

**GP-PRO/PBIII for Windows  
Device/PLC CONNECTION MANUAL**

**ADDITIONAL MANUAL**

**Toyoda Machine Works PLC  
TOYOPUC-PC3J Series**

## Installation

This CD-ROM includes all the protocol files required by the GP to communicate with an Schneider's Inverter. Also, you will need to have one or more of the following software applications installed. The screen and data transfer file included in the CD-ROM must be installed in each of those applications. For information about the installation of the software, refer to that software's Operation Manual.

### ■ Software Applications

- GP-PRO/PBIII for Windows Ver. 2.1 or later<sup>\*1</sup>
- Pro-Server with Pro-Studio for Windows Ver. 3.0 or later <sup>\*2</sup>

- 1) Be sure to confirm that GP-PRO/PBIII for Windows is installed in your PC prior to starting this driver installation.
- 2) To install the new driver, double-click on "TOYOPC3.exe" file contained in the CD-ROM.
- 3) Once the installation program starts, follow the instructions given to install the protocol files.

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**\*1 When using the GP2000 Series unit, GP-PRO/PBIII for Windows Ver.5.0 or later is required.**

**\*2 When using the Factory Gateway unit, GP-Web Ver.1.0 or later or GP-Viewer Ver.1.0 or later, be sure to select Pro-Server with Pro-Studio for Windows as the "Destination Folder".**

# 1

## List of Connectable PLCs

The following tables list the devices that can be connected and used with the GP.

### ■ PLCs

#### ◆ 1:1 Connection, 1:n Connection

| Series Name     | CPU                       | Link Unit               | Device type in Screen Editor        | GP Series<br>GLC 2000<br>Series | GLC 100<br>Series<br>GLC 300<br>Series |
|-----------------|---------------------------|-------------------------|-------------------------------------|---------------------------------|----------------------------------------|
| TOYOPUC<br>-PC2 | PC2, L2                   | TLU-2652                | TOYOTA<br>TOYOPUC-PC2<br>series     | ○                               | ○                                      |
|                 | PC2J                      | THU-2755                |                                     |                                 |                                        |
|                 | PC2J (1:n<br>connection)  | THU-2755                | TOYOTA<br>TOYOPUC-PC2<br>1:n Comm.  |                                 |                                        |
| TOYOPUC<br>-PC3 | PC3J                      | Link I/F on CPU<br>unit | TOYOTA<br>TOYOPUC-PC3J              | ○                               | x                                      |
|                 | PC3JD                     |                         |                                     |                                 |                                        |
|                 | PC3JG                     | THU-2755                |                                     |                                 |                                        |
|                 | PC3J                      | Link I/F on CPU<br>unit | TOYOTA<br>TOYOPUC-PC3J<br>1:n Comm. |                                 |                                        |
|                 | PC3JD                     |                         |                                     |                                 |                                        |
|                 | PC3JG<br>(1:n connection) | THU-2755                |                                     |                                 |                                        |

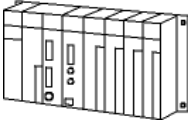
## 2

## System Structure

The following describes the system structure for connecting the GP to Toyoda Machine Works PLCs.

**Reference** The Cable Diagram mentioned in the following table is listed in the section titled "3 Cable Diagrams."

### ■ TOYOPUC-PC3J

| CPU                                                                               | Link I/F                                                                          | Cable Diagram                                                                      | GP                                                                                  |
|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|
|  |  |  |  |
| PC3J                                                                              | Link I/F for CPU unit                                                             | RS-422 (4 wires)<br>(Cable Diagram 3)                                              | GP Series                                                                           |
|                                                                                   |                                                                                   | RS-422 (2 wires)<br>(Cable Diagram 4)                                              |                                                                                     |
|                                                                                   |                                                                                   | RS-422 (4 wires) (1:n)<br>(Cable Diagram 5)                                        |                                                                                     |
|                                                                                   |                                                                                   | RS-422 (2 wires) (1:n)<br>(Cable Diagram 6)                                        |                                                                                     |
|                                                                                   | PC/CMP-Link<br>(THU-2755) <sup>*1</sup>                                           | RS-422 (2 wires)<br>(Cable Diagram 7)                                              |                                                                                     |
|                                                                                   |                                                                                   | RS-422 (2 wires) (1:n)<br>(Cable Diagram 8)                                        |                                                                                     |
| PC3JD<br>PC3JG                                                                    | Link I/F for CPU unit                                                             | RS-422 (2 wires)<br>(Cable Diagram 1)                                              |                                                                                     |
|                                                                                   |                                                                                   | RS-422 (2 wires) (1:n)<br>(Cable Diagram 2)                                        |                                                                                     |
|                                                                                   | PC/CMP-Link<br>(THU-2755) <sup>*1</sup>                                           | RS-422 (2 wires)<br>(Cable Diagram 1)                                              |                                                                                     |
|                                                                                   |                                                                                   | RS-422 (2 wires) (1:n)<br>(Cable Diagram 2)                                        |                                                                                     |

<sup>\*1</sup> When using PC3J commands to operate the PC/CMP-LINK(THU-2775), a Ver.5.00 or higher link unit is required. This unit, however, will not have the settings for the PC2J or PC3J switches (SW). If a PC3J command is sent to a version 5.00 or lower link unit, an error code will appear on the bottom left corner on the GP screen.



- A maximum of 16 PLCs can be connected.
- For the connection cable, the Chugoku Densen Kogyo's double shield twist cable, 0-VCTF-SS 2C\*0.75mm<sup>2</sup> is recommended.
- The maximum cable length is 600 meters.

## 3

## Cable Diagrams

The cable diagrams illustrated below and the cable diagrams recommended by Toyota Machine Works, Ltd. may differ; however, using these cables for your PLC operations will not cause any problems.



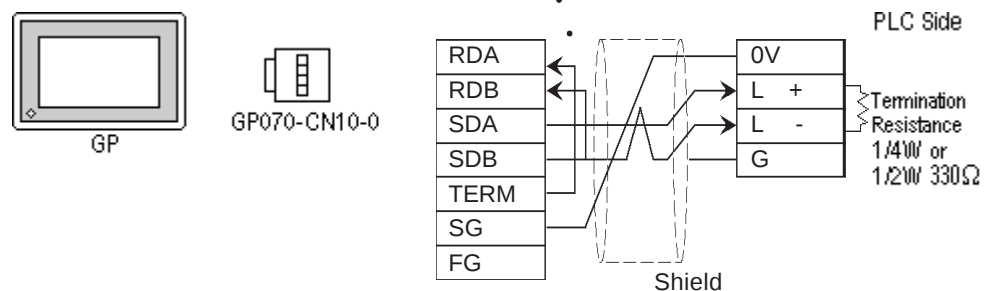
*Ground your PLC's FG terminal according to your country's applicable standard. For details, refer to the corresponding PLC manual.*



- **Connect the FG line of the Shield cable to either the GP or PLC, depending on your environment.**
- **If a communications cable is used, it must be connected to the SG (signal ground).**
- **When connecting RS-422, for the length of cable, refer to the manual of Toyota Machine Works.**

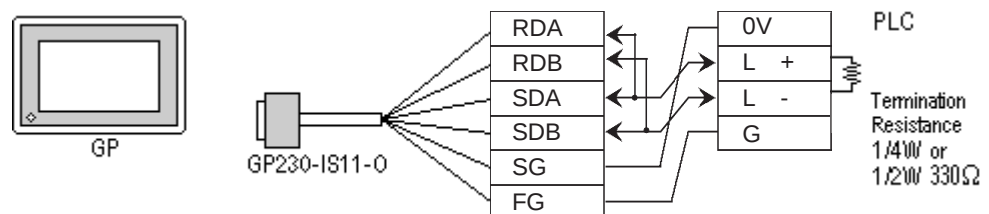
## Cable Diagram 1 (RS-422)

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



**Connect terminals SD A and SD B to terminal L+, and SD B and RD B to terminal L-.**

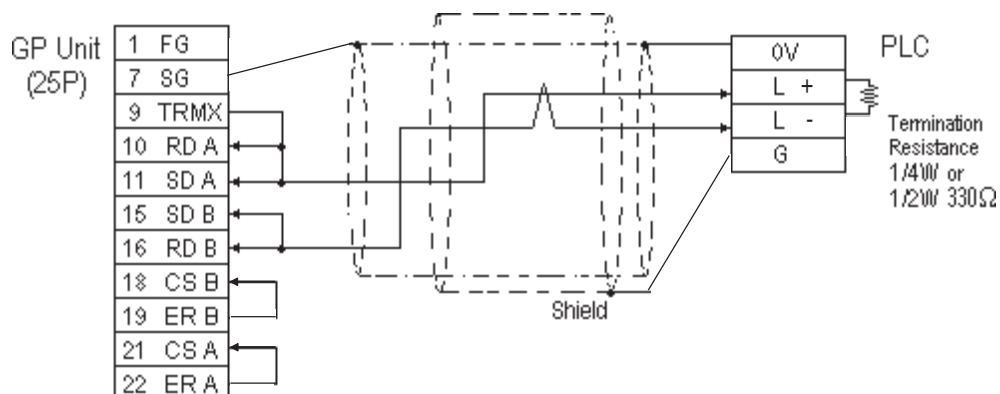
- When using Digital's RS-422 Cable, GP230-IS11-0



**Connect terminals SDA and SDB to terminal L+, and SDB and RDB to terminal L-.**

**When connecting RS-422, for the length of cable, refer to the manual of Toyota Machine Works.**

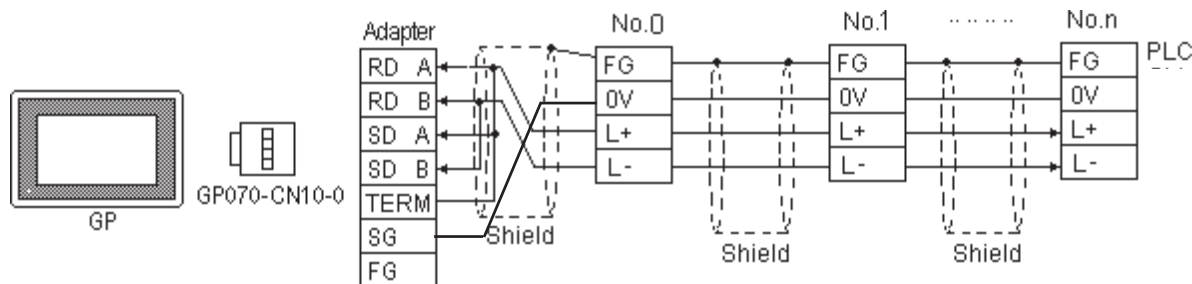
- When making your own cable connections



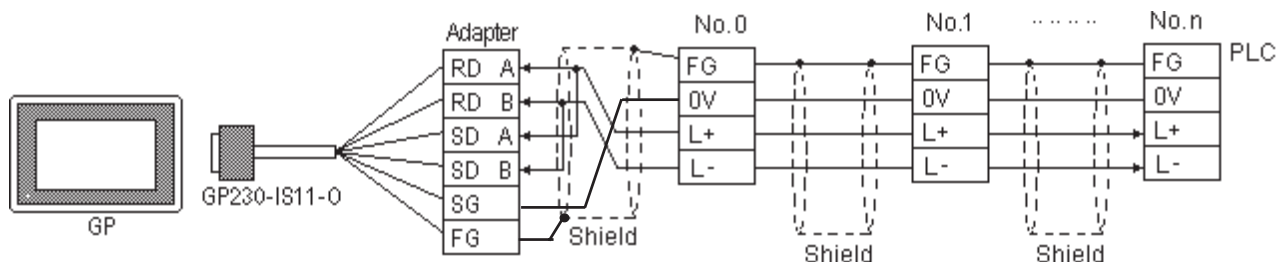
- When making your own connections, we recommend using Chugoku Densen Kogi's O-VCTF-SS2C\*0.75mm<sup>2</sup> (2 overlapping *Shield Twist Pair*) cable.
- When connecting the #9 and #10 pins in the GP Serial I/E, a termination resistance of 100Ω is added between RDA and RDB.

