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7-0 Csatlakozás más PLC-khez

7-1 Kommunikáció LG PMU és Allen-Bradley PLC között

7-1-1 SLC500 PLC CPU Connection

- Allen-Bradley :SLC500 PLC - PMU RS-232C interface using Loader port

7-1-1-1 System configuration

SLC500 PLC - PMU hardware

PLC	Interface module	Cable	Option unit	PMU
SLC5/03 SLC5/04	None	Below drawing (RS-232C)	PMO-600S PMO-300S PMO-200S	PMU-600 PMU-300 PMU-200

7-1-1-2 Cable connection

(1) RS-232C connection(SLC500 series ↔ PMU series)

PLC part(9Pin)

PMU part(9Pin)

1	CD]		1	CD
2	RD			2	RD
3	SD		~	3	SD
4	DTR			4	DTR
5	SG			5	SG
6	DSR]		6	DSR
7	RTS			 7	RTS
8	CTS]		8	CTS
9	NC]		9	NC

7-1-1-3 SLC500 PLC setup

recommend: 19200 bps, data: 8 bit, stop bit:1 bit, parity: Even

Setup of PLC part			
Baud rate	19200 bps		
Data length	8 bit		
Stop bit	1 bit		
Parity bit	EVEN		
Communication Driver	DF1 Half Duplex Slave		
Duplicate Packet Detection	Disable		
Error Detection	BCC		
Control Line	No Handshaking		
Station Address	0		

Please remember station Address of PLC and the station number of PMU should be identified.

7-1-1-4 PMU setup

(1) Link setup

① select serial link in link editor and select "SLC500[5/03,04](LOADER)" in AB series.

C MASTER-K Series	K500, K1000(LINK)	-
⊂GLOFA Series	GM(LINK)	~
○ GOLDSEC Series	MnN, AnS, MOJ2(LINK)	-
○STARCON-MF Series	MF(LINK)	Y
⊂FARA Series	FARA-N(LINK)	7
○OMRON Series	SYSMAC-C(LINK)	V
● AB Series	SLC500[5/03,04](LOADER)	•
⊖Modicon Series	SLC500[5/03,04](LOADER) PLC-5(LOADER)	
○SPC Series	SPC-300(LOADER)	7
⊂Siemens Series	S5-3964R(LINK)	V
🛾 Yaskawa Series	PROGIC-8(LOADER)	7
⊂GE Fanuc Series	90-30[SNP-X] (LOADER)	_

O setup the buffer no. of PMU with device of PLC

(PLC address : please refer to the address table)

Serial LINK Setup					×
PLC Type: AB S	SLC-5/03,04 [B, N, TA, TP, TI	C,CA,CP,CC)x∶y] x	:∶File y∶Elem	ent
No DEVICE	No DEVIC	E No	DEVICE No	DEVICE	ОК
80 81 82 83 84 85 86 87 88 89 90 91 92 93 94 95	96 97 98 99 100 N00' 101 B00: 102 103 104 105 106 106 107 108 109 110 111	112 113 114 1:000 116 0:000 117 121 121 122 123 124 125 126 127	128 129 130 131 132 133 134 135 136 137 138 139 140 141 141 143	F	Cancel
DEVICE(ADDRESS):	(E	NTER)	DELETE	

③Transfer the link file to PMU with other files.

(2)Serial setup

It should be identified with PLC data.

7-1-2 PLC-5 PLC CPU connection

Allen-Bradley :SLC5 PLC - RS-232C interface using Loader port

7-1-2-1 System configuration

PLC	Interface module	Cable	Option card	PMU
	•			
PLC-5/11 PLC-5/20 PLC-5/30 PLC-5/40 PLC-5/40L PLC-5/60 PLC-5/60L	None	Below drawing (RS-232C, RS-422)	PMO-600S PMO-300S PMO-200S	PMU-600 PMU-300 PMU-200

7-1-2-2 Cable connection

(1)RS-232C connection (PLC-5 series ↔ PMU series)

PLC part(25Pin)

PMU part(9Pin)

1	FG]	1	CD
2	SD		2	RD
3	RD		3	SD
4	RTS] [4	
5	CTS		5	SG
6	DSR		6	DSR
7	SG		7	RTS
8	CD		. 8	CTS
20			9	

PMU Kezdő lépések

(2)RS-422 connection (PLC-5 series ↔ PMU series)

PLC part(25Pin)

PMU part(6Pin or 5Pin Terminal Block)



7-1-2-3 PLC-5 PLC setup

recommend: 19200 bps, data: 8 bit, stop bit:1 bit, parity bit: Even.

PLC part				
Baud rate	19200 bps			
Data length	8 bit			
Stop bit	1 bit			
Parity bit	EVEN			
Communication Driver	DF1 Half Duplex Slave			
Duplicate Packet Detection	Disable			
Error Detection	BCC			
Control Line	No Handshaking			
Station Address	0			

Please remember station address of PLC and the station number of PMU should be identified.

7-1-2-4 PMU setup

(1)Link setup

①select serial link in link editor and select "SLC5(LOADER)" in AB series.

