

# Device/PLC Connection Manuals

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## 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.

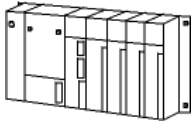



## 2.1 Mitsubishi Electric

### 2.1.1 System Structure

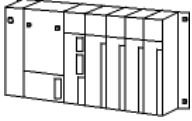



The following describes the system structure for connecting the GP to Mitsubishi Electric PLCs.

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


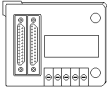


#### ■ MELSEC-A Series (using Link I/F)

| CPU   | Link I/F   | Cable Diagram  | Cables                | Target Machine  |
|---|--|--|-----------------------|---|
|  |  Computer Link Unit |  |                       |  |
| A2A,A3A,A2U,<br>A3U,A4U   | AJ71C24-S6<br>AJ71C24-S8<br>AJ71UC24   | RS-232C<br><Connection Diagram 1 >   | GP410-IS00-0(5m)      | GP/GLC Series   |
|   |  |  | CA3-CBL232/5M-01 (5m) | ST401/ST403   |
|   |  | RS-422<br><Connection Diagram 2 >  | GP230-IS11-0(5m)      | GP/GLC Series   |
|   |  |  | CA3-CBL422/5M-01 (5m) | ST400/ST403   |
| A2US  | A1SJ71C24-R2,<br>A1SJ71UC24-R2   | RS-232C<br><Connection Diagram 3>  | GP000-IS02-MS(3m)     | GP/GLC Series   |
|   |  |  | —————                 | ST401/ST403   |
|   | A1SJ71UC24-R4  | RS-422<br><Connection Diagram 2>   | GP230-IS11-0(5m)      | GP/GLC Series   |
|   |  |  | CA3-CBL422/5M-01 (5m) | ST400/ST403   |
| A2USH-S1  | A1SJ71UC24-R4  | RS-422<br><Connection Diagram 2>   | GP230-IS11-0(5m)      | GP/GLC Series   |
|   |  |  | CA3-CBL422/5M-01 (5m) | ST400/ST403   |
|   | A1SJ71UC24-R2  | RS-232C<br><Connection Diagram 3>  | GP000-IS02-MS(3m)     | GP/GLC Series   |
|   |  |  | —————                 | ST401/ST403   |

■ MELSEC-N Series (using Link I/F)

| CPU   | Link I/F   | Cable Diagram  | Cables                      | Target Machine  |               |
|---|--|--|-----------------------------|---|---------------|
|  |  Computer Link Unit |  |                             |  |               |
| A1N, A2N, A3N   | AJ71C24,<br>AJ71C24-S3,<br>AJ71C24-S6,<br>AJ71C24-S8,<br>AJ71UC24<br>(A2N only)                      | RS-232C<br><Cable Diagram 1>   | GP410-IS00-O (5m)           | GP/GLC Series   |               |
|   |  |  | CA3-CBL232/5M-01 (5m)       | ST401/ST403   |               |
|   | A0J2, A0J2H  | A0J2-C214-S1   | RS-422<br><Cable Diagram 2> | GP230-IS11-0(5m)  | GP/GLC Series |
|   |  |  |                             | CA3-CBL422/5M-01 (5m)   | ST400/ST403   |
| A1S   | A1SJ71C24-R2,<br>A1SJ71UC24-R2   | RS-232C<br><Cable Diagram 3>   | GP000-IS02-MS (3m)          | GP/GLC Series   |               |
|   |  |  | —————                       | ST401/ST403   |               |
|   | A1SJ71C24-R4   | RS-422<br><Cable Diagram 2>  | GP230-IS11-0(5m)            | GP/GLC Series   |               |
| A1SJ, A2SH, A1SH  | A1SJ71UC24-R4  |  | CA3-CBL422/5M-01 (5m)       | ST400/ST403   |               |
|   | A1SJ71UC24-R2  | RS-232C<br><Cable Diagram 3>   | GP000-IS02-MS (3m)          | GP/GLC Series   |               |
| A2CCPU24  | Link unit on CPU   | RS-232C<br><Cable Diagram 3>   | GP000-IS02-MS (3m)          | GP/GLC Series   |               |
|   |  |  | —————                       | ST401/ST403   |               |

## MELSEC-A Series (CPU Direct Connection)

| CPU <sup>*1</sup>   | Adaptor   | Cable Diagram   | Cables   | Target Machine  |
|---|---|---|--|---|
|  |  |                         |  |  |
| A2A,A3A,A4U,A3U,<br>A2U-S1,A2US-S1,<br>A2USH-S1,A2US                              |   | RS-422<br><Cable Diagram 11> <sup>*4</sup>  | A-Series<br>Programing Console I/F<br>Cable (isolation type)<br>GP430-IP10-O (5m) <sup>*5*6</sup><br>GP2000-CBLA/5M-<br>01(5m) <sup>*7</sup> | GP/GLC<br>Series  |
|   |   |   | CA3-CBLA-01(5m) <sup>*8</sup>  | ST400/ST403   |
|   |   |   | Diatrend Cable<br>DAFXIH-CABV <sup>*6</sup>  | ST401/ST403   |
| A2A,A3A,A4U,A3U,<br>A2U-S1,A2US-S1,<br>A2USH-S1,A2US                              | 2-Port Adaptor <sup>*2</sup><br>GP030-MD11-O                                      | RS-422<br>(Refer to Mitsubishi's<br>A Series PLC Manual<br>"2 Port Adaptor" for<br>cable diagram info.)   | A-Series<br>Programing Console I/F<br>Cable (isolation type)<br>GP430-IP10-O (5m) <sup>*5*6</sup>  | GP/GLC<br>Series  |
| A2A,A3A,A4U,<br>A2U-S1,<br>A2USH-S1,<br>A2US                                      | 2 Port Adaptor II <sup>*3</sup><br>GP070-MD11                                     | RS-422<br>(Refer to Mitsubishi's A<br>Series PLC Manual<br>"2 Port AdapterII" for<br>cable diagram info.) | GP070-MDCB11(5m)<br>cable or user-created<br>RS-422Cable   | GP/GLC<br>Series  |
|   |   | Refer to "Connecting a<br>Device/PLC to the ST<br>unit." page 1-6<br>"2-Port Adaptor II"                  | —————  | ST400/ST403   |
|   | Mitsubishi's I/F unit<br>FX-2PIF<br>Refer to Mitsubishi's<br>manual               | RS-422<br><Cable Diagram 11> <sup>*4</sup>  | A-Series<br>Programing Console I/F<br>Cable (isolation type)<br>GP430-IP10-O (5m) <sup>*5*6</sup><br>GP2000-CBLA/5M-<br>01(5m) <sup>*7</sup> | GP/GLC<br>Series  |
|   |   |   | CA3-CBLA-01(5m) <sup>*8</sup>  | ST400/ST403   |
|   |   |   | Diatrend Cable<br>DAFXIH-CABV <sup>*6</sup>  | ST401/ST403   |

\*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.  
In that case, change the GP to OFFLINE mode and perform the read and write processing.



**If CPU direct connection with any CPUs that are not on the above list, the PLC can be damaged.**

**When the PLC unit has 2 ports, both cannot be connected with a GP at the same time.**

\*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 cable.

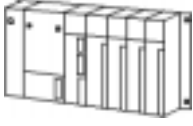
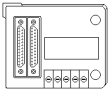


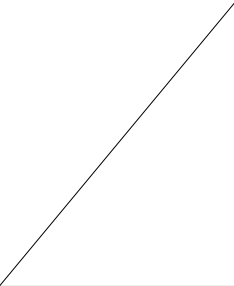
\*5 ST Series units cannot use the GP430-IP10-0 cable.

\*6 When using this cable, be sure to set the Target Machine's communication settings to [RS-232C].

\*7 Can be used for GP2000 Series and GLC2000 Series only.

\*8 Can be used for ST Series only.

## ■ MELSEC-N Series (CPU Direct Connection)

| CPU <sup>*1</sup>   | Adaptor   | Cable Diagram  | Cables   | Target Machine  |
|---|---|--|--|---|
|  |  |                                  |  |  |
| A1N,A2N,A3N,A3H,<br>A1S,A2SH,A2CJS3,<br>A1SH,A2CCPU24,<br>A1SJ,A0J2H              |  | RS-422<br><Cable Diagram 11> <sup>*4</sup>   | A-Series<br>Programing Console I/F<br>Cable (isolation type)<br>GP430-IP10-O (5m) <sup>*5*6</sup><br>GP2000-CBLA/5M-<br>01(5m) <sup>*7</sup> | GP/GLC<br>Series  |
|   |   |  | CA3-CBLA-01(5m) <sup>*8</sup>  | ST400/ST403   |
|   |   |  | Diatrend Cable<br>DAFXIH-CABV <sup>*6</sup>  | ST401/ST403   |
| A1N,A2N,A3N,A3H,<br>A1S,A2SH,A1SH,<br>A1SJ  | 2-Port Adaptor <sup>*2</sup><br>GP030-MD11-O                                      | RS-422<br>(Refer to Mitsubishi's A<br>Series PLC Manual "2<br>Port Adapter" for cable<br>diagram information)      | A-Series<br>Programing Console I/F<br>Cable (isolation type)<br>GP430-IP10-O (5m) <sup>*5*6</sup>  | GP/GLC<br>Series  |
| A1S,A2N,A3H,A3N,<br>A1SJ,A2SH,A1SH,<br>A2CJ-S3,A0J2H                              | 2 Port Adaptor II <sup>*3</sup><br>GP070-MD11                                     | RS-422<br>(Refer to Mitsubishi's A<br>Series PLC Manual<br>"2 Port AdapterII" for<br>cable diagram<br>information) | GP070-MDCB11(5m)<br>cable or user-created<br>RS-422Cable   | GP/GLC<br>Series  |
|   |   |  | Refer to "Connecting a<br>Device/PLC to the ST<br>unit." page 1-6<br>"2-Port Adaptor II"   | ST400/ST403   |
|   | Mitsubishi's I/F unit<br>FX-2PIF<br>Refer to Mitsubishi's<br>manual               | RS-422<br><Cable Diagram 11> <sup>*4</sup>   | A-Series<br>Programing Console I/F<br>Cable (isolation type)<br>GP430-IP10-O (5m) <sup>*5*6</sup><br>GP2000-CBLA/5M-<br>01(5m) <sup>*7</sup> | GP/GLC<br>Series  |
|   |   |  | CA3-CBLA-01(5m) <sup>*8</sup>  | ST400/ST403   |
|   |   |  | Diatrend Cable<br>DAFXIH-CABV <sup>*6</sup>  | ST401/ST403   |

<sup>\*1</sup> Connect to the Programming Console I/F port.

<sup>\*2</sup> 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.



**• 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.**

<sup>\*3</sup> When using 2 Port Adapter II, refer to its manual for the connectable PLCs.

<sup>\*4</sup> This connection is used for GP2000/GLC2000 and ST Series units. When using other series units, use the GP430-IP10-0 cable.

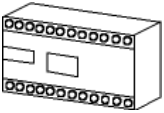



<sup>\*5</sup> ST Series units cannot use the GP430-IP10-0 cable.

<sup>\*6</sup> When using this cable, be sure to set the Target Machine's communication settings to [RS-232C].

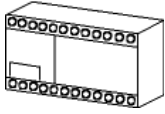


<sup>\*7</sup> Can be used for GP2000 Series and GLC2000 Series only.

<sup>\*8</sup> Can be used for ST Series only.

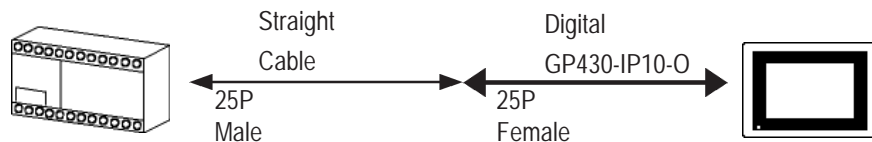
■ MELSEC-F<sub>2</sub> Series (using Link I/F)

| CPU   | Adapter  | Cable Diagram  | Cables   | Target Machine  |
|---|--|--|--|---|
|  |  Interface Unit |  |  |  |
| F <sub>2</sub> -20M, F <sub>2</sub> -40M, F <sub>2</sub> -60M                     | F <sub>2</sub> -232GF  | RS-232C (Cable Diagram 1)  | Digital's GP410-IS00-O(5m)cable<br>Mitsubishi's F <sub>2</sub> -232CAB(3m)cable<br>CA3-CBL232/5M-01 (5m) | GP/GLC Series<br><br>ST401/ST403  |

■ MELSEC-FX Series (A1FX) (using CPU Direct Connection)

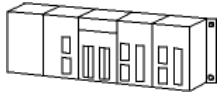
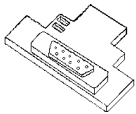

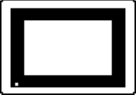
| CPU  | Cable Diagram  | Cables  | Target Machine  |
|--|--|---|---|
|  |  |   |  |
| A1FX <sup>*1</sup>   |  | GP410-IS00-O(5m) cable<br>Mitsubishi's F <sub>2</sub> -232CAB(3m) cable <sup>*2</sup> | GP/GLC Series   |

\*1 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 a 25 Pin straight cable to adjust the connector's height to align it with that of the PLC's CPU cover.



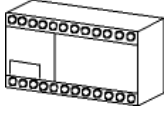



\*2 For ST series units, the GP430-IP10-0 cable cannot be used.

## ■ MELSEC-FX Series (Mitsubishi's MELSEC-FX2 (LINK) Protocol)

| CPU   | Adapter  | Cable Diagram  | Cables               | Target Machine  |
|---|--|--|----------------------|---|
|  | <br>(Expansion board) |  |                      |  |
| FX <sub>2N</sub> <sup>*1</sup>  | FX <sub>2N</sub> -232-BD   | RS-232C<br><Cable Diagram 6>   |                      | GP/GLC Series<br>ST401/ST403  |
|   | FX <sub>2N</sub> -485-BD,<br>FX <sub>0N</sub> -485ADP+<br>FX <sub>2N</sub> -CNV-BD                     | RS-422<br><Cable Diagram 7>  | GP230-IS11-O(5m)     | GP/GLC Series   |
|   |  |  | CA3-CBL422/5M-01(5m) | ST400/ST403   |
| FX <sub>2NC</sub> ,FX <sub>1NC</sub>  | FX <sub>0N</sub> -232ADP   | RS-232C<br><Cable Diagram 8>   |                      | GP/GLC Series<br>ST401/ST403  |
|   | FX <sub>0N</sub> -485ADP   | RS-422<br><Cable Diagram 7>  | GP230-IS11-O(5m)     | GP/GLC Series   |
|   |  |  | CA3-CBL422/5M-01(5m) | ST400/ST403   |
| FX <sub>1N</sub>  | FX <sub>1N</sub> -232-BD   | RS-232C<br><Cable Diagram 6>   |                      | GP/GLC Series<br>ST401/ST403  |
|   | FX <sub>1N</sub> -485-BD,<br>FX <sub>0N</sub> -485ADP+<br>FX <sub>1N</sub> -CNV-BD                     | RS-422<br><Cable Diagram 7>  | GP230-IS11-O(5m)     | GP/GLC Series   |
|   |  |  | CA3-CBL422/5M-01(5m) | ST400/ST403   |
| FX <sub>3UC</sub> , FX <sub>3U</sub>  | FX <sub>3U</sub> -232-BD,<br>FX <sub>3U</sub> -232ADP  | RS-232C<br><Cable Diagram 6>   |                      | GP/GLC Series<br>ST401/ST403  |
|   | FX <sub>3U</sub> -485-BD,<br>FX <sub>3U</sub> -485ADP  | RS-422C<br><Cable Diagram 7>   | GP230-IS11-O(5m)     | GP/GLC Series   |
|   |  |  | CA3-CBL422/5M-01(5m) | ST400/ST403   |

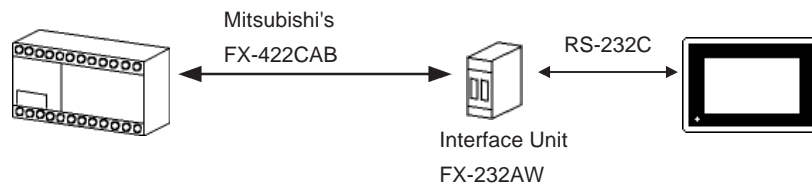
*\*1 The PLC's system version should be at least 1.06 or later. Check the PLC's version by reading out the data from the register (D8001). For detailed information refer to the Mitsubishi's FX 2N Series Micro Sequencer manuals.*

■ MELSEC-FX Series (Mitsubishi's MELSEC-FX(CPU) Protocol)

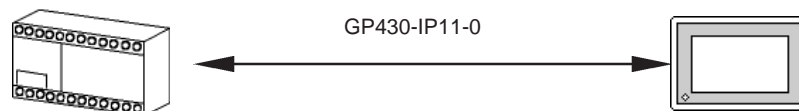
| CPU   | Adapter   | Cable Diagram   | Cables  | Target Machine  |
|---|---|---|---|---|
|    |  |   |   |  |
| FX <sub>1</sub> , *2 FX <sub>2</sub> , *2 FX <sub>2C</sub> , *2 FX <sub>0</sub> , *3 FX <sub>0S</sub> , *3 FX <sub>0N</sub> , *3 FX <sub>1S</sub> , *3 FX <sub>1N</sub> , *3 FX <sub>2N</sub> , *3 FX <sub>1NC</sub> , *3 FX <sub>2NC</sub> , *3 FX <sub>3UC</sub> , *3 FX <sub>3U</sub> *3 |   |   | FX Series exclusive Programming Console I/F Cable (isolation type) GP430-IP11-O (5m) *8 | GP/GLC Series   |
| FX <sub>1</sub> , FX <sub>2</sub> , FX <sub>2C</sub> , FX <sub>0</sub> , FX <sub>0S</sub> , FX <sub>0N</sub> , FX <sub>1S</sub> , FX <sub>1N</sub> , FX <sub>2N</sub> , FX <sub>1NC</sub> , FX <sub>2NC</sub> , FX <sub>3UC</sub> , FX <sub>3U</sub>  | Mitsubishi's I/F unit FX-232AW *1*4   | RS-232C (Cable Diagram 1)   | GP410-IS00-0(5m)<br>Mitsubishi Corporation's F2-232CAB (3m)<br>CA3-CBL232/5M-01 (5m)    | GP/GLC Series<br>ST401/ST403  |
| FX <sub>2</sub> , *5 FX <sub>0S</sub> , *6 FX <sub>0N</sub> , *6 FX <sub>1S</sub> , *6 FX <sub>1N</sub> , *6 FX <sub>2N</sub> , *6 FX <sub>1NC</sub> , *6 FX <sub>2NC</sub> , *6 FX <sub>3UC</sub> , *6 FX <sub>3U</sub> *6   | 2 Port Adapter II GP070-MD11 *7   | RS-422 (Refer to Mitsubishi's A Series PLC Manual "2 Port AdapterII" for cable diagram information)<br>Refer to "Connecting a Device/PLC to the ST unit" page 1-6 "2-Port Adaptor II" | GP070-MDCB11 (5m) or User-Prepared cable (RS-422)                                       | GP/GLC Series<br>ST400/ST403  |

\*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.

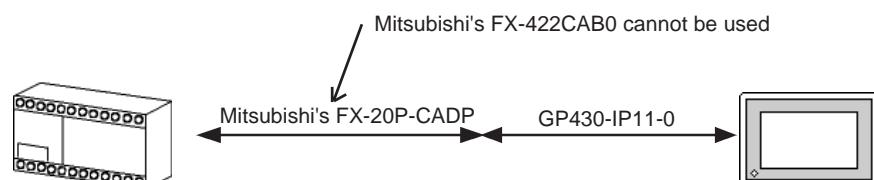
When connecting to FX<sub>1</sub>, FX<sub>2</sub>, and FX<sub>2C</sub>, it is necessary to connect the Interface Unit with the PLC using Mitsubishi's FX-422CAB.



\*2 When using Digital's GP430-IP11-0 for connecting an FX<sub>1</sub>, FX<sub>2</sub>, or FX<sub>2C</sub>, use the Cable Diagram 2 shown below.

