Pro-face

Digital Human Machine Interface

Device/PLC Connection Manuals

About the Device/PLC Connection Manuals

Prior to reading these manuals and setting up your device, be sure to read the "Important: Prior to reading the Device/PLC Connection manual" information. Also, be sure to download the "Preface for Trademark Rights, List of Units Supported, How to Read Manuals and Documentation Conventions" PDF file. Furthermore, be sure to keep all manual-related data in a safe, easy-to-find location.

2 PLC-GP Connection

This chapter describes the system configuration of PLC made by various manufacturers and the GP, and shows connection diagrams, supported devices, and examples of setting up the operating environment.

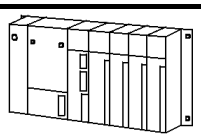
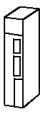
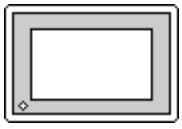
2.1 Mitsubishi Electric

2.1.1 System Structure

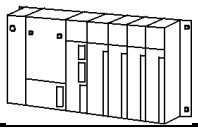
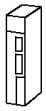
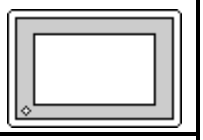
The following describes the system structure for connecting the GP to Mitsubishi Electric PLCs.

Reference *The Cable Diagrams mentioned in the following tables are listed in the section titled "**2.1.2 Cable Diagrams**".*

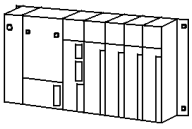
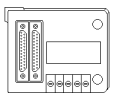
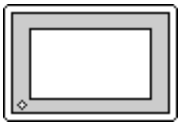
■ **MELSEC-A Series** (using Link I/F)

CPU	Link I/F	Cable Diagram	Cables	GP
	 Computer Link Unit			
A2A,A3A,A2U, A3U,A4U	AJ71C24-S6 AJ71C24-S8 AJ71UC24	RS-232C (Cable Diagram 1)	Digital's GP410-IS00-0(5m)	GP Series
		RS-422 (Cable Diagram 2)	Digital's GP230-IS11-0(5m)	
A2US	A1SJ71C24-R2 A1SJ71UC24-R2	RS-232C (Cable Diagram 3)	Digital's GP000-IS02-MS(3m)	
	A1SJ71UC24-R4	RS-422 (Cable Diagram 2)	Digital's GP230-IS11-0	
A2USH-S1	A1SJ71UC24-R4	RS-422 (Cable Diagram 2)	Digital's GP230-IS11-0	
	A1SJ71UC24-R2	RS-232C (Cable Diagram 3)	Digital's GP000-IS02-MS(3m)	

■ MELSEC-N Series (using Link I/F)

CPU	Link I/F	Cable Diagram	Cables	GP
	 Computer Link Unit			
A1N,A2N,A3N,	AJ71C24 AJ71C24-S3 AJ71C24-S6 AJ71C24-S8 AJ71UC24(Only A2N)	RS-232C (Cable Diagram 1)	Digital's GP410-IS00-0(5m)	GP Series
		RS-422 (Cable Diagram 2)	Digital's GP230-IS11-0	
A0J2,AOJ2H	AOJ2-C214-S1			
A1S	A1SJ71C24-R2 A1SJ71UC24-R2	RS-232C (Cable Diagram 3)	Digital's GP000-IS02-MS(3m)	
	A1SJ71C24-R4	RS-422 (Cable Diagram 2)	Digital's GP230-IS11-0(5m)	
A1SJ,A2SH,A1SH	A1SJ71UC24-R4			
	A1SJ71UC24-R2	RS-232C (Cable Diagram 3)	Digital's GP000-IS02-MS(3m)	
A2CCPU24	Link I/F unit on CPU	RS-232C (Cable Diagram 3)	Digital's GP000-IS02-MS(3m)	

■ MELSEC-A Series (CPU Direct Connection)

CPU *1	Adapter	Cable Diagram	Cables	GP
				
A2A,A3A,A4U,A3U, A2U-S1,A2US-S1, A2USH-S1,A2US		RS-422 (Cable Diagram 11) ***4**	Digital's A-Series Programing Console I/F Cable (isolation type) GP430-IP10-O(5m)	GP Series
A2A,A3A,A4U,A3U, A2U-S1,A2US-S1, A2USH-S1,A2US	Digital's 2 Port Adapter ***2** GP030-MD11-0	RS-422 (Refer to Mitsubishi's A Series PLC Manual "2 Port adapter II " for cable diagram information)		
A2A,A4U,A2U-S1 A2US,A3A,A2USH-S1	Digital's 2 Port Adapter II ***3** GP070-MD11	RS-422 (Refer to Mitsubishi's A Series PLC Manual "2 Port adapter II " for cable diagram information)	Digital's GP070-MDCB11(5m) cable or user's own made RS-422Cable	
	Mitsubishi's I/F unit FX-2PIF	Refer to Mitsubishi's manual		

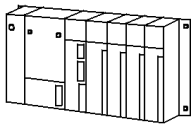
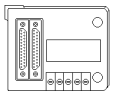
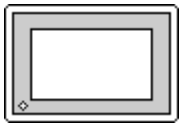
**1 Connect to the Programming Console I/F port.*

**2 When a Read/Write command is sent from ladder software while data is being transmitted between the PLC and the GP, there is a possibility the data transmission will not be completed normally.*

**3 When using 2 Port Adapter II, refer to its manual for the connectable PLCs.*

**4 This connection is used for only GP2000 series units. When using other series units, use the GP430-IP10-0.*

■ MELSEC-N Series (CPU Direct Connection)

CPU *1	Adapter	Cable Diagram	Cables	GP
				
A1N,A2N,A3N,A3H, A1S,A2SH, A2CJ-S3,A1SH, A2CCPUC24,A1SJ, A0J2H		RS-422 (Cable Diagram 11) *4	Digital's A-Series exclusive Programing Console I/F Cable(isolation type) GP430-IP10-0(5m)	GP Series
A1N,A2N,A3N,A3H, A1S,A2SH,A1SJ, A1SH	Digital's 2 Port Adapter *2 GP030-MD11-0	RS-422 (Refer to Mitsubishi's A Series PLC Manual "2 Port adapter " for cable diagram information)		
A1S,A2N,A3H, A3N,A1SJ,A2SH A1SH,A2CJ-S3, A0J2H	Digital's 2 Port Adapter II *3 GP070-MD11	RS-422 (Refer to Mitsubishi's A Series PLC Manual "2 Port adapter " for cable diagram information)	Digital's GP070-MDCB11(5m) or user's own made cable (RS-422)	
	Mitsubishi's Interface Unit FX-2PIF	Refer to Mitsubishi's PLC Manual		

**1 Connect to the Programming Console I/F port.*

**2 When a Read/Write command is sent from ladder software while data is being transmitted between the PLC and the GP, there is a possibility the data transmission will not be completed normally.*

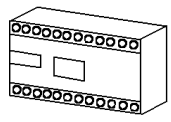
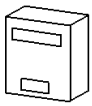
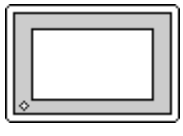
**3 When using 2 Port Adapter II, refer to its manual for the connectable PLCs.*

**4 This connection is used for only GP2000 series units. When using other series units, use the GP430-IP10-0.*

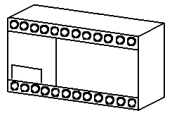
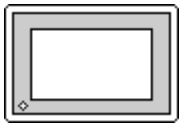
Caution

- **If you connect a CPU not listed here via the Direct CPU connection, you may damage the PLC.**
- **If the PLC has two ports, both of them cannot be connected to a GP at the same time.**

■ MELSEC-F_2 Series (using Link I/F)

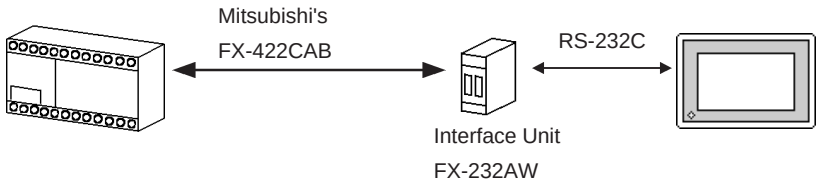
CPU	Adapter	Cable Diagram	Cables	GP
	 Interface Unit			
F2-20M, F2-40M, F2-60M	F2-232GF	RS-232C (Cable Diagram 1)	Digital's GP410-IS00-O(5m)cable, Mitusbishi's F2-232CAB(3m)cable	GP Series

■ MELSEC-FX Series (CPU Direct Connection)

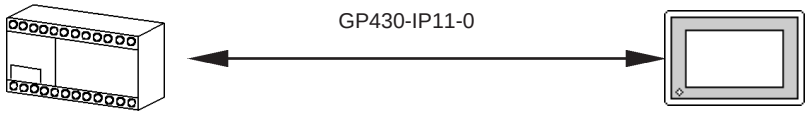
CPU	Adapter	Cable Diagram	Cables	GP
				
FX 1, ***2** FX 2, ***2** FX 2c, ***2** FX 0, ***3** FX 0S, ***3** FX 0N, ***3** FX 1S, ***3** FX 1N, ***3** FX 2N ***3** FX 1NC, ***3** FX 2NC ***3**			Digital's FX Series exclusive Programming Console I/F Cable (isolation type) GP430-IP11-O (5m)	GP Series
FX 1, FX 2, FX 2C, FX 0, FX 0S, FX 0N, FX 1S, FX 1N, FX 2N, FX 1NC, FX 2NC	Mitsubishi's I/F unit FX-232AW ***1 *4**	RS-232C (Cable Diagram 1)	Digital's GP410-IS00-0(5m) Mitsubishi's F2-232CAB(3m)	
FX 2, ***5** FX 0S, ***6** FX 0N, ***6** FX 1S, ***6** FX 1N, ***6** FX 2N, ***6** FX 1NC, ***6** FX 2NC ***6**	Digital's 2 Port Adapter II GP070-MD11 *8	Refer to Mitsubishi's PLC 2 Port Adapter II for A series Manual	Digital's GP070-MDCB11 or User-Prepared cable (RS-422)	
A1FX ***7**			Digital's GP430-IP10-O	

**1 Although MELSEC-FX Series and the GP uses a CPU direct connection, to change an RS-422 signal to RS-232C's, the FX-232AW interface unit is necessary.*

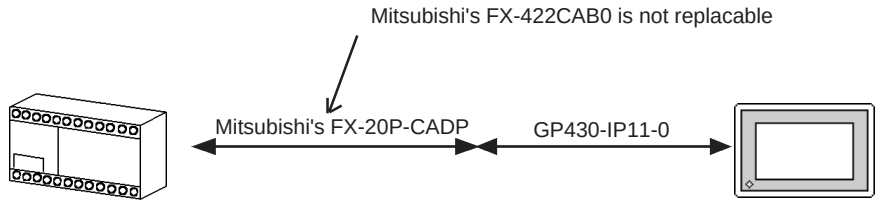
When connecting to FX_1, FX_2, and FX_{2C}, it is necessary to connect the Interface Unit with the PLC using Mitsubishi's FX-422CAB.