PLC Type Setup (SERIAL)		>
Select PLC type.		
C MASTER-K Series	K500,K1000(LINK)	
C GLOFA Series	GM(LINK)	
C GOLDSEC Series	MnN, AnS, MOJ2(LINK)	
C STARCON-MF Series	MF(LINK)	
C FARA Series	FARA-N(LINK)	
C OMRON Series	SYSMAC-C(LINK)	
⊙ AB Series	PLC-5(LOADER)	
C Modicon Series	Modicon(Modbus)	
C SPC Series	SPC-300(LOADER)	
C Siemens Series	S5-3964R(LINK)	
C Yaskawa Series	PROGIC-8(LOADER)	
C GE Fanuc Series	90-30[SNP-X] (LOADER)	
(K Cance I	

② setup the buffer no. of PMU with device of PLC

Serial LINK Setup х PLC Type: AB PLC-5 [(1,0,B,N,TA,TP,TC,CA,CP,CC)x:y] x:File(3~99) y:Element(0~999) DEVICE DEVICE DEVICE DEVICE No No No No 0K 80 81 82 83 84 85 86 87 88 89 91 92 93 94 95 96 97 98 99 100 101 103 104 105 106 107 108 109 110 111 64 65 66 67 68 69 70 71 72 73 74 75 76 77 78 79 113 114 115 116 117 118 119 120 121 122 123 124 125 126 127 Cancel N007:000 B003:000 \circ Ó • ۲ DEVICE(ADDRESS) : (ENTER) Ī DELETE

(PLC address : please refer to the address table)

③Transfer the link file to PMU with other files.

(2) Serial Setup

It should be identified with PLC data.

7-1-3 PLC Address

(1)SLC500 series

Device	Address
Bit	B003000 ~ B003255, B010000 ~ B255255
Timer (Timing bit) *1	TC004000 ~ TC004255 , TC010000 ~ TC255255
Timer (complete bit) *1	TC004000 ~ TC004255 , TC010000 ~ TC255255
Timer (setting value)	TP004000 ~ TP004255 , TP010000 ~ TP255255
Timer (current value)	TA004000 ~ TA004255 , TA010000 ~ TA255255
Counter (Up counter) *2	CC005000 ~ CC005255 , CC010000 ~ CC255255
Counter (down counter) *2	CC005000 ~ CC005255 , CC010000 ~ CC255255
Counter (complete bit) *2	CC005000 ~ CC005255 , CC010000 ~ CC255255
Counter (setting value)	CP005000 ~ CP005255 , CP010000 ~ CP255255
Counter(current value)	CA005000 ~ CA005255 , CA010000 ~ CA255255
Integer	N007000 ~ N007255, N010000 ~ N255255

Note

*1 : Timing bit : bit 14

complete bit : bit 13 *2 : Up counter Enable bit : bit 15 Down counter timing bit : bit 14

Complete bit : bit 13

(2)PLC-5 series

Device	Address
Input relay	1001000 ~ 1001999
Output relay	O000000 ~ O000999
Internal relay	B003000 ~ B099999
Timer(Timing bit) *1	TC003000 ~ TC099999
Timer(Complete bit) *1	TC003000 ~ TC099999
Timer(Setting value)	TP003000 ~ TP099999
Timer(current value)	TA003000 ~ TA099999
Counter (Up counter) *2	CC003000 ~ CC099999
Counter (down counter) *2	CC003000 ~ CC099999
Counter (complete bit) *2	CC003000 ~ CC099999
Counter (setting value)	CP003000 ~ CP099999
Counter (current value)	CA003000 ~ CA099999
Integer	N003000 ~ N099999



*1 : Timing bit : bit 14 Complete bit : bit 13 *2 : Up counter Enable bit : bit 15

complete bit : bit 13

7-2 GE-Fanuc 90-30[SNP-X] series

7-2-1 Edit a Link Editor

For the communication with PLC when operating the main machine (PMU), the Link Editor allows you to enter and select the communication method, PLC Type, Device, Address and others in the Link Table.

To use the selected Link File, Send a Link File from PC to the main machine (PMU) using Project Manager. The extension name for the Link Select File is ".LNK".

Select Others-Link Editor in the Screen Editor or Editor-Link Editor in the Project Manager.

PMU TYPE	: PMU 200 Link Type : None
	1 : 1 Communication
SERIAL Link	PLC Type :
DATALINK	Receive setup: Transfer setup:
GLOFA Fnet	Receive setup: Transfer setup:
T-LINK Setup	
User-def.Setup	
	N : N Communication
N:N MASTER	PLC Type :
N:N LOCAL	Receive setun: Transfer setun:

• Select SERIAL Link button to setup the serial communication.



Select PLC Series and Link type, then click OK button.

Enter the PLC address for the communication.

Seria	I LINK Se	tup						×
PLC	Type: GE	Fanuc(90)-30Series) [I,Q,M	I, G, T, SA, SI	8, SC, S, F	R, A I , AQ]	
No	DEVICE	No	DEVICE	No	DEVICE	No	DEVICE	OK
0 1 2 3 4 5 6 7 8 9 10 11 2 3 4 5 6 7 8 9 10 11 2 3 4 5 6 7 8 9 10 11 2 3 4 5 6 7 8 9 10 11 2 3 4 5 6 7 8 9 10 11 2 3 4 5 6 7 8 9 10 11 2 3 4 5 6 7 8 9 10 11 10 10 10 10 10 10 10 10 10 10 10		16 17 18 20 21 22 23 24 26 27 28 26 27 28 29 30 31		32 33 34 35 36 37 38 39 40 41 41 42 43 44 45 46 47	M0001 R0001	48 49 50 52 53 54 55 56 57 58 59 60 61 62 63		Cance I C
4							•	ĺ
DEV	CE(ADDRES	SS): 🖡		(E	NTER)		DELETE	

When you set a PLC address on the buffer memory area, be sure that the buffer memory is a word data. So, M0001, R0001 are word data.

Buffer no. 40 : Function Key Tag and Lamp Tag(Writing data to PLC) – Bit data(ex. M0001 card) Buffer no. 41 : Numeric Tag(Reading from PLC) - Word data(ex. R001 card)

- Click **OK** button.
- Select *File Save* menu
- Select folder to be saved and enter file name, then click **OK** button.

