Chapter 2: **CC-Link**

2

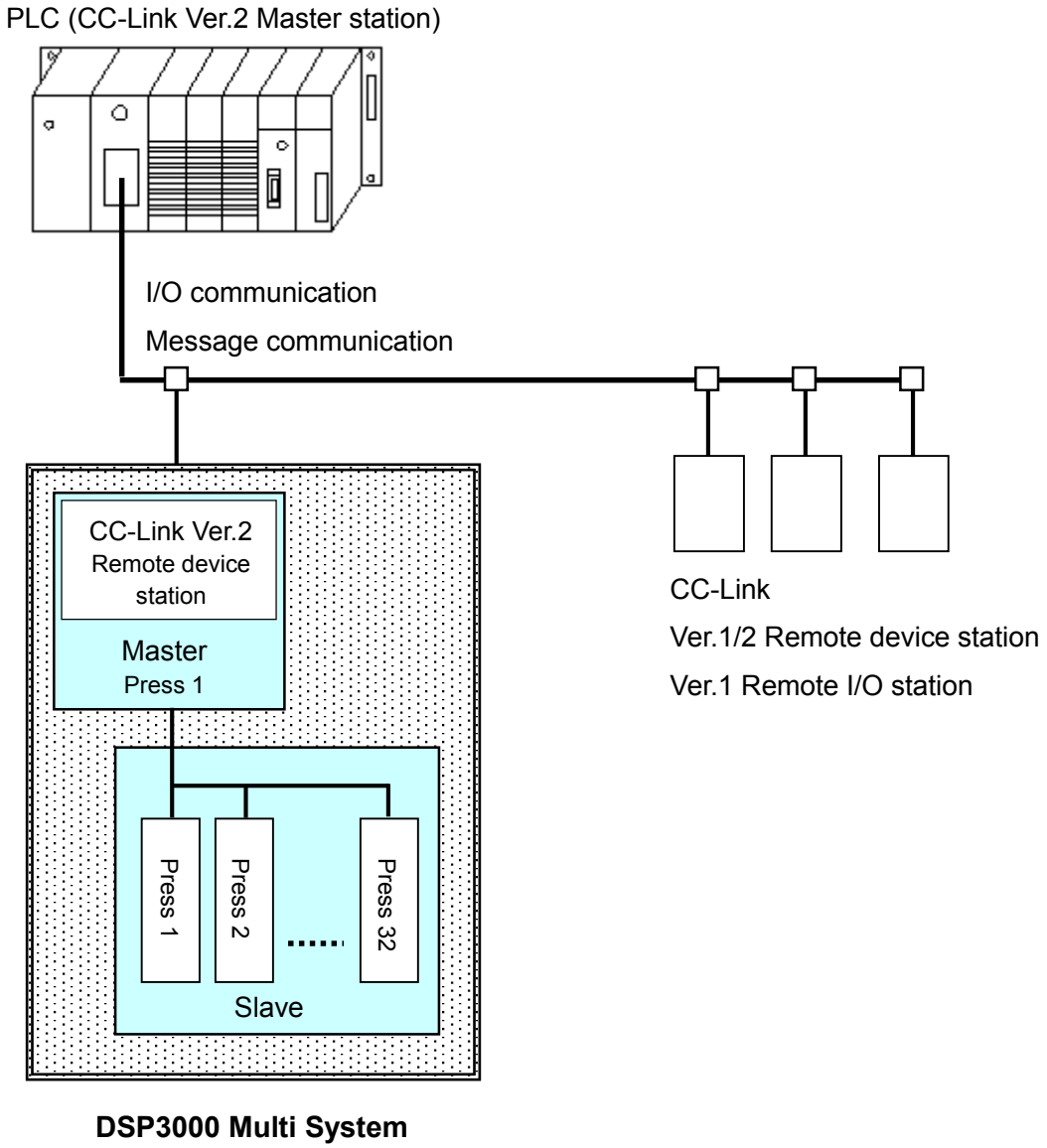
This is compliant with Open field network CC-Link Ver.2.00, so it can be connected with CC-Link Ver.2 Master station, Ver.1/2 Remote device station or Ver.1 Remove I/O station.
I/O communication and message communication can be executed at the same time.

I/O communication
- Input Signal
- Output Signal

Message communication
- Press Result Data
- ID (Barcode Data)

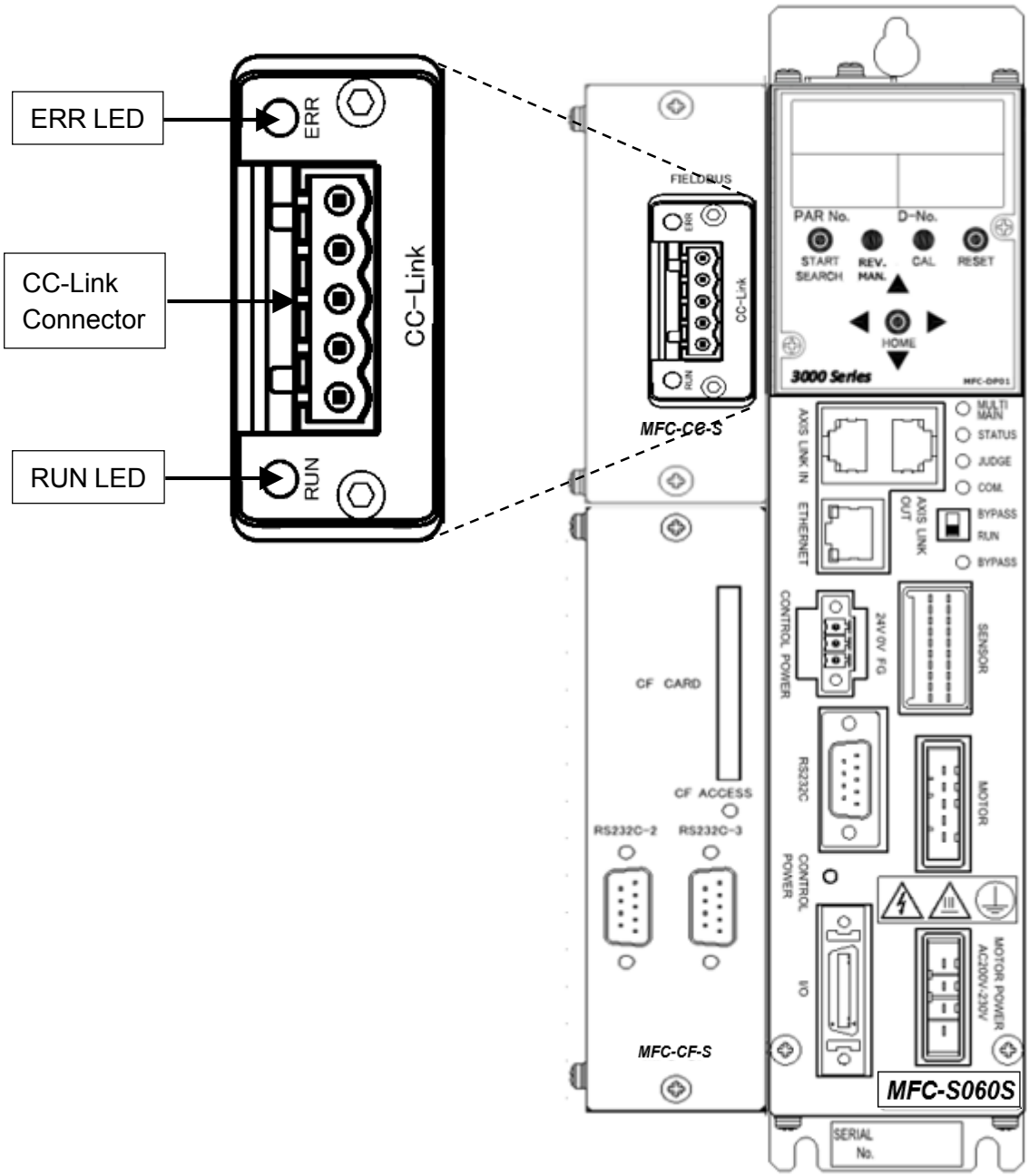
* **A handshake of the system area needs to be implemented on the PLC side.** Page 2-22

