaves out it.

Precautions

- The module FBs of the RJ71EIP91 do not include the error recovery processing. Program the error recovery processing separately in accordance with the required system operation.
- If the instructions are updated, the new instruction is added, or a new device is added due to the version upgrade of the module FB, please consult your local Mitsubishi representative.

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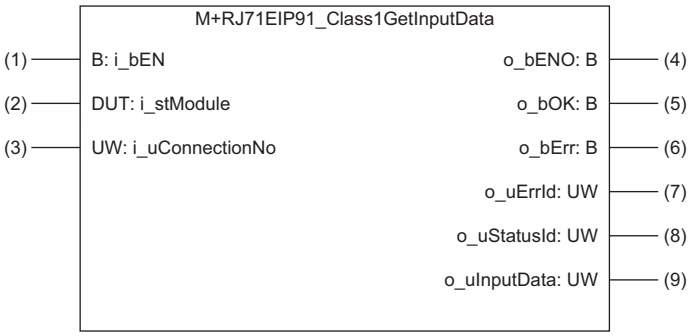
2 EtherNet/IP NETWORK INTERFACE MODULE FB

2.1 M+RJ71EIP91_Class1GetInputData

Name

M+RJ71EIP91_Class1GetInputData

Overview

Item	Description
Functional overview	Acquires input data of the specified connection via the Class 1 communications.
Symbol	

Labels

■Input arguments

No.	Variable name	Name	Data type	Scope	Description
(1)	i_bEN	Execution command	Bit	On or off	On: The module FB is activated. Off: The module FB is not activated.
(2)	i_stModule	Module label	Structure	—	Specifies the module label for the module that executes the FB (Example: EIP91_1)
(3)	i_uConnectionNo	Connection number	Word [unsigned]/bit string [16 bits]	1 to 256	Specifies the connection number to acquire input data.

■Output arguments

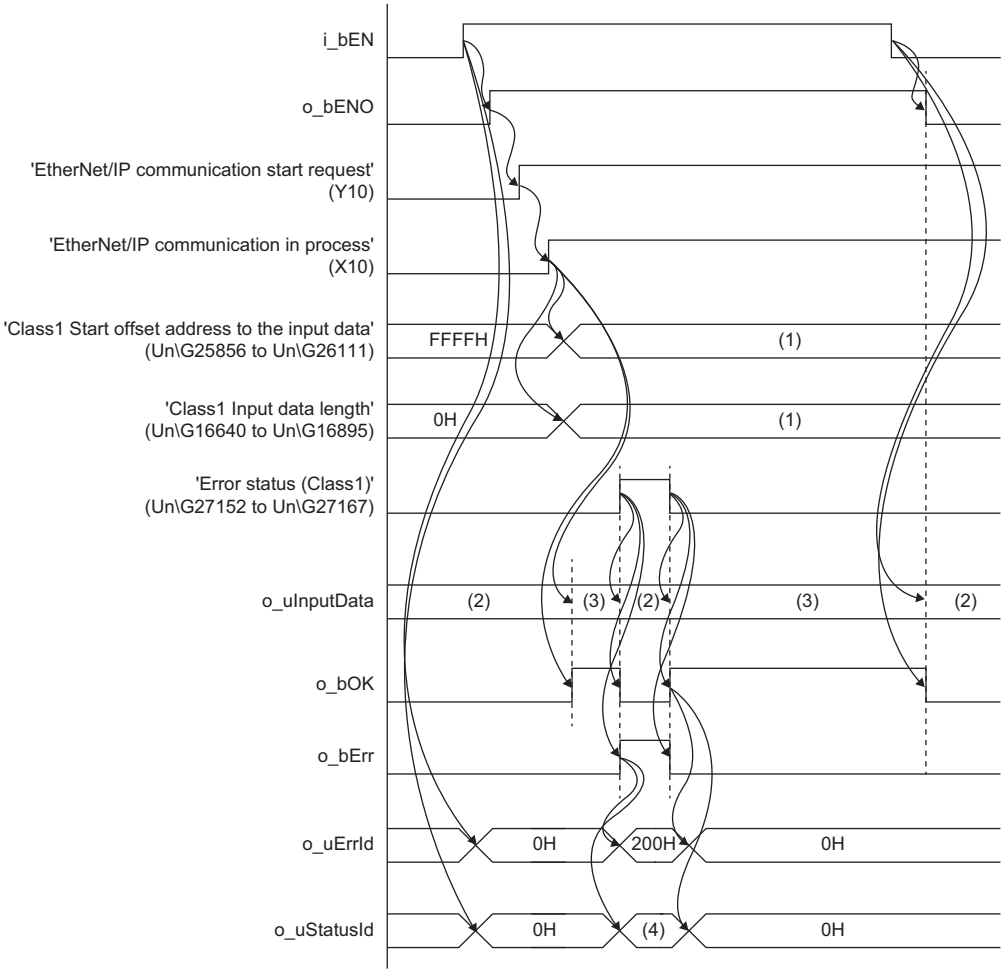
No.	Variable name	Name	Data type	Description	Default value
(4)	o_bENO	Execution status	Bit	The execution status of the module FB is output. On: In execution Off: Not in execution	Off
(5)	o_bOK	Normal completion	Bit	The on state indicates that the module FB processing has been completed successfully.	Off
(6)	o_bErr	Error completion	Bit	The on state indicates that the module FB processing has been completed with an error.	Off
(7)	o_uErrId	Error code	Word [unsigned]/bit string [16 bits]	Error code is stored when the processing has been completed with an error.	0
(8)	o_uStatusId	Error code for connection communication error	Word [unsigned]/bit string [16 bits]	Error code is stored when a connection communication error has occurred (when 200H is stored in o_uErrId).	0
(9)	o_uInputData	Input data storage device	Word [unsigned]/bit string [16 bits]	Specify the start address of the storage device for input data.	0