## Cable Diagram 2 (RS-422)

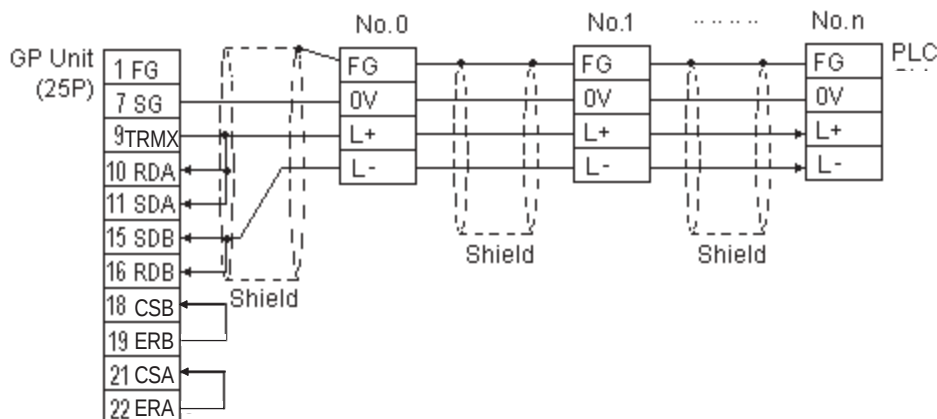
- When using Digital's RS-422 connector terminal adapter GP070-CN10-0



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

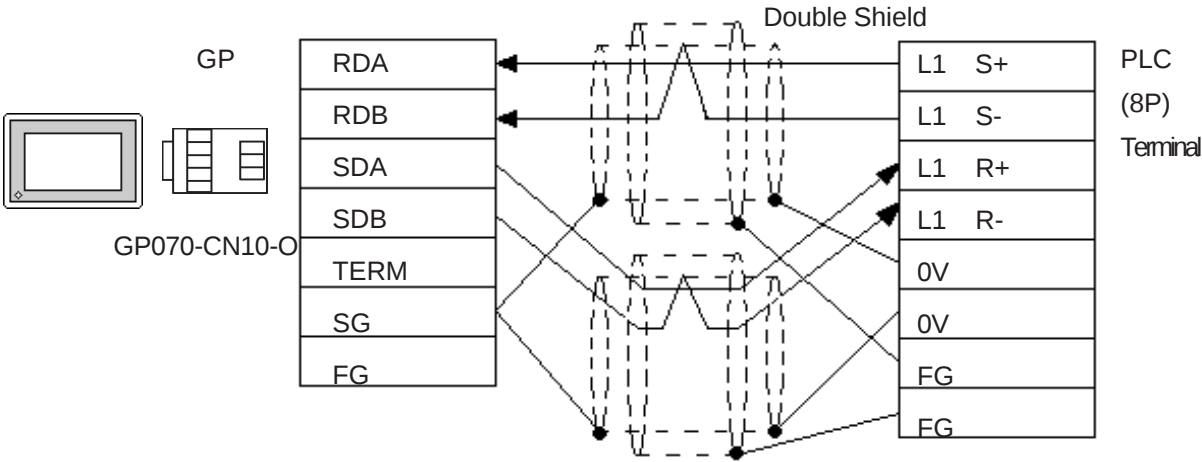


- When making your own cable connections



**Cable Diagram 3 RS-422 4-wire type**

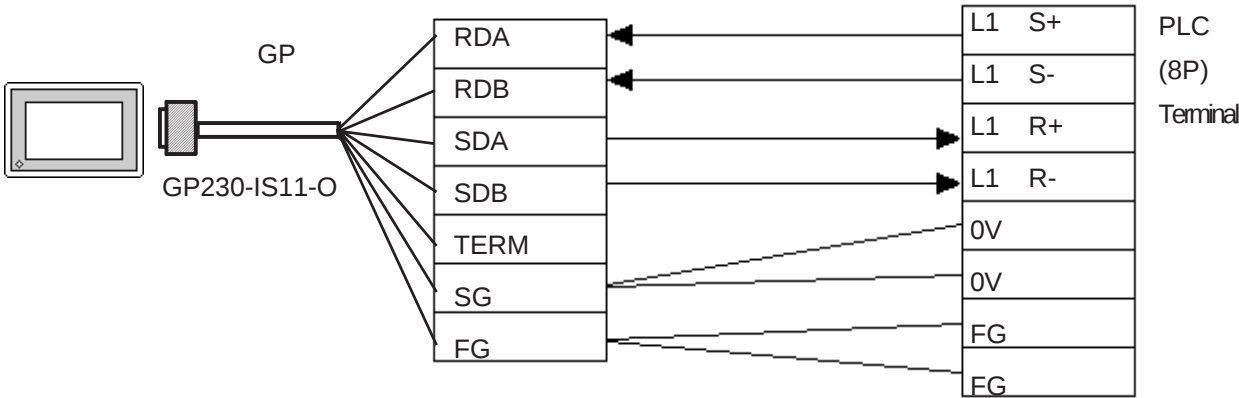
- When using Digital's RS-422 connector terminal adapter GP070-CN10-0



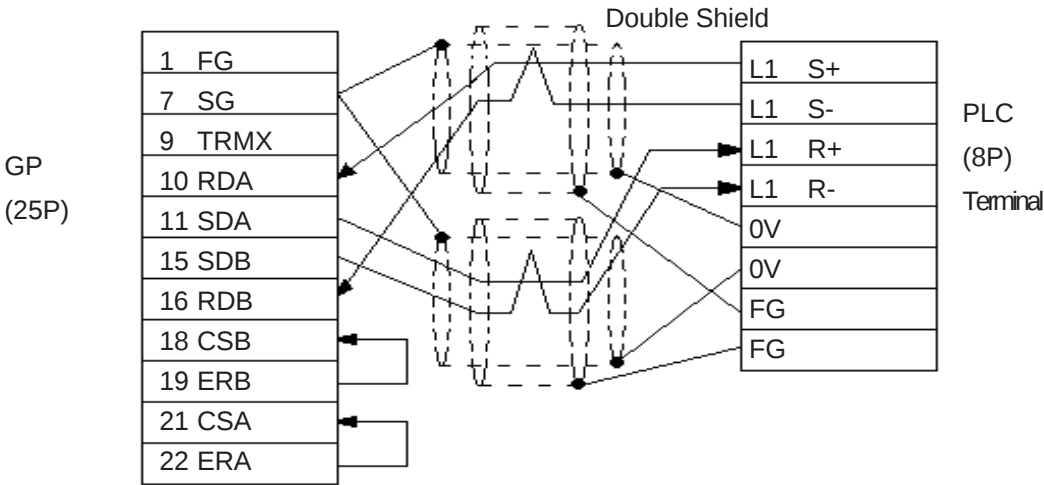
- When using Digital's RS-422 cable, GP230-IS12-0

**Note:**

In areas with excessive noise, use a double shielded cable.

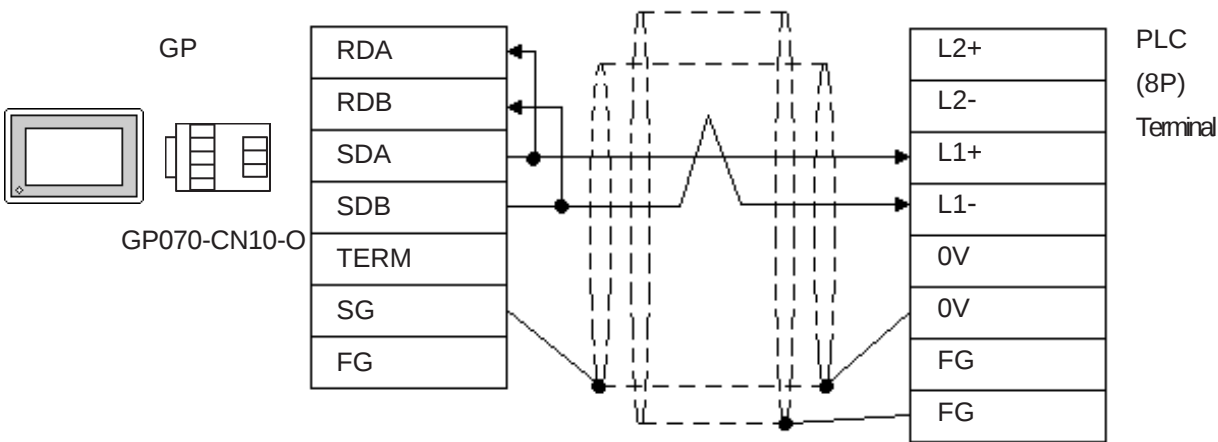


- When making your own cable



**Cable Diagram 4 (1:1) RS-422 2-wire type, using I/F unit for CPU**

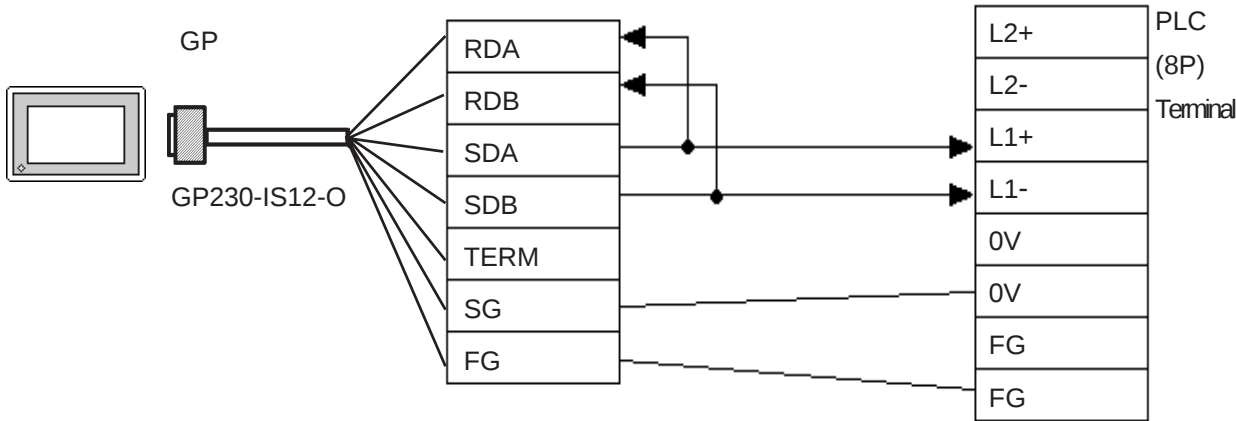
- When using Digital's RS-422 connector terminal adapter GP070-CN10-0



