# GOT-F900

## F940WGOT Series (F940WGOT-TWD) Installation Manual

### Manual Number

<table>
<thead>
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<th>Manual Name</th>
<th>Manual Number</th>
<th>Description</th>
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<tr>
<td>F940-40RMB</td>
<td>JY992D98601</td>
<td>This manual contains explanations for installation and operating procedures of the F940-40RMB data transfer adapter.</td>
</tr>
<tr>
<td>F940GOT-TWD</td>
<td></td>
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</table>

### Notes

- Either manual is necessary.
- Refer to necessary, please.
- Refer to the Programming manual (II) or relevant hardware manuals for details concerning the applicable PLC.

## 1. Introduction

The F940WGOT series (hereafter called “GOT”) is to be mounted on the face of a control panel or operation panel, and connected to the programming port (CPU port) or the communication port (communication port) of a PLC. Various devices can be monitored and PLC data changed through the GOT screens. Several display screens are built-in to the GOT, and additional personalized screens can be created by the user.

1. The GOT can connect to MELSEC FX, A, QnA and Q PLCs as well as a host of third party manufactured units. Further information can be found in GOTS-F900 Series Hardware Manual.
2. PLC user programs can be downloaded, uploaded and monitored using programming software GX-Developer or FX/PCS/Win-E on a personal computer via the GOT. Further information can be found in GOTS-F900 Series Operation Manual.
3. Display screens are created using the following software:

### Software Name

- **GT Designer2**
  - **BWIDCSD-GTDT-E** (Right edge version)
  - **BWIDCSD-GOTT-PACK** (CT indicates version)

### Production Name

- **JY997D09101**
- **FX-50DU-CAB**
  - Communication cable (GOT -F900 Series graphic operation terminal main unit)
- **FX-50DU-CAB0**
  - Communication cable (GOT -F900 Series graphic operation terminal main unit)
- **FX-50DU-CAB0eni**
  - Communication cable (GOT -F900 Series graphic operation terminal main unit)

## 2. Specifications

### 2.1 General Specifications

#### Operating Temperature

<table>
<thead>
<tr>
<th>Specification</th>
<th>Range</th>
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<tbody>
<tr>
<td>CPU operating temperature</td>
<td></td>
</tr>
<tr>
<td>PLC operating temperature</td>
<td></td>
</tr>
</tbody>
</table>

#### Operating Atmosphere

- Vertical flat mounting: 0 ~ 50 °C (32 ~ 122 °F)
- Horizontal mounting: 0 ~ 50 °C (32 ~ 122 °F)

#### Humidity

- 10 ~ 90% Relative Humidity, No condensation

#### Operating atmosphere

- Must be free of lamp black, corrosive gas, flammable gas, or excessive amount of electroconductive dust particles and must be no direct sunlight. (Same as for saving)

#### Vibration Resistance

- 10 ~ 57 Hz: 0.075 mm Half Amplitude
- 57 ~ 150 Hz: 9.8 m/s² Acceleration

#### Shock Resistance

- 10 ~ 57 Hz: 0.035 mm Half Amplitude
- 57 ~ 150 Hz: 4.9 m/s² Acceleration

#### Grounding Resistance

- 100 Ω or less. (Class B)

## Caution

During abnormal communication (including cable breakages) ages when monitor within the GOT, communications are disabled before the interface bus is interrupted. It is impossible to operate switches or devices in the PLC through the GOT. Communication and normal operation resumes when the GOT system is correctly configured. DO NOT configure emergency stop or safety features to operate through the GOT, and be sure that there is no adverse consequences in the event of a PLC communications malfunction.

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### 1.2 Dimensions and Each Part Name

**Dimensions:** (mm) **MASS:** (Weight): 1 kg (2.2 lbs)

- Accessory: Mounting brackets, Tightening bolt (M3, 6 bolts), Packing seal dust and water resistance.
This manual contains text, diagrams and explanations which will guide the reader in the correct installation, safe use and operation of the F940WGOT-TWD and should be read and understood before attempting to install or use the unit. Further information can be found in the associated manuals listed below.

F940WGOT Series (F940WGOT-TWD) Installation Manual

1. Introduction

The F940WGOT series (hereafter called “GOT”) is to be mounted on the face of a control panel or operation panel, and connected to the programming port (CPU port) or the communication port (communication port) of a PLC. Various devices can be monitored and PLC data changes through the GOT screens. Several display screens are built in to the GOT, and additional personalized screens can be created by the user.

1) The GOT can connect to MELSEC FX, A, QnA and Q PLCs

2) PLC user programs can be downloaded, uploaded and monitored using programming software GX-Developer or FX/PCs-WIN/EN on a personal computer via the GOT. Further information can be found in GOT-F900 Series Operation Manual.