2-1. System Structure



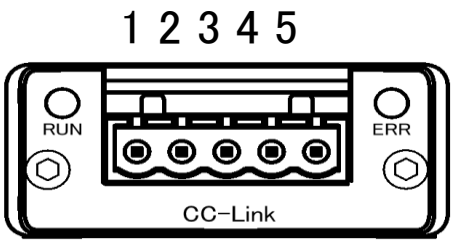
DSP3000 Multi System

2-2. **Hardware**


ERR LED
CC-Link Connector
RUN LED
ERR
CC-Link
RUN
FIELDBUS
MFC-CC-S
PAR No.
D-No.
START SEARCH
REV. MAN.
CAL
RESET
HOME
3000 Series
MULTI MAIN
STATUS
JUDGE
COM.
BYPASS
RUN
BYPASS
AXIS LINK IN
ETHERNET
AXIS LINK OUT
CONTROL POWER
24V 0V FG
SENSOR
CF CARD
CF ACCESS
RS232C-2
RS232C-3
RS232C
MOTOR
CONTROL POWER
I/O
MOTOR POWER AC200V-230V
MFC-CF-S
MFC-S060S
SERIAL No.

●Module Pin Configuration

No.	Signal	Wire Color	Description
1	DA	Black	Sending side
2	DB	Blue	Receiving side
3	DG	-	Signal ground
4	SLD	White	Shield
5	FG	Red	Ground



Manufacturer:	Phoenix Contact
Type:	Connector plug
Model:	MSTB 2.5/5-ST-5.08 AU M
Applicable wire size:	AWG 14 ~ 23 or 0.25mm^2 ~ 2.5mm^2

Applicable cable size and recommended rod terminals (Ferrule) are as follows:

- Applicable cable size: AWG 23 to 14 (0.25 ㎜ ^{2} to 2.5 ㎜ ^{2})
- Recommended rod terminals (Ferrule) : Model AI 2, 5-6 BU (Phoenix Contact)

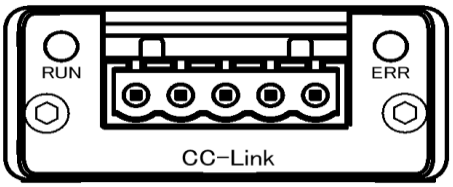
CAUTION

Connect the cables with all the power supplies turned OFF.

● LED display

The module displays the node status of CC-Link system as well as the network status by LED.

A : RUN LED



B : ERR LED

LED		Color	State		Details
A	RUN LED	OFF	Off	Offline	Power is not supplied or connection is unestablished.
		Green	Lit up	Online	Communicating normally.
		Red	Lit up	Error	A critical error has occurred.
B	ERR LED	OFF	Off	Offline	Power is not supplied.
		Red	Lit up	Error	A critical error has occurred.
			Flickering	CRC error	A cyclic redundancy check (CRC) error has occurred.
			Flash	Minor error	Station No. or baud rate setting is changed after power on.

2-3. I/O Signal Specifications

	I/O Input/Output		Message Input/Output	
	PRESS → PLC	PLC → PRESS	PRESS → PLC	PLC → PRESS
Maximum Setting	110 bytes (880 points)	110 bytes (880 points)	88 words (176 bytes)	87 words (174 bytes)
Standard Setting	110 bytes (880 points)	110 bytes (880 points)	72 words (144 bytes)	71 words (142 bytes)

<Area per Station ・ 1 Time Setting> * PLC CC-Link V1.10 Master Station▼

Type	1 Station Occupied		2 Stations Occupied		3 Stations Occupied		4 Stations Occupied	
	Number of Occupied Points	Number of Available Points	Number of Occupied Points	Number of Available Points	Number of Occupied Points	Number of Available Points	Number of Occupied Points	Number of Available Points
RX	32 points*1	16 points	64 points*1	48 points	96 points*1	80 points	128 points*1	112 points
RY		16 points		48 points		80 points		112 points
RWw	4 words		8 words		12 words		16 words	
RWr*2	3 words		7 words		11 words		15 words	

<Area per Station ・ 2 Times Setting>

Type	1 Station Occupied		2 Stations Occupied		3 Stations Occupied		4 Stations Occupied	
	Number of Occupied Points	Number of Available Points	Number of Occupied Points	Number of Available Points	Number of Occupied Points	Number of Available Points	Number of Occupied Points	Number of Available Points
RX	32 points*1	16 points	96 points*1	80 points	160 points*1	144 points	224 points*1	208 points
RY		16 points		80 points		144 points		208 points
RWw	8 words		16 words		24 words		32 words	
RWr*2	7 words		15 words		23 words		31 words	

<Area per Station ・ 4 Times Setting>

Type	1 Station Occupied		2 Stations Occupied		3 Stations Occupied		4 Stations Occupied	
	Number of Occupied Points	Number of Available Points	Number of Occupied Points	Number of Available Points	Number of Occupied Points	Number of Available Points	Number of Occupied Points	Number of Available Points
RX	64 points*1	48 points	192 points*1	176 points	320 points*1	304 points	448 points*1	432 points
RY		48 points		176 points		304 points		432 points
RWw	16 words		32 words		48 words		64 words	
RWr*2	15 words		31 words		47 words		63 words	

<Area per Station ・ 8 Times Setting> * Standard Setting▼

Type	1 Station Occupied		2 Stations Occupied		3 Stations Occupied		4 Stations Occupied	
	Number of Occupied Points	Number of Available Points	Number of Occupied Points	Number of Available Points	Number of Occupied Points	Number of Available Points	Number of Occupied Points	Number of Available Points
RX	128 points*1	112 points	384 points*1	368 points	640 points*1	624 points	896 points*1	880 points
RY		112 points		368 points		624 points		880 points
RWw	32 words		64 words		88 words*3		72 words*3	
RWr*2	31 words		63 words		87 words*3		71 words*3	

*1: 16 of the occupied points are used by the system area and the number of available points is decreased accordingly.

*2: With RWr, 1 word is used for the error code and the area thereof is therefore 1 word less than that of RWw.

*3: The message input/output setting is restricted to a maximum of 256 bytes that is the total of the remote input/output (RX/RY) and the remote registers (RWw/RWr) (640 points + 88 words, 896 points + 72 words).

2-3-1. Input Signals (PLC → PRESS)

Unused areas from RY(n+6) 0 to RY(n+37) F are also to be ensured as follows:

8 Times **4 Stations** (Default Settings)

All the input signal names are fixedly assigned (unchangeable).
For description of each input signal, refer to **【Input Signal List】** on Pages 1-2 and 1-3.

