

RFID IDENT Control Compact

IC-KP2-2HB18-2V1

FB Reference Manual for CC-Link Interface

Shanghai Pepperl+Fuchs Automation Trading Co., Ltd.

MELSOFT Library IC-KP2-2HB18-2V1 – CC-Link SYSTEM CONNECTION FB REFERENCE MANUAL

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Version	Description	Date Created by	Approved by
V1.00A	First edition	2014/1/21	



1. Overview

1. 1 Overview of the FB Library

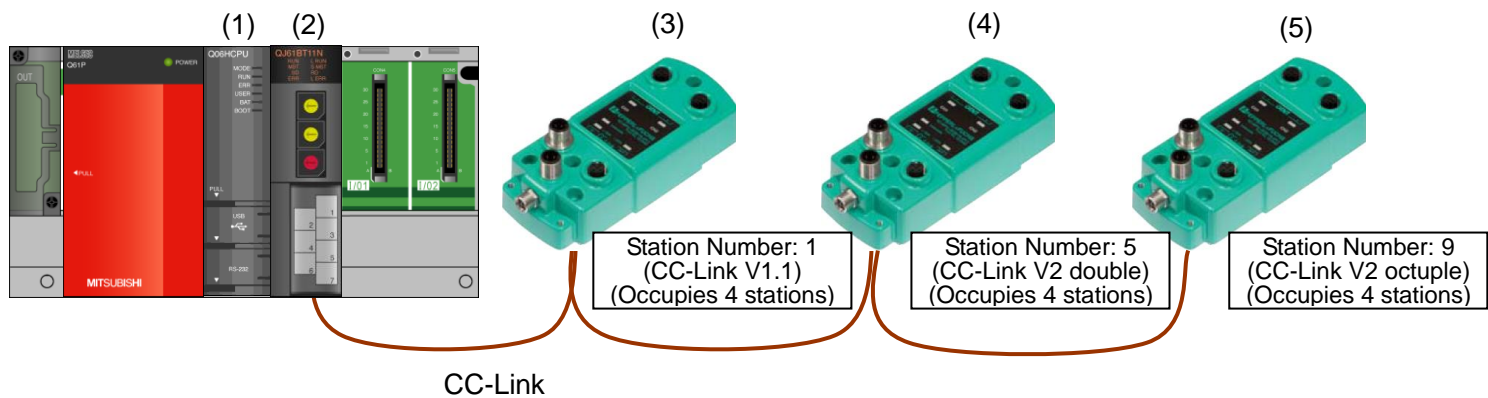
This FB library supports a system that connects the P+F IDENT Control IC-KP2-2HB18-2V1 through MELSEC CC-Link system.

1. 2 Function of the FB Library

No.	Item	Description
1	P+PF-IC-KP2-2HB18-2V1_Read_Write	Read & Write Data with RFID Tag. (All channel connect R/W head)
2	P+PF-IC-KP2-2HB18-2V1_Trigger_CH2	Read & Write Data with RFID Tag via TM mode (Trigger sensor at channel 2)
3	P+PF-IC-KP2-2HB18-2V1_Trigger_CH1	Read & Write Data with RFID Tag via TM mode (Trigger sensor at channel 1)
4	P+PF-IC-KP2-2HB18-2V1_RD_FixCode	Read FixCode(Read only data) from RFID tag (All channel connect R/W head)
5	P+PF-IC-KP2-2HB18-2V1_RW_Bytes	Read & Write Data with RFID Tag for large amount bytes. (All channel connect R/W head)
6	P+PF-IC-KP2-2HB18-2V1_Init	Initialization IDENT Controller.
7	P+PF-IC-KP2-2HB18-2V1_CH1_Read	Read data from RFID tag via CH1 R/W Head
8	P+PF-IC-KP2-2HB18-2V1_CH1_Write	Write data to RFID tag via CH1 R/W Head
9	P+PF-IC-KP2-2HB18-2V1_CH2_Read	Read data from RFID tag via CH2 R/W Head
10	P+PF-IC-KP2-2HB18-2V1_CH2_Write	Write data to RFID tag via CH2 R/W Head



1. 3 Example of System Configuration



No.	Module	Description					
1	Q series programmable controller	Use base unit, power supply module, and Q series programming controller CPU module.					
		<table><tr><th>Series</th><th>Model</th></tr><tr><td rowspan="2">MELSEC-Q series *1</td><td>High performance mode QCPU*2</td></tr><tr><td>Universal model QCPU</td></tr></table>	Series	Model	MELSEC-Q series *1	High performance mode QCPU*2	Universal model QCPU
		Series	Model				
		MELSEC-Q series *1	High performance mode QCPU*2				
			Universal model QCPU				
*1 Not applicable for QCPU-A (A mode)							
*2 The first five digits of the serial number are “04012” or later.							
2	QJ61BT11N	CC-Link system master/local module					
3	IC-KP2-2HB18-2V1	CC-Link corresponding RFID IDENT Control					
4	IC-KP2-2HB18-2V1	CC-Link corresponding RFID IDENT Control					
5	IC-KP2-2HB18-2V1	CC-Link corresponding RFID IDENT Control					



1. 4 Settings of the QJ61BT11N CC-Link System Master/Local Module

1. 4. 1 Operation Settings of the QJ61BT11N CC-Link System Master/Local Module

This section explains the settings of QJ61BT11N used in this program.

Explains the configuration of the QJ61BT11N base on "Example of System Configuration" Section 1.3.

Set the following items using GX Works2.

- | | |
|---------------------------|---|
| (1) Start I/O No. | Match the start I/O number.
Set "0010". |
| (2) Type | Match the network configuration.
Select "Master station". |
| (3) Mode | Match the network configuration.
Select "Remote net (Ver.2 mode)". |
| (4) Connected Count | Match the network configuration.
Set "3". |
| (5) Remote input (RX) | Match the main program.
Set "X100". |
| (6) Remote output (RY) | Match the main program.
Set "Y100". |
| (7) Remote register (RWr) | Match the main program.
Set "D400". |
| (8) Remote register (RWw) | Match the main program.
Set "D100". |



GX Works2 is shown in this figure.

Number of Modules: Boards: Blank : No Setting

	1	2	3
Start I/O No.			
Operation Setting	Operation Setting		
Type	Master Station		
Master Station Data Link Type	PLC Parameter Auto Start		
Mode	Remote Net(Ver.2 Mode)		
Total Module Connected	3		
Remote Input(RX)	X100		
Remote Output(RY)	Y100		
Remote Register(RWr)	D400		
Remote Register(RWw)	D100		
Ver.2 Remote Input(RX)			
Ver.2 Remote Output(RY)			
Ver.2 Remote Register(RWr)			
Ver.2 Remote Register(RWw)			
Special Relay(SB)			
Special Register(SW)			
Retry Count	3		
Automatic Reconnection Station Count	1		
Standby Master Station No.			
PLC Down Select	Stop		
Scan Mode Setting	Asynchronous		
Delay Time Setting	0		
Station Information Setting	Station Information		
Remote Device Station Initial Setting	Initial Setting		
Interrupt Setting	Interrupt Setting		

Necessary Setting(No Setting / Already Set) Set if it is needed(No Setting / Already Set)

Setting Item Details: Please Input the M, L, B, T, C, ST, D, W, R and ZR Device Names and device No.

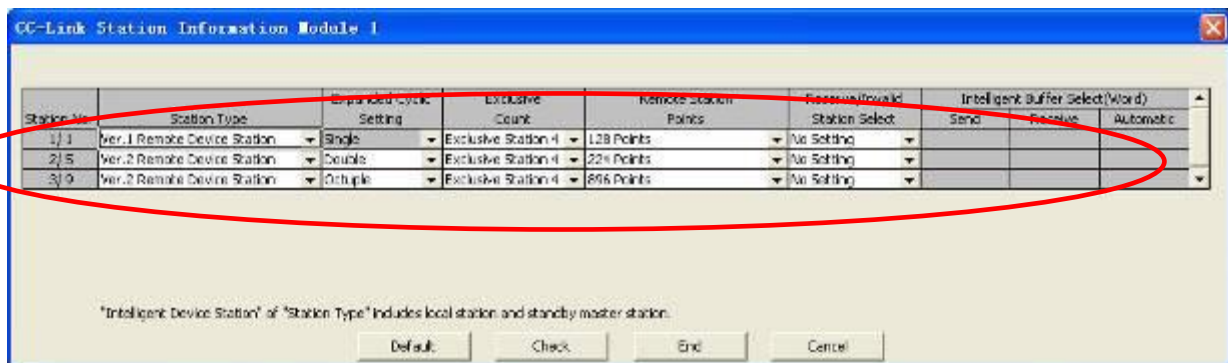


1. 4. 2 Station Information Settings of the QJ61BT11N CC-Link System Master/Local Module

This section explains settings of the QJ61BT11N used in this program.

Set the following items with GX Works2.

- (1) Station type Match the RFID IDENT Control setting.
 Select "Ver.1 Remote device station" or "Ver.2 Remote device station".
- (2) Expanded cyclic setting: Match the RFID IDENT Control setting.
 [When station type is ver. 1 compatible station]
 single (cannot be changed)
 [When station type is ver. 2 compatible station]
 single
 double
 quadruple
 octuple
- (3) Number of occupied stations:
 Match the RFID IDENT Control setting.
 Select "Occupies 4 stations".
- (4) Other settings using default value.



1. 5 Global Label Settings

This section explains how to set global labels used in this program.

Set the following items using GX Works2.

(1) RX Set the remote input (RX).

- (a) Class Select "VAR_GLOBAL".
- (b) Label Name Enter "RX".
- (c) Data Type Select "Bit".
- (d) Device Enter the remote input (RX) entered in Section 1.4.1 with "Z9" suffix.
Enter "X100Z9".

(1) RY Set the remote output (RY).

- (a) Class Select "VAR_GLOBAL".
- (b) Label Name Enter "RY".
- (c) Data Type Select "Bit".
- (d) Device Enter the remote output (RY) entered in Section 1.4.1 with "Z9" suffix.
Enter "Y100Z9".

(2) RWw Set the remote register (RWw).

- (a) Class Select "VAR_GLOBAL".
- (b) Label Name Enter "RWw".
- (c) Data Type Select "Word [Signed]".
- (d) Device Enter the remote register (RWw) entered in Section 1.4.1 with "Z8" suffix.
Enter "D100Z8".

(2) RWr Set the remote register (RWr).

- (a) Class Select "VAR_GLOBAL".
- (b) Label Name Enter "RWr".
- (c) Data Type Select "Word [Signed]".
- (d) Device Enter the remote register (RWw) entered in Section 1.4.1 with "Z8" suffix.
Enter "D400Z8".

	Class	Label Name	Data Type	Constant	Device	Comment
1	VAR_GLOBAL	RX	Bit		X100Z9	IDENT Remote Input
2	VAR_GLOBAL	RY	Bit		Y100Z9	IDENT Remote Output
3	VAR_GLOBAL	RWw	Word[Signed]		D100Z8	Remote Register Master -> Slave
4	VAR_GLOBAL	RWr	Word[Signed]		D400Z8	Remote Register Slave -> Master



2. Details of the FB Library

2. 1 P+PF-IC-KP2-2HB18-2V1_Read_Write (Read & Write Data with RFID Tag)

FB Name

P+PF-IC-KP2-2HB18-2V1_Read_Write

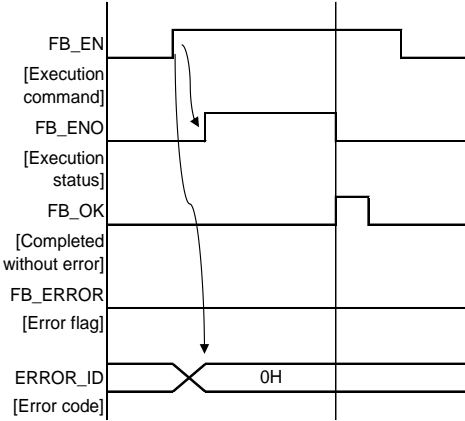
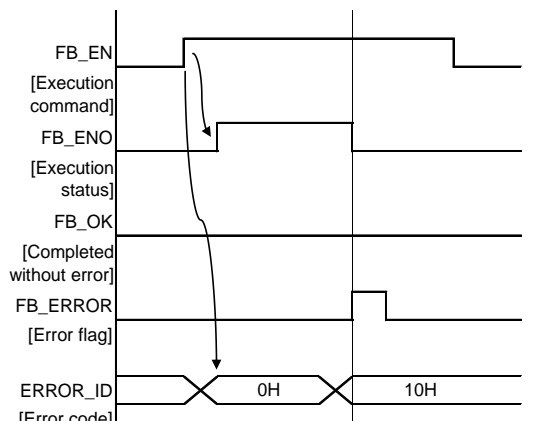
Function Overview

Item	Description																																																																														
Function overview	Read & Write Data to RFID Tag.																																																																														
Symbol	<div style="border: 1px solid black; padding: 10px; margin: 10px auto; width: 80%;"> <p style="text-align: center;">P+PF-IC-KP2-2HB18-2V1_Read_Write</p> <table style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 35%;">Execution command</td><td style="width: 15%;">B : FB_EN</td><td style="width: 30%;"></td><td style="width: 20%;">FB_ENO : B</td><td>Execution status</td></tr> <tr> <td>CC_Link Paramater</td><td>D : i_CCLink_Pr</td><td></td><td>FB_OK : B</td><td>Completed without err</td></tr> <tr> <td>Tag Type(Hex)</td><td>D : i_TagType</td><td></td><td>FB_ERROR : B</td><td>Error flag</td></tr> <tr> <td>CH1 Word Number & Start Address</td><td>D : i_CH1Addr_Num</td><td></td><td>ERROR_ID : W</td><td>Error code</td></tr> <tr> <td>CH1 Data Start Address for Read & Write</td><td>D : i_CH1User_In_O</td><td></td><td>i_DeviceReady : B</td><td>IDENT Control Ready Flag</td></tr> <tr> <td>CH1 Single/Enhanced Mode Select</td><td>B : i_CH1_Single_En</td><td></td><td>i_CH1Status : W</td><td>CH1 Respond Status</td></tr> <tr> <td>CH1 Read Mode</td><td>B : i_CH1Read</td><td></td><td>.CH1ExecCounter : W</td><td>CH1 Execution Count</td></tr> <tr> <td>CH1 Write Mode</td><td>B : i_CH1Write</td><td></td><td>i_CH2Status : W</td><td>CH2 Respond Status</td></tr> <tr> <td>CH2 Word Number & Start Address</td><td>D : i_CH2Addr_Num</td><td></td><td>.CH2ExecCounter : W</td><td>CH2 Execution Count</td></tr> <tr> <td>CH2 Data Start Address for Read & Write</td><td>D : i_CH2User_In_O</td><td></td><td></td><td></td></tr> <tr> <td>CH2 Single/Enhanced Mode Select</td><td>B : i_CH2_Single_En</td><td></td><td></td><td></td></tr> <tr> <td>CH2 Read Mode</td><td>B : i_CH2Read</td><td></td><td></td><td></td></tr> <tr> <td>CH2 Write Mode</td><td>B : i_CH2Write</td><td></td><td></td><td></td></tr> <tr> <td>Reset Operation</td><td>B : i_Reset</td><td></td><td></td><td></td></tr> <tr> <td>IDENT Error Handling</td><td>B : i_Error_Handling</td><td></td><td></td><td></td></tr> </table> </div>				Execution command	B : FB_EN		FB_ENO : B	Execution status	CC_Link Paramater	D : i_CCLink_Pr		FB_OK : B	Completed without err	Tag Type(Hex)	D : i_TagType		FB_ERROR : B	Error flag	CH1 Word Number & Start Address	D : i_CH1Addr_Num		ERROR_ID : W	Error code	CH1 Data Start Address for Read & Write	D : i_CH1User_In_O		i_DeviceReady : B	IDENT Control Ready Flag	CH1 Single/Enhanced Mode Select	B : i_CH1_Single_En		i_CH1Status : W	CH1 Respond Status	CH1 Read Mode	B : i_CH1Read		.CH1ExecCounter : W	CH1 Execution Count	CH1 Write Mode	B : i_CH1Write		i_CH2Status : W	CH2 Respond Status	CH2 Word Number & Start Address	D : i_CH2Addr_Num		.CH2ExecCounter : W	CH2 Execution Count	CH2 Data Start Address for Read & Write	D : i_CH2User_In_O				CH2 Single/Enhanced Mode Select	B : i_CH2_Single_En				CH2 Read Mode	B : i_CH2Read				CH2 Write Mode	B : i_CH2Write				Reset Operation	B : i_Reset				IDENT Error Handling	B : i_Error_Handling			
Execution command	B : FB_EN		FB_ENO : B	Execution status																																																																											
CC_Link Paramater	D : i_CCLink_Pr		FB_OK : B	Completed without err																																																																											
Tag Type(Hex)	D : i_TagType		FB_ERROR : B	Error flag																																																																											
CH1 Word Number & Start Address	D : i_CH1Addr_Num		ERROR_ID : W	Error code																																																																											
CH1 Data Start Address for Read & Write	D : i_CH1User_In_O		i_DeviceReady : B	IDENT Control Ready Flag																																																																											
CH1 Single/Enhanced Mode Select	B : i_CH1_Single_En		i_CH1Status : W	CH1 Respond Status																																																																											
CH1 Read Mode	B : i_CH1Read		.CH1ExecCounter : W	CH1 Execution Count																																																																											
CH1 Write Mode	B : i_CH1Write		i_CH2Status : W	CH2 Respond Status																																																																											
CH2 Word Number & Start Address	D : i_CH2Addr_Num		.CH2ExecCounter : W	CH2 Execution Count																																																																											
CH2 Data Start Address for Read & Write	D : i_CH2User_In_O																																																																														
CH2 Single/Enhanced Mode Select	B : i_CH2_Single_En																																																																														
CH2 Read Mode	B : i_CH2Read																																																																														
CH2 Write Mode	B : i_CH2Write																																																																														
Reset Operation	B : i_Reset																																																																														
IDENT Error Handling	B : i_Error_Handling																																																																														



Applicable hardware and software	Compatible CC-Link system	QJ61BT11N	
	Hardware details		
		Series	Model
		MELSEC-Q series *1	High performance model QCPU *2
			Universal model QCPU
		*1 Not applicable for QCPU (A mode)	
*2 The first five digits of the serial number are “04012” or later.			
	GX Works2	Version 1.09K or later	
Programming language	Ladder		
Number of steps	2088 steps (for MELSEC-Q series high performance model CPU) *The number of steps of the FB in a program depends on the CPU model that is used and input and output definition.		



Item	Description	
Function description	By turning ON FB_EN (Execution command), the Function Block enable.	
Compiling method	Macro type	
Restrictions and precautions	1) The FB does not include system error recovery processing. Please sure the settings of CC-link parameter & RFID Tag Type correct, and then turn on FB_EN flag. 2) Set the refresh device of the CC-Link parameter setting according to Section 1.4. 3) The FB cannot be used in an interrupt program. 4) This FB uses index registers Z9, Z8, Z7, Z6 and Z5. Please do not use these index registers in an interrupt program.	
FB operation type	Pulsed execution (multiple scan execution type)	
Timing chart	<p>[When operation completes without error]</p> 	<p>[When an error occurs]</p> 
Relevant manuals	CC-Link System Master/Local Module User's Manual IC-KP2-2HB18-2V1 IDENT Control Compact control interface with interface for CC-Link V2	



Labels

■Input labels

Name	Variable name	Data type	Setting range	Description
Execution command	FB_EN	Bit	-	ON: The FB is activated. OFF: The FB is not activated.
CC_Link Parameter	i_CCLink_Pr	Double Word	First Word depends on the I/O point range. For details, refer to the CPU user's manual. Second Word 1~64 (Decimal)	First Word specify the starting XY address (HEX) where the CC-Link system master/local module is mounted; (For example, enter H10 for X10.) Second Word specify the IDENT Control's Station Number;
Tag Type(Hex)	i_TagType	Double Word	For details, refer to the IDENT Control user's manual.	First Word specify CH1 RFID Tag Type(HEX); Second Word specify CH2 RFID Tag Type(HEX);
CH1 Word Number & Start Address	i_CH1Addr_Num	Double Word	Decimal For details, refer to the IDENT Control user's manual.	First Word specify CH1 'WordNum'; Second Word specify CH1 Start Address;
CH1 Data Start Address for Read & Write	i_CH1User_In_Out	Double Word	For details, refer to the IDENT Control user's FB manual.	First Word specify CH1 the first address of user output register area; The data storage area read out from the RFID tag. Second Word specify CH1 the first address of user input register area. The data storage area written to the RFID tag.



Name	Variable name	Data type	Setting range	Description
CH1 Single/Enhanced Mode Select	i_CH1_Single_En	Bit	-	ON: CH1 read or write mode is enhanced; OFF: CH1 read or write mode is single.
CH1 Read Mode	i_CH1Read	Bit	-	CH1 Read Mode
CH1 Write Mode	i_CH1Write	Bit	-	CH1 Write Mode
CH2 Word Number & Start Address	i_CH2Addr_Num	Double Word	Decimal For details, refer to the IDENT Control user's manual.	First Word specify CH2 'WordNum'; Second Word specify CH2 Start Address;
CH2 Data Start Address for Read & Write	i_CH2User_In_Out	Double Word	For details, refer to the IDENT Control user's FB manual.	First Word specify CH2 the first address of user output register area; The data storage area read out from the RFID tag. Second Word specify CH2 the first address of user input register area. The data storage area written to the RFID tag.
CH2 Single/Enhanced Mode Select	i_CH2_Single_En	Bit	-	ON: CH2 read or write mode is enhanced; OFF: CH2 read or write mode is single.
CH2 Read Mode	i_CH2Read	Bit	-	CH2 Read Mode
CH2 Write Mode	i_CH2Write	Bit	-	CH2 Write Mode
Reset Operation	i_Reset	Bit	-	Reset the IDENT Control
IDENT Error Handling	i_Error_Handling	Bit	-	IDENT Error Handling when initial failure.