Save as		×
File Name(<u>N</u>):	Drive(⊻):	OK
serial1 .lnk	🖃 c: 💽	
A	с:₩омиЗ	Uance1
	l = n;#	Network
	en al com	Read Only(<u>R</u>)
	📄 library	
_	x	
Description		

7-2-2 Edit a Project Manager

Select Others-Project Manager in the Screen Editor or Open the Project Manager in PMU-MASTER.



- Select Make project file button and click OK button.
 - Click **OK** button after setting up the directory.

	• •	
Work Directory		×
Directory(<u>D</u>): c∶₩pmu3		ОК
🔄 c:#		Cancel
ibrary		Network
Drive(⊻): ⊖c:	•	

SA PMU 2	00 Proje	ct Manage	p.					×
File(E)	Edit(<u>E</u>)	View(<u>V</u>)	Communicat	ion(<u>C</u>)	$Editor(\underline{T})$	Window(<u>₩</u>)	Help(<u>H</u>)	
🔚 Edit S	Screen						_ 🗆 ×	
PROJE	ECT DIF	է: c:₩pmu	13					
🛅 1.sc	r				1946		2	
🗀 seri	al1.lnk							
50.								
WorkTv	W	ork Dir.	Select	Add	to PRJ	Make PRJ	File View	Send
TOKIY	pe	Port	Cancel	Delet	e in PRJ	Extract PRJ	File Info.	Receive

Double click on the file to insert the file into a project file to be created.

Then the selected file will be moved to the right box as the above.

5 PMU 200	Proje	et Manage	p ^a					_ 🗆 ×
File(<u>F</u>) Ec	lit(<u>E</u>)	$\forall iew(\underline{\vee})$	Communicati	on(<u>C</u>) E	ditor(<u>T</u>)	Window(<u>W</u>)	Help(<u>H</u>)	
🚍 Edit Scr	een						_ 🗆 ×	
PROJEC	T DIR	l : c:₩pmu	13					
🛅 1.scr						1.scr	2) 2)	
🖿 serial	1.Ink		121			🛾 serial1.Inl	c	
2								1 2
	W	ork Dir.	Select	Add to	PRJ	Make PRJ	File View	Send
ччотктуре		Port	Cancel	Delete i	n PRJ	Extract PRJ	File Info.	Receive

- Select Make PRJ button.
- Enter file name of the project file, then click **OK** button.

Make PRJ		2
File Name(<u>N</u>): 1.prj	Directory(<u>D</u>): c:\pmu3	OK
<u>.</u>	🔄 🔄 c:# 🍓 pmu3	Cance I
		Network
 File Type(<u>T</u>):	r J Drive(⊻):	
Project File(*.PRJ)	💌 🖾 c: sthong1	
PMU description		
PMU FILE		

Select Communication-Send Project File in the Project Manager.

Send PRJ file to PMU 200	Sta
Caution]:Be sure that defined PMU type the same as the connected type!! 1.PRJ	e is Cano

Press Start button to send PRJ file to PMU hardware after setting up the PMU hardware for the communication.

7-2-3 Setup a PMU hardware

To communicate with PLC, you should download the Project file[*.scr, *.sub, *.alm, *.lnk, *.msg and etc.] created in the PMU-MASTER to the PMU hardware.

To setup the PMU hardware(main unit),

- Turn the power On[the power supply for the PMU-200 is DC24V].
- Press a function key '*F3*" in the Main Menu of the main unit.



- 'Completed! <KEY>' message is shown to the main unit after execution.
- To interrupt transfer, press ESC key. (Function key 'MENU' in the machine)
- Before the communication, you should set the Initial Setup in the Main Menu.
- Press Initial Setup key and select Serial Setup key.
- Setup value is :

Baud rate : 19200bps Data bits : 8bits Stop bit : 1bit Parity bit : odd Interface : RS-422(4line) Station number : 0

PMU Kezdő lépések

Baud rate	:	[19200]
Data bits	:	7bits 8bits
Stop bits	:	1bit 2bits
Parity bit	:	None Even Odd
Station Number	:	[0]
Interface	:	RS232 RS422
Save <enter></enter>	•	Cancel <menu></menu>
Interface Save <enter></enter>	:	RS232 RS422 Cancel <menu></menu>

- To select the left menu bar(Items) : Use Function key ' \land ' and ' \lor '.
- ◆ To select the parameter : Use Function key '<' and '>'.
- To escape the current screen, press **Cancel** button.
- Press Enter button.

7-2-4 Edit a Program in PLC

To communicate with PMU and PLC, you should download a program to PLC using Programming Tool(LOGICMASTER 90 Software)

• Create a Program for the communication.

🎉 한글 MS-DOS - PRG9030	
	A
PROGRM TABLES STATUS	SETUP FOLDER UTILTY PRINT
Timbert Search Smouthy Abearch	
[BLOCK DECLARATIONS	1
and the second second second	
[START OF PROGRAM LOGIC	1
\$M0001	
INT	
CONST - I1 Q%R0001	
+00001	
\$R0001 — I2	
END OF PROGRAM LOGIC	
C •) 1 M90) KWH	OFFLINE PRG. KWH BLK. MAIN SIZE. 138 RUNG 000
REPLACE	: ::

M0001 : Bit address for Touch Tag and Lamp Tag(Buffer : 40, Bit number : 0) R0001 : Word address for Numeric Tag(Buffer : 41. Word data)

• For the detail information of editing a program in the programming tool, please refer to the User's Manual.