Remote Output RY	Signal Name	Remote Output RY	Signal Name
RYn0	Emergency Stop	**RY(n+2)0**	Seq / Press 1
RYn1	Reset	**RY(n+2)1**	Seq / Press 2
RYn2	Return	**RY(n+2)2**	Seq / Press 3
RYn3	Start	**RY(n+2)3**	Seq / Press 4
RYn4	Home	**RY(n+2)4**	Seq / Press 5
RYn5	Jog	**RY(n+2)5**	Seq / Press 6
RYn6	Seq / Press Select 0	**RY(n+2)6**	Seq / Press 7
RYn7	Seq / Press Select 1	**RY(n+2)7**	Seq / Press 8
RYn8	Seq / Press Select 2	**RY(n+2)8**	Seq / Press 9
RYn9	Seq / Press Select 3	**RY(n+2)9**	Seq / Press 10
RYnA	Seq / Press Select 4	**RY(n+2)A**	Seq / Press 11
RYnB	Seq Select 5	**RY(n+2)B**	Seq / Press 12
RYnC	Input Wait Port 1	**RY(n+2)C**	Seq / Press 13
RYnD	Input Wait Port 2	**RY(n+2)D**	Seq / Press 14
RYnE	Input Wait Port 3	**RY(n+2)E**	Seq / Press 15
RYnF	Input Wait Port 4	**RY(n+2)F**	Seq / Press 16
RY(n+1)0	Press 1 Bypass	**RY(n+3)0**	Seq / Press 17
RY(n+1)1	Press 2 Bypass	**RY(n+3)1**	Seq / Press 18
RY(n+1)2	Press 3 Bypass	**RY(n+3)2**	Seq / Press 19
RY(n+1)3	Press 4 Bypass	**RY(n+3)3**	Seq / Press 20
RY(n+1)4	Press 5 Bypass	**RY(n+3)4**	Seq / Press 21
RY(n+1)5	Press 6 Bypass	**RY(n+3)5**	Seq / Press 22
RY(n+1)6	Press 7 Bypass	**RY(n+3)6**	Seq / Press 23
RY(n+1)7	Press 8 Bypass	**RY(n+3)7**	Seq / Press 24
RY(n+1)8	Press 9 Bypass	**RY(n+3)8**	Seq / Press 25
RY(n+1)9	Press 10 Bypass	**RY(n+3)9**	Seq / Press 26
RY(n+1)A	Cycle Count Up	**RY(n+3)A**	Seq / Press 27
RY(n+1)B	Cycle Count Clear	**RY(n+3)B**	Seq / Press 28
RY(n+1)C	Jog Speed Select	**RY(n+3)C**	Seq / Press 29
RY(n+1)D	ID Data Clear	**RY(n+3)D**	Seq / Press 30
RY(n+1)E	ID Select Enable	**RY(n+3)E**	Seq / Press 31
RY(n+1)F	Seq / Press Select No.	**RY(n+3)F**	Seq / Press 32

Remote Output RY	Signal Name
RY(n+4)0	Press 11 Bypass
RY(n+4)1	Press 12 Bypass
RY(n+4)2	Press 13 Bypass
RY(n+4)3	Press 14 Bypass
RY(n+4)4	Press 15 Bypass
RY(n+4)5	Press 16 Bypass
RY(n+4)6	Press 17 Bypass
RY(n+4)7	Press 18 Bypass
RY(n+4)8	Press 19 Bypass
RY(n+4)9	Press 20 Bypass
RY(n+4)A	Press 21 Bypass
RY(n+4)B	Press 22 Bypass
RY(n+4)C	Press 23 Bypass
RY(n+4)D	Press 24 Bypass
RY(n+4)E	Press 25 Bypass
RY(n+4)F	Press 26 Bypass
RY(n+5)0	Press 27 Bypass
RY(n+5)1	Press 28 Bypass
RY(n+5)2	Press 29 Bypass
RY(n+5)3	Press 30 Bypass
RY(n+5)4	Press 31 Bypass
RY(n+5)5	Press 32 Bypass
RY(n+5)6	
RY(n+5)7	
RY(n+5)8	
RY(n+5)9	
RY(n+5)A	
RY(n+5)B	Message Press Offset Bit 0
RY(n+5)C	Message Press Offset Bit 1
RY(n+5)D	Message Press Offset Bit 2
RY(n+5)E	Message Press Offset Bit 3
RY(n+5)F	Message Press Offset Bit 4

Message Press Offset Bit 0~4

Select the press No. displayed at the head in the field bus message when Press Result Data is output.
Page 2-16 to 18

2-3-2. Output Signals (PRESS → PLC)

Unused areas from RX(n+10)0 to RX(n+37)F are also to be ensured as follows:

8 Times **4 Stations** (Default Settings)

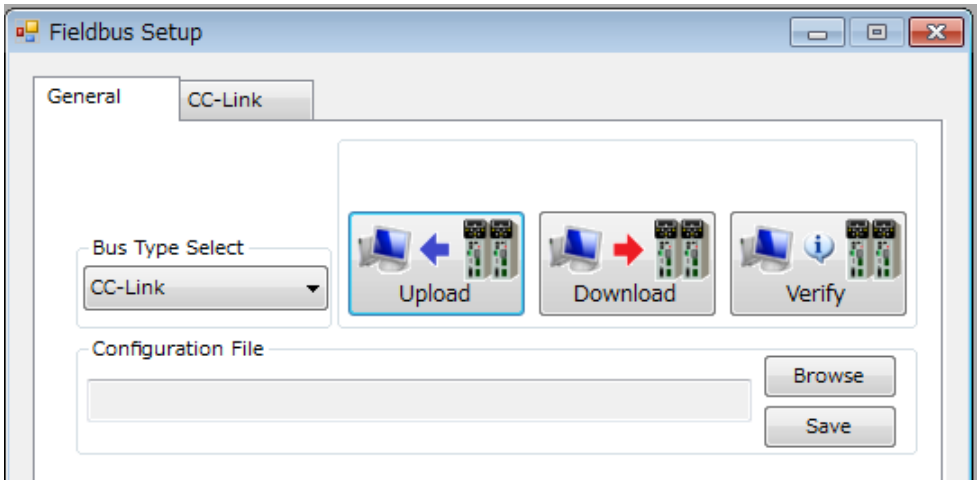
Output signal names are freely assigned
The signal names to output in [PLC Output Layout] on the User Console can be assigned here.
For description of each output signal, refer to **【Output Signal List】** on Pages 1-7 to 1-9.

Remote Input RX	Signal Name	Remote Input RX	Signal Name
RXn0	Total Accept	**RX(n+2)0**	
RXn1	Total Reject	**RX(n+2)1**	
RXn2	Press Abnormal	**RX(n+2)2**	
RXn3	Ready	**RX(n+2)3**	
RXn4	Busy	**RX(n+2)4**	
RXn5	End	**RX(n+2)5**	
RXn6		**RX(n+2)6**	
RXn7		**RX(n+2)7**	
RXn8		**RX(n+2)8**	
RXn9	Seq / Press Select 0	**RX(n+2)9**	
RXnA	Seq / Press Select 1	**RX(n+2)A**	
RXnB	Seq / Press Select 2	**RX(n+2)B**	
RXnC	Seq / Press Select 3	**RX(n+2)C**	
RXnD	Seq / Press Select 4	**RX(n+2)D**	
RXnE	Seq Select 5	**RX(n+2)E**	
RXnF		**RX(n+2)F**	
RX(n+1)0		**RX(n+3)0**	
RX(n+1)1		**RX(n+3)1**	
RX(n+1)2		**RX(n+3)2**	
RX(n+1)3		**RX(n+3)3**	
RX(n+1)4		**RX(n+3)4**	
RX(n+1)5		**RX(n+3)5**	
RX(n+1)6		**RX(n+3)6**	
RX(n+1)7		**RX(n+3)7**	
RX(n+1)8		**RX(n+3)8**	
RX(n+1)9		**RX(n+3)9**	
RX(n+1)A		**RX(n+3)A**	
RX(n+1)B		**RX(n+3)B**	
RX(n+1)C		**RX(n+3)C**	
RX(n+1)D		**RX(n+3)D**	
RX(n+1)E		**RX(n+3)E**	
RX(n+1)F		**RX(n+3)F**	

Remote Input RX	Signal Name	Remote Input RX	Signal Name
RX(n+C)0		RX(n+E)0	
RX(n+C)1		RX(n+E)1	
RX(n+C)2		RX(n+E)2	
RX(n+C)3		RX(n+E)3	
RX(n+C)4		RX(n+E)4	
RX(n+C)5		RX(n+E)5	
RX(n+C)6		RX(n+E)6	
RX(n+C)7		RX(n+E)7	
RX(n+C)8		RX(n+E)8	
RX(n+C)9		RX(n+E)9	
RX(n+C)A		RX(n+E)A	
RX(n+C)B		RX(n+E)B	
RX(n+C)C		RX(n+E)C	
RX(n+C)D		RX(n+E)D	
RX(n+C)E		RX(n+E)E	
RX(n+C)F		RX(n+E)F	
RX(n+D)0		RX(n+F)0	
RX(n+D)1		RX(n+F)1	
RX(n+D)2		RX(n+F)2	
RX(n+D)3		RX(n+F)3	
RX(n+D)4		RX(n+F)4	
RX(n+D)5		RX(n+F)5	
RX(n+D)6		RX(n+F)6	
RX(n+D)7		RX(n+F)7	
RX(n+D)8		RX(n+F)8	
RX(n+D)9		RX(n+F)9	
RX(n+D)A		RX(n+F)A	
RX(n+D)B		RX(n+F)B	
RX(n+D)C		RX(n+F)C	
RX(n+D)D		RX(n+F)D	
RX(n+D)E		RX(n+F)E	
RX(n+D)F		RX(n+F)F	

2-4. **Fieldbus Setup**

Setting is available via [Fieldbus Setup] on the User Console:



Bus Type Select
Enables to select CC-Link.

