ADVANCED AND EVER ADVANCING MITSUBISHI ELECTRIC

MITSUBISHI

GRAPHIC OPERATION TERMINALS

MELSEC-GOT

F940

HARDWARE MANUAL

F940GOT-SWD-E/LWD-E

Foreword

- This manual contains text, diagrams and explanations which will guide the reader in the correct installation and operation of the communication facilities of FX series.
- Before attempting to install or use the communication facilities of FX series this manual should be read and understood.
- If in doubt at any stage of the installation of the communication facilities of FX series always consult a professional electrical engineer who is qualified and trained to the local and national standards which apply to the installation site.

F940GOT-SWD-E/LWD-E

HARDWARE MANUAL

Manual number : JY992D77901
Manual revision : D
Date : February 2000

Guidelines for the safety of the user and protection of the F940GOT-SWD-E/LWD-E

This manual provides information for the installation and use of the Graphic Operation Terminal F940GOT. The manual has been written to be used by trained and competent personnel. The definition of such a person or persons is as follows;

a) Any engineer who is responsible for the planning, design and construction of automatic equipment using the product associated with this manual should be of a competent nature, (trained and qualified to the local and national standards required to fulfill that role). These engineers should be fully aware of safety with regards to automated equipment.

b) Any commissioning or service engineer must be of a competent nature, trained and qualified to the local and national standards required to fulfill that job. These engineers should also be trained in the use and maintenance of the completed product. This includes being completely familiar with all associated documentation for the said product. All maintenance should be carried out in accordance with established safety practices.

c) All operators of the compliance product should be trained to use that product in a safe and coordinated manner in compliance to established safety practices. The operators should also be familiar with all documentation which is connected with the actual operation of the completed equipment.

Note: The term ‘completed equipment’ refers to a third party constructed device which contains or uses the product associated with this manual.

Note's on the symbology used in this manual

At various times through out this manual certain symbols will be used to highlight points of information which are intended to ensure the users personal safety and protect the integrity of the equipment. Whenever any of the following symbols are encountered, its associated note must be read and understood. Each of the symbols used will now be listed with a brief description of its meaning.

Hardware warnings

1) Indicates that the identified danger **WILL** cause physical and property damage.

2) Indicates that the identified danger **POSSIBLY** cause physical and property damage.

3) Indicates a point of further interest or further explanation.

Software warnings

1) Indicates special care must be taken when using this element of software.

2) Indicates a special point of which the user of the associate software element should be aware.

3) Indicates a point of interest or further explanation.

Memo

CONTENTS

Note to User

This manual describes installation, wiring and the specifications of the F940GOT.
For handling and operating procedures of the F940GOT main body, refer to the **F940GOT Operation Manual** offered separately.

1. INTRODUCTION

This section describes the product configuration and the system configuration of the graphic operation terminal.

Confirm various functions of each unit.

1.1 Outline of product

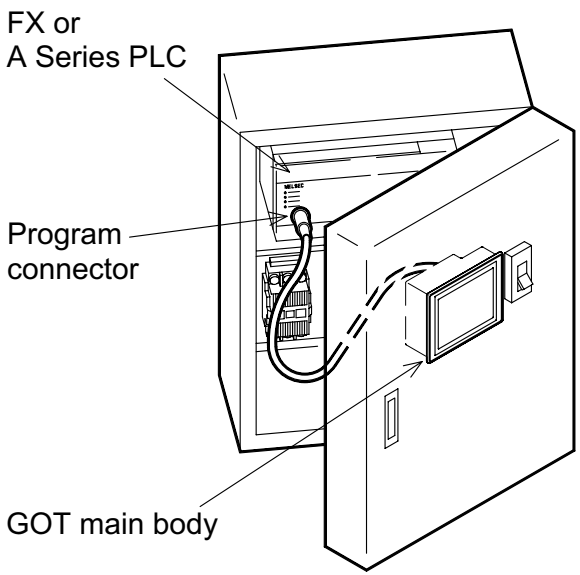
The graphic operation terminal (which may be hereafter abbreviated as "GOT") is attached on the panel face of a control panel or an operation panel, and connected to a program connector in an FX or A Series programmable controller (which may be hereafter abbreviated as "PLC") (except the A0J2) inside the control panel.

Not only the CPU port connection method but also the computer link port connection method is available so that the GOT can be connected to a PLC other than MELSEC or a micro computer board.

You can monitor various devices and change the data of the PLC while checking the screen of the GOT.

There are several display screens built in the GOT which offer various functions. In addition, you can create display screens.

The built-in screens (system screens) and the screens made by the user (user screens) have the following functions respectively.



User screens

1) Screen display function

The screens created by the user can be displayed. The following functions can be assigned to each screen. And the screens to be displayed can be limited using the security function.

a) Display function

-Up to 500 screens created by the user can be displayed. The screens can be created using the FX-PCS-DU/WIN-E V2.00 for the DU or using the SW□D5C-GOTRE-PACK ("□" indicates a numeric not less than 1.) for the GOT. Two or more screens can be overlaid or changed over.

-Not only characters such as alphabets, numerics, Hiragana, Katakana and Kanji but also simple graphics such as straight lines, circles and rectangles can be displayed. In the F940GOT-SWD-E, screens can be displayed in 8 colors.

b) Monitor function

-Set values and current values of word devices in the PLC can be displayed in numerics or bar graphs for monitoring.

-The specified range of the screen can be displayed reversely in accordance with the ON/OFF status of bit devices in the PLC.

c) Data change function

-The numeric data being monitored can be changed.

d) Switch function

-By manipulating the operation keys in the GOT, bit devices in the PLC can be set to ON and OFF. The display panel face can be assigned as touch keys to offer the switch function.

Make sure to press a touch key by fingers.
If a touch key is pressed by a hard or sharp object, it may become failed.

System screens

1) Monitor function

a) List program (only in the FX Series)

- Programs can be read, written and monitored in the form of instruction list program.

b) Buffer memory (only in the FX2N and FX2NC Series)

-The contents of buffer memories (BFMs) of special blocks can be read, written and monitored.

c) Device monitor

-The ON/OFF status of each device and the set value and the current value of each timer, counter and data register in the PLC can be monitored and changed.

-Specified bit devices can be forcedly set to ON and OFF.
Different from the monitor function in the screen display function described in the previous page, the screen can be displayed only inputting a desired device No. from the keyboard.

d) Data sampling function

The current value of specified data registers are acquired in a constant cycle or when the trigger condition is satisfied.

-The sampling data can be displayed in the form of list or graph.

-The sampling data can be output to a printer in the form of list.

e) Alarm function

Alarm messages can be assigned to up to 256 consecutive bit devices in the PLC.
When a bit device becomes ON, the assigned message is displayed (overlapped) on the user screen.
In addition, a specified user screen can be displayed by setting a corresponding bit device to ON.

-When a bit device becomes ON, a corresponding message is displayed on the user screen. The message list can be also displayed.

-Up to 1,000 alarms (turning ON of bit devices) can be stored as the alarm history.

-The number of alarms occurred in each device can be stored.

*As to 2], the alarm history can be output to a printer using the screen creation software.

f) Other functions

Many other functions are built in.

-The real-time clock is built in, and the current time can be set and displayed.

-The GOT can function as an interface to enable data communication between the PLC and a personal computer in which the relay ladder creation software is started up. At this time, the GOT screen can be displayed also.

-The screen contrast and the buzzer sound volume can be adjusted.

1.2 Product configuration

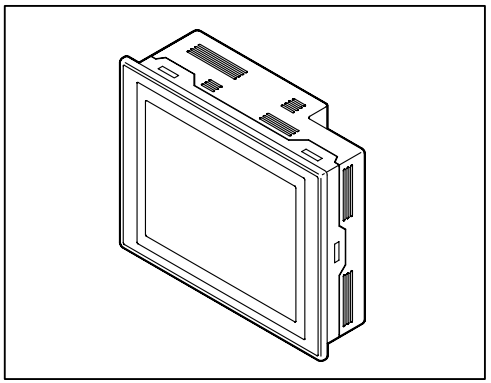
The GOT is equipped with accessories (1) to (3) below.

Parts (4) to (8) are offered as options.

1) F940GOT (main body)

F940GOT-SWD-E: 5.7" STN type LCD (with eight colors)

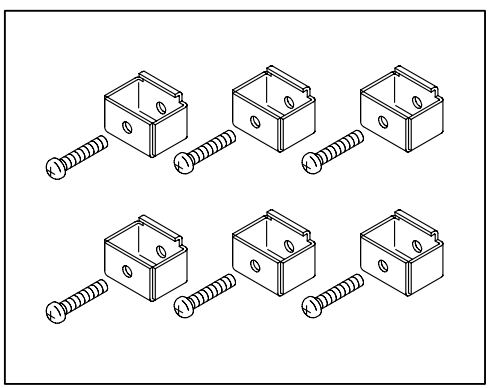
F940GOT-LWD-E: 5.7" STN type LCD (with black and white)



2) Metal fixtures

Metal fixtures used to attach the GOT to a control panel

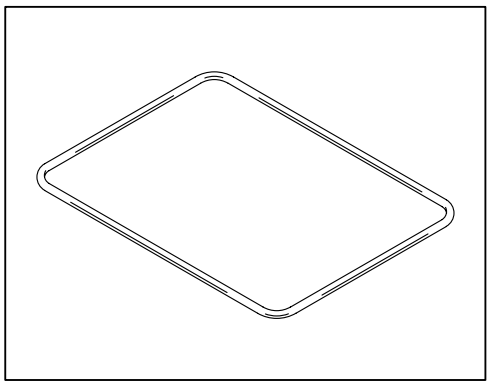
- Metal fixture 6 pieces
- Tightening bolt 6 pieces (M3 x 20)



3) Packing

Packing to prevent dusts and water

Used to attach the GOT to a control panel

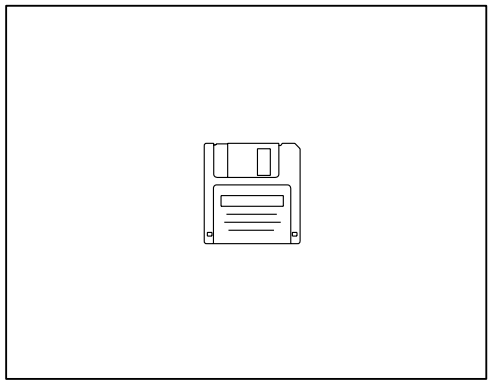


Optional parts

4) Software to create user screens (3.5" FD)

FX-PCS-DU/WIN-E V2.10 or later
(in accordance with the Windows95)

SW□D5C-GOTRE-PACK
("□" indicates a numeric not less than 1.)
(in accordance with the Windows95 and the WindowsNT)

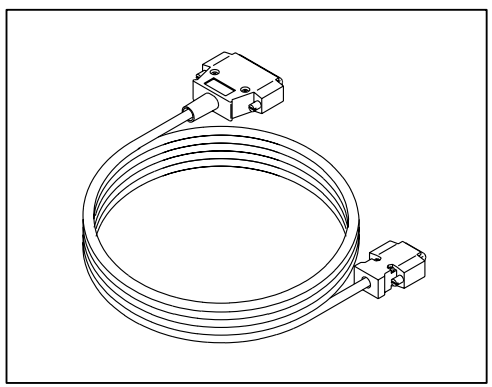


5) Connection cable FX-40DU-CAB (3 m, 9.84 ft)

Connection cable FX-40DU-CAB-10M (10 m, 32.81 ft)

Connection cable FX-50DU-CABL
(3m, 9.84 ft, with L-shape connector on the GOT side)

Each of them is an optional cable to connect the GOT and the FX/FX2C/A Series PLC.



6) Connection cable FX-50DU-CAB0 (3 m, 9.84 ft)

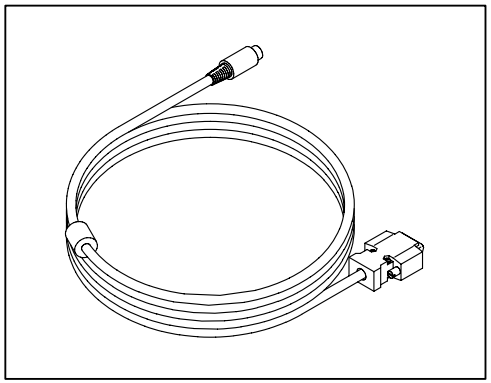
Connection cable FX-50DU-CAB0-1M (1 m, 3.28 ft)

Connection cable FX-50DU-CAB0-10M (10 m, 32.81 ft)

Connection cable FX-50DU-CAB0-20M (20 m, 65.62 ft)

Connection cable FX-50DU-CAB0-30M (30 m, 98.43 ft)

Connection cable FX-50DU-CAB0L
(3 m, 9.84 ft, with L-shape connector on the GOT side)



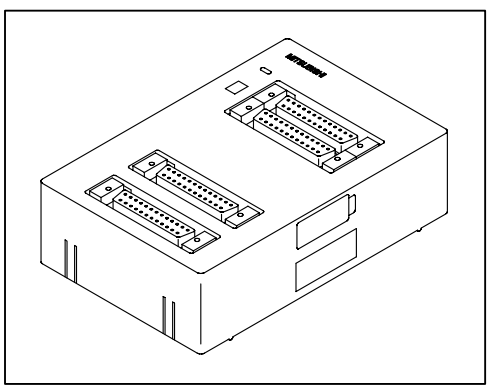
Each of them is an optional cable to connect the GOT and the FX_0/FX_{0S}/FX_{0N}/FX_{2N}/FX_{2NC} Series PLC.

By using either one, the GOT can be directly connected to the PLC.

7) Two-port interface FX-2PIF

This is an optional interface to use the GOT and a peripheral unit to create sequence programs at the same time.

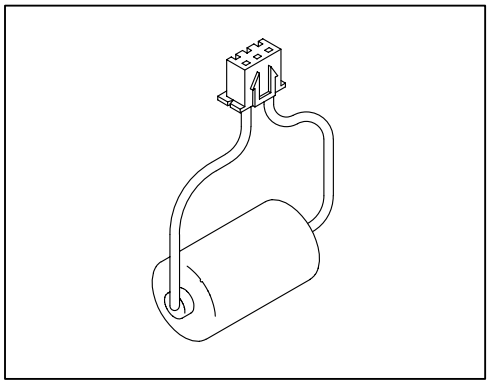
This is not required when the GOT is connected to a generalpurpose personal computer or connected to a peripheral unit via a computer link unit.



8) Battery PM-20BL (spare part)

This is used to back up the alarm history data, the real-time clock, etc.

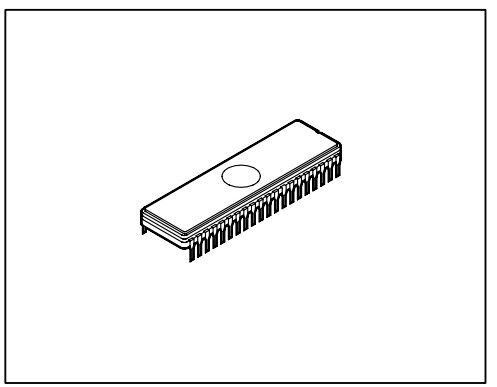
This is attached when the GOT is delivered.



9) EPROM memory to store the user screen data FX-EPROM-4M

This is an optional EPROM memory (M27C4002-**F (4 MB) manufactured by SGS-THOMSON) to save the user screen data.

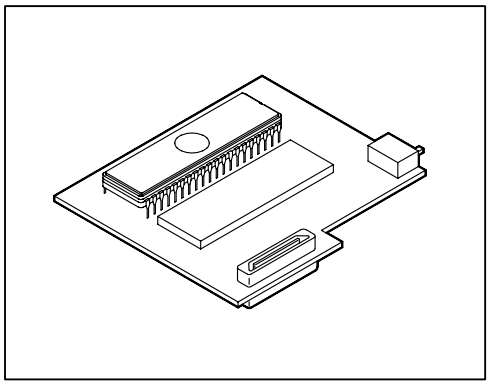
The user screen data can be written using a general-purpose ROM writer connected to the screen creation software.



10) Data transfer adaptor F9GT-40UMB

This is an optional adaptor to connect the FX-EPROM-4M 9) and transfer the user screen data to the flush memory inside the GOT.

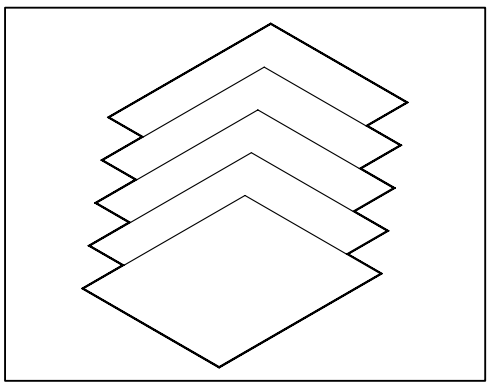
When a same screen is to be transferred to two or more GOT units, transfer can be performed quickly and easily using this adaptor compared with the screen creation software.



11) Protection sheet F9GT-40PSC (5 sheets)

This optional sheet protects the display screen against dirt.

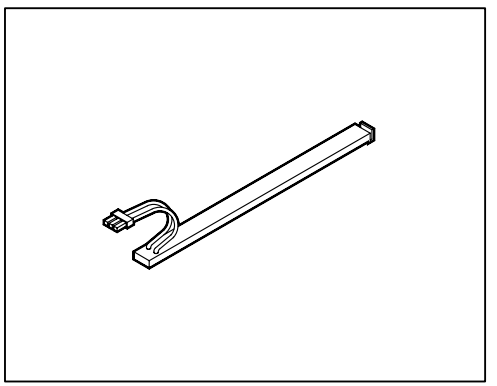
Adhere it on the screen.



12) Replacement backlight F9GT-40LTS

This is a spare part of the display screen backlight.