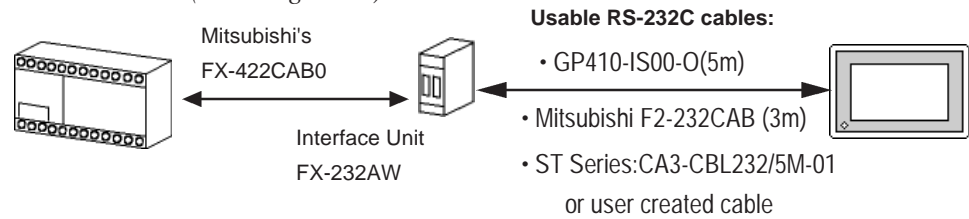


\*3 When using Digital's GP430-IP11-0 for connecting FX<sub>0</sub>, FX<sub>0S</sub>, FX<sub>0N</sub>, FX<sub>1S</sub>, FX<sub>1N</sub>, FX<sub>2N</sub>, FX<sub>1NC</sub>, FX<sub>2NC</sub>, FX<sub>3UC</sub> or FX<sub>3U</sub> be sure to use Mitsubishi's FX-20P-CADP cable.

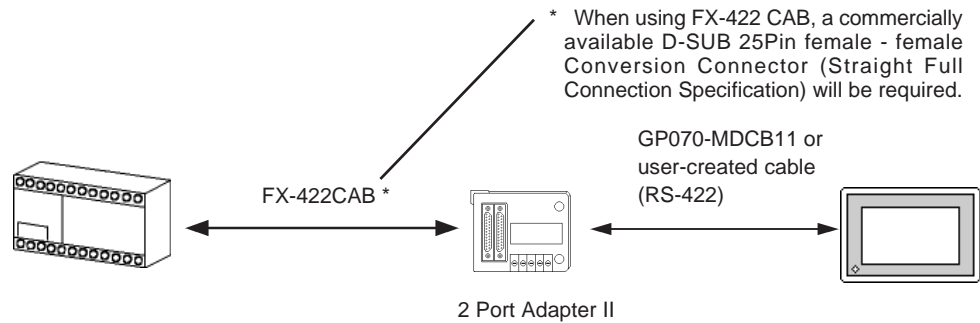




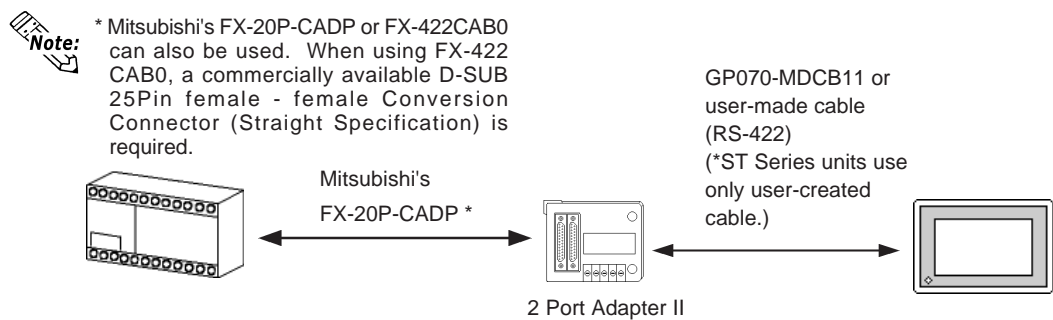
\*4 When connecting to  $FX_0$ ,  $FX_{0S}$ ,  $FX_{0N}$ ,  $FX_{1S}$ ,  $FX_{1N}$ ,  $FX_{2N}$ ,  $FX_{1NC}$ ,  $FX_{2NC}$ ,  $FX_{3UC}$  or  $FX_{3U}$  it is necessary to connect the Interface Unit with the PLC using Mitsubishi's FX-422CAB0 (see Diagram 4).



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



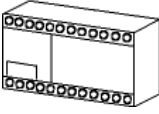
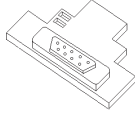


\*6 When using Digital's 2 Port Adapter II, it is necessary to connect the units to the GP as shown below.



\*7 When using 2 Port Adapter II, refer to its manual for connectable PLCs.

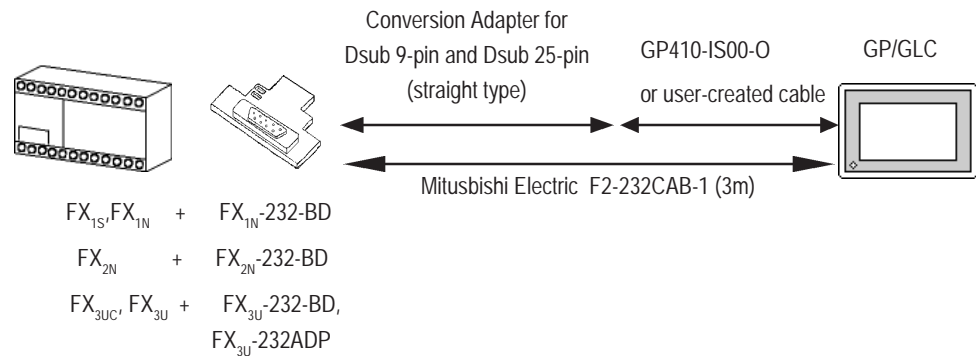
\*8 For the ST series units, the GP430-IP11-0 cable cannot be used.

■ MELSEC-FX Series (using Expansion Board with Mitsubishi's MELSEC-FX (CPU) Protocol)

| CPU   | Expansion board   | Cable Diagram  | Cables  | Target Machine  |
|---|---|--|---|---|
|  |                        |                      |   |  |
| FX <sub>1S</sub> , FX <sub>1N</sub>   | FX <sub>1N</sub> -232-BD  | RS-232C <sup>*1</sup><br><Cable Diagram 1>   | GP410-IS00-O (5m)                                 | GP/GLC Series   |
|   |   |  | Mitsubishi Electric F2-232CAB-1 (3m)              |   |
|   |   | RS-232C<br><Cable Diagram 6>   | CA3-CBL232/5M-01(5m)                              | ST401/ST403   |
|   |   |  | Mitsubishi Electric FX-232CAB-1 (3m)              |   |
| FX <sub>2N</sub>  | FX <sub>2N</sub> -422-BD <sup>*2</sup>  | /  |   | GP/GLC Series   |
|   |   | /  |   | ST401/ST403   |
| FX <sub>2N</sub>  | FX <sub>2N</sub> -232-BD  | RS-232C <sup>*1</sup><br><Cable Diagram 1>   | GP410-IS00-O (5m)                                 | GP/GLC Series   |
|   |   |  | Mitsubishi Electric F2-232CAB-1 (3m)              |   |
|   |   | RS-232C<br><Cable Diagram 6>   | CA3-CBL232/5M-01(5m)                              | ST401/ST403   |
|   |   |  | Mitsubishi Electric FX-232CAB-1 (3m)              |   |
| FX <sub>3UC</sub> , FX <sub>3U</sub>  | FX <sub>3U</sub> -422-BD <sup>*2</sup>  | /  |   | GP/GLC Series   |
|   |   | /  |   | ST401/ST403   |
| FX <sub>3UC</sub> , FX <sub>3U</sub>  | FX <sub>3U</sub> -232-BD,<br>FX <sub>3U</sub> -232ADP   | RS-232C <sup>*1</sup><br><Cable Diagram 1>   | GP410-IS00-O (5m)                                 | GP/GLC Series   |
|   |   |  | Mitsubishi Electric F2-232CAB-1 (3m)              |   |
|   |   | RS-232C<br><Cable Diagram 6>   | CA3-CBL232/5M-01(5m)                              | ST401/ST403   |
|   |   |  | Mitsubishi Electric FX-232CAB-1 (3m)              |   |
| FX <sub>3UC</sub> , FX <sub>3U</sub>  | FX <sub>3U</sub> -422-BD +<br>Mitsubishi Electric RS-232C/RS-422 Conversion Unit FX-232AW <sup>*3</sup> | RS-232C<br><Cable Diagram 1>   | GP410-IS00-O (5m)                                 | GP/GLC Series   |
|   |   |  | Mitsubishi Electric F2-232CAB-1 (3m)              |   |
|   |   | RS-422<br>(Refer to Mitsubishi's A Series PLC Manual "2 Port AdapterII" for cable diagram information) | CA3-CBL232/5M-01(5m)                              | ST401/ST403   |
|   |   |  | GP070-MDCB11 (5m) or User-Prepared cable (RS-422) |   |
| FX <sub>3UC</sub> , FX <sub>3U</sub>  | FX <sub>3U</sub> -422-BD +<br>2-Port Adaptor II GP070-MD11 <sup>*4</sup>                                | Refer to "Connecting a Device/PLC to the ST unit" page 1-6 "2-Port Adaptor II"                         | —————   | ST400/ST403   |

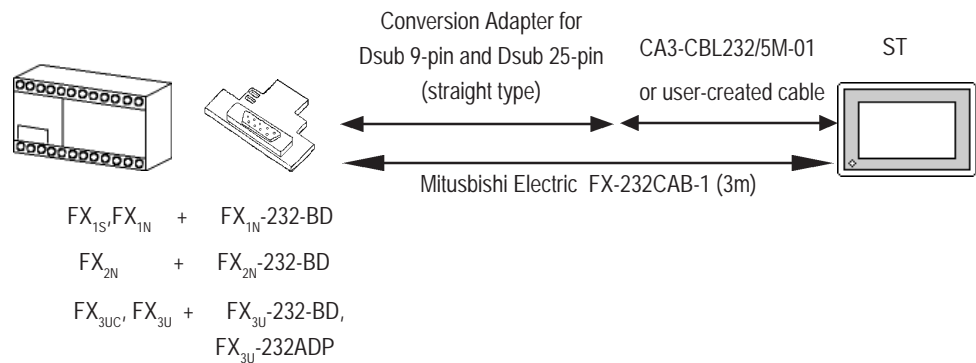
\*1 When using a GP410-IS00-O, a 9 pin <--> 25 pin conversion adaptor (straight type) is required. The F2-232CAB-1 does not require conversion adaptor and can be connected directly to PLC.

With a GP/GLC Series Unit:



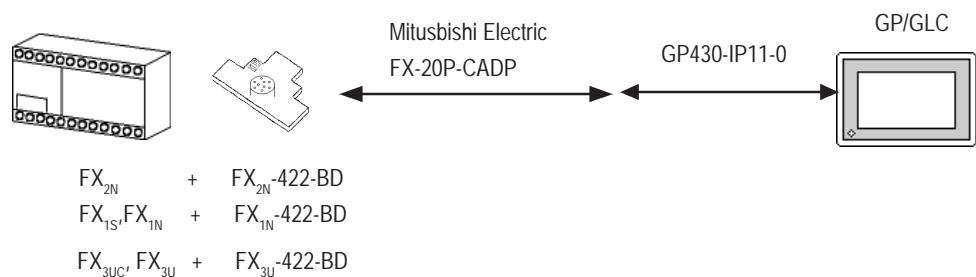
When using a CA3-CBL232/5M-01, a 9 pin <--> 25 pin conversion adaptor (straight type) is required. The FX-232CAB-1 does not require conversion adaptor and can be connected directly to PLC.

With an ST Series Unit:

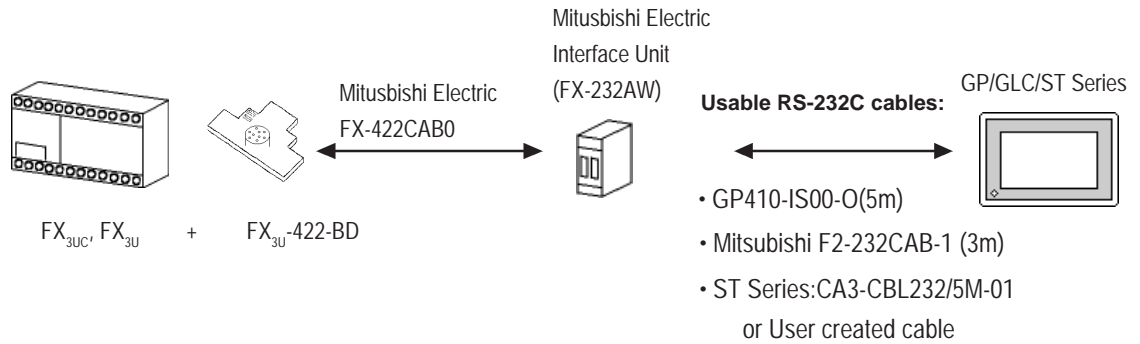


\*2 A round Dsub 8-pin to 25-pin conversion cable is required. (Mitsubishi Electronic FX-20P-CADP)

With a GP/GLC Series Unit:

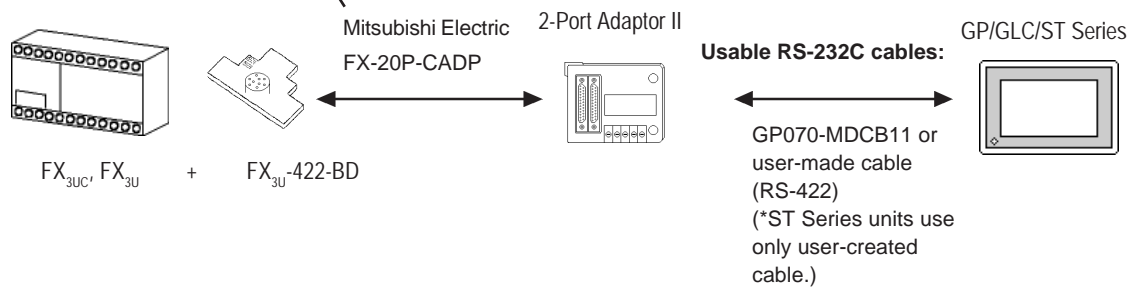


\*3 When connecting to an FX3UC, use a Mitsubishi Electric FX-422CAB0 cable to connect the FX3U-422-BD adaptor and the Interface Unit.



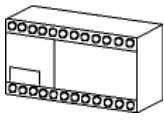

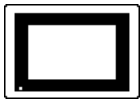
\*4 When using Digital Electric Corporation's 2 Port Adaptor II, it is necessary to connect the units to the GP as shown below.

\* Mitsubishi's FX-20P-CADP or FX-422CAB0 can also be used. When using FX-422 CAB0, a commercially available D-SUB 25Pin female - female Conversion Connector (Straight Specification) is required.



\*5 For ST Series units, the GP430-IP11-0 cable cannot be used.

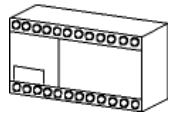
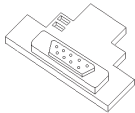


■ MELSEC-FX Series (using Mitsubishi's MELSEC-FX (CPU2) Protocol)

| CPU   | Cable Diagram  | Cable                   | GP/GLC  |
|---|--|-------------------------|---|
|  |  |                         |  |
| FX0S, FX0N, FX1S,<br>FX1N, FX1NC, FX2N,<br>FX2NC, FX3UC, FX3U                     | RS-422<br><Cable Diagram 12> <sup>*2</sup>   | GP2000-CBLFX/5M-01 (5M) | GP/GLC Series <sup>*1</sup>   |
|   |  | GP2000-CBLFX/1M-01 (1M) |   |
|   |  | CA3-CBLFX/5M-01 (5m)    | ST400/ST403   |
|   |  | CA3-CBLFX/1M-01 (1m)    |   |

\*1 In the GP70 Series, only GP377 Series units can use this cable.

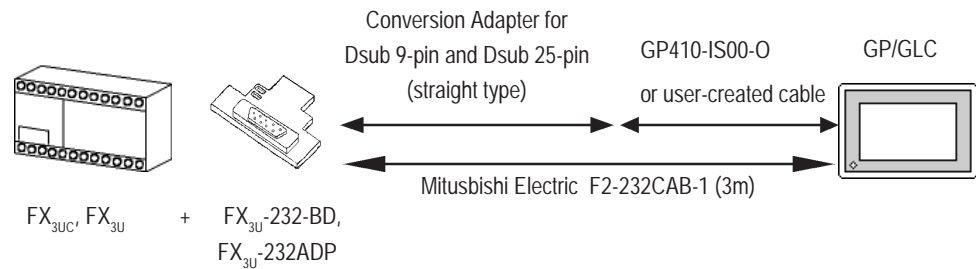
\*2 When connecting to a Device/PLC, be sure to use one of the option cables shown here.

■ MELSEC-FX Series (using Expansion Board with Mitsubishi's MELSEC-FX (CPU2) Protocol)

| CPU  | Expansion board  | Cable Diagram  | Cables                                  | Target Machine  |
|--|--|--|---|---|
|  |                                 |  |   |  |
| FX3UC, FX3U  | FX3U-232-BD,<br>FX3U-232ADP  | RS-232C <sup>*1</sup><br><Cable Diagram 1>   | GP410-IS00-O (5m)                       | GP/GLC Series   |
|  |  |  | Mitsubishi Electric<br>F2-232CAB-1 (3m) |   |
|  |  |  | CA3-CBL232/5M-01(5m)                    | ST401/ST403   |
|  |  |  | Mitsubishi Electric<br>FX-232CAB-1 (3m) |   |
|  |  | RS-232C<br><Cable Diagram 6>   | —————                                   | GP/GLC Series<br>ST401/ST403  |
|  | FX3U-422-BD <sup>*2</sup>  |  | GP430-IP11-O (5m) <sup>*5</sup>         | GP/GLC Series   |
|  | FX3U-422-BD +<br>Mitsubishi Electric<br>RS-232C/RS-422<br>Conversion Unit<br>FX-232AW <sup>*3</sup>                | RS-232C<br><Cable Diagram 1>   | GP410-IS00-O (5m)                       | GP/GLC Series   |
|  |  |  | Mitsubishi Electric<br>F2-232CAB-1 (3m) |   |
|  | CA3-CBL232/5M-01(5m)   | ST401/ST403  |   |   |
| FX3U-422-BD +<br>2-Port Adaptor II<br>GP070-MD11 <sup>*4</sup>                     | RS-422<br>(Refer to Mitsubishi's A<br>Series PLC Manual "2<br>Port AdapterII" for<br>cable diagram<br>information) | GP070-MDCB11 (5m) or<br>User-Prepared cable<br>(RS-422)                              | GP/GLC Series                           |   |
|  | Refer to "Connecting a<br>Device/PLC to the ST<br>unit" page 1-6 "2-Port<br>Adaptor II"                            | —————  | ST400/ST403                             |   |

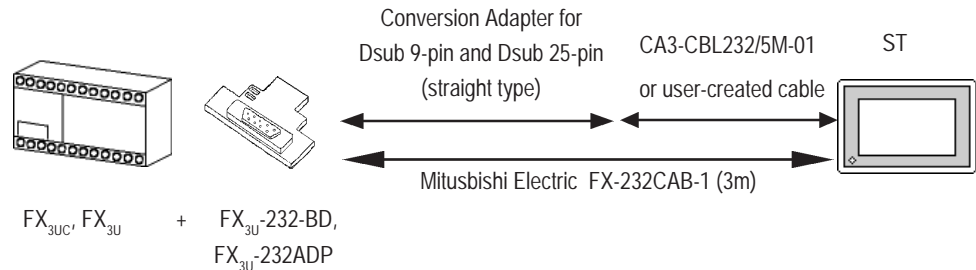
- \*1 When using a GP410-IS00-O, a 9 pin <--> 25 pin conversion adaptor (straight type) is required. The F2-232CAB-1 does not require conversion adaptor and can be connected directly to PLC.

With a GP/GLC Series Unit:



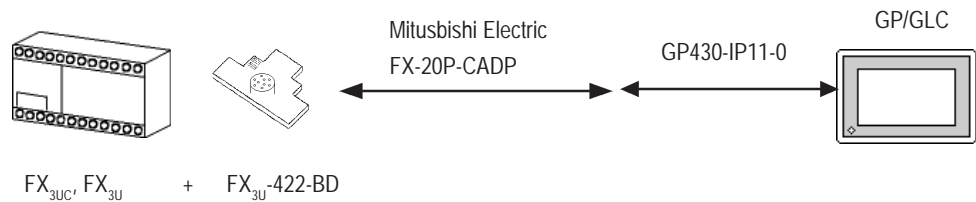
- When using a CA3-CBL232/5M-01, a 9 pin <--> 25 pin conversion adaptor (straight type) is required. The FX-232CAB-1 does not require conversion adaptor and can be connected directly to PLC.