■Output labels

Name	Variable name	Data type	Initial value	Description
FB Execution Status	FB_ENO	Bit	OFF	ON: The FB is being executed. OFF: The FB is not executed.
FB Normal Complete	FB_OK	Bit	OFF	ON: The FB is completed without error. OFF: The FB is not completed.
FB Error Flag	FB_ERROR	Bit	OFF	ON: An error has occurred. OFF: The FB without error.
FB Error Code	ERROR_ID	Word	0	An error code output.
Device Ready Flag	i_DeviceReady	Bit	OFF	The specified IDENT Control ready.
CH1 IDENT Respond Status	i_CH1Status	Word	0	The specified IDENT Control of CH1 responds status.
CH1 IDENT Execution Counter	i_CH1ExecCounter	Word	0	The specified IDENT Control of CH1 execution counters.
CH2 IDENT Respond Status	i_CH2Status	Word	0	The specified IDENT Control of CH2 responds status.
CH2 IDENT Execution Counter	i_CH2ExecCounter	Word	0	The specified IDENT Control of CH2 execution counters.

FB Version Upgrade History

Version	Date	Description
1.00A	2014/1/21	First edition



2. 2 P+PF-IC-KP2-2HB18-2V1_Trigger_CH2 (Read & Write Data with RFID Tag via TM mode)

FB Name

P+PF-IC-KP2-2HB18-2V1_Trigger_CH2

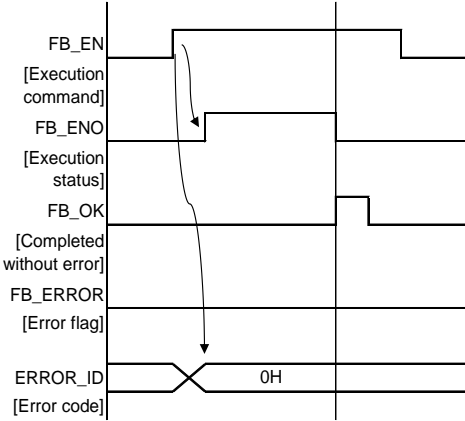
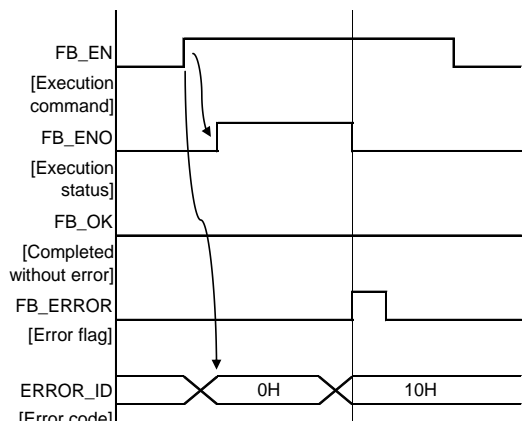
Function Overview

Item	Description																																																				
Function overview	Read & Write Data with RFID Tag via TM mode, trigger sensor at channel 2.																																																				
Symbol	<div><div>P+PF-IC-KP2-2HB18-2V1_ Trigger_CH2</div><table><tr><td>FB Enable</td><td>B : FB_EN</td><td>FB_ENO : B</td><td>Execution Status</td></tr><tr><td>Master Module Start IO</td><td>D : i_Start_IO_No</td><td>FB_OK : B</td><td>Normal Complete</td></tr><tr><td>IDENT Control Station Number</td><td>D : i_Station_No</td><td>FB_ERROR : B</td><td>Error</td></tr><tr><td>Tag Type(Hex)</td><td>D : i_TagType</td><td>ERROR_ID : W</td><td>Error Code</td></tr><tr><td>Word Number</td><td>D : i_WordNum</td><td>i_DeviceReady : B</td><td>Device Ready Flag</td></tr><tr><td>Start Address in Tag</td><td>D : i_WordAddress</td><td>i_Read_Mode : B</td><td>Trigger Read Mode flag</td></tr><tr><td>Data Start Address Read from Tag</td><td>D : i_User_OutArea</td><td>i_Write_Mode : B</td><td>Trigger Write Mode flag</td></tr><tr><td>Data Start Address Write to Tag</td><td>D : i_User_InArea</td><td>i_Busy : B</td><td>Device Busy Flag</td></tr><tr><td>Single/Enhanced Mode Select</td><td>B : i_Single_En</td><td>i_Trigger_Status : B</td><td>Trigger Sensor Status</td></tr><tr><td>Read Mode</td><td>B : i_Read</td><td>i_Status : W</td><td>IDENT Respond Status</td></tr><tr><td>Write Mode</td><td>B : i_Write</td><td>i_ExecCounter : W</td><td>IDENT Execution Counter</td></tr><tr><td>Reset Operation</td><td>B : i_Reset</td><td></td><td></td></tr><tr><td>IDENT Error Handling</td><td>B : i_Error_Handling</td><td></td><td></td></tr></table></div>	FB Enable	B : FB_EN	FB_ENO : B	Execution Status	Master Module Start IO	D : i_Start_IO_No	FB_OK : B	Normal Complete	IDENT Control Station Number	D : i_Station_No	FB_ERROR : B	Error	Tag Type(Hex)	D : i_TagType	ERROR_ID : W	Error Code	Word Number	D : i_WordNum	i_DeviceReady : B	Device Ready Flag	Start Address in Tag	D : i_WordAddress	i_Read_Mode : B	Trigger Read Mode flag	Data Start Address Read from Tag	D : i_User_OutArea	i_Write_Mode : B	Trigger Write Mode flag	Data Start Address Write to Tag	D : i_User_InArea	i_Busy : B	Device Busy Flag	Single/Enhanced Mode Select	B : i_Single_En	i_Trigger_Status : B	Trigger Sensor Status	Read Mode	B : i_Read	i_Status : W	IDENT Respond Status	Write Mode	B : i_Write	i_ExecCounter : W	IDENT Execution Counter	Reset Operation	B : i_Reset			IDENT Error Handling	B : i_Error_Handling		
FB Enable	B : FB_EN	FB_ENO : B	Execution Status																																																		
Master Module Start IO	D : i_Start_IO_No	FB_OK : B	Normal Complete																																																		
IDENT Control Station Number	D : i_Station_No	FB_ERROR : B	Error																																																		
Tag Type(Hex)	D : i_TagType	ERROR_ID : W	Error Code																																																		
Word Number	D : i_WordNum	i_DeviceReady : B	Device Ready Flag																																																		
Start Address in Tag	D : i_WordAddress	i_Read_Mode : B	Trigger Read Mode flag																																																		
Data Start Address Read from Tag	D : i_User_OutArea	i_Write_Mode : B	Trigger Write Mode flag																																																		
Data Start Address Write to Tag	D : i_User_InArea	i_Busy : B	Device Busy Flag																																																		
Single/Enhanced Mode Select	B : i_Single_En	i_Trigger_Status : B	Trigger Sensor Status																																																		
Read Mode	B : i_Read	i_Status : W	IDENT Respond Status																																																		
Write Mode	B : i_Write	i_ExecCounter : W	IDENT Execution Counter																																																		
Reset Operation	B : i_Reset																																																				
IDENT Error Handling	B : i_Error_Handling																																																				



Applicable hardware and software	Compatible CC-Link system	QJ61BT11N	
	Hardware details		
		Series	Model
		MELSEC-Q series *1	High performance model QCPU *2
			Universal model QCPU
		*1 Not applicable for QCPU (A mode)	
*2 The first five digits of the serial number are “04012” or later.			
	GX Works2	Version 1.09K or later	
Programming language	Ladder		
Number of steps	1319 steps (for MELSEC-Q series high performance model CPU) *The number of steps of the FB in a program depends on the CPU model that is used and input and output definition.		



Item	Description	
Function description	By turning ON FB_EN (Execution command), the Function Block enable.	
Compiling method	Macro type	
Restrictions and precautions	1) The FB does not include system error recovery processing. Please sure the settings of CC-link parameter & RFID Tag Type correct, and then turn on FB_EN flag. 2) Set the refresh device of the CC-Link parameter setting according to Section 1.4. 3) The FB cannot be used in an interrupt program. 4) This FB uses index registers Z9, Z8 and Z7. Please do not use these index registers in an interrupt program.	
FB operation type	Pulsed execution (multiple scan execution type)	
Timing chart	<p>[When operation completes without error]</p> 	<p>[When an error occurs]</p> 
Relevant manuals	CC-Link System Master/Local Module User's Manual IC-KP2-2HB18-2V1 IDENT Control Compact control interface with interface for CC-Link V2	



Labels

■Input labels

Name	Variable name	Data type	Setting range	Description
Execution command	FB_EN	Bit	-	ON: The FB is activated. OFF: The FB is not activated.
Master Module Start IO	i_Start_IO_No	Word	Depends on the I/O point range. For details, refer to the CPU user's manual.	Specify the starting XY address (in hexadecimal) where the CC-Link system master/local module is mounted. (For example, enter H10 for X10.)
IDENT Control Station Number	i_Station_No	Word	1~61 (Decimal)	Enter the station number of the RFID system for connection.
Tag Type(Hex)	i_TagType	Word	Decimal For details, refer to the IDENT Control user's manual.	Specify CH1 Tag Type(HEX).
Word Number	i_WordNum	Word	For details, refer to the IDENT Control user's manual.	Specify the 'WordNum'.
Start Address in Tag	i_WordAddress	Word	For details, refer to the IDENT Control user's manual.	Specify the Start Address of the data tag.
Data Start Address Read from Tag	i_User_OutArea	Word	For details, refer to the IDENT Control user's FB manual.	Specify the first address of user output register area; The data storage area read out from the tag.
Data Start Address Write to Tag	i_User_InArea	Word	For details, refer to the IDENT Control user's FB manual.	Specify the first address of user input register area. The data storage area written to the tag.



Name	Variable name	Data type	Setting range	Description
Single/Enhanced Mode Select	i_Single_En	Bit	-	ON: Read or write mode is enhanced; OFF: Read or write mode is single.
Read Mode	i_Read	Bit	-	Read Mode
Write Mode	i_Write	Bit	-	Write Mode
Reset Operation	i_Reset	Bit	-	Reset the IDENT Control.
IDENT Error Handling	i_Error_Handling	Bit	-	IDENT Error Handling when initial failure.



■Output labels

Name	Variable name	Data type	Initial value	Description
FB Execution Status	FB_ENO	Bit	OFF	ON: The FB is being executed. OFF: The FB is not executed.
FB Normal Complete	FB_OK	Bit	OFF	ON: The FB is completed without error. OFF: The FB is not completed.
FB Error Flag	FB_ERROR	Bit	OFF	ON: An error has occurred. OFF: The FB without error.
FB Error Code	ERROR_ID	Word	0	An error code output.
Device Ready Flag	i_DeviceReady	Bit	OFF	The specified IDENT Control ready.
Trigger Read Mode flag	i_Read_Mode	Bit	OFF	ON: The specified IDENT Control into trigger read mode OFF: The specified IDENT Control is not into trigger read mode.
Trigger Write Mode flag	i_Write_Mode	Bit	OFF	ON: The specified IDENT Control into trigger write mode OFF: The specified IDENT Control is not into trigger write mode.
Device Busy Flag	i_Busy	Bit	OFF	ON: The channel 1 is busy (Communicate between read/write head and data tag); OFF: The channel 1 is not busy.
Trigger Sensor Status	i_Trigger_Status	Bit	OFF	ON: The trigger sensor ON; OFF: The trigger sensor OFF.
IDENT Respond Status	i_Status	Word	0	The specified IDENT Control of CH1 respond status.
IDENT Execution Counter	i_ExecCounter	Word	0	The specified IDENT Control of CH1 execution counter.



FB Version Upgrade History

Version	Date	Description
1.00A	2014/1/21	First edition



2. 3 P+PF-IC-KP2-2HB18-2V1_Trigger_CH1 (Read & Write Data with RFID Tag via TM mode)

FB Name

P+PF-IC-KP2-2HB18-2V1_Trigger_CH1

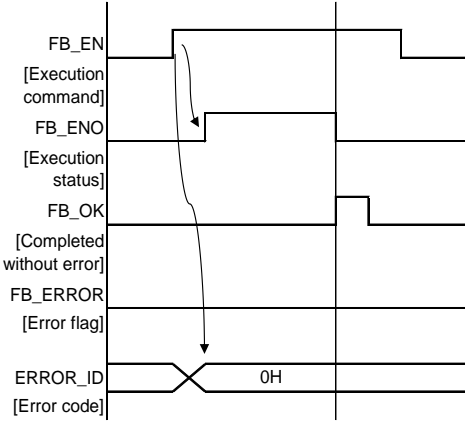
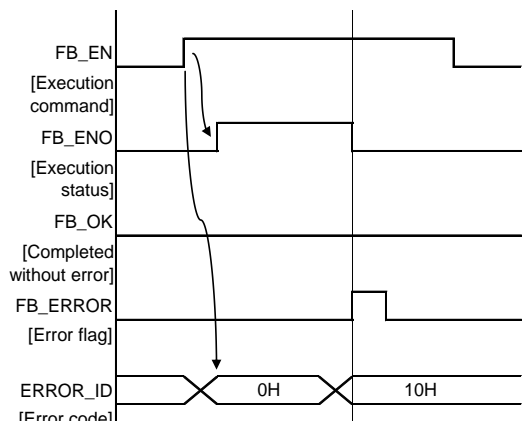
Function Overview

Item	Description			
Function overview	Read & Write Data with RFID Tag via TM mode, trigger sensor at channel 1.			
Symbol	<div><div>P+PF-IC-KP2-2HB18-2V1_Trigger_CH1</div><div><div><div>FB Enable</div><div>Master Module Start IO</div><div>IDENT Control Station Number</div><div>Tag Type(Hex)</div><div>Word Number</div><div>Start Address in Tag</div><div>Data Start Address Read from Tag</div><div>Data Start Address Write to Tag</div><div>Single/Enhanced Mode Select</div><div>Read Mode</div><div>Write Mode</div><div>Reset Operation</div><div>IDENT Error Handling</div></div><div><div>B : FB_EN</div><div>D : i_Start_IO_No</div><div>D : i_Station_No</div><div>D : i_TagType</div><div>D : i_WordNum</div><div>D : i_WordAddress</div><div>D : i_User_OutArea</div><div>D : i_User_InArea</div><div>B : i_Single_En</div><div>B : i_Read</div><div>B : i_Write</div><div>B : i_Reset</div><div>B : i_Error_Handling</div></div><div><div>FB_ENO : B</div><div>FB_OK : B</div><div>FB_ERROR : B</div><div>ERROR_ID : W</div><div>i_DeviceReady : B</div><div>i_Read_Mode : B</div><div>i_Write_Mode : B</div><div>i_Busy : B</div><div>i_Trigger_Status : B</div><div>i_Status : W</div><div>i_ExecCounter : W</div></div><div><div>Execution Status</div><div>Normal Complete</div><div>Error</div><div>Error Code</div><div>Device Ready Flag</div><div>Trigger Read Mode flag</div><div>Trigger Write Mode flag</div><div>Device Busy Flag</div><div>Trigger Sensor Status</div><div>IDENT Respond Status</div><div>IDENT Execution Counter</div></div></div></div>			



Applicable hardware and software	Compatible CC-Link system	QJ61BT11N	
	Hardware details		
		Series	Model
		MELSEC-Q series *1	High performance model QCPU *2
			Universal model QCPU
	*1 Not applicable for QCPU (A mode)		
	*2 The first five digits of the serial number are “04012” or later.		
	GX Works2	Version 1.09K or later	
Programming language	Ladder		
Number of steps	1321 steps (for MELSEC-Q series high performance model CPU) *The number of steps of the FB in a program depends on the CPU model that is used and input and output definition.		



Item	Description	
Function description	By turning ON FB_EN (Execution command), the Function Block enable.	
Compiling method	Macro type	
Restrictions and precautions	1) The FB does not include system error recovery processing. Please sure the settings of CC-link parameter & RFID Tag Type correct, and then turn on FB_EN flag. 2) Set the refresh device of the CC-Link parameter setting according to Section 1.4. 3) The FB cannot be used in an interrupt program. 4) This FB uses index registers Z9, Z8 and Z7. Please do not use these index registers in an interrupt program.	
FB operation type	Pulsed execution (multiple scan execution type)	
Timing chart	<p>[When operation completes without error]</p> 	<p>[When an error occurs]</p> 
Relevant manuals	CC-Link System Master/Local Module User's Manual IC-KP2-2HB18-2V1 IDENT Control Compact control interface with interface for CC-Link V2	



Labels

■Input labels

Name	Variable name	Data type	Setting range	Description
Execution command	FB_EN	Bit	-	ON: The FB is activated. OFF: The FB is not activated.
Master Module Start IO	i_Start_IO_No	Word	Depends on the I/O point range. For details, refer to the CPU user's manual.	Specify the starting XY address (in hexadecimal) where the CC-Link system master/local module is mounted. (For example, enter H10 for X10.)
IDENT Control Station Number	i_Station_No	Word	1~61 (Decimal)	Enter the station number of the RFID system for connection.
Tag Type(Hex)	i_TagType	Word	Decimal For details, refer to the IDENT Control user's manual.	Specify CH1 Tag Type(HEX).
Word Number	i_WordNum	Word	For details, refer to the IDENT Control user's manual.	Specify the 'WordNum'.
Start Address in Tag	i_WordAddress	Word	For details, refer to the IDENT Control user's manual.	Specify the Start Address of the data tag.
Data Start Address Read from Tag	i_User_OutArea	Word	For details, refer to the IDENT Control user's manual.	Specify the first address of user output register area; The data storage area read out from the tag.
Data Start Address Write to Tag	i_User_InArea	Word	For details, refer to the IDENT Control user's manual.	Specify the first address of user input register area. The data storage area written to the tag.



Name	Variable name	Data type	Setting range	Description
Single/Enhanced Mode Select	i_Single_En	Bit	-	ON: Read or write mode is enhanced; OFF: Read or write mode is single.
Read Mode	i_Read	Bit	-	Read Mode
Write Mode	i_Write	Bit	-	Write Mode
Reset Operation	i_Reset	Bit	-	Reset the IDENT Control.
IDENT Error Handling	i_Error_Handling	Bit	-	IDENT Error Handling when initial failure.



■Output labels

Name	Variable name	Data type	Initial value	Description
FB Execution Status	FB_ENO	Bit	OFF	ON: The FB is being executed. OFF: The FB is not executed.
FB Normal Complete	FB_OK	Bit	OFF	ON: The FB is completed without error. OFF: The FB is not completed.
FB Error Flag	FB_ERROR	Bit	OFF	ON: An error has occurred. OFF: The FB without error.
FB Error Code	ERROR_ID	Word	0	An error code output.
Device Ready Flag	i_DeviceReady	Bit	OFF	The specified IDENT Control ready.
Trigger Read Mode flag	i_Read_Mode	Bit	OFF	ON: The specified IDENT Control into trigger read mode; OFF: The specified IDENT Control is into trigger read mode.
Trigger Write Mode flag	i_Write_Mode	Bit	OFF	ON: The specified IDENT Control into trigger write mode; OFF: The specified IDENT Control is into trigger write mode.
Device Busy Flag	i_Busy	Bit	OFF	ON:The channel 1 is busy(Communicate between read/write head and data tag); OFF:The channel 1 is not busy.
Trigger Sensor Status	i_Trigger_Status	Bit	OFF	ON:The trigger sensor ON; OFF:The trigger sensor OFF.
IDENT Respond Status	i_Status	Word[Signed]	0	The specified IDENT Control of CH1 respond status.
IDENT Execution Counter	i_ExecCounter	Word[Signed]	0	The specified IDENT Control of CH1 execution counter.