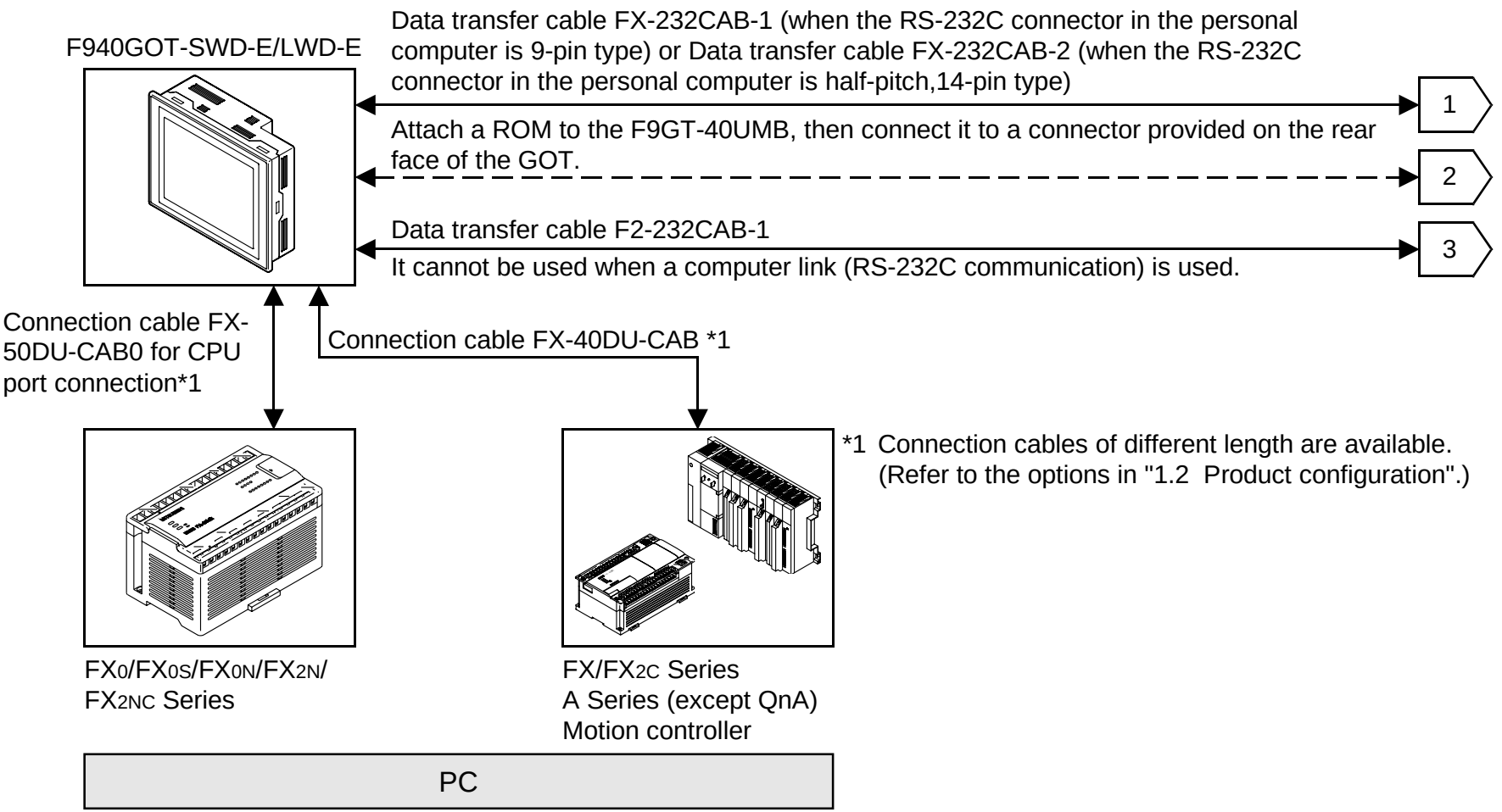
The backlight is built in when the GOT is delivered.



1.3 System configuration

The system configuration to use the GOT is described below.

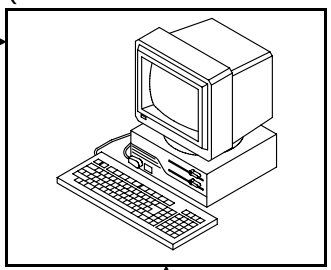
When the GOT is directly connected to the PLC :When the GOT is connected via a computer link unit, refer to Section 2.



*1 Connection cables of different length are available. (Refer to the options in "1.2 Product configuration".)

Peripheral units for GOT

General-purpose personal computer
(screen creation software)

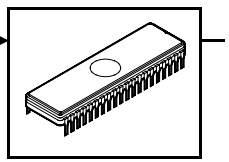


Screen creation software for DU FX-PCS-DU/WIN-E (V2.10 or later)
Screen creation software for A900GOT
SW □D5C-GOTRE-PACK
("□" is a numeric not less than 1.)

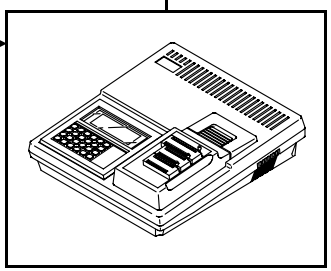
1

Data transfer cable F2-232CAB-1
(when the RS-232C connector in the personal computer is 25-pin type)
Connected to RS-232C connector in GOT

2

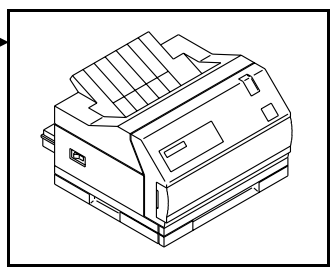


EPROM memory
FX-EPROM-4M
(User screen data can be written using a general-purpose ROM writer.)



ROM writer
General-purpose ROM writer

3

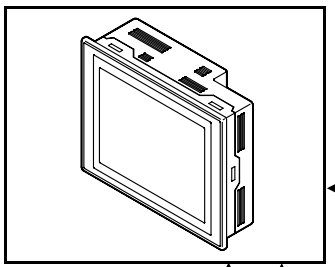


Printer
< Dedicated printers >
GT-10A
K6PR(-K), A7(N)PR
< General-purpose printers >
ESC/P
Printer equipped with RS-232C interface
(Prints out sampling data, alarm history and alarm messages.)

The figure below shows connection to peripheral units used to create sequence programs.

When built-in two-port interface function is used

F940GOT-SWD-E/LWD-E



When the two-port interface function is used, the operation environment should be set.
(Refer to the description on "SERIAL PORT" on the SET-UP MODE screen.)

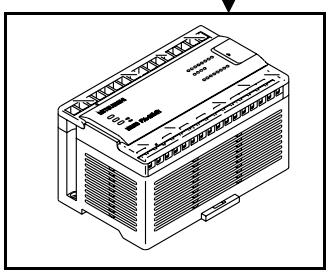
Data transfer cable FX-232CAB-1
(when the RS-232C connector in the personal computer is 9-pin type)

Data transfer cable F2-232CAB-2
(when the RS-232C connector in the personal computer is half-pitch, 14-pin type)
Connected to RS-232C connector in GOT

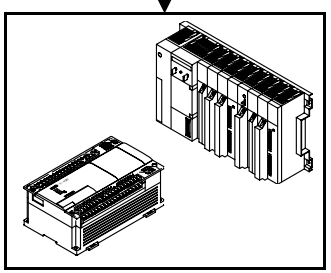
1

Connection cable FX-50DU-CAB0 for CPU port connection*1

Connection cable FX-40DU-CAB *1



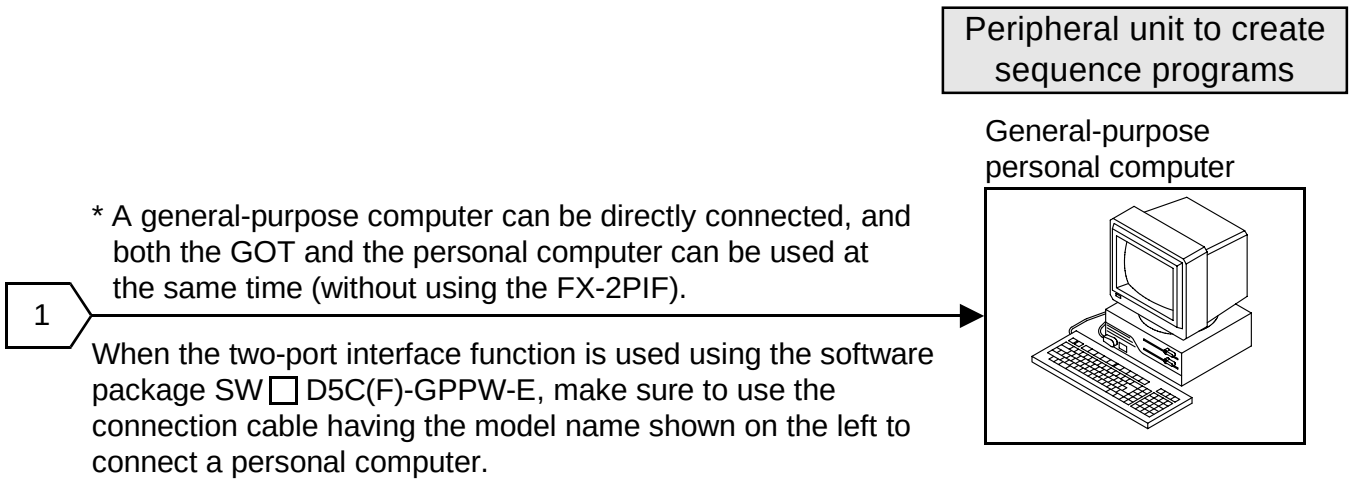
FX0/FX0S/FX0N/FX2N/
FX2NC Series



FX/FX2C Series
A Series (except QnA)
Motion controller

*1 Connection cables of different length are available.
(Refer to the options in "1.2 Product configuration".)

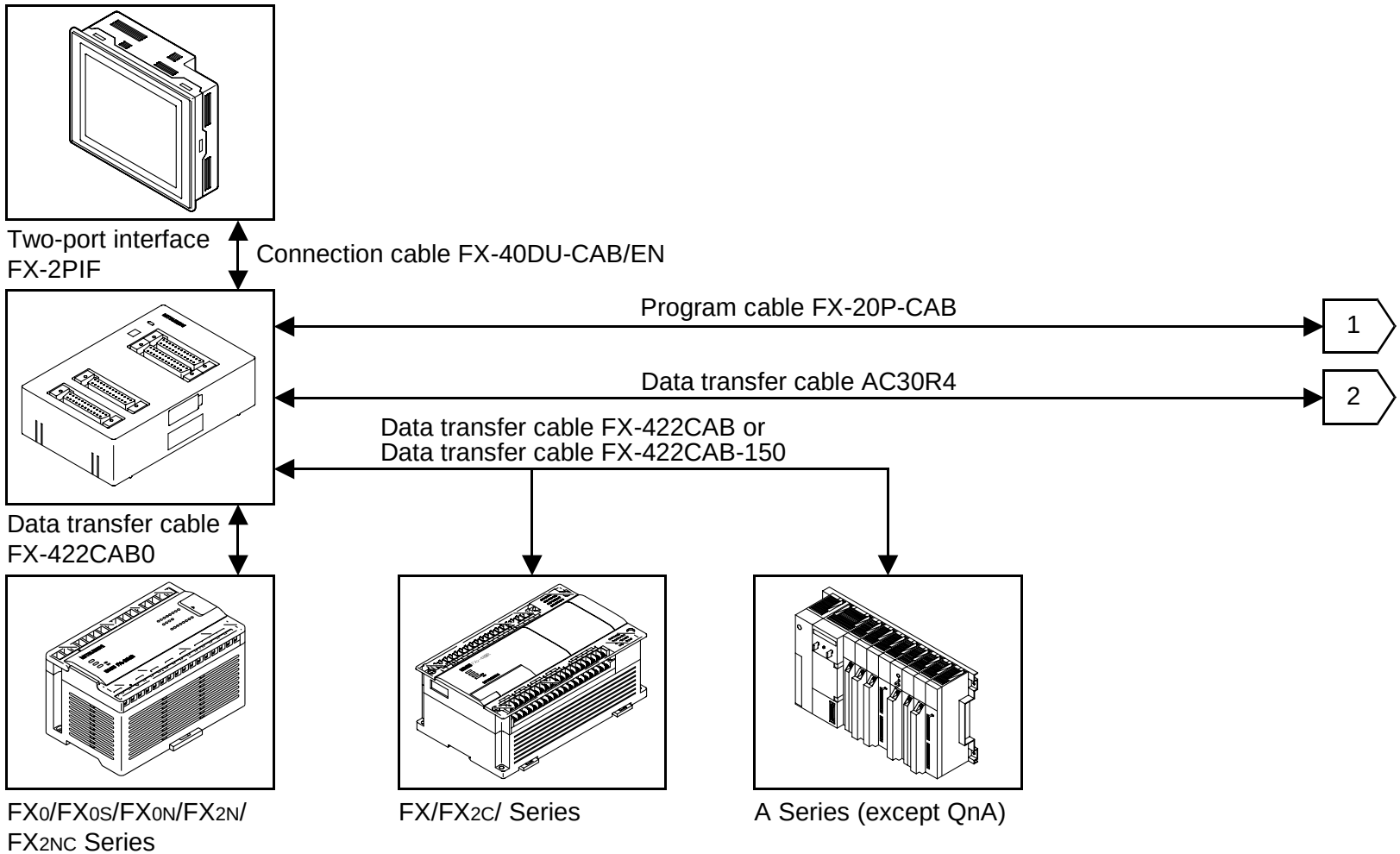
PC



Note:

This two-port interface function is effective in CPU port connection (via the RS-422). This function is not available in computer link connection (via the RS-422 or the RS-232C) and CPU port connection (via the RS-232C).
And even in CPU port connection (via the RS-422), this function is not available when two or more GOT units are connected (Refer to Paragraph 2.7.).

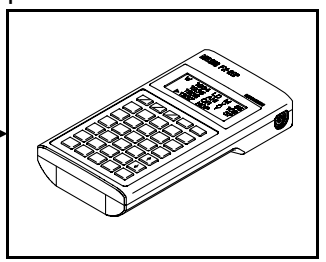
When the two-port interface FX-2PIF is used



Peripheral unit to create sequence programs

Handy programming panel FX-10P-E/20P-E

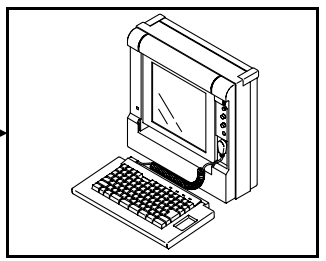
1



(A Series cannot be used.)

A7PHP/A7HGP
A6GPP/A6PHP

2



The FX2N/FX2NC Series can be used in the instruction/device range of the FX Series.

Note:

The two-port interface FX-2PIF is available in CPU port connection (via the RS-422). This interface is not available in computer link connection (via the RS-422 or the RS-232C) and CPU port connection (via the RS-232C).
And even in CPU port connection (via the RS-422), this interface is not available when two or more GOT units are connected (Refer to Paragraph 2.7.).

2. Installation, Wiring and General Specifications

This section describes installation of the GOT and wiring of the power supply.

2.1 Installation of main body

Caution on installation

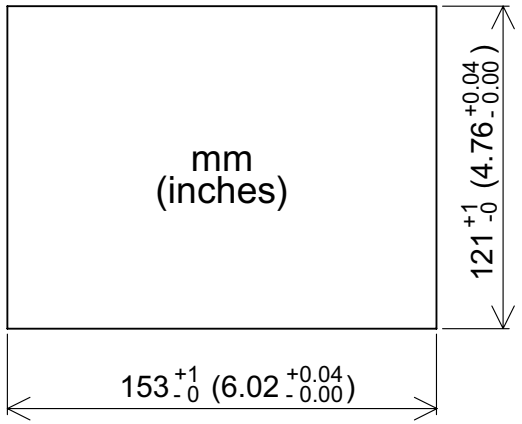
- Use the unit in the environment for the general specifications described in the manual. Never use the unit in a place with dusts, soot, conductive dusts, corrosive gas or flammable gas, place exposed to high temperature, condensation or wind and rain or a place subject to vibrations or impacts.
  If the unit is used in an unfavorable place described above, electrical shock, fire, malfunction, damages of the unit or deterioration of the unit may be caused.
- Never drop cutting chips and wiring chips into the ventilation window of the graphic operation terminal when you drill screw holes or perform the wiring work.
  Fire, failure or malfunction may be caused.
- Connect a connection cable and mount an extension module securely to the specified connectors respectively while the power is turned off.
  Imperfect connection may cause malfunction.

The GOT is to be embedded in a panel. Perform the installation procedure described below.

1) Machining the mounting panel face

On the panel face, drill a mounting hole of the dimensions shown on the right.

* Make sure that the plate thickness of the mounting panel is 5 mm (0.2 inches) or less.



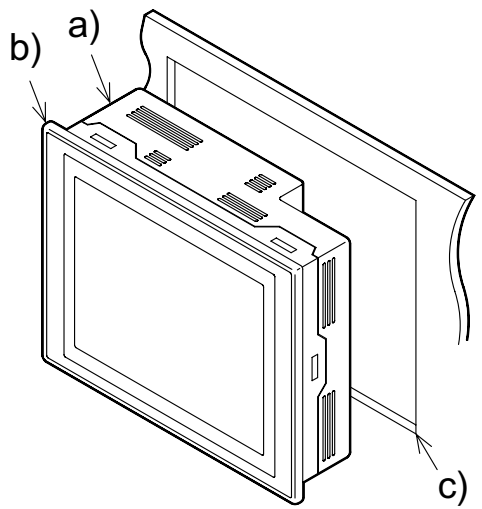
2) Inserting the GOT into the panel face

Attach a packing to the GOT. Insert the GOT from the front of the panel face.

a) GOT

b) Packing

c) Mounting hole



3) Fixing the GOT

Hang the hook of each metal fixture (offered as accessory) to a mounting hook hole in the GOT. Tighten a mounting bolt (offered as accessory) securely in each position.

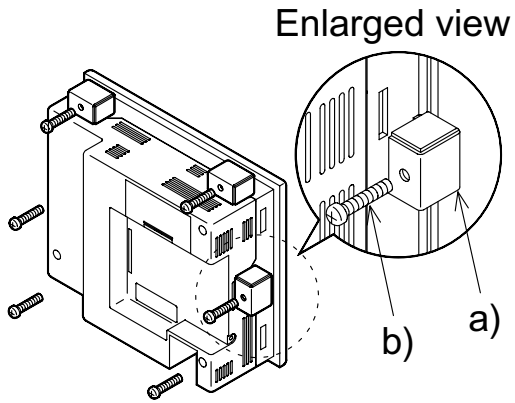
The GOT can be fixed in four positions at corners.

However, to prevent dusts and water, fix the GOT in six positions.

a) Metal fixture

b) Tightening bolt

* Make sure that the tightening torque for each tightening bolt is 0.3 to 0.5 N·m.

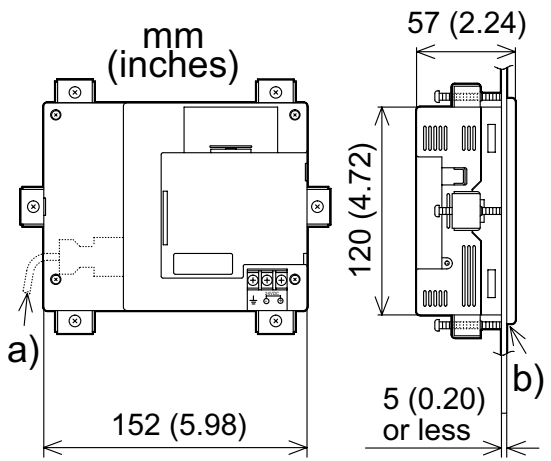


4) Inside dimensions of the panel required for installation

When installing the GOT, make sure that the inside dimensions shown on the right are assured in the panel.

a) PLC connection cable

b) Packing



2.2 Wiring of power supply

Cautions on Wiring

- Make sure to shut down the power supply outside the unit before starting installation or wiring.If the power supply is not shut down outside, electrical shock or damages of the unit may be caused.