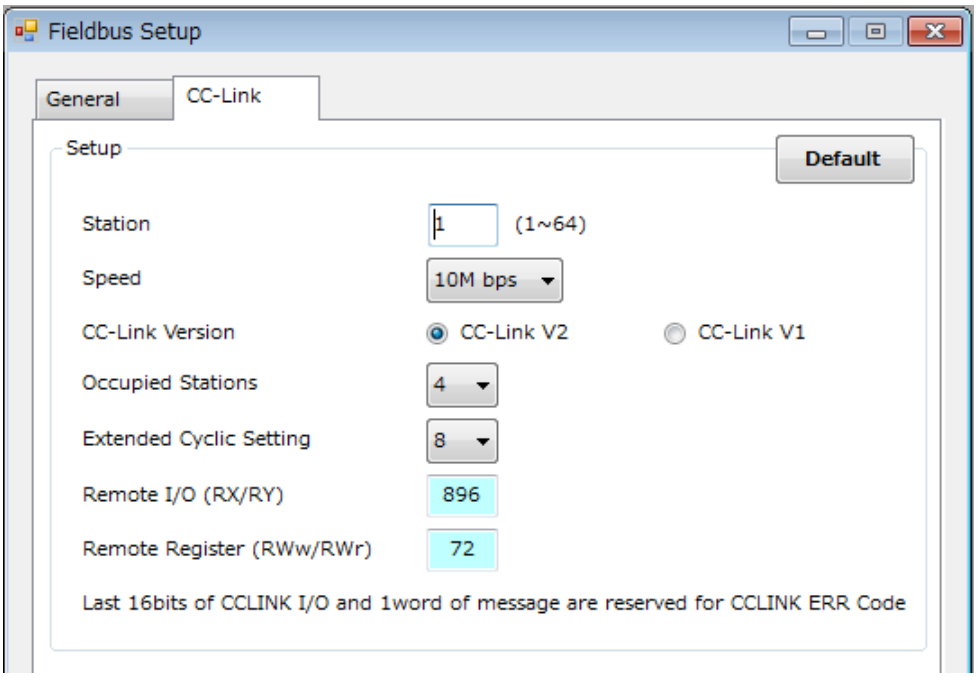
Upload
Reads the field bus setting from the Press Controller.

Download
Writes the field bus setting to the Press Controller.
*After writing, turn ON the power again.

Verify
Compares the field bus setting given on the User Console with that of the Press Controller.

Browse
Reads the data in the field bus setting file (*.spfcf).

Save
Saves the data in the field bus setting file (*.spfcf).



Default

Here is the factory setting:

- Station : 1
- Speed : 10Mbps
- CC-Link Version : CC-Link V2
- Occupied Stations : 4
- Extended Cyclic Setting : 8

*Length of the message block data is fixed to144 bytes.

Station

1 to 64

Speed

156kbps, 625kbps, 2.5Mbps, 5Mbps, 10Mbps

CC-Link Version

CC-Link V2, CC-Link V1

Occupied Stations

1 station, 2 stations, 3 stations, 4 stations (∗CC-Link V1 is fixed to 4 stations)

Extended Cyclic setting

1 time, 2 times, 4 times, 8 times (∗CC-Link V1 is fixed to 1 time)

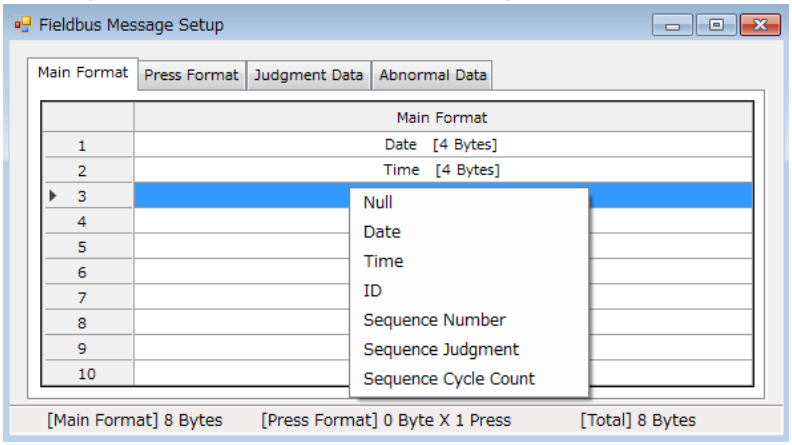
Remote I/O (RX/RY)

Remote Register (RWw/RWr)

Setting is enabled according to the combination of extended cyclic setting and occupied stations.

2-5. **Fieldbus Message (PRESS → PLC)**

Setting is available via [Fieldbus Message Setup] on the User Console.

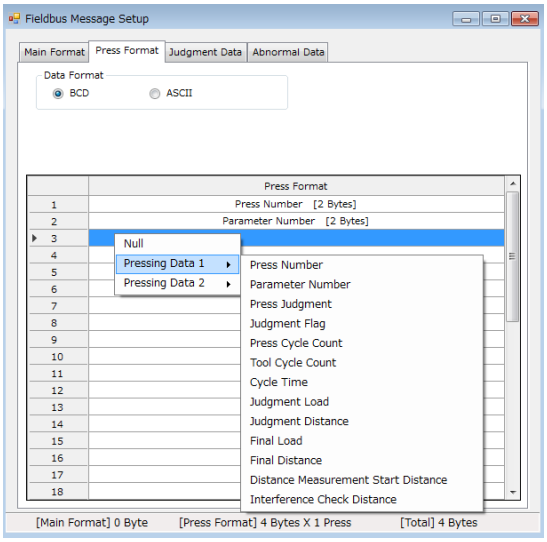


[Main Format] Data Format: BCD

Main Format	Data	Byte	Word 1		Word 2		Word 3		～		Word 16	
Date	2015/08/25	4	20	15	08	25						
Time	12:34:56	4	12	34	56	00						
ID	ABCDEF	32	A	B	C	D	E	F	Null	Null	Null	Null
Sequence Number	12	2	00	12								
Sequence Judgment	REJECT	2	00	01								
	ACCEPT	2	00	02								
	ABNORMAL	2	00	04								
	STOP	2	00	08								
	RESET	2	00	10								
	BYPASS	2	00	20								
	START OFF	2	00	40								
	IN CYCLE	2	00	80								
Sequence Cycle Count	12345678	4	12	34	56	78						

[Main Format] Data Format: ASCII

Main Format	Data	Byte	Word 1		Word 2		Word 3		Word 4		Word 5	
Date	2015/08/25	10	2	0	1	5	/	0	8	/	2	5
Time	12:34:56	8	1	2	:	3	4	:	5	6		
ID	ABCDEF	32	A	B	C	D	E	F	Null	Null	Null	Null
Sequence Number	12	2	1	2								
Sequence Judgment	REJECT	4	R	E	J	␣						
	ACCEPT	4	A	C	C	␣						
	ABNORMAL	4	A	B	N	␣						
	STOP	4	S	T	O	P						
	RESET	4	R	S	T	␣						
	BYPASS	4	B	Y	P	␣						
	START OFF	4	S	O	F	F						
	IN CYCLE	4	I	N	C	Y						
Sequence Cycle Count	12345678	8	1	2	3	4	5	6	7	8		