FB Version Upgrade History

Version	Date	Description
1.00A	2014/1/21	First edition



2. 4 P+PF-IC-KP2-2HB18-2V1_RD_FixCode (Read FixCode from RFID tag)

FB Name

P+PF-IC-KP2-2HB18-2V1_RD_FixCode

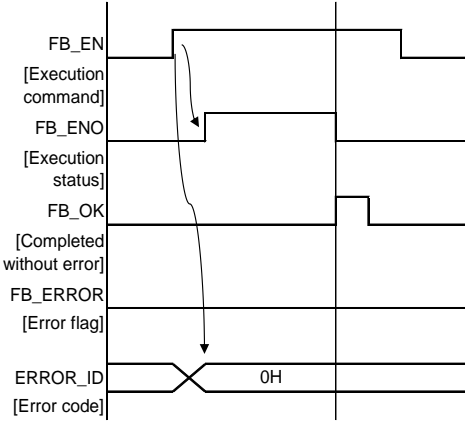
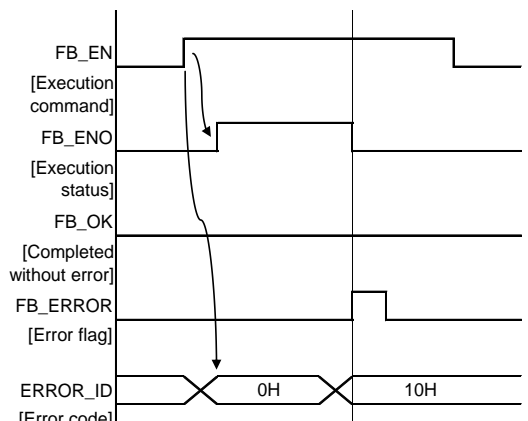
Function Overview

Item	Description																																																															
Function overview	Read FixCode(Read only data) from RFID tag																																																															
Symbol	<div><div>P+PF-IC-KP2-2HB18-2V1_RD_FixCode</div><table><tr><td>Execution command</td><td>B : FB_EN</td><td>FB_ENO : B</td><td>Execution status</td></tr><tr><td>Master Module Start IO</td><td>D : i_Start_IO_No</td><td>FB_OK : B</td><td>Completed without err</td></tr><tr><td>IDENT Control Station Number</td><td>D : i_Station_No</td><td>FB_ERROR : B</td><td>Error flag</td></tr><tr><td>CH1 Tag Type(Hex)</td><td>D : i_CH1_TagType</td><td>ERROR_ID : W</td><td>Error code</td></tr><tr><td>CH1 FixCode Lengh</td><td>D : i_CH1FixCode_Ll</td><td>i_DeviceReady : B</td><td>IDENT Control Ready Flag</td></tr><tr><td>CH1 FixCode Data Output</td><td>D : i_CH1_Data_Out</td><td>i_CH1Status : W</td><td>CH1 Respond Status</td></tr><tr><td>le/Enhanced Mode Select</td><td>B : i_CH1_Single_En</td><td>_CH1ExecCounter : W</td><td>CH1 Execution Count</td></tr><tr><td>CH1 Read FixCode</td><td>B : i_CH1_Read</td><td>i_CH2Status : W</td><td>CH2 Respond Status</td></tr><tr><td>CH2 Tag Type(Hex)</td><td>D : i_CH2_TagType</td><td>_CH2ExecCounter : W</td><td>CH2 Execution Count</td></tr><tr><td>CH2 FixCode Lengh</td><td>D : i_CH2FixCode_Ll</td><td></td><td></td></tr><tr><td>CH2 FixCode Data Output</td><td>D : i_CH2_Data_Out</td><td></td><td></td></tr><tr><td>le/Enhanced Mode Select</td><td>B : i_CH2_Single_En</td><td></td><td></td></tr><tr><td>CH2 Read FixCode</td><td>B : i_CH2_Read</td><td></td><td></td></tr><tr><td>Reset Operation</td><td>B : i_Reset</td><td></td><td></td></tr><tr><td>IDENT Error Handling</td><td>B : i_Error_Handling</td><td></td><td></td></tr></table></div>				Execution command	B : FB_EN	FB_ENO : B	Execution status	Master Module Start IO	D : i_Start_IO_No	FB_OK : B	Completed without err	IDENT Control Station Number	D : i_Station_No	FB_ERROR : B	Error flag	CH1 Tag Type(Hex)	D : i_CH1_TagType	ERROR_ID : W	Error code	CH1 FixCode Lengh	D : i_CH1FixCode_Ll	i_DeviceReady : B	IDENT Control Ready Flag	CH1 FixCode Data Output	D : i_CH1_Data_Out	i_CH1Status : W	CH1 Respond Status	le/Enhanced Mode Select	B : i_CH1_Single_En	_CH1ExecCounter : W	CH1 Execution Count	CH1 Read FixCode	B : i_CH1_Read	i_CH2Status : W	CH2 Respond Status	CH2 Tag Type(Hex)	D : i_CH2_TagType	_CH2ExecCounter : W	CH2 Execution Count	CH2 FixCode Lengh	D : i_CH2FixCode_Ll			CH2 FixCode Data Output	D : i_CH2_Data_Out			le/Enhanced Mode Select	B : i_CH2_Single_En			CH2 Read FixCode	B : i_CH2_Read			Reset Operation	B : i_Reset			IDENT Error Handling	B : i_Error_Handling		
	Execution command	B : FB_EN	FB_ENO : B	Execution status																																																												
	Master Module Start IO	D : i_Start_IO_No	FB_OK : B	Completed without err																																																												
	IDENT Control Station Number	D : i_Station_No	FB_ERROR : B	Error flag																																																												
	CH1 Tag Type(Hex)	D : i_CH1_TagType	ERROR_ID : W	Error code																																																												
	CH1 FixCode Lengh	D : i_CH1FixCode_Ll	i_DeviceReady : B	IDENT Control Ready Flag																																																												
	CH1 FixCode Data Output	D : i_CH1_Data_Out	i_CH1Status : W	CH1 Respond Status																																																												
	le/Enhanced Mode Select	B : i_CH1_Single_En	_CH1ExecCounter : W	CH1 Execution Count																																																												
	CH1 Read FixCode	B : i_CH1_Read	i_CH2Status : W	CH2 Respond Status																																																												
	CH2 Tag Type(Hex)	D : i_CH2_TagType	_CH2ExecCounter : W	CH2 Execution Count																																																												
	CH2 FixCode Lengh	D : i_CH2FixCode_Ll																																																														
	CH2 FixCode Data Output	D : i_CH2_Data_Out																																																														
	le/Enhanced Mode Select	B : i_CH2_Single_En																																																														
	CH2 Read FixCode	B : i_CH2_Read																																																														
	Reset Operation	B : i_Reset																																																														
IDENT Error Handling	B : i_Error_Handling																																																															



Applicable hardware and software	Compatible CC-Link system	QJ61BT11N	
	Hardware details		
		Series	Model
		MELSEC-Q series *1	High performance model QCPU *2
			Universal model QCPU
	*1 Not applicable for QCPU (A mode)		
	*2 The first five digits of the serial number are “04012” or later.		
	GX Works2	Version 1.09K or later	
Programming language	Ladder		
Number of steps	1192 steps (for MELSEC-Q series high performance model CPU) *The number of steps of the FB in a program depends on the CPU model that is used and input and output definition.		



Item	Description	
Function description	By turning ON FB_EN (Execution command), the Function Block enable.	
Compiling method	Macro type	
Restrictions and precautions	1) The FB does not include system error recovery processing. Please sure the settings of CC-link parameter & RFID Tag Type correct, and then turn on FB_EN flag. 2) Set the refresh device of the CC-Link parameter setting according to Section 1.4. 3) The FB cannot be used in an interrupt program. 4) This FB uses index registers Z9, Z8 and Z7. Please do not use these index registers in an interrupt program.	
FB operation type	Pulsed execution (multiple scan execution type)	
Timing chart	<p>[When operation completes without error]</p> 	<p>[When an error occurs]</p> 
Relevant manuals	CC-Link System Master/Local Module User's Manual IC-KP2-2HB18-2V1 IDENT Control Compact control interface with interface for CC-Link V2	



Labels

■Input labels

Name	Variable name	Data type	Setting range	Description
Execution command	FB_EN	Bit	-	ON: The FB is activated. OFF: The FB is not activated.
Master Module Start IO	i_Start_IO_No	Word	Depends on the I/O point range. For details, refer to the CPU user's manual.	Specify the starting XY address (in hexadecimal) where the CC-Link system master/local module is mounted. (For example, enter H10 for X10.)
IDENT Control Station Number	i_Station_No	Word	1~61 (Decimal)	Enter the station number of the RFID system for connection.
CH1 Tag Type(Hex)	i_CH1_TagType	Word	Hexadecimal For details, refer to the IDENT Control user's manual.	Specify CH1 Tag Type(HEX).
CH1 FixCode Length	i_CH1FixCode_LEN	Word	Decimal For details, refer to the IDENT Control user's manual.	Specify CH1 FixCode length.
CH1 FixCode Data Output	i_CH1_Data_Out	Word	-	Specify the first address of user output register area; The fixcode storage area read out from the tag.
CH1 Single/Enhanced Mode Select	i_CH1_Single_En	Bit	-	ON: CH1 read or write mode is enhanced; OFF: CH1 read or write mode is single.



Name	Variable name	Data type	Setting range	Description
CH1 Read FixCode	i_CH1_Read	Bit	-	CH1 Read Fixcode.
CH2 Tag Type(Hex)	i_CH2_TagType	Word	Hexadecimal For details, refer to the IDENT Control user's manual.	Specify CH2 Tag Type(HEX).
CH2 FixCode Length	i_CH2FixCode_LEN	Word	Decimal For details, refer to the IDENT Control user's manual.	Specify CH2 FixCode length.
CH2 FixCode Data Output	i_CH2_Data_Out	Word	-	Specify the first address of user output register area; The fixcode storage area read out from the tag.
CH2 Single/Enhanced Mode Select	i_CH2_Single_En	Bit	-	ON: CH2 read or write mode is enhanced; OFF: CH2 read or write mode is single.
CH2 Read FixCode	i_CH2_Read	Bit	-	CH2 Read Fixcode.
Reset Operation	i_Reset	Bit	-	Reset the IDENT Control
IDENT Error Handling	i_Error_Handling	Bit	-	IDENT Error Handling when initial failure.



■Output labels

Name	Variable name	Data type	Initial value	Description
FB Execution Status	FB_ENO	Bit	OFF	ON: The FB is being executed. OFF: The FB is not executed.
FB Normal Complete	FB_OK	Bit	OFF	ON: The FB is completed without error. OFF: The FB is not completed.
FB Error Flag	FB_ERROR	Bit	OFF	ON: An error has occurred. OFF: The FB without error.
FB Error Code	ERROR_ID	Word	0	An error code output.
Device Ready Flag	i_DeviceReady	Bit	OFF	The specified IDENT Control ready.
CH1 IDENT Respond Status	i_CH1Status	Word	0	The specified IDENT Control of CH1 responds status.
CH1 IDENT Execution Counter	i_CH1ExecCounter	Word	0	The specified IDENT Control of CH1 execution counters.
CH2 IDENT Respond Status	i_CH2Status	Word	0	The specified IDENT Control of CH2 responds status.
CH2 IDENT Execution Counter	i_CH2ExecCounter	Word	0	The specified IDENT Control of CH2 execution counters.

FB Version Upgrade History

Version	Date	Description
1.00A	2014/1/21	First edition



2. 5 P+PF-IC-KP2-2HB18-2V1_RW_Bytes

(Read & Write Data with RFID Tag for large amount bytes)

FB Name

P+PF-IC-KP2-2HB18-2V1_RW_Bytes

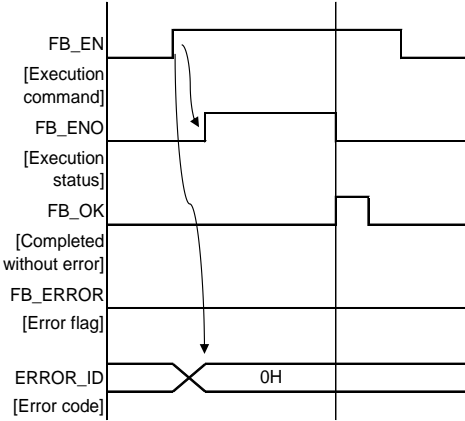
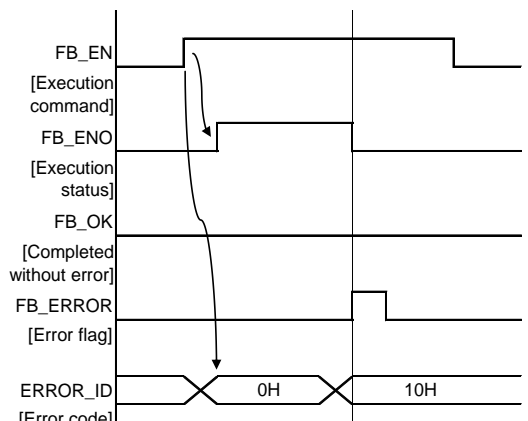
Function Overview

Item	Description			
Function overview	Read & Write Data with RFID Tag for large amount bytes			
Symbol	<div><div>P+PF-IC-KP2-2HB18-2V1_RW_Bytes</div><div><div><div>Execution command</div><div>B : FB_EN</div><div>FB_ENO : B</div><div>Execution status</div></div><div><div>CC_Link Pramater</div><div>D : i_CCLink_Pr</div><div>FB_OK : B</div><div>Completed without error</div></div><div><div>Tag Type(Hex)</div><div>D : i_TagType</div><div>FB_ERROR : B</div><div>Error flag</div></div><div><div>CH1 Word Number & Start Address</div><div>D : i_CH1Addr_Num</div><div>ERROR_ID : W</div><div>Error code</div></div><div><div>CH1 Data Start Address for Read & Write</div><div>D : i_CH1User_In_O</div><div>i_DeviceReady : B</div><div>IDENT Control Ready Flag</div></div><div><div>CH1 Read Mode</div><div>B : i_CH1Read</div><div>i_CH1Status : W</div><div>CH1 Respond Status</div></div><div><div>CH1 Write Mode</div><div>B : i_CH1Write</div><div>_CH1ExecCounter : W</div><div>CH1 Execution Counter</div></div><div><div>CH2 Word Number & Start Address</div><div>D : i_CH2Addr_Num</div><div>i_CH2Status : W</div><div>CH2 Respond Status</div></div><div><div>CH2 Data Start Address for Read & Write</div><div>D : i_CH2User_In_O</div><div>_CH2ExecCounter : W</div><div>CH2 Execution Counter</div></div><div><div>CH2 Read Mode</div><div>B : i_CH2Read</div><div></div><div></div></div><div><div>CH2 Write Mode</div><div>B : i_CH2Write</div><div></div><div></div></div><div><div>Reset Operation</div><div>B : i_Reset</div><div></div><div></div></div><div><div>IDENT Error Handling</div><div>B : i_Error_Handling</div><div></div><div></div></div></div></div>			



Applicable hardware and software	Compatible CC-Link system	QJ61BT11N	
	Hardware details		
		Series	Model
		MELSEC-Q series *1	High performance model QCPU *2
			Universal model QCPU
	*1 Not applicable for QCPU (A mode)		
	*2 The first five digits of the serial number are “04012” or later.		
	GX Works2	Version 1.09K or later	
Programming language	Ladder		
Number of steps	2152 steps (for MELSEC-Q series high performance model CPU) *The number of steps of the FB in a program depends on the CPU model that is used and input and output definition.		



Item	Description	
Function description	By turning ON FB_EN (Execution command), the Function Block enable.	
Compiling method	Macro type	
Restrictions and precautions	1) The FB does not include system error recovery processing. Please sure the settings of CC-link parameter & RFID Tag Type correct, and then turn on FB_EN flag. 2) Set the refresh device of the CC-Link parameter setting according to Section 1.4. 3) The FB cannot be used in an interrupt program. 4) This FB uses index registers Z9, Z8 and Z7. Please do not use these index registers in an interrupt program.	
FB operation type	Pulsed execution (multiple scan execution type)	
Timing chart	<p>[When operation completes without error]</p> 	<p>[When an error occurs]</p> 
Relevant manuals	CC-Link System Master/Local Module User's Manual IC-KP2-2HB18-2V1 IDENT Control Compact control interface with interface for CC-Link V2	



Labels

■Input labels

Name	Variable name	Data type	Setting range	Description
Execution command	FB_EN	Bit	-	ON: The FB is activated. OFF: The FB is not activated.
CC_Link Parameter	i_CCLink_Pr	Double Word	First Word depends on the I/O point range. For details, refer to the CPU user's manual. Second Word 1~64 (Decimal)	First Word specify the starting XY address (HEX) where the CC-Link system master/local module is mounted; (For example, enter H10 for X10.) Second Word specify the IDENT Control's Station Number;
Tag Type(Hex)	i_TagType	Double Word	For details, refer to the IDENT Control user's manual.	First Word specify CH1 RFID Tag Type(HEX); Second Word specify CH2 RFID Tag Type(HEX);
CH1 Word Number & Start Address	i_CH1Addr_Num	Double Word	Decimal For details, refer to the IDENT Control user's manual.	First Word specify CH1 'WordNum'; Second Word specify CH1 Start Address;
CH1 Data Start Address for Read & Write	i_CH1User_In_Out	Double Word	For details, refer to the IDENT Control user's manual.	First Word specify CH1 the first address of user output register area; The data storage area read out from the RFID tag. Second Word specify CH1 the first address of user input register area. The data storage area written to the RFID tag.



Name	Variable name	Data type	Setting range	Description
CH1 Read Mode	i_CH1Read	Bit	-	CH1 Read Mode
CH1 Write Mode	i_CH1Write	Bit	-	CH1 Write Mode
CH2 Word Number & Start Address	i_CH2Addr_Num	Double Word	Decimal For details, refer to the IDENT Control user's manual.	First Word specify CH2 'WordNum'; Second Word specify CH2 Start Address;
CH2 Data Start Address for Read & Write	i_CH2User_In_Out	Double Word	For details, refer to the IDENT Control user's manual.	First Word specify CH2 the first address of user output register area; The data storage area read out from the RFID tag. Second Word specify CH2 the first address of user input register area. The data storage area written to the RFID tag.
CH2 Read Mode	i_CH2Read	Bit	-	CH2 Read Mode
CH2 Write Mode	i_CH2Write	Bit	-	CH2 Write Mode
Reset Operation	i_Reset	Bit	-	Reset the IDENT Control
IDENT Error Handling	i_Error_Handling	Bit	-	IDENT Error Handling when initial failure.



■Output labels

Name	Variable name	Data type	Initial value	Description
FB Execution Status	FB_ENO	Bit	OFF	ON: The FB is being executed. OFF: The FB is not executed.
FB Normal Complete	FB_OK	Bit	OFF	ON: The FB is completed without error. OFF: The FB is not completed.
FB Error Flag	FB_ERROR	Bit	OFF	ON: An error has occurred. OFF: The FB without error.
FB Error Code	ERROR_ID	Word	0	An error code output.
Device Ready Flag	i_DeviceReady	Bit	OFF	The specified IDENT Control ready.
CH1 IDENT Respond Status	i_CH1Status	Word	0	The specified IDENT Control of CH1 responds status.
CH1 IDENT Execution Counter	i_CH1ExecCounter	Word	0	The specified IDENT Control of CH1 execution counters.
CH2 IDENT Respond Status	i_CH2Status	Word	0	The specified IDENT Control of CH2 responds status.
CH2 IDENT Execution Counter	i_CH2ExecCounter	Word	0	The specified IDENT Control of CH2 execution counters.

FB Version Upgrade History

Version	Date	Description
1.00A	2014/1/21	First edition



2. 6 The FB Library common Error Codes list

Error code	Description	Countermeasure
01(Decimal)	CC-Link error	The CC-Link parameter setting is incorrect or the CC-Link cable connects error.
02(Decimal)	Remote station number setting error	The station number of the IDENT Control is not correct.
03(Decimal)	Remote station error	The specified station abnormal.
04(Decimal)	Remote station number error	The specified station number is less than 1, or greater than 61.
05(Decimal)	CH1 readhead not connect	The read head is not connect with the IDNET Control CH1, or the connect cable is damage, or read head is broken.
06(Decimal)	CH2 readhead not connect	The read head is not connect with the IDNET Control CH2, or the connect cable is damage, or readhead is broken.
07(Decimal)	CH1 input RFID tag type error	The CH1 'iTagType' cannot be set '0'.
08(Decimal)	CH2 input RFID tag type error	The CH2 'iTagType' cannot be set '0'.
09(Decimal)	CH1 Read and Write command at the same time	CH1 Read and write operation cannot be executed in one channel at the same time.
10(Decimal)	CH2 Read and Write command at the same time	CH2 Read and write operation cannot be executed in one channel at the same time.
11(Decimal)	CH1 input 'WordNum' error	The CH1 'WordNum' cannot be set '0'.
12(Decimal)	CH2 input 'WordNum' error	The CH2 'WordNum' cannot be set '0'.
13(Decimal)	CH1 input RFID tag type error when IDENT control Initial	The CH1 input RFID tag type is not match with the connected read head.
14(Decimal)	CH2 input RFID tag type error when IDENT control Initial	The CH2 input RFID tag type is not match with the connected read head.



3. IDENT Control respond status message Codes

Status	Meaning
00H	The command has been executed without error.
01H	The battery of the read/write tag is weak.
02H	Reserved
03H	Reserved
04H	Incorrect or incomplete command or parameter not in the valid range.
05H	No data carrier in the detection range.
06H	Hardware error, e.g. error during self-test or R/W head defective.
07H	Internal device error.
08H	Reserved
09H	The parameterized tag type is not compatible with the connected read head.
0AH	There are several transponders in the detection range (UHF).
0BH	Reserved
0CH	Reserved
0DH	Reserved
0EH	The internal cache is full.
0FH	Reserved



Note

This chapter includes information related to the P+PF-IC-KP2-2HB18-2V1_Read_Write function block.

It does not include information on restrictions of use such as combination with CC-Link system master/local modules or programmable controller CPUs.

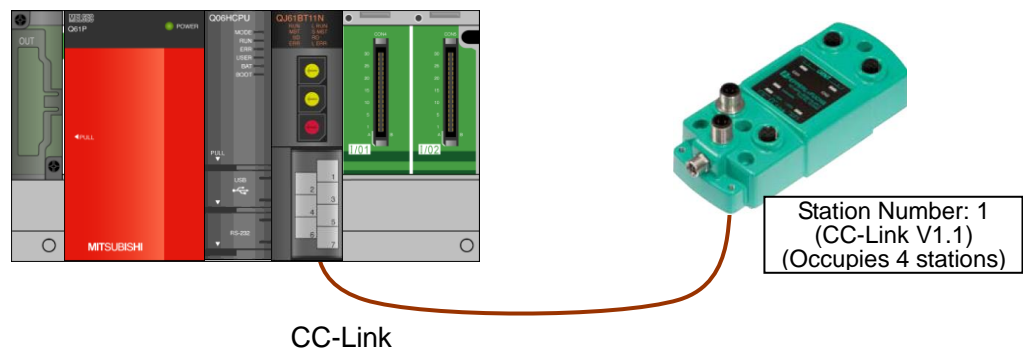
Before using any products, please read all relevant manuals.



Appendix 1 FB Library – ‘P+PF-IC-KP2-2HB18-2V1_Read_Write’ Application Example

In this application example, data is written to the RFID tag using the CC-Link system.

(1) System Configuration



(2) Device List

■External input (Command)

Device	FB name	Application (When ON)
M0	P+PF-IC-KP2-2HB18-2V1_Read_Write	Enable the function block.
M1	P+PF-IC-KP2-2HB18-2V1_Read_Write	Set channel 1 into Enhanced mode when read or write data.
M2	P+PF-IC-KP2-2HB18-2V1_Read_Write	Read the data from the RFID tag via channel 1.
M3	P+PF-IC-KP2-2HB18-2V1_Read_Write	Write the data to the RFID tag via channel 1.
M4	P+PF-IC-KP2-2HB18-2V1_Read_Write	Set channel 2 into Enhanced mode when read or write data.
M5	P+PF-IC-KP2-2HB18-2V1_Read_Write	Read the data from the RFID tag via channel 2.
M6	P+PF-IC-KP2-2HB18-2V1_Read_Write	Write the data to the RFID tag via channel 2.
M7	P+PF-IC-KP2-2HB18-2V1_Read_Write	Reset the specified IDENT Control.
M8	P+PF-IC-KP2-2HB18-2V1_Read_Write	Reinitialize the IDENT Control when the last initialization failed.