With an ST Series Unit:

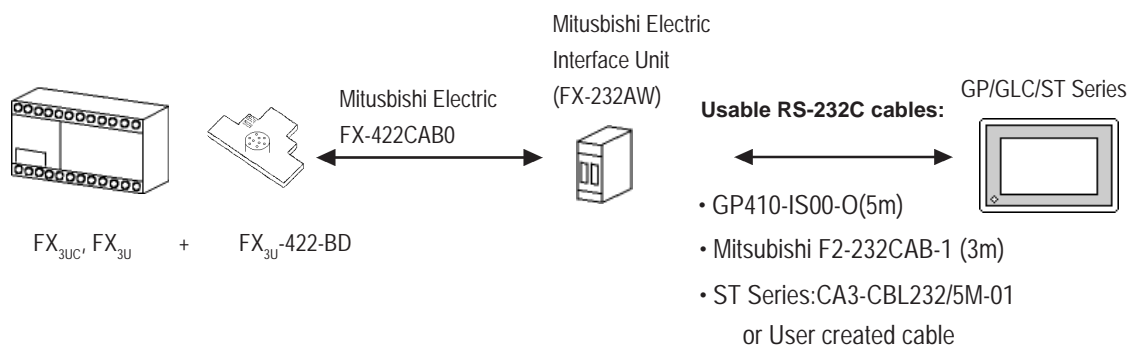


- \*2 A round Dsub 8-pin to 25-pin conversion cable is required. (Mitsubishi Electric FX-20P-CADP)

With a GP/GLC Series Unit:

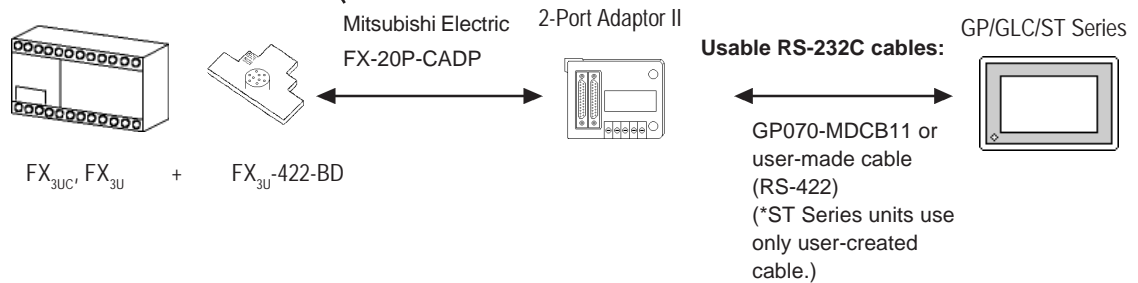


- \*3 When connecting to an FX3UC, use a Mitsubishi Electric FX-422CAB0 cable to connect the FX3U-422-BD adaptor and the Interface Unit.



\*4 When using Digital Electric Corporation's 2 Port Adapter II, it is necessary to connect the units to the GP as shown below.

\* Mitsubishi's FX-20P-CADP or FX-422CAB0 can also be used. When using FX-422 CAB0, a commercially available D-SUB 25Pin female - female Conversion Connector (Straight Specification) is required.



\*5 For ST Series units, the GP430-IP11-0 cable cannot be used.

**MELSEC-FX Series (using Mitsubishi's MELSEC-FX 1:N Communication Protocol)**

| CPU                     | Adapter                                 | Cable Diagram                            | Cables | Target Machine              |
|-------------------------|---|--|--------|-----------------------------|
|                         | <b>Expansion Board or Adaptor</b><br>   |  |        |                             |
| $FX_{1N}$               | FX1N-485-BD,<br>FX0N-485ADP+FX1N-CNV-BD | RS-422<br>(4-wire)<br>(Cable Diagram 13) | —      | GP/GLC Series <sup>*2</sup> |
| $FX_{1NC}$              | FX0N-485ADP                             |  |        | ST400/ST403                 |
| $FX_{2N}$ <sup>*1</sup> | FX2N-485-BD,<br>FX0N-485ADP+FX2N-CNV-BD | RS-422<br>(2-wire)<br>(Cable Diagram 14) |        |                             |
| $FX_{2NC}$              | FX0N-485ADP                             |  |        |                             |
| $FX_{3UC}, FX_{3U}$     | FX3U-485-BD, FX3U-485ADP                |  |        |                             |





\*1 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.

\*2 In the GP70 Series, only GP377 Series units can use this cable.



**With a 1:n connection, a maximum of 8 PLC units can be connected.**

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

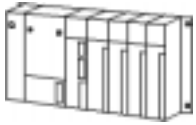
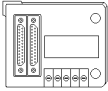


| CPU   | Link I/F  | Cable Diagram  | Cables  | Target Machine   |
|---|---|--|---|------------------|
|  | Serial Communication Unit /<br>Computer Link Unit  |  |  |                  |
| Q2A,Q2A-S1,Q4A  | AJ71QC24<br>(Serial Communication Unit) <sup>*1</sup>   | RS-232C<br><Cable Diagram 1>   | GP410-IS00-O (5m)   | GP/GLC Series    |
|   |   |  | CA3-CBL232/5M-01 (5m)   | ST401/ST403      |
|   | AJ71UC24<br>(Computer Link Unit)  | RS-422<br><Cable Diagram 2>  | GP230-IS11-0(5m)  | GP/GLC Series    |
|   |   |  | CA3-CBL422/5M-01 (5m)   | ST400/ST403      |
|   | AJ71QC24N-R4  | RS-422<br>(for CN-2)<br><Cable Diagram 2>  | GP230-IS11-0(5m)  | GP/GLC Series    |
|   |   |  | CA3-CBL422/5M-01 (5m)   | ST400/ST403      |
|   | RS-422<br>(for CN-1)<br><Cable Diagram 5>   | —————  | GP/GLC Series   |                  |
|   |   | —————  | ST400/ST403   |                  |
| Q2AS,Q2ASH  | A1SJ71QC24<br>(Serial Communication Unit) <sup>*2</sup>   | RS-232C<br><Cable Diagram 3>   | GP000-IS02-MS(3m)   | GP/GLC Series    |
|   |   |  | —————   | ST401/ST403      |
|   | A1SJ71UC24<br>(Computer Link Unit)  | RS-422<br><Cable Diagram 2>  | GP230-IS11-0(5m)  | GP/GLC Series    |
|   |   | CA3-CBL422/5M-01 (5m)  | ST400/ST403   |                  |
| Q2AS-S1   | A1SJ71UC24-R2   | RS-232C<br><Cable Diagram 3>   | GP000-IS02-MS(3m)   | GP/GLC Series    |
|   |   |  | —————   | ST401/ST403      |
|   | A1SJ71UC24-R4   | RS-422<br><Cable Diagram 2>  | GP230-IS11-0(5m)  | GP/GLC Series    |
|   |   |  | CA3-CBL422/5M-01 (5m)   | ST400/ST403      |
|   | A1SJ71QC24N   | RS-232C<br><Cable Diagram 3>   | GP000-IS02-MS(3m)   | GP/GLC Series    |
|   |   |  | —————   | ST401/ST403      |
|   |   |  | RS-422<br><Cable Diagram 2>   | GP230-IS11-0(5m) |
|   |   |  | CA3-CBL422/5M-01 (5m)   | ST400/ST403      |
| A1SJ71QC24N1  | RS-232C<br><Cable Diagram 15>   | GP000-IS02-MS(3m)  | GP/GLC Series   |                  |
|   | RS-422<br><Cable Diagram 16>  | GP230-IS11-0(5m)   | GP/GLC Series   |                  |
| Q4AR  | AJ71QC24N   | RS-232C<br><Cable Diagram 1>   | GP410-IS00-O (5m)   | GP/GLC Series    |
|   |   |  | CA3-CBL232/5M-01 (5m)   | ST401/ST403      |
|   |   | RS-422<br><Cable Diagram 2>  | GP230-IS11-0(5m)  | GP/GLC Series    |
|   |   |  | CA3-CBL422/5M-01 (5m)   | ST400/ST403      |

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

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



■ MELSEC-QnA Series (CPU Direct Connection)

| CPU <sup>*1</sup>   | Adaptor   | Cable Diagram  | Cables   | Target Machine  |
|---|---|--|--|---|
|  |  |                      |  |  |
| Q4A,<br>Q2A,<br>Q2AS,<br>Q2AS-S1,<br>Q2A-S1,<br>Q2ASH,<br>Q4AR                    | /   | RS-422<br><Cable Diagram 11> <sup>*3</sup>   | GP430-IP10-O (5m) <sup>*5</sup><br>GP2000-CBLA/5M-01(5m) <sup>*6</sup> | GP/GLC Series   |
|   |   |  | CA3-CBLA-01(5m) <sup>*7</sup>  | ST400/ST403   |
|   |   | Diatrend Cable<br>DAFXIH-CABV <sup>*5</sup>  | ST401/ST403  |   |
| Q4A,<br>Q2A,<br>Q2AS,<br>Q2AS-S1  | 2-Port Adaptor <sup>*1</sup><br>GP030-MD11-O <sup>*2</sup>                        | RS-422<br>(Refer to Mitsubishi's A Series PLC Manual "2 Port Adapter" for cable diagram information)   | GP430-IP10-O (5m) <sup>*4,5</sup>                                      | GP/GLC Series   |
| Q4A,<br>Q2A,<br>Q2ASH,<br>Q2AS-S1,<br>Q2A-S1                                      | 2 Port Adaptor II <sup>*1</sup><br>GP070-MD11 <sup>*2</sup>                       | RS-422<br>(Refer to Mitsubishi's A Series PLC Manual "2 Port AdapterII" for cable diagram information) | GP070-MDCB11(5m) cable or user-created RS-422Cable                     | GP/GLC Series   |
|   |   | Refer to "Connecting a Device/PLC to the ST unit" page 1-6 "2-Port Adaptor II"                         | _____  | ST400/ST403   |

\*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 the GP2000/GLC2000 and ST series units. When using other series unit, use the GP430-IP10-0.

\*4 For the ST series units, the GP430-IP11-0 units cannot be used.



**Digital's 2-port Adapter (GP030-MD11-0) will have this identification label.**

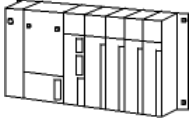



**Adapters that support the MELSEC-QnA unit have a circle around the "B" or later character.**

\*5 When using this cable, be sure to set the Target Machine's communication settings to [RS-232C].

\*6 Can be used for GP2000 Series and GLC2000 Series only.

\*7 Can be used for ST Series only.

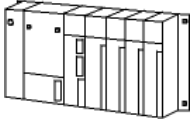

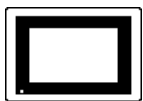
### ■ MELSEC-Q Series (using Link I/F)

| CPU  | Link I/F   | Cable Diagram  | Cables                                   | Target Machine  |
|--|--|--|--|---|
|         | Serial Communication Unit /<br>Computer Link Unit<br> |  |  |  |
| Q02CPU-A,<br>Q02HCPU-A,<br>Q06HCPU-A   | A1SJ71UC24-R2  | RS-232C<br><Cable Diagram 3>   | GP000-IS02-MS (3m)<br>—————              | GP/GLC Series<br>ST401/ST403  |
|  | A1SJ71UC24-R4  | RS-422<br><Cable Diagram 2>  | GP230-IS11-0(5m)<br>CA3-CBL422/5M-01(5m) | GP/GLC Series<br>ST400/ST403  |
| Q02CPU,<br>Q02HCPU,<br>Q06HCPU,<br>Q12HCPU,<br>Q25HCPU,<br>Q00CPU,<br>Q01CPU,<br>Q00JCPU | QJ71C24<br>QJ71C24N  | RS-232C<br><Cable Diagram 3>   | GP000-IS02-MS (3m)<br>—————              | GP/GLC Series<br>ST401/ST403  |
|  |  | RS-422<br><Cable Diagram 2>  | GP230-IS11-0(5m)<br>CA3-CBL422/5M-01(5m) | GP/GLC Series<br>ST401/ST403  |
|  | QJ71C24N-R4  | RS-422<br><Cable Diagram 2>  | GP230-IS11-0(5m)<br>CA3-CBL422/5M-01(5m) | GP/GLC Series<br>ST400/ST403  |
|  |  | RS-232C<br><Cable Diagram 3>   | GP000-IS02-MS (3m)<br>—————              | GP/GLC Series<br>ST401/ST403  |



**Note:** 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   | Target Machine  |
|---|--|---|---|
|    |  |   |  |
| Q02CPU-A<br>Q02HCPU-A<br>Q06HCPU-A<br>Q02CPU<br>Q02HCPU<br>Q06HCPU<br>Q12HCPU<br>Q25HCPU<br>Q00CPU <sup>*4</sup><br>Q01CPU <sup>*4</sup><br>Q00JCPU <sup>*4</sup> | RS-232C<br><Cable Diagram 9>   | Mitsubishi Electric<br>QC30R2(3m)<br>(Requires 9<->25 pin<br>conversion adaptor)  | GP/GLC Series   |
|   |  | Mitsubishi Electric<br>QC30R2(3m)<br>(Does not require adaptor)   | ST401/ST403   |
|   | RS-232C<br><Cable Diagram 10>  | GP2000-CBLO/5M-<br>01(5m) <sup>*2</sup><br>Diatrend Corporation<br>DQCABR2-H(3m) <sup>*1</sup>                                      | GP/GLC Series   |
|   |  | CA3-CBLO-01(5m) <sup>*3</sup><br>Diatrend Corporation<br>DQCABR2-H(3m) <sup>*1</sup><br>(Requires 9<->25 pin<br>conversion adaptor) | ST401/ST403   |

*\*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 Can be used for GP2000 Series and GLC2000 Series only.*

*\*3 Can be used for ST Series only.*

*\*4 When using the Mitsubishi MELSEC-QUTE(CPU) protocol, GP70 Series except GP377 Series can not be used.*

## 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.

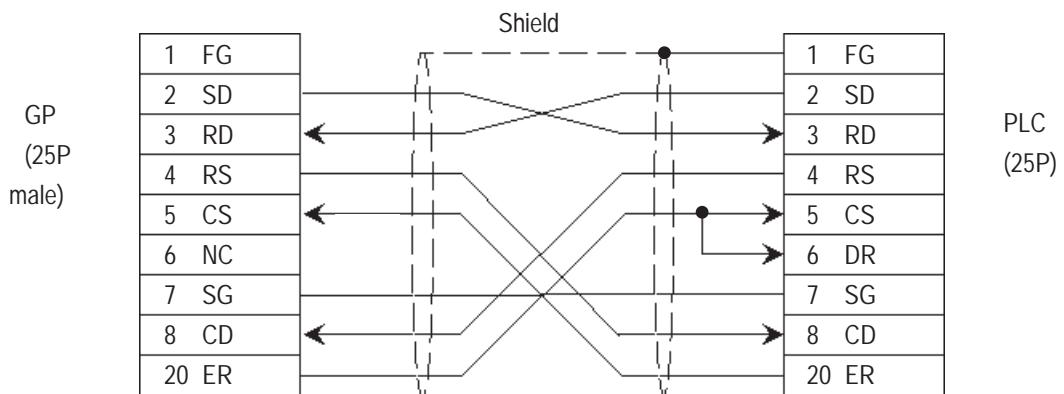


*Ground your PLC's FG terminal according to your country's applicable standard. For details, refer to the corresponding PLC manual.*

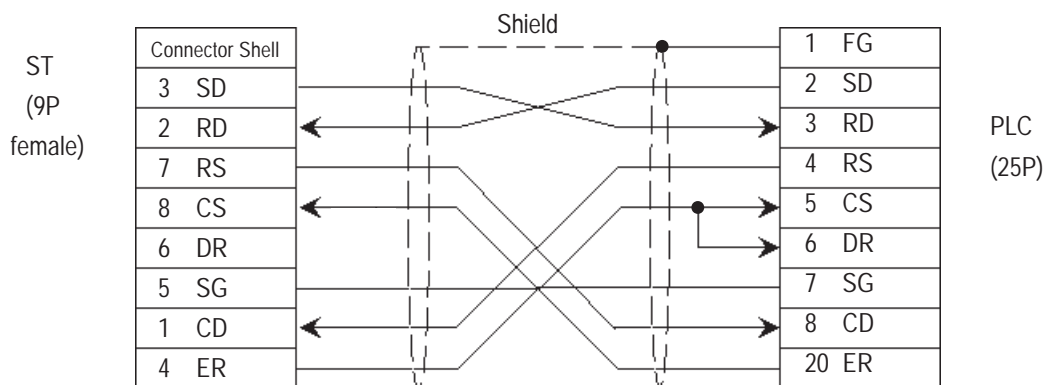
- **Connect the FG line of the Shield cable to either the GP or PLC, depending on your environment. When using a connector hood and grounding the FG line, be sure to use an electrical conductor. The following connection diagrams show examples for connecting a shielded cable to the PLC.**
- **For the 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

### GP/GLC Series Units



### ST401/ST403 Unit



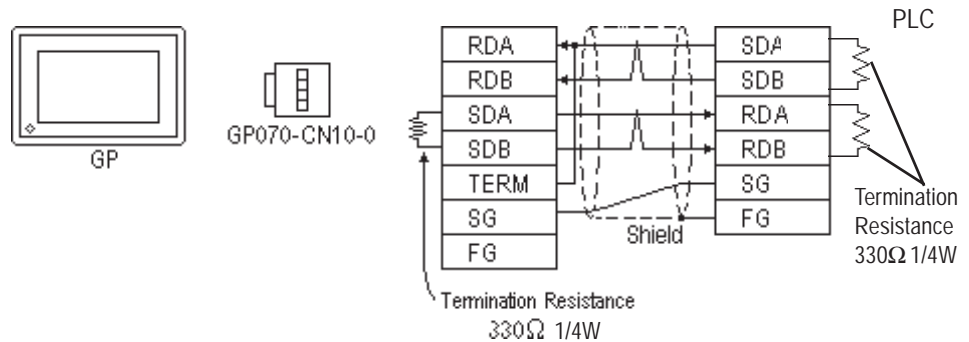
**Cable Diagram 2**



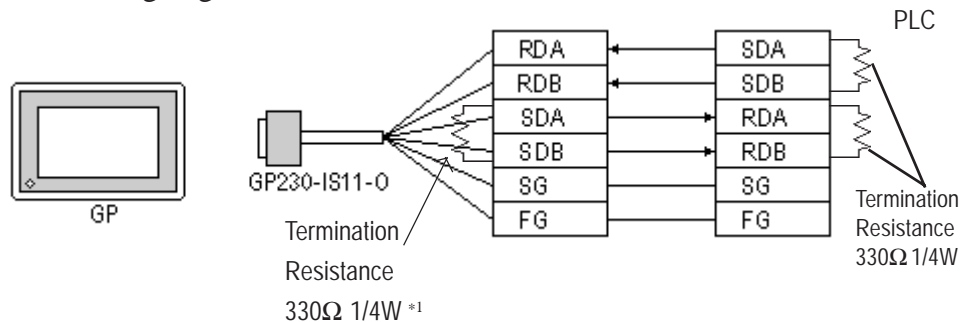
- Turn on the PLC's termination resistance switch.
- Depending on the type of PLC used, a termination resistance of  $330\Omega$  1/2W or  $330\Omega$  1/4W is needed between SDA and SDB, and also between RDA and RDB if no DIP switch is available. For details, refer to the corresponding PLC Manual.

**GP/GLC Series Units**

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

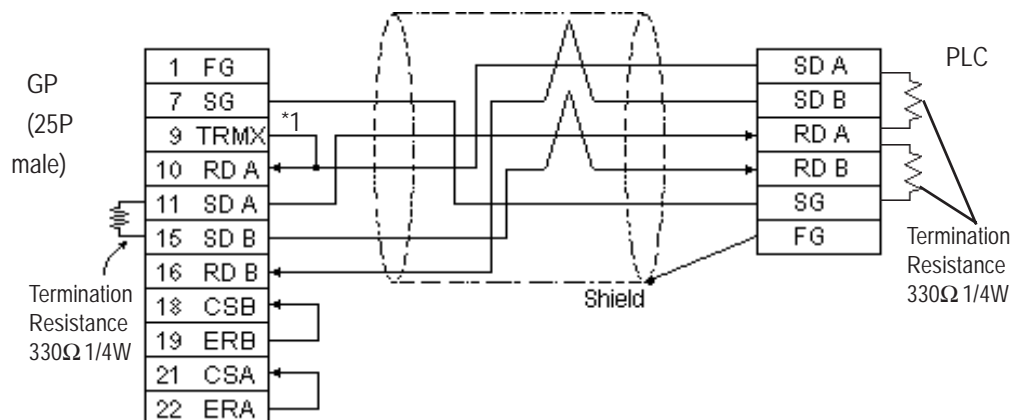


- When using Digital's RS-422 Cable, GP230-IS11-0



\*1 When extending the length of the cable, be sure to insert termination resistance between SDA and SDB.