7-2-5 Cable Connection for serial Interface



PLC (9Pin APA)

IBM PC (9Pin anya)

1		1
2		2
3		3
4		4
5		5
6		6
7		7
8		8
9		9
	•	

PMU soros kártya (4Pin)

PLC (15Pin anya)

1	RDA		 13
2	RDB		 12
3	SDA		 11
4	SDB		 10
			9
			6
			15
		l	 8
			14

7-3 PMU Communication With Mitsubishi PLC CPU (Loader Port)

This is for communicating between PMU _ Mitsubishi PLC Loader Port

7-3-1 System Configuration

PLC	Communication Unit	Cable	Communication Module for PMU	PMU
	•			
M2N,M3N				
M2A,M3A				
M2U,M3U			PMO-600S	PMU-600
A1S,A2S	None	PMC-422C	PMO-300S	PMU-300
M0J2,AOJ2H			PMO-200S	PMU-200
QnA				
FX				

7-3-2 Cable Connection

7-3-2-1 RS-232C Connection (Melsec Series ↔ PMU)

PLC CPU(25Pin) PMU SERIAL CARD(RS-232,9Pin)

7-3-3 Melsec PLC Set up

You don't need to set any data for Melsec PLC.

7-3-4 PMU Set up

(1) Link Set up

Please select Interface Type("Serial") first and then select PLC Type as follows;("A2N,A3N(LOADER)", "A2A,A3A(LOADER)", "A2U,A3U(LOADER)", "AnS,AOJ2H(LOADER)", "A0J2(LOADER)", "QnA(LOADER)", "FX")

이 트네 - Sna 1 [월 PMU 300 Project Manager		- - ×		_ <u>8</u> ×
File(E) Communication(C) Edi	NONAME]			변경한 날짜
	LC Type Setup (SERIAL) Select PLC type.		×	99-07-19 오후 4:30 99-07-27 오후 1:35 99-10-04 오후 2:00 99-07-27 오후 1:50
WorkType User-def	C MASTER-K Series C GLOFA Series C Fuji Series C FARA Series C MARON Series C AB Series C Modicon Series	K500, K1000(L1NK) GM(L1NK) FX(LOADER) MnA, AnS, M0J2(L1NK) MnA, MnU(L1NK) M2N, M3N (LOADER) M2A, M3N (LOADER) M2A, M3N (LOADER) M2A, M3N (LOADER) M0J2(LOADER) M0J2(LOADER) M0J2(LOADER) M0J2(LOADER) MACLOADER) MACLOADER) FX(LINK)		98-12-17 오후 3:29 99-07-27 오후 4:02 99-07-27 오후 1:45 99-07-10-4 오후 2:09 99-03-12 오후 9:55 99-01-11 오후 12:45 99-01-11 오후 12:45 99-10-04 오후 2:21
F N:N MA F N:N IC F F ServoDynamic ServoDynamic2 Sna Tamco	C SPC Series C Siemens Series C Vaskawa Series C GE Fanuc Series C RTU C LG Inverter Series	SPC Series(LOADER) S5-3964R(LINK) PR0GIC-8(LOADER) 90-30[SNP-X] (LOADER) AE5000 (RTU) INVERTER XK Cancel		
1 개체가 선택됨 #11 시작 🔊 받은 편지한 - 🕥 탈신	≝ - Spa 777 Microsoft			<u>山漢</u> ≰⊫■∭盔 ♀ㅎ 3:22

① Please set up buffer memory which will be linked with PLC address.

Please refer to Table for Available PLC Address.

② Transfer Information(Link) to PMU.

(2) serial Set up

You don't need to set up anything, Data will be set up automatically as follows.

Baud Rate : 9600 bps Data Length : 8bit Stop Bit Length : 1bit Parity Bit : Even Signal Level : RS-232C Station No. : 0

7-3-5 Available PLC Address Table

(1) AnU CPU (Loader Port Communication)

Contents	Dev.No	Data	Registerd Bit	Registered Word
			Address	Address
Input (X)	0	Bit	X0000 – X1FFF	
Output (Y)	1	Bit	Y0000 – Y1FFF	
LINK Relay (B)	2	Bit	B0000 – B1FFF	
LINK Register (W)	3	Word		W0000 – W1FFF
STEP Relay (S)	4	Bit	S0000 – S8191	
Special Relay (F)	5	Bit	F0000 – F2047	
LATCH Relay (L)	6	Bit	L0000 – L8191	
Internal Relay (M)	7	Bit	M0000 – M8191	
Special Relay (M)	7	Bit	M9000 – M9255	
Data Register (D)	8	Word		D0000 - D8191
Special Register (D)	8	Word		D9000 - D9255
Timer-Coli (TC)	9	Bit	TC000 – TC2047	
Timer-Current (TN)	10	Word		TN000 – TN2047
Timer-Contact (TS)	11	Bit	TS000 – TS2047	
Counter-Coil (CC)	12	Bit	CC000 - CC1023	
Counter-Current (CN)	13	Word		CN000 - CN1023
Counter-Contact (CS)	14	Bit	CS000 - CS1023	

(2) QnA CPU (Loader Port Communication)

Contents	Dev.N	Data	Registerd Bit	Registered Word
	0		Address	Address
Input (X)	0	Bit	X0000 – X1FFF	
Output (Y)	1	Bit	Y0000 – Y1FFF	
Link Relay (B)	2	Bit	B0000 – B7FFF	
Link Register (W)	3	Word		W0000 – W63FF
Special Link Register (SW)	3	Word		SW000 – SW7FF
Step Relay (S)	4	Bit	S00000 - S32767	
Special Relay (F)	5	Bit	F00000 – F32767	
Latch Relay (L)	6	Bit	L00000 – L32767	
Edge Relay (V)	-	Bit	V00000 - V32767	
Internal Relay (M)	7	Bit	M00000 – M32767	
Special Relay (SM)	7	Bit	SM0000 - SM2047	
Data Register (D)	8	Word		D00000 – D25599
Special Register (SD)	8	Word		SD0000 – SD2047
Timer-Coil (TC)	9	Bit	TC0000 – TC23551	
Timer-Current (TN)	10	Word		TN0000 – TN23551
Timer-Contact (TS)	11	Bit	TS0000 – TS23551	
Acummulating Timer-Coil (SC)	-	Bit	SC0000 - SC23551	
Acummulating Timer-Current (SN)	-	Word		SN0000 – SN23551
Acummulating Timer-Contact (SS)	-	Bit	SS0000 – SS23551	
Counter-Coil (CC)	12	Bit	CC0000 - CC23551	
Counter-Current (CN)	13	Word		CN0000 - CN23551
Counter-Contact (CS)	14	Bit	CS0000 - CS23551	