*** Data for operating press number are outputted.**

[Press Format] Data Format: BCD

Press Format	Data	Byte	Word 1		Word 2		Word 3	
Press Number	1	2	00	01				
Parameter Number	123	2	01	23				
Press Judgment		4	①	②	③	④		
Judgment Flag		6	⑤	⑥	⑦	⑧	00	④
Press Cycle Count	12345678	4	12	34	56	78		
Tool Cycle Count	12345678	4	12	34	56	78		
Cycle Time	123.4	4	00	12	34	0 1		
Judgment Load	12.34	4	00	12	34	0 2		
Judgment Distance	123.456	4	12	34	56	0 3		
Final Load	12.34	4	00	12	34	0 2		
Final Distance	123.456	4	12	34	56	0 3		
Distance Measure Start Distance	123.456	4	12	34	56	0 3		
Interference Check Distance	123.456	4	12	34	56	0 3		
Part Check 1 Distance	123.456	4	12	34	56	0 3		
Part Check 2 Minimum Load	12.34	4	00	12	34	0 2		
Part Check 2 Maximum Load	12.34	4	00	12	34	0 2		
Part Check 2 Minimum Distance	123.456	4	12	34	56	0 3		
Part Check 2 Maximum Distance	123.456	4	12	34	56	0 3		
Part Check 3 Minimum Load	12.34	4	00	12	34	0 2		
Part Check 3 Maximum Load	12.34	4	00	12	34	0 2		
Part Check 3 Minimum Distance	123.456	4	12	34	56	0 3		
Part Check 3 Maximum Distance	123.456	4	12	34	56	0 3		
Absolute Distance	123.456	4	12	34	56	0 3		
Press Time	123.4	4	00	12	34	0 1		
ZERO Voltage	-0.123	4	00	01	23	1 3		
CAL Voltage	2.512	4	00	25	12	0 3		
Load Factor	100	2	01	00				

Sign 0: +, 1: - | 0 2 | Decimal Point

Press Judgment : ① Judgment Data 1 ② Judgment Data 2 ③ Abnormal Data ④ 1st Reject No.

Judgment Flag : ⑤ Judgment Flag 1 ⑥ Judgment Flag 2 ⑦ Judgment Flag 3 ⑧ Judgment Flag 4 ④ 1st Reject No

[Press Format] Data Format: ASCII

Press Format	Data	Byte	Word 1		Word 2		Word 3		Word 4		Word 5	
Press Number	1	2	‾	1								
Parameter Number	123	4	‾	1	2	3						
Press Judgment		4	①	②	③	④						
Judgment Flag		6	⑤	⑥	⑦	⑧	00	④				
Press Cycle Count	12345678	8	1	2	3	4	5	6	7	8		
Tool Cycle Count	12345678	8	1	2	3	4	5	6	7	8		
Cycle Time	123.4	6	‾	1	2	3	.	4				
Judgment Load	12.34	8	‾	1	2	.	3	4	JUG	OCC		
Judgment Distance	123.456	10	‾	1	2	3	.	4	5	6	JUG	OCC
Final Load	12.34	8	‾	1	2	.	3	4	JUG	OCC		
Final Distance	123.456	10	‾	1	2	3	.	4	5	6	JUG	OCC
Distance Measure Start Distance	123.456	8	␣	1	2	3	.	4	5	6		
Interference Check Distance	123.456	10	␣	1	2	3	.	4	5	6	JUG	OCC
Part Check 1 Distance	123.456	10	‾	1	2	3	.	4	5	6	JUG	OCC
Part Check 2 Minimum Load	12.34	8	␣	1	2	.	3	4	JUG	OCC		
Part Check 2 Maximum Load	12.34	8	␣	1	2	.	3	4	JUG	OCC		
Part Check 2 Minimum Distance	123.456	8	␣	1	2	3	.	4	5	6		
Part Check 2 Maximum Distance	123.456	8	␣	1	2	3	.	4	5	6		
Part Check 3 Minimum Load	12.34	8	␣	1	2	.	3	4	JUG	OCC		
Part Check 3 Maximum Load	12.34	8	␣	1	2	.	3	4	JUG	OCC		
Part Check 3 Minimum Distance	123.456	8	␣	1	2	3	.	4	5	6		
Part Check 3 Maximum Distance	123.456	8	␣	1	2	3	.	4	5	6		
Absolute Distance	123.456	8	‾	1	2	3	.	4	5	6		
Press Time	123.4	8	‾	1	2	3	.	4	JUG	OCC		
ZERO Voltage	-0.123	6	—	0	.	1	2	3				
CAL Voltage	2.512	6	‾	2	.	5	1	2				
Load Factor	100	4	‾	1	0	0						

Press Judgment : ① Judgment Data 1 ② Judgment Data 2 ③ Abnormal Data ④ 1st Reject No.

Judgment Flag : ⑤ Judgment Flag 1 ⑥ Judgment Flag 2 ⑦ Judgment Flag 3 ⑧ Judgment Flag 4 ④ 1st Reject No

"␣" : Space Code (20H)

JUG

[Judgment Load] [Judgment Distance] [Final Load] [Final Distance]
[Part 1 Check Distance] [Press Time]
"␣" (20H): Accept, "H"(48H): High Reject, "L"(4CH): Low Reject
[Part 2 Minimum Load] [Part 3 Minimum Load]
"␣" (20H): Accept, "L"(4CH): Low Reject
[Part 2 Maximum Load] [Part 3 Maximum Load]
"␣" (20H): Accept, "H"(48H): High Reject
[Interference Check Distance]
"␣" (20H): Accept, "Z"(5AH): Interference Check Reject

OCC

"X"(58H): 1st Reject occurred, "␣"(20H): Other

① Judgment Data 1 ② Judgment Data 2

Fieldbus Message Setup

Main Format | Press Format | Judgment Data | Abnormal Data

	Judgment 2-7	Judgment 2-6	Judgment 2-5	Judgment 2-4	Judgment 2-3	Judgment 2-2	Judgment 2-1	Judgment 2-0	Judgment 1-7	Judgment 1-6	Judgment 1-5	Judgment 1-4	Judgment 1-3	Judgment 1-2	Judgment 1-1	Judgment 1-0
Logic	OR	OR	OR	OR	OR	OR	OR	OR	OR	OR	OR	OR	OR	OR	OR	OR
Accept																ON
Reject															ON	
Press Abnormal														ON		
Bypass													ON			
Emergency Stop												ON				
Reset Stop											ON					
START OFF										ON						
LOAD LOW REJECT								ON								
LOAD HIGH REJECT							ON									
FINAL LOAD LOW REJECT						ON										
FINAL LOAD HIGH REJECT					ON											
DISTANCE LOW REJECT				ON												
DISTANCE HIGH REJECT			ON													
FINAL DISTANCE LOW REJECT		ON														
FINAL DISTANCE HIGH REJECT	ON															

The pressing result judgement can be set here by bit assignment.

③ Abnormal data

Fieldbus Message Setup

Main Format | Press Format | Judgment Data | Abnormal Data

	Bit 7	Bit 6	Bit 5	Bit 4	Bit 3	Bit 2	Bit 1	Bit 0
Abnormal 1								ON
Abnormal 3							ON	
Abnormal 4						ON		
Abnormal 5					ON			
Abnormal 6				ON				
Abnormal 8			ON					
Abnormal 9		ON						
Abnormal 10	ON							

The abnormal number when abnormality occurs can be set here by bit assignment.

④ 1st Reject No.