CAUTION

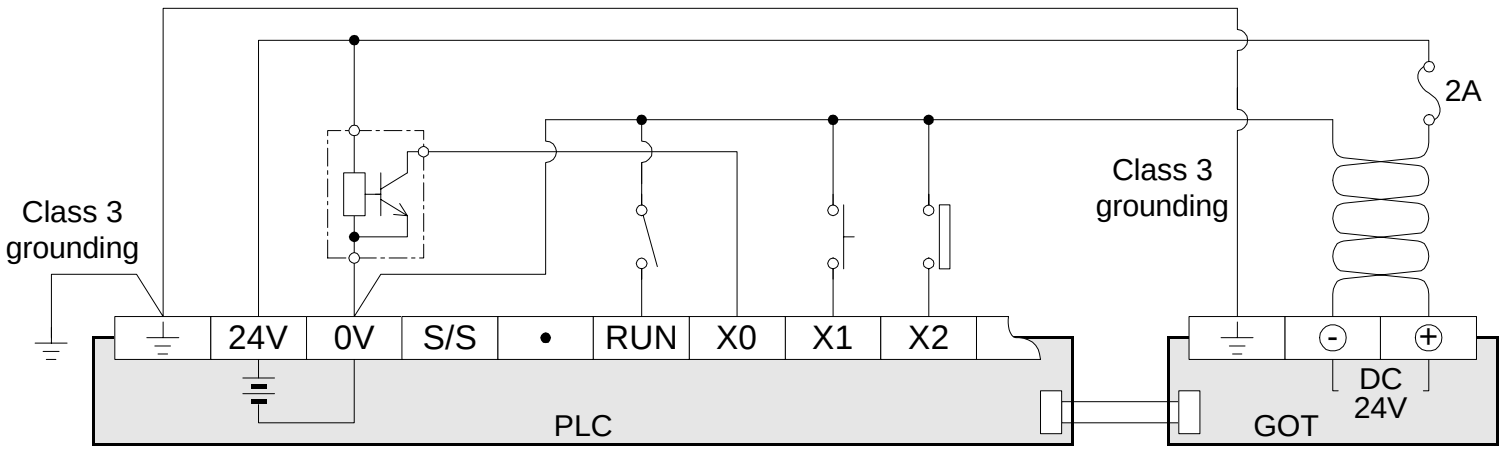
- Connect the DC power cable to a dedicated terminal as described in this manual.
  If the AC power supply is connected to a DC power terminal or an I/O terminal, the graphic operation terminal may be burnt.
- Attach a fuse of 2A to the 24V DC power supply. Connect the + side and the - side of the DC power supply correctly as described in this manual.
  If the power supply is connected reversely, failures may be caused.
- Use wires of 1.25 mm^2 or more for a ground terminal in the graphic operation terminal. When supplying the power from a programmable controller, connect a ground terminal in the graphic operation terminal to a ground terminal in the programmable controller and perform Class 3 grounding. When supplying the power from the outside, connect a ground terminal in the graphic operation terminal to a ground terminal in the connected external power supply unit and perform Class 3 grounding.
  Never perform common grounding with strong electrical systems.

The power is supplied to the GOT from a PLC or an external power supply unit.

- Connection examples

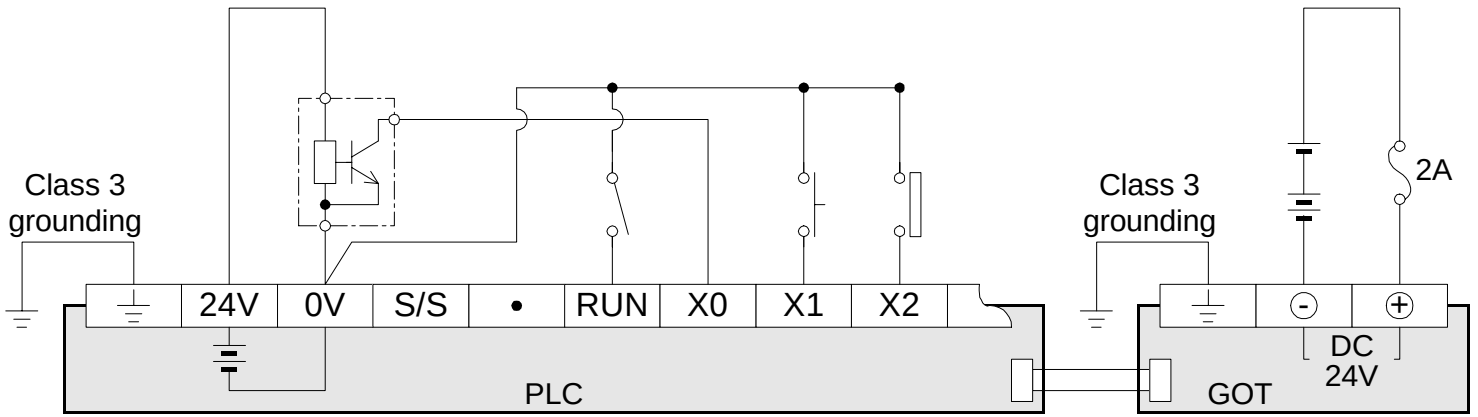
1) When the power is supplied from an FX Series PLC (Refer to "Cautions on connection" in the next page.)

   Connect the power terminal in the GOT to the 24V DC service power supply in the PLC basic unit or PLC extension unit.



2) When the power is supplied from an external power supply unit

Connect the power terminal provided on the rear face of the GOT to the 24V DC terminal in the external power supply unit.



- Specifications of power supply unit

Item	Specifications	
	F940GOT-LWD	F940GOT-SWD
Supply voltage	24V DC +10% -15%	
Power ripple	200mV or less	
Current consumption	390mA / 24V DC	410mA / 24V DC
Allowable instantaneous power interruption duration	Operation shall be continued against instantaneous power interruption for less than 5 ms.	

Cautions on connection

- The current consumption of the GOT is as shown in the table above. When supplying the power to the GOT from the 24V DC service power in the FX Series PLC basic unit or extension unit, take into account the total current supplied to proximity switches and extension blocks. If the total current exceeds the capacity of the service power, the GOT should obtain the power from an external power supply unit. In the case of the FX0/FX0S/FX0N Series PLC, an external power supply unit is required.

- Even if instantaneous power interruption for less than 5 ms occurs in the power supply unit, the GOT continues its operation.
  When power interruption for 5 ms or more or the voltage drop occurs, the GOT stops its operation. However, when the power is recovered, the GOT automatically restarts operation. (The screen displayed after recovery is determined by the operation environment setting.)

- For wiring of the power supply, use electric wires of 0.75 mm^2 or more so that voltage drop does not occur. Use crimp-style terminals of M3 size, and tighten them securely with the torque of 0.5 to 0.8 N·m so that troubles will not occur.

2.3 Functions of operation keys and connectors

1) Front panel

a) Display unit

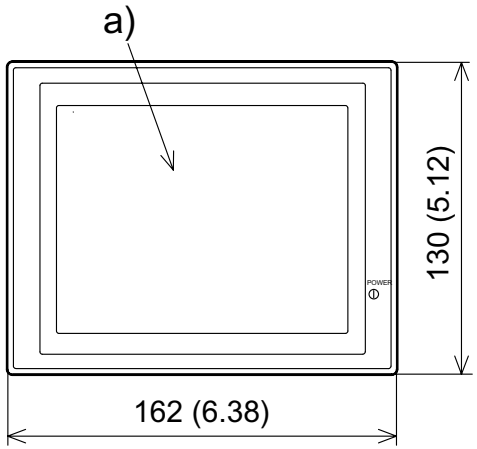
Allows graphic display of 320 × 240 dots.

Character string: 20 full-width characters × 15 lines

40 half-width characters × 15 lines

Alphabets, numerics, Katakana characters and Kanji characters (JIS Level 1) can be displayed in the size of ×1 to ×4 in each of the vertical and horizontal directions.

Alphabets, numerics and Katakana characters can be displayed also in the size of ×1/4.



mm (inches)

2) Rear panel

a) Power terminal

Supplies the power to the GOT, and allows grounding.

b) Battery PM-20BL

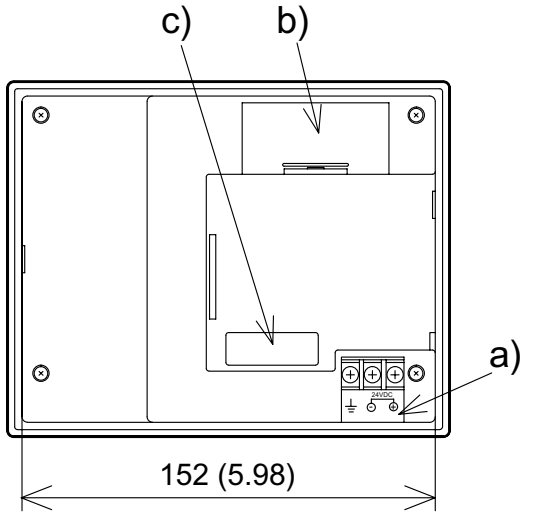
Backs up the sampling data, the alarm history and the current time.

The screen data is stored in the built-in flush memory, and does not require the battery.

c) Extension interface

Connects an optional extension equipment.

Connects the data transfer adopter F9GT-40UMB to transfer the screen data stored in the EPROM.



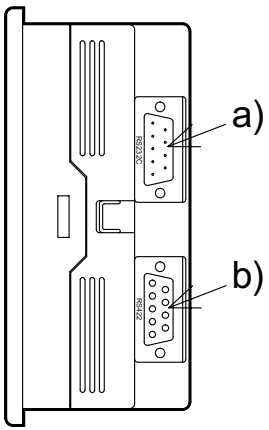
mm (inches)

3) Connectors provided on the side

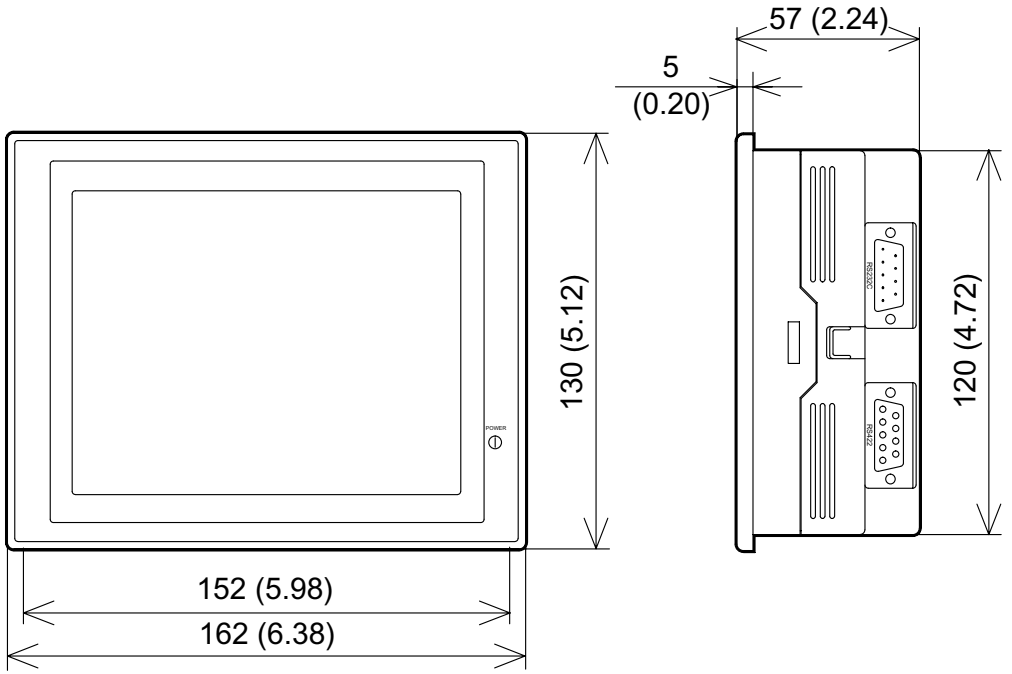
Used when a printer is connected or when a PLC is connected via a computer link unit.

a) Connector for personal computer (RS-232C connector): D-sub 9-pin, male

b) Connects a personal computer to transfer to the PLC the screen data created by the screen creation software and sequence programs using the two-port interface function.



2.4 Outside dimensions



Outside painting color: Munsell 0.08GY 7.64/0.81

Mass: Approximately 1.0 kg including metal fixtures (0.1 kg)

Panel cut dimensions: $153^{+1}_{-0} \times 121^{+1}_{-0}$ $(6.02^{+0.04}_{-0.00} \times 4.76^{+0.04}_{-0.00})$

Unit: mm (inches)

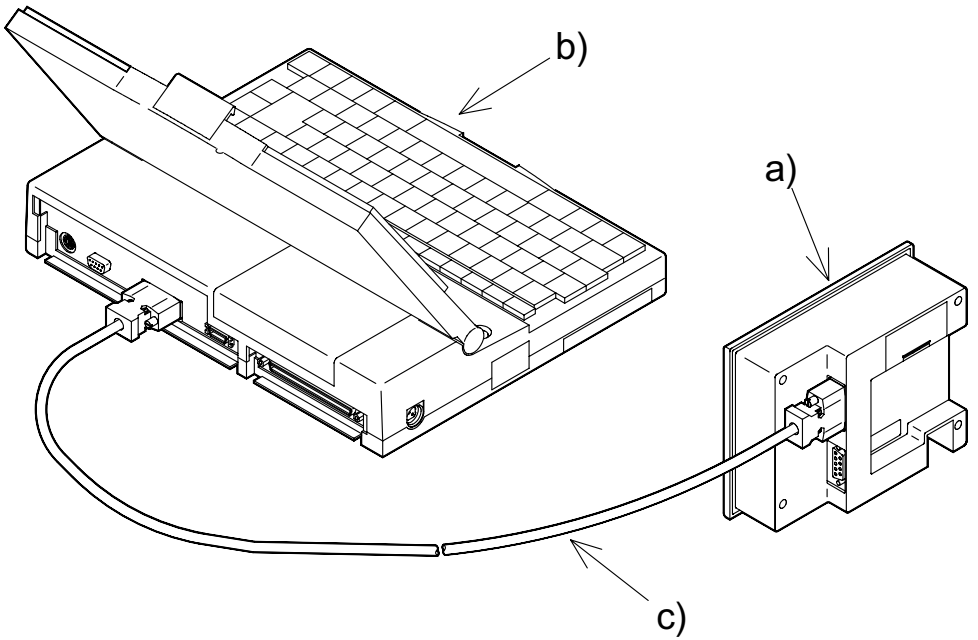
2.5 General specificationsl

<table>
<tr><td>Ambient temperature</td><td colspan="6">During operation: 0 to +50°C (0 to +40°C when extension interface is used)
During storage: -20 to +60°C</td></tr>
<tr><td>Ambient humidity</td><td colspan="6">During operation: 35 to 85%RH (Condensation shall not be allowed.)</td></tr>
<tr><td rowspan="4">Vibration resistance</td><td rowspan="4">In accor-dance with JIS B3501 and IEC 1131-2</td><td></td><td>Frequency</td><td>Acceleration</td><td>Amplitude</td><td rowspan="4">10 times in each of X, Y and Z directions (for 80 minutes)</td></tr>
<tr><td rowspan="2">When inter-mittent vibrations are applied</td><td>10-57Hz</td><td>-</td><td>0.075mm</td></tr>
<tr><td>57-150Hz</td><td>9.8m/s^2</td><td>-</td></tr>
<tr><td rowspan="2">When con-tinuous vibrations are applied</td><td>10-57Hz</td><td>-</td><td>0.035mm</td></tr>
<tr><td>57-150Hz</td><td>4.9m/s^2</td><td>-</td></tr>
<tr><td>Impact resistance</td><td colspan="6">In accordance with JIS B3501 and IEC 1131-2 (147 m/s^2, three times in each of X, Y and Z directions)</td></tr>
<tr><td>Noise resistance</td><td colspan="6">By noise simulator whose noise voltage is 1,000 Vp-p, noise width is 1μs and cycle is 30 to 100 Hz</td></tr>
<tr><td>Withstand voltage</td><td colspan="3">500V AC for 1 minute</td><td colspan="3" rowspan="2">Between all power terminals as a whole and ground terminal</td></tr>
<tr><td>Insulation resistance</td><td colspan="3">500V DC, 5MΩ or more by megger</td></tr>
<tr><td>Grounding</td><td colspan="6">Class 3 grounding</td></tr>
<tr><td>Operating atmosphere</td><td colspan="6">Corrosive gas and much dusts shall not be detected.</td></tr>
<tr><td>Protection structure</td><td colspan="6">IP65F</td></tr>
</table>

Supply voltage	24V DC +10%, -15% Current consumption: 390 mA/24V DC (F940GOT-LWD-E) 410 mA/24V DC (F940GOT-SWD-E)
Display element	STN type full-dot matrix LCD, monochrome (F940GOT-LWD-E) or color (F940GOT-SWD-E)
Screen	LCD of 320 x 240 dots, 20 full-width characters × 15 lines, Effective display size: 115 × 86 mm (5.7 inches)
Service life	LC: Approximately 50,000 hours
Backlight	Cold cathode tube (Service life: 25,000 times or more)
Key	50 touch keys maximum/screen, 20 × 12 matrix
Interface	One channel in conformance to RS-422 for communication with PLC
	One channel in conformance to RS-232C for transfer of screen data
	Extension interface for connection of optional extension unit

2.6 Connection to personal computer

Use the following cable to connect a personal computer.