■External output (Check)

Device	FB name	Application (When ON)
D20	P+PF-IC-KP2-2HB18-2V1_Read_Write	Output a code for an error occurred when FB execute an error occurred
M13	P+PF-IC-KP2-2HB18-2V1_Read_Write	The specified IDENT Control ready.
D21	P+PF-IC-KP2-2HB18-2V1_Read_Write	The specified IDENT Control of CH1 responds status.
D22	P+PF-IC-KP2-2HB18-2V1_Read_Write	The specified IDENT Control of CH1 execution counters.
D23	P+PF-IC-KP2-2HB18-2V1_Read_Write	The specified IDENT Control of CH2 responds status.
D24	P+PF-IC-KP2-2HB18-2V1_Read_Write	The specified IDENT Control of CH2 execution counters.

(4) Application Example Settings

■Common settings

Input/output item	Value	Description
Module start XY address	H10	Specify the starting XY address where the CC-Link system master/local module to communicate, is mounted.
IDENT Control Station Number	H1	Enter the station number of the IDENT Control, the rotary switch setting back of the IDENT Control.
CH1 Tag type	H22	Enter the channel 1 connected read head compatible RFID tag type. For details, refer to the IDENT Control user's manual.
CH2 Tag type	H22	Enter the channel 2 connected read head compatible RFID tag type. For details, refer to the IDENT Control user's manual.
CH1 Word Number	H30	Enter the length of the data for operation via channel 1. (1 Word Number = 4 Byte)
CH1 Word Address	H0	Enter the start address of the data for operation via channel 1.
CH1 User Output Area	H12C (K300)	Enter the start address number for the data storage area read out from the RFID tag via CH1.
CH1 User Input Area	H190 (K400)	Enter the start address number for the data storage area written to the RFID tag via CH1.



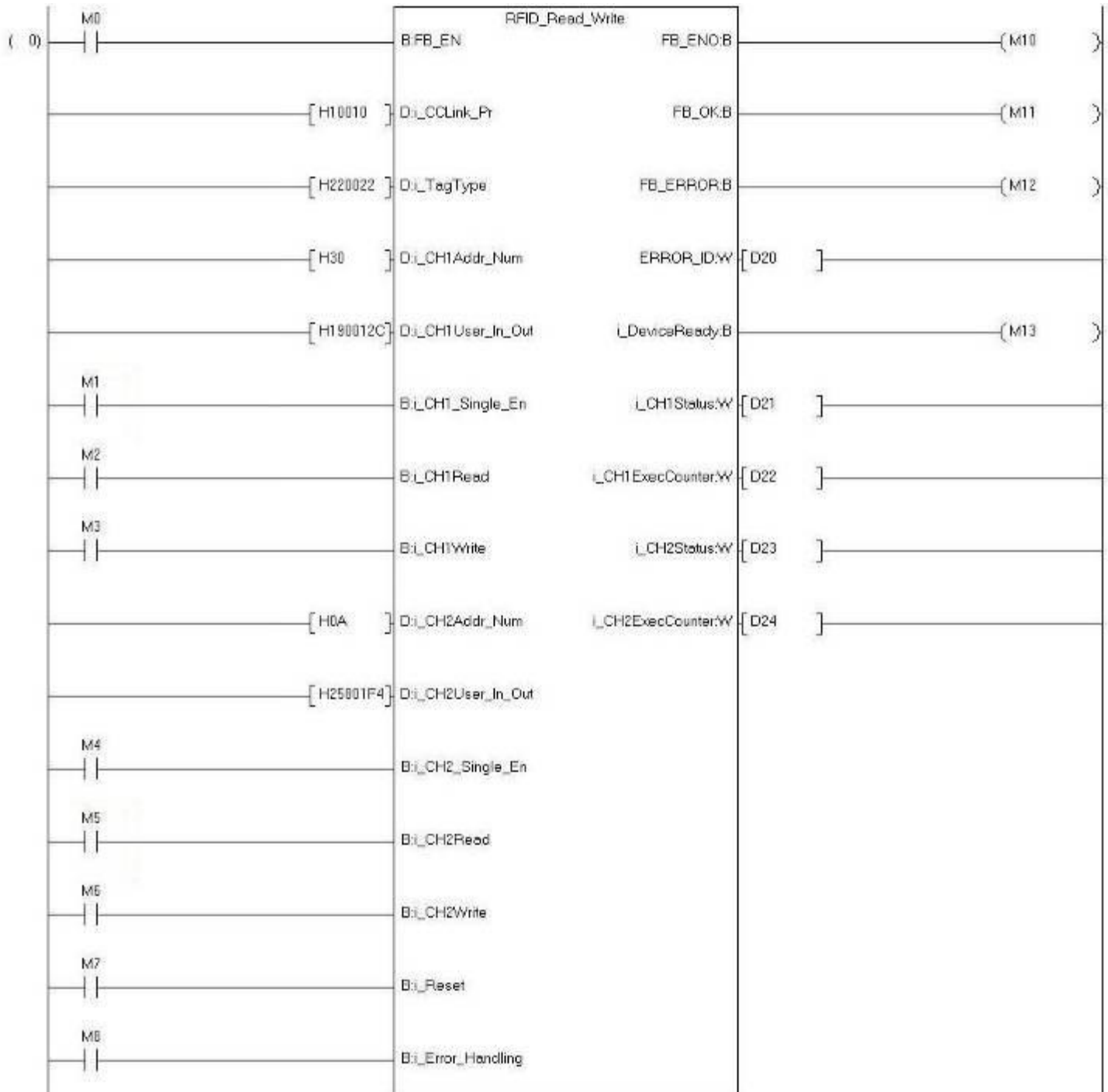
Input/output item	Value	Description
CH2 Word Number	H0A	Enter the length of the data for operation via channel 2. (1 Word Number = 4 Byte)
CH2 Word Address	H0	Enter the start address of the data for operation via channel 2.
CH2 User Output Area	H1F4 (K500)	Enter the start address number for the data storage area read out from the RFID tag via CH2.
CH2 User Input Area	H258 (K600)	Enter the start address number for the data storage area written to the RFID tag via CH2.



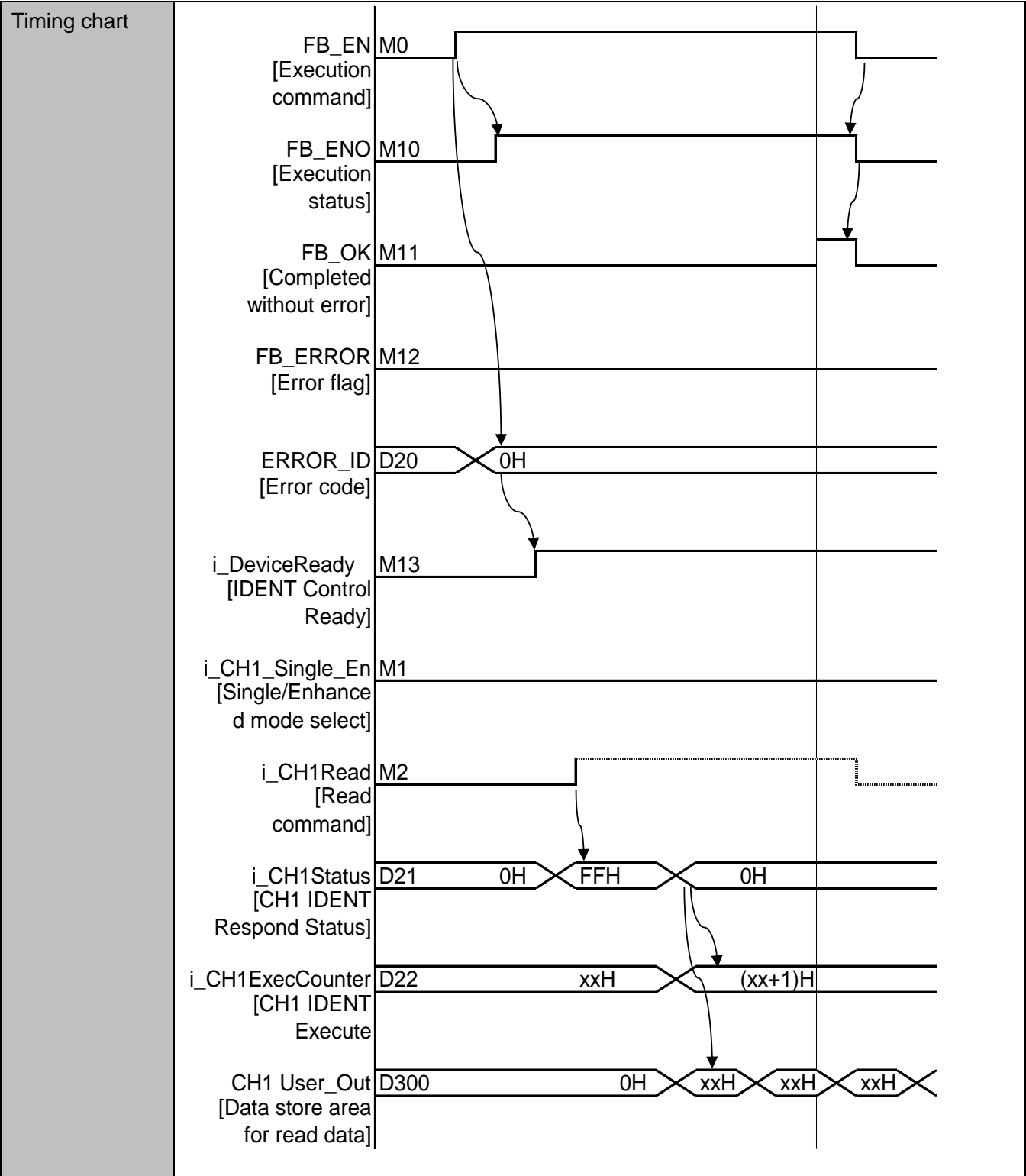
(5) Program

(a) P+PF-IC-KP2-2HB18-2V1_Read_Write (Single read data from RFID tag via channel 1)

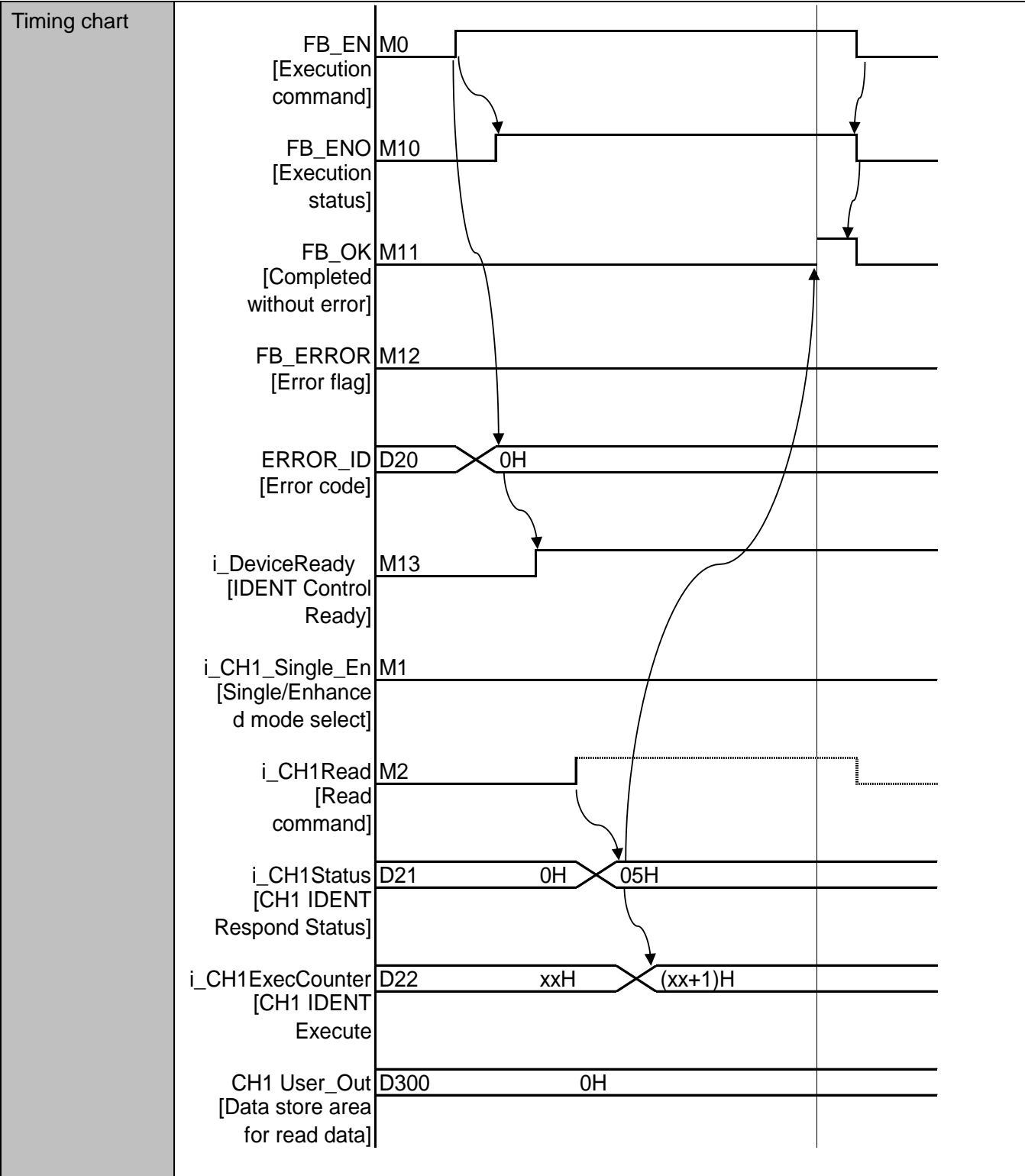
Single read 192 bytes data from the start address 0 of RFID tag via channel 1 and store those data into register area starting at D300.



When RFID tag in the zone of R/W head via channel 1 single read data.

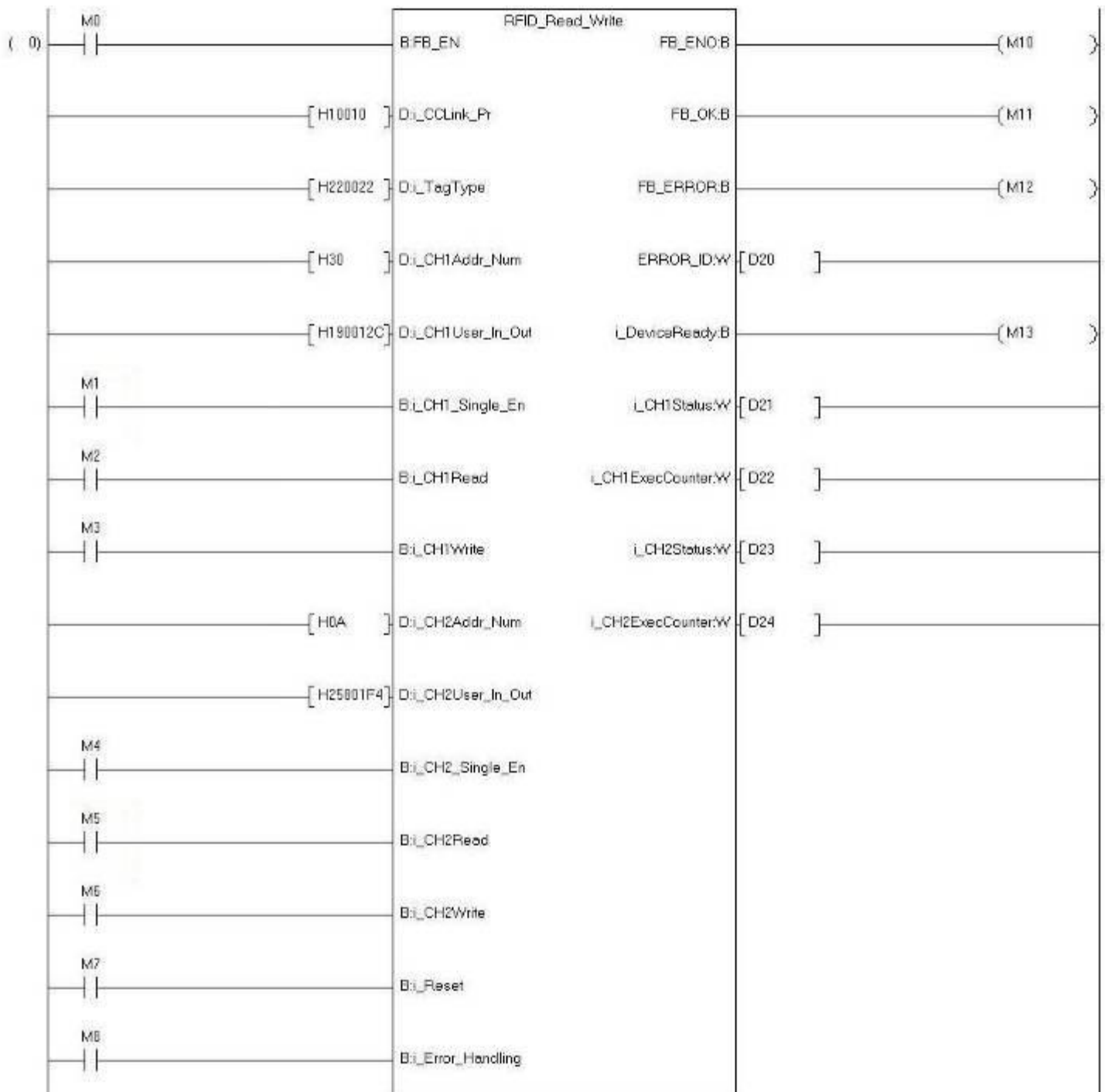


When RFID tag is not in the zone of R/W head via channel 1 single read data.



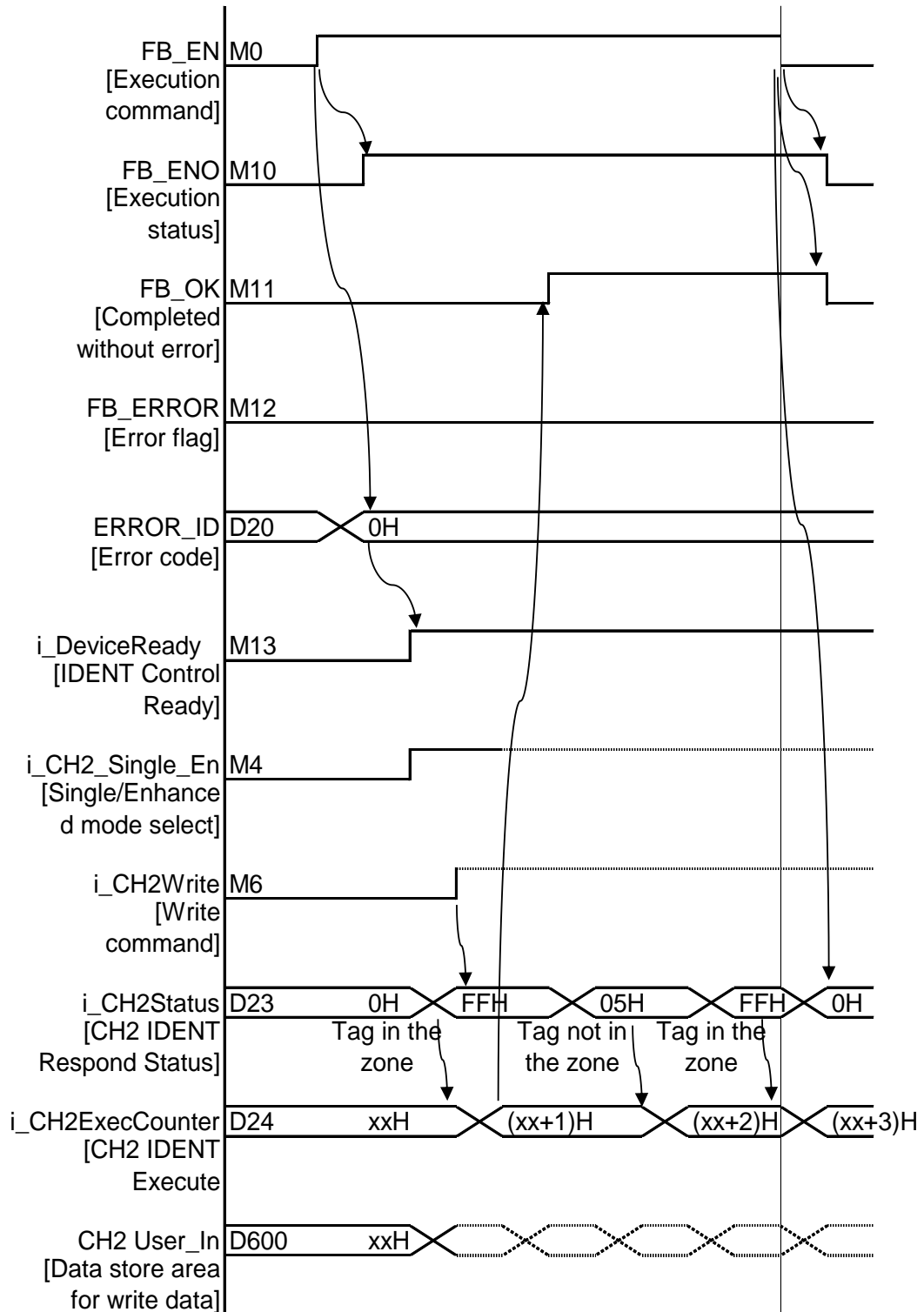
(b) P+PF-IC-KP2-2HB18-2V1_Read_Write (Enhanced write data to RFID tag via channel 2)

Enhanced write 10 bytes data (store those data in the register area starting at D400) to the start address 0 of RFID tag via channel 2.



When RFID tag in the zone of read head via channel 2 write data.