- When making your own cable connections



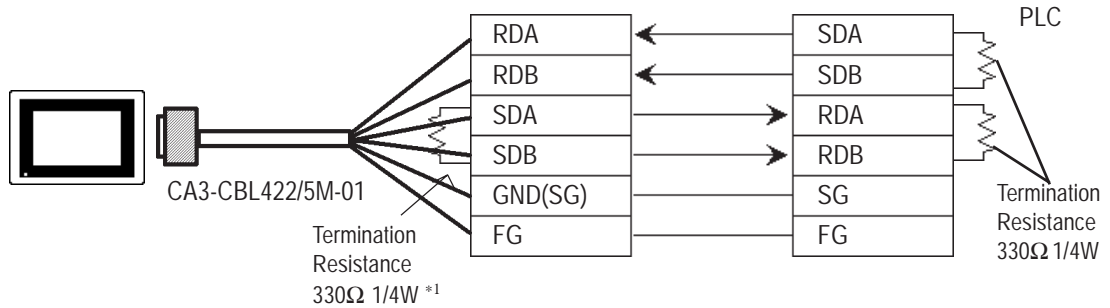
\*1 When connecting the #9 and #10 pins in the GP Serial I/F, a termination resistance of  $100\Omega$  is added between RDA and RDB.



- When making your own cable connections, we recommend using Mitsubishi's SPEV (SB)-MPC-0.2\*3P for the cable.

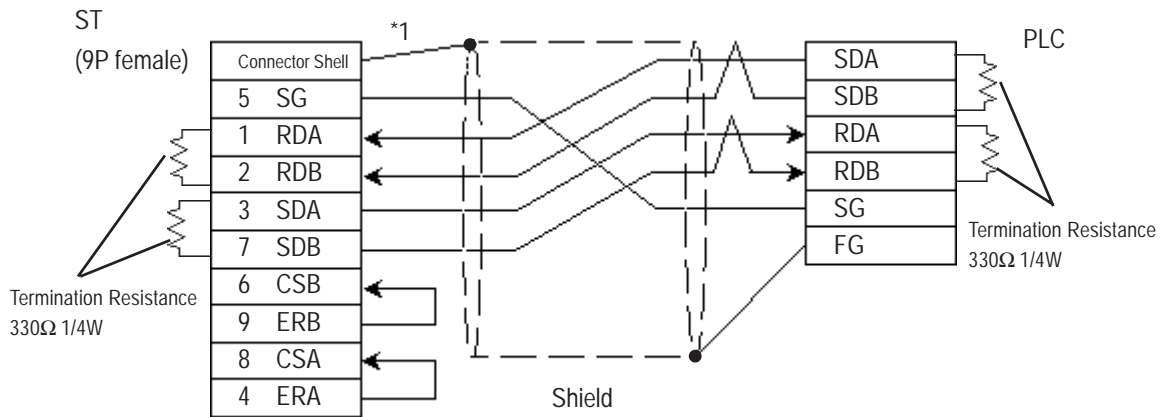
### ST400/ST403 Unit

- When using Digital's RS-422 cable CA3-CBL422/5M-01



*\*1 When extending the length of the cable, be sure to insert termination resistance between SDA and SDB.*

- When making your own cable connections



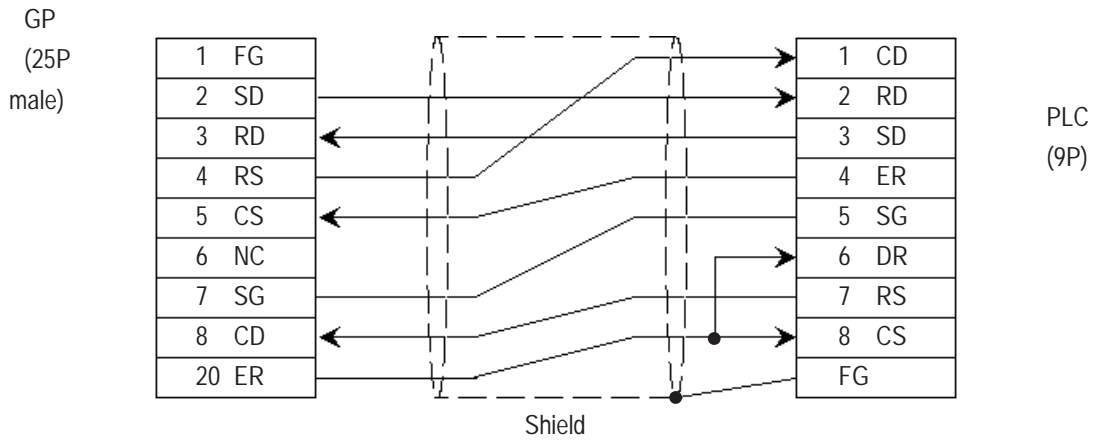
*\*1 Be sure to connect the shield to the Connector Shell. For information about FG connections, refer to page 1-2 "RS422 I/F (ST400/ST403)" section's Note, in the "Connecting a Device/PLC to the ST unit."*



- When making your own cable connections, we recommend using Mitsubishi's SPEV (SB)-MPC-0.2\*3P for the cable.

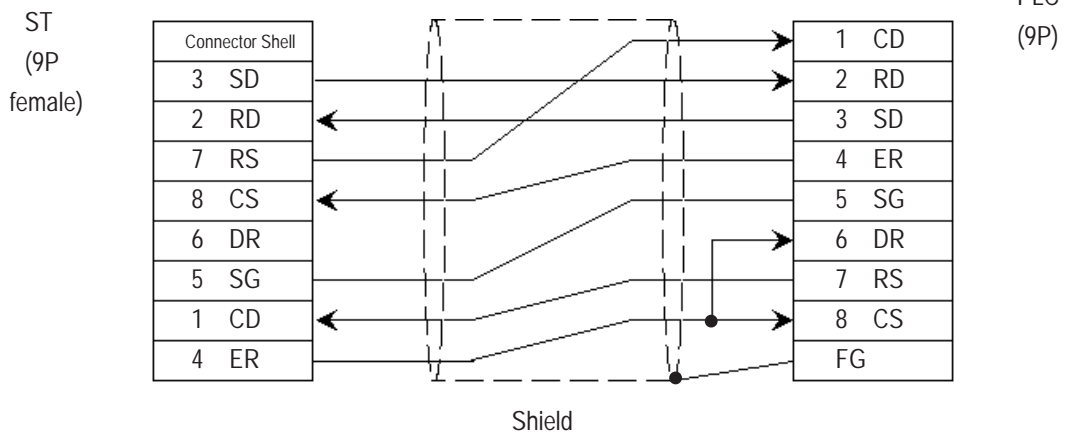
### Cable Diagram 3

#### GP/GLC Series Units



*Be sure to connect the shield line to the PLC unit's terminal block FG terminal.*

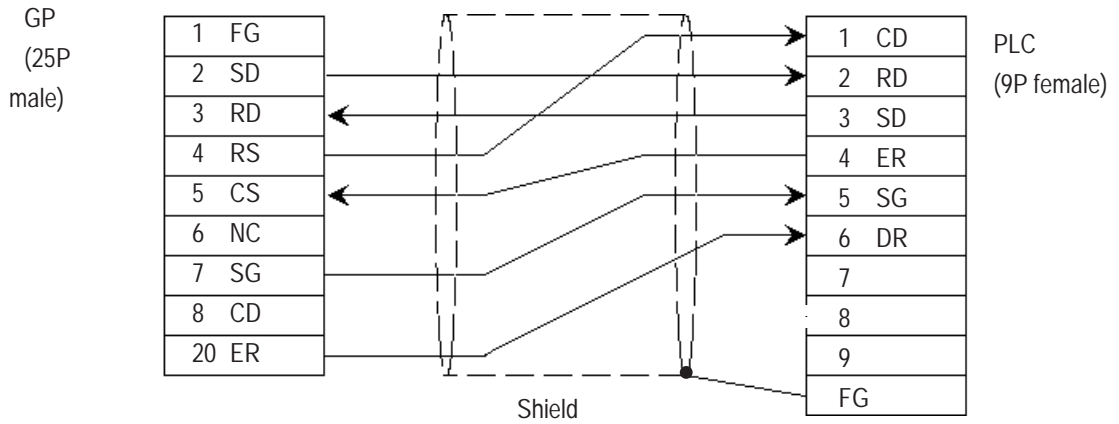
#### ST401/ST403 Unit



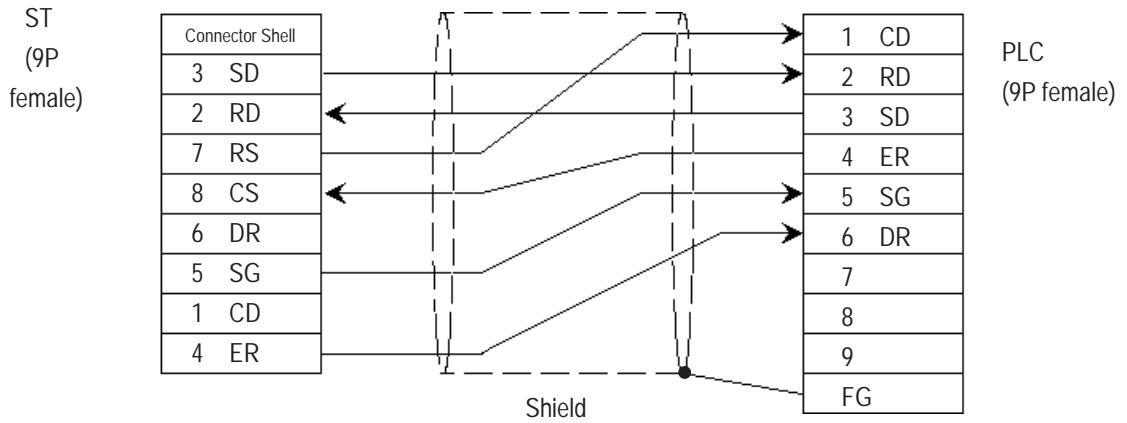
*Be sure to connect the shield line to the PLC unit's terminal block FG terminal.*

**Cable Diagram 4**

**GP/GLC Series Units**



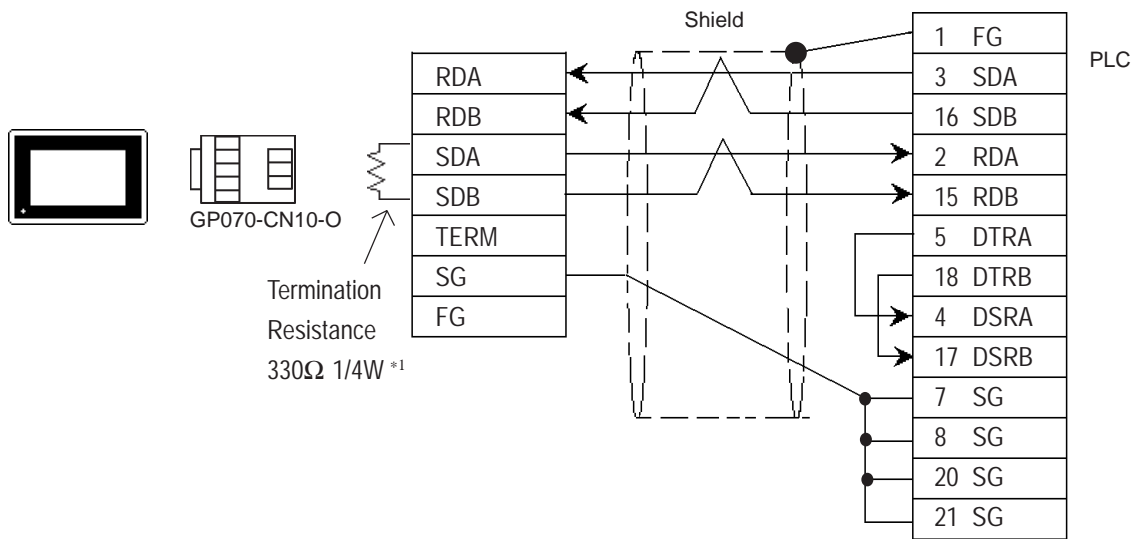
**ST401/ST403 Unit**



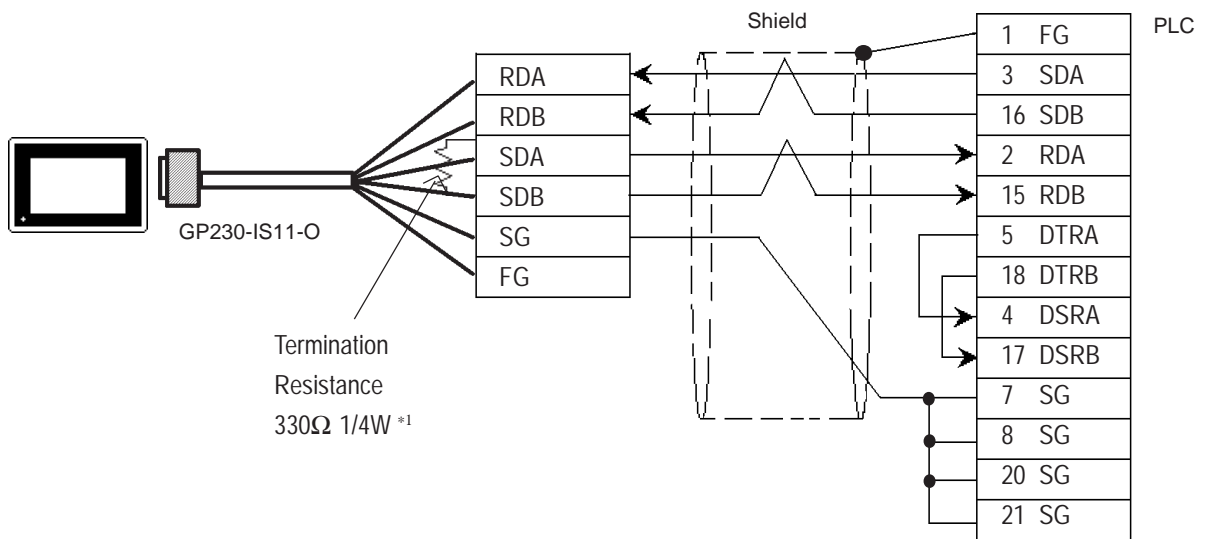


### Cable Diagram 5 GP/GLC Series Units

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

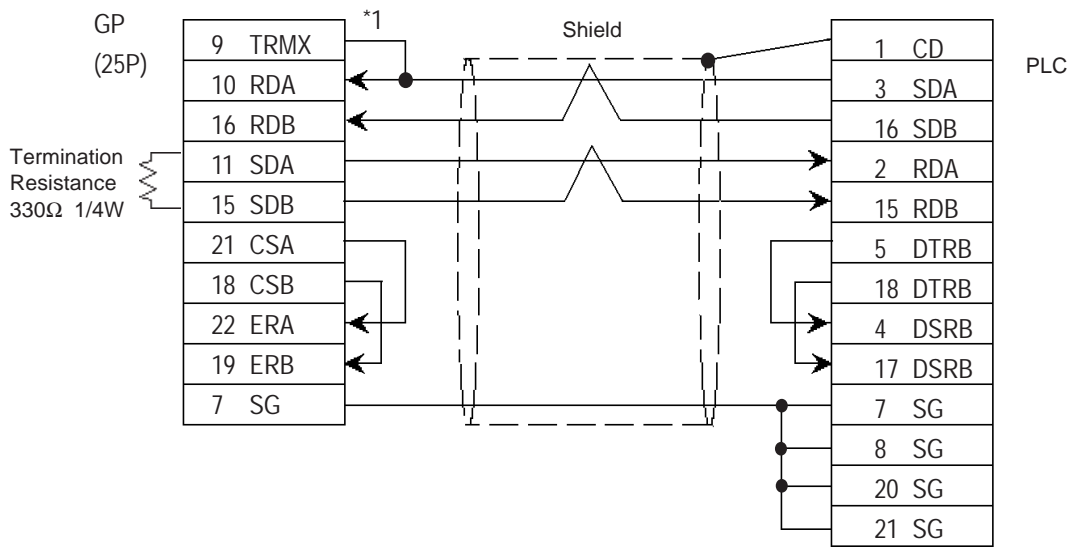


- When using Digital's RS-422 connector terminal adapter GP230-IS11-O



*\*1 When extending the length of the cable, be sure to insert termination resistance between SDA and SDB.*

- When making your own cable



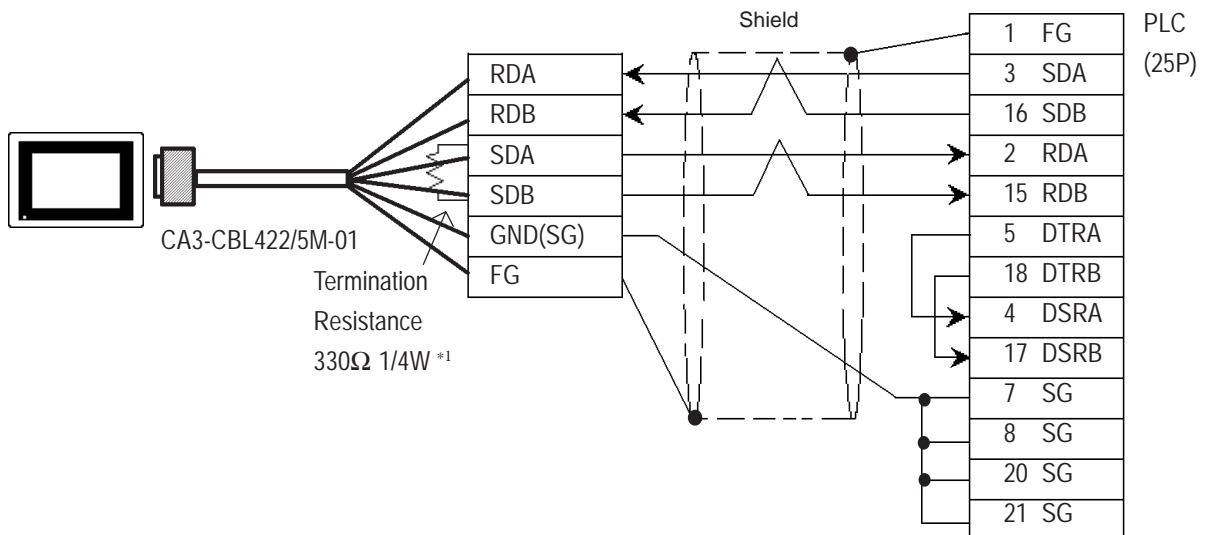
\*1 When connecting the #9 and #10 pins in the GP Serial I/F, a termination resistance of 100Ω is added between RDA and RDB.



- When making your own cable connections, we recommend using Mitsubishi's SPEV (SB)-MPC-0.2\*3P for the cable.

### ST400/ST403 Unit

- When using Digital's RS-422 cable CA3-CBL422/5M-01

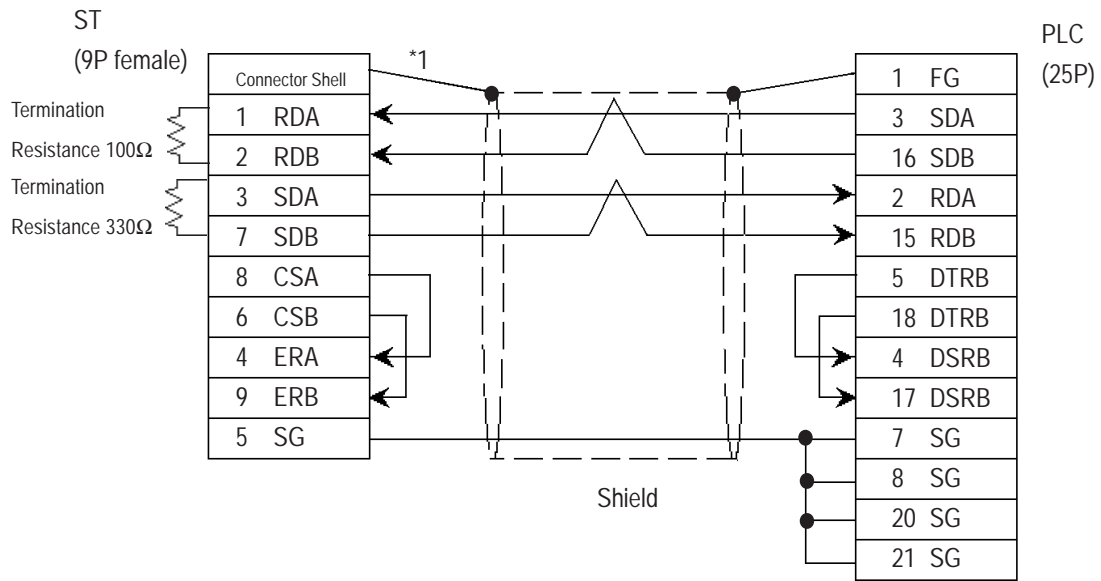


\*1 When extending the length of the cable, be sure to insert termination resistance between SDA and SDB.