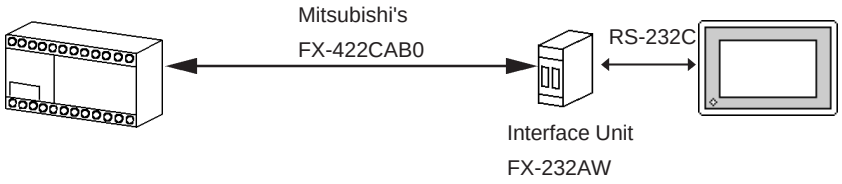
**2 When using Digital's GP430-IP11-0 for connecting an FX_1, FX_2, or FX_{2C}, use the Cable Diagram 2 shown below.*



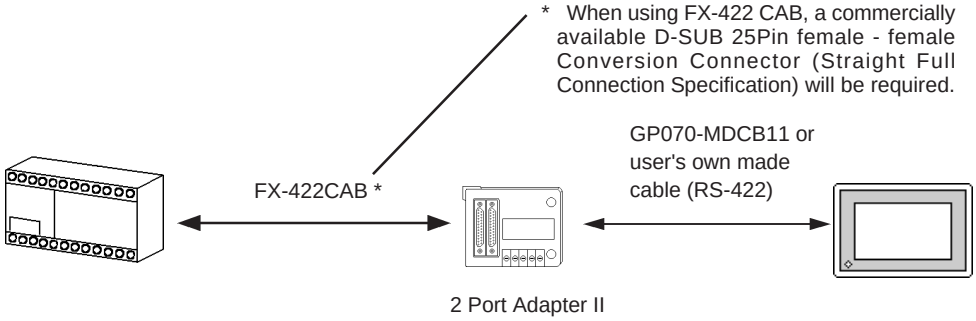
**3 When using Digital's GP430-IP11-0 for connecting FX_0, FX_{0S}, FX_{0N}, FX_{1S} FX_{1N}, FX_{2N}, FX_{1NC} or FX_{2NC} use Cable Diagram 3 shown.*



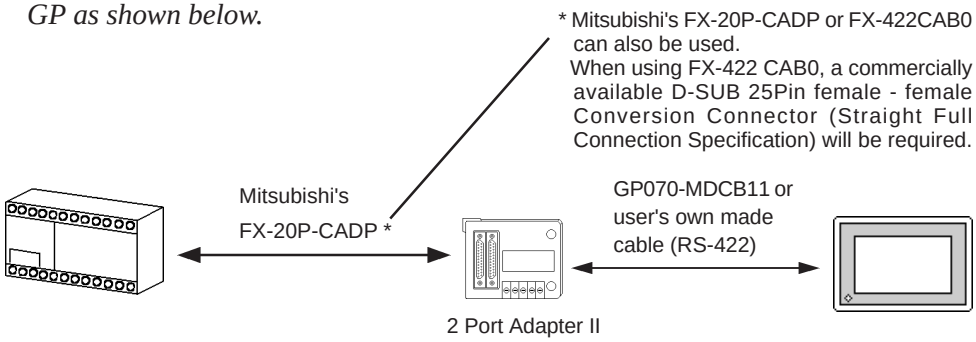
**4 When connecting to FX_0, FX_{0S}, FX_{0N}, FX_{1S} FX_{1N}, FX_{2N}, FX_{1NC} or FX_{2NC} it is necessary to connect the Interface Unit with the PLC using Mitsubishi's FX-422CAB0 (see Diagram 4).*



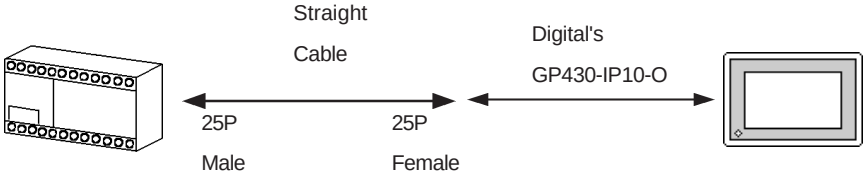
**5 When using Digital's 2 Port Adapter II, it is necessary to connect the unit to the GP as shown below.*



**6 When using Digital's 2 Port Adapter II, it is necessary to connect the units to the GP as shown below.*

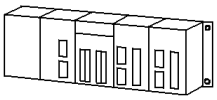
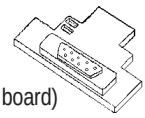
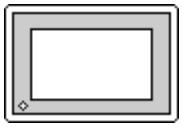


**7 When using an A1FX, choose the MELSEC-AnN (CPU) series as the GP-PRO/PBIII project file's PLC type (refer to the MELSEC-N series manuals for the range of devices available). You will also need an adaptor to adjust the connector's height to align it with that of the PLC's CPU cover.*



**8 When using 2 Port Adapter II, refer to its manual for the connectable PLCs.*

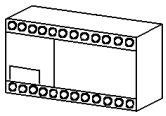
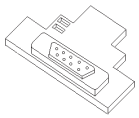
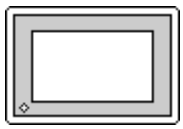
■ MELSEC-FX Series (using Expansion Board with Link Protocol)*1

CPU	Adapter	Cable Diagram	GP
	 (Expansion board)		
FX_{2N} ***2**	FX2N-232-BD	RS-232C (Cable Diagram 6)	GP Series
	FX2N-485-BD	RS-422 (Cable Diagram 7)	
FX_{2NC}	FX0N-232ADP	RS-232C (Cable Diagram 8)	

**1 Choose the Mitsubishi MELSEC-FX_2(LINK) selection as the GP-PRO/PB III project file's PLC type.*

**2 The PLC's system version should be at least 1.06 or later. Check the PLC's version by reading out the data from the register (D8001). For detailed information refer to the Mitsubishi's FX 2N Series Micro Sequencer manuals.*

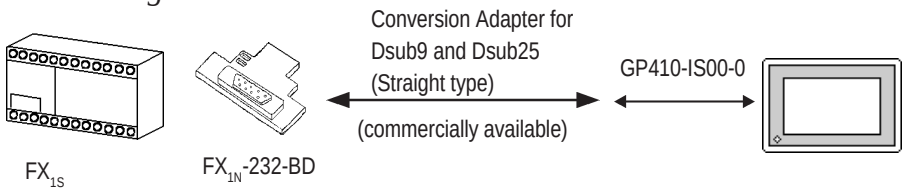
■ MELSEC-FX Series (Expansion board using CPU Direct Connection protocol)*1

CPU	Adapter	Cable Diagram	Cables	GP
	 (Expansion board)			
FX_{1S}	FX_{1N}-232-BD ***2** (Diagram 1)	RS-232C	Digital's GP410-IS00-0 (5m)	GP Series
FX 2N	FX 2N-232-BD ***3** (Diagram 2)	RS-232C (Cable Diagram 1)	Digital's GP410-IS00-O (5m) Mitusbishi's F_2-232CAB(5m)	
		RS-232C (Cable Diagram 4)		
	FX 2N-422-BD ***4** (Diagram 3)		Digital's FX-Series exclusive Programming Console I/F Cable (isolation type) GP430-IP11-O (5m)	

**1 Choose the Mitsubishi MELSEC-FX(CPU) selection as the PLC type in the GP-PRO/PB III screen creation software.*

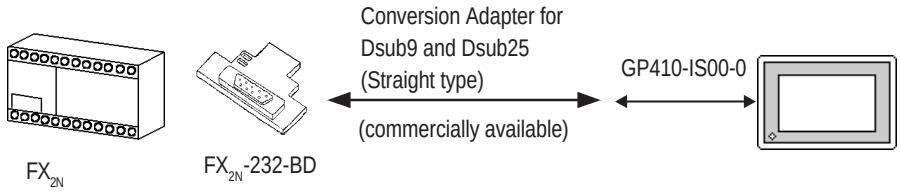
**2 Since a 9-pin connector is used by the PLC, a 25-pin conversion adapter is required.*

Diagram 1



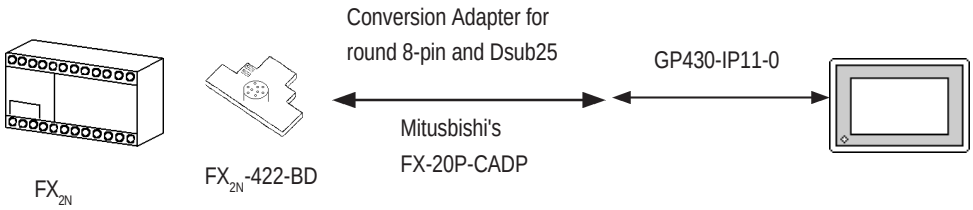
**3 Since a 9-pin connector is used by the PLC, a 25-pin conversion adapter is required.*

Diagram 2

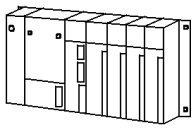
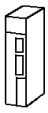
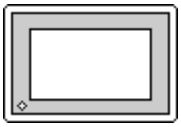


**4 A round 8-pin to 25-pin conversion cable, (Mitsubishi Electronic FX-20P-CADP) is required.*

Diagram 3



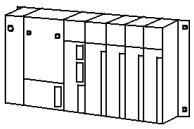
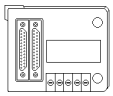
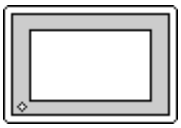
■ MELSEC-QnA Series (using Link I/F)

CPU	Adapter	Cable Diagram	Cables	GP
	 Serial Communication Unit / Computer Link Unit			
Q2A Q2A-S1 Q4A	AJ71QC24 (Serial Communication Unit) *1	RS-232C (Cable Diagram 1)	Digital's GP410-IS00-0(5m)	GP Series
	AJ71UC24 (Computer Link Unit)	RS-422 (Cable Diagram 2)	Digital's GP230-IS-11-0(5m)	
	AJ71QC24N-R4	RS-422 (Cable Diagram 2) for CN-2	Digital's GP230-IS-11-0(5m)	
		RS-422 (Cable Diagram 5) for CN-1		
Q2AS Q2ASH	A1SJ71QC24 (Serial Communication Unit) *2	RS-232C (Cable Diagram 3)	Digital's GP000-IS02-MS (3m)	
	A1SJ71UC24 (Computer Link Unit)	RS-422 (Cable Diagram 2)	Digital's GP230-IS-11-0(5m)	
Q2AS-S1	A1SJ71UC24-R2 A1SJ71UC24-R4	RS-232C (Cable Diagram 3)	Digital's GP000-IS02-MS (3m)	
		RS-422 (Cable Diagram 2)	Digital's GP230-IS-11-0(5m)	
	A1SJ71QC24N	RS-232C (Cable Diagram 3)	Digital's GP000-IS02-MS (3m)	
		RS-422 (Cable Diagram 2)	Digital's GP230-IS-11-0(5m)	
Q4AR	AJ71QC24N	RS-232C (Cable Diagram 1)	Digital's GP410-IS00-0(5m)	
		RS-422 (Cable Diagram 2)	Digital's GP230-IS-11-0(5m)	

**1 ROM : must be 7179B or higher.*

**2 ROM : must be 7179M or higher.*

■ MELSEC-QnA Series (CPU Direct Connection)

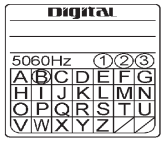
CPU	Adapter	Cable Diagram	Cables	GP
				
Q2A Q4A Q2AS Q2AS-S1 Q4AR		RS-422 (Cable Diagram 11) *3	Digital's A Series exclusivePrograming Console I/F cable (isolation type) GP430-IP10-O (5m)	GP Series
Q2A Q4A Q2AS Q2AS-S1	Digital's 2 Port Adapter *1 GP030-MD11-O *2	RS-422 (Refer to "Mitsubishi's PLC 2 Port Adapter Manual" for cable diagram information)		
Q2A Q4A Q2AS-S1 Q2ASH	Digital's 2 Port Adapter II *1 GP070-MD11 *2	Refer to " Mitsubishi's PLC A Series 2 Port Adapter II *1 Manual"	Digital' s GP070-MDCB11 or user's own cable (RS422)	

**1 When using 2 Port Adapter II, refer to its manual for the connectable PLCs.*

**2 When a Read/Write command is sent from ladder software while data is being transmitted between the PLC and the GP, there is a possibility the data transmission will not be completed normally. You may need to set the GP to the OFFLINE mode before you Read/Write in the program*

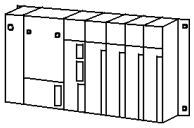
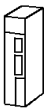
**3 This connection is used for only GP2000 series unit. When using other series unit, use the GP430-IP10-0.*

Note:



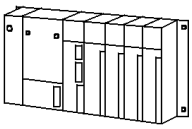
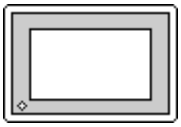
Digital's 2-port Adapter (GP030-MD11-0) will have this identification label.
Adapters that support the MELSEC-QnA unit have a circle around the "B" or later character.

■ MELSEC-Q Series (using Link I/F)

CPU	Link I/F	Cable Diagram	Cable	GP
	 Serial Communication Unit / Computer Link Unit			
Q02CPU-A Q02HCPU-A Q06HCPU-A	A1SJ71UC24-R4	RS-422 <Cable Diagram 2>	Digital's GP230-IS11-0	GP Series
	A1SJ71UC24-R2	RS-232C <Cable Diagram 3>	Digital's GP000-IS02-MS (3m)	
Q02CPU Q02HCPU Q06HCPU Q12HCPU Q25HCPU Q00CPU Q01CPU Q00JCPU	QJ71C24	RS-422 <Cable Diagram 2>	Digital's GP230-IS11-0	
		RS-232C <Cable Diagram 3>	Digital's GP000-IS02-MS (3m)	
	QJ71C24-R2	RS-232C <Cable Diagram 3>	Digital's GP000-IS02-MS (3m)	

When connecting a link I/F to a MELSEC-Q Series unit CPU, refer to the MELSEC-Q Series User Manual for a list of connectable (usable) devices.