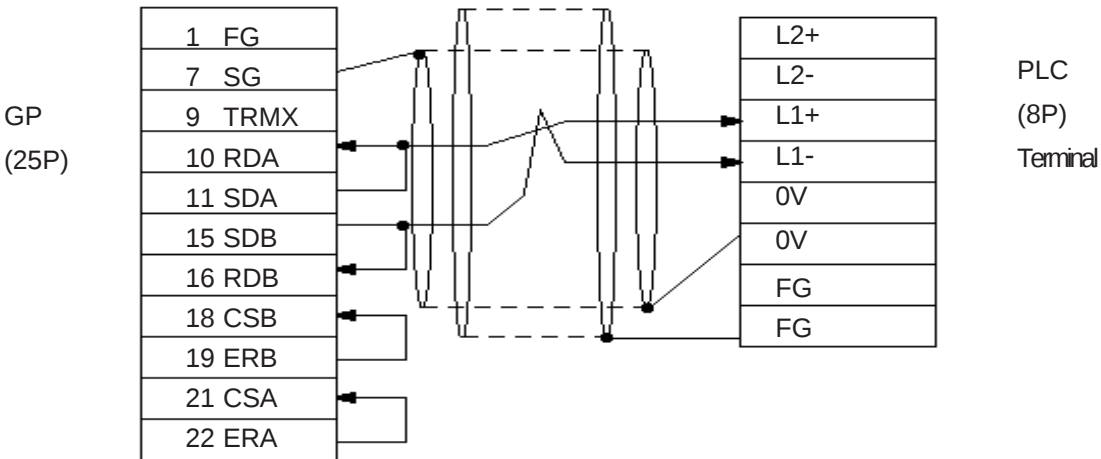
- When using Digital's RS-422 cable, GP230-IS12-0



**In areas with excessive noise, use a double shielded cable.**

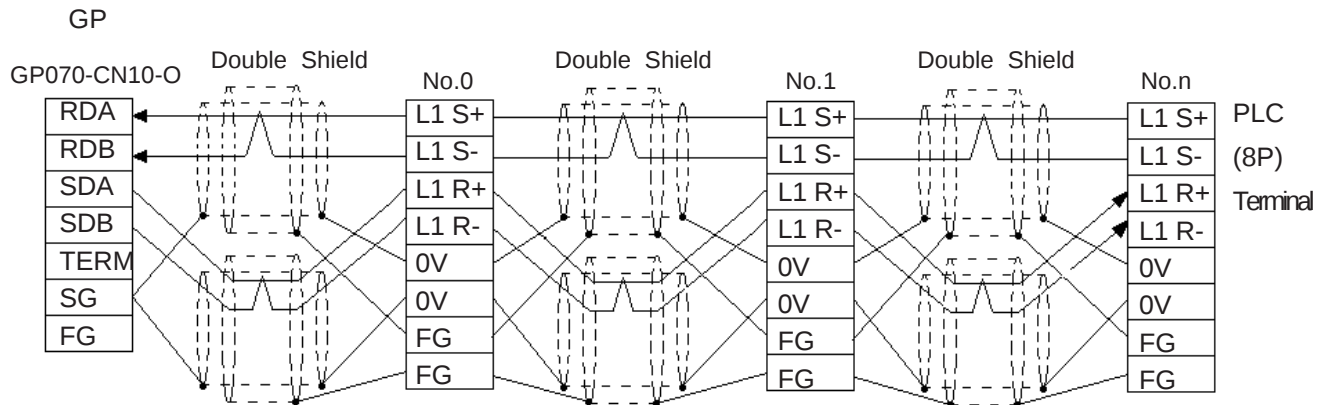


- When making your own cable



## Cable Diagram 5 (1:n) RS-422 4-wire type

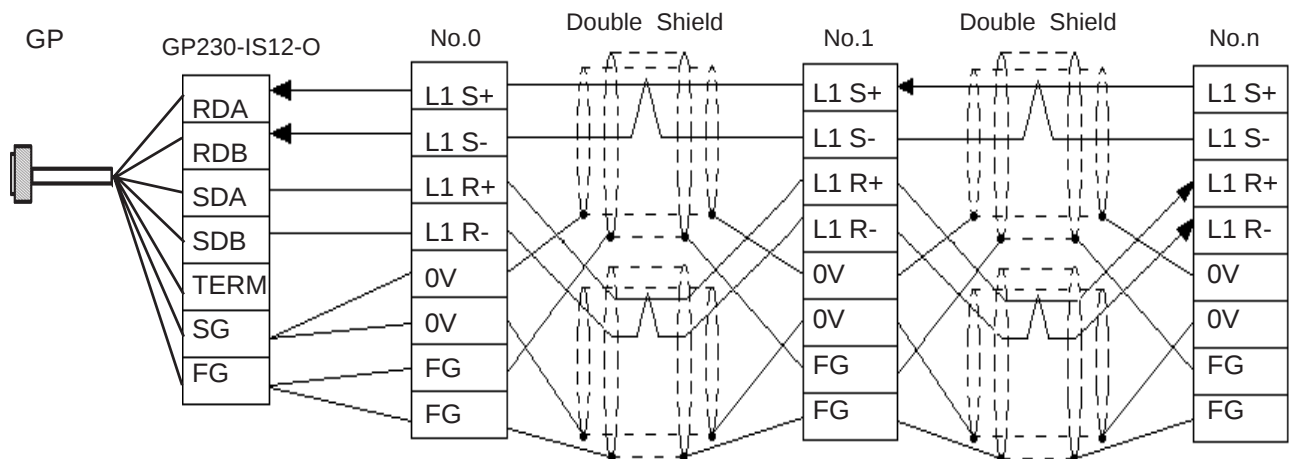
- When using Digital's RS-422 connector terminal adapter GP070-CN10-0



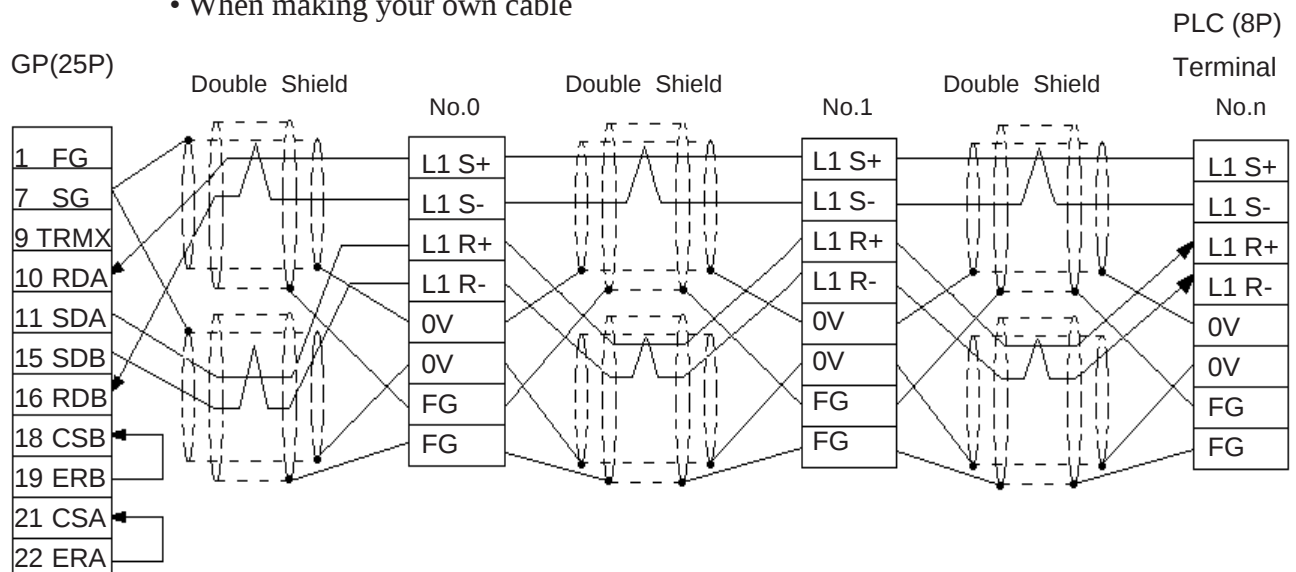
- When using Digital's RS-422 cable, GP230-IS12-0