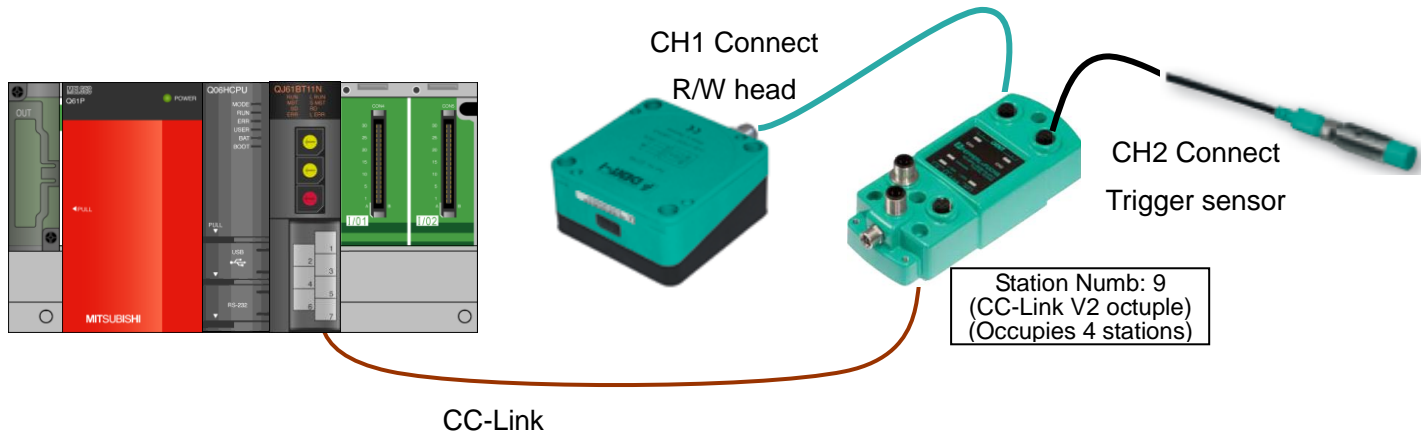
Timing chart



Appendix 2 FB Library – 'P+PF-IC-KP2-2HB18-2V1_Trigger_CH2' Application Example

In this application example, data is written to the RFID tag via trigger sensor at CH2 using the CC-Link system.

(1) System Configuration



(2) Device List

■External input (Command)

Device	FB name	Application (When ON)
M20	P+PF-IC-KP2-2HB18-2V1_Trigger_CH2	Enable the function block.
M21	P+PF-IC-KP2-2HB18-2V1_Trigger_CH2	Set channel 1 into Enhanced mode when read or write data.
M22	P+PF-IC-KP2-2HB18-2V1_Trigger_CH2	Read the data from the RFID tag via channel 1.
M23	P+PF-IC-KP2-2HB18-2V1_Trigger_CH2	Write the data to the RFID tag via channel 1.
M24	P+PF-IC-KP2-2HB18-2V1_Trigger_CH2	Reset the specified IDENT Control.
M25	P+PF-IC-KP2-2HB18-2V1_Trigger_CH2	Reinitialize the IDENT Control when the last initialization failed.

■External output (Check)

Device	FB name	Application (When ON)
D40	P+PF-IC-KP2-2HB18-2V1_Trigger_CH2	Output a code for an error occurred when FB execute an error occurred
M33	P+PF-IC-KP2-2HB18-2V1_Trigger_CH2	The specified IDENT Control ready.
M34	P+PF-IC-KP2-2HB18-2V1_Trigger_CH2	The specified IDENT Control into trigger read mode
M35	P+PF-IC-KP2-2HB18-2V1_Trigger_CH2	The specified IDENT Control into trigger write mode
M36	P+PF-IC-KP2-2HB18-2V1_Trigger_CH2	The CH1 is busy. (communicate between read/write head and data tag)
M37	P+PF-IC-KP2-2HB18-2V1_Trigger_CH2	The trigger sensor is ON.
D41	P+PF-IC-KP2-2HB18-2V1_Trigger_CH2	The CH1 of the specified IDENT Control responds status.
D42	P+PF-IC-KP2-2HB18-2V1_Trigger_CH2	The CH1 of the specified IDENT Control execution counters.



(4) Application Example Settings

■Common settings

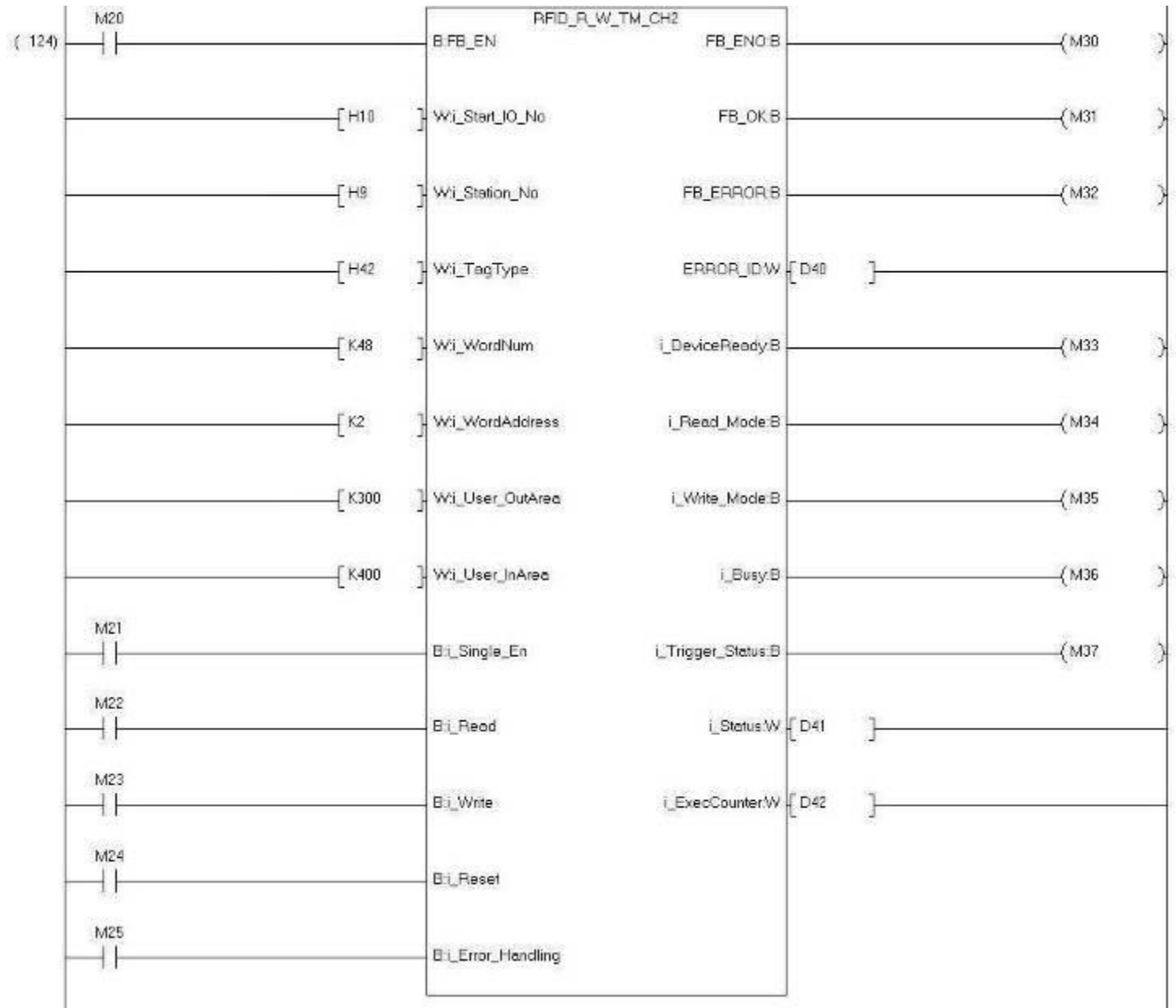
Input/output item	Value	Description
Module start XY address	H10	Specify the starting XY address where the CC-Link system master/local module to communicate, is mounted.
IDENT Control Station Number	H9	Enter the station number of the IDENT Control, the rotary switch setting back of the IDENT Control.
CH1 Tag type	H42	Enter the channel 1 connected read head compatible RFID tag type. For details, refer to the IDENT Control user's manual.
CH1 Word Number	K48	Enter the length of the data for operation via channel 1. (1 Word Number = 4 Byte)
CH1 Word Address	K2	Enter the start address of the data for operation via channel 1.
User Output Area	K300	Enter the start address number for the data storage area read out from the RFID tag via CH1.
User Input Area	K400	Enter the start address number for the data storage area written to the RFID tag via CH1.



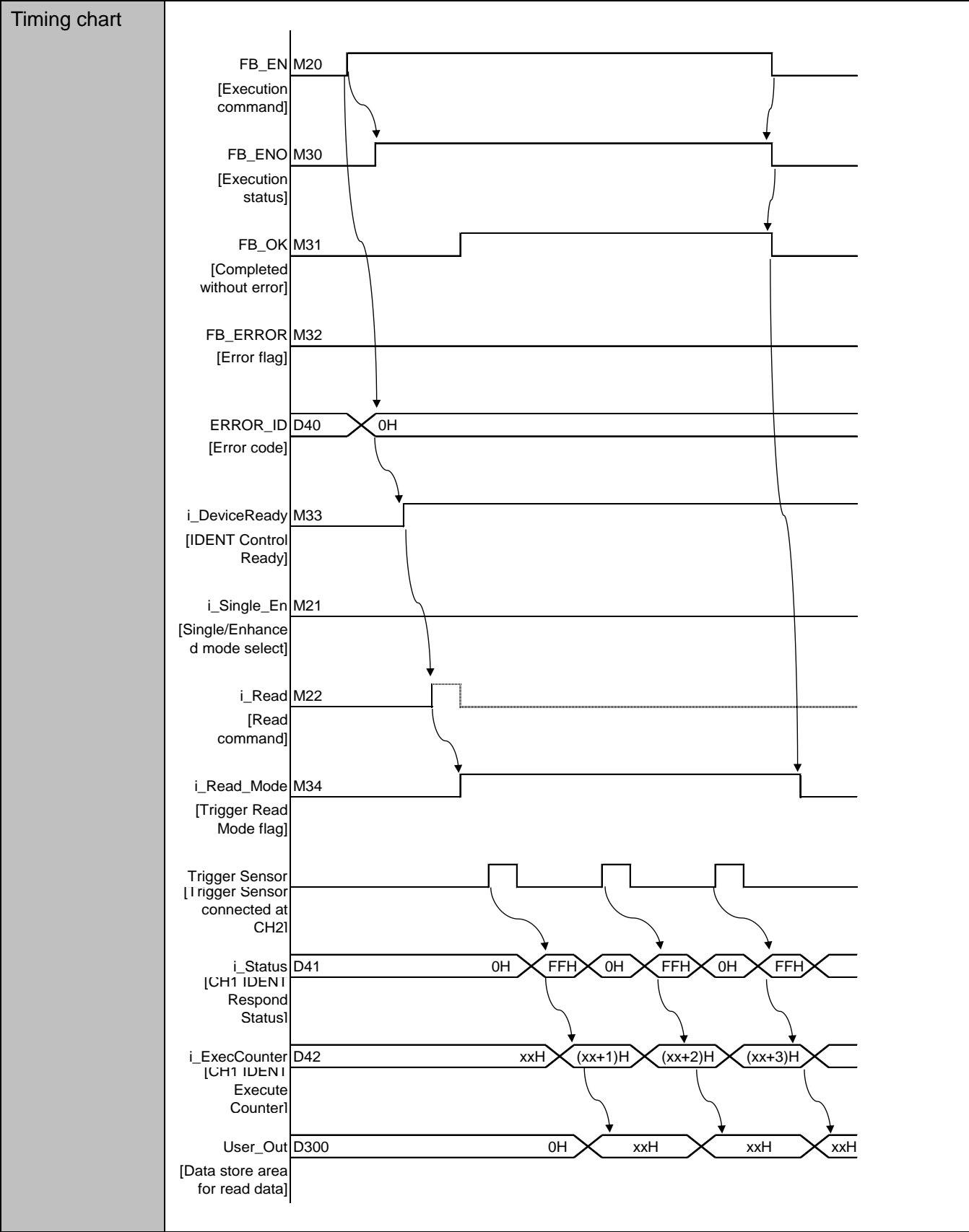
(5) Program

(a) P+PF-IC-KP2-2HB18-2V1_Trigger_CH2 (Single read data from RFID tag via channel 1)

Single read 192 bytes data from the start address 2 of RFID tag via channel 1 by trigger sensor at channel 2, and store those data into register area starting at D300.

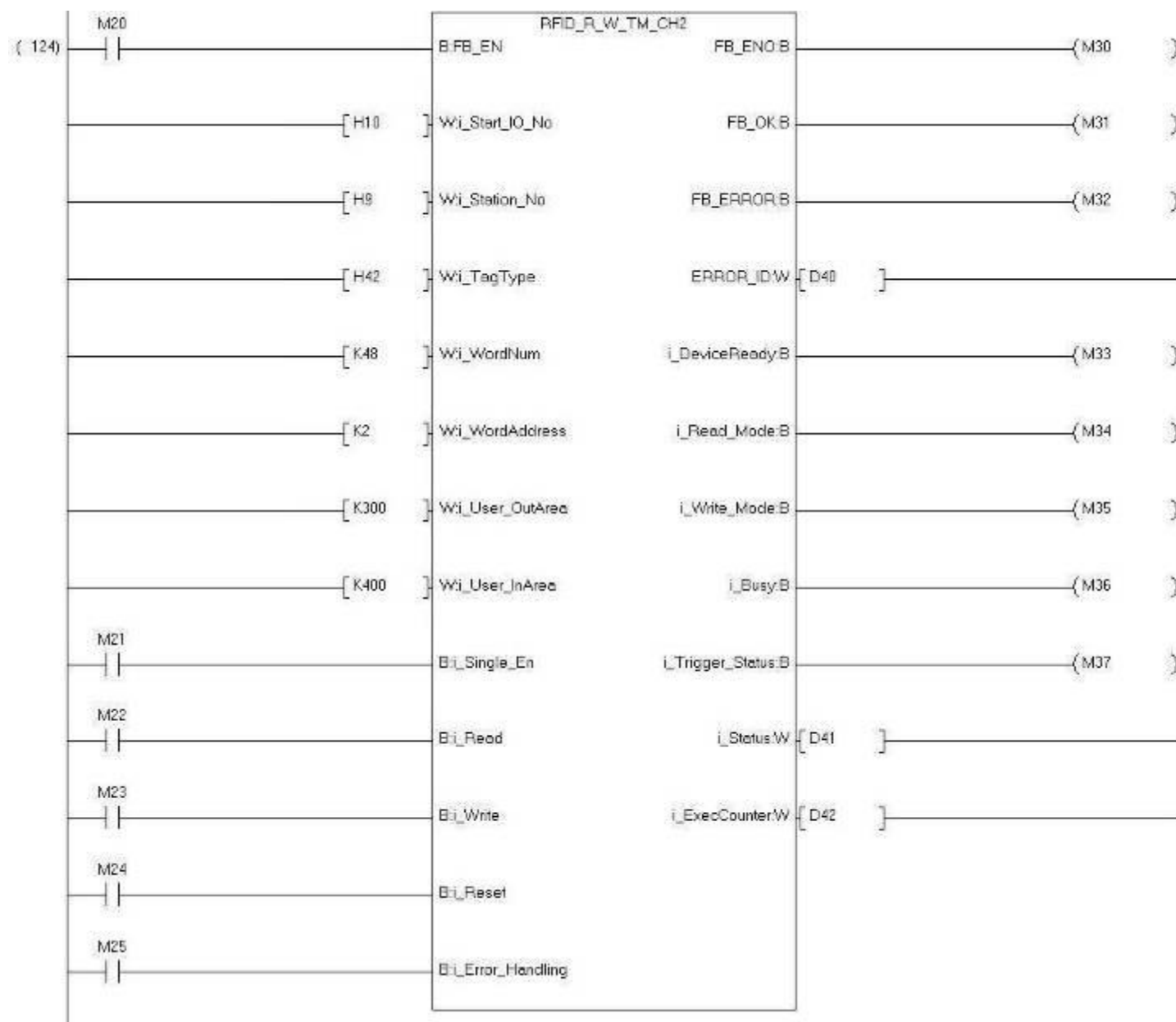


Set IDENT Control into trigger read mode and execute single read command

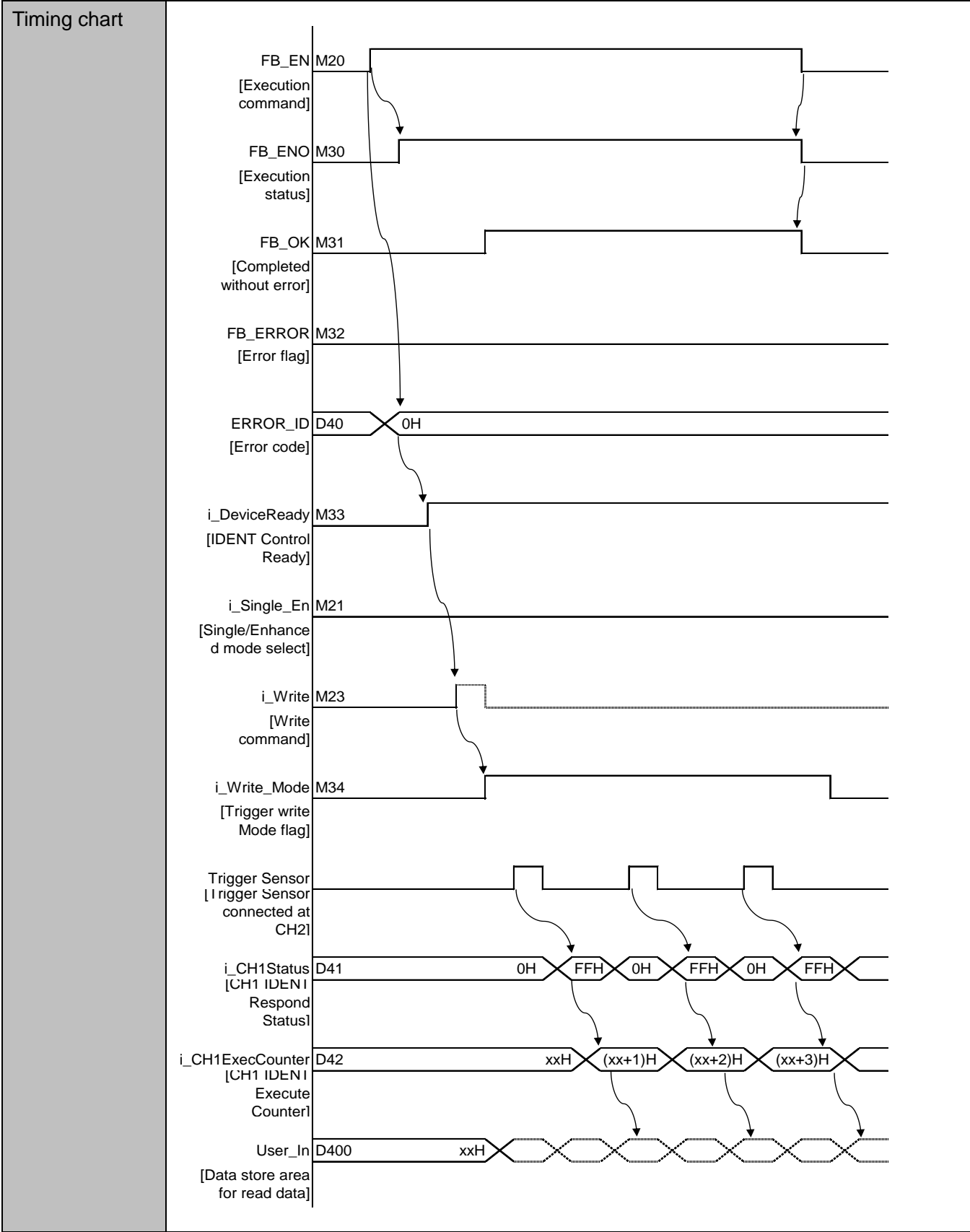


(b) P+PF-IC-KP2-2HB18-2V1_Trigger_CH2 (Single write data from RFID tag via channel 1)

Single write 192 bytes data (store those data in the register area starting at D400) to the start address 2 of RFID tag via channel 1 by trigger sensor at channel 2.