- Be sure to connect the FG line to the FG terminal. For information about FG connections, refer to page 1-5 note \*1, in the "Connecting a Device/PLC to the ST unit."

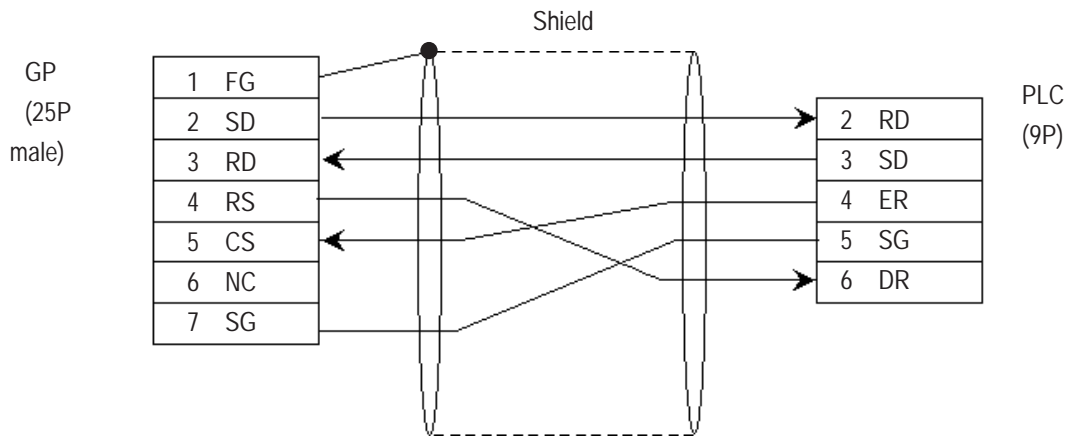
- When making your own cable connections



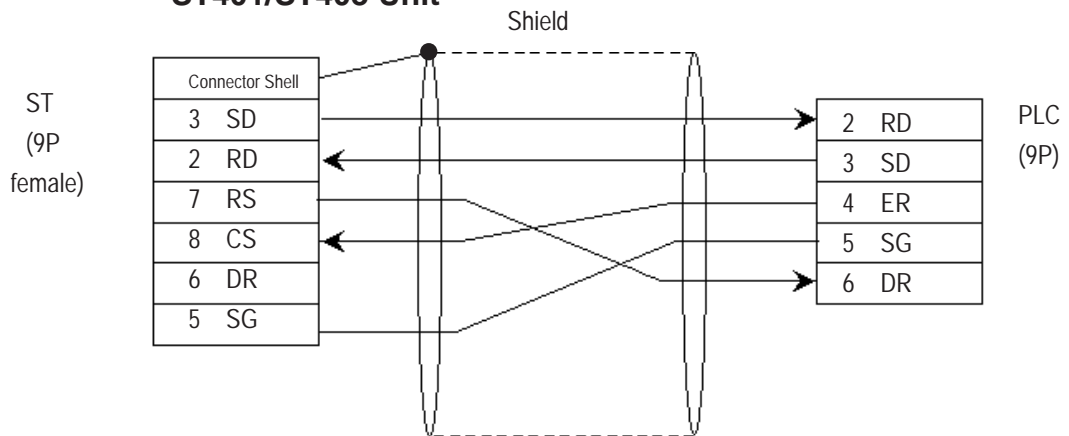
\*1 Be sure to connect the shield to the Connector Shell. For information about FG connections, refer to page 1-2 "RS422 I/F (ST400/ST403)" section's Note, in the "Connecting a Device/PLC to the ST unit."

### Cable Diagram 6

#### GP/GLC Series Units



#### ST401/ST403 Unit



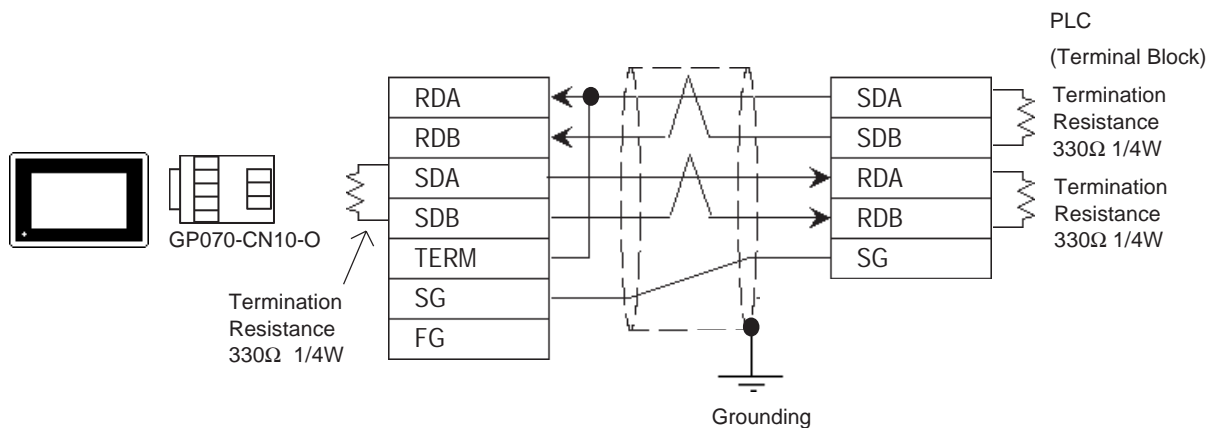
### Cable Diagram 7



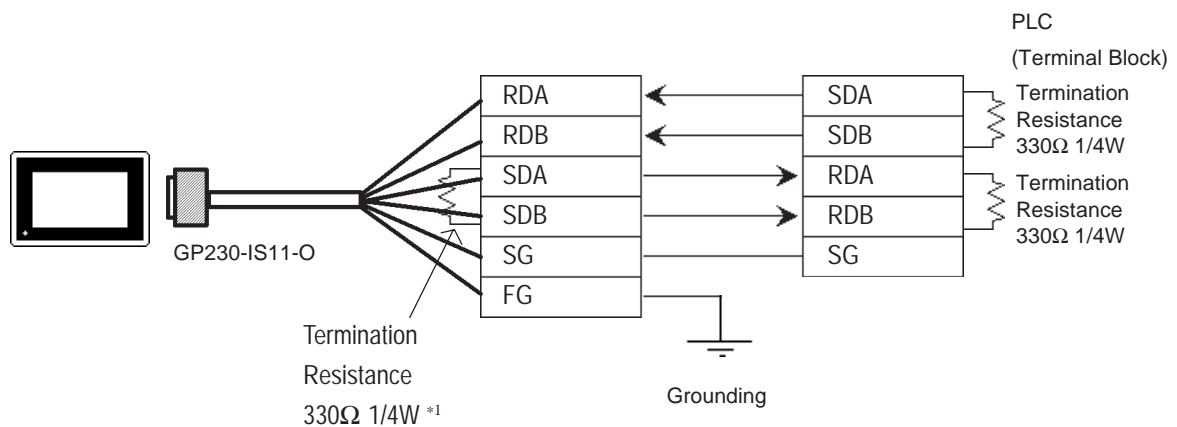
- A termination resistance of  $330\Omega$  is needed between the PLC connector's SDA and SDB, and also between RDA and RDB.
- When using the FX2N-485-BD, FX1N-485-BD or FX3U-485-BD, be sure the cable is less than 50 meters.
- With the FX3UC, the PLC unit's termination resistance is built in to the FX3U-485-BD expansion board. When using a 4-wire system, be sure to change the unit's dip switch to  $330\Omega$ .

### GP/GLC Series Units

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

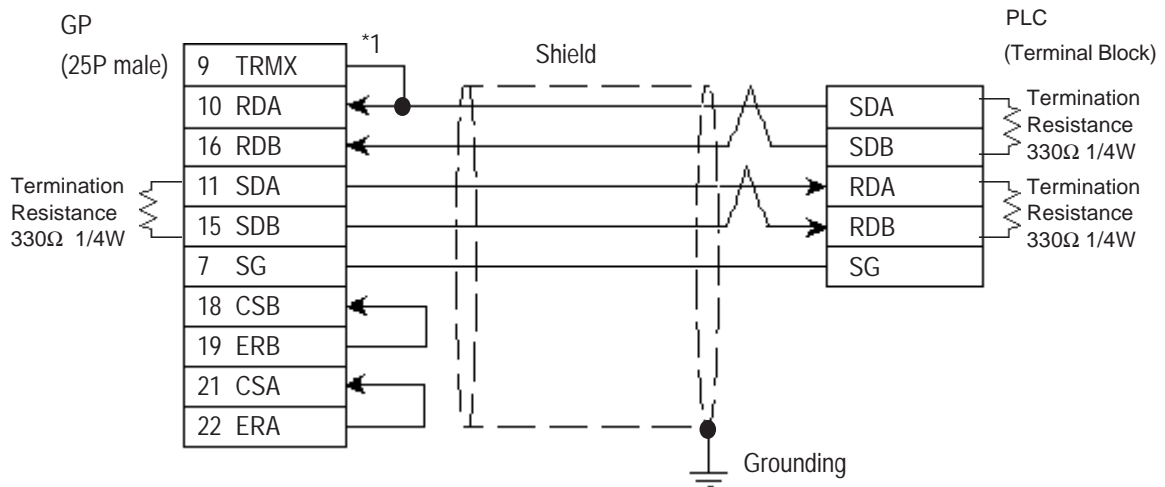


- When using Digital's RS-422 connector terminal adapter GP230-IS11-0



\*1 When extending the length of the cable, be sure to insert termination resistance between SDA and SDB.

- When making your own cable



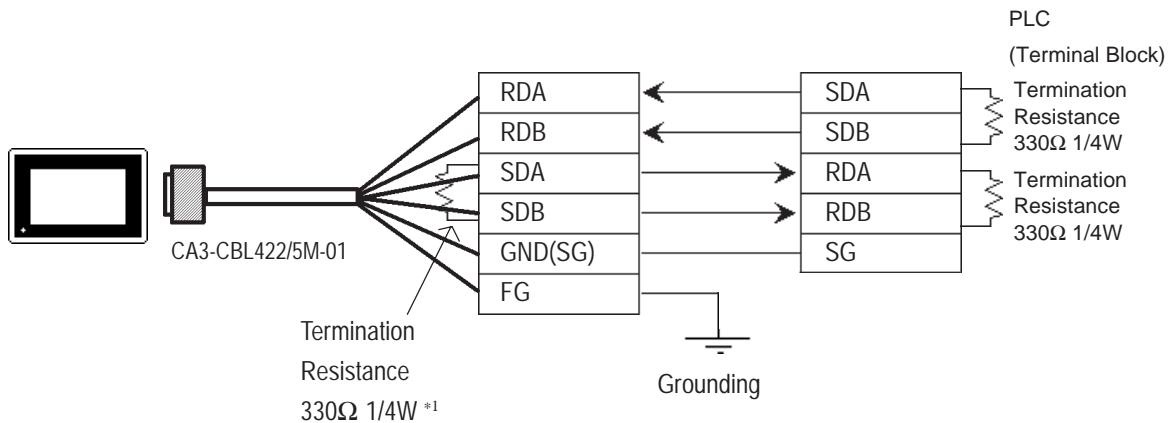
\*1 When connecting the #9 and #10 pins in the GP Serial I/F, a termination resistance of 100Ω is added between RDA and RDB.



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

### ST400/ST403 Unit

- When using Digital's RS-422 cable CA3-CBL422/5M-01

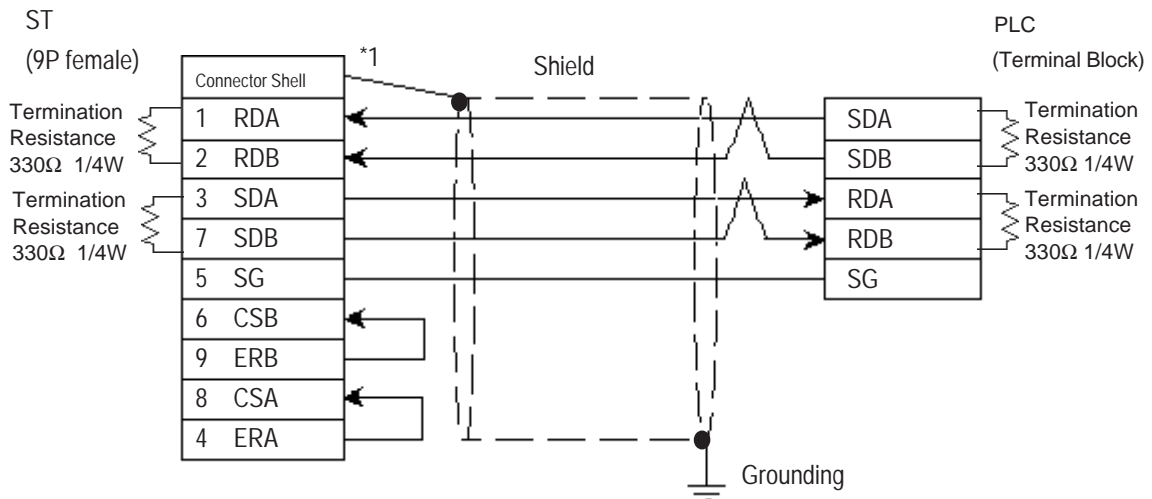


\*1 When extending the length of the cable, be sure to insert termination resistance between SDA and SDB.



**Be sure to connect the FG line to the FG terminal. For information about FG connections, refer to page 1-5 note \*1, in the "Connecting a Device/PLC to the ST unit."**

- When making your own cable



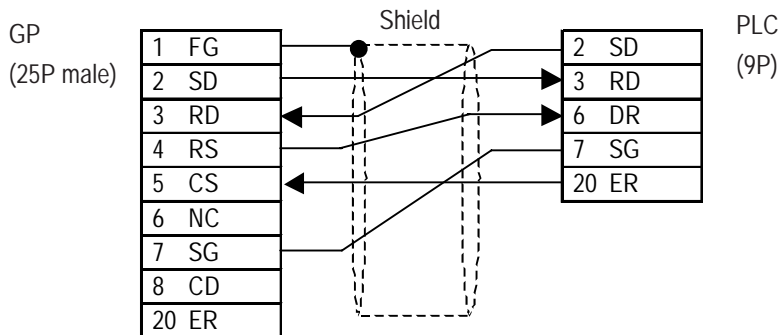
\*1 Be sure to connect the shield to the Connector Shell. For information about FG connections, refer to page 1-2 "RS422 I/F (ST400/ST403)" section's Note, in the "Connecting a Device/PLC to the ST unit."



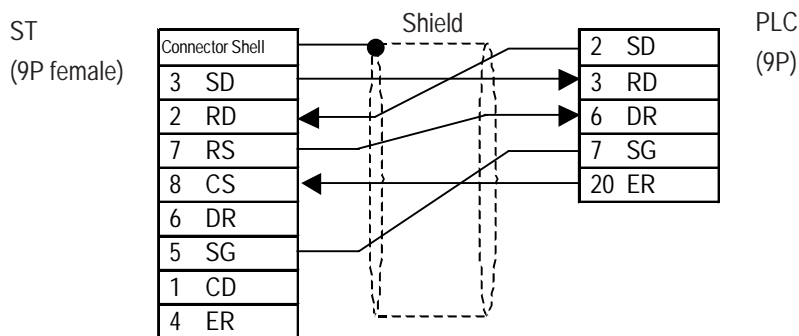
**Note:** Digital recommends Mitsubishi Electric's SPEV(SB)-MPC-0.2x3P cable for this connection.

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

#### GP/GLC Series Units



#### ST401/ST403 Unit

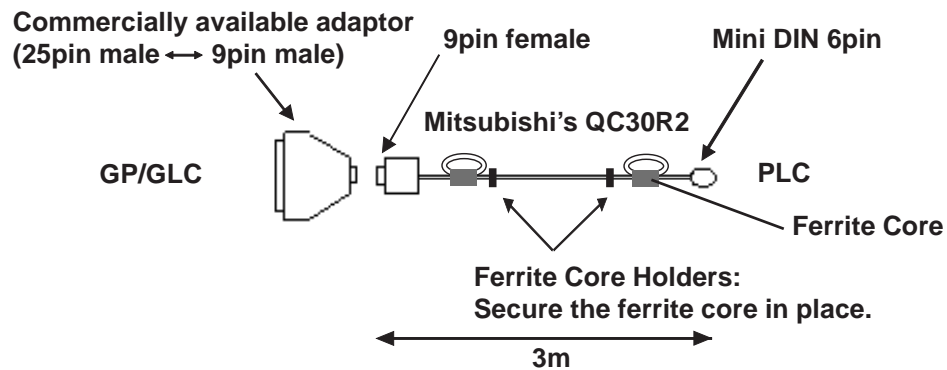


### Cable Diagram 9



- **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.**

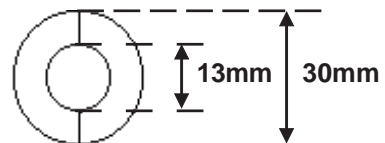
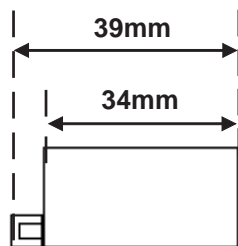
### GP/GLC Series Units



<Recommended Ferrite Core>

Maker :Seiwa Electronics Corporation

Model :E04SR301334

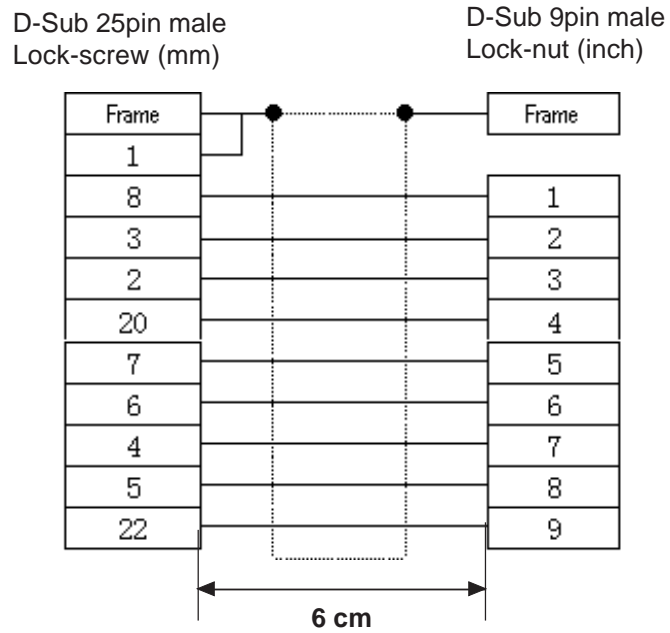




Conversion Adaptor Specifications

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

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



**ST401/ST403 Unit**

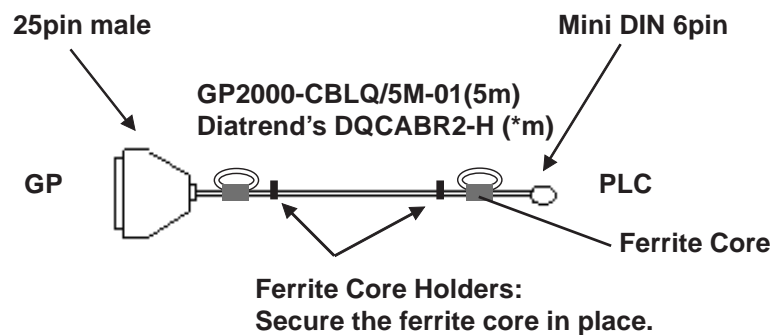
The ST 401/ST403 unit does not require this adaptor and can be connected directly to PLC.

## Cable Diagram 10



- **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 5m (approx. 10ft.) or longer, please use a cable made by the Diatrend company.**
- **Be sure all cables are less than 15 meters long.**

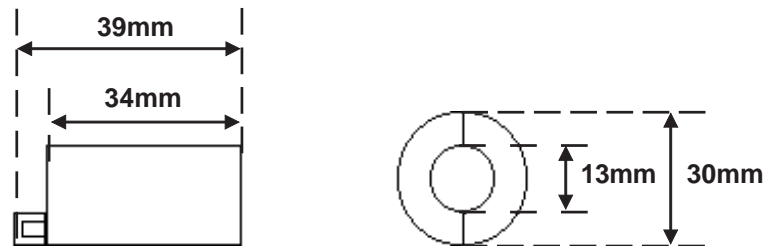
## GP/GLC Series Units



<Recommended Ferrite Core>

Maker :Seiwa Electronics Corporation

Model :E04SR301334



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

## ST401/ST403 Unit

The DQCABR2-H requires a commercial-type conversion adaptor, such as one of the types listed below. Wiring is the same as shown for the conversion adaptor on page 30.