■ MELSEC-Q Series (CPU Direct Connection)

CPU	Cable Diagram	Cable	GP
			
Q02CPU-A Q02HCPU-A Q06HCPU-A	RS-232C <Cable Diagram 9>	Mitsubishi's QC30R2 (3m) (9pin/25pin conversion adaptor is necessary.)	GP Series
Q02CPU Q02HCPU Q06HCPU Q12HCPU Q25HCPU Q00CPU Q01CPU	RS-232C <Cable Diagram 10>	Diatrend's DQCABR2 (3m) ***1**	

**1 When designating the length of a cable, be sure to use meters (*m).*
For the available range of cable lengths, please contact the Diatrend company.

2.1.2 Cable Diagrams

The cable diagram illustrated below and the cable diagrams recommended by Mitsubishi Electric Corporation may differ. Using these cables for your PLC, however, will not cause any problems.

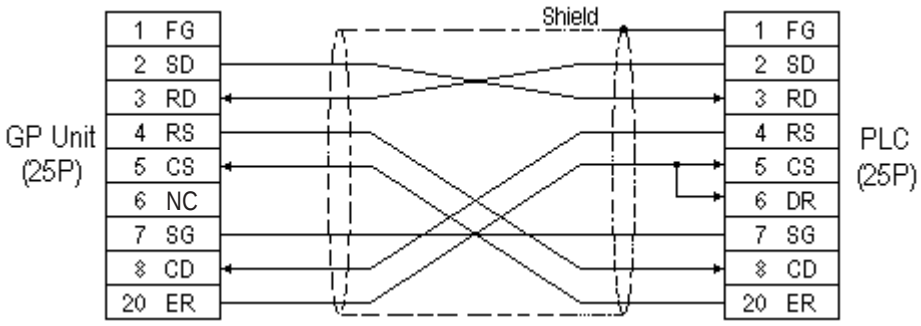
Careful!

Ground your PLC's FG terminal according to your country's applicable standard. For details, refer to the corresponding PLC manual.

Important

- ***Connect the FG line of the Shield cable to either the GP or PLC, depending on your environment. When using a* connector hood *and grounding the FG line, be sure to use an electrical conductor. The following connection diagrams show examples for connecting a shielded cable to the PLC.***
- ***For the RS-232C connection, use a cable length less than 15m.***
- ***If a shielded cable is connected to the RS-422 port, it must be no longer than 600 m.***
- ***If a communications cable is used, it must be connected to the SG (signal ground).***

Cable Diagram 1 (RS-232C)

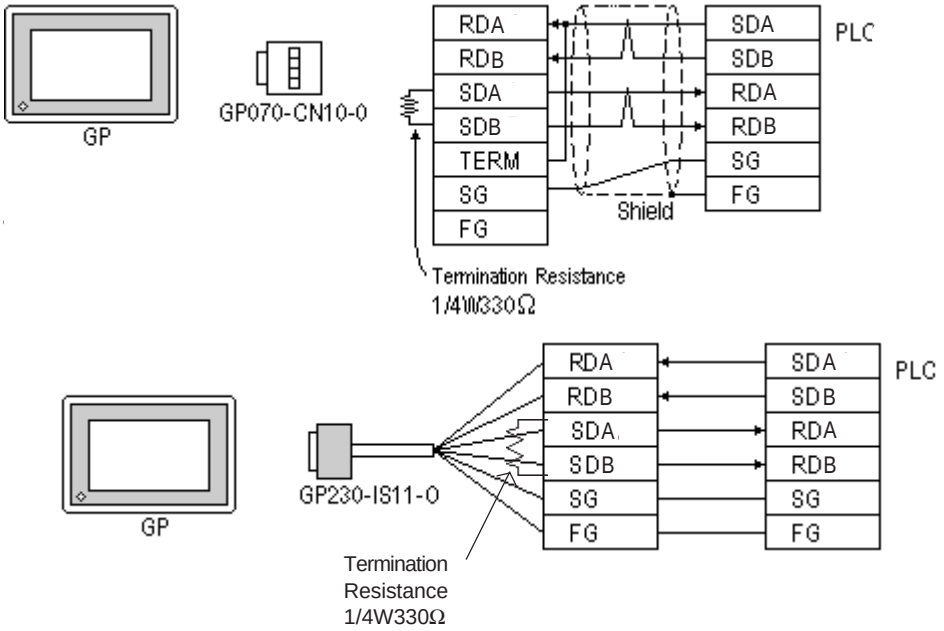


Cable Diagram 2 (RS-422)

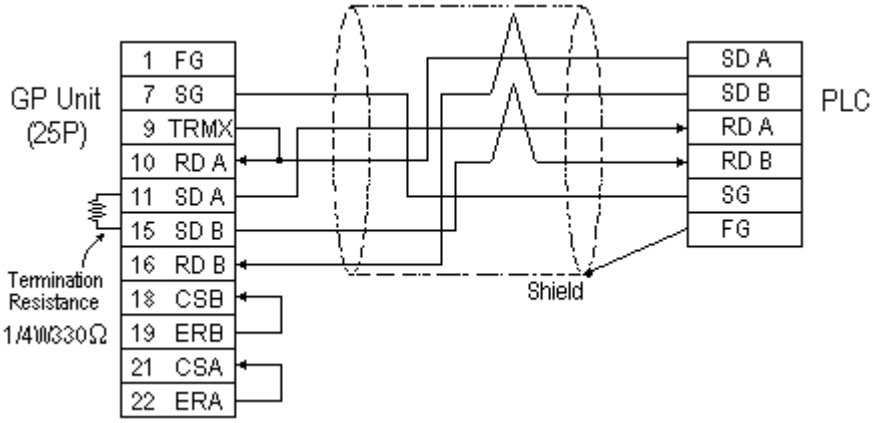
• When using Digital's RS-422 connector terminal adapter GP070-CN10-0

Important

- ***Turn on the PLC's termination resistance switch.***
- ***Depending on the type of PLC used, a termination resistance of 330Ω 1/2W is needed between SDA and SDB, and also between RDA and RDB if no DIP switch is available.***



• When making your own cable connections



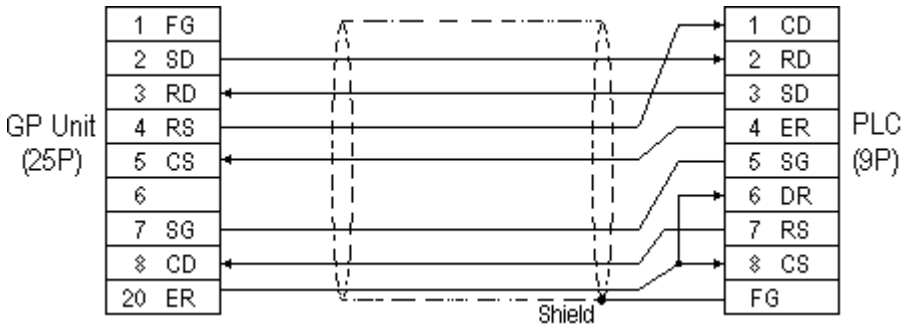
Note:

- **When making your own cable connections, we recommend using Mitsubishi's SPEV (SB)-MPC-0.2*3P for the cable.**
- **When connecting the #9 and #10 pins in the GP Serial I/F, a termination resistance of 100Ω is added between RDA and RDB.**

Important

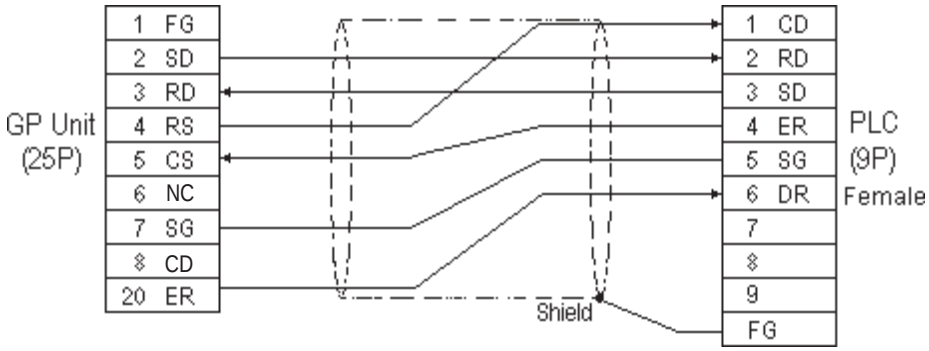
A termination resistance of 1/2W 330Ω is needed between the PLC connector's SDA and SDB, and also between RDA and RDB.

Cable Diagram 3 (RS-232C)



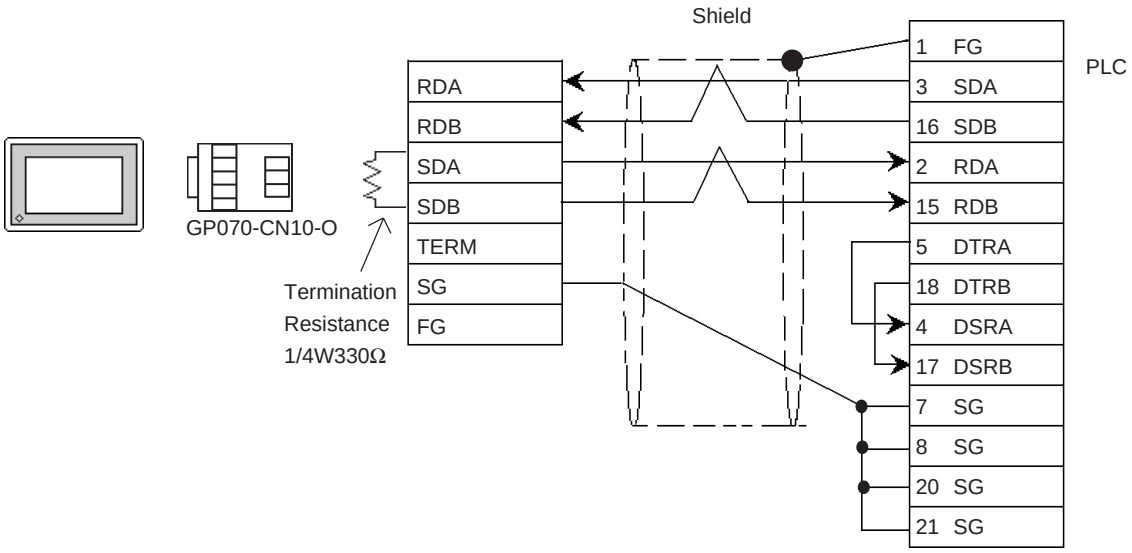
Careful! ***Connect the Shield to the PLC's FG terminal.***

Cable Diagram 4 (RS-232C)

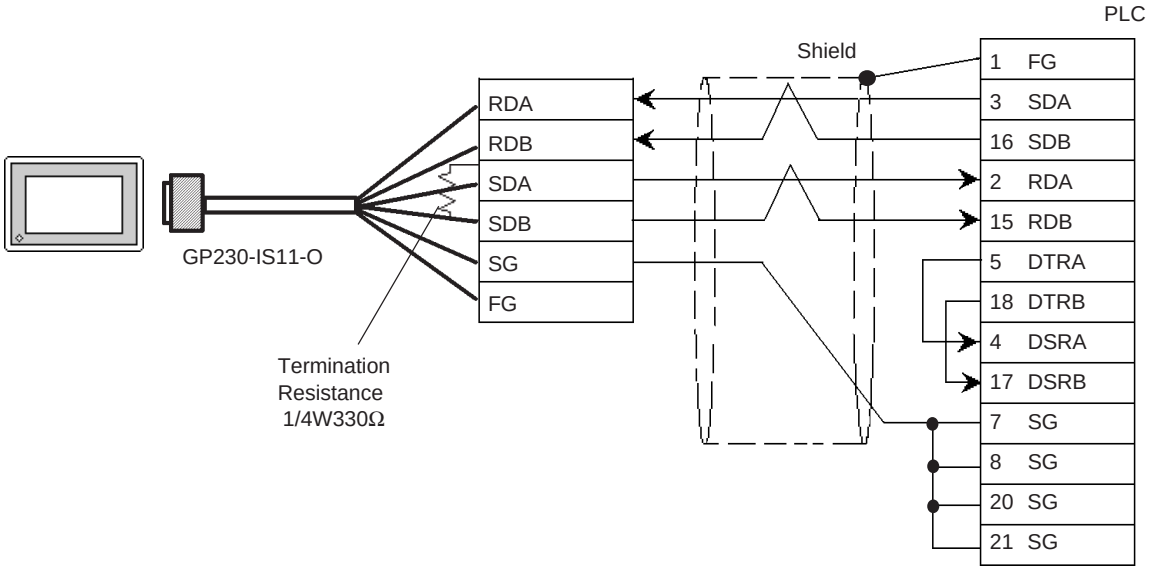


Cable Diagram 5 (RS-422)