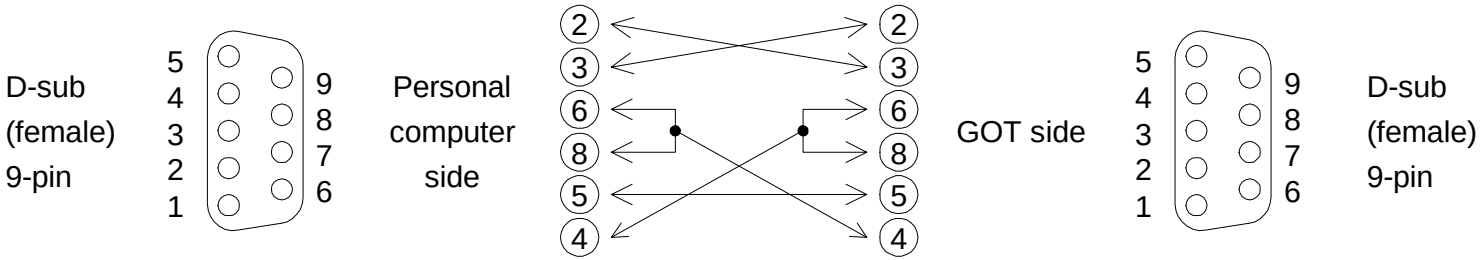
a) F940GOT

b) Personal computer

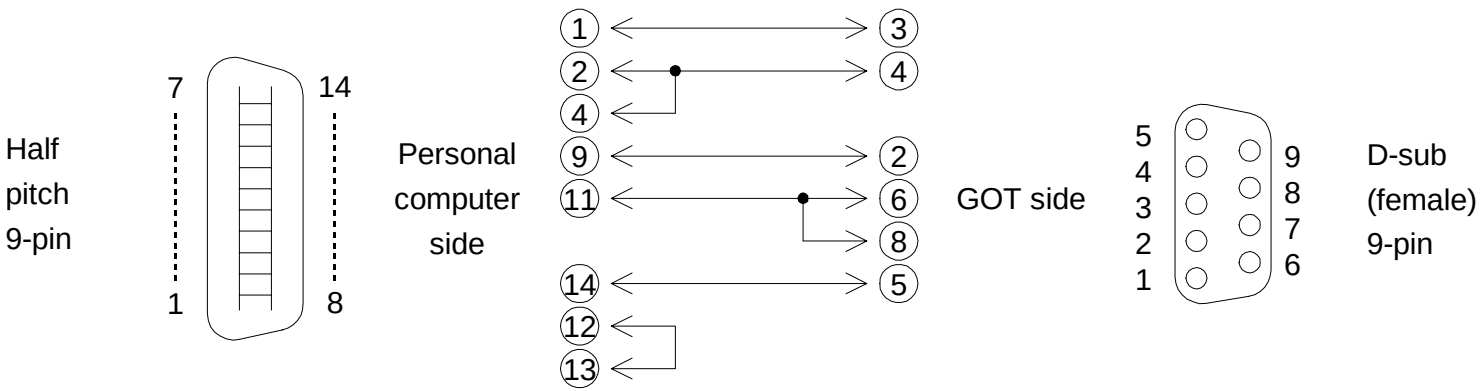
c) FX-232CAB-1, FX-232CAB-2 or F2-232CAB-1

Pin assignment and connection diagram of transfer cables

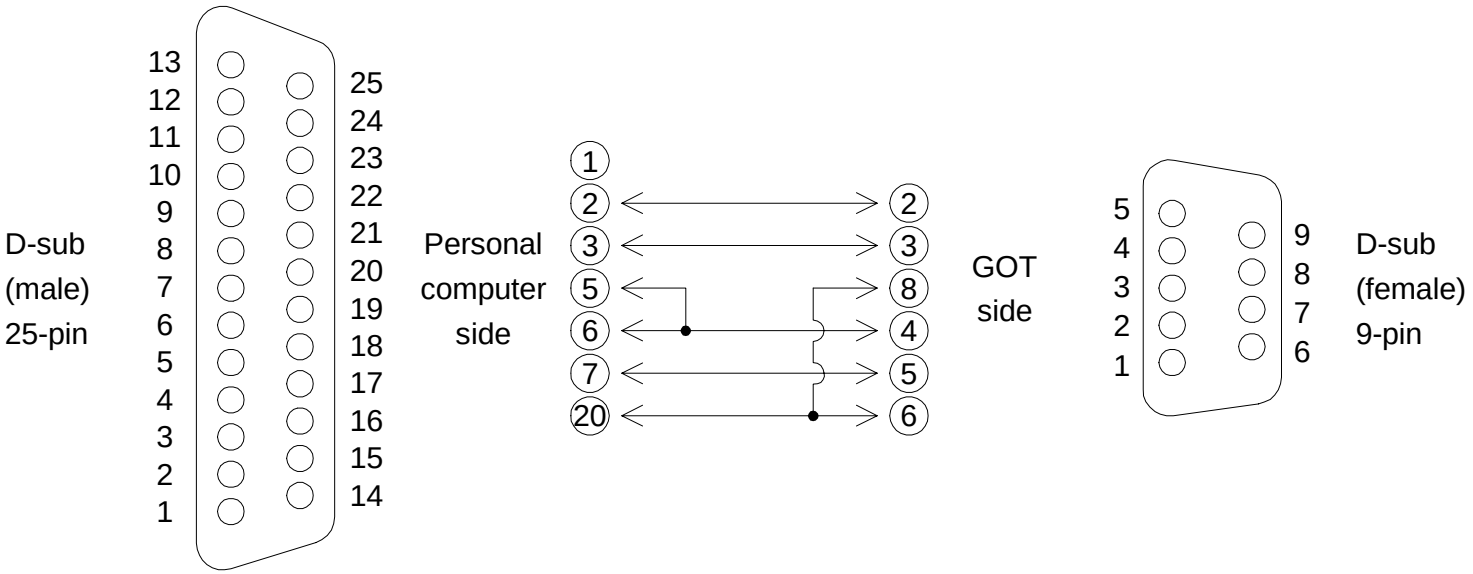
- Transfer cable FX-232CAB-1



- Transfer cable FX-232CAB-2



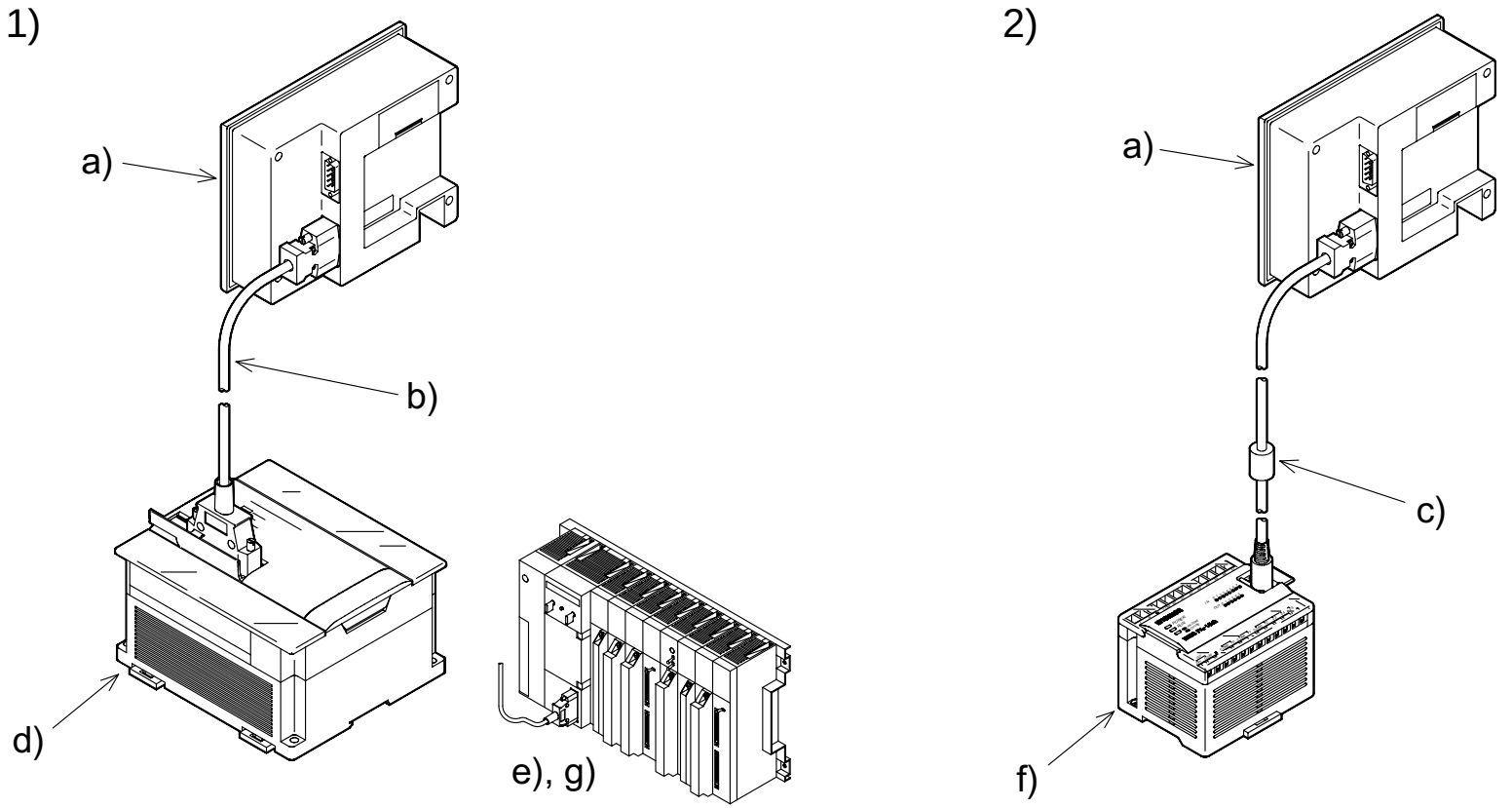
- Transfer cable F2-232CAB-1



2.7 CPU port connection

Use either of the following cables to connect the PLC directly.

1) When connecting the FX/FX2C/A Series
2) When connecting the FX0/FX0S/FX0N/FX2N/FX2NC Series



* When the screen mode is selected while a cable is not connected, a communication error occurs.

a) F940GOT

b) FX-40DU-CAB, FX-40DU-CAB-10M or FX-50DU-CABL

c) FX-50DU-CAB0, FX-50DU-CAB0-1M, FX-50DU-CAB0-10M,
FX-50DU-CAB0-20M, FX-50DU-CAB0-30M or FX-50DU-CAB0L

d) FX/FX2C Series PLC

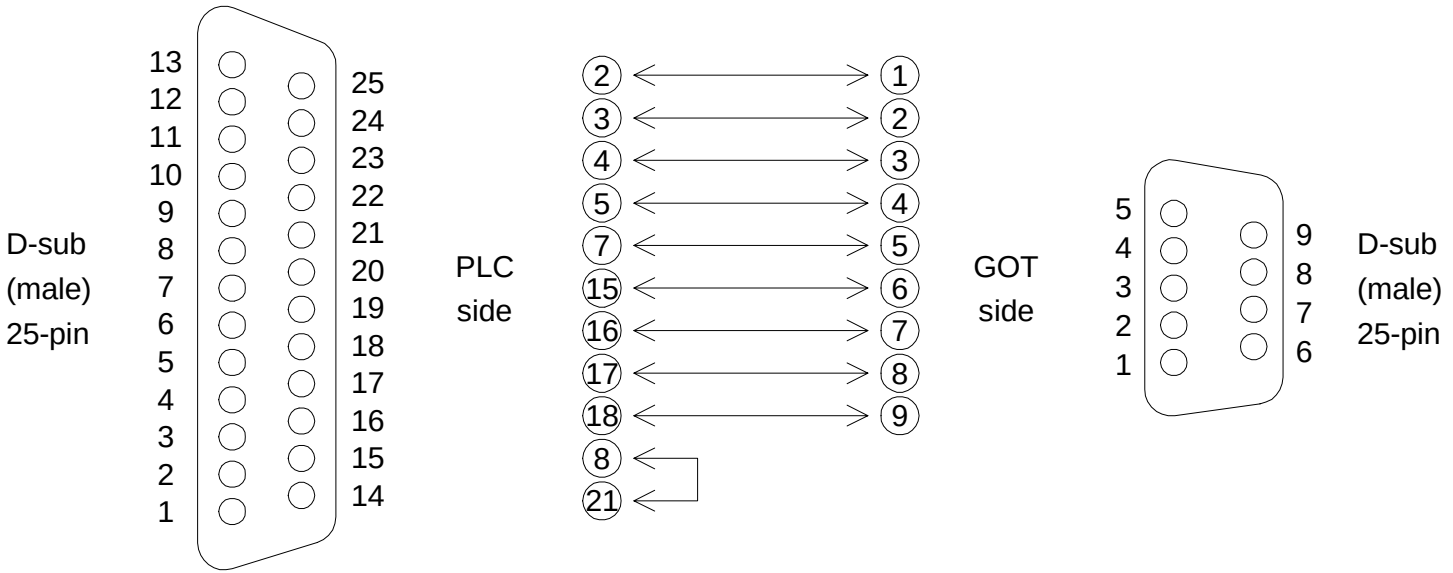
e) A Series PLC
AnN, AnA, AnS, AnSJ, AnSH, A1SJH, A2C, A2CJ, A0J2H, AnU, AnUS, A2USH or A1FX CPU

f) FX0/FX0S/FX0N/FX2N/FX2NC Series PLC

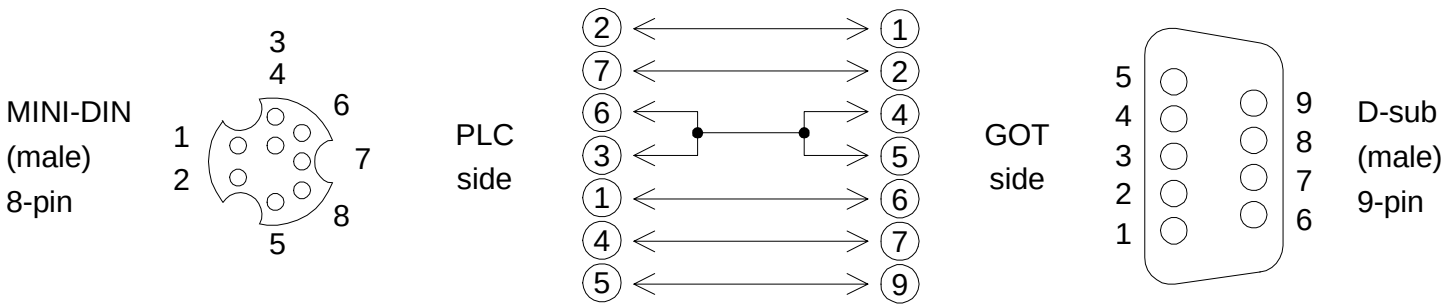
g) Motion controller
A171SCPU-S3, A171SHCPU, A172SHCPU or A272UHCPU

Pin assignment and connection diagram of connection cables (The connection cables are offered as options.)

- Connection cable FX-40DU-CAB (L, -10M) or FX-50DU-CABL

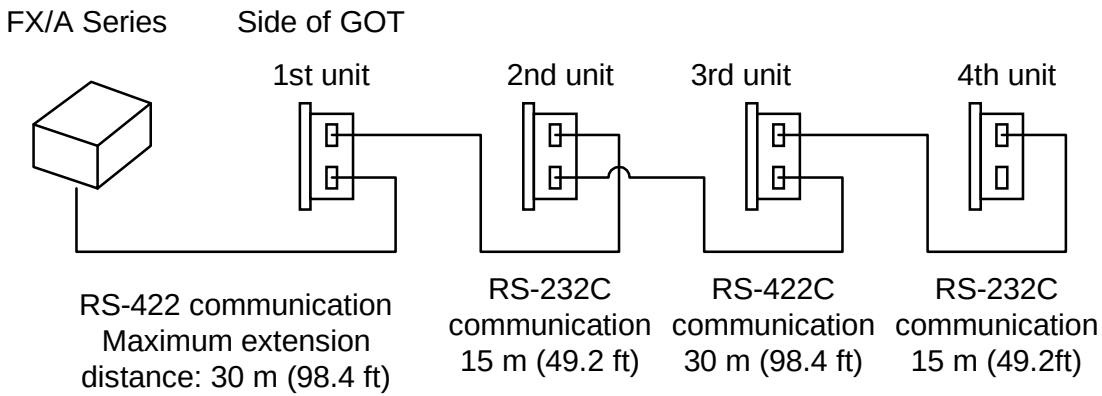


- Connection cable FX-50DU-CAB0 (L, -1M, -10M, -20M, -30M)



- When the CPU in the FX/A Series PLC is directly connected, up to four GOT units can be connected to one PLC (1-to-N connection).
  As the connection type, select "CPU PORT (RS232C)" or "CPU PORT (RS422)" in "CONNECTION" on the PLC TYPE screen.

  System configuration



Note:

While the GOT display is used, peripheral units of the GOT and peripheral units used to create sequence programs cannot be used except when the following system configuration is realized using the FX_{2N} -422-BD in the FX_{2N} Series. Cables to connect such peripheral units should be disconnected while the GOT display is used.

Connection cable examples:

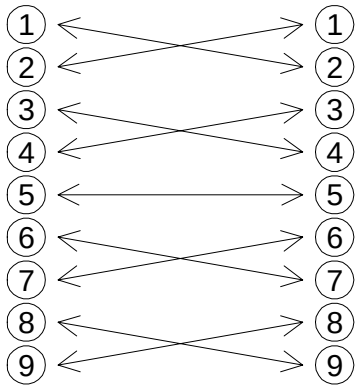
1st GOT: FX-50DU-CAB0
(equivalent to connection cable for PLC)

2nd GOT: FX-232CAB-1

3rd GOT: Cable created by user
(Refer to the connection diagram.)

4th GOT: FX-232CAB-1

Connection diagram



Communication speed: The communication speed with the PLC becomes slower as the number of connected GOT units becomes larger.

When the speed in the case one GOT unit is connected is regarded as "1",

Speed in 1st unit x 2 = Speed in 2nd unit (1/2 of speed in 1st unit)

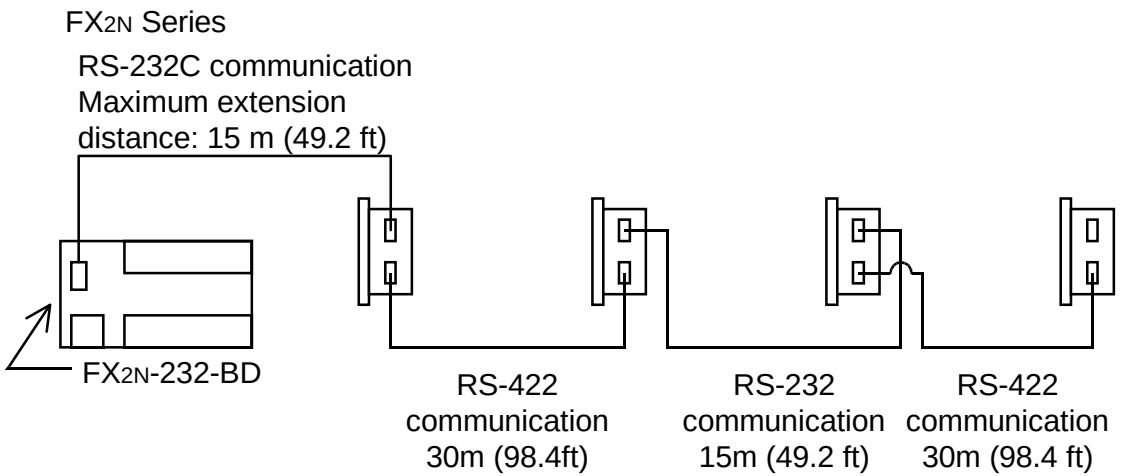
Speed in 2nd unit x 2 = Speed in 3rd unit (1/4 of speed in 1st unit)

Speed in 3rd unit x 2 = Speed in 4th unit (1/8 of speed in 1st unit)

- In this case, peripheral units used to create sequence programs can be connected using programming connectors in the FX2N unit.