Reject	Reject No. (BCD)	Reject	Reject No. (BCD)
No Reject	00	Interference Check Reject	11
Load Low Reject	01	Load Inhibit Limt Reject	12
Load High Reject	02	Part Check 1 Distance Low Reject	13
Final Load Low Reject	03	Part Check 1 Distance High Reject	14
Final Load High Reject	04	Part Check 2 Load Low Reject	15
Distance Low Reject	05	Part Check 2 Load High Reject	16
Distance High Reject	06	Part Check 3 Load Low Reject	17
Final Distance Low Reject	07	Part Check 3 Load High Reject	18
Final Distance High Reject	08	Band Check Load Low Reject	19
Press Time Low Reject	09	Band Check Load High Reject	20
Press Time High Reject	10		

[Press Judgment] Output Examples

●In the case of **[Reject] [Load Low Reject]**

① Judgment Data 1 **02** ② Judgment Data 2 **01** ③ Abnormal Data **00** ④ 1st Reject No. **01**

Press Judgment | **02** | **01** | **00** | **01** | is output:

●**When [Abnormal 3] occurs:**

① Judgment Data 1 **04** ② Judgment Data 2 **00** ③ Abnormal Data **02** ④ 1st Reject No. **00**

Press Judgment | **04** | **00** | **02** | **00** | is output.

⑤ Judgment Flag 1

bit0: Load Low Reject
bit1: Load High Reject
bit2: Final Load Low Reject
bit3: Final Load High Reject
bit4: Distance Low Reject
bit5: Distance High Reject
bit6: Final Distance Low Reject
bit7: Final Distance High Reject

⑥ Judgment Flag 2

bit0: Press Time Low Reject
bit1: Press Time High Reject
bit2:
bit3:
bit4:
bit5:
bit6:
bit7:

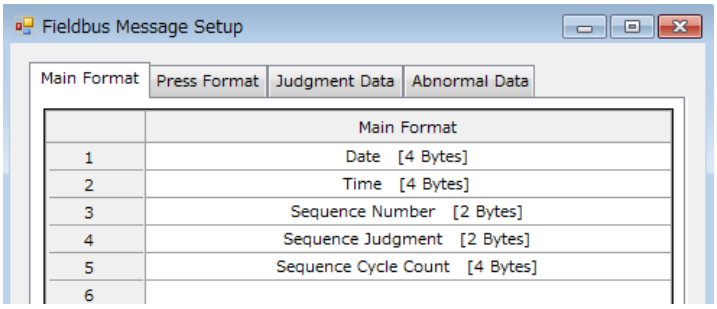
⑦ Judgment Flag 3

bit0: Interference Check Reject
bit1: Load Inhibit Limit Reject
bit2: Part Check 1 Distance Low Reject
bit3: Part Check 1 Distance High Reject
bit4: Part Check 2 Load Low Reject
bit5: Part Check 2 Load High Reject
bit6: Part Check 3 Load Low Reject
bit7: Part Check 3 Load High Reject

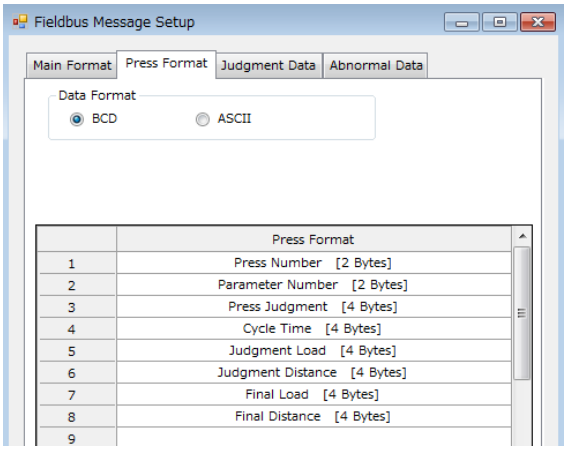
⑧ Judgment Flag 4

bit0: Band Check Load Low Reject
bit1: Band Check Load High Reject
bit2:
bit3:
bit4:
bit5:
bit6:
bit7:

Result Data Output Examples



Press Operation: [Press 1] [Press 2]



D1000	2015	Date	2015/8/25	Main
D1001	0825			
D1002	1234	Time	12:34:56	
D1003	5600			
D1004	0001	Seq. No.	1	
D1005	0001	Seq. Judg.	Reject	
D1006	0012	Seq. Cycle Count	123456	
D1007	3456			

D1008	0001	Press No.	1	Press 1
D1009	0002	Parameter No.	2	
D1010	0100	Press Judgment	Reject	
D1011	0000			
D1012	0001	Cycle Time	10.3	
D1013	0301			
D1014	0002	Judgment Load	2.86	
D1015	8602			
D1016	0857	Judgment Distance	85.726	
D1017	2603			
D1018	0010	Final Load	10.06	
D1019	0602			
D1020	1203	Final Distance	120.365	
D1021	6503			
D1022	0002	Press No.	2	Press 2
D1023	0002	Parameter No.	2	
D1024	0201	Press Judgment	Load Low Reject	
D1025	0001			
D1026	0001	Cycle Time	10.5	
D1027	0501			
D1028	0001	Judgment Load	1.26	
D1029	2602			
D1030	0860	Judgment Distance	86.016	
D1031	1603			
D1032	0008	Final Load	8.68	
D1033	6802			
D1034	1126	Final Distance	112.687	
D1035	8703			

Output Examples of Result Data by [Message Press Offset Select] (8 Press System)

Fieldbus Setup (CC-Link)

Occupied Stations	4
Extended Cyclic setting	8
Remote Register (RWr)	72 word

● **Without Main Result Data (Main Format)**

Fieldbus Message Setup

Data Format	BCD	
Press Result Data (Press Format)	Press Number	1 word
	Parameter Number	1 word
	Press Judgment	2 words
	Cycle Time	2 words
	Judgment Load	2 words
	Judgment Distance	2 words
	Final Load	2 words
	Final Distance	2 words

14 words

Input Signal Message Press Offset Select

Bit 4	Bit 3	Bit 2	Bit 1	Bit 0
OFF	OFF	OFF	OFF	OFF

Press Top No. 1

Fieldbus Message Output

Remote Register (RWr) 72 words	Press 1 Result Data	14 words
	Press 2 Result Data	14 words
	Press 3 Result Data	14 words
	Press 4 Result Data	14 words

Output Signal Message Press Offset Select

Bit 4	Bit 3	Bit 2	Bit 1	Bit 0
OFF	OFF	OFF	OFF	OFF

Press Top No. 1

Input Signal Message Press Offset Select

Bit 4	Bit 3	Bit 2	Bit 1	Bit 0
OFF	OFF	ON	OFF	OFF

Press Top No. 5

Fieldbus Message Output

Remote Register (RWr) 72 words	Press 5 Result Data	14 words
	Press 6 Result Data	14 words
	Press 7 Result Data	14 words
	Press 8 Result Data	14 words

Output Signal Message Press Offset Select

Bit 4	Bit 3	Bit 2	Bit 1	Bit 0
OFF	OFF	ON	OFF	OFF

Press Top No. 5

●With Main Result Data (Main Format)

Fieldbus Message Setup

Data Format	BCD		
Main Result Data (Main Format)	Date	2 words	**8 words**
	Time	2 words	
	Sequence Number	1 word	
	Sequence Judgment	1 word	
	Sequence Cycle Count	2 words	
Press Result Data (Press Format)	Press Number	1 word	**14 words**
	Parameter Number	1 word	
	Press Judgment	2 words	
	Cycle Time	2 words	
	Judgment Load	2 words	
	Judgment Distance	2 words	
	Final Load	2 words	
	Final Distance	2 words	

Input Signal Message Press Offset Select

Bit 4	Bit 3	Bit 2	Bit 1	Bit 0
OFF	OFF	OFF	OFF	OFF

Press Top No. 1

Fieldbus Message Output

Remote Register (RWr) 71 words	Main Result Data	8 words
	Press 1 Result Data	14 words
	Press 2 Result Data	14 words
	Press 3 Result Data	14 words
	Press 4 Result Data	14 words