**In areas with excessive noise, use a double shielded cable.**

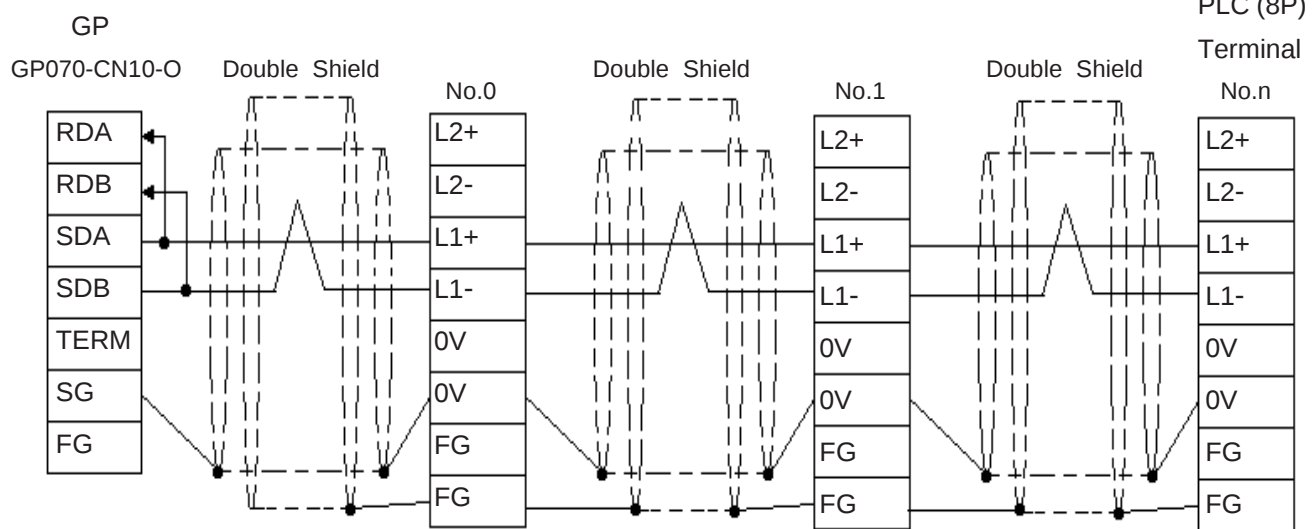


- When making your own cable



### Cable Diagram 6 (1:n) RS-422 2-wire type, using I/F unit for CPU

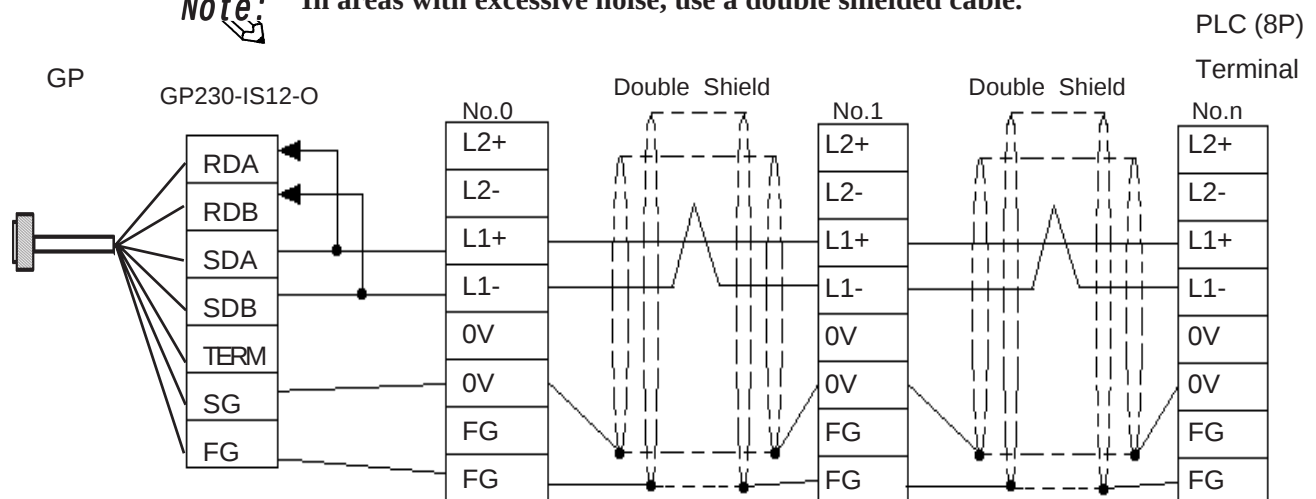
- When using Digital's RS-422 connector terminal adapter GP070-CN10-0



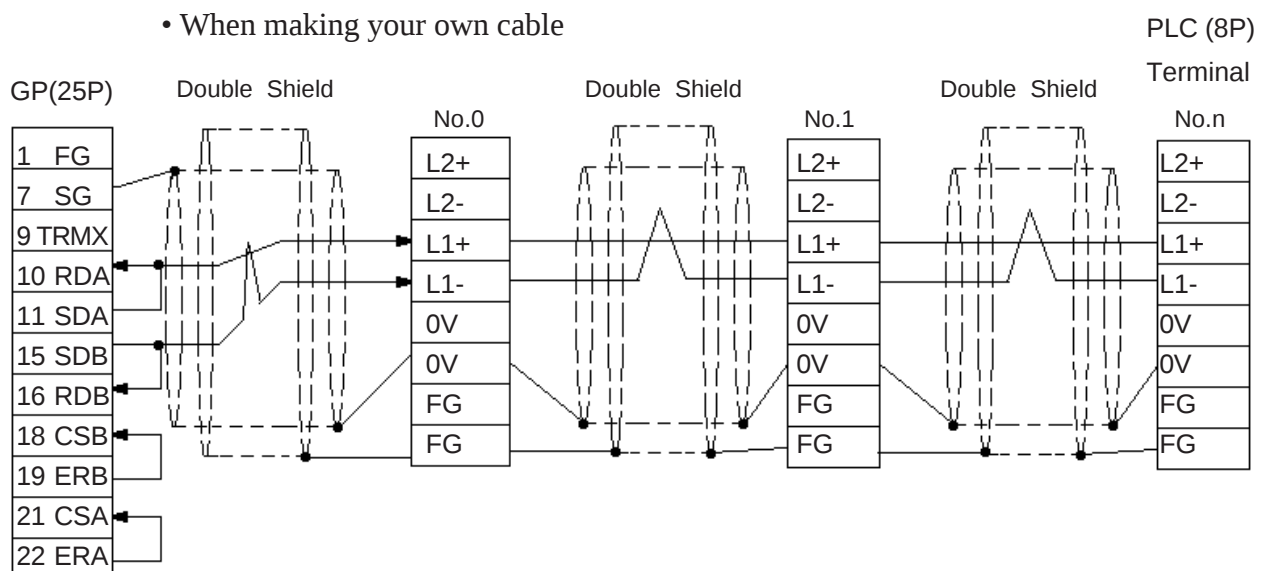
- When using Digital's RS-422 cable, GP230-IS12-0



**Note:** In areas with excessive noise, use a double shielded cable.

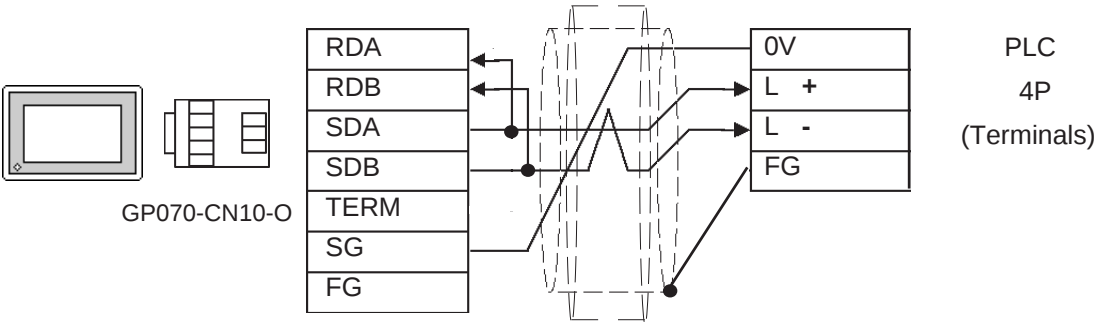


- When making your own cable



**Cable Diagram 7 (1:1) <PC/CMP-Link> RS-422 2-wire type**

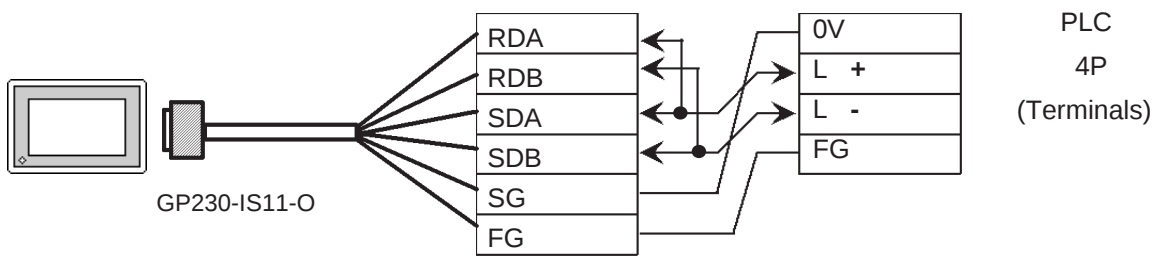
- When using Digital's RS-422 connector terminal adapter GP070-CN10-0



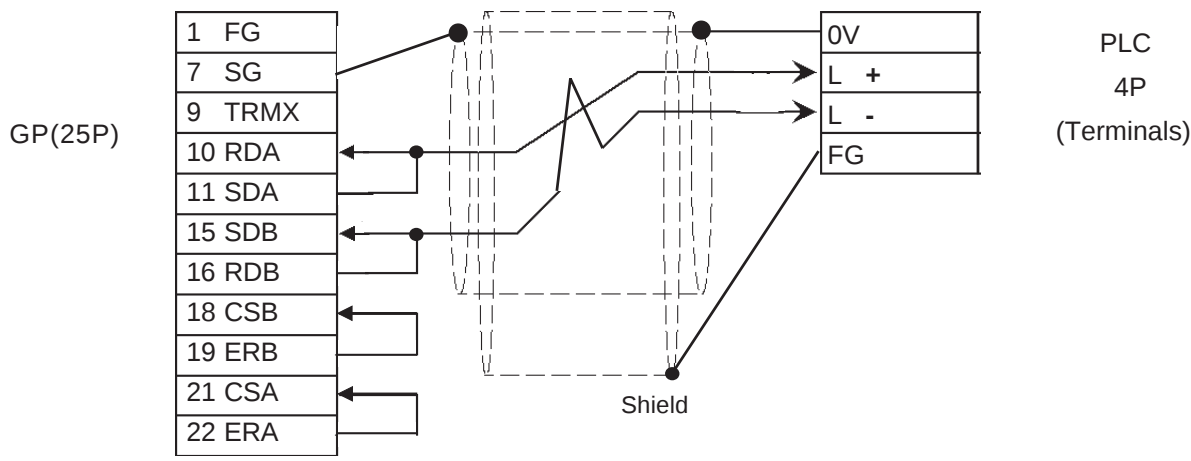
- When using Digital's RS-422 cable, GP230-IS11-0