- In the case of the FX2N Series, communication can be performed by CPU port connection (RS-232C communication) using the FX2N-232-BD.
  In this case also, In the case of the FX2N Series, communication can be performed by CPU port connection (RS-232C communication) using the FX2N-232-BD.
  In this case also, up to four GOT units can be connected to one PLC (1-to-N connection).
  Up to four GOT units can be connected to one PLC (1-to-N connection).
  To connect peripheral units used to create sequence programs, use programming connectors in the FX2N main unit.

System configuration



Connection cable examples:

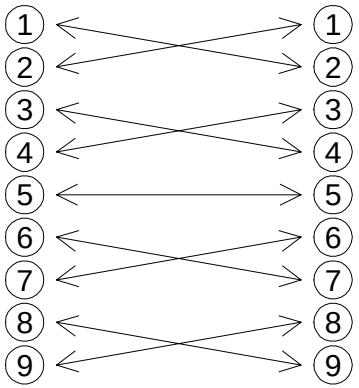
1st GOT: FX-232CAB-1

2nd GOT: Cable created by user
(Refer to the connection diagram.)

3rd GOT: FX-232CAB-1

4th GOT: Cable created by user
(Refer to the connection diagram.)

Connection diagram



Communication speed: The communication speed with the PLC becomes slower as the number of connected GOT units becomes larger.

When the speed in the case one GOT unit is connected is regarded as "1",

Speed in 1st unit x 2 = Speed in 2nd unit (1/2 of speed in 1st unit)

Speed in 2nd unit x 2 = Speed in 3rd unit (1/4 of speed in 1st unit)

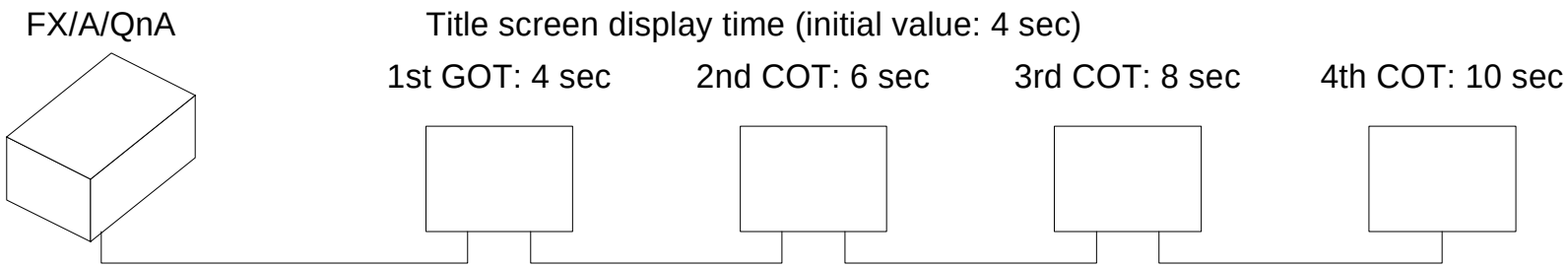
Speed in 3rd unit x 2 = Speed in 4th unit (1/8 of speed in 1st unit)

<Cautions on connection of two or more GOT units>

When two or more GOT units are connected to the FX/A/QnA Series PLC, communication is performed in the location sequence from the GOT unit nearest to the CPU (that is, in the sequence of the 1st, 2nd, 3rd and 4th GOT units). Accordingly, when turning on the power of the GOT units for the first time, turn on the power from the one nearest to the CPU.

If the power cannot be turned on in the GOT units from the one nearest to the CPU, set the GOT units (in "SET-UP MODE") or the screen creation software so that communication is performed while the title screen display time is different by 2 to 3 seconds in each GOT unit.

Setting example: The title screen display time is different by 2 seconds in each GOT unit, and communication is started from the GOT unit nearest to the CPU.



* Perform the same setting without regard to the connection type (RS-232C or RS-422) of two or more GOT units.

2.8 Computer link port connection (MELSEC A Series)

The GOT can be connected to the MELSEC A Series via a computer link unit as shown below.

- Applicable PLC units and computer link units

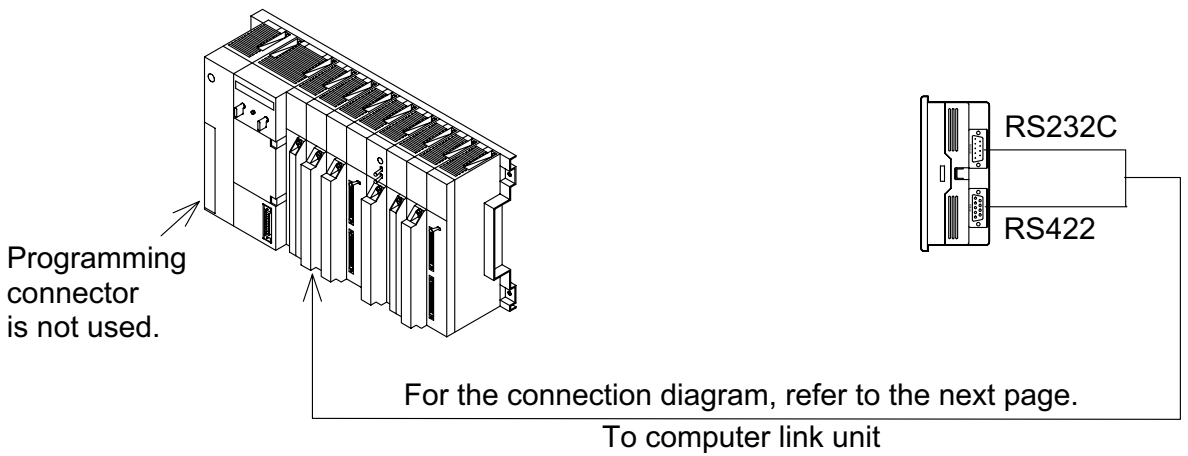
  < A Series >

  AJ71UC24 A1SJ71UC24-R2/R4/PRF A1SJ71C24-R2/R4/PRF

  A1SCPU24-R2 A2CCPUC24 (PRF)

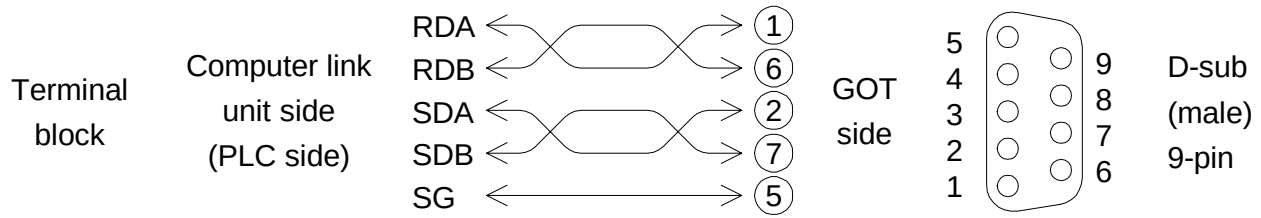
  For the communication setting for the computer link unit, refer to the F940GOT Operation Manual offered separately.

- System configuration

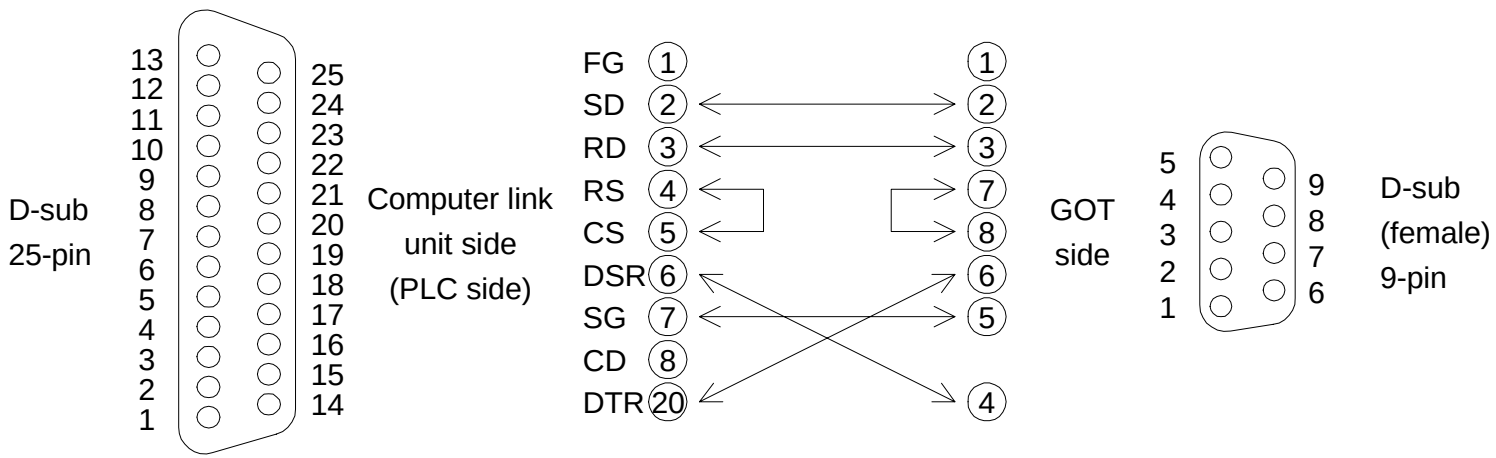


- Connect the GOT to the computer link unit (PLC) as shown below.

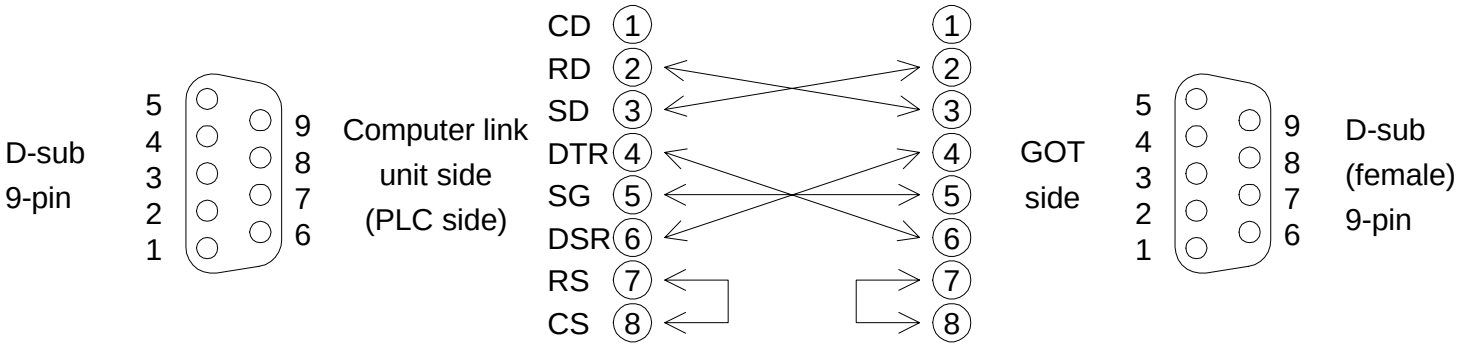
  < For RS-422 communication >



  < For RS-232C communication > The connection cable F2-232CAB is also available.



< For RS-232C communication >



2.9 Connection to SYSMAC C Series

The GOT can be connected to the SYSMAC C Series manufactured by OMRON via a host link unit as shown below.

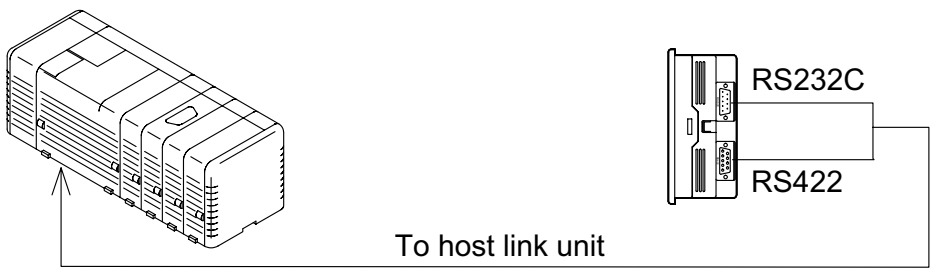
- Applicable PLC units and host link units

  < SYSMAC C Series >

  A host link unit or a CPU equipped with an interface for host link is required.

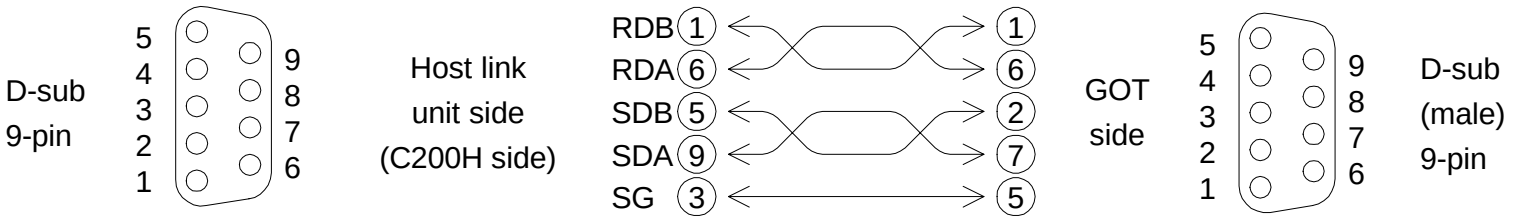
  For the setting of the host link unit, refer to the F940GOT Operation Manual offered separately.

- System configuration

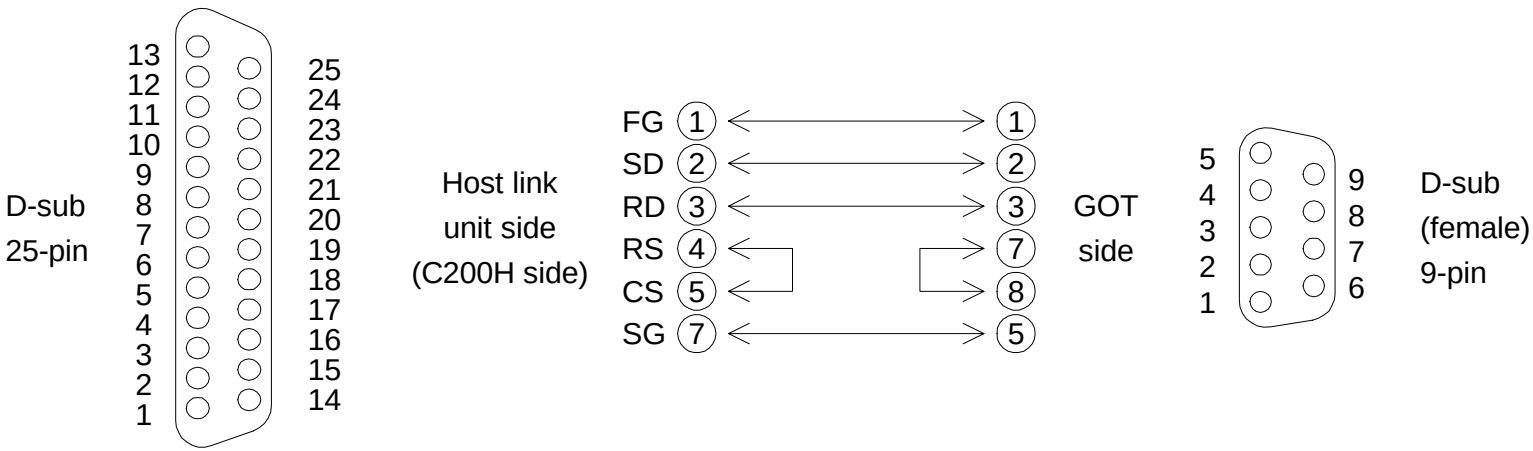


- Connect the GOT to the host link unit (SYSMAC C Series) as shown below.
  For connection of a model not shown in the examples below, refer to the manual of the C Series link unit.

  < For RS-422 communication > Example of connection to C200H-LK202-V1

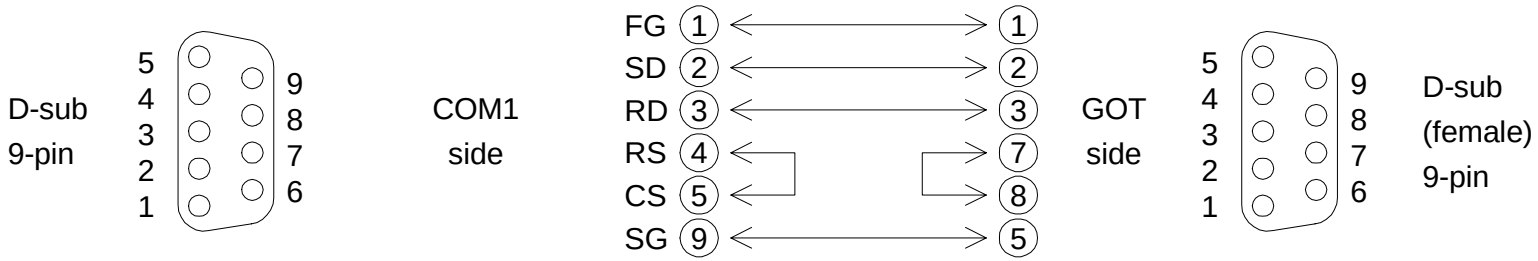


  < For RS-232C communication > Example of connection to C200H-LK201-V1



< For RS-232C communication >

Example of connection to CQM1 (in which RS-232C port is built in)



2.10 Connection to FLEX-PC N Series

The GOT can be connected to the FLEX-PC N Series manufactured by FUJI Electric via a link unit shown below.

- Connection type
  - Link port connection (RS-422)
  - Link port connection (RS-232C)
  - CPU port connection (RS-232C)

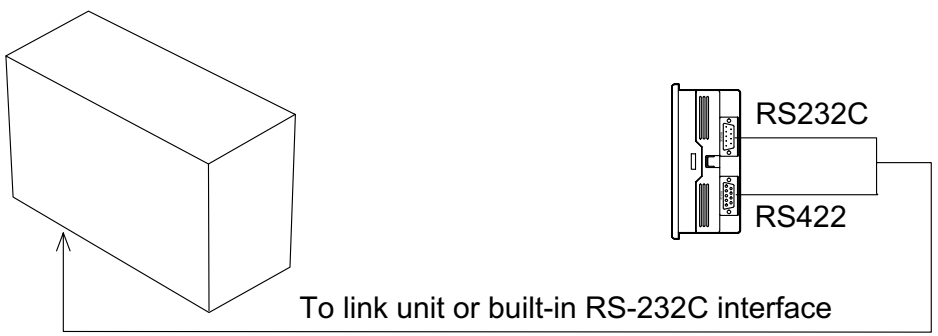
  Select the connection type using the operation environment setting described in the next section or the screen creation software.

