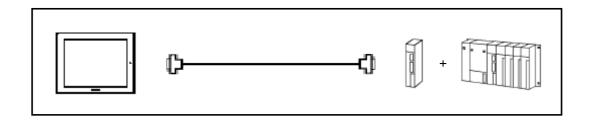


OMRON Corporation PLC

SYSMAC α Series Connection

System Structure



GP

Machine	Model	Remark
GP	GP70 Series	Excepting for handy types.
	GP77/77R Series	
	GP2000 Series	
GLC	GLC2000 Series	



PLC

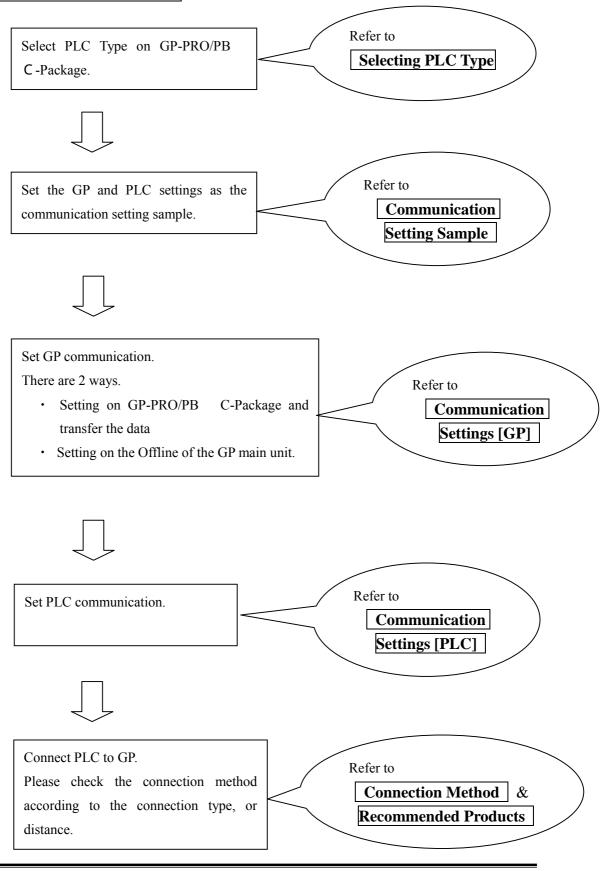
CPU	Communication Board	Communication Method		GP
C200HX-CPU85-Z C200HX-CPU64	RS-232C Port on CPU Unit	RS-232C	Connection Method [1]	
C200HX-CPU44 C200HE-CPU42	C200HW-COM06	RS-232C	Connection Method [1]	
C200HG-CPU63 C200HG-CPU43		RS-422	Connection Method [2]	

CPU	Communication		Connection Cable	
1	Board	Communication	402	GP
		Method		· ·
C200HE-CPU42-Z	RS-232C Port on	RS-232C	Connection Method	
	CPU Unit	KS-232C	[1]	
	C200H-LK202-V1	RS-422	Connection Method [4]	

CPU	Communication Board	Communication Method		GP
C200HX-CPU64-Z	C200H-LK201-V1	RS-232C	Connection Method [3]	
	C200H-LK202-V1	RS-422	Connection Method [4]	



Procedure to Connect PLC



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Selecting PLC Type

Start up GP-PRO /PBIII.

Select the following PLC Type when creating the project file.





Communication Setting Sample

GP Setup		Communication Board Setup	
Baud Rate	19200bps	Baud Rate	19200bps
Data Length	7 Bits	Data Bit	7 Bits
Stop Bit	2 Bits	Stop Bit	2 Bits
Parity Bit	Even	Parity Bit	Even
Data Flow Control	ER Control		
Communication Format (RS-232C)	RS-232C		
Communication Format (RS-422)	4-Wire Type	RS-422/485 Cable (2-Wire/4-Wire Type) Switching Settings (Dipswitch 1)	4
Unit No.	0	Station Number	0

SYSMAC α Series <Communication Board>

SYSMAC α Series <RS-232C Port on CPU Unit>

GP Setup		RS-232	C Port Setup
Baud Rate	19200bps	Baud Rate	19200bps
Data Length	7 Bits	Data Bit	7 Bits
Stop Bit	2 Bits	Stop Bit	2 Bits
Parity Bit	Even	Parity Bit	Even
Data Flow Control	ER Conrtrol	-	
Communication Format	RS-232C	Mode	Host Link
Unit No.	0	Station Number	0



Communication Settings [GP]

1 [GP-PRO/PB C-Package Setting]

Select [GP Setup] on Project Manager.