The CA3-CBLQ-01 does not require this adaptor and can be connected directly to PLC.

<Conversion Adaptor Specifications>

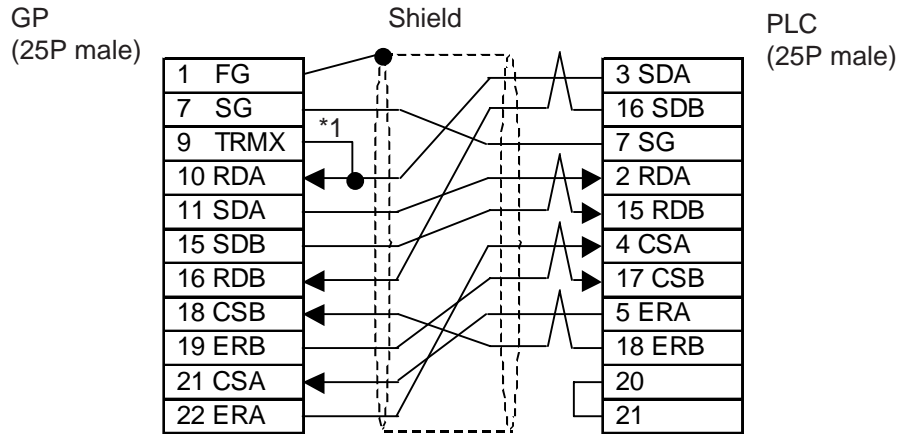
- Straight wiring type
- D-sub 9-pin female, with lock screw (inch)
- D-sub 25-pin female, with lock nut (mm)

### Cable Diagram 11



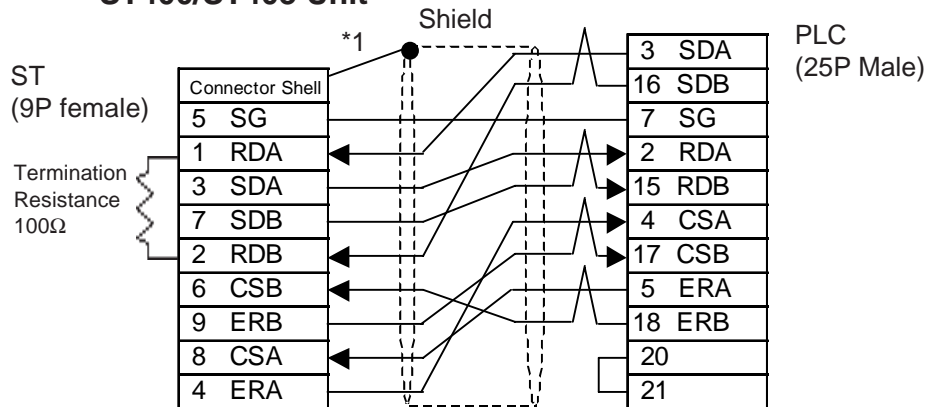
These cable diagrams can only be used for GP2000/GLC2000 Series units and the ST400/ST403 unit.

#### GP/GLC Series Units



\*1 When connecting the #9 and #10 pins in the GP Serial I/F, a termination resistance of 100Ω is added between RDA and RDB.

#### ST400/ST403 Unit

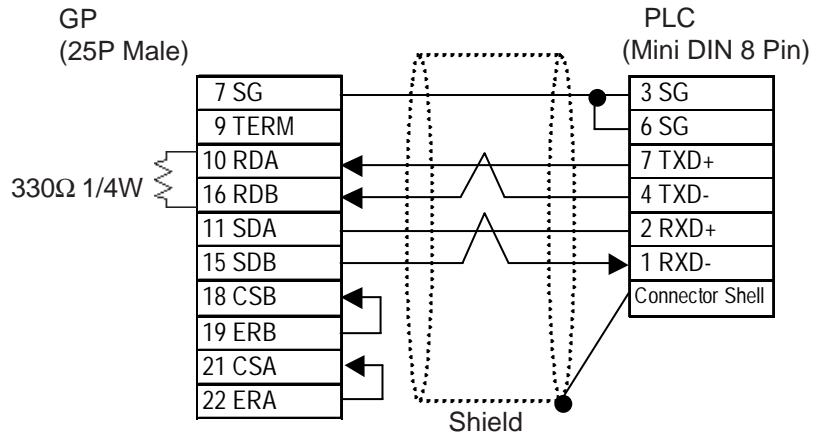


\*1 Be sure to connect the shield to the Connector Shell. For information about FG connections, refer to page 1-2 "RS422 I/F (ST400/ST403)" section's Note, in the "Connecting a Device/PLC to the ST unit."

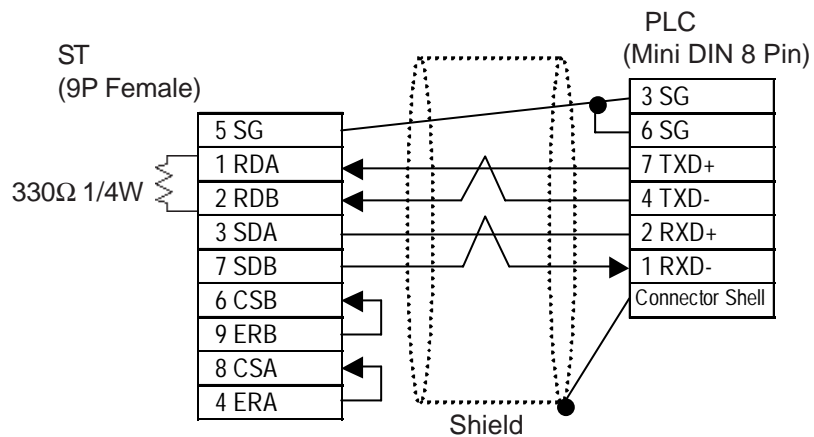
### Cable Diagram 12 (RS-422)

The cable diagrams given below are for the option cables, however be sure to use an option cable when connecting to the Device/PLC.

- Using a GP2000-CBLFX/5M-01, GP2000-CBLFX/1M-01 cable



- Using a CA3-CBLFX/5M-01, CA3-CBLFX/1M-01 cable



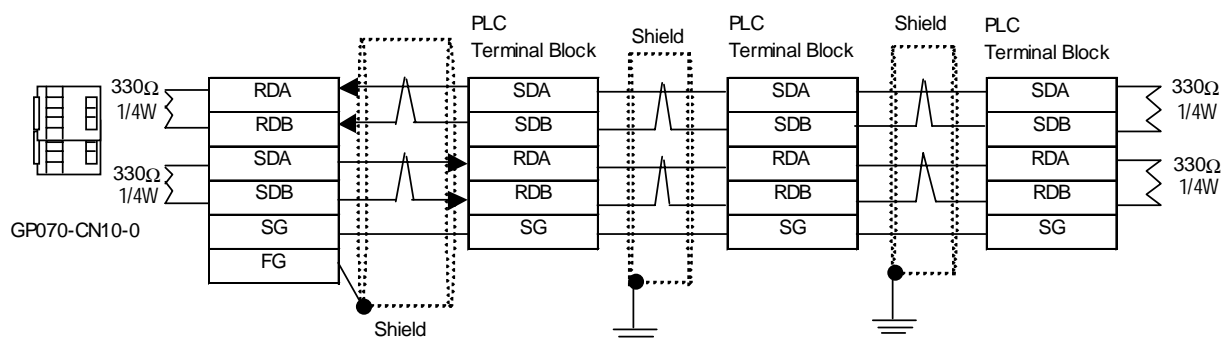
### Cable Diagram 13



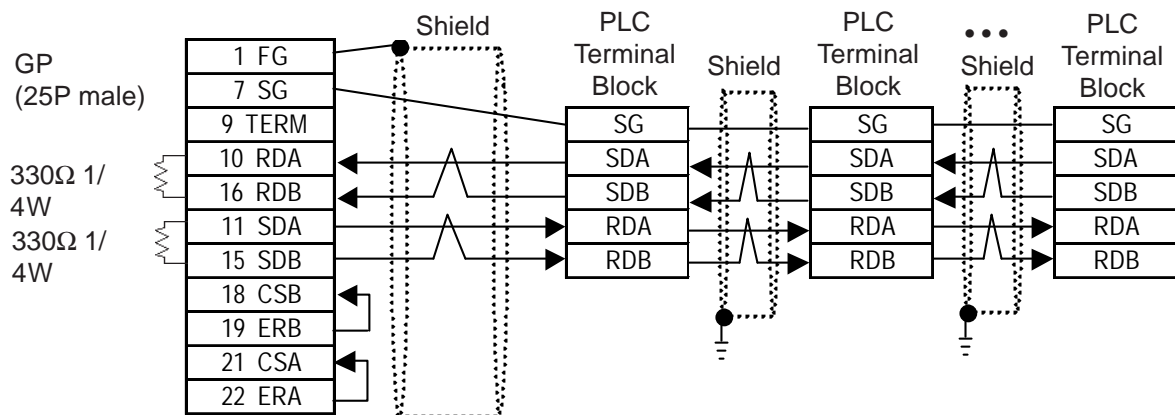
- **Connect a terminating resistor to both ends of the cable.**
- **When using only the FX0N-485ADP, the maximum cable length is 500m. When the FX1N-485-BD, FX2N-485-BD or FX3U-485-BD are included, the maximum cable length is 50m.**
- **As a general rule, connect the PLC at the end of the circuit's wiring (see below).**
- **With the FX3UC, the PLC unit's termination resistance is built into the FX3U-485-BD expansion board. When using a 4-wire system, be sure to change the unit's dip switch to 330Ω.**

### GP/GLC Series Units

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

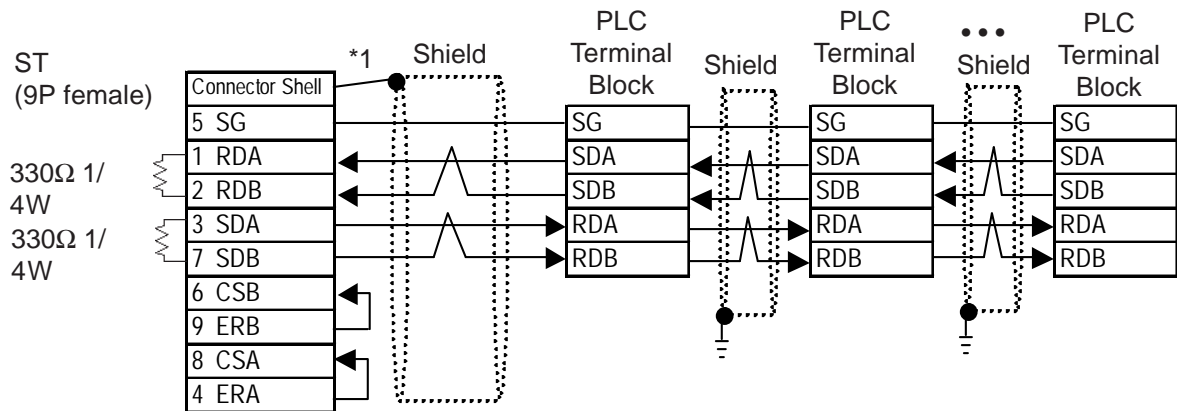


- When making your own cable



### ST400/ST403 Unit

- When making your own cable



\*1 Be sure to connect the shield to the Connector Shell. For information about FG connections, refer to page 1-2 "RS422 I/F (ST400/ST403)" section's Note, in the "Connecting a Device/PLC to the ST unit."

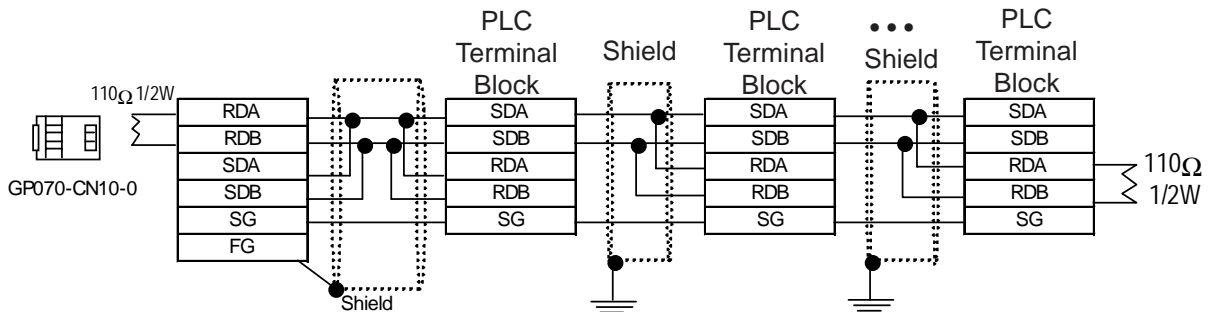
**Cable Diagram 14 (RS-422 2-wire)**



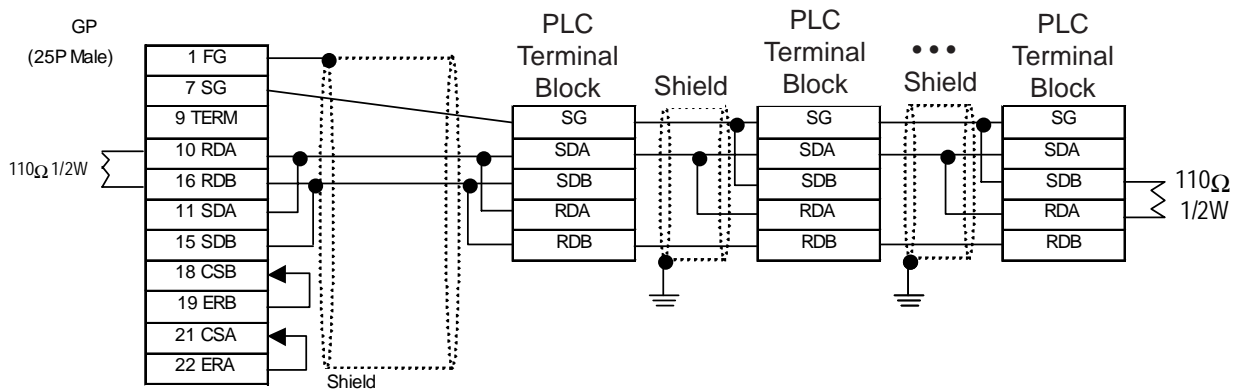
- **Connect a terminating resistor to both ends of the cable.**
- **When using only the FX0N-485ADP, the maximum cable length is 500m. When the FX1N-485-BD, FX2N-485-BD or FX3U-485-BD are included, the maximum cable length is 50m.**
- **As a general rule, connect the PLC at the end of the circuit's wiring (see below).**
- **With the FX3UC, the PLC unit's termination resistance is built into the FX3U-485-BD expansion board. When using a 2-wire system, be sure to change the unit's dip switch to 110Ω.**

**GP/GLC Series Units**

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

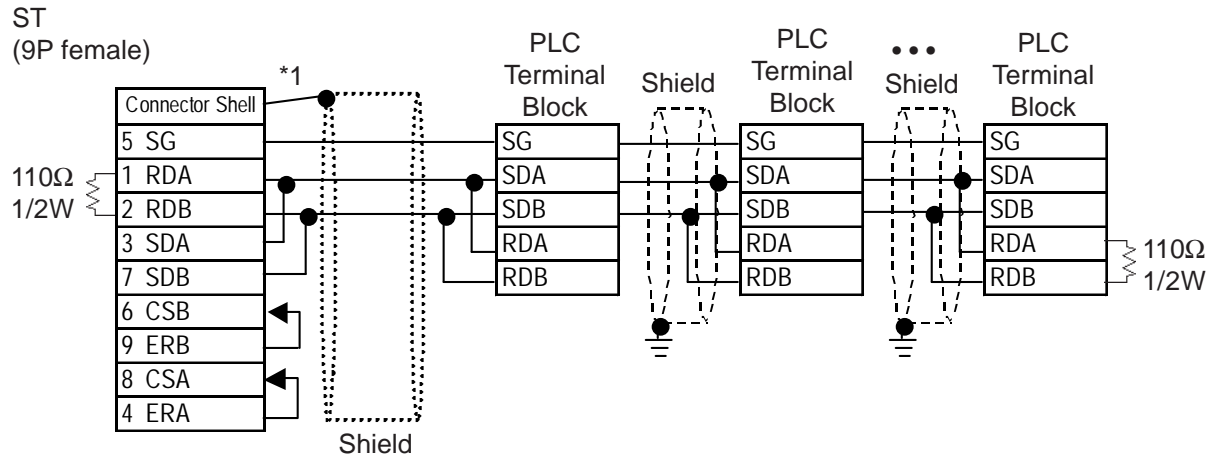


- When making your own cable



## ST400/ST403 Unit

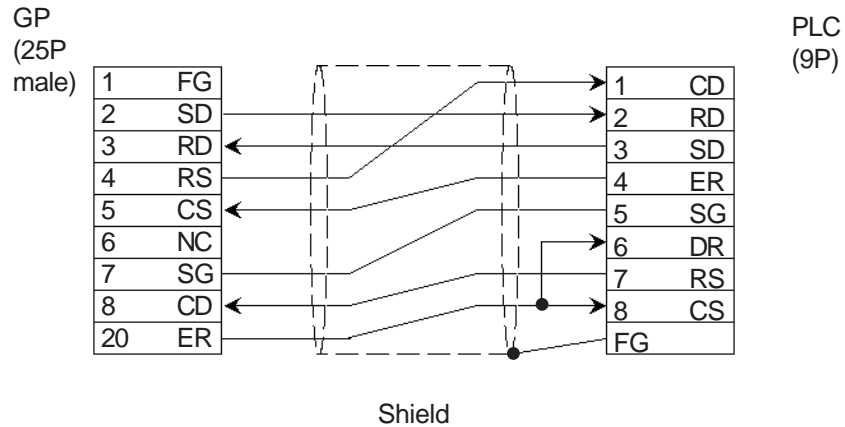
- When making your own cable



*\*1 Be sure to connect the shield to the Connector Shell. For information about FG connections, refer to page 1-2 "RS422 I/F (ST400/ST403)" section's Note, in the "Connecting a Device/PLC to the ST unit."*



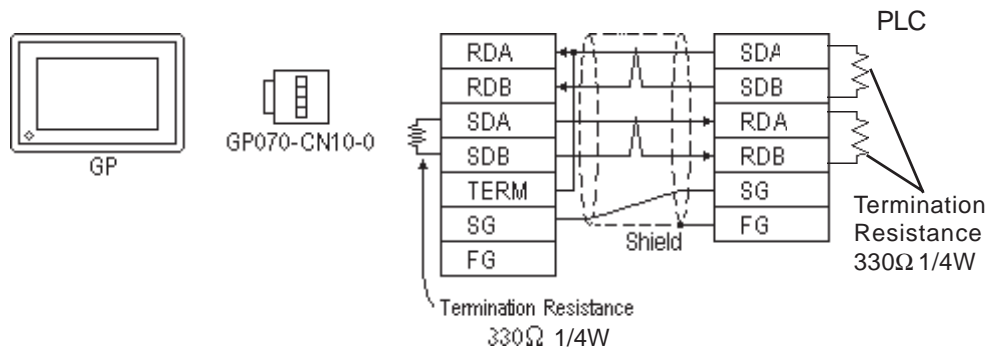
### Cable Diagram 15



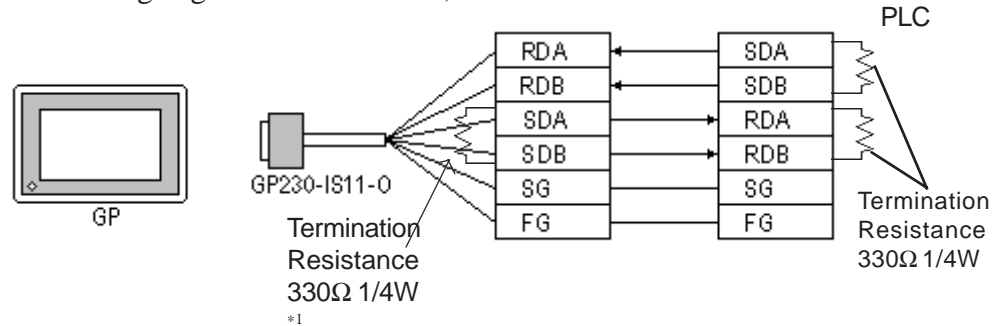
Be sure to connect the shield line to the PLC unit's terminal block FG terminal.