■Operation parameters

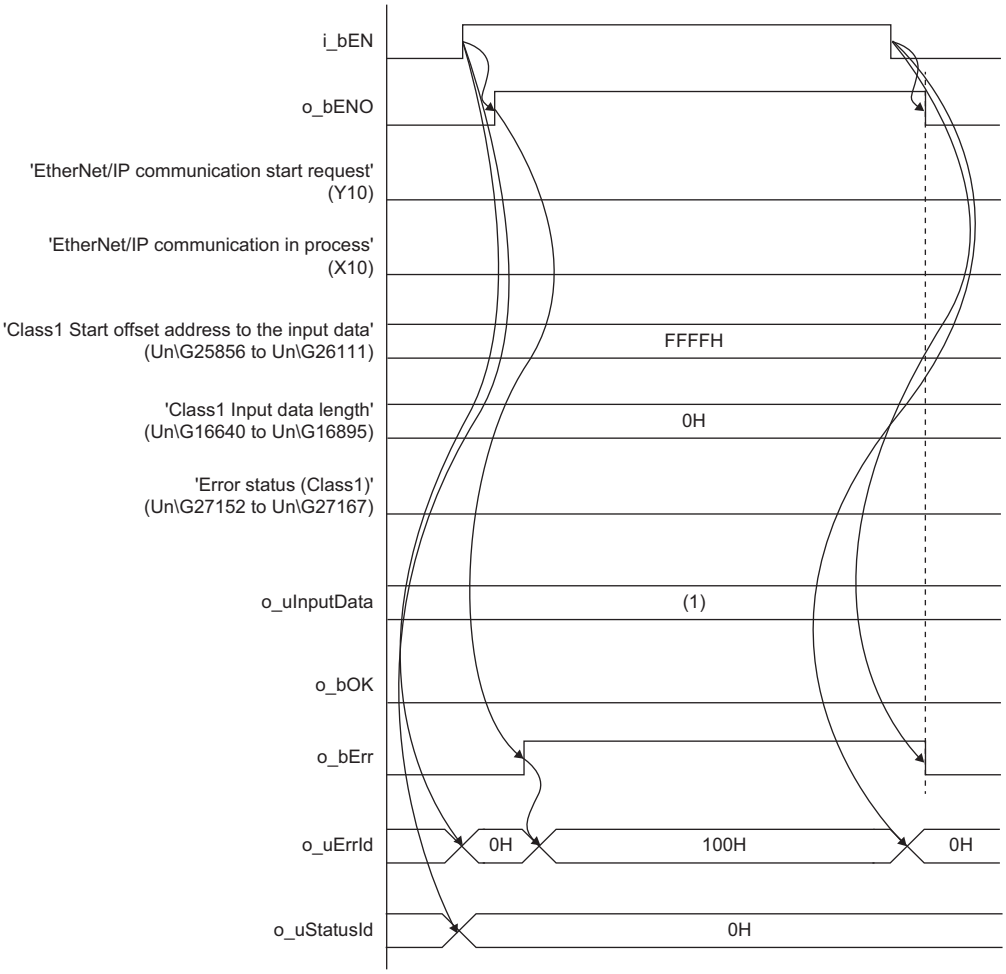
M+RJ71EIP91_Class1GetInputData has no operation parameters.