**In areas with excessive noise, use a double shielded cable.**

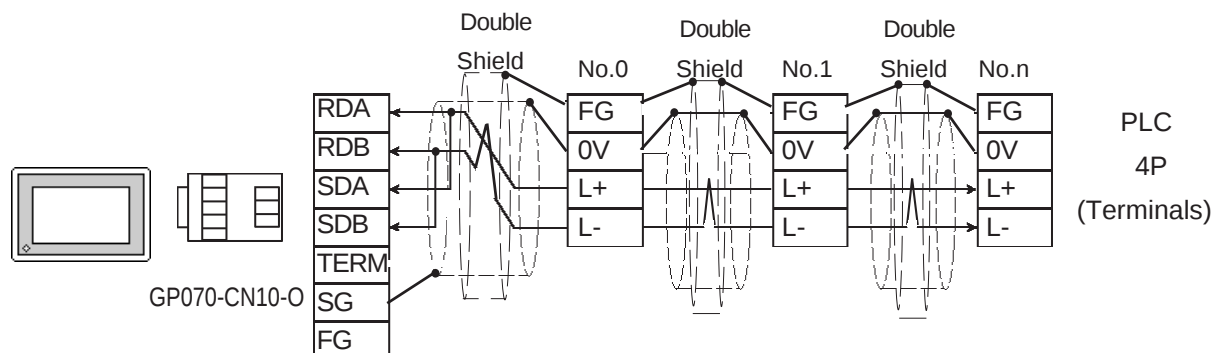


- When making your own cable



## Cable Diagram 8 (1:n) <PC/CMP-Link> RS-422 2-wire type

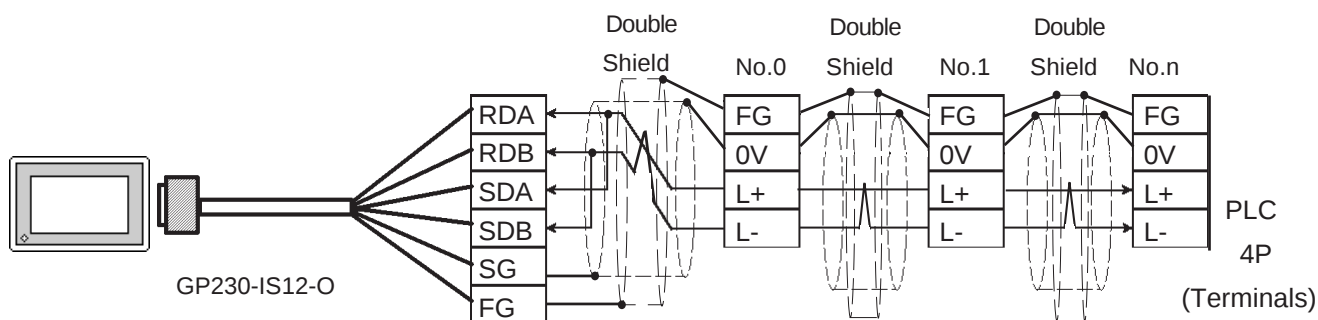
- When using Digital's RS-422 connector terminal adapter GP070-CN10-0



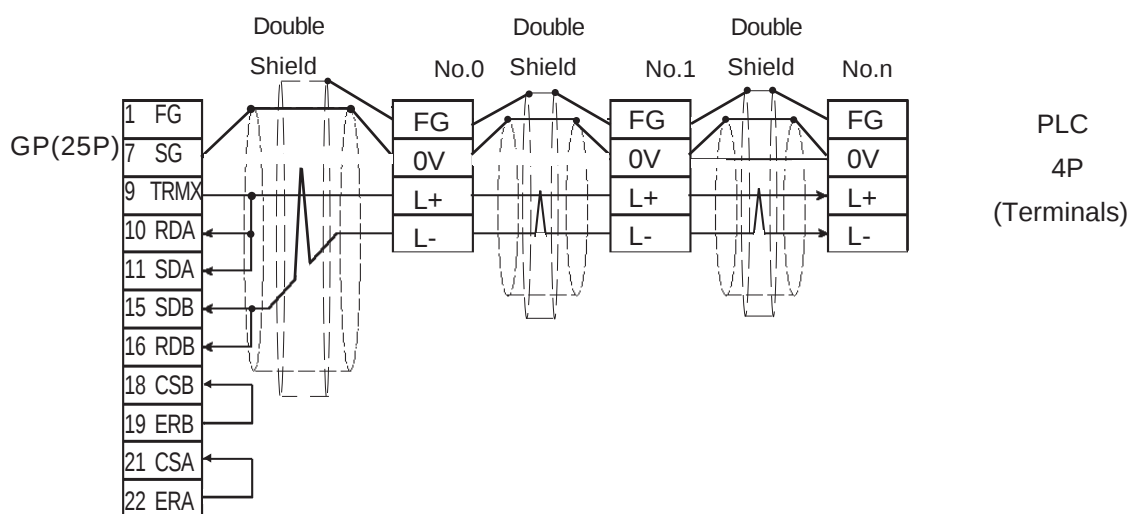
- When using Digital's RS-422 cable, GP230-IS12-0



**In areas with excessive noise, use a double shielded cable.**



- When making your own cable



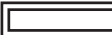
# 4

## Supported Devices

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

### ■ TOYOPUC-PC3J (1:1 connection)

In this list, "Exp." means "Expansion".

 Setup system area here.

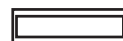
| Device                      | Bit Address       | Word Address    | Comments |
|-----------------------------|-------------------|-----------------|----------|
| Input                       | 1X0000 ~ 1X07FF   | 1X0000 ~ 1X007F | *1       |
|                             | 2X0000 ~ 2X07FF   | 2X0000 ~ 2X007F |          |
|                             | 3X0000 ~ 3X07FF   | 3X0000 ~ 3X007F |          |
| Output                      | 1Y0000 ~ 1Y07FF   | 1Y0000 ~ 1Y007F | *1       |
|                             | 2Y0000 ~ 2Y07FF   | 2Y0000 ~ 2Y007F |          |
|                             | 3Y0000 ~ 3Y07FF   | 3Y0000 ~ 3Y007F |          |
| Internal Relay              | 1M0000 ~ 1M07FF   | 1M0000 ~ 1M007F |          |
|                             | 2M0000 ~ 2M07FF   | 2M0000 ~ 2M007F |          |
|                             | 3M0000 ~ 3M07FF   | 3M0000 ~ 3M007F |          |
| Keep Relay                  | 1K0000 ~ 1K02FF   | 1K0000 ~ 1K002F |          |
|                             | 2K0000 ~ 2K02FF   | 2K0000 ~ 2K002F |          |
|                             | 3K0000 ~ 3K02FF   | 3K0000 ~ 3K002F |          |
| Link Relay                  | 1L0000 ~ 1L07FF   | 1L0000 ~ 1L007F |          |
|                             | 2L0000 ~ 2L07FF   | 2L0000 ~ 2L007F |          |
|                             | 3L0000 ~ 3L07FF   | 3L0000 ~ 3L007F |          |
| Special Relay               | 1V0000 ~ 1V00FF   | 1V0000 ~ 1V000F |          |
|                             | 2V0000 ~ 2V00FF   | 2V0000 ~ 2V000F |          |
|                             | 3V0000 ~ 3V00FF   | 3V0000 ~ 3V000F |          |
| Edge Detection              | 1P0000 ~ 1P01FF   | ----            |          |
|                             | 2P0000 ~ 2P01FF   | ----            |          |
|                             | 3P0000 ~ 3P01FF   | ----            |          |
| Timer                       | 1T0000 ~ 1T01FF   | 1T0000 ~ 1T001F | *1       |
|                             | 2T0000 ~ 2T01FF   | 2T0000 ~ 2T001F |          |
|                             | 3T0000 ~ 3T01FF   | 3T0000 ~ 3T001F |          |
| Counter                     | 1C0000 ~ 1C01FF   | 1C0000 ~ 1C001F | *1       |
|                             | 2C0000 ~ 2C01FF   | 2C0000 ~ 2C001F |          |
|                             | 3C0000 ~ 3C01FF   | 3C0000 ~ 3C001F |          |
| Data Register               | 1D00000 ~ 1D2FFFF | 1D0000 ~ 1D2FFF |          |
|                             | 2D00000 ~ 2D2FFFF | 2D0000 ~ 2D2FFF |          |
|                             | 3D00000 ~ 3D2FFFF | 3D0000 ~ 3D2FFF |          |
| Link Register               | 1R00000 ~ 1R07FFF | 1R0000 ~ 1R07FF |          |
|                             | 2R00000 ~ 2R07FFF | 2R0000 ~ 2R07FF |          |
|                             | 3R00000 ~ 3R07FFF | 3R0000 ~ 3R07FF |          |
| Special Register            | 1S00000 ~ 1S03FFF | 1S0000 ~ 1S03FF |          |
|                             | 2S00000 ~ 2S03FFF | 2S0000 ~ 2S03FF |          |
|                             | 3S00000 ~ 3S03FFF | 3S0000 ~ 3S03FF |          |
| Current Value Register      | 1N00000 ~ 1N01FFF | 1N0000 ~ 1N01FF |          |
|                             | 2N00000 ~ 2N01FFF | 2N0000 ~ 2N01FF |          |
|                             | 3N00000 ~ 3N01FFF | 3N0000 ~ 3N01FF |          |
| File Register               | B00000 ~ B1FFFF   | B0000 ~ B1FFF   |          |
| Exp. Input                  | EX0000 ~ EX07FF   | EX0000 ~ EX007F | *1       |
| Exp. Output                 | EY0000 ~ EY07FF   | EY0000 ~ EY007F | *1       |
| Exp. Internal Relay         | EM0000 ~ EM1FFF   | EM0000 ~ EM01FF |          |
| Exp. Keep Relay             | EK0000 ~ EK0FFF   | EK0000 ~ EK00FF |          |
| Exp. Link Relay             | EL0000 ~ EL1FFF   | EL0000 ~ EL01FF |          |
| Exp. Special Relay          | EV0000 ~ EV0FFF   | EV0000 ~ EV00FF |          |
| Exp. Edge Relay             | EP0000 ~ EP0FFF   | ----            |          |
| Exp. Timer                  | ET0000 ~ ET07FF   | ET0000 ~ ET007F | *1       |
| Exp. Counter                | EC0000 ~ EC07FF   | EC0000 ~ EC007F | *1       |
| Exp. Special Register       | ES00000 ~ ES07FFF | ES0000 ~ ES07FF |          |
| Exp. Current Value Register | EN00000 ~ EN07FFF | EN0000 ~ EN07FF |          |
| Exp. Setting Value Register | H00000 ~ H07FFF   | H0000 ~ H07FF   |          |
| Exp. Data Register          | U00000 ~ U7FFFF   | U0000 ~ U7FFF   |          |
| Exp. 2 Input                | GX0000 ~ GXFFFF   | GX0000 ~ GX0FFF | *1,*2    |
| Exp. 2 Output               | GY0000 ~ GYFFFF   | GY0000 ~ GY0FFF | *1,*2    |
| Exp. 2 Internal Relay       | GM0000 ~ GMFFFF   | GM0000 ~ GM0FFF | *2       |

\*1 For X and Y(EX,EY,GX,GY),T and C(ET,EC),duplicate addresses cannot be used. For details,refer to the manual of Toyota Machine Works.