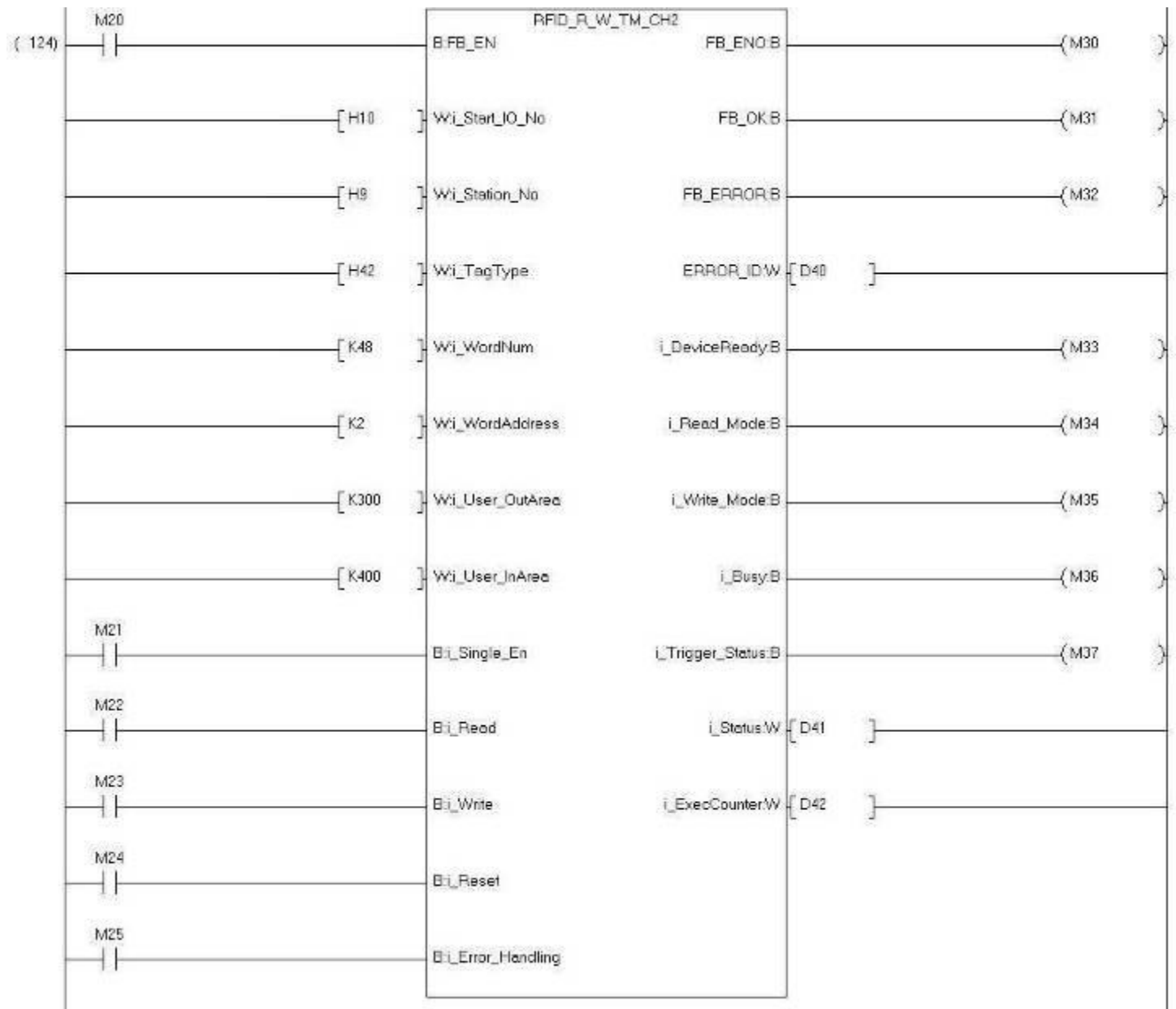


Set IDENT Control into trigger write mode and execute single write command

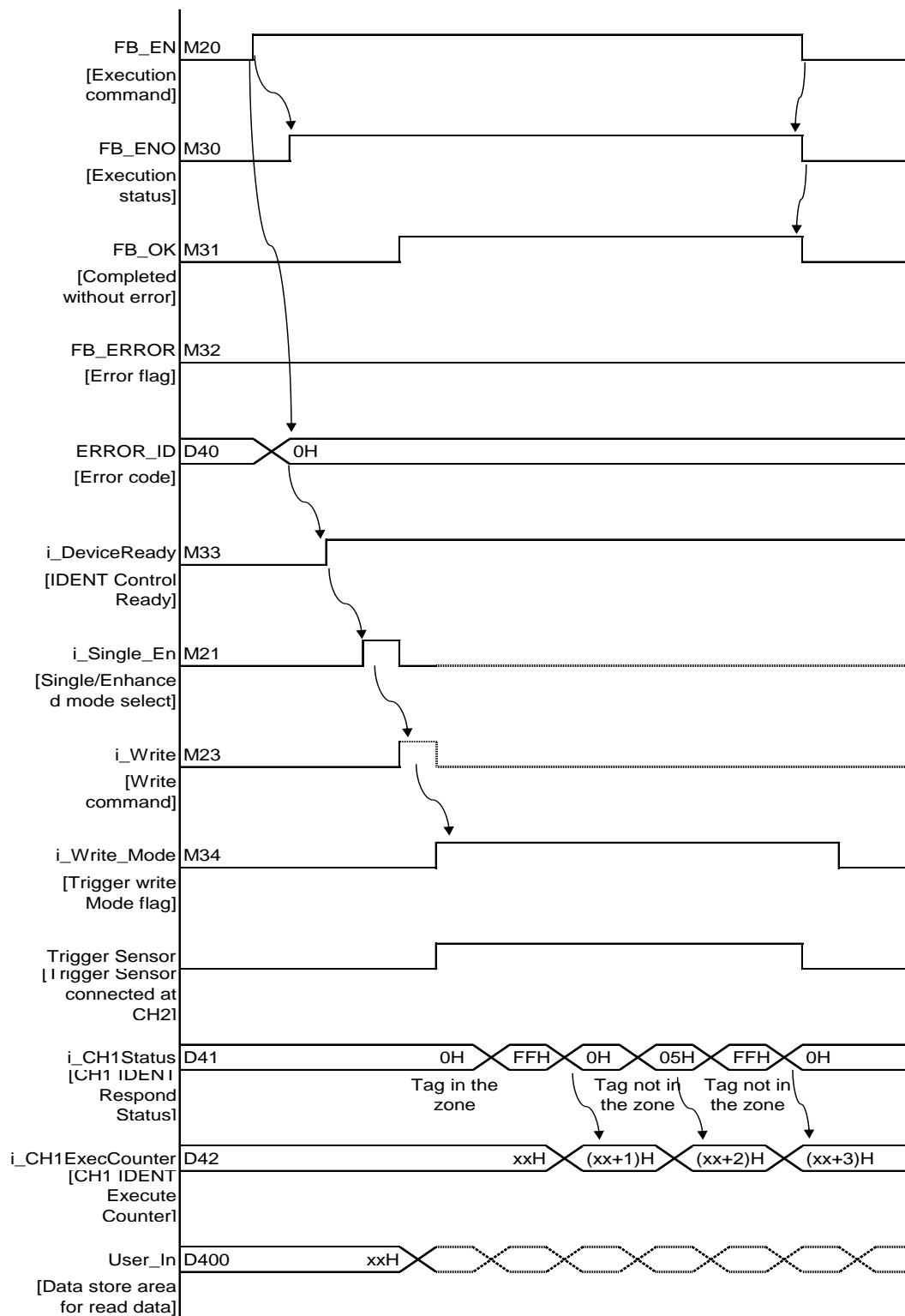


(c) P+PF-IC-KP2-2HB18-2V1_Read_Write (Enhanced write data to RFID tag via channel 2)

Enhanced write 10 bytes data (store those data in the register area starting at D400) to the start address 0 to RFID tag via channel 2.



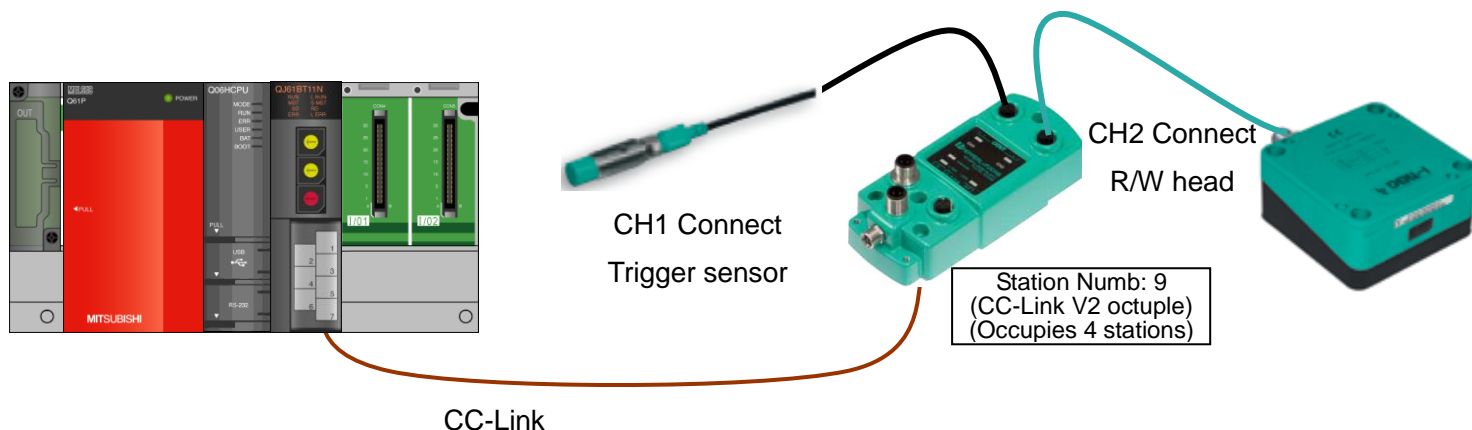
Timing chart



Appendix 3 FB Library – 'P+PF-IC-KP2-2HB18-2V1_Trigger_CH1' Application Example

In this application example, data is written to the RFID tag via trigger sensor at CH1 using the CC-Link system.

(1) System Configuration



(2) Device List

■External input (Command)

Device	FB name	Application (When ON)
M40	P+PF-IC-KP2-2HB18-2V1_Trigger_CH1	Enable the function block.
M41	P+PF-IC-KP2-2HB18-2V1_Trigger_CH1	Set channel 2 into Enhanced mode when read or write data.
M42	P+PF-IC-KP2-2HB18-2V1_Trigger_CH1	Read the data from the RFID tag via channel 2.
M43	P+PF-IC-KP2-2HB18-2V1_Trigger_CH1	Write the data to the RFID tag via channel 2.
M44	P+PF-IC-KP2-2HB18-2V1_Trigger_CH1	Reset the specified IDENT Control.
M45	P+PF-IC-KP2-2HB18-2V1_Trigger_CH1	Reinitialize the IDENT Control when the last initialization failed.

■External output (Check)

Device	FB name	Application (When ON)
D60	P+PF-IC-KP2-2HB18-2V1_Trigger_CH1	Output a code for an error occurred when FB execute an error occurred
M53	P+PF-IC-KP2-2HB18-2V1_Trigger_CH1	The specified IDENT Control ready.
M54	P+PF-IC-KP2-2HB18-2V1_Trigger_CH1	The specified IDENT Control into trigger read mode
M55	P+PF-IC-KP2-2HB18-2V1_Trigger_CH1	The specified IDENT Control into trigger write mode
M56	P+PF-IC-KP2-2HB18-2V1_Trigger_CH1	The CH2 is busy. (communicate between read/write head and data tag)
M57	P+PF-IC-KP2-2HB18-2V1_Trigger_CH1	The trigger sensor is ON.
D61	P+PF-IC-KP2-2HB18-2V1_Trigger_CH1	The CH2 of the specified IDENT Control responds status.
D62	P+PF-IC-KP2-2HB18-2V1_Trigger_CH1	The CH2 of the specified IDENT Control execution counters.



(4) Application Example Settings

■Common settings

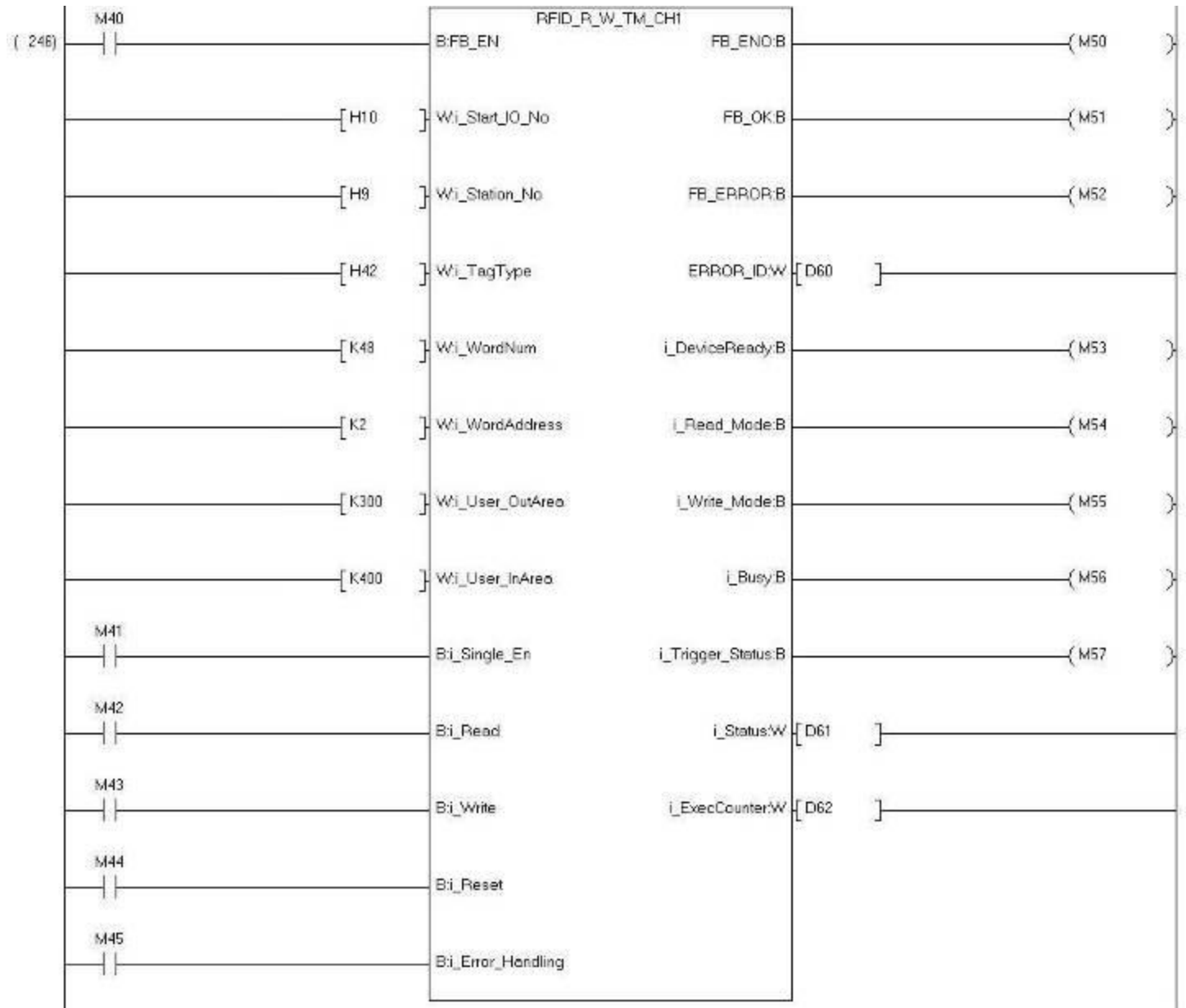
Input/output item	Value	Description
Module start XY address	H10	Specify the starting XY address where the CC-Link system master/local module to communicate, is mounted.
IDENT Control Station Number	H9	Enter the station number of the IDENT Control, the rotary switch setting back of the IDENT Control.
CH1 Tag type	H42	Enter the channel 2 connected read head compatible RFID tag type. For details, refer to the IDENT Control user's manual.
CH1 Word Number	K48	Enter the length of the data for operation via channel 2. (1 Word Number = 4 Byte)
CH1 Word Address	K2	Enter the start address of the data for operation via channel 2.
User Output Area	K300	Enter the start address number for the data storage area read out from the RFID tag via CH2.
User Input Area	K400	Enter the start address number for the data storage area written to the RFID tag via CH2.



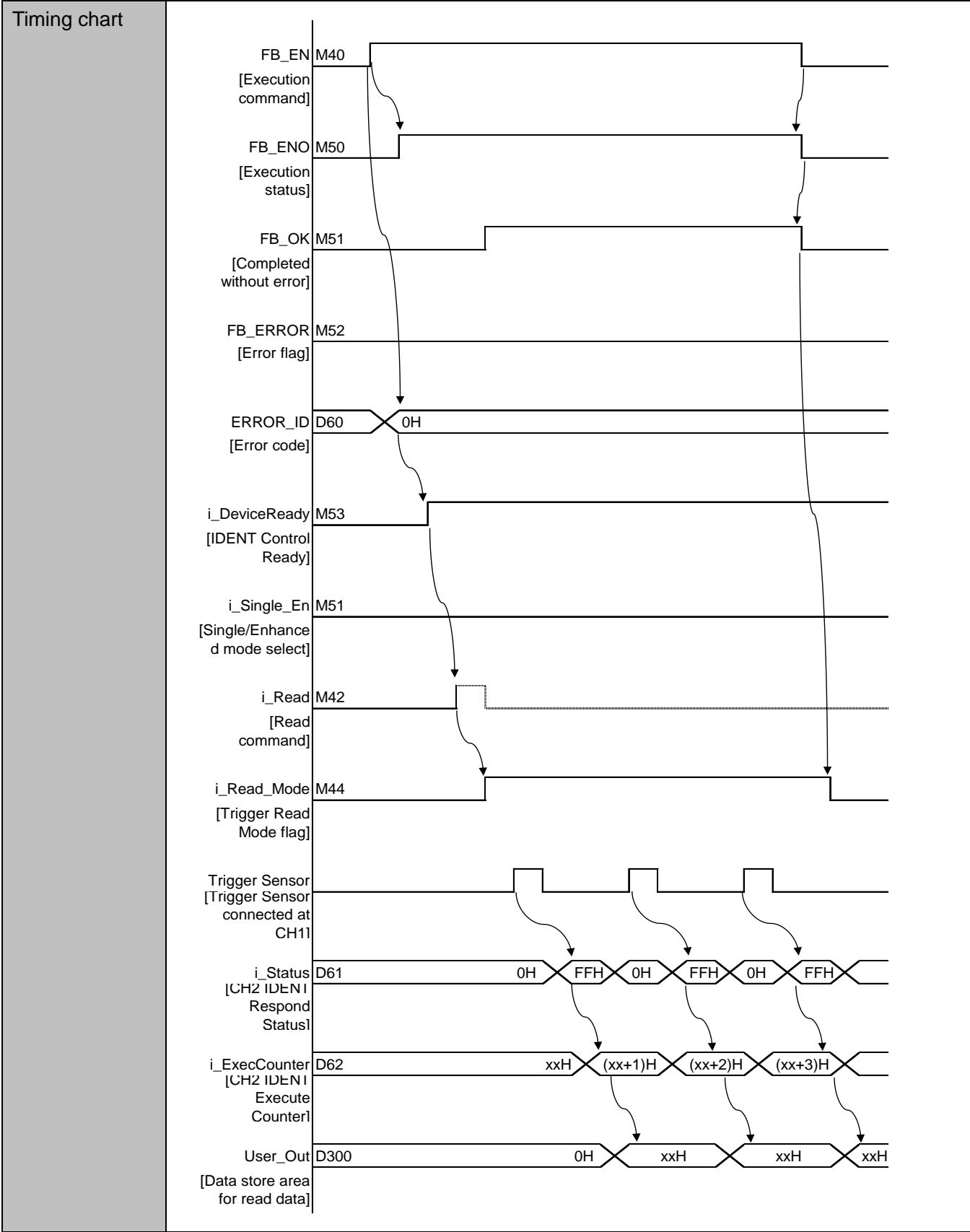
(5) Program

(a) P+PF-IC-KP2-2HB18-2V1_Trigger_CH1 (Single read data from RFID tag via channel 1)

Single read 192 bytes data from the start address 2 of RFID tag via channel 2 by trigger sensor at channel 1, and store those data into register area starting at D300.