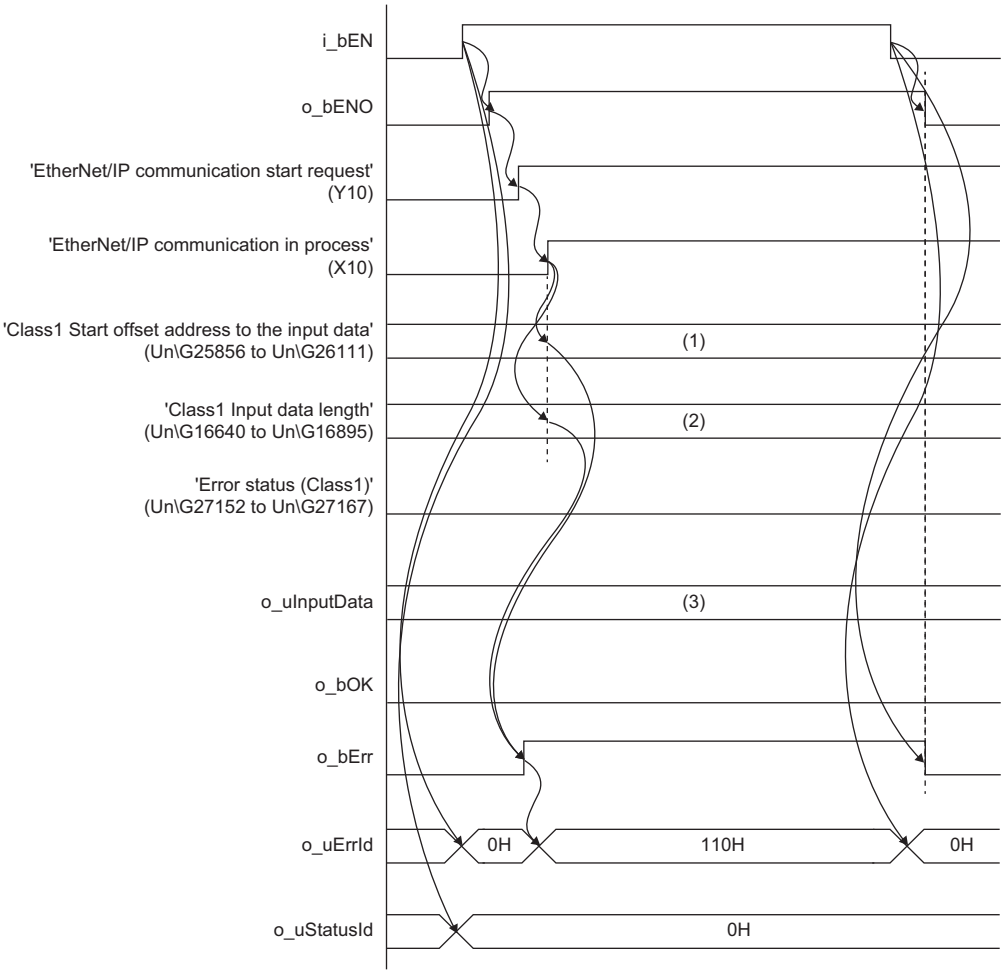
FB details

Item	Description	
Available device	Target module	RJ71EIP91
	CPU module	RCPU
	Engineering tool	GX Works3
Language	Ladder diagram	
Number of basic steps	251 steps The number of steps of the FB embedded in a program depends on the CPU module used, the input/output definitions, and the options setting of GX Works3. For the options setting of GX Works3, refer to the GX Works3 Operating Manual.	
Processing	• When i_bEN (execution command) is turned on, input data of the specified connection is acquired via the Class 1 communications. • While i_bEN (execution command) and o_bOK (completed successfully) are turned on, input data is continuously stored in o_uInputData (input data storage device).	
FB compilation method	Macro type	
FB operation	Any-time execution type	
Timing chart of I/O signals	• When the processing has been completed successfully (when the module recovers from the error that had occurred for a certain period during communications)	