1) Communication Settings	1) Communication Settings
CDP Statistings = Kennight prov (P) Statings Anota Statings Predict Statings Extended Statings Conversion Statistic Predict Statings Transversion Statistic (SSE) Predict Statings Predict Statings Transversion Statistic Predict Statings Predict Statings (SSE) Predict Statings (SSE) (SSE)	Transmission Speed: 19200bps Data Length: 7 Bits Stop Bit: 2 Bits Parity Bit: Even Busy Ready Control: DTR / ER RS-232C/ RS-422 RS-232C Connection: RS-232C RS-422 Connection: 4 Line * Select one in .
2) Mode Settings	2) Mode Settings
222 Stillings - Kalaging (IV) Andre Screen Stellings (CP Stellings	System Start Address: Arbitrary Address Machine Number: 0 Link Protocol Type: 1:1
OK. Cantal Defaults Einige	



nsfer Settings	
Transfer Settings	×
Send Information	Communications Port
GP System Screen	Comm Port COM1 Retry Count 5
Filing Data(LF card) Data Trans Func CSV Data(CF card)	Comm Port COM1 Retry Count 5
Data rijans runcicov Data(cri calu)	Baud Rate 115.2K 💽 (bps)
	○ Ethernet
Transfer Method	IP Address 0. 0. 0. 0 Port 8000
 Send All Screens 	IP Address U. U. U. U. Port 8000
C Automatically Send Changed Screens	Ethernet: Auto Acquistion
O Send User Selected Screens	
	O Memory Loader
Transfer Mode	
Preparation for a transfer and a transfer are made si	imultaneous.
It is transferred after preparation for a transfer is finis	shed.
Setup C Automatic Setup Use E	Extended Program :
	Simulation
C Do NOT Perform Setup	
	System Screen
Setup CFG file :	
• English	
O Japanese	
C:\Program Files\pro-face\ProPB\	Vin\protocol\ Browse
ОК	Cancel Help
afor Sottings CD System Sat	ttings: Checked
sfer Settings GP System Set	ings. Uncokeu

Select [Transfer] --> [Setup] --> [Transfer Settings].

Transfer to GP after settings completed.

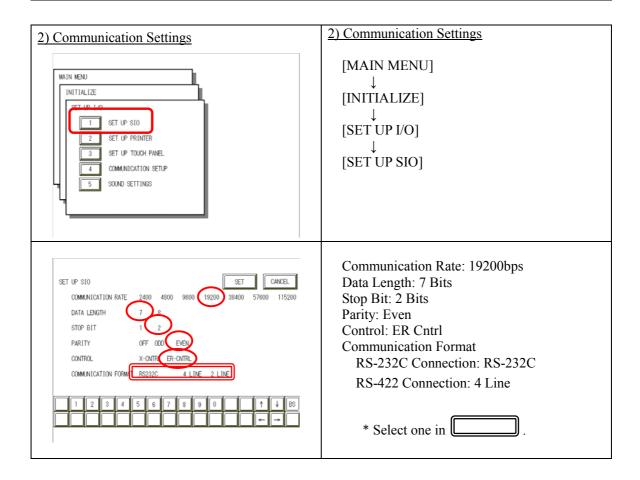


- 2. [GP Settings]
- Displaying Setting Screen -

Touch the top left of the screen within 10 second after powering on.

Or touch the top right and the bottom right of the screen at the same time. Keep 2 points touched and touch the bottom left. The menu bar will display on the bottom of the screen. Then touch [Offline].