(3) MELSEC-FX Series CPL	(Loader Port Communication)
--------------------------	-----------------------------

Contents	Dev.No	Data	Registerd Bit	Registered Word
			Address	Address
Input (X)	0	Bit	X000 – X337	X000 – X320
Output (Y)	1	Bit	Y000 – Y337	Y000 – Y320
Step Relay (S)	2	Bit	S000 – S999	S000 – S984
Internal Relay (M)	3	Bit	M0000 – M1535	M0000 – M1520
Data Register (D)	4	Word		D000 – D999
Timer-현재치 (TN)	5	Word		TN000 – TN255
Counter-Current (CN)	6	Word		CN000 - CN255

7-4 Modicon PLC series – Modbus Protocol (RTU or ASCII Mode)

1. Modicon Modbus - Serial Interface

- Communication with Modicon (Modbus) PLC and PMU hardware using RS-232C interface.

7-4-1 System Configuration

PLC	Interface module	Cable	Option Card	PMU
	-			
884 984A 984B 984X Slot Mount- 984	None	Below drawing (RS-232C)	PMO-600S PMO-300S PMO-200S	PMU-600 PMU-300 PMU-200

- Modbus : You can use Link interface port in Modicon PLC- CPU module

7-4-2 Cable connection

(1)RS-232C connection(Modicon PLC ↔ PMU series)

PLC Part (9Pin)

PMU Part (9Pin)

1	CD			1	CD
2	RD			2	RD
3	SD			3	SD
4	DTR			4	DTR
5	SG		 	5	SG
6	DSR			6	DSR
7	RTS			7	RTS
8	CTS			8	CTS
9				9	

7-4-3 Modicon PLC setup

1-3-1 RTU Mode

PLC Interface mode : select RTU Mode

PLC part setup					
Baud rate	9600 bps				
Data length	8 bit				
Stop bit	1 bit				
Parity bit	Even				
Station No.	By rotary switch				

- Station address of PLC is set by the rotary switch behind CPU module.

- This station number should be same as the one of PMU station.

1-3-2 ASCII Mode

PLC Interface mode : select ASCII Mode

PLC part setup				
Baud rate	2400 bps			
Data length	7 bit			
Stop bit	1 bit			
Parity bit	Even			
Station No.	By rotary switch			



1-3-3 Memory(mem) Mode

You can setup the parameter in the programming software of Modicon PLC.

PLC part setup			
Baud rate	50~19200 bps		
Data length	7/8 bit		
Stop bit	1/2 bit		
Parity bit	Even/Odd		
Station No.	By rotary switch		

7-4-4 PMU Setup

(1)Link setup

① select serial link in link editor and select "Modicon(Modbus)" in Modicon series.

ΡL	.C Type Setup (SERIAL)		×			
	Select PLC type.					
	C WOTED K Oralina		1			
	C MASIER-K Series					
	⊂ GLOFA Series	GM(LINK)				
	○ GOLDSEC Series	MnN, AnS, MOJ2(LINK)				
	C STARCON-MF Series	MF(LINK)				
	C FARA Series	FABA-N(LINK)				
	C OMRON Series	SYSMAC-C(LINK)				
	C AB Series	PLC-5(LOADER)				
	⊙ Modicon Series	Modicon(Modbus)				
	C SPC Series	SPC-300(LOADER)				
	C Siemens Series	S5-3964R(LINK)				
	C Yaskawa Series	PROGIC-8(LOADER)				
	○GE Fanuc Series	90-30[SNP-X] (LOADER)				
	OK Cance I					

② setup the buffer no. of PMU with device of PLC

(PLC address : please refer to the address table) ③Transfer the link file to PMU with other files.

(2) Serial parameter Setup

It should be identified with PLC data.

7-4-5 PLC address

Device	Address
Input bit	10001 ~ 18192
Output bit	00001 ~ 08192
Input register (Word)	30001 ~ 39999
Output register (Word)	40001 ~ 49999



• Input bit and Input register can not be permitted to write data.

7-5 OMRON SYSMAC Series

7-5-1 OMRON SYSMAC-C Serial Interface

- Communication with OMRON SYSMAC-C PLC and PMU hardware using RS-232C/422 Serial Interface

7-5-2 System Cinfiguration

PLC	Interface Module	Cable	Option Module	PMU	
		← →			
C200H/C200H	C200H-LK202-	Below Drawing			
S	C200H-LK201-	Below Drawing (RS-232C)	PMO-		
C500/C1000H/ C2000H/C500	C500-LK201-V1 C500-LK203	Below Drawing (RS-232C/422)	500/600S PMO-300S	PMU-500/600 PMU-300	
C50/C120/C50 0/C1000H/C20	C120-LK201-V1	Below Drawing (RS-232C)	PMO-200S	PMU-200	
00H/C120F/C5 00F	C120-LK202-V1	Below Drawing (RS-422)			



Please be careful of Pin connection of Communication Unit for C200H/C200HS.(Refer to Cable Connection (2),(4))

7-5-3 Cable connection

(1) RS-232C connection(SYSMAC-C series ↔ PMU series)

All SYSMAC Series except C200.