(1) Set value
(2) The last value is held.
(3) The input data is stored.
(4) Error code

Item	Description
Timing chart of I/O signals	• When the processing has been completed with an error (when i_uConnectionNo (connection number) is out of the setting range)  (1) The last value is held.

Item	Description
Timing chart of I/O signals	• When the processing has been completed with an error (when no input data is assigned to the target connection)  (1) FFFFH (not changed) (2) 0H (not changed) (3) The last value is held.
Precautions	• Turn off i_bEN (execution command) after o_bOK (completed successfully) or o_bErr (completed with an error) turns on. By turning off i_bEN (execution command), o_bOK (completed successfully) and o_bErr (completed with an error) are turned off, and o_uErrId (error code) and o_uStatusId (error code for connection communication error) are cleared to 0. • 'EtherNet/IP communication start request' (Y10) is not turned off by turning off i_bEN (execution command). To stop EtherNet/IP communications, turn off i_bEN (execution command) of all the module FBs of the RJ71EIP91 in the program, and then turn off 'EtherNet/IP communication start request' (Y10).

Error code

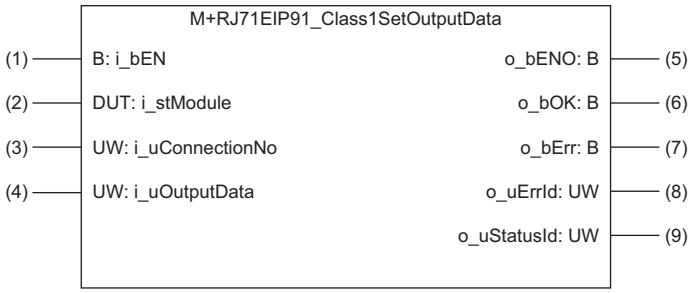
Error code	Description	Action
100H	The i_uConnectionNo (connection number) value is out of the setting range.	Set the i_uConnectionNo (connection number) value within the range between 1 and 256.
110H	Input data is not assigned to the target connection.	Review the settings for EtherNet/IP Configuration Tool.
200H	Communication error has occurred in the target connection.	Check the value stored in o_uStatusId (error code for connection communication error) by referring to the following manual. MELSEC iQ-R EtherNet/IP Network Interface Module User's Manual (Application)

2.2 M+RJ71EIP91_Class1SetOutputData

Name

M+RJ71EIP91_Class1SetOutputData

Overview

Item	Description
Functional overview	Sets output data of the specified connection via the Class 1 communications.
Symbol	

Labels

■Input arguments

No.	Variable name	Name	Data type	Scope	Description
(1)	i_bEN	Execution command	Bit	On or off	On: The module FB is activated. Off: The module FB is not activated.
(2)	i_stModule	Module label	Structure	—	Specifies the module label for the module that executes the FB (Example: EIP91_1)
(3)	i_uConnectionNo	Connection number	Word [unsigned]/bit string [16 bits]	1 to 256	Specifies the connection number for which output data is set.
(4)	i_uOutputData	Output data storage device	Word [unsigned]/bit string [16 bits]	—	Specifies the start address of the storage device for output data.