### Cable Diagram 16

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

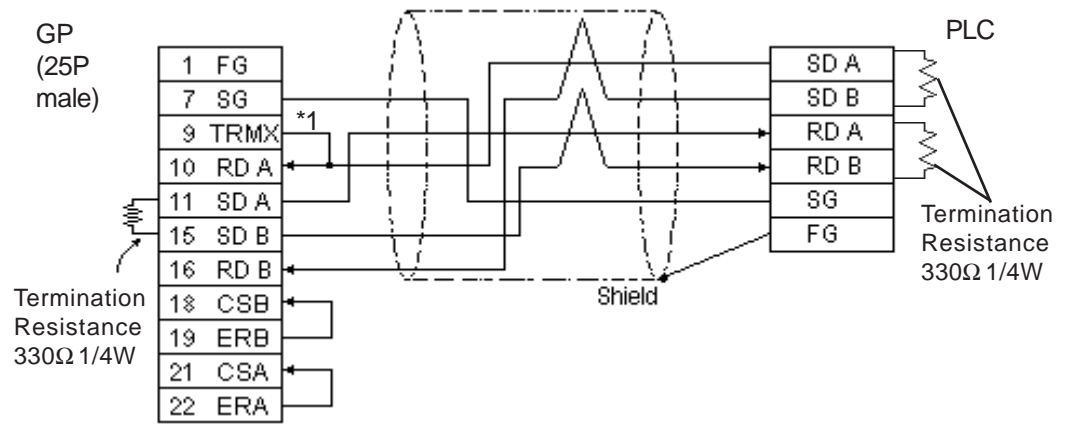


- When using Digital's RS-422 Cable, GP230-IS11-0



\*1 When extending the length of the cable, be sure to insert termination resistance between SDA and SDB.

- When making your own cable connections














\*1 When connecting the #9 and #10 pins in the GP Serial I/F, a termination resistance of 100Ω is added 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  |       | L/H |
| Output Relay            | Y0000 ~ Y1FFF   | Y0000 ~ Y1FF0  |       |     |
| Internal Relay          | M0000 ~ M8191   | M0000 ~ M8176  |       |     |
| Latch Relay             | L0000 ~ L8191   | L0000 ~ L8176  |       |     |
| Special Relay           | M9000 ~ M9255   | M9000 ~ M9240  |       |     |
| Annunciator             | F0000 ~ F2047   | F0000 ~ F2032  |       |     |
| 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 |     |     |
| Special Register        | ——              | D9000 ~ D9255  |     |     |
| Link Register           | ——              | W0000 ~ W1FFF  |     |     |
| File Register           | ——              | R0000 ~ R8191  |  *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.



**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 | <span style="border: 1px solid black; padding: 2px;">***0</span>      | L/H |
| Output Relay            | Y0000 ~ Y07FF | Y0000 ~ Y07F0 | <span style="border: 1px solid black; padding: 2px;">***0</span> *1   |     |
| Internal Relay          | M0000 ~ M2047 | M0000 ~ M2032 | <span style="border: 1px solid black; padding: 2px;">÷16</span>       |     |
| Latch Relay             | L0000 ~ L2047 | —             |   |     |
| Special Relay           | M9000 ~ M9255 | M9000 ~ M9240 | <span style="border: 1px solid black; padding: 2px;">÷16</span> *2    |     |
| Annunciator             | F000 ~ F255   | F000 ~ F240   | <span style="border: 1px solid black; padding: 2px;">÷16</span>       |     |
| Link Relay              | B0000 ~ B03FF | —             |   |     |
| Timer (contact)         | TS000 ~ TS255 | —             |   |     |
| 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 | <span style="border: 1px solid black; padding: 2px;">Bit 15</span>    |     |
| Link Register           | —             | W0000 ~ W03FF | <span style="border: 1px solid black; padding: 2px;">Bit F</span>     |     |
| File Register           | —             | R0000 ~ R8191 | <span style="border: 1px solid black; padding: 2px;">Bit 15</span> *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.



**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<sub>2</sub> Series (Using Link I/F)



Setup System Area here.

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

**Note:**






Since the word addresses in F<sub>2</sub> Series' *Timer, Counter, and Data Register* bit length is 12, some tag functionality ( i.e. N-tag, S-tag, C-tag, etc.) is limited.



You cannot use 2 word (32 bit) data.











## ■ MELSEC-FX Series (using CPU Direct Connection and Mitsubishi's MELSEC-FX (CPU) Protocol on FX<sub>0</sub>)

 Setup System Area here.

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

## ■ MELSEC-FX Series (using Mitsubishi's MELSEC-FX2 (LINK) Protocol)

 Setup System Area here.

| Device                  | Bit Address   | Word Address    | Remarks   |     |
|-------------------------|---------------|-----------------|---|-----|
| Input Relay             | X0000 - X0377 | X0000 - X0360   |   | L/H |
| Output Relay            | Y0000 - Y0377 | Y0000 - Y0360   |   |     |
| Auxiliary Relay         | M0000 - M7679 | M0000 - M7664   |    |     |
| State                   | S0000 - S4095 | S0000 - S4080   |    |     |
| Special Auxiliary relay | M8000 - M8511 | M8000 - M8496   |  *1  |     |
| Timer (contact)         | TS000 - TS511 | —               |   |     |
| Counter (contact)       | CS000 - CS255 | —               |   |     |
| Timer (current)         | —             | TN000 - TN511   |   |     |
| Counter (current)       | —             | CN000 - CN255   | *2  |     |
| Data Register           | —             | D0000 - D7999   |    |     |
| Special Data Register   | —             | D8000 - D8511   |  *1 *3   |     |
| Extended Register       | —             | R00000 - R32767 |  *4 *3   |     |

\*1 The Special Auxiliary 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.








\*3 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.

\*4 With only FX3UC, FX3U units.

## ■ MELSEC-FX Series (using Mitsubishi's MELSEC-FX (CPU) or MELSEC-FX (CPU2) Protocol)

 Setup System Area here.

| Device                  | Bit Address   | Word Address    | Remarks   |     |
|-------------------------|---------------|-----------------|---|-----|
| Input Relay             | X000 - X0377  | X000 - X0360    |  *2    | L/H |
| Output Relay            | Y000 - Y0377  | Y000 - Y0360    |  *2    |     |
| Internal Relay          | M0000 - M7679 | M0000 - M7664   |  *3    |     |
| Special Auxiliary relay | M8000 - M8511 | M8000 - M8496   |  *3    |     |
| State                   | S000 - S4095  | S000 - S4080    |   |     |
| Timer (contact)         | TS000 - TS511 | _____           |   |     |
| Counter (contact)       | CS000 - CS255 | _____           |   |     |
| Timer (current value)   | _____         | TN000 - TN511   |   |     |
| Counter (current value) | _____         | CN000 - CN255   | *1  |     |
| Data Register           | _____         | D000 - D7999    |  *4 *5 |     |
| Special Data Register   | _____         | D8000 - D8511   |  *3    |     |
| Extended Register       | _____         | R00000 - R32767 |  *6    |     |

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

\*2 Cannot perform data write.

\*3 The Special Auxiliary 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 FX0N 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.









\*6 With only FX3UC, FX3U units.



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

## ■ MELSEC-FX Series (using Mitsubishi's MELSEC-FX 1 : n Connection Protocol)

 Setup System Area here.

| Device                  | Bit Address   | Word Address    | Remarks   |     |
|-------------------------|---------------|-----------------|---|-----|
| Input Relay             | X0000 - X0377 | X0000 - X0360   |        | L/H |
| Output Relay            | Y0000 - Y0377 | Y0000 - Y0360   |        |     |
| AUX Relay               | M0000 - M7679 | M0000 - M7664   |        |     |
| Special AUX Relay       | S0000 - S4095 | S0000 - S4080   |        |     |
| State                   | M8000 - M8511 | M8000 - M8496   |  *3    |     |
| Timer (contact)         | TS000 - TS511 | —————           |   |     |
| Counter (contact)       | CS000 - CS255 | —————           |   |     |
| Timer (current value)   | —————         | TN000 - TN511   |   |     |
| Counter (current value) | —————         | CN000 - CN255   | *1  |     |
| Data Register           | —————         | D0000 - D7999   |  *3    |     |
| Special Data Register   | —————         | D8000 - D8511   |  *2    |     |
| Extended Register       | —————         | R00000 - R32767 |  *4 *5 |     |

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

\*2 The Special Auxiliary 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.

\*3 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.

\*4 Used only by FX3UC, FX3U.

\*5 (Only when using Mitsubishi Electric MELSEC-FX 1:N Communication Protocol)

The GP unit processes data internally in blocks of 8192 words. If data spans more than one block, the following features cannot be used. When using these features, be sure all data spans no more than a single block.

















- 1) a-Tag settings
- 2) 2-Way feature block readout/writing of data.

Ex. Using Pro-Server to perform a block readout of 20 words of data, starting from R8191.



■ MELSEC-QnA Series (using Computer Unit AJ71QC24/A1SJ71QC24/A1SJ71QC24N/ AJ71QC24N-R4/AJ71QC24N/A1SJ71QC24N1 or using CPU Direct Connection)

 Setup System Area here.

| Device                          | Bit Address       | Word Address   | Particulars  |
|---------------------------------|-------------------|--|--|
| Input Relay                     | X0000 - X1FFF     | X0000 - X1FF0  |       |
| Output Relay                    | Y0000 - Y1FFF     | Y0000 - Y1FF0  |       |
| Internal Relay                  | M00000 - M32767   | M00000 - M32752  |       |
| Special Relay                   | SM0000 - SM2047   | SM0000 - SM2032  |       |
| Latch Relay                     | L00000 - L32767   | L00000 - L32752  |       |
| Annunciator                     | F00000 - F32767   | F00000 - F32752  |       |
| Edge Relay                      | V00000 - V32767   | V00000 - V32752  |       |
| Step Relay                      | S0000 - S8191     | S0000 - S8176  |       |
| Link Relay                      | B0000 - B7FFF     | B0000 - B7FF0  |       |
| Special Link Relay              | SB000 - SB7FF     | SB000 - SB7F0  |      |
| 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                   | ———               | <b>D00000 - D25983</b>   |     |
| Special Data Register           | ———               | SD0000 - SD2047  |     |
| Link Data Register              | ———               | W0000 - W657F  |     |
| Special Link Register           | ———               | SW000 - SW7FF  |     |
| File Register (normal)          |                   | R00000 - R32767  |  *1 |
| File Register (serial)          |                   | 0R0000 - 0R7FFF<br>(ZR0000 - ZR32767)<br>:<br>1R0000 - 1R7FFF<br>(ZR32768 - ZR65535) |  *1 |

L/H

\*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.



- 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.

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

     Setup System Area here.

| Device                  | Bit Address     | Word Address    | Particulars  |
|-------------------------|-----------------|-----------------|--|
| Input Relay             | X0000 ~ X03FF   | X0000 ~ X03F0   | <span style="border: 1px solid black; padding: 2px;">***0</span>     |
| Output Relay            | Y0000 ~ Y03FF   | Y0000 ~ Y03F0   | <span style="border: 1px solid black; padding: 2px;">***0</span>     |
| Internal Relay          | M00000 ~ M8191  | M00000 ~ M8176  | <span style="border: 1px solid black; padding: 2px;">÷16</span>      |
| Special Relay           | SM1000 ~ SM1255 | SM1000 ~ SM1240 | <span style="border: 1px solid black; padding: 2px;">÷16</span> *1   |
| Annunciator             | F0000 ~ F2047   | F0000 ~ F2032   | <span style="border: 1px solid black; padding: 2px;">÷16</span>      |
| Link Relay              | B0000 ~ B0FFF   | ——              | <span style="border: 1px solid black; padding: 2px;">***0</span>     |
| 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 ~ D6143   | <span style="border: 1px solid black; padding: 2px;">Bit15</span>    |
| Special Data Register   | ——              | SD1000 ~ SD1255 | <span style="border: 1px solid black; padding: 2px;">Bit15</span> *1 |
| Link Register           | ——              | W0000 ~ W0FFF   | <span style="border: 1px solid black; padding: 2px;">BitF</span>     |

L/H

\*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<br>(cannot use SM0000~SM0999) |
| Special Register | D9000 ~ D9255 | SD1000 ~ SD1255<br>(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 Connection)

 Setup System Area here.



















| Device                  | Bit Address     | Word Address    | Particulars  |
|-------------------------|-----------------|-----------------|--|
| Input Relay             | X0000 ~ X1FFF   | X0000 ~ X1FF0   |       |
| Output Relay            | Y0000 ~ Y1FFF   | Y0000 ~ Y1FF0   |       |
| Internal Relay          | M0000 ~ M8191   | M0000 ~ M8176   |       |
| Latch Relay             | L0000 ~ L8191   | L0000 ~ L8176   |       |
| Special Relay           | M9000 ~ M9255   | M9000 ~ M9240   |       |
| Annunciator             | F0000 ~ F2047   | F0000 ~ F2032   |       |
| 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   |     |
| Special Data Register   | ——              | D9000 ~ D9255   |     |
| Link Register           | ——              | W0000 ~ W1FFF   |     |
| File Register           | ——              | R0000 ~ R8191   |  *1 |

L/H

\* 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                                |       | L/H |
| Output Relay                    | Y0000 ~ Y1FFF     | Y0000 ~ Y1FF0                                |       |     |
| Internal Relay                  | M00000 ~ M32767   | M00000 ~ M32752                              |       |     |
| Special Relay                   | SM0000 ~ SM2047   | SM0000 ~ SM2032                              |       |     |
| Latch Relay                     | L0000 ~ L32767    | L0000 ~ L32752                               |       |     |
| Annunciator                     | F0000 ~ F32767    | F0000 ~ F32752                               |       |     |
| Edge Relay                      | V0000 ~ V32767    | V0000 ~ V32752                               |       |     |
| Step Relay                      | S0000 ~ S8191     | S0000 ~ S8176                                |       |     |
| Link Relay                      | B0000 ~ B7FFF     | B0000 ~ B7FF0                                |       |     |
| Special Link Relay              | SB000 ~ SB7FF     | SB000 ~ SB7F0                                |       |     |
| 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                              |     |     |
| Special Data Register           | ———               | SD0000 ~ SD2047                              |     |     |
| Link Data Register              | ———               | W0000 ~ W657FF                               |     |     |
| Special Link Register           | ———               | SW000 ~ SW7FF                                |     |     |
| File Register (normal)          | ———               | R00000 ~ R32767                              |  *1 |     |
| File Register (serial)          | ———               | 0R0000 ~ 0R7FFF<br>(ZR0000 ~ ZR32767)        |  *1 |     |
|                                 | ———               | 1R0000 ~ 1R7FFF<br>(ZR32768 ~ ZR65535)       |  *1 |     |
|                                 | :                 | :  | :  |     |
|                                 | ———               | 31R0000 ~ 31R67FF<br>(ZR1015808 ~ ZR1042431) |  *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 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 Check<br>Parity setting even/odd                | Yes<br>Even                      |
| Data Flow Control                 | ER Control  | ---  |                                  |
| Communication Format<br>(RS-232C) | RS-232C     | Channel Setup <sup>*1</sup><br>Mode Setup<br>(RS-232C) | RS-232C<br>4 (Format 4 protocol) |
| Communication Format<br>(RS-422)  | 4-wire type | Channel Setup <sup>*1</sup><br>Mode Setup<br>(RS-422)  | RS-422<br>8 (Format 4 protocol)  |
| ---                               |             | Write possible<br>in RUN mode.                         | Possible                         |
| ---                               |             | Sum Check  | Yes                              |
| ---                               |             | Enable Sender<br>Termination Resistor <sup>*2</sup>    | Yes                              |
| ---                               |             | Enable Receiver<br>Termination Resistor <sup>*2</sup>  | 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 Settings |
|---|------------------|--------------|
| 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 <sup>*1</sup><br>(RS-232C) | RS-232C          | ---          |
| Communication Format<br>(RS-422)                | 4-wire type      | ---          |
| Unit No.  | 0 (fixed)        | ---          |

*\*1 Only when using Digital's Programming Console I/F cable (GP430-IP10-O) for the MELSEC-A Series unit or a Diatrend Co. DAFXIH-CABV cable. Otherwise, a 4-wire type cable is required.*

■ MELSEC-A2C

| GP Setup             |            | A2C Settings                             |                                  |
|----------------------|------------|--|----------------------------------|
| 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<br>Parity setting even/oddd | Yes<br>Even                      |
| Data Flow Control    | ER Control | ---                                      |                                  |
| Communication Format | RS-232C    | Channel Setup<br>Mode Setup              | RS-232C<br>4 (Format 4 protocol) |
| ---                  |            | Write possible in RUN mode               | Possible                         |
| ---                  |            | Sum Check                                | Yes                              |
| Unit No.             | 0          | Station Number                           | 0                                |

■ MELSEC-F<sub>2</sub> Series

| GP Setup             |               | Interface Settings |               |
|----------------------|---------------|--------------------|---------------|
| 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** (Mitsubishi's MELSEC-FX2 (LINK) Protocol - not using FX3UC, FX3U unit)

| 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 <sup>*1</sup> | 0                 |
| ---                            |             | Sum Check                    | Yes               |
| ---                            |             | Protocol                     | Yes               |
| ---                            |             | Control Method               | 4                 |
| ---                            |             | Header                       | No                |
| ---                            |             | Terminator                   | No                |

*\*1 Even though PLC station numbers are set using 00h to 0Fh, the GP Series units use only 0 to 7.*



- Note:**
- It is possible to enter PLC settings via the ladder software's PC system settings or to write data directly to data registers D8120 and D8121. For details, refer to Mitsubishi's "FX Communication User Manual".
  - For [Send Wait], set the value more than twice as the scanning time of PLC when connecting the GP Series units to FX0N, FX1S, FX1N and FX1NC Series.



■ **MELSEC-FX Series** (Mitsubishi's MELSEC-FX2 (LINK) Protocol - using FX3UC, FX3U unit)

| 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                |

\*1 The termination resistance will vary depending on if a 4-wire or a 2-wire connection is used. Termination resistance is built into the FX3U-485-BD expansion board.

\*2 Even though PLC station numbers are set using 00h to 0Fh, the GP Series units use only 0 to 7.



**It is possible to enter PLC settings via the ladder software's PC system settings or to write data directly to data registers D8120 and D8121. For details, refer to Mitsubishi's "FX Communication User Manual".**

■ **MELSEC-FX Series** \*1 (using Mitsubishi's MELSEC-FX (CPU) or MELSEC-FX (CPU2) Protocol)

| GP Setup   |                | FX Series Settings |
|--|----------------|--------------------|
| Baud Rate *2   | 9600 bps       | ---                |
| Data Length  | 7 bits (fixed) | ---                |
| Stop Bit   | 1 bit (fixed)  | ---                |
| Parity Bit   | Even (fixed)   | ---                |
| Data Flow Control  | ER Control     | ---                |
| Communication Format<br>(When using Mitsubishi<br>Melsec-FX(CPU) Protocol)     | RS-232C        | ---                |
| Communication Format<br>(When using Mitsubishi<br>Melsec-FX(CPU2)<br>Protocol) | 4-wire         | ---                |
| Unit No.   | 0 (fixed)      | ---                |

\*1 When using the AIFX unit, use the same settings as those for the MELSEC-N Series (CPU Direct Connection).



**Caution**

**When using the expansion board with the above mentioned direct connection protocol, store "0" data in D8120. Also, when using the FX3UC or the FX3U, be sure to set M8070 and M8071 to OFF.**

\*2 If the version of MELSEC-FX(CPU2) protocol is lower than V1.43, 9600 bps is fixed. The version of the protocol can be checked in the main menu of the offline mode.