- Applicable PLC units and link units

  < FLEX-PC N Series >

  A link unit (general-purpose RS-232C/RS485 interface module) is required to be connected. Or a CPU in which an RS-232C interface is built in is required.

- System configuration

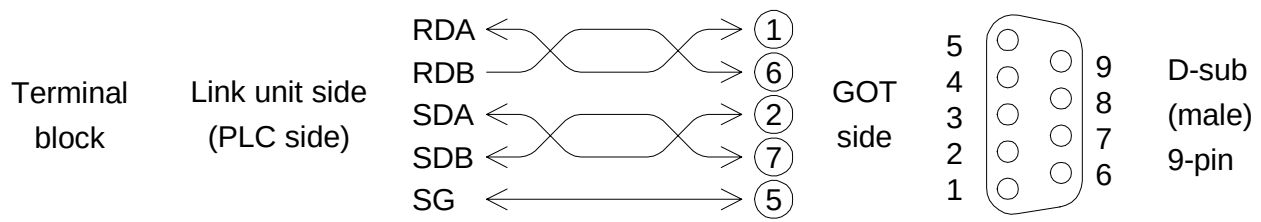


- Link unit
  - NB Series
    NB-RS1-AC, NB-RS1-DC
  - NJ Series
    NJ-RS2, NJ-RS4
  - NS Series
    NS-RS1
  - CPU in which RS-232C interface is built in NJ-CPU-B16

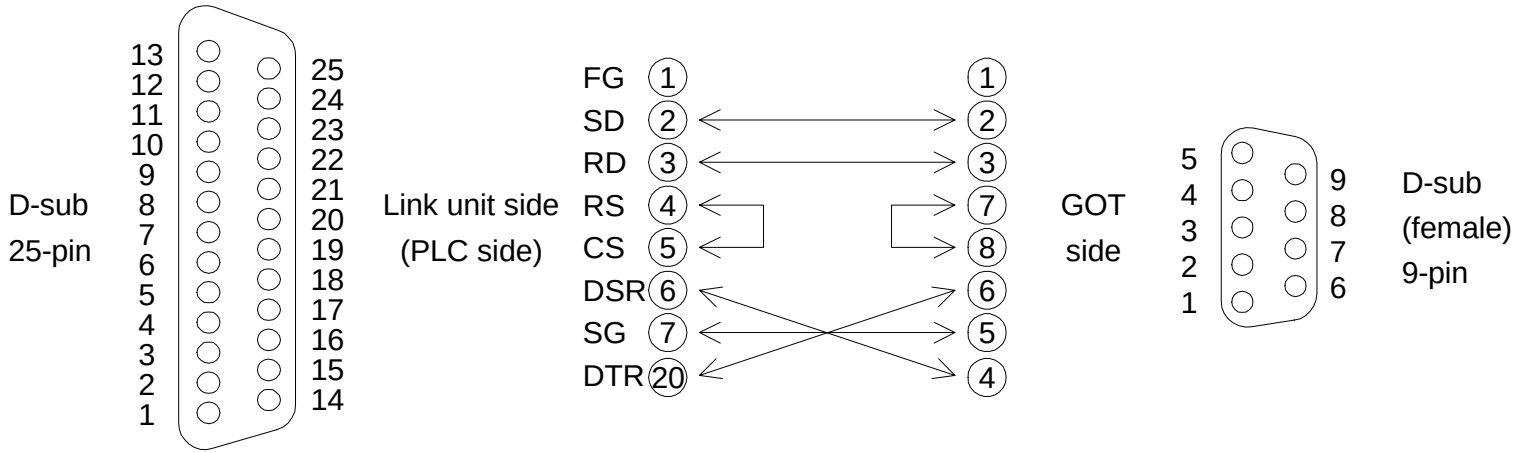
- Connection diagram

  Connect the GOT and the link unit (PLC) as shown below.

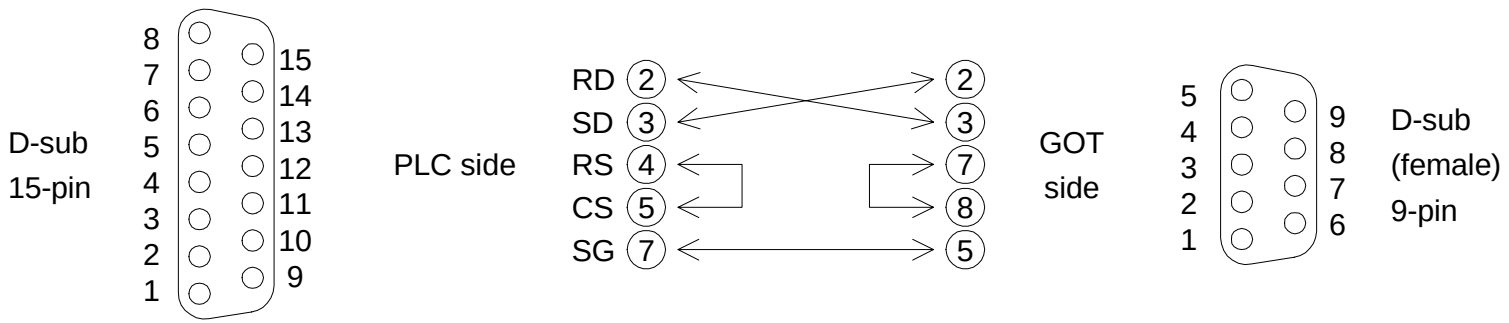
  < For link port connection (RS-422) >



< For link port connection (RS-232C) >



< For connection of built-in RS-232C interface >



2.11 Connection by general-purpose communication

The GOT can be connected to a general controller such as micro computer board.
(The connected controller is hereafter referred to as "host (unit)".)

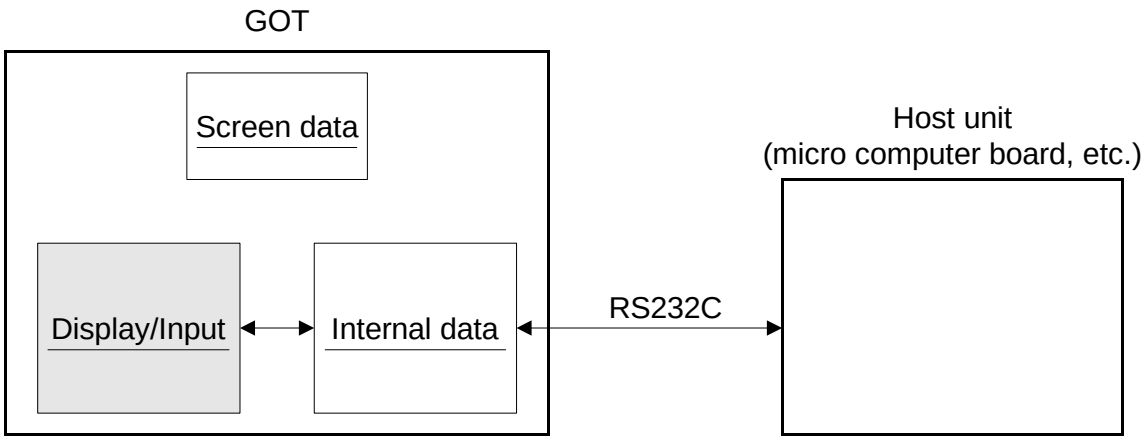
- Outline

  In genera-purpose communication, the host unit is connected to the GOT via the RS-232C and functions as the parent station in communication. Inside the GOT, there is a data area to hold word data and bit data. The host unit can read and write the data area using communication commands.

  The contents of display and control in the GOT are determined by the screen data created using the screen creation software in the personal computer. The screen data specifies the layout of objects displayed on the screen, and specifies actions to be performed by pressing of touch keys.

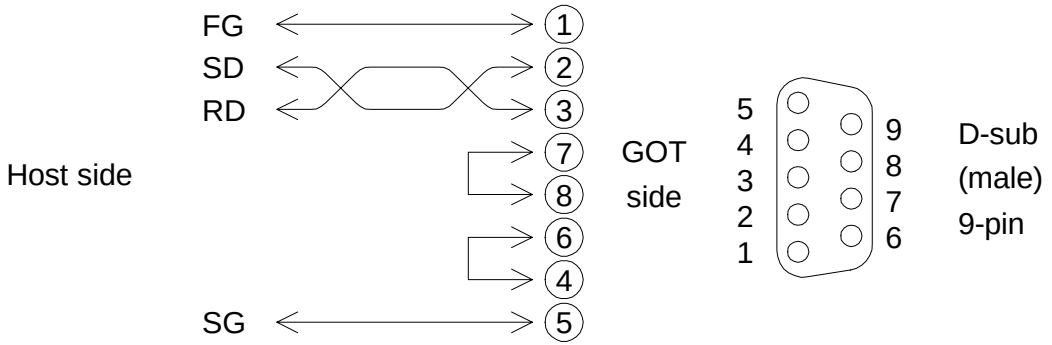
  The GOT is equipped with the function to display the word data in the form of numbers and bar graphs, the function to access the data for changing the status of the bit data using switches, etc.
  The target of access is the data area inside the GOT. The data location to be accessed is specified by the screen data.

Accordingly, to display the data stored in the host unit on the screen, the host unit should transfer the data to the data area inside the GOT using write commands. The transfer destination is a location specified by the screen data. The data change result by manipulation of keys can be transferred from the data area inside the GOT to the host unit if the host unit gives read commands. In general-purpose communication, interrupt codes can be sent as change triggers.



- Connection diagram

  Connect the GOT and the host unit as shown below.



* The control lines RTS, CTS, DTR and DSR are not used.

- Communication setting

  The setting related to communication can be performed using the screen creation software or the GOT main body.

  To use general-purpose communication,

  - Screen creation software: Set the connected personal computer to "General-Purpose Communication".
  - GOT main body: Select "SET-UP MODE", "PLC SYSTEM" and "GENERAL-PURPOSE COMMUNICATION" in this order.

  To set the baud rate, the data length, the stop bit length and the parity,

  - Screen creation software: Select "Others", "System Settings" and "DU Serial Printer Settings"
  - GOT main body: Select "SET-UP MODE" and "SERIAL PORT (RS-232C)" in this order.

Set each parameter to an either value shown below.

Baud rate	19,200 / 9,600 / 4,800 / 2,400 / 1,200 / 600 or 300 bps
Data length	8 or 7 bits
Stop bit length	1 or 2 bits
Parity	Even, odd or none

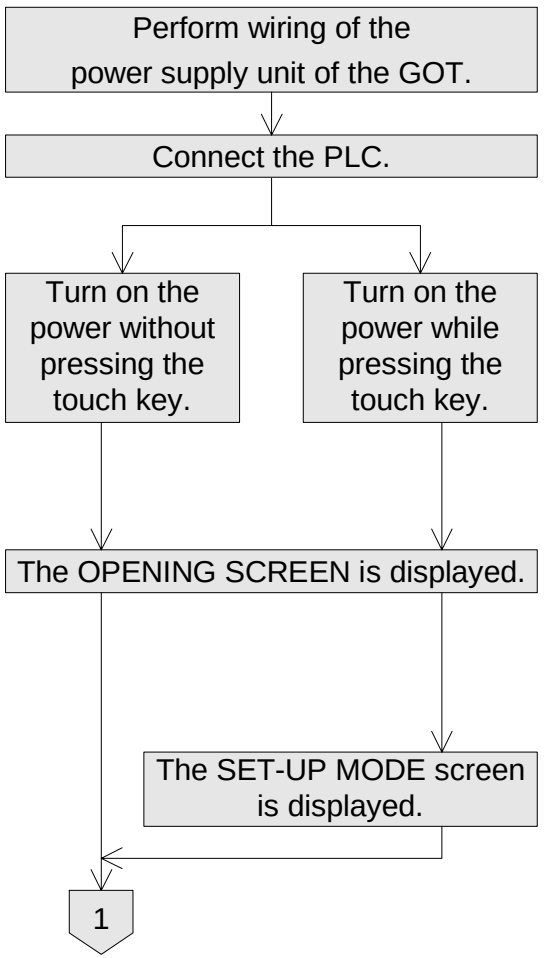
3. Startup

This section describes the startup procedure from turning on of the power of the GOT to selection of the mode.

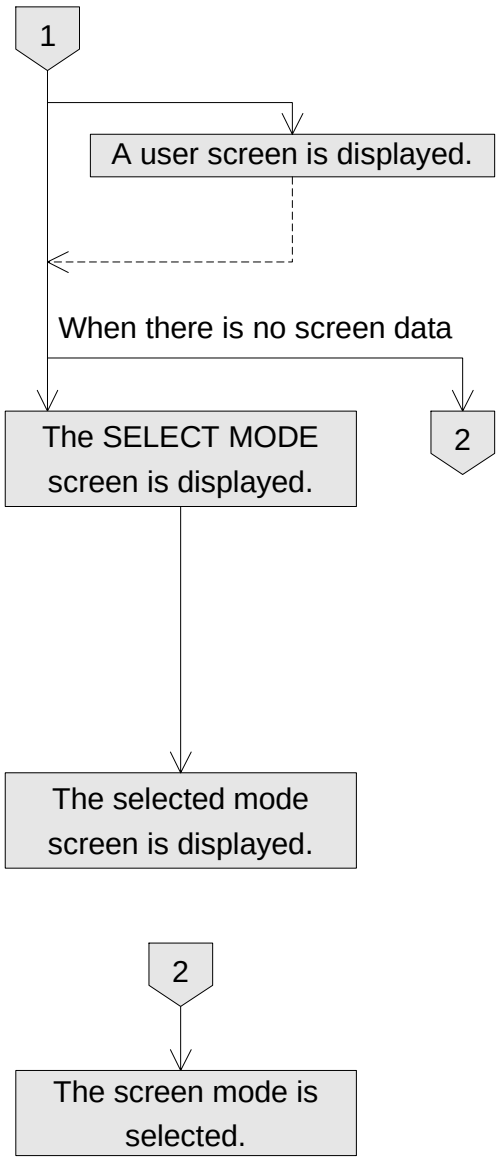
This section describes also the environment setting important to use of the GOT. Make sure to read this section carefully.

3.1 Startup procedure

This paragraph describes the startup procedure from turning on of the power of the GOT to selection of the mode.



- Perform wiring of the power supply unit of the GOT. (Refer to Section 2.)
- Connect the GOT and the PLC with an optional connection cable.
- Turn on the power of the GOT. When the power is turned on while the upper left corner (which functions as a touch key) of the screen of the GOT is pressed and held for 1 second or more, the SET-UP MODE screen is displayed. **(Refer to "3.2 Operation environment setting".)**
- The OPENING SCREEN screen indicating the model name, etc. is displayed for the period set in "OPENING SCREEN" on the SET-UP MODE screen.
- On the SET-UP MODE screen, set the used mode, the connected PLC name, etc. The operation environment can be set on the OTHER MODE screen.



•A user screen is displayed. If any user screen has not been created, the SELECT MODE screen is displayed as follows.

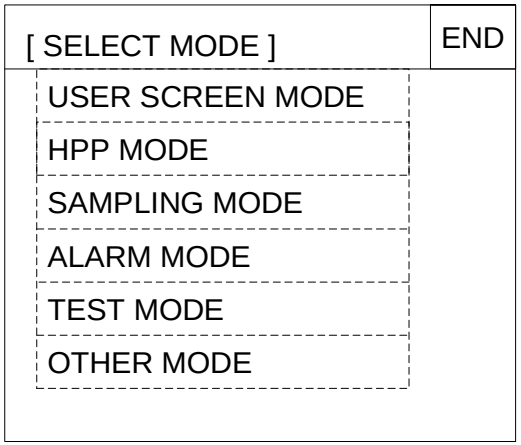
•The SELECT MODE screen is displayed. Each menu item on the screen functions as a touch key. When a desired one is pressed, the corresponding mode is selected.

* This SELECT MODE screen can be called also by pressing a corner of the screen set in "MAIN MENU CALL KEY" on the SET-UP MODE screen.

•The selected mode screen is displayed.

•If the menu call key is not set in "MAIN MENU CALL KEY" on the SET-UP MODE screen, the user screen mode is selected.

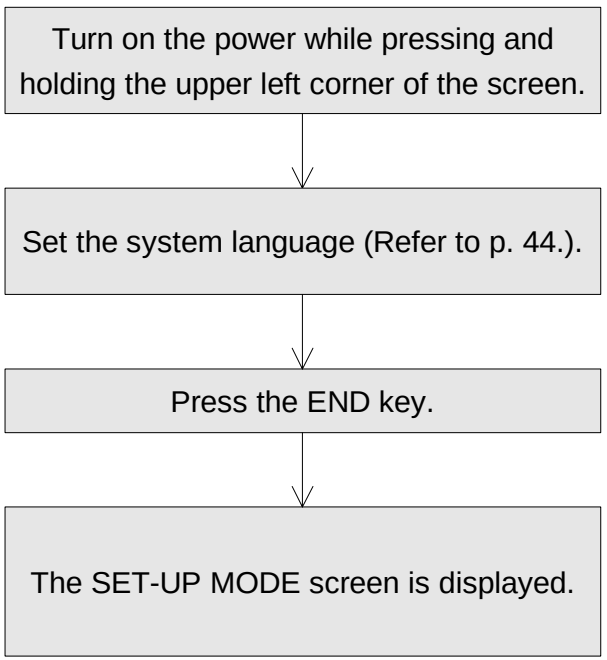
[SELECT MODE screen]

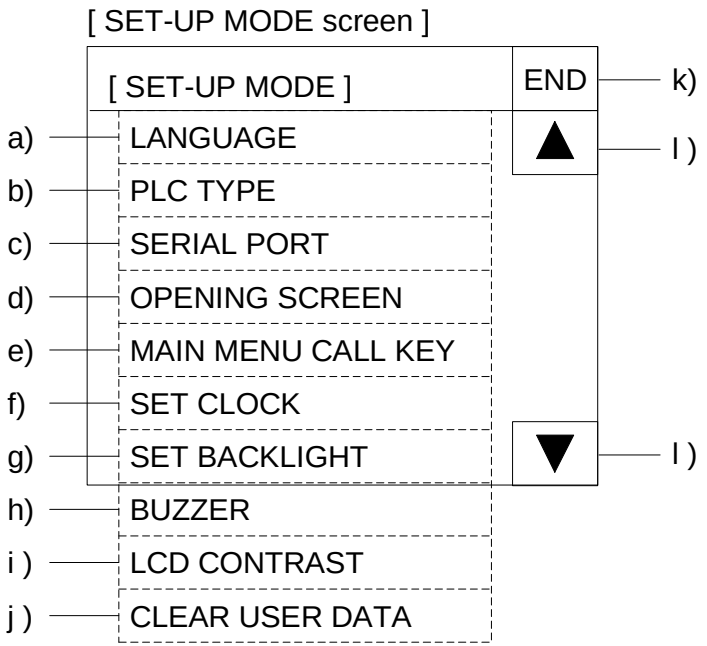


3.2 Operation environment setting

The operation environment setting function performs initial setting important to operation of the GOT. The SET-UP MODE screen can be displayed by turning on the power while pressing and holding the upper left corner of the screen in accordance with "3.1 Startup procedure" or by selecting "SET-UP MODE" on the OTHER MODE screen.