PLC part(25Pin)

PMU part(9Pin)

1	FG	1	CD
2	SD	2	RD
3	RD	3	SD
4	RTS	4	DTR
5	CTS	5	SG
6		6	DSR
7	SG	7	RTS
8	CD	8	CTS
20	DTR	9	

(2) RS-232C connection(SYSMAC-C200 series ↔ PMU series)

For C-200 series.

PLC part(9Pin)

PMU part(9Pin)

1	FG	1	CD
2	SD	 2	RD
3	RD	 3	SD
4	RTS	4	DTR
5	CTS	5	SG
6	+5V	6	DSR
7	DR	7	RTS
8	ER	8	CTS
9	SG	 9	

(3) RS-422 connection(SYSMAC-C Series ↔ PMU Series)

All SYSMAC-C Series except C200 Series

PLC Part(9Pin) PMU Part(6Pin or 5Pin Terminal Block)

1 RDA	1 RDA
2	2 RDB
3 SG	3 SDA
4	4 SDB
5 SDA	5 SG
6 RDB	6 FG
7 FG	
8	
9 SDB	<u>-</u> /

(4)RS-422 Connection(SYSMAC-C200 Series ↔ PMU Series)

For C200 Series

PLC Part(9Pin)

PMU Part(6Pin or 5Pin Terminal Block)

1	SDB		1	RDA
2	SDA		2	RDB
3	SG		3	SDA
4			4	SDB
5			5	SG
6	RDB		6	FG
7				
8	RDA	<u> </u>		
9				

7-5-3 SYSMAC-C PLC Setup

(1)C200H-LK201-V1/LK-202-V1 Setup

1) Station No. Setup

Station No. can be set by SW1 and SW2, SW1 means 10's Digit, SW2 means

1's digit value.

2) Baud rate Setup

Baud rate is setup by SW3. Set values of position of Switch are as

follows.

Switch	Baud rate(bps)		
0	300		
1	600		
2	1200		
3	2400		
4	4800		
5	9600		
6	19200		

3) commend level Setup

Commend level can be set by SW4. Position of recommended switch is SW2.

Switch	Commend level	Parity	Others
0	Level 1 available	even	ASCII 7bit
1	Level 1, 2 available		2 Stop bit
2	Level 1,2,3 available		
3	No setup level		
4	Level 1 available	odd	
5	Level 1,2 available		
6	Level 1,2,3 available		
7	No setup level		
8	Level 1 available	even	JIS 8bit
9	Level 1,2 available		1 Stop bit
А	Level 1,2,3 available		
В	No setup level		
С	Level 1 available	odd	
D	Level 1,2 available		
E	Level 1,2,3 available		
F	No setup level		

4) DIP Switch Setup



(2)C500-LK201-V1 Dip Switch Setup



	Owitch	Contonto	Position of Set Switch							
	Switch	Contents		ON	1			OFF		
	1~5	Station No. Select	0	1	2	2			30	31
	1		OFF	ON	1 01	FF			OFF	ON
	2		OFF	OF	FΟ	N			ON	ON
S	3	Station No. Select	OFF	OF	F OI	F			ON	ON
W	4		OFF	OF	F OI	F			ON	ON
1	5		OFF	OF	F OI	FF			ON	ON
	6	Not used								
	7	Not used								
	8	PLC status when power"on"	Run				St	top		
S	1~4	David vata aslast	300	600	120	24	10	480	960	1920
W		Baud rate select			0	C)	0	0	0
2	1		OF	ON	OF	0	N	OF	ON	OFF
			F		F			F		
	2		ON	OF	OF	0	N	ON	OF	OFF
		Switch select of		F	F				F	
	3	Baud rate	OF	OF	OF	0	N	ON	ON	ON
			F	F	F					
	4		ON	ON	ON	0	F	OF	OF	OFF
						F		F	F	
	5	Not used								

PMU Kezdő lépések

6	Communication	1:1	1:1		
	Method				
7~8	Available level setup	1	1	1,2	1,2,3
7	7		ON	OFF	ON
8	Command level setup	OFF	OFF	ON	ON



Recommended Setup : Internal Synchronous, Terminal Resistor "Yes", CTS(OV).



Parity : Even, Data bit : 7bit, Stop bit : 2bit is fixed

3)C500-LK203 Dip Switch Setup



	Quitab	Contonto	Position of Setup Switch						
	Switch	Contents		ON		OFF			
S	1~5	Station No. Select	0	1	2		30	31	
W	1	Station No. Select	OFF	ON	OFF		OFF	ON	
1	2		OFF	OFF	ON		ON	ON	
	3		OFF	OFF	OFF		ON	ON	
	4		OFF	OFF	OFF		ON	ON	

PMU Kezdő lépések

5		OFF	OFF	OFF		ON	ON
6~7	Parity & Transfer Code						
6	Transfer Code	ASCII	7bt, 2	2 Stop	JIS 8b	it, 1 Sto	op bit
		bit					
7	Parity Setup	Even			Odd		
8	PLC status when power "on"	Monito	or				

	Switch	Contonto	Position of S			Setup Switch				
	Switch Contents		ON				OFF			
	1~4	Paud rata Salaat	300	600	120	24	0	480	960	1920
		Daud Tale Seleci			0	0		0	0	0
	1		OF	ON	OF	0	۷	OF	ON	OFF
			F		F			F		
	2		ON	OF	OF	0	۷	ON	OF	OFF
		Paud rata Salaat		F	F				F	
	3	Daud Tale Seleci	OF	OF	OF	0	۷	ON	ON	ON
5			F	F	F					
۷۷ 2	4		ON	ON	ON	OF	=	OF	OF	OFF
Ζ						F		F	F	
	5	System Select	Syste	em #0			System #1			
	6	Communication		1:1				1:N		
		Method								
	7~8	Available command Level	1		1			1,2	1	,2,3
	7	Command lavel Calest	OF	F	ON			OFF		ON
	8		OF	F	OFF			ON		ON



Recommend setup : Internal Synchronous, Terminal Resistor "Yes", CTS(OV).