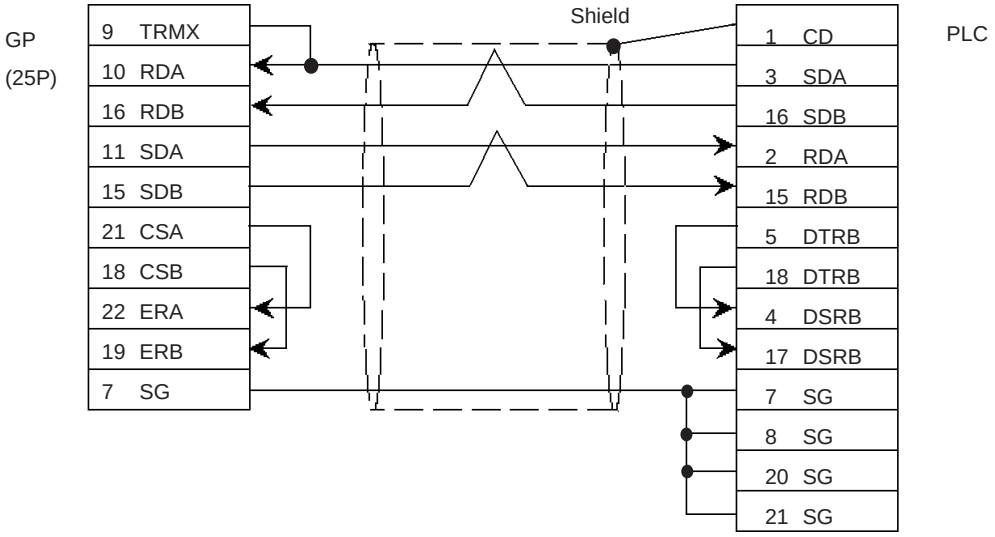
- When using Digital's RS-422 connector terminal adapter GP070-CN10-0



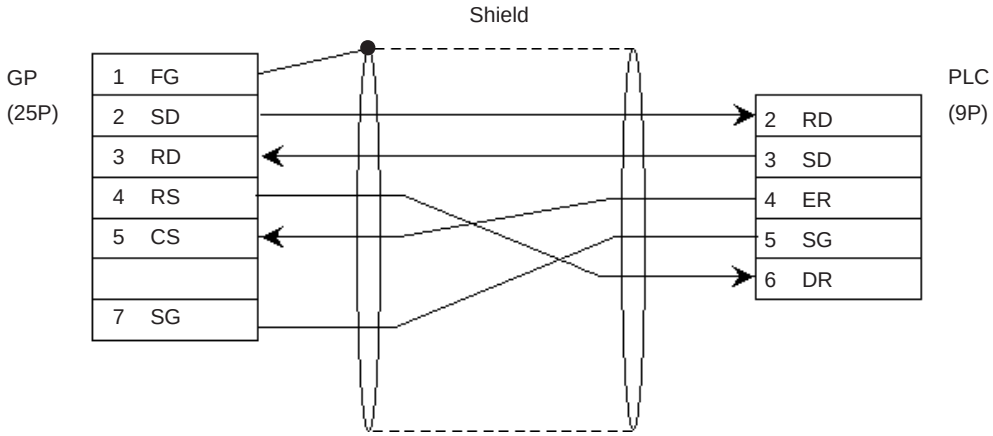
• When using Digital's RS-422 connector terminal adapter GP230-IS11-0



• When making your own cable



Cable Diagram 6 (RS-232C)

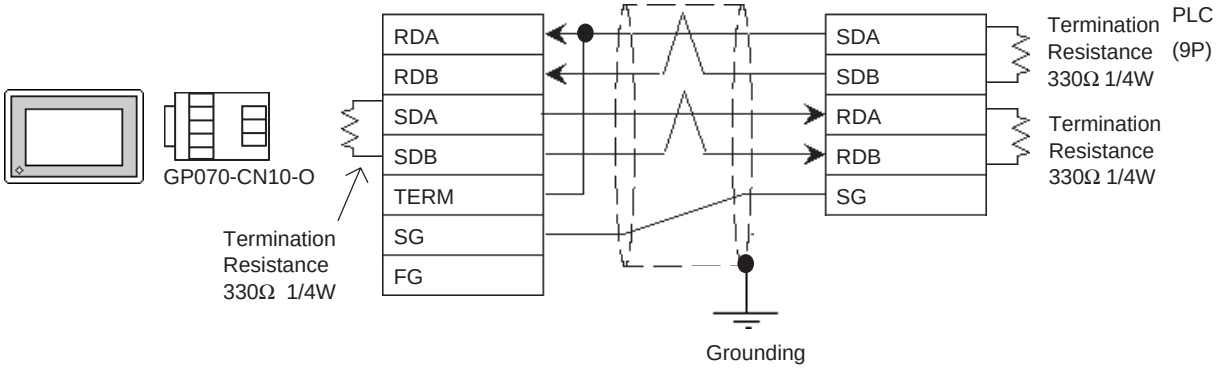


Cable Diagram 7 (RS-422)

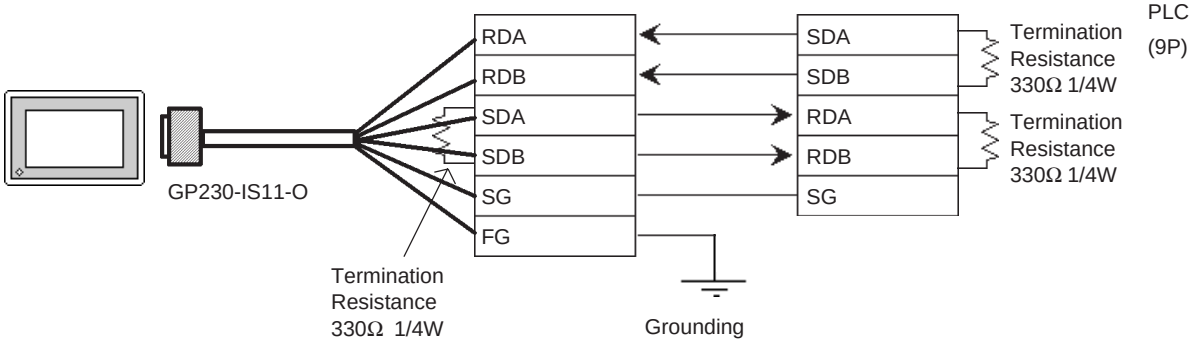
Important

- ***A termination resistance of 330Ω is needed between the PLC connector's SDA and SDB, and also between RDA and RDB.***
- ***When using the FX2N-485-BD, be sure the cable is less than 50 meters.***

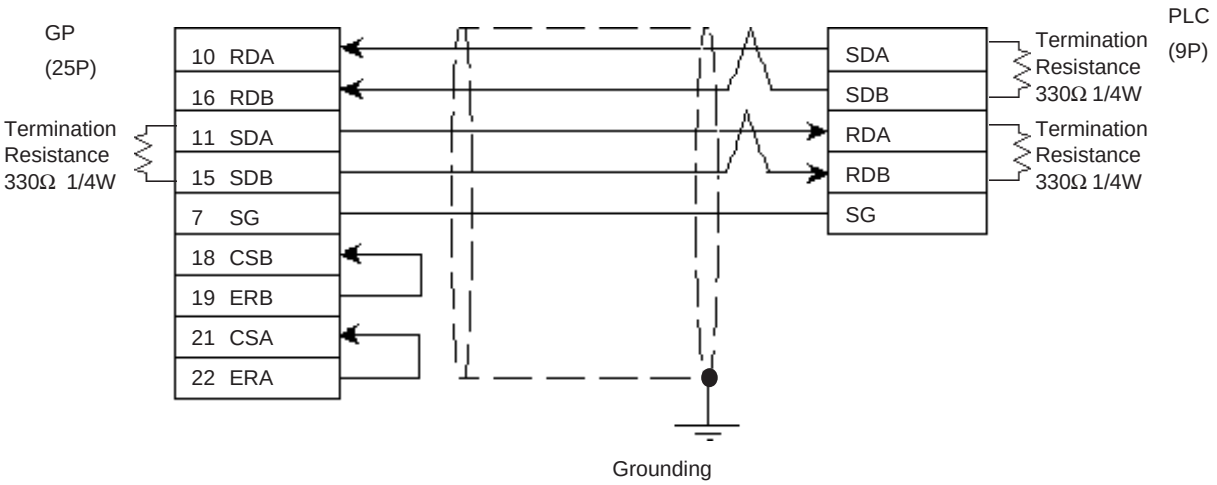
- When using Digital's RS-422 connector terminal adapter GP070-CN10-0



- When using Digital's RS-422 connector terminal adapter GP230-IS11-0



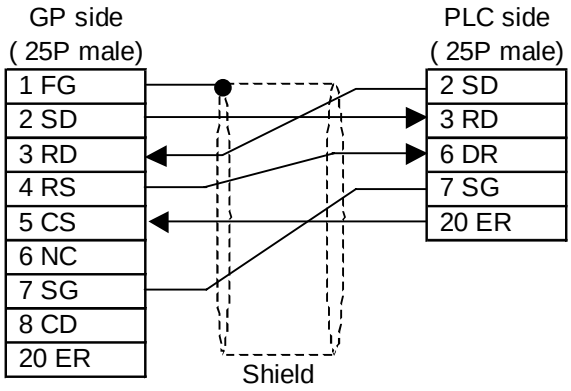
- When making your own cable



Note:

Digital recommends Mitsubishi Electric's SPEV(SB)-MPC-0.2x3P cable for this connection.

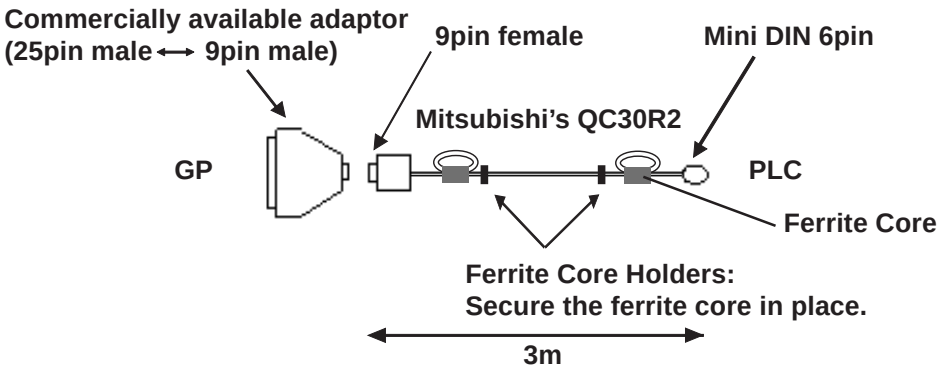
Cable Diagram 8 ***(RS-232C)***



Cable Diagram 9 ***(RS-232C)***

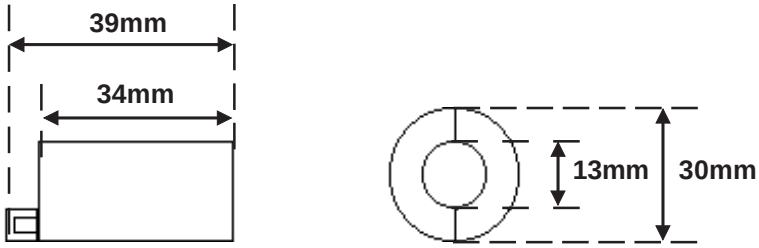
Important

- ***Attaching a Ferrite Core will reduce the amount of noise in your cable.***
- ***Attach two (2) Ferrite Cores to your cable, one at each end. Also, as shown in the drawing below, loop the cable once around the Ferrite Core.***
- ***When using a data communication cable that is 3m(approx. 10ft.) or longer, please use a cable made by the Diatrend company.***
- ***Be sure all cables are less than 15 meters long.***