If an entry code has been registered using the security function (described in the F940GOT Operation Manual offered separately), however, the operation environment can be set only when an entry code input by the user is equivalent to the registered entry code.





The areas enclosed with broken lines function as touch keys.

(Broken lines are not actually displayed on the screen.)

a) LANGUAGE
Allows to set the language displayed on the system screens such as Japanese and English.

b) PLC TYPE
Allows to set the connected PLC type.

c) SERIAL PORT
To be selected when a printer is connected to the GOT or when communication is performed between the GOT and a micro computer board.

d) OPENING SCREEN
Allows to set the duration in which the OPENING SCREEN screen is displayed immediately after the power is turned on.

e) MAIN MENU CALL KEY
Allows to set the position of the touch key which calls the SELECT MODE screen from the screen mode (in which a user screen is displayed).

f) SET CLOCK
Allows to set the time used in the time switch and the time display.

g) SET BACKLIGHT
Allows to set the time at which the backlight becomes extinguished.

h) BUZZER
Allows to set the buzzer sound issued when a key is pressed.

i) LCD CONTRAST
Allows to set the LCD brightness.

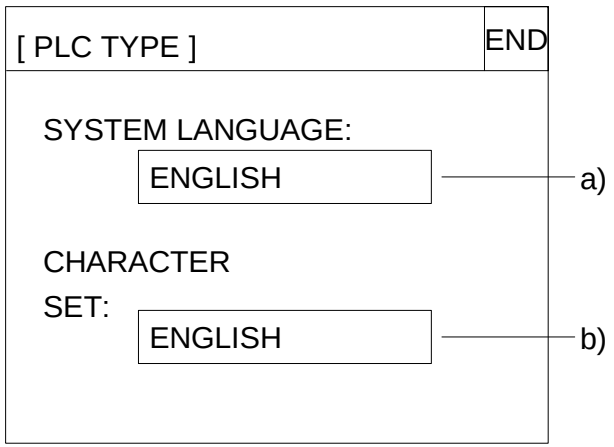
j) CLEAR USER DATA
Deletes the user screen data.

k) END
Exits the SET-UP MODE screen.

l) Cursors
Change over the menu item on the SET-UP MODE screen.

Each setting screen is displayed as shown below. On each screen, when the END key at the upper right corner is pressed after setting is completed, the SET-UP MODE screen is displayed.

[PLC TYPE screen]

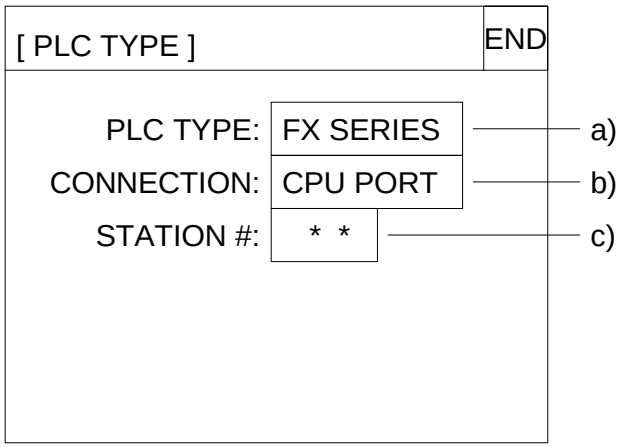


- Set the language used on the system screens and the user screens.

  a) SYSTEM LANGUAGE
  Allows to set the language displayed on the system screens and in error messages.
  JAPANESE and ENGLISH are available.

  b) CHARACTER SET
  Allows to set the language displayed on the user screens. JAPANESE, CHINESE and KOREAN are available. Only one language can be selected at a time.
  (CHINESE and KOREAN will be available in a few days.)

[PLC TYPE screen]



- Select the connected PLC type.
- The areas on the screen enclosed with solid lines function as touch keys. Every time a touch key is pressed, the displayed contents are changed over.

a) PLC TYPE

Allows to select either one among FX SERIES, A SERIES, C SERIES (manufactured by OMRON), N SERIES (manufactured by FUJI Electric) and UNIVERSAL (general-purpose communication).

b) CONNECTION

Allows to set the connection method of the PLC selected in 1] above.

- CPU PORT: The GOT is connected directly to the program connector in the PLC.
  The FX Series and the A Series are available.
- LINK PORT (RS422): The GOT performs communication in accordance with the RS-422 via a link unit.
  The A Series, the C Series and the N Series are available.
- LINK PORT (RS232C): The GOT performs communication with the DU in accordance with the RS-232C via a link unit.
  The A Series, the C Series and the N Series are available.

c) STATION #
Allows to set the station No. of the link unit connected to the GOT when "LINK PORT" is selected in 2] above.

[SERIAL PORT]

[SERIAL PORT]			END
SPEED	:	9600 bps	
DATA BIT	:	7 bit	
STOP BIT	:	1 bit	
PARITY	:	Even	
HANDSHAKING	:	XON/XOFF	
PRINTAER	:	NOT USED	

- Set the serial communication parameters for the printer used to print out alarm messages and sampling data.
- Make sure to set "PRINTER" to "USE" when a printer is connected.
  When it is set to "USE", the two-port interface function is not available.
- The areas enclosed with broken lines function as touch keys.
  Every time a touch key is pressed, the displayed contents are changed over.
- When "LINK PORT (RS232C)" is selected on the PLC TYPE screen, any printer cannot be connected.

[OPENNING SCREEN]

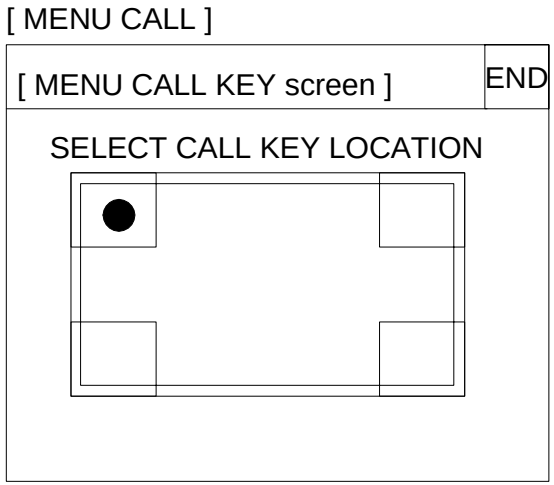
[OPENNING SCREEN]							END
DISPRAY TIME 20 SEC.							
5	6	7	8	9	—	▲	CLR
0	1	2	3	4		▼	ENT

•Set the duration in the unit of second in which the OPENING SCREEN screen indicating the model name, the version, etc. is displayed when the power is turned on.

•When the touch key "DISPLAY TIME" is pressed, the time can be set using the ten-key pad displayed at the bottom of the screen.

•Enter the desired display time using the ten-key pad displayed at the bottom of the screen, then press the ENT key to register the input time.

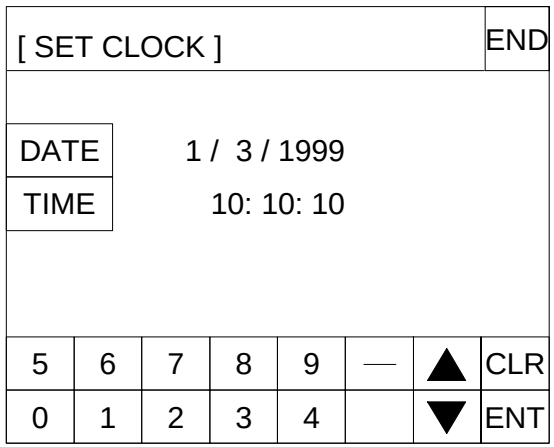
* When "DISPLAY TIME" is set to "0", the OPENING SCREEN screen indicating only the version is displayed for 4 seconds.
It is recommended to set 1 second or more for the FX Series and 4 seconds or more for the A Series.



•Set the menu call key which changes over the screen mode (in which a user screen is displayed) to the SELECT MODE screen.
The menu call key is mesh type, and 2 x 2 in size.

- **One or two corners can be selected among the four corners of the screen.**
- When the menu call key is not set, only the screen mode is available. Any other mode is not available.
- If another touch key is assigned to the corners to which the menu call key has been assigned, the menu call function is disabled.

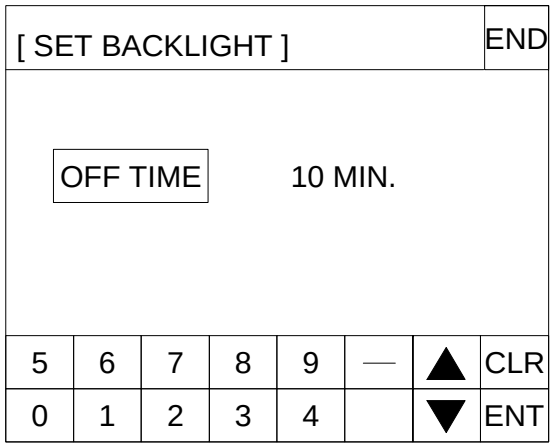
[SET CLOCK]



- Set the time used in the time switch, the sampling mode and the alarm mode.

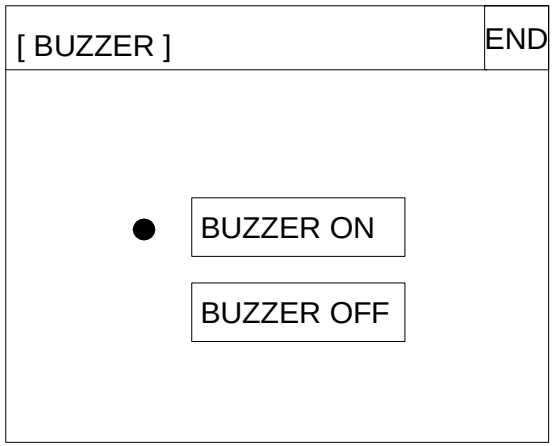
•When "DATE" or "TIME" is selected, date or time can be entered using the ten-key pad displayed at the bottom of the screen. Enter the desired date or time, and press the ENT key to register it.

[SET BACKLIGHT]



- Set the time at which the backlight of the display screen becomes extinguished. When a touch key is not pressed or the user screen is not changed over within the specified OFF time, the backlight becomes extinguished.
- When "OFF TIME" is pressed, the OFF time can be set within the range of 0 to 99 minutes using the ten-key pad displayed at the bottom of the screen. Enter the desired time, and press the ENT key to register it.
- The service life is 25,000 hours in the backlight.
- The control device b2 should be set to ON so that the backlight OFF function is enabled. (Refer to the F940GOT Operation Manual.)

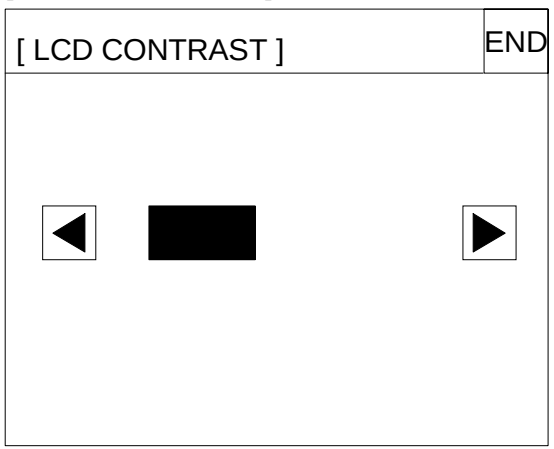
[BUZZER]



•Set whether or not the buzzer sound is to be issued when a key is pressed or an error occurs.

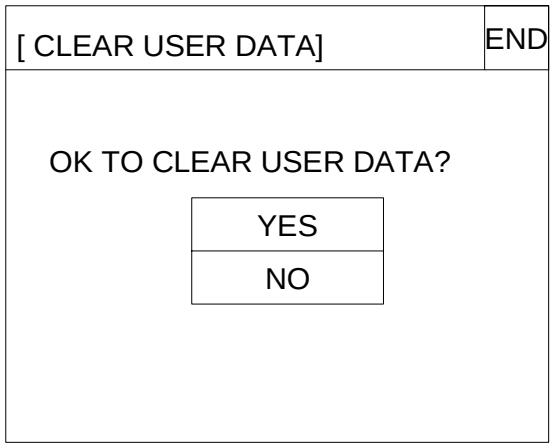
•Select "BUZZER ON" or "BUZZER OFF".

[LCD CONTRAST]



•The LCD brightness can be set in 15 steps.
When the ► key is pressed, the LCD becomes darker.
When the ◄ key is pressed, the LCD becomes brighter.

[CLEAR USER DATA]



- The screen data stored in the GOT can be cleared.
- When "YES" is selected, the message "NOW CLEARING USER DATA" is displayed and no key is accepted. When the message "COMPLETED!" is displayed, the data is cleared completely.

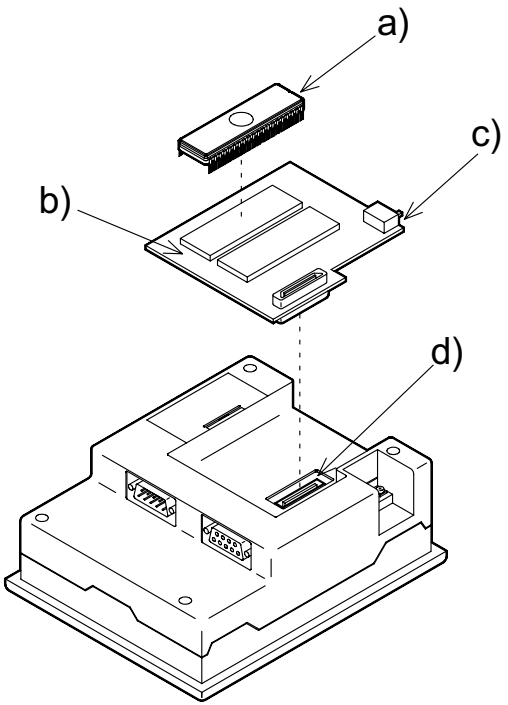
4. Extension Module

This section describes handling of the extension module interface provided on the rear face of the GOT.

4.1 Data transfer adaptor

The data transfer adaptor F9GT-40UMB is used to store the user screen data stored in the EPROM for user screen data FX-EPROM-4M to the flush memory in the GOT. (The user screen data can be written to the EPROM using the screen creation software.)

This adaptor is useful when a same screen is transferred to two or more GOT units.



Operating procedure

a)FX-EPROM-4M

b)F9GT-40UMB

c)User screen/system screen selector switch

d)Extension module interface

1)Attach the FX-EPROM-4M a) in which user screens are saved to the F9GT-40UMB b).
Pay rigid attention not to bend leads of the FX-EPROM-4M a) nor touch them with bare fingers.

2)Put upward the user screen/system screen selector switch c).
If this switch is put downward by mistake and data is transferred, user screens will not be displayed normally.
In this case, put the selector switch c) upward and transfer the data again.

3)Attach the F9GT-40UMB to the extension module interface d).
Make sure that the power of the GOT has been turned off preliminarily.

4)Turn on the power of the GOT. Then, the screen data will be automatically transferred to the GOT in 2 to 3 minutes.

5)When transfer is finished, make sure to turn off the power of the GOT and remove the adaptor b).

5. Maintenance

This section describes maintenance such as replacement of the battery and the backlight.

5.1 Outline of maintenance

Cautions on startup and maintenance

- Connect correctly the battery for memory backup. Never charge, disassemble, heat, put into fire nor short-circuit the battery for memory backup.
  If the battery for memory backup is handled in such a way, it may be burst or take fire.
- Before replacing the backlight, turn off the power and remove the graphic operation terminal main body from the panel.
  If the backlight is replaced while the graphic operation terminal is attached on the panel, it may drop and injure you.
  If the backlight is replaced while the power is supplied, you may get electrical shock.

CAUTION

- Make sure to turn off the power before attaching or removing an extension module.
  If an extension module is attached/removed while the power is supplied, the contents stored in the memory or the EPROM memory itself may be damaged.
- Never disassemble nor modify the unit.
  If the unit is disassembled or modified, failure, malfunction or fire may be caused.
  * For repair, contact MITSUBISHI ELECTRIC SYSTEM SERVICE.
- Turn off the power before connecting or disconnecting a connection cable.
  If a connection cable is connected/disconnected while the power is supplied, failure or malfunction may be caused.

Cautions on disposal

- When disposing of the unit, handle it as industrial waste.

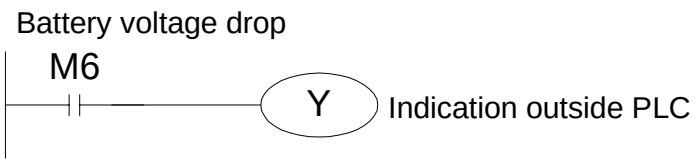
Consumable parts which may shorten the service life are not built in the GOT.
However, the service life is 5 years in the battery, approximately 50,000 hours in the LCD and 25,000 hours or more in the backlight.
It is recommended to replace these parts periodically using the procedure described below.
In addition, inspect other equipment and pay rigid attention to the following points.

5.2 Replacement of battery

When the battery voltage drops, the control devices for system information set by the screen creation software becomes ON. The control devices are interlocking with auxiliary relays in the PLC. It is recommended to attach a lamp using the output of the PLC so that the ON/OFF status of the 7th bit can be monitored from the outside.
For the details of control devices, refer to the Operation Manual.

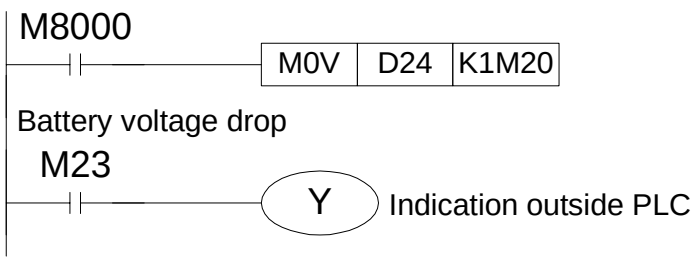
Example :When the FX-PCS-DU/WIN are used.
When the head No. of the control devices is set to M0.

M6: Battery voltage drop Becomes ON when the battery voltage drops.
This control device is used in a sequence program as follows.