Output Signal Message Press Offset Select

Bit 4	Bit 3	Bit 2	Bit 1	Bit 0
OFF	OFF	OFF	OFF	OFF

Press Top No. 1

Input Signal Message Press Offset Select

Bit 4	Bit 3	Bit 2	Bit 1	Bit 0
OFF	OFF	ON	OFF	OFF

Press Top No. 5

Fieldbus Message Output

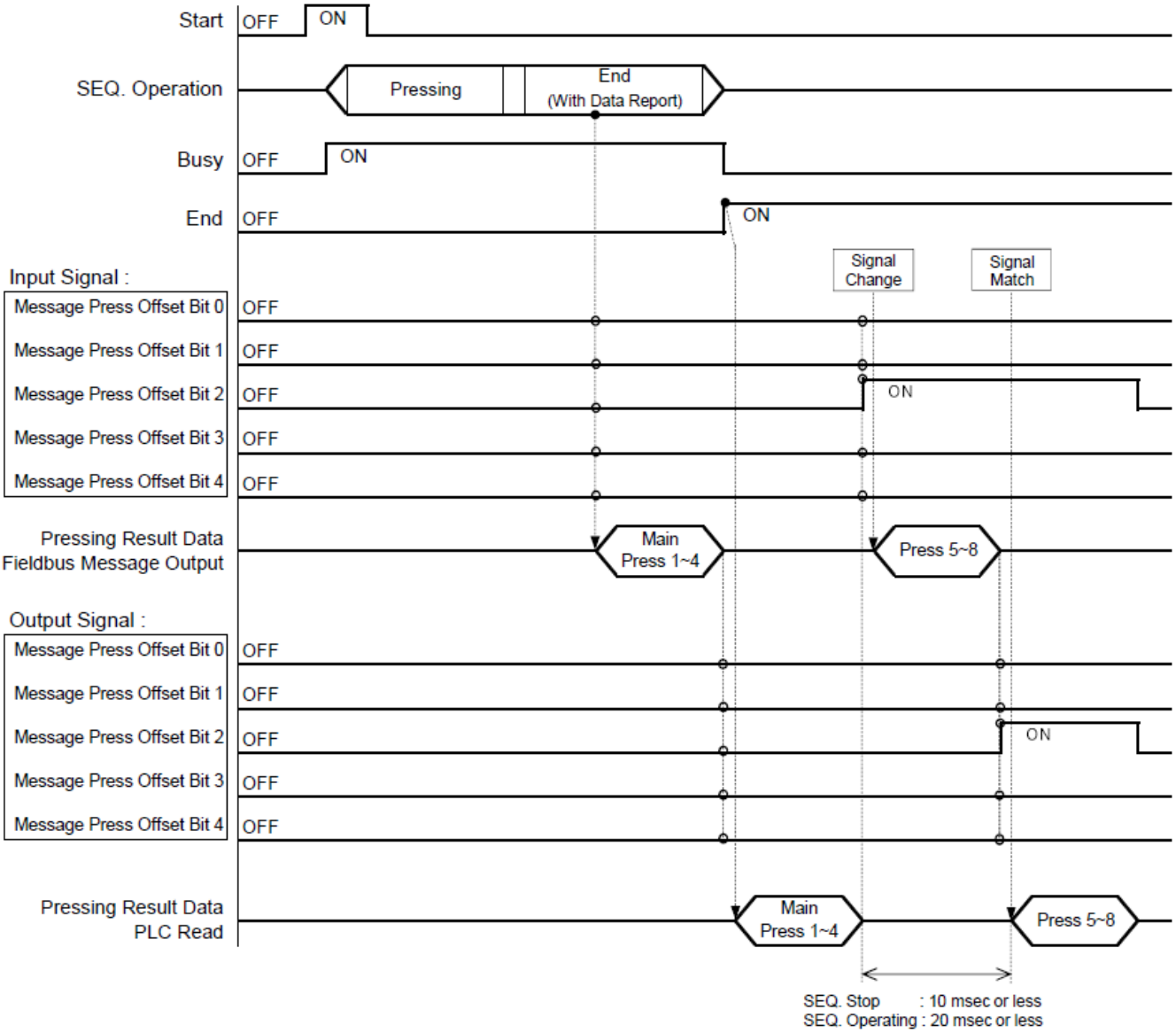
Remote Register (RWr) 71 words	Press 5 Result Data	14 words
	Press 6 Result Data	14 words
	Press 7 Result Data	14 words
	Press 8 Result Data	14 words

Output Signal Message Press Offset Select

Bit 4	Bit 3	Bit 2	Bit 1	Bit 0
OFF	OFF	ON	OFF	OFF

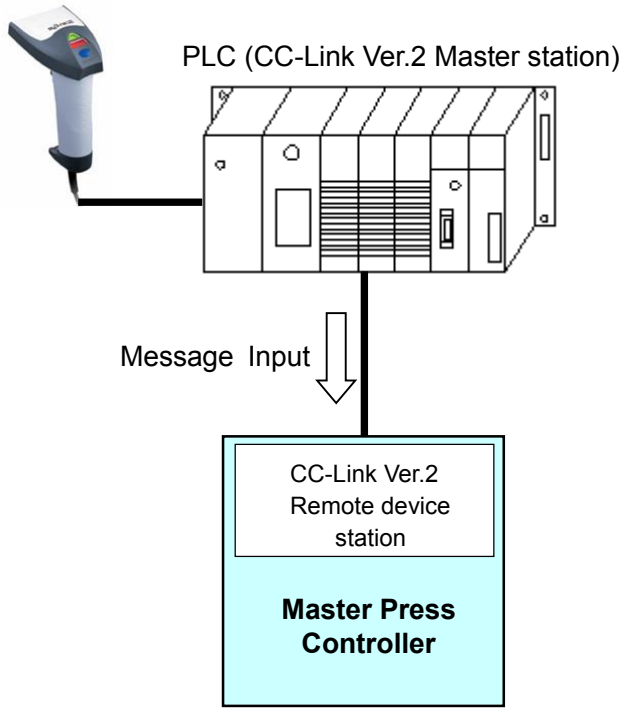
Press Top No. 5

● Timing Chart



2-6. **Fieldbus Message (PLC → PRESS)**

Input ID (Barcode data: maximum 32 characters in ASCII) as a message from PLC.