MAIN MENU I INITIALIZE SCREEN DATA TRANSFER SELF-DIAGNOSIS K RUN	*03/00/00 00:00	If you have selected OMRON SYSMAC- Series, following will be shown. "SYSMAC-C"
2Way2000 V4.10 SNA-104 V2.22 SYSMAC-C V1.42		





3) Setting up Operation Surroundings	3) Setting up Operation Surroundings
MAIN MENU INITIALIZE 1 SYSTEM ENVIRONMENT SETUP 2 SET UP 1/0 3 PLC SETUP 4 INITIALIZE MEMORY 5 SET UP TIME 8 SET UP SCREEN	$[MAIN MENU] \downarrow [INITIALIZE] \downarrow [PLC SETUP] ↓ [PLC SETUP]$
SET UP OPERATION SURROUNDINGS MENU 1:1 n:1 1 SET UP OPERATION SURROUNDINGS	SET UP OPERATION SURROUNDINGS MENU: 1:1
SET UP OPERATION SURROUNDINGS STARTING ADDRESS OF SYSTEM DATA AREA [000000] UNIT NO. [0] SYSTEM AREA READING AREA SIZE (0-256) [0] RESET GP ON DATA HRITE ERROR ON OFF MONITOR RECORD MODE SET MODE1 MODE2 1 2 3 4 5 6 7 8 9 0 1 4 68 COMPARED ON OFF	Starting Address of System Data Area: Arbitrary Address Unit No.: 0



Communication Settings [PLC]

1. RS-232C Port on CPU Unit

Word Address	Value	Setting Contents
DM6645	0001 (HEX)	Depending on the settings of DM6646 Mode Setup: Host Link
DM6646	0304 (HEX)	Baud Rate: 19200bps Data Length: 7 Bits Stop Bit: 2 Bits Parity Bit: Even
DM6648	0000 (HEX)	Host Link Station No. Settings: Station No. 0

* Please make sure to turn OFF the mode setup switch SW5 on the CPU unit.

2-1 Communication Board C200HW-COM06 (RS-232C Connection)

£ ,		
Word Address Value		Setting Contents
DM6550	0001 (HEX)	Depending on the settings of DM6551 Mode Setup: Host Link
DM6551	0304 (HEX)	Baud Rate: 19200bps Data Length: 7 Bits Stop Bit: 2 Bits Parity Bit: Even

* Please make sure to turn OFF the mode setup switch SW5 on the CPU unit.

2-2 Connection Board C200HW-COM06 (RS-422 Connection)

[Port A]

[Port B]

Word Address	Value	Setting Contents
DM6555	0001 (HEX)	Depending on the settings of DM6556 Mode Setup: Host Link
DM6556	0304 (HEX)	Baud Rate: 19200bps Data Length: 7 Bits Stop Bit: 2 Bits Parity Bit: Even

* Please make sure to turn OFF the mode setup switch SW5 on the CPU unit.

* Set the dipswitch on the communication board as below.

SW1 : 4

SW2 : ON



3. Host Link Unit C200H-LK201-V1

1) Front Switch Settings	1) Front Switch Settings
$\frac{SW1}{SW2}$ $\frac{\begin{array}{c} & & F \\ & & \\$	0: Station No. Settings (× 10) 0: Station No. Settings (× 1)
SW3	6: Baud Rate Settings (19200bps)
SW4	2: (Parity/Data/Stop Bit Settings) Parity Bit: Even Data Bit: 7 Bits Stop Bit: 2 Bits
2) Back Dipswitch Settings	2) Back Dipswitch Settings
Set the switches to the black.	
ON ← 01 02 03 04	SW1: Unused SW2: Unused SW3 (Relation): 1 to n SW4 (5V Power Supply): No
3) CTS Switch Settings	3) CTS Switch Settings
	ON (Turning CTS ON)