■ **MELSEC-FX Series** (Mitsubishi's MELSEC-FX 1:n Connection Protocol - not using FX3UC, FX3U unit)

| GP Setup             |                  | PLC Settings       |                  |
|----------------------|------------------|--------------------|------------------|
| Baud Rate            | 19200 bps        | Baud Rate          | 19200 bps        |
| Data Length          | 7 bits           | Data Length        | 7 bits           |
| Stop Bit             | 2 bits           | Stop Bit           | 2 bits           |
| Parity Bit           | Even             | Parity Bit         | Even             |
| Data Flow Control    | ER               | -----              |                  |
| Communication Format | 4-wire or 2-wire | H/W Type           | RS-485           |
| Unit No.             | 0                | Station Number *1  | 0                |
| -----                |                  | Use Comm. Settings | Use              |
| -----                |                  | Sum Check          | Yes              |
| -----                |                  | Protocol           | Special Protocol |
| -----                |                  | Control Method     | 4                |
| -----                |                  | Header             | None             |
| -----                |                  | Terminator         | None             |

\*1 Although 00H to 0FH can be used for the PLC station numbers, use only 0 to 7 for the GP Series unit.



**Note:**

**It is possible to enter PLC settings via the ladder software's PC system settings or to write data directly to data registers D8120 and D8121. For details, refer to Mitsubishi's "FX Communication User Manual".**

■ **MELSEC-FX Series** (Mitsubishi's MELSEC-FX 1:n Connection Protocol - using FX3UC, FX3U unit)

| GP Setup             |                  | PLC Settings                 |                  |
|----------------------|------------------|------------------------------|------------------|
| Baud Rate            | 19200 bps        | Baud Rate                    | 19200 bps        |
| Data Length          | 7 bits           | Data Length                  | 7 bits           |
| Stop Bit             | 2 bits           | Stop Bit                     | 2 bits           |
| Parity Bit           | Even             | Parity Bit                   | Even             |
| Data Flow Control    | ER               |                              | ER               |
| Communication Format | 4-wire or 2-wire | H/W Type <sup>*1</sup>       | RS-485           |
| Unit No.             | 0                | Station Number <sup>*2</sup> | 00h              |
| _____                |                  | CH                           | CH1              |
| _____                |                  | Protocol                     | Special Protocol |
| _____                |                  | Control Method               | 4                |
| _____                |                  | Sum Check                    | Added            |
| _____                |                  | Comm. Settings               | Use check        |
| _____                |                  | Header                       | None             |
| _____                |                  | Terminator                   | None             |

\*1 The termination resistance will vary depending on if a 4-wire or a 2-wire connection is used. Termination resistance is built into the FX3U-485-BD expansion board or the FX3U-485ADP expansion board.

\*2 Even though PLC station numbers are set using 00h to 0Fh, the GP Series units use only 0 to 7.



**It is possible to enter PLC settings via the ladder software's PC system settings or to write data directly to data registers D8120 and D8121. For details, refer to Mitsubishi's "FX Communication User Manual".**

■ MELSEC-QnA (using Serial Communication Unit)

| GP Setup                          |                         | Serial Communication Unit Settings      |                            |
|-----------------------------------|-------------------------|---|----------------------------|
| Baud Rate                         | 19200 bps <sup>*1</sup> | 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<br>Parity setting even/odd | Yes<br>Even                |
| Data Flow Control                 | ER Control              | ---                                     |                            |
| Communication Format<br>(RS-232C) | RS-232C                 | Mode Setup (RS-232C)                    | 4 (Format 4 Protocol Mode) |
| Communication Format<br>(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.



- 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 (using Serial Communication Unit A1SJ71QC24N1)

| GP Setup                                   |             | Serial Communication Unit Settings <sup>*1</sup> |                      |
|--|-------------|--|----------------------|
| Baud Rate                                  | 19200 bps   | Baud Rate  | 19200 bps            |
| Data Length                                | 7 bits      | Data Length                                      | 7 bits               |
| Stop Bit                                   | 2 bits      | Stop Bit   | 2 bits               |
| Parity Bit                                 | Even        | Parity bit<br>Even/Odd parity                    | Even                 |
| Control system                             | ER Control  | ---  |                      |
| Communication method<br>(RS-232C is used.) | RS-232C     | ---  |                      |
| Communication method<br>(RS-422 is used.)  | 4-wire type | ---  |                      |
| ---  |             | Sum check code                                   | Enabled              |
| Unit No.                                   | 0           | Node number                                      | 0                    |
| ---  |             | Setting change                                   | Permit               |
| ---  |             | Writing during RUN                               | Permit               |
| ---  |             | Operation setting                                | Independent          |
| ---  |             | Communication protocol setting                   | MC protocol (form 4) |

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

■ 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 <sup>*1</sup><br>(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-O) for the MELSEC-A Series unit or a Diatrend Co. DAFXIH-CABV cable. 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 <sup>*1</sup> |            |
|----------------------|--------------------|----------------------------|------------|
| 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)          | ——                         |            |
| ——                   |                    | Use serial communication   | Do not use |

*\*1 Can be set for Q00CPU or Q01CPU only. The setting is made by Mitsubishi's GPP function software.*



**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 (Q Mode CPU Direct Connection When Using Mitsubishi Electric Corporation MELSEC-QnA(LINK)Protocol<sup>\*1</sup>)**

| GP Setup             |                    | PLC Settings <sup>*1</sup> |          |
|----------------------|--------------------|----------------------------|----------|
| Baud Rate            | 19200 bps          | Transmission speed         | 19200bps |
| Data Length          | 8bit (fixed)       |                            | ---      |
| Stop Bit             | 1bit (fixed)       |                            | ---      |
| Parity Bit           | Odd (fixed)        |                            | ---      |
| Data Flow Control    | ER Control (fixed) |                            | ---      |
| Communication Format | RS-232C (fixed)    |                            | ---      |
|                      |                    | Run write setting          | Enable   |
|                      |                    | Sum check                  | Yes      |
| Unit No.             | 0 (fixed)          |                            | ---      |
|                      |                    | Use serial communication   | Use      |

*\*1 Can be set for Q00CPU or Q01CPU only. The setting is made by Mitsubishi's GPP function software.*

■ **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<br>Parity setting even/odd | Yes<br>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 <sup>*1</sup> |                      |
|---|-------------|--|----------------------|
| Baud Rate                               | 19200 bps   | Baud Rate  | 19200 bps            |
| Data Length                             | 7 bits      | Data Length                                      | 7 bits               |
| Stop Bit                                | 2 bits      | Stop Bit   | 2 bits               |
| Parity Bit                              | Even        | Parity bit<br>Even/Odd parity                    | Even                 |
| Control system                          | ER Control  |  | ---                  |
| Communication method (RS-232C is used.) | RS-232C     |  | ---                  |
| Communication method (RS-422 is used.)  | 4-wire type |  | ---                  |
|   | ---         | Thumb check code                                 | Enabled              |
| Unit No.                                | 0           | Node number                                      | 0                    |
|   | ---         | Setting change                                   | Permit               |
|   | ---         | Writing during RUN                               | Permit               |
|   | ---         | Operation setting                                | Independent          |
|   | ---         | Communication protocol setting                   | MC protocol (form 4) |

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

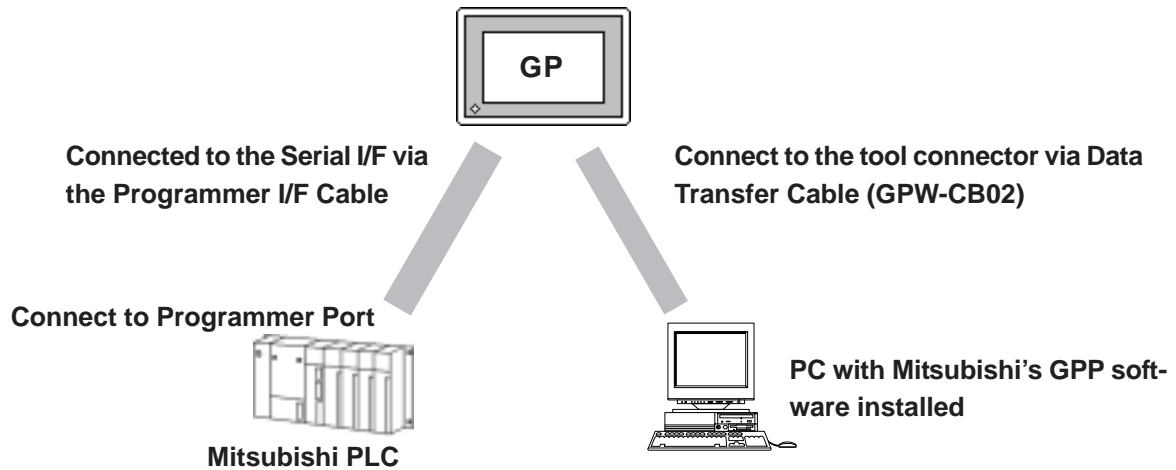
## 2.1.5 2-Port Feature

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.

For the ST series units, however, the Device Monitor feature cannot be used.

### ◆ 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 | FX0S, FX0N, FX1S, FX1N, FX2N, FX1NC, FX2NC, FX3UC   |
| MELSEC-Q Series     | Q02CPU-A, Q02HCPU-A, Q06HCPU-A, Q02CPU, Q02HCPU, Q06HCPU, Q12HCPU, Q25HCPU, Q00CPU, Q01CPU, Q00JCPU |

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

## ◆ GP models supporting the Internal 2-Port Feature

| Series         |                | GP Type         |           |
|----------------|----------------|-----------------|-----------|
| GP-377 Series  |                | GP-377L         |           |
|                |                | GP-377S         |           |
| GP77 Series    | GP-37W2 Series | GP-37W2B        |           |
| GP77R Series   |                | GP-377R Series  | GP-377RT  |
|                |                | GP-477R Series  | GP-477RE  |
|                |                | GP-577R Series  | GP-577RT  |
|                |                |                 | GP-577RS  |
| GP2000 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-2500T  |
|                |                | GP-2501 Series  | GP-2501S  |
|                |                |                 | GP-2501T  |
|                |                | GP-2600 Series  | GP-2600T  |
|                |                | GP-2601 Series  | GP-2601T  |
| GLC2000 Series |                | GLC2300 Series  | GLC2300L  |
|                |                |                 | GLC2300T  |
|                |                | GLC2400 Series  | GLC2400T  |
|                |                | GLC2500 Series  | GLC2500T  |
|                |                | GLC2600 Series  | GLC2600T  |
| ST Series      |                | ST400 Series    | ST400     |
|                |                |                 | ST401     |
|                |                |                 | ST403     |



◆GPP Feature Software Package

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



- **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 and ST 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 below.**

<GP>

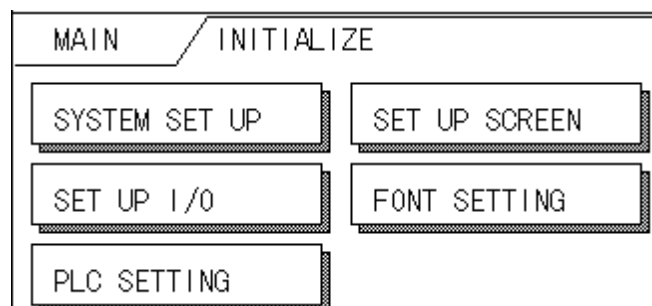
"PC's data link speed is different. (02:F5)"

<PC>

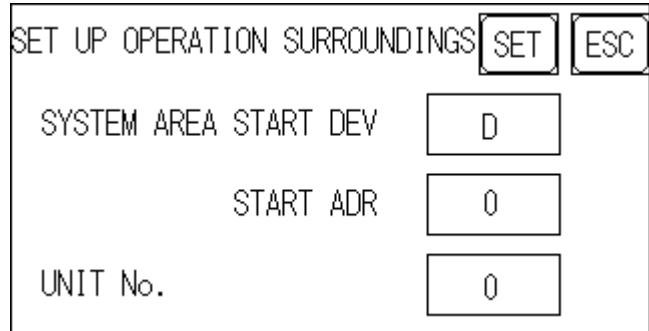
"Cannot communicate with the PC."

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

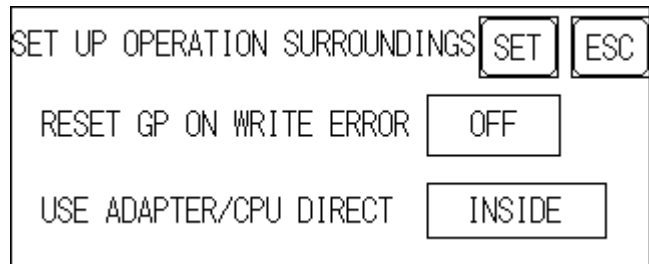
- ① Touch item, PLC SETTING.  
The SET UP OPERATION SURROUNDINGS menu will appear.



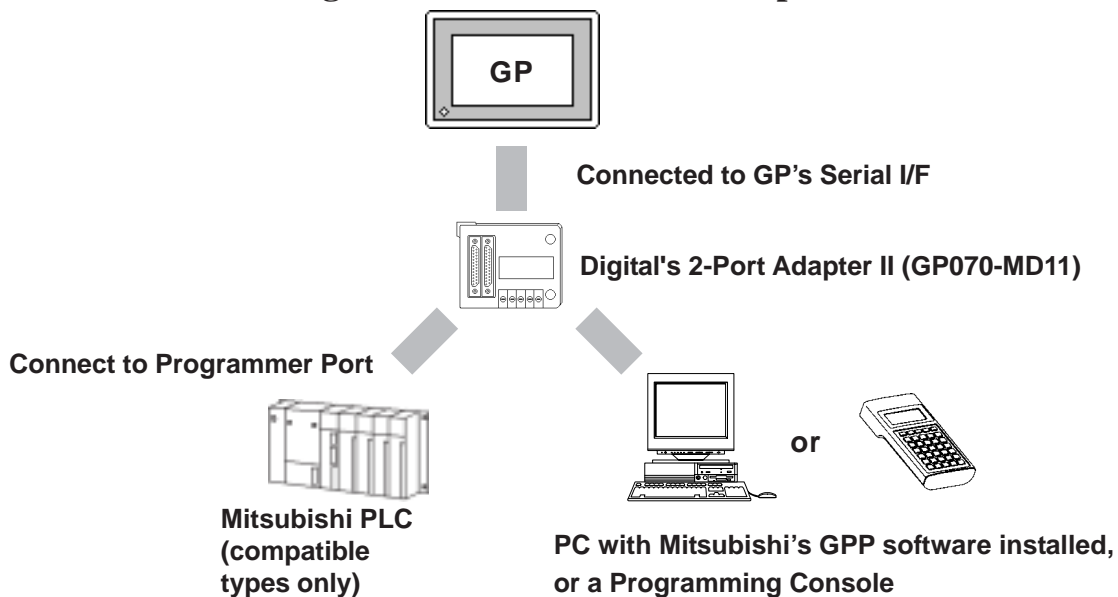
- ② Touch the button, SET on the upper right on the screen. The SET UP OPERATION SURROUNDINGS 2 menu appears.



- ③ Touch the “2-Port Feature/ CPU Direct” selection’s right side setting box until “IN-SIDE” appears. When using the 2-Port Adapter II unit, select “Adapter”, or “CPU” for a direct CPU connection. When using the 2-Port Adapter with GP2000H or ST Series units (Excluding Mitsubishi's MELSEC-FX (CPU2) Protocol), 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**



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.

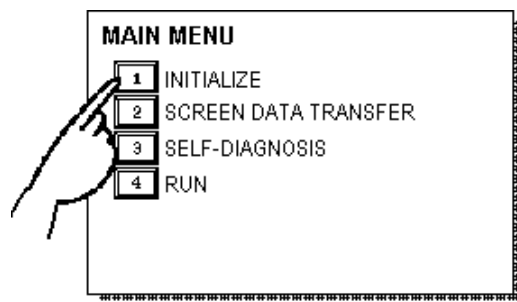
**Reference** *GP User Manual (Sold separately), "OFFLINE Mode"*

### ◆ GP70 Series (except GP-377 series)

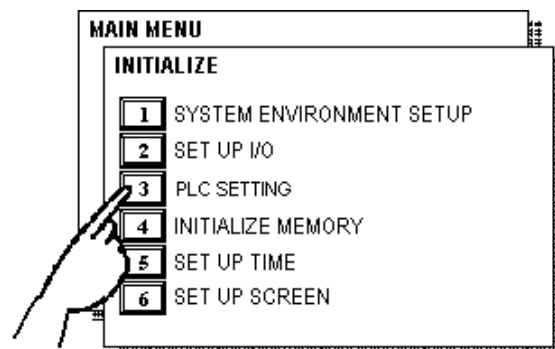


- The selections "USE ADAPTER MODE/CPU DIRECT MODE" will be displayed only when a direct CPU connection is used.
- The factory setting will become "2 Port".

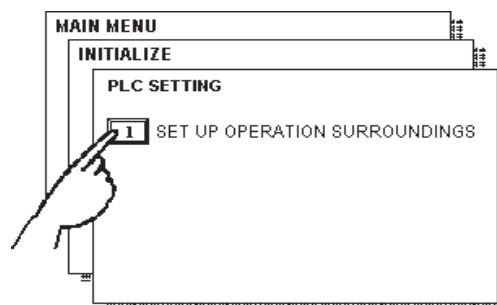
<e.g : GP-570 series unit's screen>



- 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.

|  |  |
|--|--|
| SET UP OPERATION SURROUNDINGS            | [ ]  |
| STARTING ADDRESS OF SYSTEM DATA AREA     | [ ]  |
| UNIT NO.                                 | [ ]  |
| SYSTEM AREA    READING AREA SIZE (0-256) | [ ]  |
| RESET GP ON DATA WRITE ERROR             | ON    OFF  |
| USE ADAPTER MODE/CPU DIRECT MODE         | <input checked="" type="radio"/> 2PORT    2PORT+GPH    CPU |

**GP70 Series Units**

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

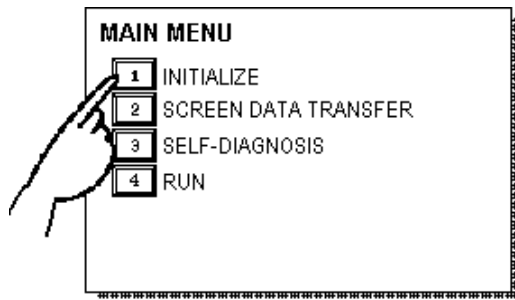
- ⑤ When using the 2 port adapter II (GP070-MD11), select the *2PORT* option. For *GPH70* however, select *2PORT + GPH*. Select CPU when connecting CPU directly.

◆ GP-377/GP77R/GP2000/ST Series

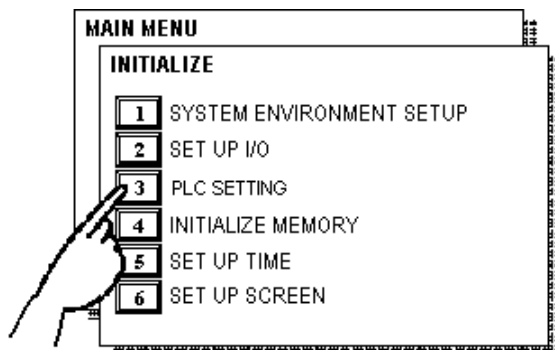


- The selections “2 Port Mode/CPU DIRECT MODE” will be displayed only when a direct CPU connection is used.
- The factory setting will become “Adapter”.

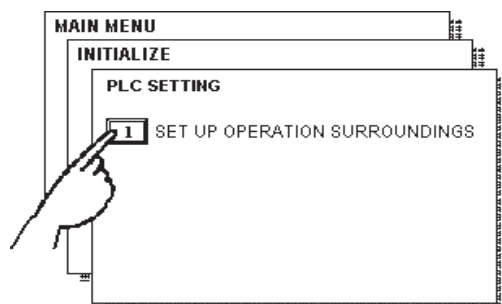
<e.g : GP-577R series unit's screen>



- 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.

|  |   |
|--|---|
| SET UP OPERATION SURROUNDINGS  |   |
| STARTING ADDRESS OF SYSTEM DATA AREA                                 | [       ]   |
| UNIT NO.   | [   ]   |
| SYSTEM AREA    READING AREA SIZE (0-256)                             | [   ]   |
| RESET GP ON DATA WRITE ERROR   | ON      OFF   |
| <input checked="" type="checkbox"/> USE ADAPTER MODE/CPU DIRECT MODE | <input checked="" type="checkbox"/> ADAPTER    ADAPTER + GPH    CPU    INSIDE |

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

**GP77R Series Units**

- ⑤ When using the 2 Port Adapter II (GP070-MD11), select the *ADAPTER* option. When using GP2000H or ST Series units with the 2-Port Adapter (Excluding Mitsubishi's MELSEC-FX (CPU2) Protocol), select "Adapter + GPH". Select *CPU* when connecting CPU directly. When using the internal 2-Port feature, select *INSIDE* option.