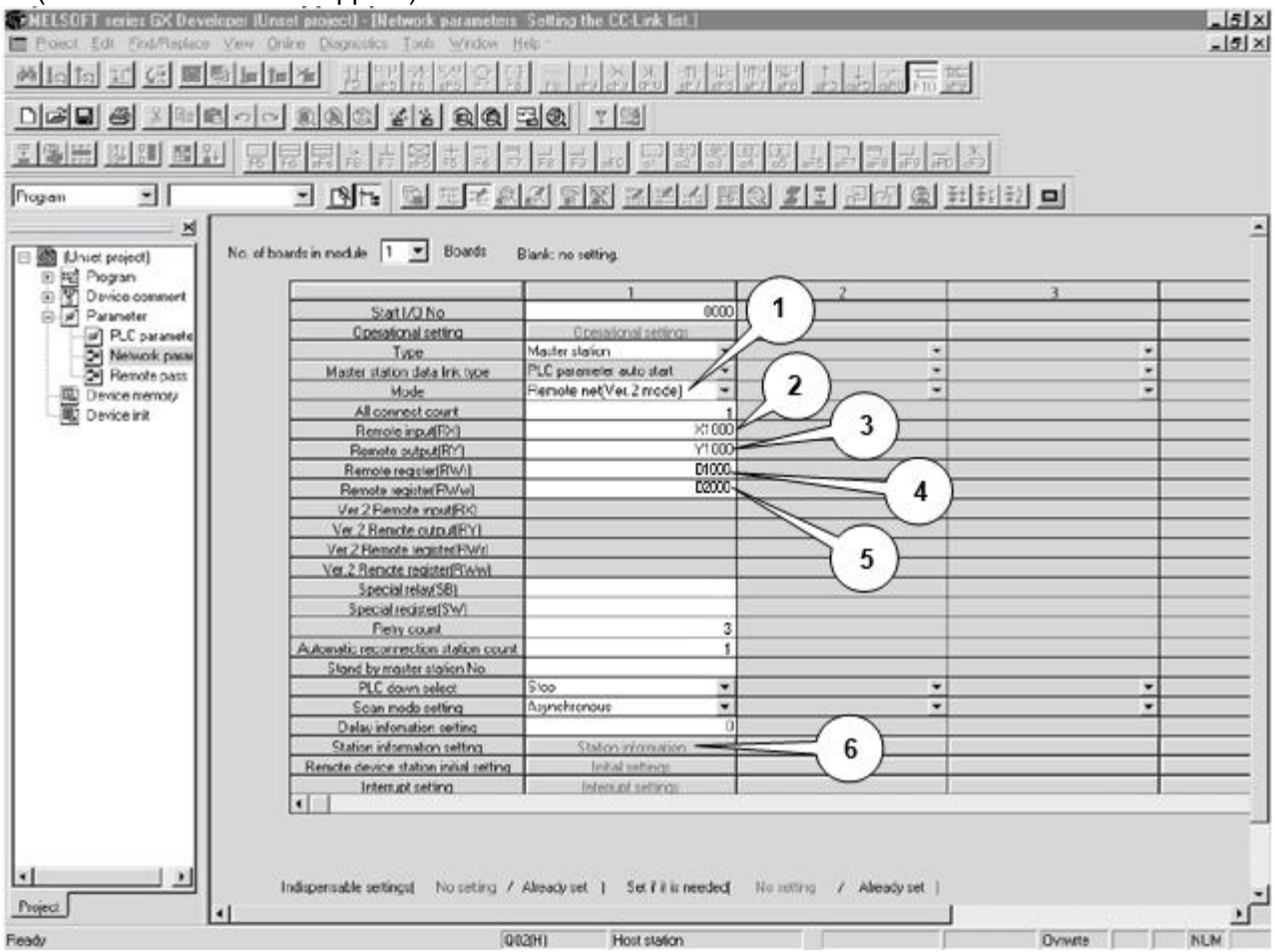


D2000	BA
D2001	DC
D2002	FE
D2003	HG
D2004	JI
D2005	LK
D2006	NM
D2007	21
D2008	43
D2009	65
D2010	87
D2011	09
D2012	Null (00H)

2-7. **MELSEC-Q Series Network Parameter Setup**

Start the GX Developer software → Create PLC project with QCPU (Q mode) → Parameter → Select Network parameter → Open CC-Link list

(The screen below will appear)



(The figure above is for reference)

(1) Select Remote net(Ver.2 mode)

(2) Set Remote input (RX) PLC Signal Input

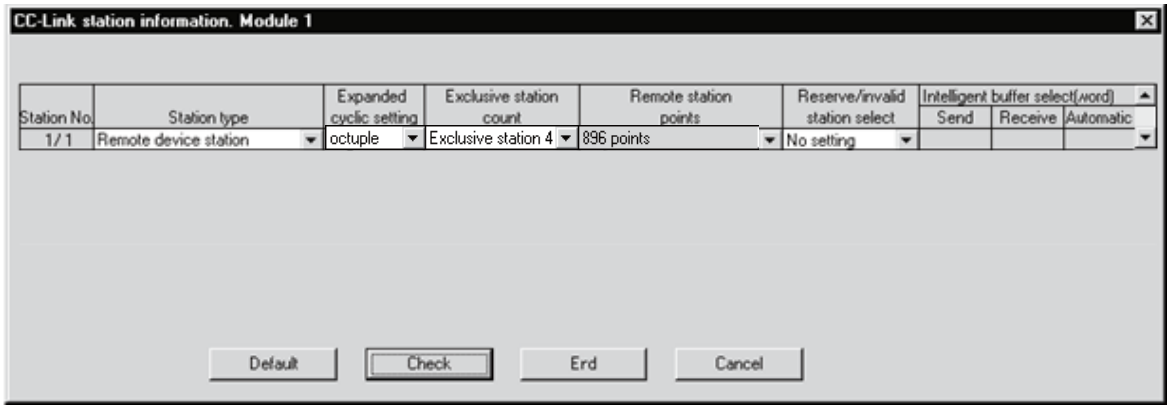
(3) Set Remote output (RY) PLC Signal Output

(4) Set Remote register (RWr) PLC Message Input (Press result data)

(5) Set Remote register (RWw) PLC Message Output (Part ID)

* The value set at this screen shall be the value assigned from station number setting 1. The value assigned will change according to the station number of the unit used.

(6) Set CC-Link station information



2-8. System Area PLC Handshake

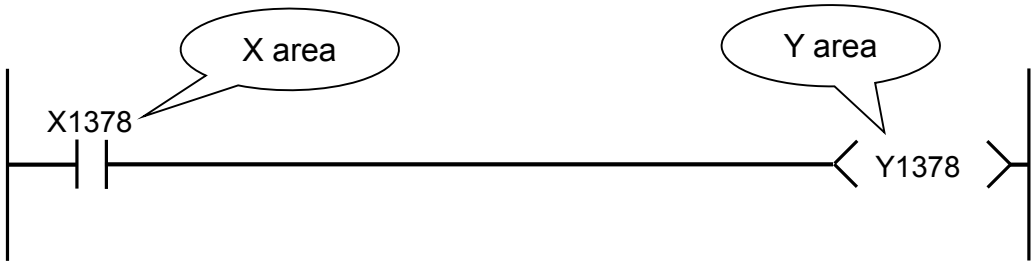
A handshake of the system area needs to be implemented on the PLC side.

(For Example)

Remote input (RX) X1000
Remote output (RY) Y1000

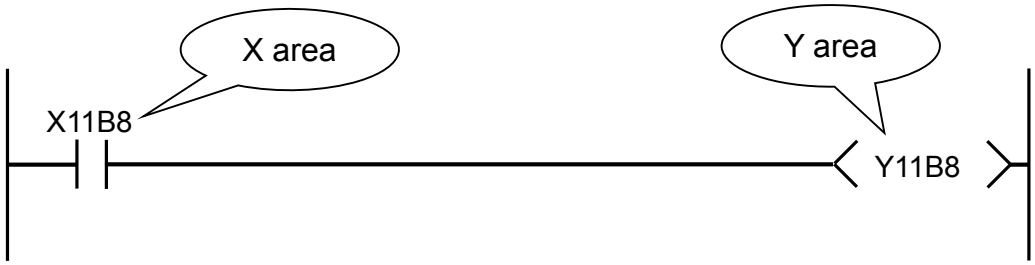
In case of [4 Occupied stations / 8 Cyclic cycles]

Set so that the 888th (378h) bit (Initial Data Processing Complete) of the Y area is ON when the 888th (378h) bit (Initial Data Processing Request) of the X area is ON as the PLC program.
When the RX/RY is configured to start at 1000h, specify 1378h (1000h+378h) as X area and Y area.



In case of [4 Occupied stations / 4 Cyclic cycles]

When the RX/RY is configured to start at 1000h, specify 11B8h (1000h+1B8h) as X area and Y area.



Location of Handshaking Bits According to Size Configuration

Cyclic Cycles Setting	1 Occupied Station	2 Occupied Stations	3 Occupied Stations	4 Occupied Stations
1	24th bits / 18h	56th bits / 38h	88th bits / 58h	120th bits / 78h
2	24th bits / 18h	88th bits / 58h	152th bits / 98h	216th bits / D8h
4	56th bits / 38h	184th bits / B8h	312th bits / 138h	440th bits / 1B8h
8	120th bits / 78h	376th bits / 178h	632th bits / 278h	888th bits / 378h

Memo