\*2 Supported by Link I/F on the CPU of PC3JG.

## ■ TOYOPUC-PC3J (1:n connection)

In this list, "Exp." means "Expansion".



Setup system area here.

| Device                      | Bit Address       | Word Address    | Comments |
|-----------------------------|-------------------|-----------------|----------|
| Input                       | 1X0000 ~ 1X07FF   | 1X0000 ~ 1X007F | *1       |
|                             | 2X0000 ~ 2X07FF   | 2X0000 ~ 2X007F |          |
|                             | 3X0000 ~ 3X07FF   | 3X0000 ~ 3X007F |          |
| Output                      | 1Y0000 ~ 1Y07FF   | 1Y0000 ~ 1Y007F | *1       |
|                             | 2Y0000 ~ 2Y07FF   | 2Y0000 ~ 2Y007F |          |
|                             | 3Y0000 ~ 3Y07FF   | 3Y0000 ~ 3Y007F |          |
| Internal Relay              | 1M0000 ~ 1M07FF   | 1M0000 ~ 1M007F |          |
|                             | 2M0000 ~ 2M07FF   | 2M0000 ~ 2M007F |          |
|                             | 3M0000 ~ 3M07FF   | 3M0000 ~ 3M007F |          |
| Keep Relay                  | 1K0000 ~ 1K02FF   | 1K0000 ~ 1K002F |          |
|                             | 2K0000 ~ 2K02FF   | 2K0000 ~ 2K002F |          |
|                             | 3K0000 ~ 3K02FF   | 3K0000 ~ 3K002F |          |
| Link Relay                  | 1L0000 ~ 1L07FF   | 1L0000 ~ 1L007F |          |
|                             | 2L0000 ~ 2L07FF   | 2L0000 ~ 2L007F |          |
|                             | 3L0000 ~ 3L07FF   | 3L0000 ~ 3L007F |          |
| Special Relay               | 1V0000 ~ 1V00FF   | 1V0000 ~ 1V000F |          |
|                             | 2V0000 ~ 2V00FF   | 2V0000 ~ 2V000F |          |
|                             | 3V0000 ~ 3V00FF   | 3V0000 ~ 3V000F |          |
| Edge Detection              | 1P0000 ~ 1P01FF   | ----            |          |
|                             | 2P0000 ~ 2P01FF   | ----            |          |
|                             | 3P0000 ~ 3P01FF   | ----            |          |
| Timer                       | 1T0000 ~ 1T01FF   | 1T0000 ~ 1T001F | *1       |
|                             | 2T0000 ~ 2T01FF   | 2T0000 ~ 2T001F |          |
|                             | 3T0000 ~ 3T01FF   | 3T0000 ~ 3T001F |          |
| Counter                     | 1C0000 ~ 1C01FF   | 1C0000 ~ 1C001F | *1       |
|                             | 2C0000 ~ 2C01FF   | 2C0000 ~ 2C001F |          |
|                             | 3C0000 ~ 3C01FF   | 3C0000 ~ 3C001F |          |
| Data Register               | 1D00000 ~ 1D0FFFF | 1D0000 ~ 1D0FFF |          |
|                             | 2D00000 ~ 2D0FFFF | 2D0000 ~ 2D0FFF |          |
|                             | 3D00000 ~ 3D0FFFF | 3D0000 ~ 3D0FFF |          |
| Link Register               | 1R00000 ~ 1R07FFF | 1R0000 ~ 1R07FF |          |
|                             | 2R00000 ~ 2R07FFF | 2R0000 ~ 2R07FF |          |
|                             | 3R00000 ~ 3R07FFF | 3R0000 ~ 3R07FF |          |
| Special Register            | 1S00000 ~ 1S03FFF | 1S0000 ~ 1S03FF |          |
|                             | 2S00000 ~ 2S03FFF | 2S0000 ~ 2S03FF |          |
|                             | 3S00000 ~ 3S03FFF | 3S0000 ~ 3S03FF |          |
| Current Value Register      | 1N00000 ~ 1N01FFF | 1N0000 ~ 1N01FF |          |
|                             | 2N00000 ~ 2N01FFF | 2N0000 ~ 2N01FF |          |
|                             | 3N00000 ~ 3N01FFF | 3N0000 ~ 3N01FF |          |
| File Register               | B00000 ~ B0FFFF   | B0000 ~ B0FFF   |          |
| Exp. Input                  | EX0000 ~ EX07FF   | EX0000 ~ EX007F | *1       |
| Exp. Output                 | EY0000 ~ EY07FF   | EY0000 ~ EY007F | *1       |
| Exp. Internal Relay         | EM0000 ~ EM0FFF   | EM0000 ~ EM01FF |          |
| Exp. Keep Relay             | EK0000 ~ EK0FFF   | EK0000 ~ EK00FF |          |
| Exp. Link Relay             | EL0000 ~ EL0FFF   | EL0000 ~ EL01FF |          |
| Exp. Special Relay          | EV0000 ~ EV0FFF   | EV0000 ~ EV00FF |          |
| Exp. Edge Relay             | EP0000 ~ EP0FFF   | ----            |          |
| Exp. Timer                  | ET0000 ~ ET07FF   | ET0000 ~ ET007F | *1       |
| Exp. Counter                | EC0000 ~ EC07FF   | EC0000 ~ EC007F | *1       |
| Exp.Special Register        | ES00000 ~ ES07FFF | ES0000 ~ ES07FF |          |
| Exp.Current Value Register  | EN00000 ~ EN07FFF | EN0000 ~ EN07FF |          |
| Exp. Setting Value Register | H00000 ~ H07FFF   | H0000 ~ H07FF   |          |
| Exp. Data Register          | U00000 ~ U0FFFF   | U0000 ~ U0FFF   |          |
| Exp. 2 Input                | GX0000 ~ GXFFFF   | GX0000 ~ GX0FFF | *1,*2    |
| Exp. 2 Output               | GY0000 ~ GYFFFF   | GY0000 ~ GY0FFF | *1,*2    |
| Exp. 2 Internal Relay       | GM0000 ~ GMFFFF   | GM0000 ~ GM0FFF | *2       |

L/H

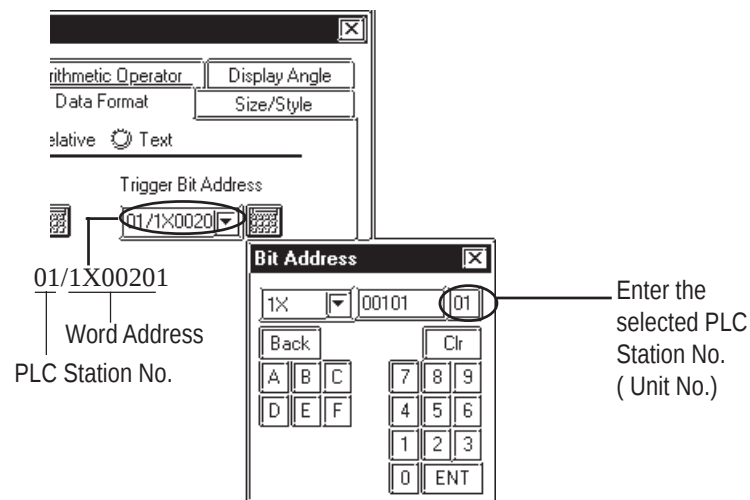
\*1 For X and Y(EX,EY,GX,GY),T and C(ET,EC),duplicate addresses cannot be used. For details,refer to the manual of Toyoda Machine Works.

\*2 Supported by Link I/F on the CPU of PC3JG.



**Note:**

- The range of devices supported may differ for 1:1 communication and for 1:n communication. A maximum of 16 PLCs can be connected.
- The range of addresses differs depending on a type of CPU.
- Exp. 2 Input(GX),Exp. 2 Output(GY),Exp. 2 Internal Relay(GM) device can be used for PC3JG only.
- When setting tags in GP-PRO/PBIII for Windows, the PLC Station number can be specified during address Input. If a station number is not indicated, the previously entered station number is used. (The default value is 0)



## 5

## Environment Setup

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

■ **TOYOPUC-PC3J Series (1:1 connection) <Link I/F on CPU unit>**

| GP Setup                           |                       | PLC Setup                 |                       |
|------------------------------------|-----------------------|---------------------------|-----------------------|
| Baud Rate <sup>*1</sup>            | 19200 bps             | Baud Rate                 | 19200 bps             |
| Data Length                        | 8 bits                | Data Length               | 8 bits                |
| Stop Bit                           | 1 bit                 | Stop Bit                  | 1 bit                 |
| Parity Bit                         | Even                  | Parity Bit                | Even                  |
| Data Flow Control                  | ER                    | ----                      | ----                  |
| Communication Format <sup>*2</sup> | 4-wire or 2-wire type | RS-422 communication port | 4-wire or 2-wire type |
| Unit No.                           | 0                     | Station No.               | 0                     |

<sup>\*1</sup> The CPU's Link I/F unit maximum baud rate is 57600bps. It does not support 115200bps.

<sup>\*2</sup> Change the communication format depending on the cables you use.

■ **TOYOPUC-PC3J Series (1:n connection) <Link I/F on CPU unit>**

| GP Setup                           |                                                       | PLC Setup                 |                                            |
|------------------------------------|-------------------------------------------------------|---------------------------|--------------------------------------------|
| Baud Rate <sup>*1</sup>            | 19200 bps                                             | Baud Rate                 | 19200 bps                                  |
| Data Length                        | 8 bits                                                | Data Length               | 8 bits                                     |
| Stop Bit                           | 1 bit                                                 | Stop Bit                  | 1 bit                                      |
| Parity Bit                         | Even                                                  | Parity Bit                | Even                                       |
| Data Flow Control                  | ER                                                    | ----                      | ----                                       |
| Communication Format <sup>*2</sup> | 4-wire or 2-wire type                                 | RS-422 communication port | 4-wire or 2-wire type                      |
| Unit No.                           | Select any unit number between 0 to 15. <sup>*3</sup> | Station No.               | All link station numbers must be different |

<sup>\*1</sup> The CPU's Link I/F unit maximum baud rate is 57600bps. It does not support 115200bps.