4. Host Link Unit C200H-LK202-V1

1) Front Switch Settings	1) Front Switch Settings
$ \begin{array}{c} \text{SW1}\\ \text{SW2} \end{array} $ $ \begin{array}{c} \text{W1}\\ \text{W2} \end{array} $ $ \begin{array}{c} \text{W1}\\ \text{W2}\\ \text{W2} \end{array} $ $ \begin{array}{c} \text{W1}\\ \text{W2}\\ \text{W2} \end{array} $ $ \begin{array}{c} \text{W2}\\ \text{W2}\\ \text{W2} \end{array} $ $ \begin{array}{c} \text{W2}\\ \text{W2}\\ \text{W2} \end{array} $ $ \begin{array}{c} \text{W2}\\ \text{W2}\\ \text{W2} \end{array} $	0: Station No. Settings (× 10) 0: Station No. Settings (× 1)
SW3	6: Baud Rate Settings (19200bps)
SW4	2: (Parity/Data/Stop Bit Settings) Parity Bit: Even Data Bit: 7 Bits Stop Bit: 2 Bits
2) Relation Switch Settings	2) Relation Switch Settings
ON ← 01 02 03 04	OFF (1 to n Relation)
3) Termination Resistance Connection Switch Settings	3) Termination Resistance Connection Switch Settings
ON D OFF	ON (With Termination Resistance)



Connection Method

1. RS-232C Connection

[RS-232C on CPU Unit / C200HW-COM06]

Туре	Connection Method Distance	
Using GP000-IS03-MS	CC)	3m
Using XW2Z-200S or XW2Z-500S by OMRON	C	2m 5m
Creating Cable	To GP 1 FG (25P) 2 SD 3 RD 4 RS 5 CS 7 SG	Within 15m

NOTE

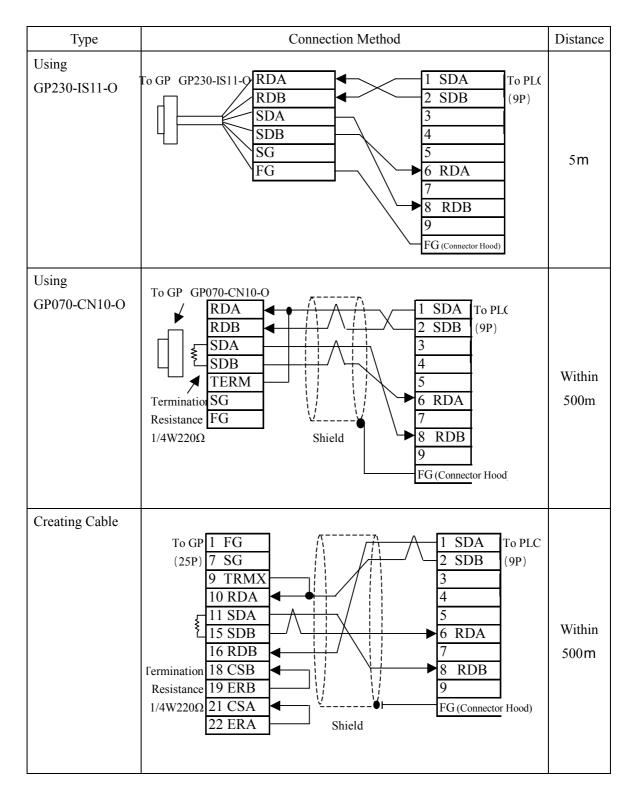
While the above connection diagram differs slightly from the OMRON XW2Z-200S (2m) and XW2Z-500S (5m) RS-232C cables, the system will operate correctly using this design.

Connecter/Cover for GP	D-sub 25 pin Plug	XM2A-2501 <omron co.=""></omron>
	Cover for D-sub 25 pin	XM2S-2511 <omron co.=""></omron>
	Jack Screw	XM2Z-0071 <omron co.=""></omron>
Cable	H-9293A (CO-HC-ESV-3P*7/0.2) <hirakawa corp.="" hewtech=""></hirakawa>	
Setscrew	Metric Coarse Screw Tread : M2.6 × 0.45	



2. RS-422 Connection

[C200HW-COM06]







* Turn on the termination resistance switch on the PLC.

* Names of Signal A and Signal B are opposite on the GP and the PLC.

* One each of the connector and connector hood, listed below, are included with the CV500 / CV1000 CPU unit. Only these connectors listed below can be used.

Connector	XM2A-0901
Connector Hood	XM2S-0901



* When connecting the #9 and #10 pin on the GP Serial I/F, a termination resistance of 100Ω is added between RDA and RDB.