<Recommended Ferrite Core>

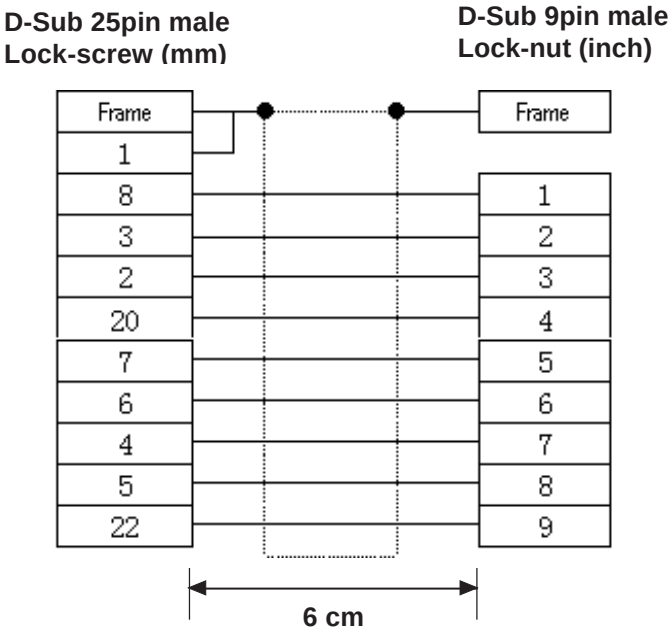
Maker :Seiwa Electronics Corporation
Model :E04SR301334



Conversion Adaptor Specifications

- Straight connection type
- D-Sub 25pin male Lock-screw (mm)
- D-Sub 9pin male Lock nut (inch)

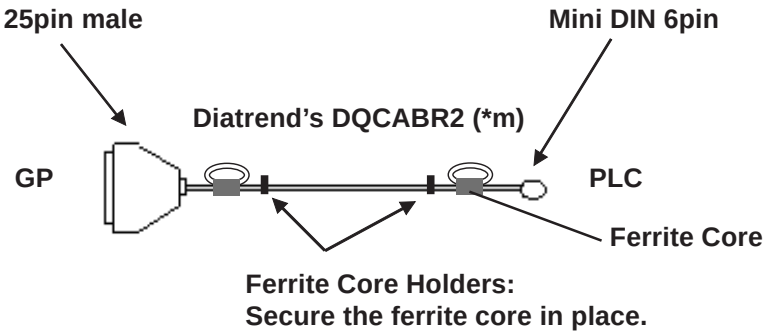
<Adaptor : Roas Co. Model No. ZA-403>



Cable Diagram 10 (RS-232C)

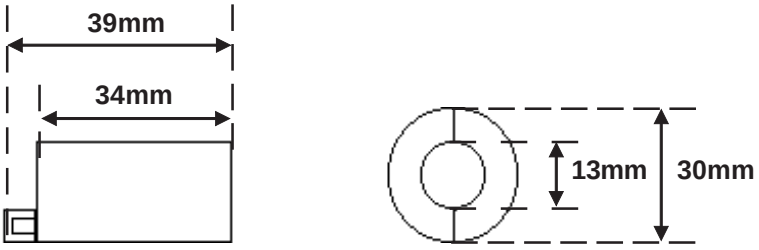
Important

- ***Attaching a Ferrite Core will reduce the amount of noise in your cable.***
- ***Attach two (2) Ferrite Cores to your cable, one at each end. Also, as shown in the drawing below, loop the cable once around the Ferrite Core.***
- ***When using a data communication cable that is 3m(approx. 10ft.) or longer, please use a cable made by the Diatrend company.***
- ***Be sure all cables are less than 15 meters long.***



<Recommended Ferrite Core>

Maker :Seiwa Electronics Corporation
Model :E04SR301334



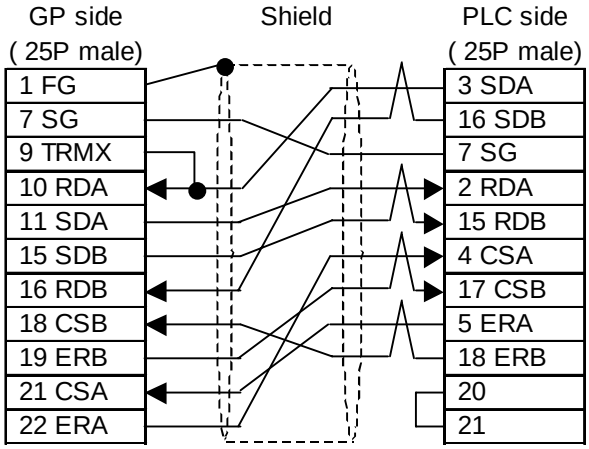
Note

- **Other manufacturer's ferrite cores can be also used. (The size should be the same as shown here.)**

Cable Diagram 11 (RS-422)

Important

- ***This cable diagram is only applicable for the GP2000 series.***



Note:

- **When pin 9 is connected to pin 10 on the serial interface of the GP unit, a termination resistance of 100Ω is provided between RDA and RDB.**

2.1.3 Supported Devices

The following table describes the range of devices supported by the GP.

■ MELSEC-A Series (AnA/ AnU/ A2US/ A2USH-S1)

Setup System Area here.

Device	Bit Address	Word Address	Particulars	
Input Relay	X0000 ~ X1FFF	X0000 ~ X1FF0	***0	L/H
Output Relay	Y0000 ~ Y1FFF	Y0000 ~ Y1FF0	***0	
Internal Relay	M0000 ~ M8191	M0000 ~ M8176	÷16	
Latch Relay	L0000 ~ L8191	L0000 ~ L8176	÷16	
Special Relay	M9000 ~ M9255	M9000 ~ M9240	÷16	
Annunciator	F0000 ~ F2047	F0000 ~ F2032	÷16	
Link Relay	B0000 ~ B1FFF	———		
Timer (contact)	TS0000 ~ TS2047	———		
Timer (coil)	TC0000 ~ TC2047	———		
Counter (contact)	CS0000 ~ CS1023	———		
Counter (coil)	CC0000 ~ CC1023	———		
Timer (current value)	———	TN0000 ~ TN2047		
Counter (current value)	———	CN0000 ~ CN1023		
Data Register	———	D0000 ~ D8191	Bit15	
Special Register	———	D9000 ~ D9255	Bit15	
Link Register	———	W0000 ~ W1FFF	BitF	
File Register	———	R0000 ~ R8191	Bit15 *1	

**1 When using the File Register on AnA or AnU, use the User's Memory area in the memory cassettes listed below.*

A3NMCA-0 A3NMCA-2 A3NMCA-4 A3NMCA-8

A3NMCA-16 A3NMCA-24 A3NMCA-40 A3NMCA-56

A4UMCA-8E (only when using CPU Direct Communication)

When the File Register is setup and the memory cassette is not in use, an error will develop when communicating.

Caution

If a ladder program is stored in ROM when a direct connection is used, there may be cases where the file register may not be used.

■ MELSEC-N Series (AnN/ A2C/ A1S/ A3H/A0J2/A1SJ/A2SH/A1SH/A2CJ-S3)

Setup System Area here.

Device	Bit Address	Word Address	Particulars	
Input Relay	X0000 ~ X07FF	X0000 ~ X07F0	***0	
Output Relay	Y0000 ~ Y07FF	Y0000 ~ Y07F0	***0	*1
Internal Relay	M0000 ~ M2047	M0000 ~ M2032	÷16	
Latch Relay	L0000 ~ L2047	———		
Special Relay	M9000 ~ M9255	M9000 ~ M9240	÷16	*2
Annunciator	F000 ~ F255	F000 ~ F240	÷16	
Link Relay	B0000 ~ B03FF	———		
Timer (contact)	TS000 ~ TS255	———		L/H
Timer (coil)	TC000 ~ TC255	———		
Counter (contact)	CS000 ~ CS255	———		
Counter (coil)	CC000 ~ CC255	———		
Timer (current value)	———	TN000 ~ TN255		
Counter (current value)	———	CN000 ~ CN255		
Data Register	———	D0000 ~ D1023	Bit15	
Link Register	———	W0000 ~ W03FF	BitF	
File Register	———	R0000 ~ R8191	Bit15	*3

** 1 With the A2C, the Output Relays Y01F0~Y01FF (the word is Y01F0) cannot be setup for use on the PLC (only for A2C).*

** 2 MELSEC-AnN and AJ71C24-S3 (or AJ71C24) cannot be matched and used.*

** 3 When using the File Register on AnN or A3H, use the User's Memory area in the memory cassettes listed below.*

A3NMCA-0 A3NMCA-2 A3NMCA-4 A3NMCA-8

A3NMCA-16 A3NMCA-24 A3NMCA-40 A3NMCA-56

A4UMCA-8E (only when using CPU Direct Connection)

When the File Register is setup when the memory cassette is not in use, an error will develop when communicating.

Caution

If a ladder program is stored in ROM when a direct connection is used, there may be cases where the file register can not be used.

■ MELSEC-F_2 Series (Using Link I/F)

Setup System Area here.

Device	Bit Address	Word Address	Particulars
Input Relay (X)	000 ~ 013, 400 ~ 413, 500 ~ 513	———	OCT 8
Output Relay (Y)	030 ~ 037, 430 ~ 437, 530 ~ 537	———	OCT 8
Timer (contact)(T)	050 ~ 057, 450 ~ 457, 550 ~ 557, 650 ~ 657	———	OCT 8
Counter (contact)(C)	060 ~ 067, 460 ~ 467, 560 ~ 567, 660 ~ 667	———	OCT 8
Hold Relay (M)	070 ~ 077, 100 ~ 177, 200 ~ 277, 470 ~ 477, 570 ~ 577	———	OCT 8
Keep Relay (M)	300 ~ 377	———	OCT 8
State (S)	800 ~ 877, 900 ~ 977, 600 ~ 647	———	OCT 8
Timer (current value)	———	TC050 ~ TC057 TC450 ~ TC457 TC550 ~ TC557 TC650 ~ TC657	OCT 8
Timer (set value)	———	TS050 ~ TS057 TS450 ~ TS457 TS550 ~ TS557 TS650 ~ TS657	OCT 8
Counter (current value)	———	CC060 ~ CC067 CC460 ~ CC467 CC560 ~ CC567 CC660 ~ CC667	OCT 8
Counter (set value)	———	CS060 ~ CS067 CS460 ~ CS467 CS560 ~ CS567 CS660 ~ CS667	OCT 8
Data Register	———	DW700 ~ DW777	OCT 8 Bit 15

Note: **Since the word addresses in F_2 Series' *Timer, Counter,* and *Data Register* bit length is 12, some tag functionality (i.e. N-tag, S-tag, C-tag, etc.) is limited.**

STOP **You cannot use 2 word (32 bit) data.**

■ MELSEC-FX Series (Using CPU Direct Connection on FX_0)

Setup System Area here.

Device	Bit Address	Word Address	Particulars	
Input Relay	X000 ~ X017	X000	OCT 8	L/H
Output Relay	Y000 ~ Y015	Y000	OCT 8	
Internal Relay	M000 ~ M511	M000 ~ M496	÷ 16	
State	S000 ~ S063	S000 ~ S048	÷ 16	
Timer (contact)	TS000 ~ TS055	———		
Counter (contact)	CS000 ~ CS015	———		
Timer (current value)	———	TN000 ~ TN055		
Counter (current value)	———	CN000 ~ CN015		
Data Register	———	D000 ~ D031	Bit 15	

■ MELSEC-FX Series (Using Expansion Board with Link Protocol)

Setup System Area here.

Device	Bit Address	Word Address	Particulars		
Input Relay	X0000 ~ X0267	X0000 ~ X0240	OCT 8 *** 0		L/H
Output Relay	Y0000 ~ Y0267	Y0000 ~ Y0240	OCT 8 *** 0		
Auxilary Relay	M0000 ~ M3071	M0000 ~ M3056	÷ 16		
State	S0000 ~ S0991	S0000 ~ S0976	÷ 16		
Special Auxilary relay	M8000 ~ M8255	M8000 ~ M8240	÷ 16	*1	
Timer (contact)	TS000 ~ TS255	———			
Counter (contact)	CS000 ~ CS255	———			
Timer (current)	———	TN000 ~ TN255			
Counter (current)	———	CN000 ~ CN255		*2	
Data Register	———	D0000 ~ D7999	Bit 15		
Special Data Register	———	D8000 ~ D8255	Bit 15	*1	

**1 The Special Auxilary Relay and the Special Data Register are divided into three areas. These are the Exclusive Reading Area, the Exclusive Writing Area and the System Area. For details, refer to your PLC's manual.*

**2 Word addresses CN200 to CN255 are 32 bit counters.*

■ MELSEC-FX Series (using CPU Direct Connection)

Setup System Area here.