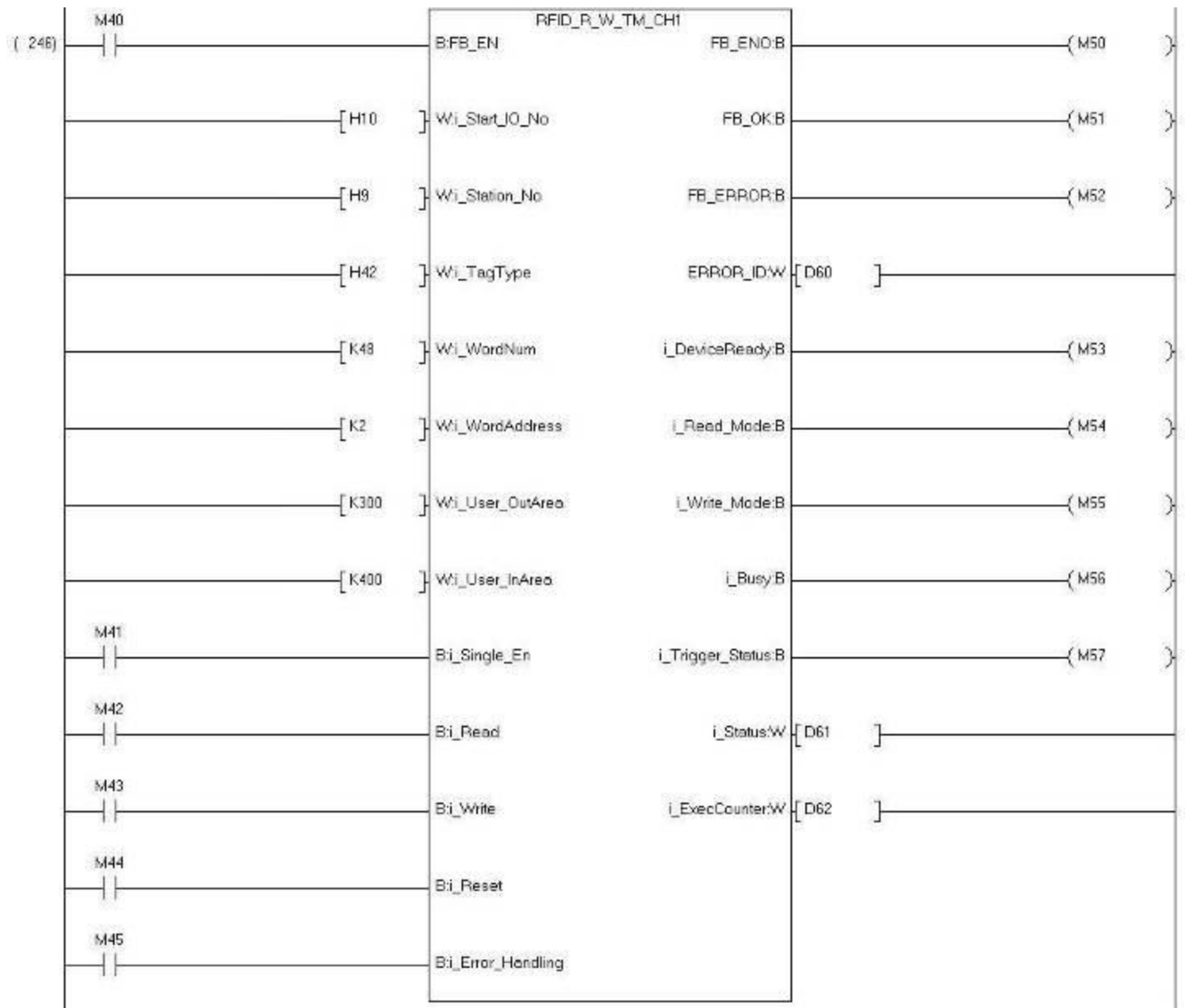


Set IDENT Control into trigger read mode and execute single read command

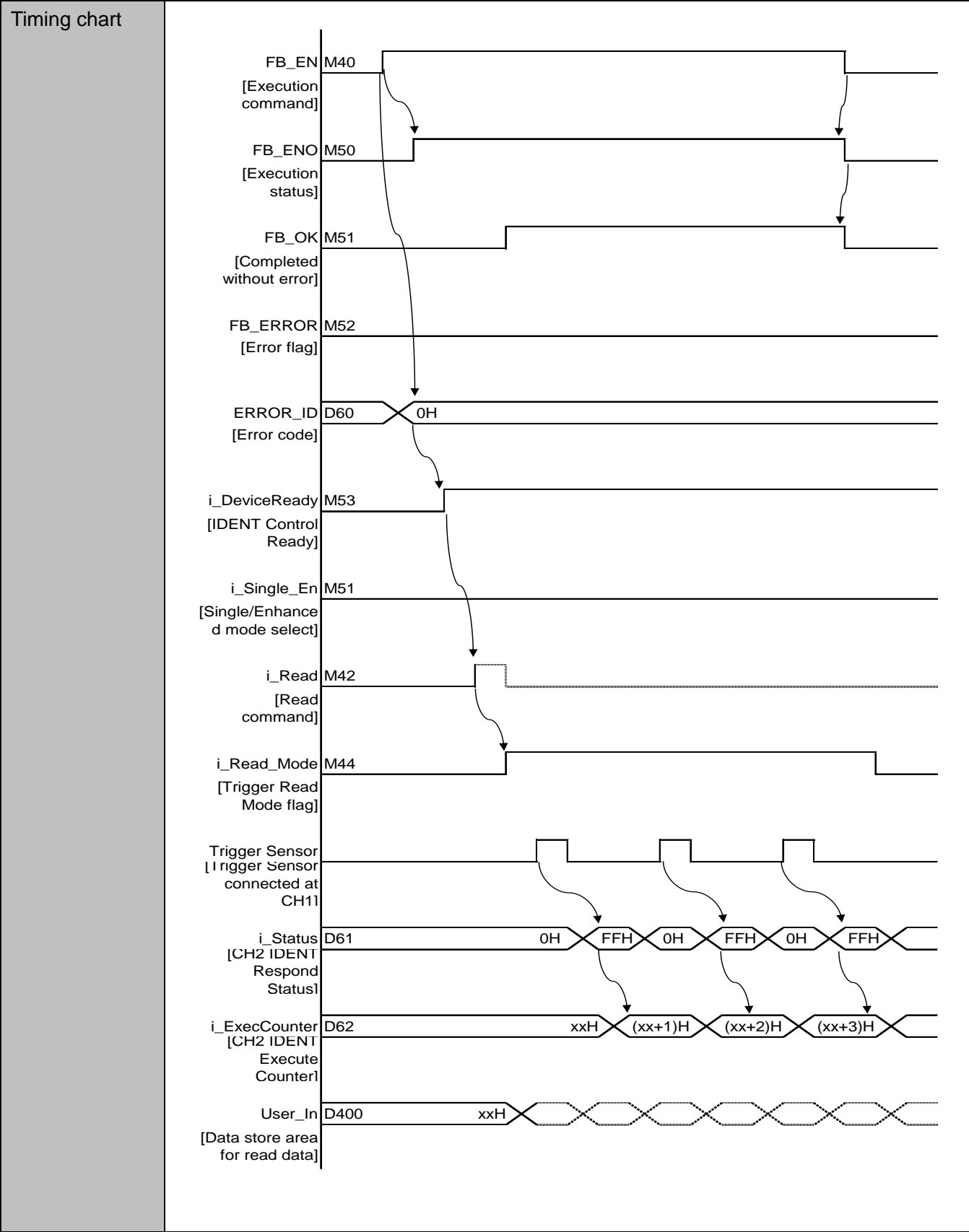


(b) P+PF-IC-KP2-2HB18-2V1_Trigger_CH1 (Single write data from RFID tag via channel 2)

Single write 192 bytes data (store those data in the register area starting at D400) to the start address 2 of RFID tag via channel 2 by trigger sensor at channel 1.

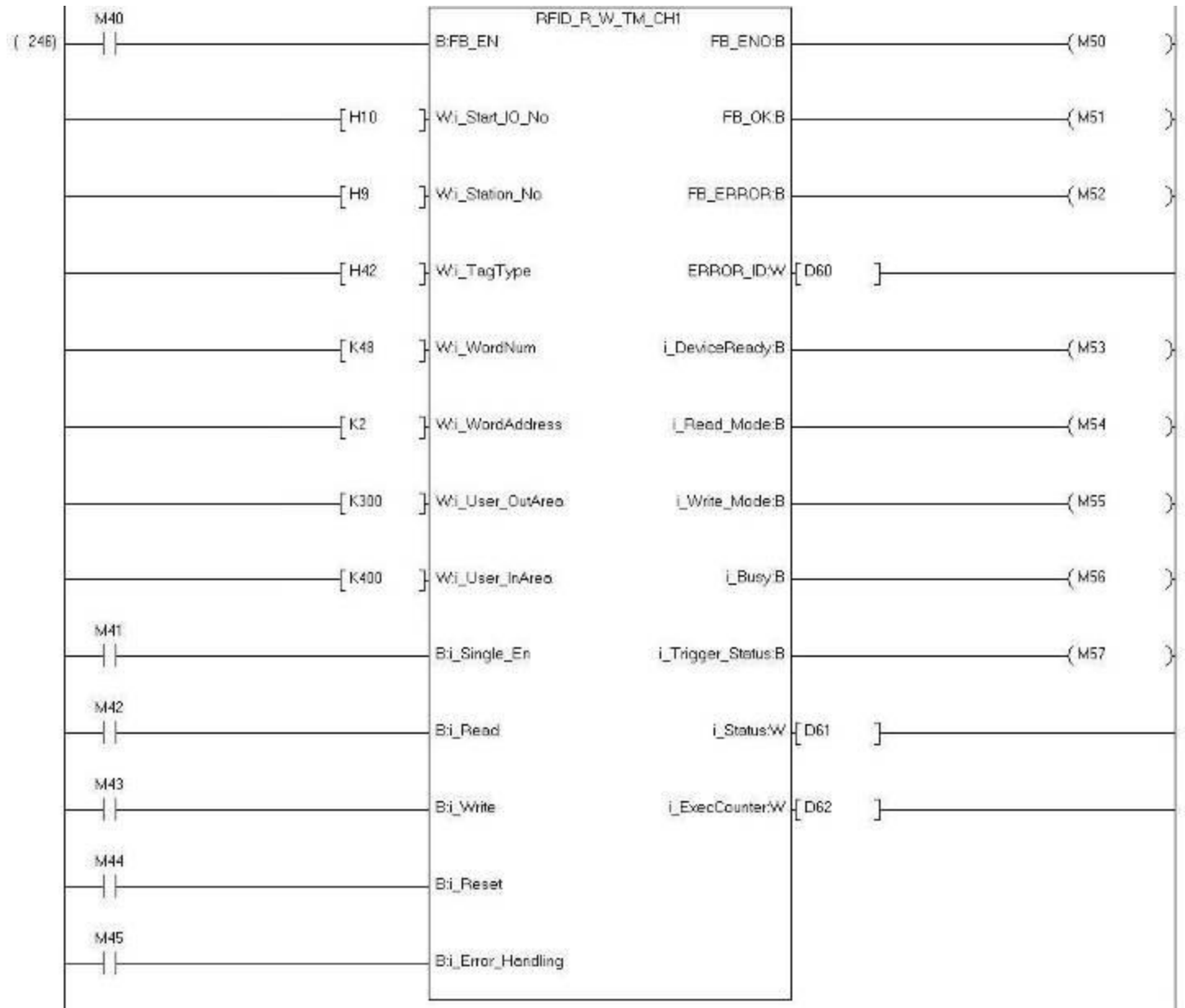


Set IDENT Control into trigger write mode and execute single write command



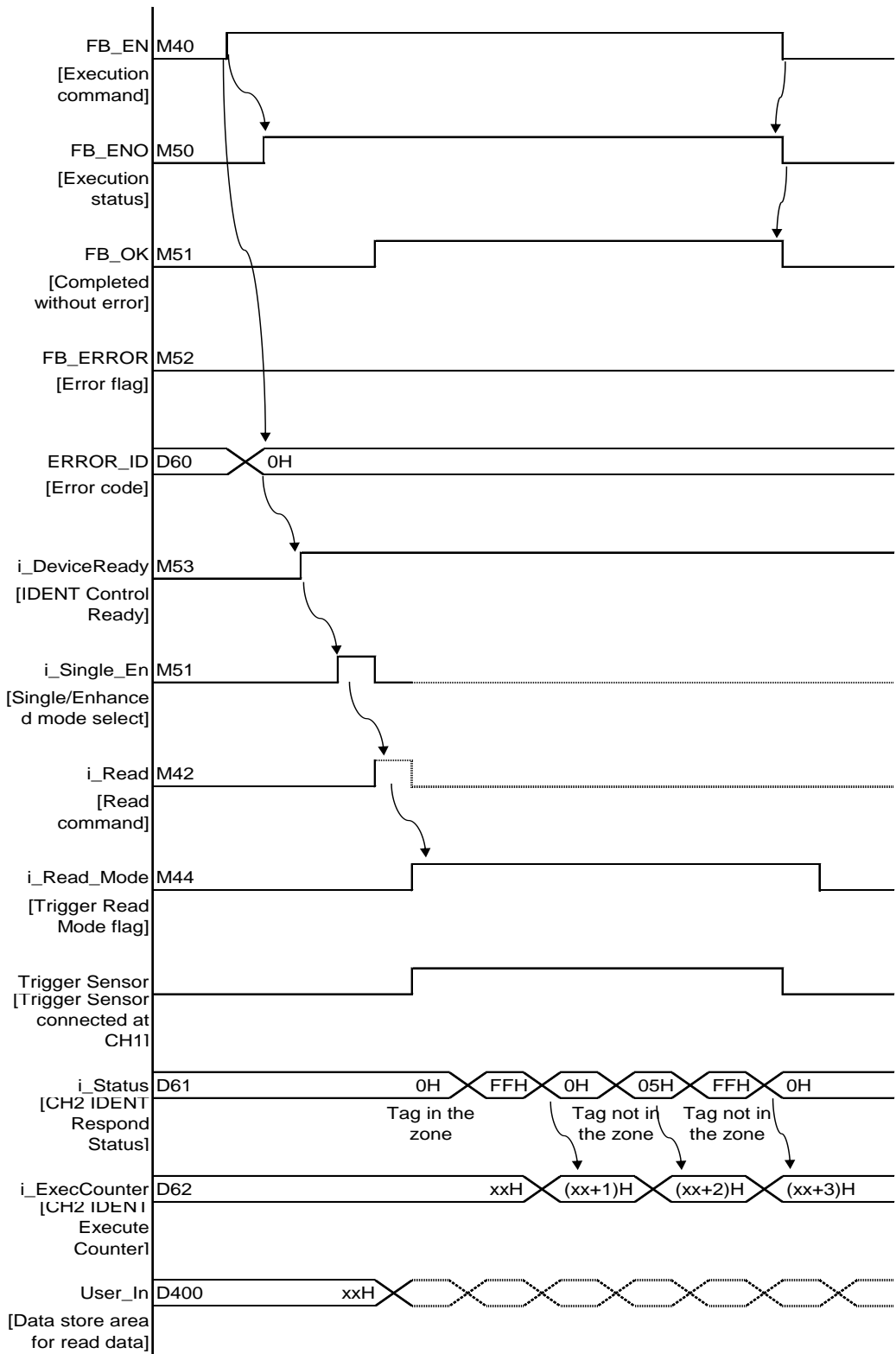
(c) P+PF-IC-KP2-2HB18-2V1_Read_Write (Enhanced write data to RFID tag via channel 2)

Enhanced write 10 bytes data (store those data in the register area starting at D400) to the start address 0 to RFID tag via channel 2.



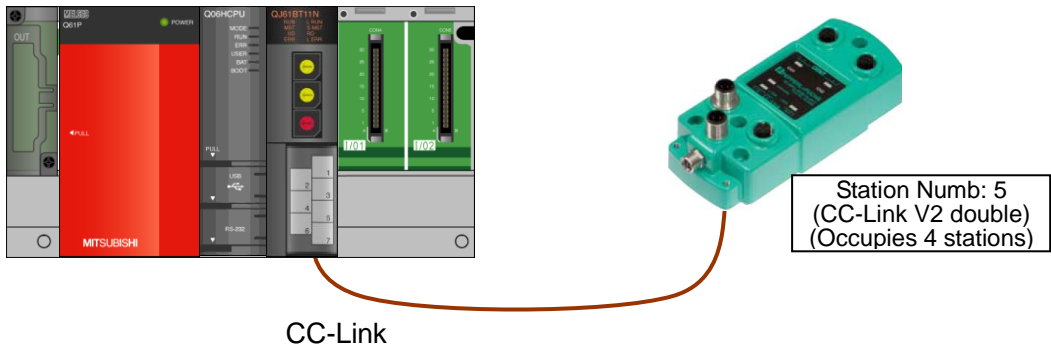
When RFID tag in the zone of read head via channel 2 write data.

Timing chart



In this application example, data is written to the RFID tag using the CC-Link system.

(1) System Configuration



(2) Device List

■External input (Command)

Device	FB name	Application (When ON)
M60	P+PF-IC-KP2-2HB18-2V1_RD_FixCode	Enable the function block.
M61	P+PF-IC-KP2-2HB18-2V1_RD_FixCode	Set channel 1 into Enhanced mode when read or write data.
M62	P+PF-IC-KP2-2HB18-2V1_RD_FixCode	Read Fixcode from the RFID tag via channel 1.
M63	P+PF-IC-KP2-2HB18-2V1_RD_FixCode	Set channel 2 into Enhanced mode when read or write data.
M64	P+PF-IC-KP2-2HB18-2V1_RD_FixCode	Read Fixcode from the RFID tag via channel 2.
M65	P+PF-IC-KP2-2HB18-2V1_RD_FixCode	Reset the specified IDENT Control.
M66	P+PF-IC-KP2-2HB18-2V1_RD_FixCode	Reinitialize the IDENT Control when the last initialization failed.

■External output (Check)

Device	FB name	Application (When ON)
D80	P+PF-IC-KP2-2HB18-2V1_RD_FixCode	Output a code for an error occurred when FB execute an error occurred
M73	P+PF-IC-KP2-2HB18-2V1_RD_FixCode	The specified IDENT Control ready.
D81	P+PF-IC-KP2-2HB18-2V1_RD_FixCode	The specified IDENT Control of CH1 responds status.
D82	P+PF-IC-KP2-2HB18-2V1_RD_FixCode	The specified IDENT Control of CH1 execution counters.
D83	P+PF-IC-KP2-2HB18-2V1_RD_FixCode	The specified IDENT Control of CH2 responds status.
D84	P+PF-IC-KP2-2HB18-2V1_RD_FixCode	The specified IDENT Control of CH2 execution counters.

(4) Application Example Settings

■Common settings

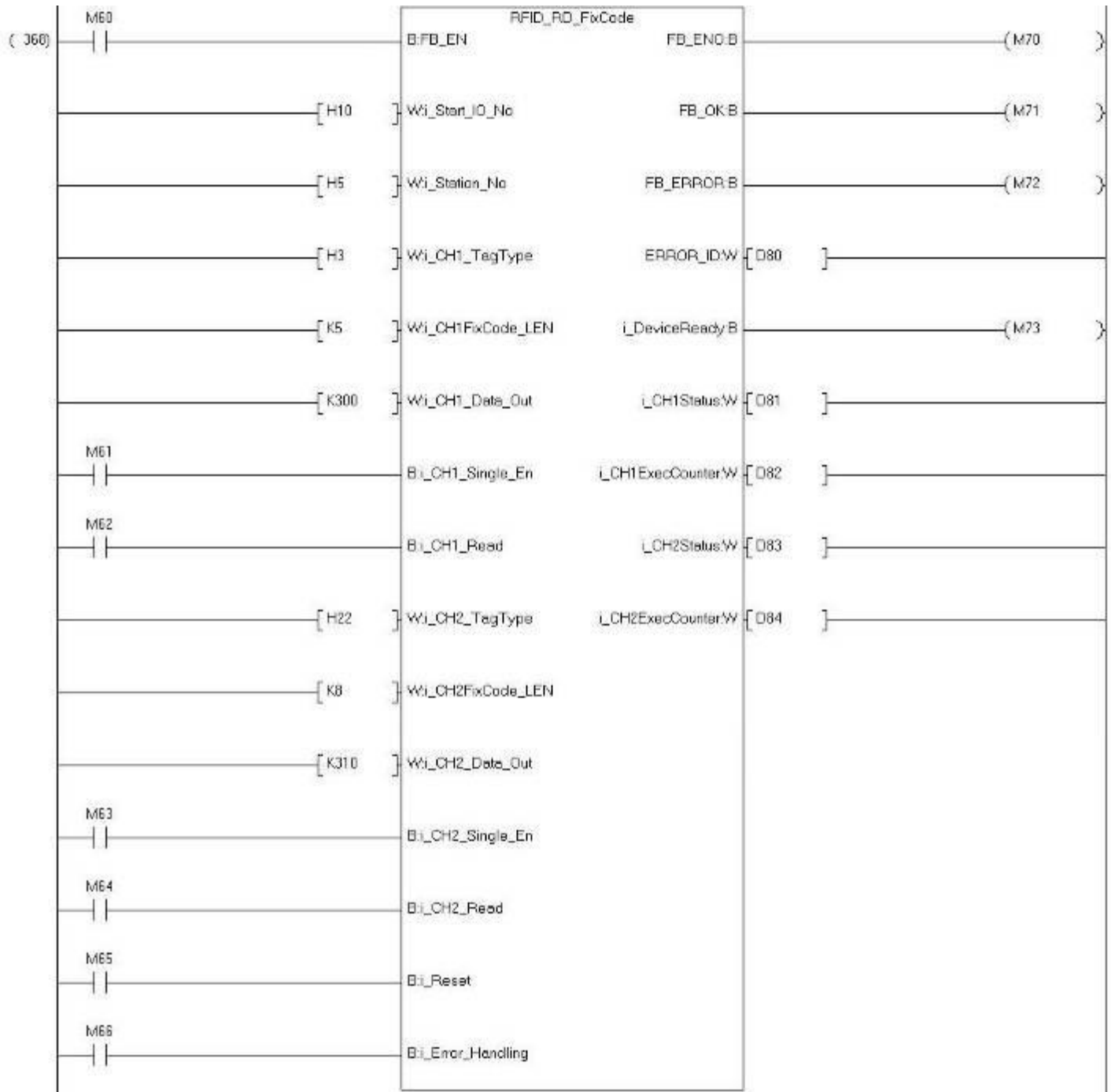
Input/output item	Value	Description
Module start XY address	H10	Specify the starting XY address where the CC-Link system master/local module to communicate, is mounted.
IDENT Control Station Number	H5	Enter the station number of the IDENT Control, the rotary switch setting back of the IDENT Control.
CH1 Tag type	H3	Enter the channel 1 connected read head compatible RFID tag type. For details, refer to the IDENT Control user's manual.
CH1 Fixcode Length	K5	Enter the length of the Fixcode.
CH1 Fixcode Data Output	H12C (K300)	Enter the start address number for the fixcode storage area read out from the RFID tag via CH1.
CH2 Tag type	H22	Enter the channel 2 connected read head compatible RFID tag type. For details, refer to the IDENT Control user's manual.
CH2 Fixcode Length	K8	Enter the length of the Fixcode.
CH2 Fixcode Data Output	H136 (K310)	Enter the start address number for the fixcode storage area read out from the RFID tag via CH2.