■Output arguments

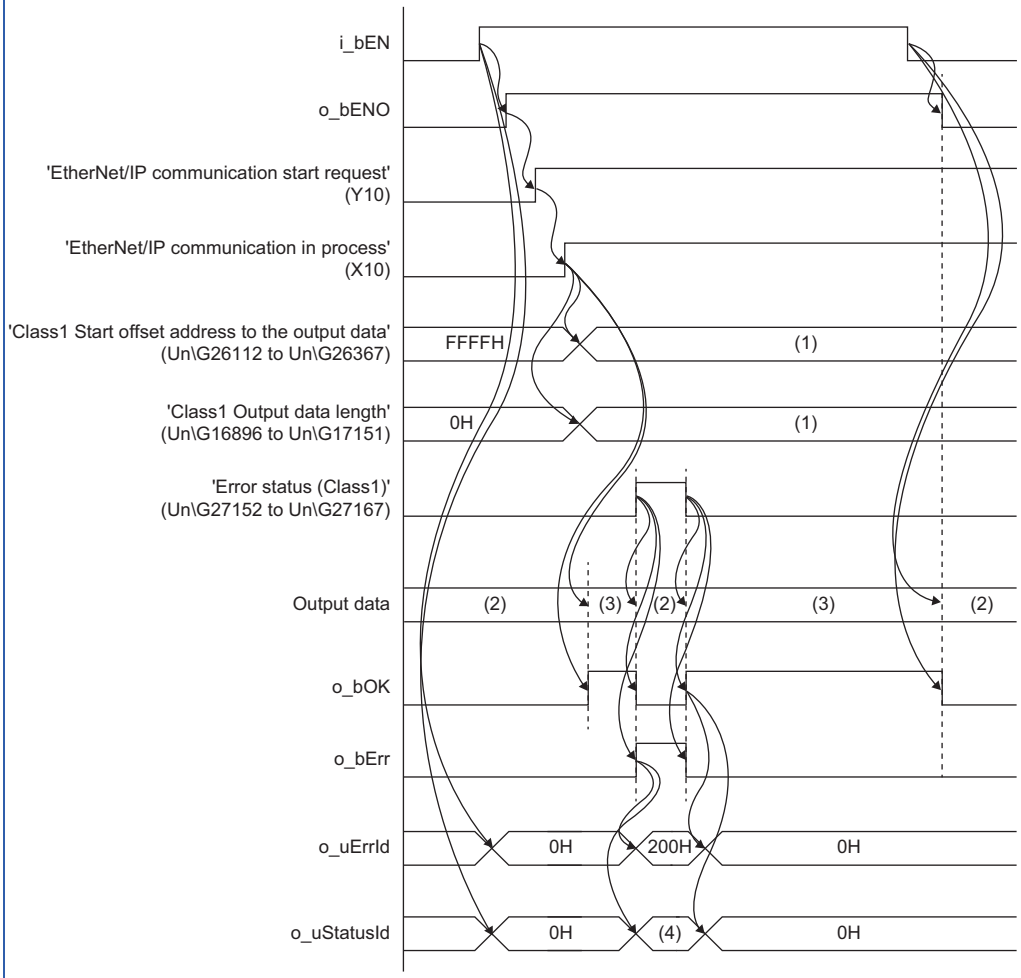
No.	Variable name	Name	Data type	Description	Default value
(5)	o_bENO	Execution status	Bit	The execution status of the module FB is output. On: In execution Off: Not in execution Off: Not in execution	Off
(6)	o_bOK	Normal completion	Bit	The on state indicates that the module FB processing has been completed successfully.	Off
(7)	o_bErr	Error completion	Bit	The on state indicates that the module FB processing has been completed with an error.	Off
(8)	o_uErrId	Error code	Word [unsigned]/bit string [16 bits]	Error code is stored when the processing has been completed with an error.	0
(9)	o_uStatusId	Error code for connection communication error	Word [unsigned]/bit string [16 bits]	Error code is stored when a connection communication error has occurred (when 200H is stored in o_uErrId (error code)).	0