<sup>\*2</sup> Change the communication format depending on the cable you use.

<sup>\*3</sup> A maximum of 16 PLCs can be connected. The PLC's station number must be in base8, however, GP's unit number must be in decimal.

### ■ TOYOPUC-PC3J Series (1:1 connection) <PC/CMP-Link>

| GP Setup                |             | PLC Setup                               |             |
|-------------------------|-------------|-----------------------------------------|-------------|
| Baud Rate <sup>*1</sup> | 19200 bps   | Baud Rate                               | 19200 bps   |
| Data Length             | 8 bits      | Data Length                             | 8 bits      |
| Stop Bit                | 1 bit       | Stop Bit                                | 1 bit       |
| Parity Bit              | Even        | Parity Bit                              | Even        |
| Data Flow Control       | ER          | ----                                    | ----        |
| Communication Format    | 2-wire type | RS-422 communication port <sup>*2</sup> | 2-wire type |
| Unit No.                | 0           | Station No.                             | 0           |
| ----                    | ----        | Internal Switch                         | SW4-1 OFF   |
|                         |             |                                         | SW4-2 ON    |

\*1 The PC/CMP-Link (THU-2755) unit's maximum baud rate is 57600bps. It does not support 115200bps.

\*2 With the PC/CMP-Link (THU-2755), only a 2-wire type can be used. When using PC3J commands, the link unit must be version 5.00 or higher.

### ■ TOYOPUC-PC3J Series (1:n connection) <PC/CMP-Link>

| GP Setup                |                                         | PLC Setup                               |                                                   |
|-------------------------|-----------------------------------------|-----------------------------------------|---------------------------------------------------|
| Baud Rate <sup>*1</sup> | 19200 bps                               | Baud Rate                               | 19200 bps                                         |
| Data Length             | 8 bits                                  | Data Length                             | 8 bits                                            |
| Stop Bit                | 1 bit                                   | Stop Bit                                | 1 bit                                             |
| Parity Bit              | Even                                    | Parity Bit                              | Even                                              |
| Data Flow Control       | ER                                      | ----                                    | ----                                              |
| Communication Format    | 2-wire type                             | RS-422 communication port <sup>*2</sup> | 2-wire type                                       |
| Unit No. <sup>*3</sup>  | Select any unit number between 0 to 15. | Station No.                             | All PC/CMP link station numbers must be different |
| ----                    | ----                                    | Internal Switch                         | SW4-1 OFF                                         |
|                         |                                         |                                         | SW4-2 ON                                          |

\*1 The PC/CMP-Link (THU-2755) unit's maximum baud rate is 57600bps. It does not support 115200bps.

\*2 With the PC/CMP-Link (THU-2755), only a 2-wire type can be used. When using PC3J commands, the link unit must be version 5.00 or higher.

\*3 A maximum of 16 PLCs can be connected. The PLC's station number must be in octal, however, GP's unit number must be in decimal.

## 6

## Maximum No. of Consecutive Addresses

The following lists the maximum number of consecutive addresses that can be read by each PLC. Refer to these tables to utilize *Block Transfer*.



**Note:** When the device is setup using the methods below, the Data Communication Speed declines by the number of times the device is read.

- When consecutive addresses exceed the maximum data number range
- When an address is designated for *division*
- When device types are different

To speed up data communication, plan the tag layout in screen units, as consecutive devices. (Includes the Alarm and Trend screens.)

<TOYOPUC-PC3J Series>

| Device                   | Max. No. of Consecutive Address | Device                         | Max. No. of Consecutive Address |
|--------------------------|---------------------------------|--------------------------------|---------------------------------|
| Input Relay X            | 128 Words                       | Exp. Output Relay EY           | 128 Words                       |
| Output Relay Y           |                                 | Exp. Internal Relay EM         |                                 |
| Internal Relay R         |                                 | Exp. Keep Relay EK             |                                 |
| Keep Relay K             |                                 | Exp. Link Relay EL             |                                 |
| Link Relay L             |                                 | Exp. Special Relay EV          |                                 |
| Special Relay V          |                                 | Exp. Edge Relay EP             |                                 |
| Edge Detect P            |                                 | Exp. Timer ET                  |                                 |
| Timer (contact) T        |                                 | Exp. Counter EC                |                                 |
| Counter (contact) C      |                                 | Exp. Special Register ES       |                                 |
| Data Register D          |                                 | Exp. Current Value Register EN |                                 |
| Link Register R          |                                 | Exp. Setting Value Register H  |                                 |
| Special Register S       |                                 | Exp. Data Register U           |                                 |
| Current Value Register N |                                 | Exp. 2 Input Relay GX          |                                 |
| File Register B          |                                 | Exp. 2 Output Relay GY         |                                 |
| Exp. Input Relay EX      |                                 | Exp. 2 Internal Relay GM       |                                 |

7

# Device Codes and Address Codes

Device codes and address codes are used to specify indirect addresses for the E-tags or K-tags. The word addresses of data to be displayed are coded and stored in the word address specified by the E-tags and K-tags. (Code storage is done either by the PLC, or with T-tag and K-tags)

<TOYOPUC-PC3J Series>

|             | Device                      | Word Address | Device code (HEX) | Address code |
|-------------|-----------------------------|--------------|-------------------|--------------|
| Bit Device  | Input Relay                 | 1X0000~      | 8000              | Word Address |
|             |                             | 2X0000~      | 8200              | Word Address |
|             |                             | 3X0000~      | 8400              | Word Address |
|             | Output Relay                | 1Y0000~      | 8800              | Word Address |
|             |                             | 2Y0000~      | 8A00              | Word Address |
|             |                             | 3Y0000~      | 8C00              | Word Address |
|             | Internal Relay              | 1M0000~      | 9000              | Word Address |
|             |                             | 2M0000~      | 9200              | Word Address |
|             |                             | 3M0000~      | 9400              | Word Address |
|             | Keep Relay                  | 1K0000~      | C000              | Word Address |
|             |                             | 2K0000~      | C200              | Word Address |
|             |                             | 3K0000~      | C400              | Word Address |
|             | Link Relay                  | 1L0000~      | C800              | Word Address |
|             |                             | 2L0000~      | CA00              | Word Address |
|             |                             | 3L0000~      | CC00              | Word Address |
|             | Special Relay               | 1V0000~      | B000              | Word Address |
|             |                             | 2V0000~      | B200              | Word Address |
|             |                             | 3V0000~      | B400              | Word Address |
|             | Timer                       | 1T0000~      | E000              | Word Address |
|             |                             | 2T0000~      | E200              | Word Address |
|             |                             | 3T0000~      | E400              | Word Address |
|             | Counter                     | 1C0000~      | F000              | Word Address |
|             |                             | 2C0000~      | F200              | Word Address |
|             |                             | 3C0000~      | F400              | Word Address |
|             | Exp. Input                  | EX0000~      | 8600              | Word Address |
|             | Exp. Output                 | EY0000~      | 8E00              | Word Address |
|             | Exp. Internal Relay         | EM0000~      | 9600              | Word Address |
|             | Exp. Keep Relay             | EK0000~      | C600              | Word Address |
|             | Exp. n Link Relay           | EL0000~      | CE00              | Word Address |
|             | Exp. Special Relay          | EV0000~      | B600              | Word Address |
|             | Exp. Timer                  | ET0000~      | E600              | Word Address |
|             | Exp. Counter                | EC0000~      | F600              | Word Address |
| Word Device | Data Register               | 1D0000~      | 0000              | Word Address |
|             |                             | 2D0000~      | 0200              | Word Address |
|             |                             | 3D0000~      | 0400              | Word Address |
|             | Link Register               | 1R0000~      | 4800              | Word Address |
|             |                             | 2R0000~      | 4A00              | Word Address |
|             |                             | 3R0000~      | 4C00              | Word Address |
|             | Special Register            | 1S0000~      | 5000              | Word Address |
|             |                             | 2S0000~      | 5200              | Word Address |
|             |                             | 3S0000~      | 5400              | Word Address |
|             | Register (current value)    | 1N0000~      | 6000              | Word Address |
|             |                             | 2N0000~      | 6200              | Word Address |
|             |                             | 3N0000~      | 6400              | Word Address |
|             | File Register               | B0000~       | 7800              | Word Address |
|             | Exp. Special Register       | ES0000~      | 5600              | Word Address |
|             | Exp. Current Value Register | EN0000~      | 6600              | Word Address |
|             | Exp. Setting Value Register | H0000~       | 7600              | Word Address |
|             | Exp. Data Register          | U0000~       | 6000              | Word Address |
|             | Exp. 2 Input                | GX0000~      | A600              | Word Address |
|             | Exp. 2 Output               | GY0000~      | AE00              | Word Address |
|             | Exp. 2 Internal Relay       | GM0000~      | BE00              | Word Address |
|             | LS area                     | LS0000~      | 4000              | Word Address |

# 8

## Address Conversion Table

The symbols used in the table have the following meanings:

○: When the address conversion device type is set to [Word], the system converts both word and bit devices. When the [Bit] setting is used, only bit device addresses are changed.

■ : When [Bit] mode is selected, the system converts only bit addresses.