(4)C120-LK201-V1/LK-202-V1 Setup



SW3

ON 1 2 3 4 5 6 7 8

	Switch	Contonto	Position of S				Setup Switch			
	Switch	Contents		ON			OFF			
	1~5	Station No. Select	0	1	2	2		30	31	
	1		OFF	ON	1 0	F-		OFF	ON	
	2		OFF	OF	FΟ	N		ON	ON	
S	3	Station No. Select	OFF	OF	F OI	F		ON	ON	
W	4		OFF	OF	F OI	FF		ON	ON	
1	5		OFF	OF	F OI	F		ON	ON	
	6	Not used								
	7	Not used								
	8	PLC status when power "on"	Run			Stop				
S	1~4	Poud rate Salast	300	600	120	240	480	960	1920	
W		Dadu Tale Select			0	0	0	0	0	
2	1	Raud rate Select	OF	ON	OF	ON	OF	ON	OFF	
			F		F		F			
	2		ON	OF	OF	ON	ON	OF	OFF	
				F	F			F		
	3		OF	OF	OF	ON	ON	ON	ON	
			F	F	F					

PMU Kezdő lépések

4		ON	ON	ON	OF	OF	OF	OFF
					F	F	F	
5	Not used							
6	Communication		1:1			1:N		
	Method							
7~8	Available command level	1		1		1,2	1	,2,3
7	Command lavel Calest	OF	F	ON		OFF		ON
8		OF	F	OFF		ON		ON

①C120-LK201-V1

Switch	Contents	Position of Setup Switch			
1~2	CTS Select	CTS Nomal ON	Using External CTS		
1		ON	OFF		
2		OFF	ON		
3~6	Select of Synchronous	Internal Synchronous	External Synchronous		
3		ON	OFF		
4		OFF	ON		
5		ON	OFF		
6		OFF	ON		
7	Not used				
8	Not used				

@C120-LK202-V1

Switch	Contents	설정 스위치 상태		
1~2	Select of Terminal Resistor	Yes	No	
1		ON	ON	
2		OFF	OFF	
3		ON	OFF	
4		OFF	OFF	
5		ON	OFF	
6		OFF	OFF	
7	Not used			
8	Not used			



PMU Kezdő lépések

Recommended Setup : Internal Synchronous, Terminal Resistor "Yes", CTS (O).



In communication, PLC mode should be "Monitor" Mode. If not, Writing in PLC is not allowed.

(5)C200HW-COM06 Setup Setup for OMRON C200 PLC Setup is don by internal memory of PLC. (Please refer to PLC Manual) If do not set, Basic setup is RS232C, 9600, 7bit, 2bit, even.

Caution

In communication, PLC mode should be "Monitor" Mode. If not, Writing in PLC is not allowed.

RS-422 communication when using communication module

The following switch is installed on C200HW-COM06.



RS422/RS485 2 Wire system

SW1 : 2 Setting SW2 : 1 Setting

RS422/RS485 4 Wire system

SW1 : 4 Setting SW2 : ON Setting

When communication with PMU and RS-422 module, please use set 4 Wire system. (Set of RS-422, please refer to PLC Manual)

7-5-4 PMU Setup

7-5-4-1 Link Setup

① Select "Serial Link" in the Link Editor, set "SYSMAC-C(Link)" in OMRON

PLC.		
PLC 종류설정 (SERIAL)		×
설치된 PLC기종을 선	택하십시요.	
		_
C MASTER-K Series	K500, K1000, K[10, 30, 60, 100] S(LINK) 📝	
◯ GLOFA Series	GM(LINK)	
○ GOLDSEC Series	MnN, AnS, MOJ2(LINK)	
C STARCON-MF Series	MF(LINK)	
○ FARA Series	FARA-N(LINK)	
⊙ OMRON Series	SYSMAC-C(LINK)	
○ AB Series	SLC500[5/03,04](LOADER)	
○ Modicon Series	Modicon(Modbus)	
○ SPC Series	SPC-300(LOADER)	
확인	취소	

② Set buffer which is related with PLC address in Link Editor. Please refer to Chapter 5-3 for available PLC address.

③ Download the Link information to PMU.

(2) Serial Setup

Serial setup should ne don as follows;

Baud rate : The same as PLC sets. Data lentgth : The same as PLC sets. Stop bit length : The same as PLC sets. Parity bit : The same as PLC sets. Signal level : The same as PLC sets. PMU station No. : The same as PLC sets.

7-5-5 Available Address Table

(1)공통

,,				
Dev	In writing	50,120(F),500(F)	2000H, 200H(S), 1000H(F)	
LR	LR	0~31	0~63	
HR	HR	0~31	0~99	
TIM	TIM	0~127	0~511	
CNT	CNT	0~127	0~511	
DM	DM	Please refer to below DM(Data Memory)table.		
AR	AR	None	0~27	
I/O	СН	0~63	0~255 (0~511:200HS)	

(2)DM Area

C50,120,500	0~511
С200Н	0~1999
C200HS	0~9999
1000H	0~4096
2000H	0~6655
120F	0~511
500F	0~4095
1000HF	0~4095

* Bit ON/OFF can be done in only LR,HR,AR,CH.