■Operation parameters

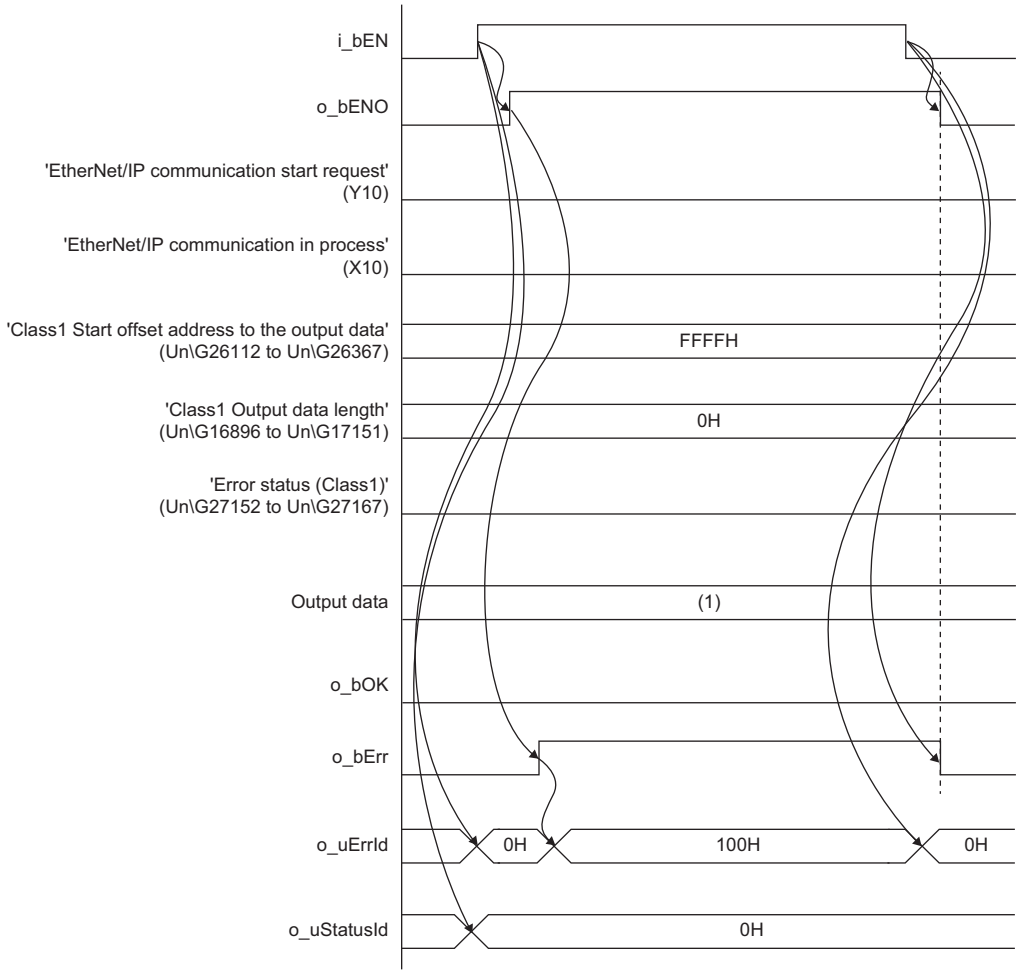
M+RJ71EIP91_Class1SetOutputData has no operation parameters.