Device	Bit Address	Word Address	Particulars	
Input Relay	X000 ~ X337	X000 ~ X320	OCT 8 ***0 *2	L/H
Output Relay	Y000 ~ Y337	Y000 ~ Y320	OCT 8 ***0	
Internal Relay	M0000 ~ M3071	M0000 ~ M3056	÷16	
Special Auxilary relay	M8000 ~ M8255	M8000 ~ M8240	÷16 *3	
State	S000 ~ S999	S000 ~ S976		
Timer (contact)	TS000 ~ TS255	———		
Counter (contact)	CS000 ~ CS255	———		
Timer (current value)	———	TN000 ~ TN255		
Counter (current value)	———	CN000 ~ CN255 *1		
Data Register	———	D000 ~ D7999 *4 *5	Bit 15	
Special Data Register	———	D8000 ~ D8255	Bit 15 *3	

** 1 Addresses CN200 to CN255 are 32 bits long.*

** 2 Cannot perform data write.*

** 3 The Special Auxilary Relay and the Special Data Register are divided into three areas. These are the Exclusive Reading Area, the Exclusive Writing Area and the System Area. For details, refer to your PLC's manual.*

**4 When designating data register addresses, be sure that they do not overlap with the special register area.*

For example, do not perform a write of two or more words, starting from "D7999".

When a write of two or more words is done starting from "D7999", a "Host Communication" error (02:FA) occurs.

**5 For the FX1S series and FAXON series, addresses D1000 to D2499 are file registers.*

File registers can be used based on the file data amount designated through the ladder program.

When this amount is not specified, a "Host Communication" error (02:FA) occurs.

When changing the PLC's file data amount settings during GP - PLC communication, be sure to turn ON/OFF the GP unit's power. As long as the screen is not changed to a different one, the screen's file register will continue to access the memory value that was designated before the change.

Important

- **Refer to the MELSEC-N series manuals for the A1FX's range of available devices.**

■ MELSEC-QnA Series (using Computer Unit AJ71QC24/A1SJ71QC24N/ AJ71QC24N-R4/AJ71QC24N or using CPU Direct Connection)

Setup System Area here.

Device	Bit Address	Word Address	Particulars	
Input Relay	X0000 ~ X1FFF	X0000 ~ X1FF0	***0	
Output Relay	Y0000 ~ Y1FFF	Y0000 ~ Y1FF0	***0	
Internal Relay	M00000 ~ M32767	M00000 ~ M32752	÷16	
Special Relay	SM0000 ~ SM2047	SM0000 ~ SM2032	÷16	
Latch Relay	L00000 ~ L32767	L00000 ~ L32752	÷16	
Annunciator	F00000 ~ F32767	F00000 ~ F32752	÷16	
Edge Relay	V00000 ~ V32767	V00000 ~ V32752	÷16	
Step Relay	S0000 ~ S8191	S0000 ~ S8176	÷16	L/H
Link Relay	B0000 ~ B7FFF	B0000 ~ B7FF0	***0	
Special Link Relay	SB000 ~ SB7FF	SB000 ~ SB7F0	***0	
Timer (contact)	TS00000 ~ TS22527	———		
Timer (coil)	TC00000 ~ TC22527	———		
Aggregate Timer (contact)	SS00000 ~ SS22527	———		
Aggregate Timer (coil)	SC00000 ~ SC22527	———		
Counter (contact)	CS00000 ~ CS22527	———		
Counter (coil)	CC00000 ~ CC22527	———		
Timer (current value)	———	TN00000 ~ TN22527		
Aggregate Timer (current value)	———	SN00000 ~ SN22527		
Counter (current value)	———	CN00000 ~ CN22527		
Data Register	———	D00000 ~ D25599	Bit15	
Special Data Register	———	SD0000 ~ SD2047	Bit15	
Link Data Register	———	W0000 ~ W63FF	BitF	
Special Link Register	———	SW000 ~ SW7FF	BitF	
File Register (normal)		R00000 ~ R32767	Bit15 *1	
File Register (serial)	———	0R0000 ~ 0R7FFF : 1R0000 ~ 1R7FFF	BitF *1	

** 1 When using File Register, a Memory Card is necessary.*

Usable capacity of the File Register varies depending on the capacity of the Memory Card.

■ MELSEC-QnA Series (using Computer Unit AJ71UC24/A1SJ71UC24-R2/A1SJ71UC24-R4)

Setup System Area here.

Device	Bit Address	Word Address	Particulars	
Input Relay	X0000 ~ X03FF	X0000 ~ X03F0	***0	
Output Relay	Y0000 ~ Y03FF	Y0000 ~ Y03F0	***0	
Internal Relay	M00000 ~ M8191	M00000 ~ M8176	÷16	
Special Relay	SM1000 ~ SM1255	SM1000 ~ SM1240	÷16	*1
Annunciator	F0000 ~ F2047	F0000 ~ F2032	÷16	
Link Relay	B0000 ~ B0FFF	———	***0	
Timer (contact)	TS0000 ~ TS2047	———		
Timer (coil)	TC0000 ~ TC2047	———		L/H
Counter (contact)	CS0000 ~ CS1023	———		
Counter (coil)	CC0000 ~ CC1023	———		
Timer (current value)	———	TN0000 ~ TN2047		
Counter (current value)	———	CN0000 ~ CN1023		
Data Register	———	D0000 ~ D6143	Bit15	
Special Data Register	———	SD1000 ~ SD1255	Bit15	*1
Link Register	———	W0000 ~ W0FFF	BitF	

**1 Table data will change depending on whether the perspective is from the PLC or the User's PC.*

Device	GP-PRO/PBIII	PLC Manual
Special Relay	M9000 ~ M9255	SM1000 ~ SM1255 (cannot use SM0000~SM0999)
Special Register	D9000 ~ D9255	SD1000 ~ SD1255 (cannot use SD0000~SD0999)

◆ **MELSEC-QnA series communications mode selection (when using a link unit)**

When using the MELSEC-QnA series unit, either mode 2 or mode 1 can be selected during the entering of the initial settings, when the GP is in the OFFLINE mode.

Mode 2: This is a new communications mode. It is enabled when less than 64 devices have been designated by a single screen's tags. The communications speed has been improved. Select this mode when using less than 64 devices.

Mode 1: This mode is equivalent to the communications mode used previously. This mode is valid for 64 or more devices have been specified by a single screen's tags. The communications speed has been improved. Select this mode when using 64 or more devices.

- ***If the on-screen data memory area in the GP is initialized or if the on-screen data is transferred from the drawing software, the GP returns to mode 1 (its initial setting). Use the offline settings area to select mode 2.***
- ***In mode 2, the communications speed may not always be improved depending on which tags and system area are used, as well as how the PLC's read areas are allocated.***

■ MELSEC-Q Series (A mode, CPU Direct)

Setup System Area here.

Device	Bit Address	Word Address	Particulars	
Input Relay	X0000 ~ X1FFF	X0000 ~ X1FF0	***0	
Output Relay	Y0000 ~ Y1FFF	Y0000 ~ Y1FF0	***0	
Internal Relay	M0000 ~ M8191	M0000 ~ M8176	÷16	
Latch Relay	L0000 ~ L8191	L0000 ~ L8176	÷16	
Special Relay	M9000 ~ M9255	M9000 ~ M9240	÷16	
Annunciator	F0000 ~ F2047	F0000 ~ F2032	÷16	
Link Relay	B0000 ~ B1FFF	———		
Timer (contact)	TS0000 ~ TS2047	———		
Timer (coil)	TC0000 ~ TC2047	———		L/H
Counter (contact)	CS0000 ~ CS1023	———		
Counter (coil)	CC0000 ~ CC1023	———		
Timer (current value)	———	TN0000 ~ TN2047		
Counter (current value)	———	CN0000 ~ CN1023		
Data Register	———	D0000 ~ D8191	Bit 15	
Special Data Register	———	D9000 ~ D9255	Bit 15	
Link Register	———	W0000 ~ W1FFF	Bit F	
File Register	———	R0000 ~ R8191	Bit 15 *1	

** 1 The amount of space available when using the File Register will vary, depending on the amount of CPU ROM/RAM available, or the amount of memory available on the memory card.*

■ MELSEC-Q Series (Q mode Link I/F, CPU Direct)

Setup System Area here.

Device	Bit Address	Word Address	Notes	
Input Relay	X0000 ~ X1FFF	X0000 ~ X1FF0	***0	L/H
Output Relay	Y0000 ~ Y1FFF	Y0000 ~ Y1FF0	***0	
Internal Relay	M00000 ~ M32767	M00000 ~ M32752	÷16	
Special Relay	SM0000 ~ SM2047	SM0000 ~ SM2032	÷16	
Latch Relay	L0000 ~ L32767	L0000 ~ L32752	÷16	
Annunciator	F0000 ~ F32767	F0000 ~ F32752	÷16	
Edge Relay	V0000 ~ V32767	V0000 ~ V32752	÷16	
Step Relay	S0000 ~ S8191	S0000 ~ S8176	÷16	
Link Relay	B0000 ~ B7FFF	B0000 ~ B7FF0	***0	
Special Link Relay	SB000 ~ SB7FF	SB000 ~ SB7F0	***0	
Timer (contact)	TS00000 ~ TS23087	———		
Timer (coil)	TC00000 ~ TC23087	———		
Aggregate Timer (contact)	SS00000 ~ SS23087	———		
Aggregate Timer (coil)	SC00000 ~ SC23087	———		
Counter (contact)	CS00000 ~ CS23087	———		
Counter (coil)	CC00000 ~ CC23087	———		
Timer (current value)	———	TN00000 ~ TN23087		
Aggregate Timer (current value)	———	SN00000 ~ SN23087		
Counter (current value)	———	CN00000 ~ CN23087		
Data Register	———	D00000 ~ D25983	Bit 15	
Special Data Register	———	SD0000 ~ SD2047	Bit 15	
Link Data Register	———	W0000 ~ W657FF	Bit F	
Special Link Register	———	SW000 ~ SW7FF	Bit F	
File Register (normal)	———	R00000 ~ R32767	Bit 15	*1
File Register (serial)	———	0R0000 ~ 0R7FFF	Bit F	*1
	———	1R0000 ~ 1R7FFF	Bit F	*1
	:	:	:	
	———	31R0000 ~ 31R67FF	Bit F	*1

**1 The amount of space available when using the File Register will vary, depending on the amount of CPU ROM/RAM available, or the amount of memory available on the memory card.*

Note: Each device range represents the maximum range available, given the parameter settings.

Depending on your CPU, the usable device type and range may differ. Before using only a CPU, refer to your CPU User Manual.

2.1.4 Environment Setup

The following lists Digital's recommended PLC and GP communication settings.

Items affecting the PLC program cycle—

Please be aware that PLC program cycle time slows by approximately 8% when you connect the GP to the programming port and begin communications with the GP.

■ MELSEC-A Series / N Series (using Calculation Link Unit)

GP Setup		Computer Link Unit Setitings	
Baud Rate	19200 bps	Baud Rate	19200 bps
Data Length	7 bits	Data Bit	7 bits
Stop Bit	2 bits	Stop Bit	2 bits
Parity Bit	Even	Parity Check Parity setting even/odd	Yes Even
Data Flow Control	ER Control	---	
Communication Format (RS-232C)	RS-232C	Channel Setup *1 Mode Setup (RS-232C)	RS-232C 4 (Format 4 protocol)
Communication Format (RS-422)	4-wire type	Channel Setup *1 Mode Setup (RS-422)	RS-422 8 (Format 4 protocol)
---		Write possible in RUN mode.	Possible
---		Sum Check	Yes
---		Enable Sender Termination Resistor *2	Yes
---		Enable Receiver Termination Resistor *2	Yes
Unit No.	0	Station Number	0

**1 A1SJ71C24-R2, A1SJ71UC24-R2, and A1SJ71C24-R4 do not have this setting.*

**2 The A171UC24 does not have this setting.*

■ MELSEC-A Series / N Series (CPU Direct Connection)

GP Setup		PLC Setitings
Baud Rate	9600 bps (fixed)	---
Data Length	8 bit (fixed)	---
Stop Bit	1 bit (fixed)	---
Parity Bit	Odd (fixed)	---
Data Flow Control	ER Control	---
Communication Format *1 (RS-232C)	RS-232C	---
Communication Format (RS-422)	4-wire type	---
Unit No.	0 (fixed)	---

**1 Only when using Digital's Programming Console I/F cable(GP430-IP10-0) for the A series unit. Otherwise a 4-wire type cable is required.*

■ MELSEC-A2C

GP Setup		A2C Setitings	
Baud Rate	19200 bps	Baud Rate	19200 bps
Data Length	8 bits	Data Bit	8 bits
Stop Bit	1 bit	Stop Bit	1 bit
Parity Bit	Even	Parity Check Parity setting even/oddd	Yes Even
Data Flow Control	ER Control	---	
Communication Format	RS-232C	Channel Setup Mode Setup	RS-232C 4 (Format 4 protocol)
---		Write possible in RUN mode	Possible
---		Sum Check	Yes
Unit No.	0	Station Number	0