(5) Program

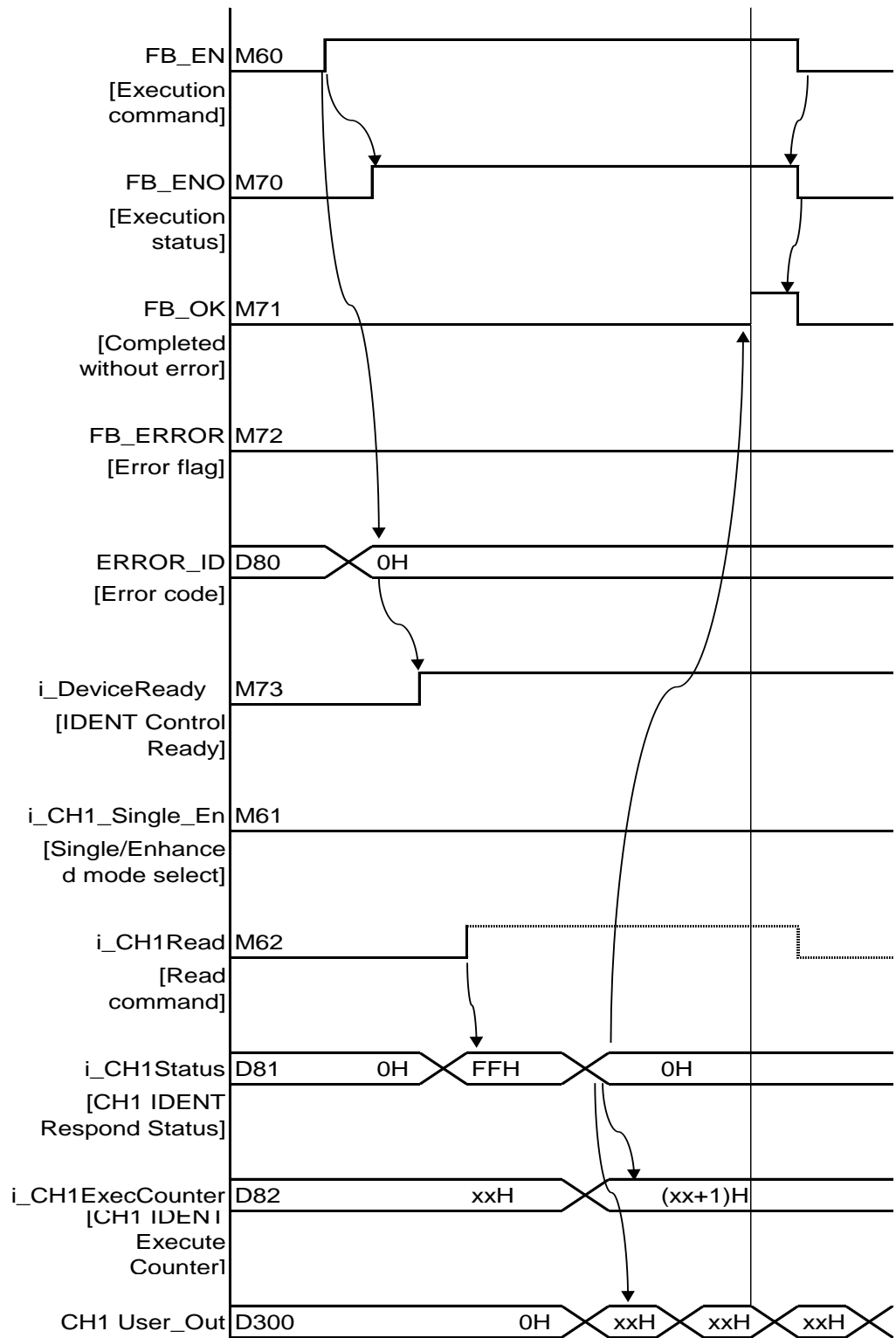
(a) P+PF-IC-KP2-2HB18-2V1_Read_Write (Single read data from RFID tag via channel 1)

Single read 192 bytes data from the start address 0 of RFID tag via channel 1 and store those data into register area starting at D300.

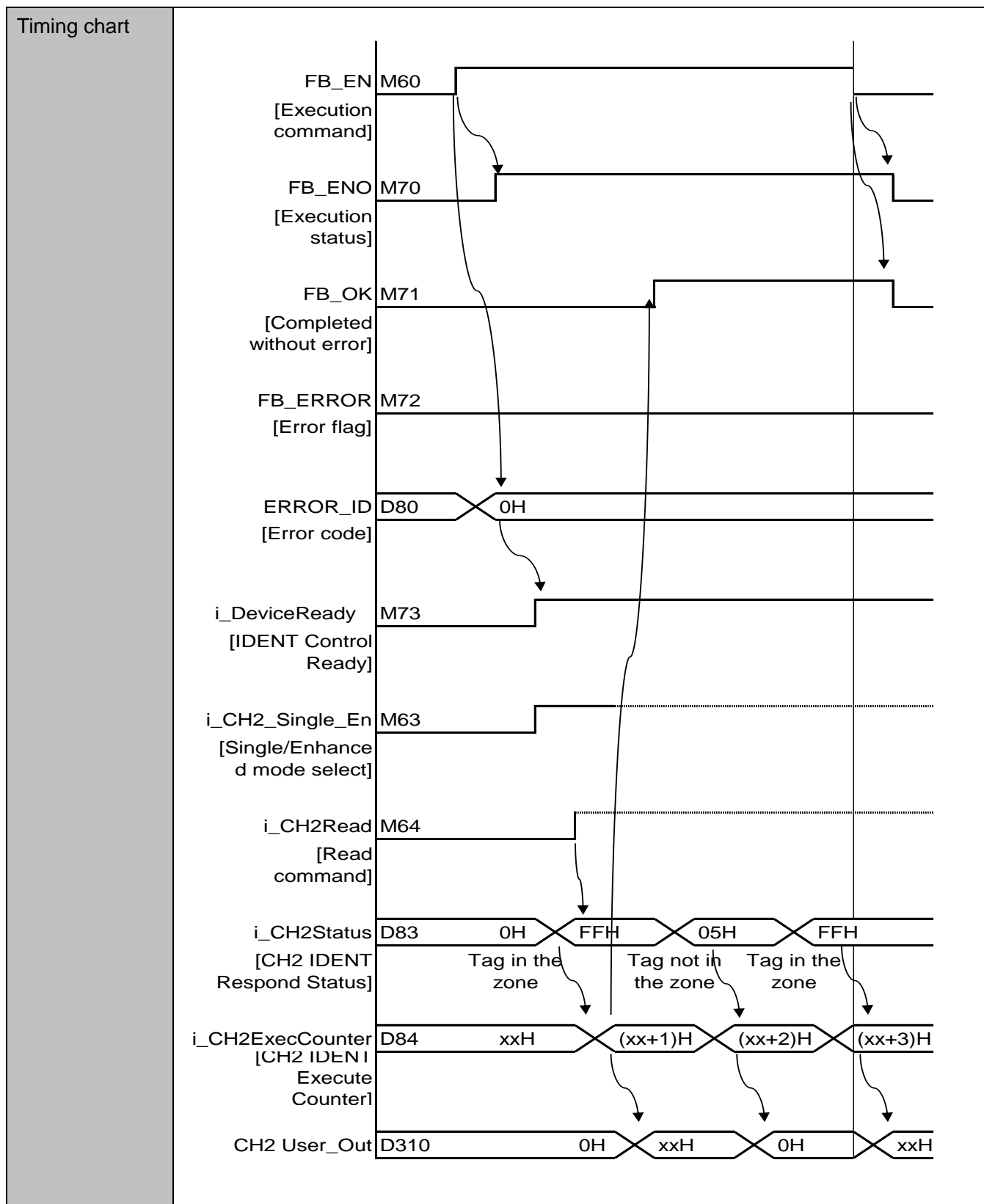


When RFID tag in the zone of R/W head via channel 1 single read FixCode.

Timing chart

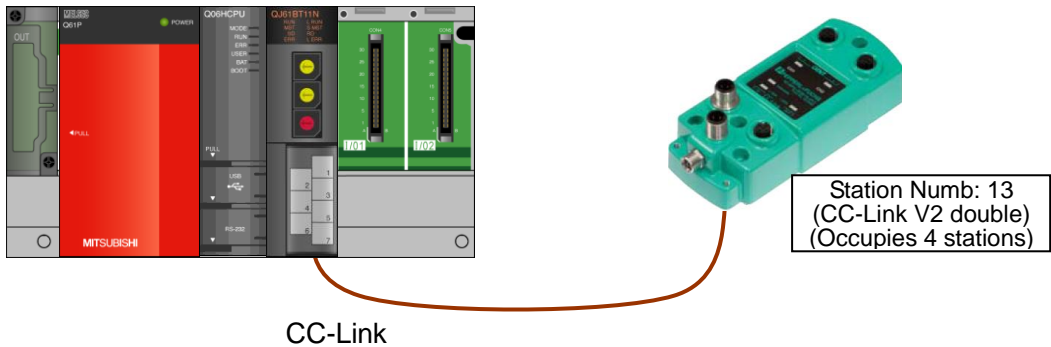


When RFID tag in the zone of read head via channel 2 enhanced read FixCode.



In this application example, data is written to the RFID tag using the CC-Link system.

(1) System Configuration



(2) Device List

■External input (Command)

Device	FB name	Application (When ON)
M80	P+PF-IC-KP2-2HB18-2V1_RW_Bytes	Enable the function block.
M81	P+PF-IC-KP2-2HB18-2V1_RW_Bytes	Read the data from the RFID tag via channel 1.
M82	P+PF-IC-KP2-2HB18-2V1_RW_Bytes	Write the data to the RFID tag via channel 1.
M83	P+PF-IC-KP2-2HB18-2V1_RW_Bytes	Read the data from the RFID tag via channel 2.
M84	P+PF-IC-KP2-2HB18-2V1_RW_Bytes	Write the data to the RFID tag via channel 2.
M85	P+PF-IC-KP2-2HB18-2V1_RW_Bytes	Reset the specified IDENT Control.
M86	P+PF-IC-KP2-2HB18-2V1_RW_Bytes	Reinitialize the IDENT Control when the last initialization failed.

■External output (Check)

Device	FB name	Application (When ON)
D50	P+PF-IC-KP2-2HB18-2V1_RD_FixCode	Output a code for an error occurred when FB execute an error occurred
M93	P+PF-IC-KP2-2HB18-2V1_RD_FixCode	The specified IDENT Control ready.
D51	P+PF-IC-KP2-2HB18-2V1_RD_FixCode	The specified IDENT Control of CH1 responds status.
D52	P+PF-IC-KP2-2HB18-2V1_RD_FixCode	The specified IDENT Control of CH1 execution counters.
D53	P+PF-IC-KP2-2HB18-2V1_RD_FixCode	The specified IDENT Control of CH2 responds status.
D54	P+PF-IC-KP2-2HB18-2V1_RD_FixCode	The specified IDENT Control of CH2 execution counters.

(4) Application Example Settings

■Common settings

Input/output item	Value	Description
Module start XY address	H10	Specify the starting XY address where the CC-Link system master/local module to communicate, is mounted.
IDENT Control Station Number	HD	Enter the station number of the IDENT Control, the rotary switch setting back of the IDENT Control.
CH1 Tag type	H43	Enter the channel 1 connected read head compatible RFID tag type. For details, refer to the IDENT Control user's manual.
CH2 Tag type	H43	Enter the channel 2 connected read head compatible RFID tag type. For details, refer to the IDENT Control user's manual.
CH1 Word Number	H35C (K860)	Enter the length of the data for operation via channel 1. (1 Word Number = 4 Byte)
CH1 Word Address	H0	Enter the start address of the data for operation via channel 1.
CH1 User Output Area	H3E8 (K1000)	Enter the start address number for the data storage area read out from the RFID tag via CH1.
CH1 User Input Area	HFA0 (K4000)	Enter the start address number for the data storage area written to the RFID tag via CH1.



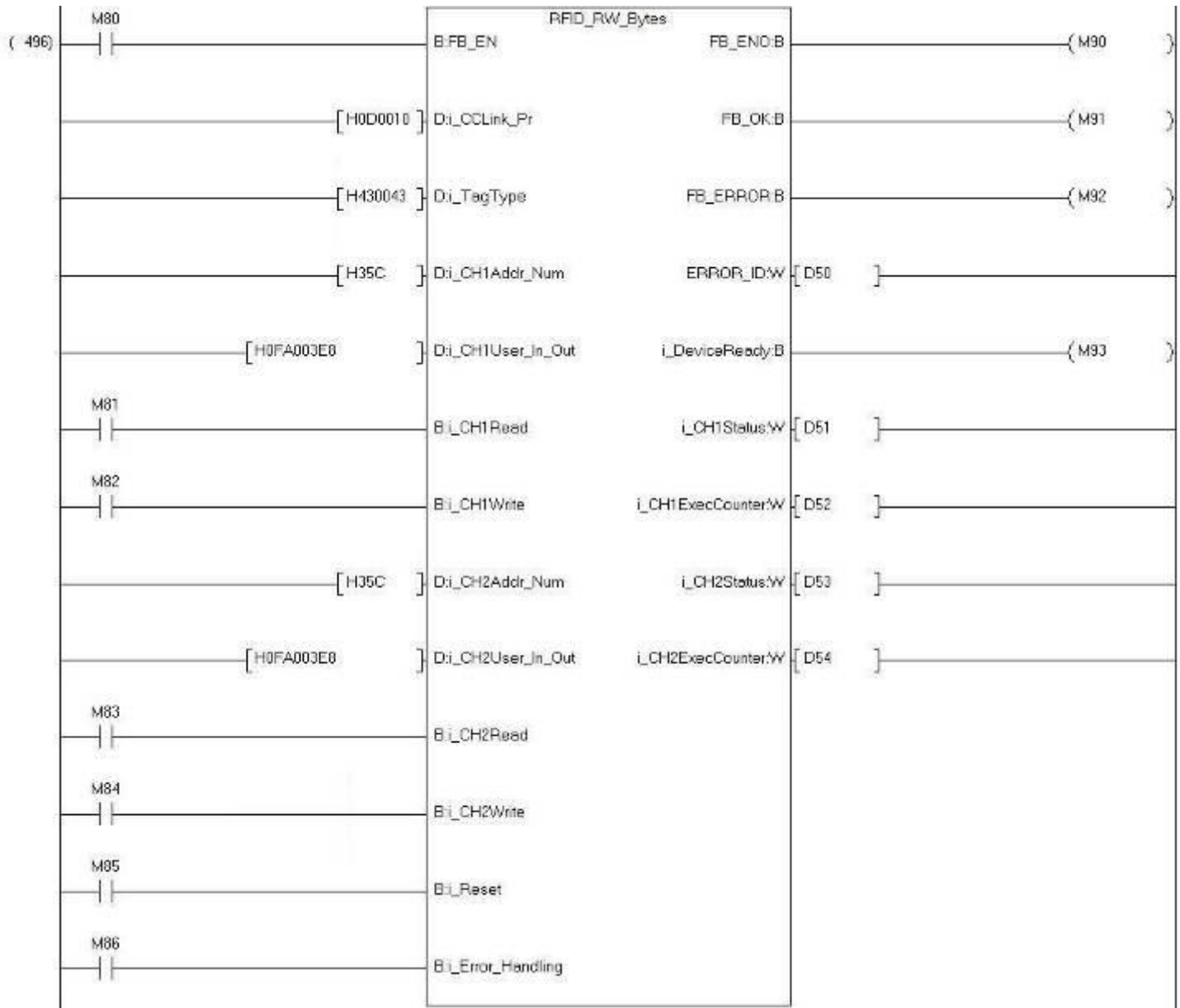
Input/output item	Value	Description
CH2 Word Number	H35C (K860)	Enter the length of the data for operation via channel 2. (1 Word Number = 4 Byte)
CH2 Word Address	H0	Enter the start address of the data for operation via channel 2.
CH2 User Output Area	H3E8 (K1000)	Enter the start address number for the data storage area read out from the RFID tag via CH2.
CH2 User Input Area	HFA0 (K4000)	Enter the start address number for the data storage area written to the RFID tag via CH2.



(5) Program

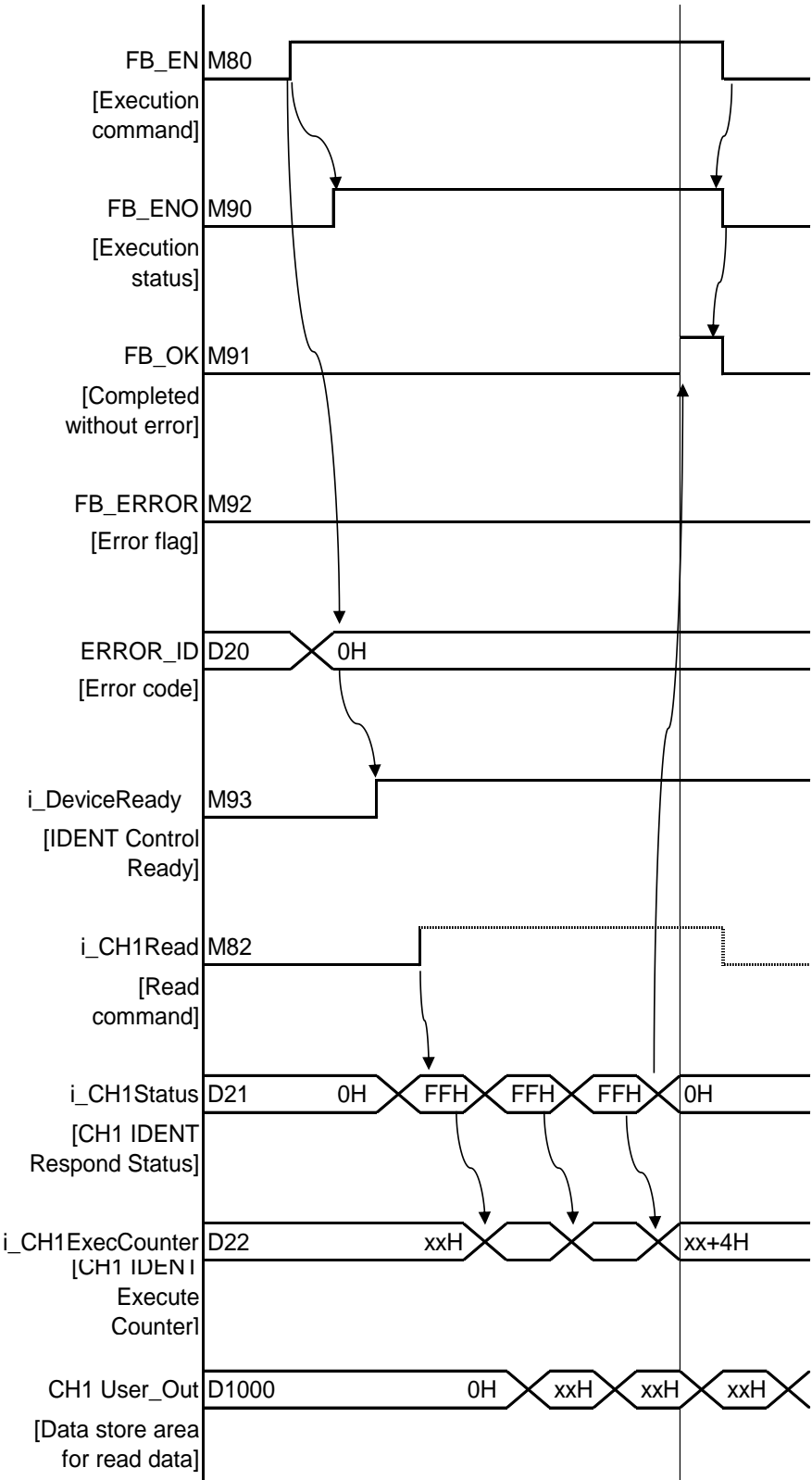
(a) P+PF-IC-KP2-2HB18-2V1_RW_Bytes (Read & Write Data with RFID Tag for large amount bytes)

Read 3440 bytes data from the start address 0 of RFID tag via channel 1 and store those data into register area starting at D1000.

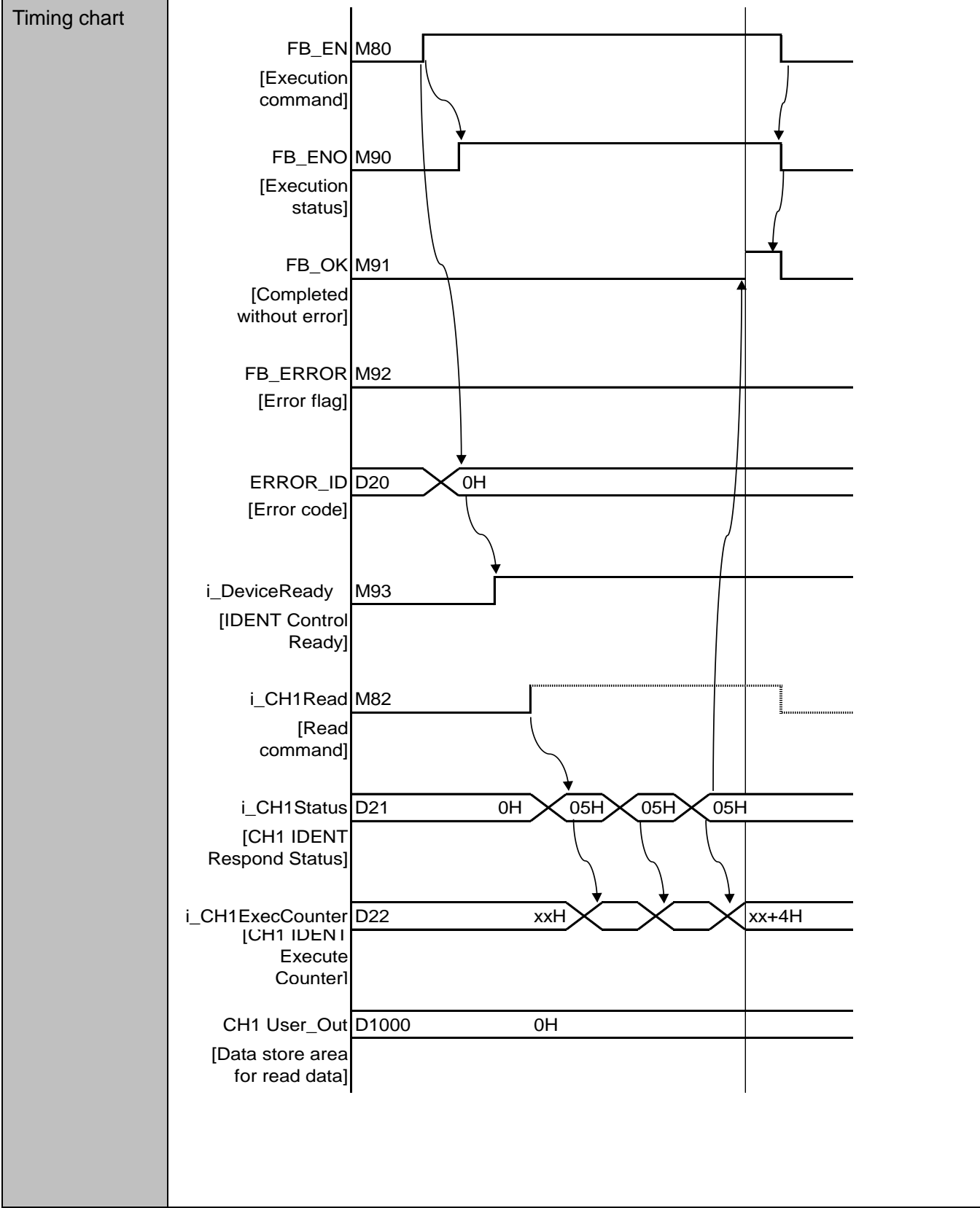


When RFID tag in the zone of R/W head via channel 1 single read data.

Timing chart



When RFID tag is not in the zone of R/W head via channel 1 single read data.



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