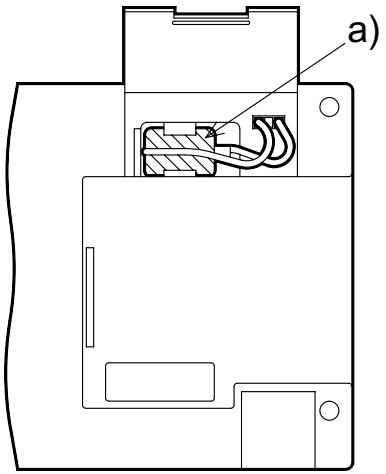


Example :When the SW1D5C-GOTR-PACK are used.
When the system information of the write device is set D20.

D24 b3: Battery voltage drop Becomes ON when the battery voltage drops.
This control device is used in a sequence program as follows.



The alarm history and the sampling data are held for approximately 1 month after the control device for battery voltage drop becomes ON. After 1 month, these data cannot be held. It is recommended to replace the battery soon.



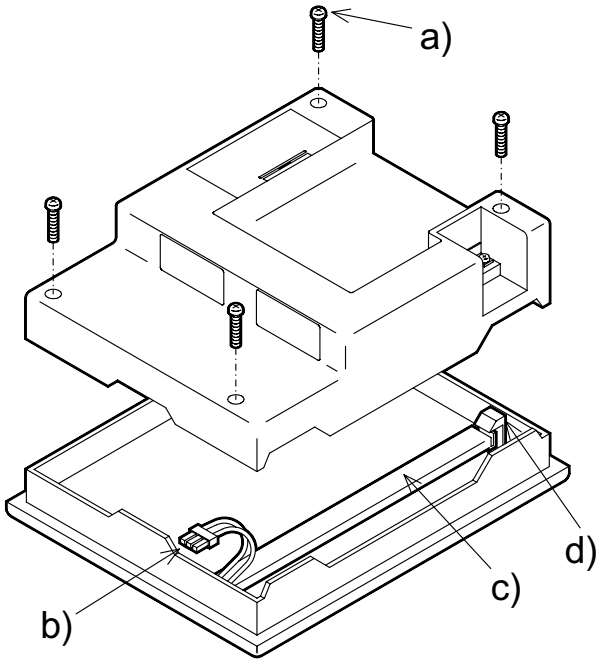
a) Battery PM-20BL

1) Turn off the power of the GOT.
2) Open the small window provided on the rear panel.
3) Remove the current battery from the holder. Disconnect the connector.
4) Within 30 seconds, connect the connector of a new battery.
5) Insert the new battery into the holder. Close the small window.

* The battery backs up the alarm history, the sampling data and the current time. Because the screen data is stored in the flush memory, it is held even if the battery becomes disabled.

5.3 Replacement of backlight

Replace the backlight F9GT-40LTS using the following procedure.



Replacement procedure

a)Mounting screw

b)Backlight connector

c)Backlight F9GT-40LTS

d)Backlight fixing holder

1) Make sure that the power of the GOT is turned off. Remove the mounting screws a) located at four corners, and slowly remove the rear panel.

   Note: If the rear panel is pulled with an excessive force, the cable connecting the rear panel and the front panel may be disconnected or the PCB may be damaged. Be careful.

2) Disconnect the backlight connector b).

3) Remove the backlight F9GT-40LTS c) from the backlight fixing holder d).
   It is recommended to insert a screwdriver into the holder. Then, the backlight can be taken out easily.

4) Attach a new backlight F9GT-40LTS c). Put it into the GOT by performing the steps a) to c) in the reverse order

6. Troubleshooting

This section describes troubleshooting during operation.

6.1 Power indication

When an abnormality has occurred, check the following points.

The POWER LED in the GOT is lit by the 5 V power supply inside the GOT. When the POWER LED is extinguished, nothing is displayed on the screen or no key is accepted, the power supply may be insufficient.

Especially when the power is supplied from the FX Series PLC, the following points are suspected.

1) Much sensor current is used.
2) Many extension blocks are used.

Disconnect all equipment except the GOT from the +24 terminal in the FX Series PLC, and check whether the GOT operates normally.

When the display screen is dark, adjust "LCD CONTRAST" on the SET-UP MODE screen. When the screen is still dark, it is recommended to replace the backlight (F9GT-40LTS).

The table below shows the list of error messages displayed during manipulation and operation of the GOT.

Confirm the contents of an error, and take appropriate actions.

Error message	Contents	Actions
CAN NOT WRITE TO PLC MEMORY.	The PLC is running in the EPROM mode. Or the protect switch of the EEPROM is set to ON.	Set the PLC to the RAM mode. Or set to OFF the protect switch of the EEPROM.
PLC IS RUNNING.	A program is tried to be written from the personal computer using "DATA TRANSFER" on the OTHER MODE screen while the PLC is running. Or an entry code has been registered.	Stop the PLC.
DATA IS NOT FOUND.	There are no screen data nor data files.	Create the data using the screen creation software.
DISPLAY SCREEN IS NOT AVAILABLE.	The screen No. 0 or 1 has not been created. There is not a screen (the screen No. 0 in the FX-PCS-DU/WIN-E or the screen No. 1 in the SW1D5C-GOTR-PACK) specified as the screen changeover destination by the screen creation software.	Create the screen No. 0 or 1. Change the screen changeover destination or create the specified screen.

Error message	Contents	Actions
COMMUNICA-TION ERROR OCCURS.*1	The power supply of the PLC is set to OFF.	Set to ON the power of the PLC.
	The cable is imperfectly connected or defective.	Connect the cable correctly. Or replace the cable with a new one.
	The power of the PLC was set to OFF while communication was performed. The CPUÅEE LED on the PLC started to flash while communication was performed.	Manipulate the personal computer again. Remove the cause of flashing of the LED, then manipulate the personal computer again.
SET NUMBER IS INCORRECT.	The input value is outside the allowable set range.	Refer to the manual, and input a value within the set range.
DEVICE ERROR.	The input device is outside the allowable set range. Example: A word device was specified though a bit device had to be specified.	Refer to the manual, and specify a device within the set range.

Error message	Contents	Actions
CAN NOT USE THE FUNCTION.	An entry code has been registered in the PLC.	Unlock or delete the entry code in "ENTRY CODE" on the OTHER MODE screen.
	The created screen data is destroyed.	Clear all data by pressing the ACK key.

* When it is difficult to search the changed data, it is recommended to write the data again to the GOT from the screen data backup file created using the screen creation software.

*1 When the cause of the communication error is removed, the error message automatically disappears (and the GOT automatically recovers to the normal status.).

7. Additional Functions (in Ver3.00 or later)

7.1 Applicable Versions and Models

Table 7.1 :

Model name	Version
F940GOT-SWD-E, F940GOT-LWD-E	Unit manufactured in July, 1999 or later (whose manufacturer's serial No. is "97***" or later) Ver. 3.00 or later

Contents of Additional Functions

1) MELSEC QnA Series PC can be connected.
   CPU direct connection (RS-422) and computer link connection (RS-422, RS-232C) are available.
2) PC manufactured by Allen-Bradley can be connected.
3) Bar code reader can be connected.
4) Display screen hard copy function.
   The screen being displayed can be output to a printer by pressing a touch key or by setting to ON/OFF a bit device in the PC.
5) Key codes are added for touch keys available to display the alarm history.
6) The initial display position of the ten-key window available to input numerics and ASCII codes can be specified.

   * The additional functions 1) to 4) above are effective from the following software version.
     SW2D5C-GOTR-PACK-E Ver. A manufactured in July, 1999 or later.

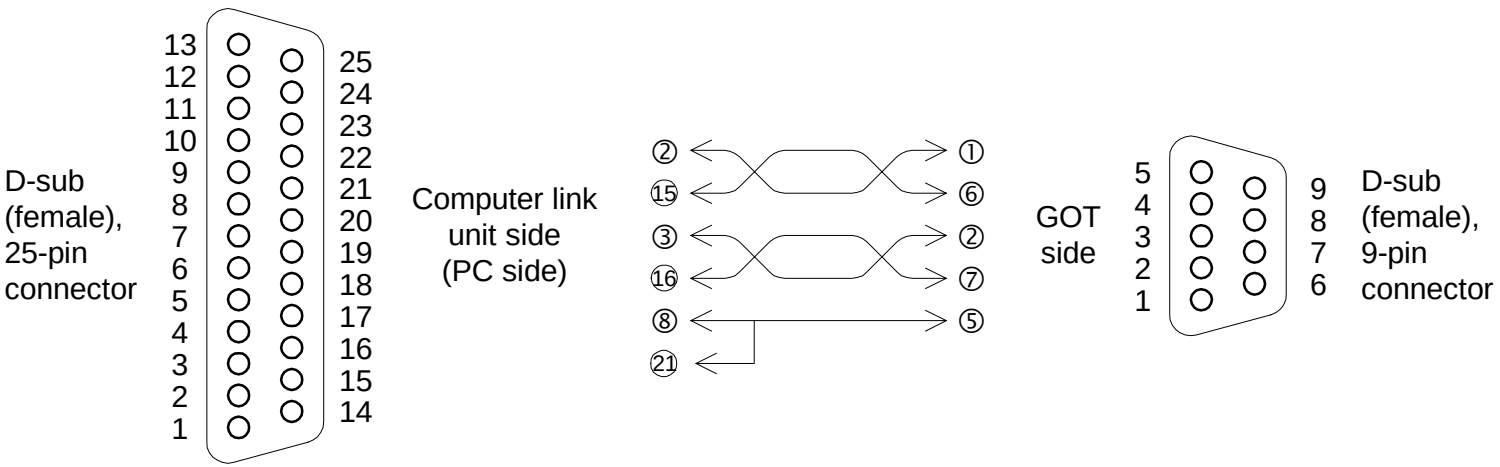
7.2 Connection to MELSEC QnA Series PC

- Applicable PCs

QnA, Q2AS
- CPU direct connection (RS-422)
- Computer link correction (RS-422, RS-232C)
  AJ71QC24, AJ71QC24-R2, AJ71QC24-R4
  A1SJ71QC24, A1SJ71QC24-R2

* Connection is same as that of the A Series except computer link connection via the RS-422 interface whose connector is D-sub, 25-pin type.
Refer to connection diagrams of the A Series.

<Communication via RS-422>
When the RS-422 interface for computer link connection is D-sub, 25-pin connector



Caution: When a personal computer is connected using the two-port interface function built in the F940GOT during CPU communication, only the personal computer software SW□D5C(F)-GPPW is available for communication.

7.3 Connection to SLC 500 Series

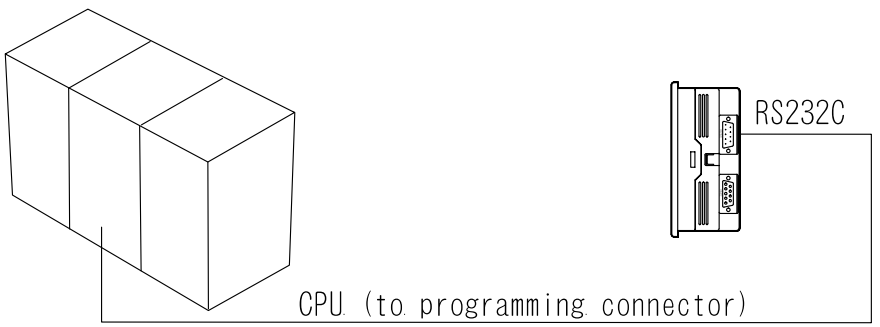
The SLC 500 Series PC manufactured by Allen-Bradley can be connected using a programming connector in the PC.

- Applicable PCs

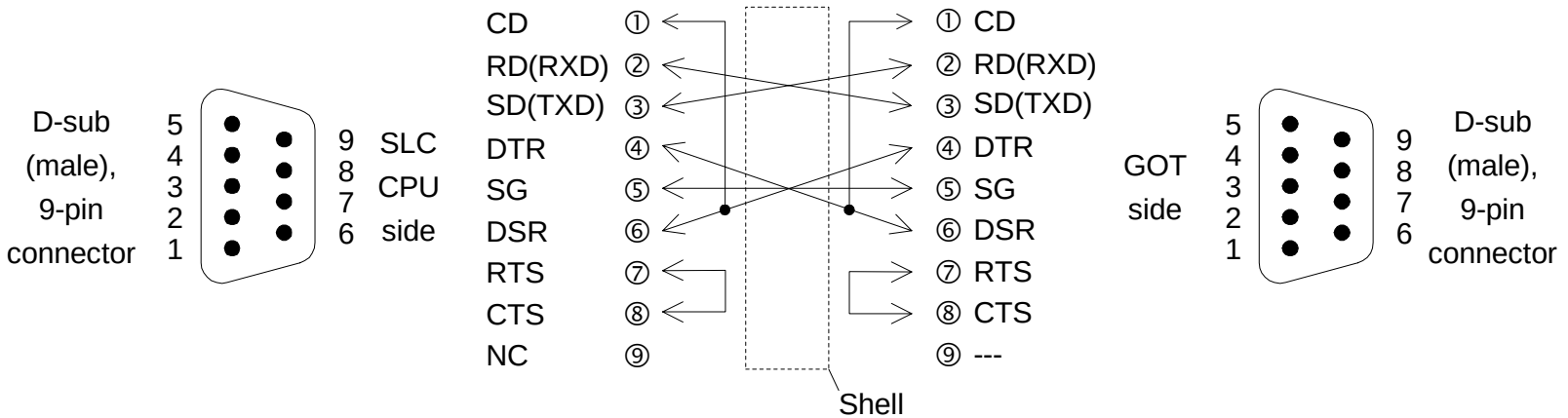
<SLC 500 Series>	<Connection status>
SLC5/03, SLC5/04	CPU direct connection (RS-232C)

For the communication setting, refer to the F940GOT Operation Manual.

- System configuration



- Connect the GOT and the SLC Series PC as shown below.
  For the cable length and the detailed specifications of the SLC Series, refer to the manual of the SLC Series.



7.4 Connection to Bar Code Reader

The F940-GOT can be connected to a bar code reader.

- Applicable bar code readers
  The F940-GOT can be connected to any bar code reader whose communication specifications and data format are as shown below.

Table 7.2 :Communication specifications

Communication port	RS232C
Communication baud rate	9600bps
Data length	8 bit
Stop bit length	1 bit
Parity	Even

Table 7.3 :Data format

Data (8 bits)	CR (0DH)

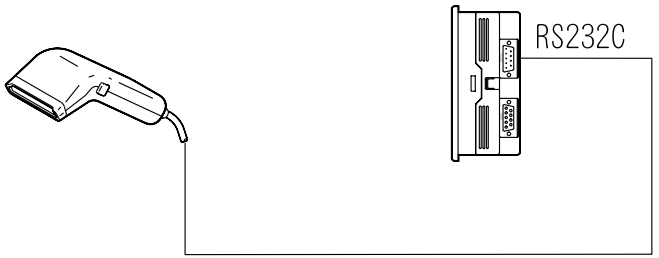
Data : ASCII code

Header : None

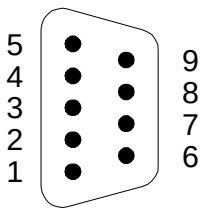
End code : CR (0DH)

For the communication setting and sequence programs, refer to the F940GOT Operation Manual offered separately.

- System configuration



- Connection



1:None	6:DSR
2:RD(RXD)	7:RTS
3:SD(TXD)	8:CTS
4:DTR	9: ---
5:SG	

* Because the RS-232C connector is used to connect a bar code reader, the printout function and the two-port interface function are not available while a bar code reader is connected.
When the F940GOT is connected to a PC unit via RS-232C, any bar code reader cannot be connected.

7.5 Screen Hard Copy Function

The screen being displayed can be output to a printer.

- Applicable printers
  Printer with ESC/P J84, RS-232C interface
  * Verified printer model name LBP450 (A4 laser printer) manufactured by CANON
- Printable screens
  User screens (in the screen mode)
  System screens cannot be printed out.
- Communication parameter setting
  - Communication baud rate:
  - Data length: 8 bits
  - Stop bit length: 1 or 2 bits
  - Parity: Even, odd or none
  - Flow control:
  - Printer: Connected or not connected

* Cautions on connection

1) When the F940GOT is connected to a PC via RS-232C or to a bar code reader, the screen hard copy function is not available.
2) System screens cannot be printed out.
3) Because the connector cover on the rear face should be open in a handy display unit, its dust-proof ability and water-proof ability are not effective.

7.6 Additional Function in Alarm History Display

- The following touch keys (key codes) are added in the alarm history display function.

Table 7.4:

Key code	Description of function	
FFB6 (H)	Deletes displayed alarms selected on the screen.	While alarm devices are set to ON, selected alarms or the entire alarm history is not deleted.
FFB7 (H)	Deletes the entire alarm history.	

- The "delete" touch key having the same function as that of FFB6 is added also in the alarm history in the alarm mode.

7.7 Specification of Ten-Key Window Initial Display Position

- The initial display position of the ten-key window available to input numerics and ASCII codes was fixed at the lower right corner conventionally.
  Now, the initial display position can be specified for each screen using the screen creation software.

8. Additional Functions (in V3.10 or later)

8.1 Applicable Versions and Models

- Versions
  F940GOT-SWD-E: Unit manufactured in October, 1999 or later
  F940GOT-LWD-E (Whose manufacturer's SERIAL No.9X**** or later)

- Software
  SW3D5C-GOTRE-PACK Version.A December, 1999 or later

- Additional Functions

  1) Additional status monitoring function
     Bit devices in the PLC can be set to ON/OFF, specified bit devices can be set to ON/OFF at a constant cycle, and constants can be written.

  2) Additional touch key and indicator figures

  3) Additional shading patterns

9. Additional Functions (in V4.00 or later)

9.1 Applicable Versions and Models

- Versions
  F940GOT-SWD-E: Unit manufactured in January, 2000 or later
  F940GOT-LWD-E (Whose manufacturer's SERIAL No.01**** or later)

- Software
  SW4D5C-GOTRE-PACK Version.A January, 2000 or later

- Additional Functions

  Correspondence of character font
  "SET UP MODE" → "LANGUAGE" → "CHARACTER SET" → "WEST EUROPE"

  - Italian, English, Dutch language, Swedish, Spanish, Danish language, German, Portuguese, and French

Under no circumstances will MITSUBISHI ELECTRIC be liable responsible for any consequential damage that may arise as a result of the installation or use of this equipment.
All examples and diagrams shown in this manual are intended only as an aid to understanding the text, not to guarantee operation. MITSUBISHI ELECTRIC will accept no responsibility for actual use of the product based on these illustrative examples.
Owing to the very great variety in possible application of this equipment, you must satisfy yourself as to its suitability for your specific application.

HARDWARE MANUAL

F940GOT-SWD-E/LWD-E

MITSUBISHI ELECTRIC CORPORATION

HEAD OFFICE: MITSUBISHI DENKI BLDG MARUNOUCHI TOKYO 100-8310 TELEX: J24532 CABLE MELCO TOKYO
HIMEJI WORKS: 840, CHIYODA CHO, HIMEJI, JAPAN

JY992D77901D
(MEE0002)

Effective FEB. 2000
Specification are subject to change without notice.