■ MELSEC-F_2 Series

GP Setup		Interface Setitings	
Baud Rate	9600 bps	Baud Rate	9600 bps
Data Length	7 bits	Data Bit	7 bits
Stop Bit	1 bit (fixed)	Stop Bit	1 bit (fixed)
Parity Bit	Even	Parity Bit	Even
Data Flow Control	ER Control	---	
Communication Format	RS-232C	---	
---		Resistor Setting	Yes
---		Sum Check	Yes
Unit No.	0	Station Number	0

■ MELSEC-FX Series (using Expansion Board with Link Protocol)

GP Setup		Computer Link Unit Settings	
Baud Rate	19200 bps	Baud Rate	19200 bps
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	Computer Link	RS-232C I/F
Communication Format (RS-422)	4-wire type	Computer Link	RS485 (RS422) I/F
Unit No.	0	Station Number	0
---		Sum Check	Yes
---		Protocol	Yes
---		Control Method	4
---		Header	No
---		Terminator	No

Note: **The PLC's Station Number setting must be written to data register D8121, and all other PLC settings for the PLC must be written to data register D8120. For details, please refer to the Mitsubishi Electronics FX Series User Manual.**

■ MELSEC-FX Series *1 (CPU Direct Connection)

GP Setup		FX Series Settings
Baud Rate	9600 bps (fixed)	---
Data Length	7 bits (fixed)	---
Stop Bit	1 bit (fixed)	---
Parity Bit	Even (fixed)	---
Data Flow Control	ER Control	---
Communication Format	RS-232C	---
Unit No.	0 (fixed)	---

**1 The A1FX unit's settings are the same as the MELSEC-N Series (CPU Direct Connection).*

Caution **When the adapter (FX_{2N}-232-BD) is used, store "0" data in D8120.**

■ MELSEC-QnA (using Serial Communication Unit)

GP Setup		Serial Communication Unit Settings	
Baud Rate	19200 bps *1	Baud Rate	19200 bps
Data Length	7 bits	Data Bit	7 bits
Stop Bit	2 bits	Stop Bit	2 bits
Parity Bit	Even	Parity Check Parity setting even/odd	Yes Even
Data Flow Control	ER Control	---	
Communication Format (RS-232C)	RS-232C	Mode Setup (RS-232C)	4 (Format 4 Protocol Mode)
Communication Format (RS-422)	4-wire type	Mode Setup (RS-422)	4 (Format 4 Protocol Mode)
---		Sum Check	Yes
---		Enable Sender Termination Resistor	Yes
---		Enable Receiver Termination Resistor	Yes
Unit No.	0	Station Number	0

**1 AJ71QC24-R4 , A1SJ71QC24N and AJ71QC24N can use a baud rate of 115,200bps.*

Note:

- **When your environment setup involves using MELSEC-QnA and the Computer Link Unit AJ71UC24 together, refer to the MELSEC-A Series' table.**
- **Serial communication units CH1 and CH2 can communicate at the same time, given any of the following conditions are true.**

  Condition 1 : The sticker on the top of the communication unit indicates the version is AB or later.

  Condition 2 : The date shown on the side of the communication unit indicates it was produced in September 1996(9609) or later.

  Condition 3 : The communication unit's ROM version is 7179M or later.

■ MELSEC-QnA (CPU Direct Connection)

GP Setup		PLC Settings
Baud Rate	19200 bps	---
Data Length	8 bits	---
Stop Bit	1 bit	---
Parity Bit	Odd	---
Data Flow Control	ER Control	---
Communication Format *1 (RS-232C)	RS-232C	---
Communication Format (RS-422)	4-wire type	---
Unit No.	0 (fixed)	---

**1 Only when using Digital 's Programming Console I/F cable (GP430-IP10-0) for the A series unit. Otherwise a 4-wire type cable is required.*

■ MELSEC-Q Series (A Mode CPU Direct Connection)

GP Setup		PLC Settings
Baud Rate	9600bps (fixed)	———
Data Length	8bit (fixed)	———
Stop Bit	1bit (fixed)	———
Parity Bit	Odd (fixed)	———
Data Flow Control	ER Control	———
Communication Format	RS-232C	———
Unit No.	0 (fixed)	———

■ MELSEC-Q Series (Q Mode CPU Direct Connection)

GP Setup		PLC Settings
Baud Rate	19200 bps	———
Data Length	8bit (fixed)	———
Stop Bit	1bit (fixed)	———
Parity Bit	Odd (fixed)	———
Data Flow Control	ER Control (fixed)	———
Communication Format	RS-232C (fixed)	———
Unit No.	0 (fixed)	———

Note:

- **Range of data transfer speeds is from 9600bps to 15,200bps. However, the maximum speed available with GP70 Series units (except for GP-377 Series units) is 38,400bps.**

■ MELSEC-Q Series (using A Mode CPU Computer Link Unit)

GP Setup		Computer Link Unit Settings	
Baud Rate	19200bps (fixed)	Baud Rate	19200 bps
Data Length	7bits (fixed)	Data Bit	7 bits
Stop Bit	2bits (fixed)	Stop Bit	2 bits
Parity Bit	Even	Parity Check Parity setting even/odd	Yes Even
Data Flow Control	ER Control	---	
Communication Format (RS-232C)	RS-232C	Mode Setup (RS-232C)	4 (Format 4 Protocol Mode)
Communication Format (RS-422)	4-wire type	Mode Setup (RS-422)	4 (Format 4 Protocol Mode)
-		Write possible in RUN mode	Possible
-		Sum Check	Yes
Unit No.	0 (fixed)	Station Number	0

■ MELSEC-Q Series (Q Mode CPU Serial Communication Unit)

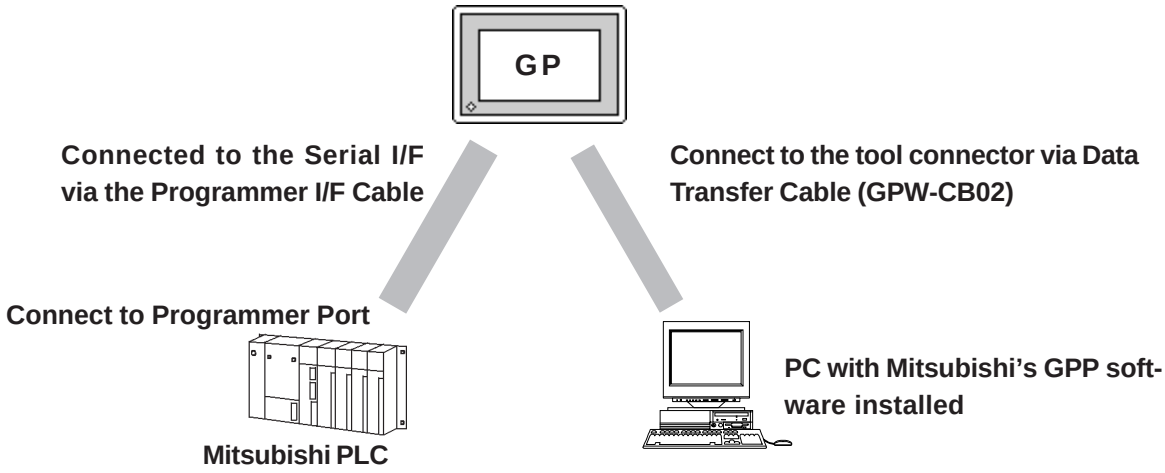
GP Setup		Serial Communication Unit Settings *1	
Baud Rate	19200bps	Baud Rate	19200 bps
Data Length	7 bits	Data Bit	7 bits
Stop Bit	2 bits	Stop Bit	2 bits
Parity Bit	Even	Parity Check Parity setting even/odd	Yes Even
Data Flow Control	ER Control	---	
Communication Format (RS-232C)	RS-232C	Mode Setup (RS-232C)	4 (Format 4 Protocol Mode)
Communication Format (RS-422)	4-wire type	Mode Setup (RS-422)	4 (Format 4 Protocol Mode)
———		Sum Check	Yes
Unit No.	0	Station Number	0

***1 The setting is made by Mitsubishi's GPP function software.**

2.1.5 2-Port Feature

The 2-Port feature can be used in two ways:
(1)Via the GP's built-in 2-Port feature
(2)Via the external 2-Port Adapter II.
Both methods are described below:

■When Using GP unit's Internal 2-Port feature *1



1 The Device Monitor feature can also be used at the same time.

◆PLC models supporting Internal 2-Port Feature

Series	CPU
MELSEC-AnA Series	A2A, A2U-S1, A2USH-S1, A3A, A2US
MELSEC-AnN Series	A1S, A1SH, A2N, A3H, A2SH, A3N, A0J2H
MELSEC-QnA Series	Q2A, Q2A-S1, Q2AS-S1, Q2ASH, Q4A
MELSEC-FX Series *1	FX_{0S}, FX_{0N}, FX_{1S}, FX_{1N}, FX_{2N}, FX_{1NC}, $FX2_{NC}$
MELSEC-Q Series	Q02CPU-A,Q02HCPU-A,Q06HCPU-A, Q02CPU,Q02HCPU,Q06HCPU, Q12HCPU,Q25HCPU

1 MELSEC-FX Series' FX2 cannot use the internal 2-Port feature.

◆GP models supporting Internal 2-Port Feature

Series			GP type
GP-377 Series			GP-377L
			GP-377S
GP77R Series		GP-377R Series	GP-377RT
		GP-477R Series	GP-477RE
		GP-577R Series	GP-577RT
			GP-577RS
GP2000 Series	GP2000H Series	GP-2301H Series	GP-2301HL
			GP-2301HS
		GP-2401H Series	GP-2401HT
		GP-2300 Series	GP-2300L
			GP-2300T
		GP-2301 Series	GP-2301L
			GP-2301S
			GP-2301T
		GP-2400 Series	GP-2400T
		GP-2401 Series	GP-2401T
		GP-2500 Series	GP-2500L
			GP-2500S
			GP-2500T
		GP-2501 Series	GP-2501L
			GP-2501S
			GP-2501T
		GP-2600 Series	GP-2600T
		GP-2601 Series	GP-2601T

◆GPP Feature Software Package

MELSEC-A Series	DOS3.1.1 Series SW31VD-GPPA type GPP feature software package or later Windows95, Windows NT SW0D5*-GPPW type GPP feature software package or later
MELSEC-QnA Series	DOS 3.1.1 Series SW01VD-GPPQ type GPP feature software package Windows95, Windows NT SW0D5*-GPPW type GPP feature software package or later
MELSEC-FX Series	Windows 95 SW0PC-FXGP/WIN type GPP feature software package Windows 95, Windows NT SW4D5C-GPPW type GPP feature software package or later
MELSEC-Q Series	Windows 95, Windows NT SW4D5C-GPPW type GPP feature software package or later

■Internal 2-Port Feature Usage Notes

- The selections “USE ADAPTER MODE/CPU DIRECT MODE” will be displayed only when a direct CPU connection is used.
- The factory setting will become “Adapter”(when using 2-Port Adapter II).
- This feature can be used only while the GP is in ONLINE mode.
- Use Digital's transfer cable GPW-CB02.