7-6 Siemens S5/S7 Series

7-6-1 S5/S7 Serial Interface

- Communication with Siemens S5/S7 Link Unit and PMU hardware using serial interface.

7-6-1-1 System Configuration

(Using 3904K pr				
PLC	Interface Unit	Cable	Option Card	PMU
		<>		
S5 90U				
S5 95U			DMO	
S5 100U		Refer to Cable	FWIO-	PMU-500/600
S5 115U	CP525	Connection	BMO 3005	PMU-300
S5 135U		(RS-232C)	PMO 2005	PMU-200
S5 155U			FWIO-2003	
S7-300	CP340			

7-6-1-2 Cable Connection

(1)RS-232C connection(CP525 ↔ PMU series)

PLC part(25Pin)

PMU part(9Pin)

112

1	FG	
2	SD	
3	RD	
4	RTS	
5	CTS	

	1	CD
	2	RD
Ī	3	SD
	4	DTR
Ī	5	SG



(2) RS-232C connection(CP340 ↔ PMU series)

PLC part(9Pin)

PMU part(9Pin)

		-					
1	CD				1	CD	
3	SD				2	RD	
2	RD				3	SD	
7	RTS	<u> </u>			4	DTR	
8	CTS			\square	5	SG	
6	DSR				6	DSR	
5	SG	\vdash			7	RTS	
9	RI]			8	CTS	
4	DTR				9		

7-6-1-3

CP525/CP340 Setup

PLC part setup				
Baud rate	110 bps ~ 19200 bps			
Data length	8 bit			
Stop bit	1 bit			
Parity bit	EVEN			
Error Detection	BCC(SUM)			

7-6-1-4 PMU Setup

(1) Link Setup

① Select "Serial Link" in Link Editor and select "S5-3964R(Link)" in "Siemens Series

② Setup the buffer No. of PMU with device of PLC					
PLC 종류설정 (SERIAL) X					
설치된 PLC기종을 선택하십시요.					

(Usable PLC address : Please refer to Chapter 10-2 address table ③ Transfer the link file to PMU with other files.

(2) Serial setup Recommended setup as follows;

Baud rate : 19200 bps Data length : 8bit Stop bit length : 1bit Parity bit: EVEN Signal level : RS-232C Station No. : None

7-6-1-5

PLC Address table

Device	Word address
Input relay	IW000 ~ IW126
Output relay	QW000 ~ QW126
Internal relay	FW000 ~ FW254
Timer	T000 ~ T255
Counter	C000 ~ C255
Data register *1	D002:000 ~ D255:255
Expanded Data register *1	X002:000 ~ X255:255



*1 : Data register and expanded Data register is described as follows

D<u>002:000</u>

Data Word(DW) No. 000~255

Data Block(DB) No. 000~255

Expanded Data register is available for only S5 135U/155U.

7-6-2 S7-300 (Using MPI Port of CPU)

- Commincation with Siemens S7-300 through PC adapter and PMU hardware using serial interface

7-6-2-1 System Configura	ation
--------------------------	-------

PLC	Interface Unit	Cable	Option Card	PMU
		<>		
CPU312IFM CPU313 CPU314 CPU315 CPU315-2DP	PC Adapter	Refer to cable connection (RS-232C)	PMO- 500/600S PMO-300S PMO-200S	PMU-500/600 PMU-300 PMU-200

7-6-2-2 Cable connection

(1)RS-232C connection(PC Adapter ↔ PMU series)

PLC part(9Pin)

PMU part(9Pin)

115

1	CD	
3	SD	
2	RD	
7	RTS	
8	CTS	

1	CD	
1	CD	
2	RD	
3	SD	
4	DTR	
5	SG	



7-6-2-3

S7-300 CPU Setup

PLC part setup			
Baud rate	19200 ~ 38400 bps		
Data length	8 bit		
Stop bit	1 bit		
Parity bit	ODD		
Error Detection	BCC(SUM)		

7-6-2-4 PMU Setup

- (1) Link setup
- ① Select "Serial link" in Link Editor and select "S7-MPI(Loader)" in Siemens PLC

PLC 종류설정 (SERIAL) 🛛 🗙				
설치된 PLC기종을 선택하십시요.				
○ MASTER-K Series	K500, K1000(LINK)	Y		
⊂ GLOFA Series	GM(LINK)	$\overline{\mathbf{v}}$		
C GOLDSEC Series	MnN, AnS, MOJ2(LINK)	7		
C STARCON-MF Series	MF(LINK)	7		
C FARA Series	FARA-N(LINK)	7		
○ OMRON Series	SYSMAC-C(LINK)	7		
○ AB Series	SLC500[5/03,04](LOADER)	7		
⊖ Modicon Series	Modicon(Modbus)	~		
○ SPC Series	SPC-300(LOADER)	$\overline{}$		
● Siemens Series	S5-3964R(LINK)	•		
확인	취소			

③ Setup the buffer No. of PMU with device of PLC

(Usable PLC address : Please refer to Chapter 10-4 address table

③ Transfer the link file to PMU with other files.

(2) Serial SetupRecommended setup as follows;

Baud rate : 38400 bps Data length : 8bit Stop bit length : 1bit Parity bit : ODD Signal level : RS-232C Station No. : None

7-6-2-5

PLC Address Table

Device	Word address		
Input relay	EW000 ~ EW126		
Output relay	AW000 ~ AW126		
Internal relay	MW000 ~ MW254		
Timer	T000 ~ T127		
Counter	Z000 ~ Z63		
Data register *1	DB01.000 ~ DB60.65534		



*1 : Data register and expanded Data register is described as follows

DB<u>002.000</u>

Data Word(DW) No. 000~65534

- Data Block(DB) No. 01~60