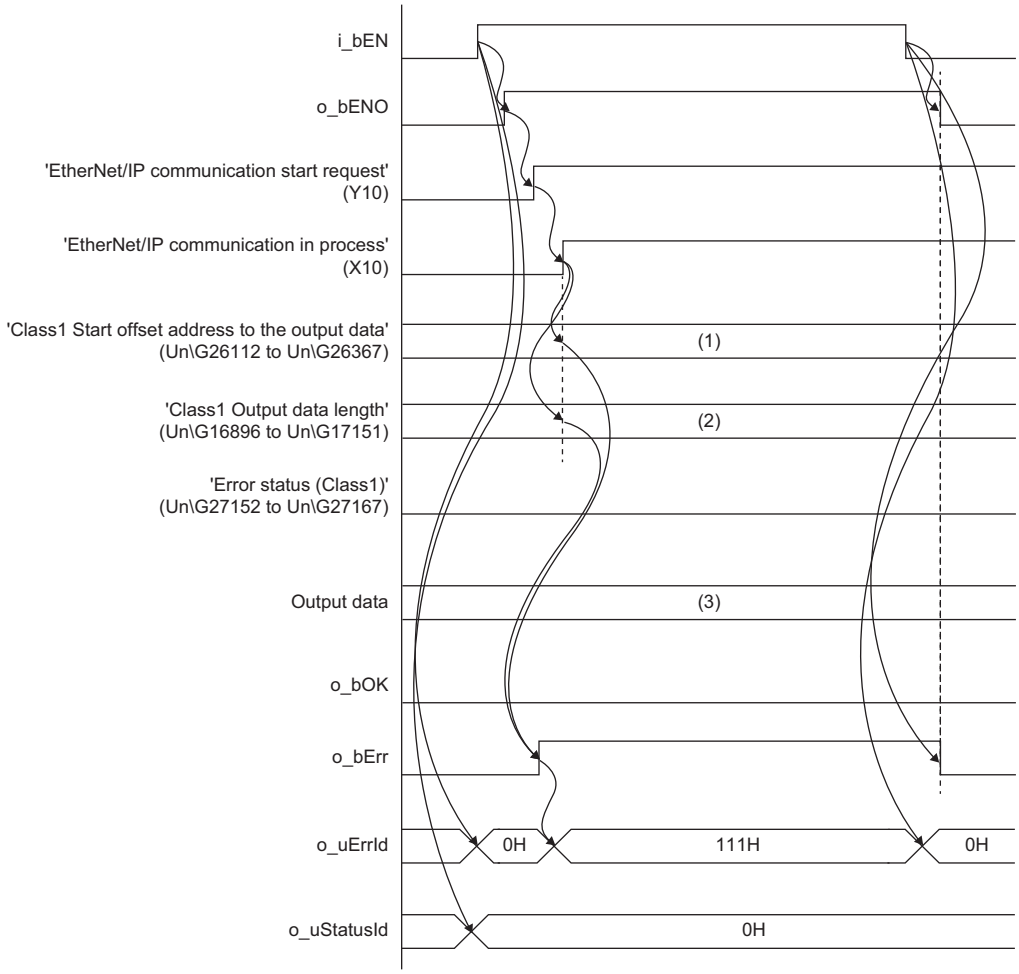
FB details

Item	Description	
Available device	Target module	RJ71EIP91
	CPU module	RCPU
	Engineering tool	GX Works3
Language	Ladder diagram	
Number of basic steps	251 steps The number of steps of the FB embedded in a program depends on the CPU module used, the input/output definitions, and the options setting of GX Works3. For the options setting of GX Works3, refer to the GX Works3 Operating Manual.	
Processing	• When i_bEN (execution command) is turned on, output data of the specified connection is set via the Class 1 communications. • While i_bEN (execution command) and o_bOK (completed successfully) are turned on, output data is continuously updated to the value stored in i_uOutputData (output data storage device).	
FB compilation method	Macro type	
FB operation	Any-time execution type	
Timing chart of I/O signals	• When the processing has been completed successfully (when the module recovers from the error that had occurred for a certain period during communications)	



(1) Set value
(2) The last value is held.
(3) Data are updated to the value stored in i_uOutputData (output data storage device).
(4) Error code

Item	Description
Timing chart of I/O signals	• When the processing has been completed with an error (when i_uConnectionNo (connection number) is out of the setting range)  (1) The last value is held.

Item	Description
Timing chart of I/O signals	• When the processing has been completed with an error (when no output data is assigned to the target connection)  (1) FFFFH (not changed) (2) 0H (not changed) (3) The last value is held.
Precautions	• Turn off i_bEN (execution command) after o_bOK (completed successfully) or o_bErr (completed with an error) turns on. By turning off i_bEN (execution command), o_bOK (completed successfully) and o_bErr (completed with an error) are turned off, and o_uErrId (error code) and o_uStatusId (error code for connection communication error) are cleared to 0. • 'EtherNet/IP communication start request' (Y10) is not turned off by turning off i_bEN (execution command). To stop EtherNet/IP communications, turn off i_bEN (execution command) of all the module FBs of the RJ71EIP91 in the program, and then turn off 'EtherNet/IP communication start request' (Y10).

Error code

Error code	Description	Action
100H	The i_uConnectionNo (connection number) value is out of the setting range.	Set the i_uConnectionNo (connection number) value within the range between 1 and 256.
111H	Output data is not assigned to the target connection.	Review the settings made in EtherNet/IP Configuration Tool.
200H	Communication error has occurred in the target connection.	Check the value stored in o_uStatusId (error code for connection communication error) by referring to the following manual. MELSEC iQ-R EtherNet/IP Network Interface Module User's Manual (Application)

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INSTRUCTION INDEX

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REVISIONS

*The manual number is given on the bottom left of the back cover.

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TRADEMARKS

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