Important

- ***If you transfer screen data while the GP is in ONLINE mode, the screen will not change to the data transfer screen automatically. Thus, you will need to change the screen manually to the OFFLINE mode's [Main Menu/ Transfer] screen. When sending screen data, be sure to pause or quit any GPP feature ladder monitoring or device monitoring.***
- ***Since the internal 2-Port feature uses the GP's single tool connector, you will not be able to use optional equipment which requires the tool connector (i.e. a Barcode Reader, etc.)***
- ***Peripheral equipment which cannot be connected to the GP's tool connector (such as a Programming Console) is not compatible with the GP's Internal 2-Port feature. To use this type of equipment, you will need to use the external 2- Port Adapter II.***
- ***When using the GP's built-in 2-Port feature, be sure not to switch to OFFLINE mode while the GPP software is communicating with the PLC. Switching to OFFLINE mode will result in a communication (data transfer) break***
- ***With GP2000, GP77R series units, if the 2-Port feature is designated, the Simulation feature cannot be used. Be sure to select "Adapter" or "Direct" when using the Simulation feature.***
- ***When using the GP's built-in 2-Port feature with the MELSEC-Q Series, be sure to set your PC's data link speed to the same values as used by the GP. If the setting values are different, an error will appear on the GP and your PC. The error will appear as shown bellow.***

  <GP>

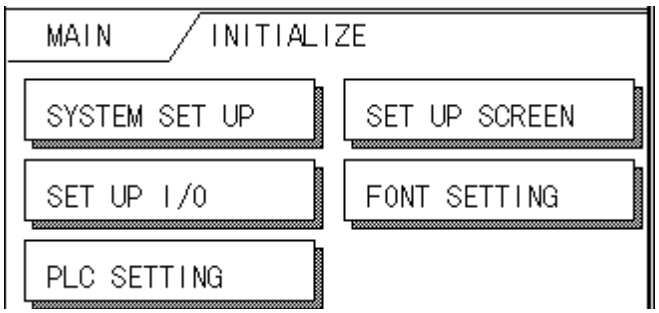
  "PC's data link speed is different. (02:F5)"

  <PC>

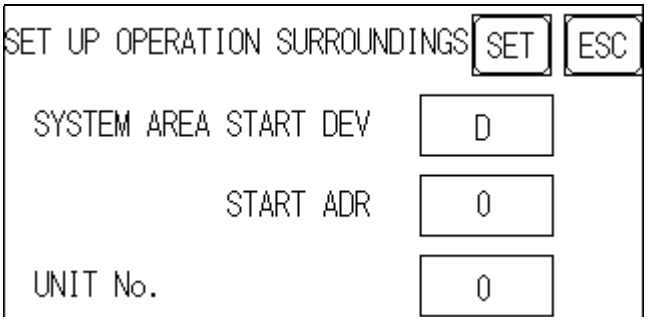
  "Cannot communicate with the PC."

<e.g : GP-377 series unit's screen>

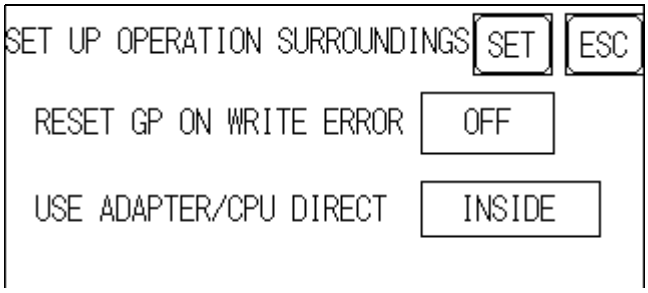
① Touch item, PLC SETTING. The SET UP OPERATION SURROUNDINGS menu will appear.



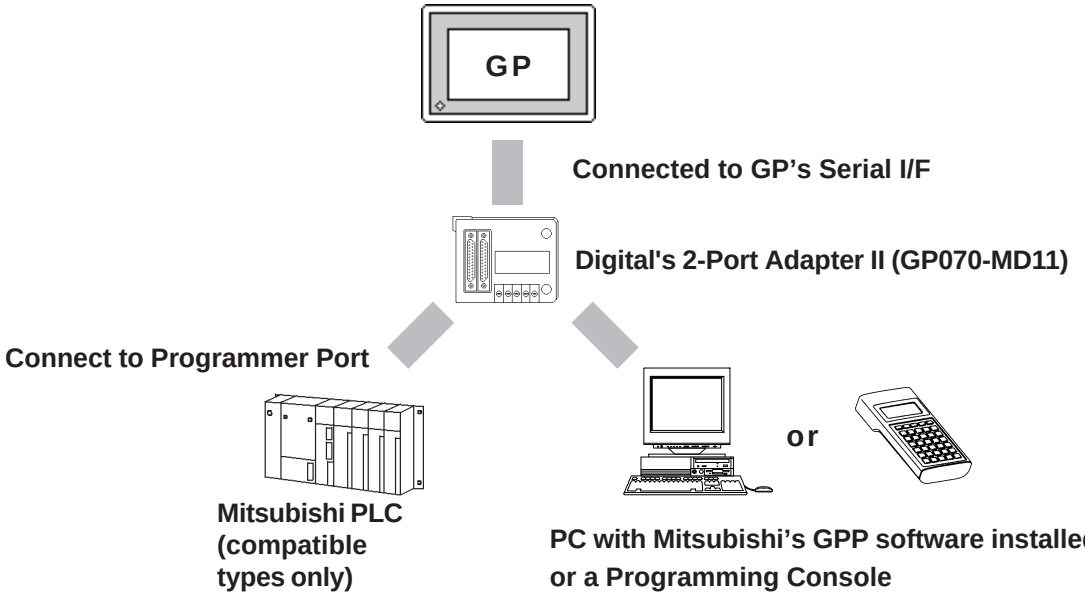
② Touch the button, SET on the upper right on the screen. The SET UP OPERATION SURROUNDINGS 2 menu appears.



③ Touch the "2-Port Feature/ CPU Direct" selection's right side setting box until "INSIDE" appears. When using the 2-Port Adapter II unit, select "Adapter", or "CPU" for a direct CPU connection. When using GP2000H Series units, select "Adapter + GPH".



■When Using the External 2-Port Adapter Cable *1



**1 2-Port Adapter can be used for the GP series units supporting the internal 2-Port feature .*

■PLCs supported by the 2-Port Adapter II

Note: **For information about which CPUs the 2-Port Adapter II (GP070-MD11) can connect to, refer to the 2-Port Adapter II Users Manual.**

■When Using the 2-Port Adapter II

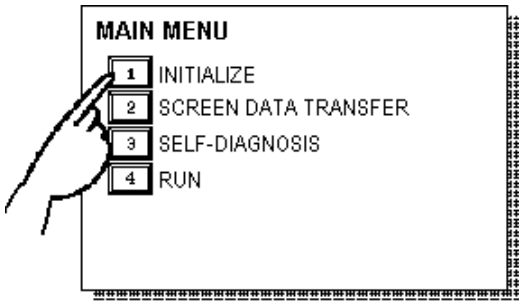
Set up from the GP's OFFLINE mode when using 2-Port Adapter II.

Reference *GP User Manual (Sold separately) , "OFFLINE Mode"*

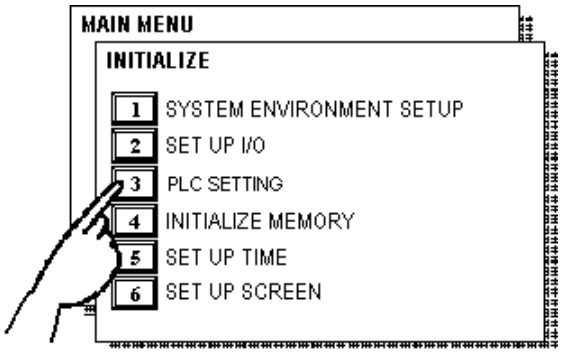
◆GP70 Series (except GP-377 series)

Note:
- The selections “USE ADAPTER MODE/CPU DIRECT MODE” will be displayed only when a direct CPU connection is used.
- The factory setting will become “2 Port”.

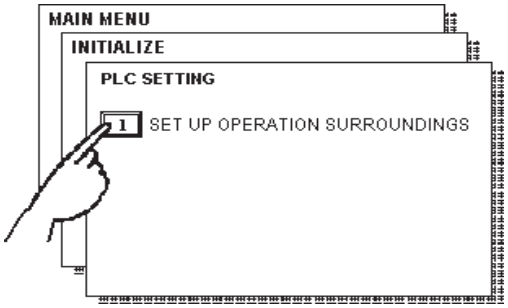
<e.g : GP-570 series unit's screen>



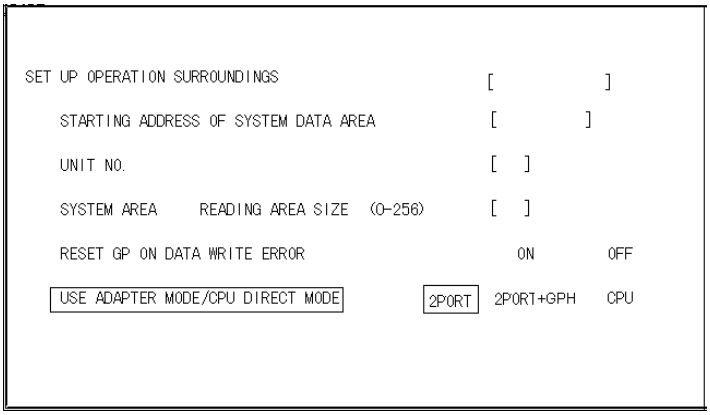
① Touch item #1, INITIALIZE. The INITIALIZE menu will appear.



② Touch item #3, PLC SETTING. The PLC SETTING menu appears.



③ Touch item #1, SET UP OPERATION SURROUNDINGS. The SET UP OPERATION SURROUNDINGS menu will appear.



GP70 Series Units

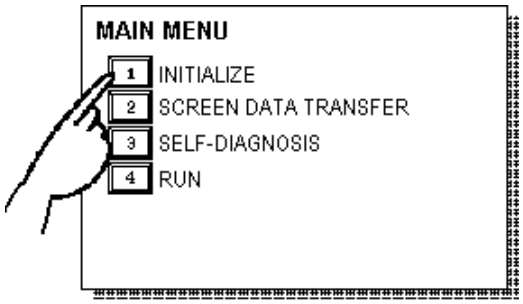
④ Touch the "USE ADAPTER MODE/CPU DIRECT MODE" selection. The selected item is highlighted.

⑤ When using the 2 port adapter II (GP070-MD11), select the *2PORT* option. For GPH70 however, select *2PORT + GPH*.
Select CPU when connecting CPU directly.

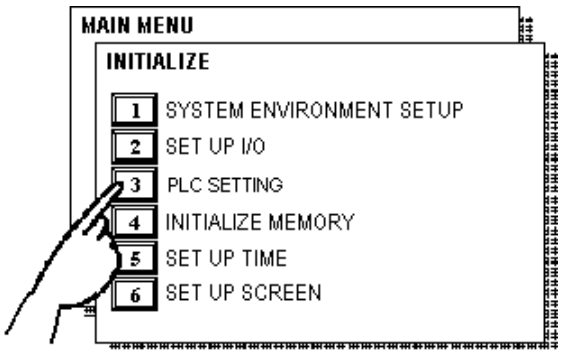
◆GP77R/GP2000 Series

Note:
- The selections “2 Port Mode/CPU DIRECT MODE” will be displayed only when a direct CPU connection is used.
- The factory setting will become “Adapter”.

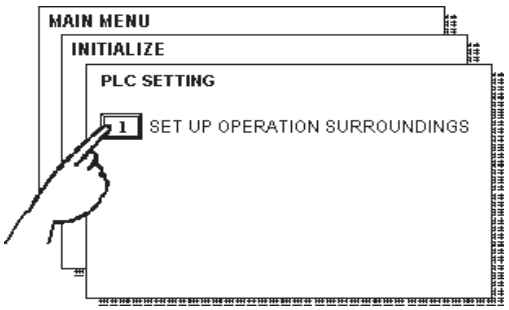
<e.g : GP-577R series unit's screen>



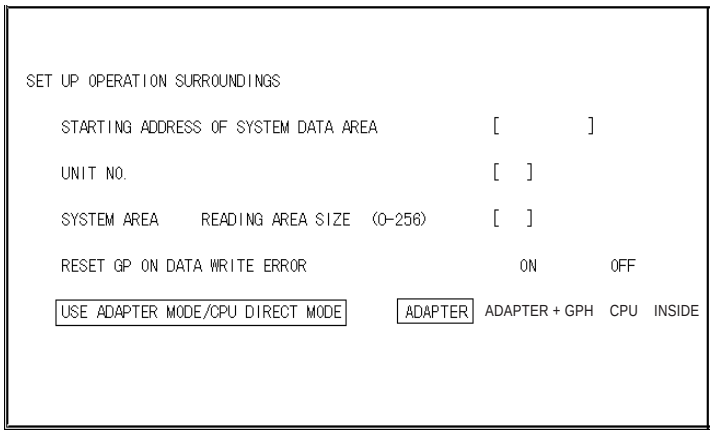
① Touch item #1, INITIALIZE. The INITIALIZE menu will appear.



② Touch item #3, PLC SETTING. The PLC SETTING menu appears.



③ Touch item #1, SET UP OPERATION SURROUNDINGS. The SET UP OPERATION SURROUNDINGS menu will appear.



GP77R Series Units

④ Touch the "USE ADAPTER MODE/CPU DIRECT MODE" selection. The selected item is highlighted.

⑤ When using the 2 Port Adapter II (GP070-MD11), select the *ADAPTER* option.
When using GP2000H Series units, select "Adapter + GPH".
Select *CPU* when connecting CPU directly.
When using the internal 2-Port feature, select *INSIDE* option.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