For the timers and counters, the bit indicates the contact or coil used, and the word indicates the current value (elapsed value) or setting value

|                   |                                       | After Conversion |   |   |   |   |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |   |   |    |    |    |    |   |   |
|-------------------|---------------------------------------|------------------|---|---|---|---|---|---|---|---|---|---|---|---|---|----|----|----|----|----|----|----|----|----|----|----|---|---|----|----|----|----|---|---|
|                   |                                       | X                | Y | M | K | L | V | P | T | C | D | R | S | N | B | EX | EY | EM | EK | EL | EV | EP | ET | EC | ES | EN | H | U | GX | GY | GM | LS |   |   |
| Before Conversion | X<br>Input                            | ○                | ○ | ○ | ○ | ○ | ○ | ■ | ○ | ○ | ○ | ○ | ○ | ○ | ○ | ○  | ○  | ○  | ○  | ○  | ○  | ■  | ○  | ○  | ○  | ○  | ○ | ○ | ○  | ○  | ○  | ○  | ○ | ○ |
|                   | Y<br>Output                           | ○                | ○ | ○ | ○ | ○ | ○ | ■ | ○ | ○ | ○ | ○ | ○ | ○ | ○ | ○  | ○  | ○  | ○  | ○  | ○  | ■  | ○  | ○  | ○  | ○  | ○ | ○ | ○  | ○  | ○  | ○  | ○ | ○ |
|                   | M<br>Internal Relay                   | ○                | ○ | ○ | ○ | ○ | ○ | ■ | ○ | ○ | ○ | ○ | ○ | ○ | ○ | ○  | ○  | ○  | ○  | ○  | ○  | ■  | ○  | ○  | ○  | ○  | ○ | ○ | ○  | ○  | ○  | ○  | ○ | ○ |
|                   | K<br>Keep Relay                       | ○                | ○ | ○ | ○ | ○ | ○ | ■ | ○ | ○ | ○ | ○ | ○ | ○ | ○ | ○  | ○  | ○  | ○  | ○  | ○  | ■  | ○  | ○  | ○  | ○  | ○ | ○ | ○  | ○  | ○  | ○  | ○ | ○ |
|                   | L<br>Link Relay                       | ○                | ○ | ○ | ○ | ○ | ○ | ■ | ○ | ○ | ○ | ○ | ○ | ○ | ○ | ○  | ○  | ○  | ○  | ○  | ○  | ■  | ○  | ○  | ○  | ○  | ○ | ○ | ○  | ○  | ○  | ○  | ○ | ○ |
|                   | V<br>Special Relay                    | ○                | ○ | ○ | ○ | ○ | ○ | ■ | ○ | ○ | ○ | ○ | ○ | ○ | ○ | ○  | ○  | ○  | ○  | ○  | ○  | ■  | ○  | ○  | ○  | ○  | ○ | ○ | ○  | ○  | ○  | ○  | ○ | ○ |
|                   | P<br>Edge Detection                   | ■                | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■  | ■  | ■  | ■  | ■  | ■  | ■  | ■  | ■  | ■  | ■  | ■ | ■ | ■  | ■  | ■  | ■  | ■ | ■ |
|                   | T<br>Timer                            | ○                | ○ | ○ | ○ | ○ | ○ | ■ | ○ | ○ | ○ | ○ | ○ | ○ | ○ | ○  | ○  | ○  | ○  | ○  | ○  | ■  | ○  | ○  | ○  | ○  | ○ | ○ | ○  | ○  | ○  | ○  | ○ | ○ |
|                   | C<br>Counter                          | ○                | ○ | ○ | ○ | ○ | ○ | ■ | ○ | ○ | ○ | ○ | ○ | ○ | ○ | ○  | ○  | ○  | ○  | ○  | ○  | ■  | ○  | ○  | ○  | ○  | ○ | ○ | ○  | ○  | ○  | ○  | ○ | ○ |
|                   | D<br>Data Register                    | ○                | ○ | ○ | ○ | ○ | ○ | ■ | ○ | ○ | ○ | ○ | ○ | ○ | ○ | ○  | ○  | ○  | ○  | ○  | ○  | ■  | ○  | ○  | ○  | ○  | ○ | ○ | ○  | ○  | ○  | ○  | ○ | ○ |
|                   | R<br>Link Register                    | ○                | ○ | ○ | ○ | ○ | ○ | ■ | ○ | ○ | ○ | ○ | ○ | ○ | ○ | ○  | ○  | ○  | ○  | ○  | ○  | ■  | ○  | ○  | ○  | ○  | ○ | ○ | ○  | ○  | ○  | ○  | ○ | ○ |
|                   | S<br>Special Register                 | ○                | ○ | ○ | ○ | ○ | ○ | ■ | ○ | ○ | ○ | ○ | ○ | ○ | ○ | ○  | ○  | ○  | ○  | ○  | ○  | ■  | ○  | ○  | ○  | ○  | ○ | ○ | ○  | ○  | ○  | ○  | ○ | ○ |
|                   | N<br>Current Value Register           | ○                | ○ | ○ | ○ | ○ | ○ | ■ | ○ | ○ | ○ | ○ | ○ | ○ | ○ | ○  | ○  | ○  | ○  | ○  | ○  | ■  | ○  | ○  | ○  | ○  | ○ | ○ | ○  | ○  | ○  | ○  | ○ | ○ |
|                   | B<br>File Register                    | ○                | ○ | ○ | ○ | ○ | ○ | ■ | ○ | ○ | ○ | ○ | ○ | ○ | ○ | ○  | ○  | ○  | ○  | ○  | ○  | ■  | ○  | ○  | ○  | ○  | ○ | ○ | ○  | ○  | ○  | ○  | ○ | ○ |
|                   | EX<br>Extended Input                  | ○                | ○ | ○ | ○ | ○ | ○ | ■ | ○ | ○ | ○ | ○ | ○ | ○ | ○ | ○  | ○  | ○  | ○  | ○  | ○  | ■  | ○  | ○  | ○  | ○  | ○ | ○ | ○  | ○  | ○  | ○  | ○ | ○ |
|                   | EY<br>Extended Output                 | ○                | ○ | ○ | ○ | ○ | ○ | ■ | ○ | ○ | ○ | ○ | ○ | ○ | ○ | ○  | ○  | ○  | ○  | ○  | ○  | ■  | ○  | ○  | ○  | ○  | ○ | ○ | ○  | ○  | ○  | ○  | ○ | ○ |
|                   | EM<br>Extended Embedded Relay         | ○                | ○ | ○ | ○ | ○ | ○ | ■ | ○ | ○ | ○ | ○ | ○ | ○ | ○ | ○  | ○  | ○  | ○  | ○  | ○  | ■  | ○  | ○  | ○  | ○  | ○ | ○ | ○  | ○  | ○  | ○  | ○ | ○ |
|                   | EK<br>Extended Keep Relay             | ○                | ○ | ○ | ○ | ○ | ○ | ■ | ○ | ○ | ○ | ○ | ○ | ○ | ○ | ○  | ○  | ○  | ○  | ○  | ○  | ■  | ○  | ○  | ○  | ○  | ○ | ○ | ○  | ○  | ○  | ○  | ○ | ○ |
|                   | EL<br>Extended Link Relay             | ○                | ○ | ○ | ○ | ○ | ○ | ■ | ○ | ○ | ○ | ○ | ○ | ○ | ○ | ○  | ○  | ○  | ○  | ○  | ○  | ■  | ○  | ○  | ○  | ○  | ○ | ○ | ○  | ○  | ○  | ○  | ○ | ○ |
|                   | EV<br>Extended Special Relay          | ○                | ○ | ○ | ○ | ○ | ○ | ■ | ○ | ○ | ○ | ○ | ○ | ○ | ○ | ○  | ○  | ○  | ○  | ○  | ○  | ■  | ○  | ○  | ○  | ○  | ○ | ○ | ○  | ○  | ○  | ○  | ○ | ○ |
|                   | EP<br>Extended Edge Relay             | ■                | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■  | ■  | ■  | ■  | ■  | ■  | ■  | ■  | ■  | ■  | ■  | ■ | ■ | ■  | ■  | ■  | ■  | ■ | ■ |
|                   | ET<br>Extended Timer                  | ○                | ○ | ○ | ○ | ○ | ○ | ■ | ○ | ○ | ○ | ○ | ○ | ○ | ○ | ○  | ○  | ○  | ○  | ○  | ○  | ■  | ○  | ○  | ○  | ○  | ○ | ○ | ○  | ○  | ○  | ○  | ○ | ○ |
|                   | EC<br>Extended Counter                | ○                | ○ | ○ | ○ | ○ | ○ | ■ | ○ | ○ | ○ | ○ | ○ | ○ | ○ | ○  | ○  | ○  | ○  | ○  | ○  | ■  | ○  | ○  | ○  | ○  | ○ | ○ | ○  | ○  | ○  | ○  | ○ | ○ |
|                   | ES<br>Extended Special Register       | ○                | ○ | ○ | ○ | ○ | ○ | ■ | ○ | ○ | ○ | ○ | ○ | ○ | ○ | ○  | ○  | ○  | ○  | ○  | ○  | ■  | ○  | ○  | ○  | ○  | ○ | ○ | ○  | ○  | ○  | ○  | ○ | ○ |
|                   | EN<br>Extended Current Value Register | ○                | ○ | ○ | ○ | ○ | ○ | ■ | ○ | ○ | ○ | ○ | ○ | ○ | ○ | ○  | ○  | ○  | ○  | ○  | ○  | ■  | ○  | ○  | ○  | ○  | ○ | ○ | ○  | ○  | ○  | ○  | ○ | ○ |
|                   | H(Extended Setting Value Register)    | ○                | ○ | ○ | ○ | ○ | ○ | ■ | ○ | ○ | ○ | ○ | ○ | ○ | ○ | ○  | ○  | ○  | ○  | ○  | ○  | ■  | ○  | ○  | ○  | ○  | ○ | ○ | ○  | ○  | ○  | ○  | ○ | ○ |
|                   | U(Extended Data Register)             | ○                | ○ | ○ | ○ | ○ | ○ | ■ | ○ | ○ | ○ | ○ | ○ | ○ | ○ | ○  | ○  | ○  | ○  | ○  | ○  | ■  | ○  | ○  | ○  | ○  | ○ | ○ | ○  | ○  | ○  | ○  | ○ | ○ |
|                   | GX<br>Exp.2 Input                     | ○                | ○ | ○ | ○ | ○ | ○ | ■ | ○ | ○ | ○ | ○ | ○ | ○ | ○ | ○  | ○  | ○  | ○  | ○  | ○  | ■  | ○  | ○  | ○  | ○  | ○ | ○ | ○  | ○  | ○  | ○  | ○ | ○ |
|                   | GY<br>Exp.2 Output                    | ○                | ○ | ○ | ○ | ○ | ○ | ■ | ○ | ○ | ○ | ○ | ○ | ○ | ○ | ○  | ○  | ○  | ○  | ○  | ○  | ■  | ○  | ○  | ○  | ○  | ○ | ○ | ○  | ○  | ○  | ○  | ○ | ○ |
|                   | GM<br>Exp.2 Internal Relay            | ○                | ○ | ○ | ○ | ○ | ○ | ■ | ○ | ○ | ○ | ○ | ○ | ○ | ○ | ○  | ○  | ○  | ○  | ○  | ○  | ■  | ○  | ○  | ○  | ○  | ○ | ○ | ○  | ○  | ○  | ○  | ○ | ○ |
|                   | LS<br>System Area                     | ○                | ○ | ○ | ○ | ○ | ○ | ■ | ○ | ○ | ○ | ○ | ○ | ○ | ○ | ○  | ○  | ○  | ○  | ○  | ○  | ■  | ○  | ○  | ○  | ○  | ○ | ○ | ○  | ○  | ○  | ○  | ○ | ○ |