Connecter/Cover for GP	D-sub 25 pin Plug	XM2A-2501 <omron co.=""></omron>
	Cover for D-sub 25 pin	XM2S-2511 <omron co.=""></omron>
	Jack Screw	XM2Z-0071 <omron co.=""></omron>
Cable	H-9293A (CO-HC-ESV-3P*7/0.2) <hirakawa corp.="" hewtech=""></hirakawa>	
Setscrew	Metric Coarse Screw Tread : M2.6 × 0.45	



3. RS-232C Connection

[C200H-LK201-V1]

Туре	Connection Method	
Using GP410-IS00-O	C	5m
Creating Cable	Shield To GP 1 FG (25P) 2 SD 3 RD 4 RS 5 CS 6 7 SG 8 CD 20 ER 5 CS 6 7 SG 8 CD 20 ER 5 CS 6 7 SG 8 CD 20 ER 7 SG 7 SG 7 SG 7 SG 8 CD 7 SG 7 SG 8 CD 7 SG 7 SG	Within 15m

NOTE

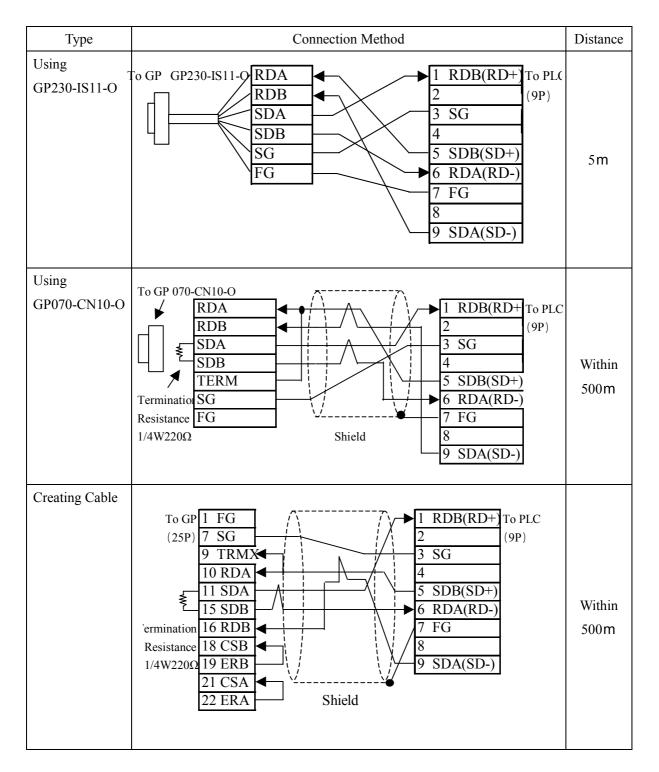
The option cable GP410-IS00-O is 5m. If you need a longer cable or shorter, please use a User-Created cable to connect.

Connecter/Cover for GP	D-sub 25 pin Plug	XM2A-2501 <omron co.=""></omron>
	Cover for D-sub 25 pin	XM2S-2511 <omron co.=""></omron>
	Jack Screw	XM2Z-0071 <omron co.=""></omron>
Cable	H-9293A (CO-HC-ESV-3P*7/0.2) <hirakawa corp.="" hewtech=""></hirakawa>	
Setscrew	Metric Coarse Screw Trea	ad : M2.6 × 0.45



4. RS-422 Connection

[C200H-LK202-V1]







* Please make sure to connect SG.

* Turn on the termination resistance switch on the PLC.

* Names of Signal A and Signal B are opposite on the GP and the PLC.

NOTE

* When connecting the #9 and #10 pin on the GP Serial I/F, a termination resistance of 100Ω is added between RDA and RDB.

Connecter/Cover for GP	D-sub 25 pin Plug	XM2A-2501 <omron co.=""></omron>
	Cover for D-sub 25 pin	XM2S-2511 <omron co.=""></omron>
	Jack Screw	XM2Z-0071 <omron co.=""></omron>
Cable	H-9293A (CO-HC-ESV-3P*7/0.2) <hirakawa corp.="" hewtech=""></hirakawa>	
Setscrew	Metric Coarse Screw Tread : M2.6 × 0.45	