3) Display screens are created using the following software:

   - Software Name: VT Designer2
     - Version: (separate volume)
     - GOT-F900 and GOT-A900 Series (for Windows) screen creation software.

   - Software Name: SW5D5C-GOTR-PACK E (version 5.05F) or later
     - GOT-F900 Series (separate volume)
     - Screen or GOT-A900 (for Windows) screen creation software.

2.1 General Specifications

- Vertical and flat mounting: 0 ~ 40 °C (32 ~ 104 °F)
- Storage Temperature -20 ~ 60 °C (-4 ~ 140 °F)
- Humidity 35 ~ 85% Relative Humidity, No condensation
- Operating atmosphere
  - Operating temperature: 57 ~ 150 Hz: 4.9 m/s² Acceleration
  - Operating environment: Sweep Count for X, Y, Z: 10 times (80 min. in each direction)

2.2 Dimensions and Each Part Name

1.2 Dimensions and Each Part Name

- Dimensions: mm (inches) MASS (Weight): 1 kg (2.2 lbs)
- Accessories: Mounting brackets, Tightening bolt (M3, 6 bolts), Packing seal for dust and water resistance

Note:
- DO not lay signal cables near high voltage power cables or allow them to share the same trunking duct, otherwise, effects of noise or surge induction are likely to take place. Keep a safe distance of more than 100 mm from these wires.
- Operate touch switches on the display screen by hand. DO NOT use excessive force, or attempt operate them with hard or pointed objects.

Accurately draw a screwdriver or similar object for example may break the screen.

Caution

During abnormal communication (including cable breakages) ages when monitor within the GOT, communication becomes impossible and if the CPU is interrupted. It is impossible to operate switches or devices in the PLC through the GOT. Communication and normal operation resumes when the GOT system is correctly configured. DO NOT configure emergency stop or safety features to operate through the GOT, and be sure that there is no adverse consequences in the event of a fault - PLC communications malfunction.
1. Introduction

The F940WGOT series (hereafter called "GOT") is to be mounted on the face of a control panel or operations panel, and connected to the programming port (CPU port) or the communication port (communication port) of a PLC.

Various devices can be monitored and PLC data changed through the GOT screens. Several display screens are built-in to the GOT, and additional personalized screens can be created by the user.

1) The GOT can connect to MELSEC FX, A, QnA and Q PLCs as well as a host of third party manufactured units. Further information can be found in GOT-F900 Series Hardware Manual.

2) PLC user programs can be downloaded, uploaded and monitored using programming software GX-Developer or FX-PCS/Win-E on a personal computer via the GOT. Further information can be found in GOT-F900 Series Operation Manual.

3) Display screens are created using the following software:

- GT Designer2
- SWD2SC-GTDT-E
- SWD2SC-GOTR-PACK
- FX-PCS-DU/Win-E

Software Name

- GT Designer2
- SWD2SC-GTDT-E
- SWD2SC-GOTR-PACK
- FX-PCS-DU/Win-E

Version

GOT-F900 and GOT-A900 Series (for Windows) screen creation software.

1.1 Product Lists

Production No. Description

FX40GT-WTG-E Graphic operation terminal unit

Communication cable (GOT ↔ CPU port in FX3, FX3S, FX3H, FX3M, FX3G of FX3 series PLC) - intermittent vibration

FX-50DU-CAB Communication cable (GOT ↔ CPU port in FX3, FX3S, FX3H, FX3M, FX3G of FX3 series PLC) - intermittent vibration

FX-50DU-CAB/0EN Communication cable (GOT ↔ CPU port in FX3, FX3S, FX3H, FX3M, FX3G of FX3 series PLC) - intermittent vibration

FX-60DU-CAB Communication cable (GOT ↔ CPU port in FX3, FX3S, FX3H, FX3M, FX3G of FX3 series PLC) - intermittent vibration

FX-60DU-CAB/0EN Communication cable (GOT ↔ CPU port in FX3, FX3S, FX3H, FX3M, FX3G of FX3 series PLC) - intermittent vibration

1.2 Specifications

1.2.1 General Specifications

Item Specification

Operating Temperature

- Horizontal mounting: 0 ~ 40 °C (32 ~ 104 °F)
- Vertical and flat mounting: 0 ~ 40 °C (32 ~ 104 °F)

Storage Temperature

-20 ~ 60 °C (-4 ~ 140 °F)

Humidity

85% Relative Humidity. No condensation

Operating atmosphere

Must be free of lamp black, corrosive gas, flammable gas, or excessive amount of electroconductive dust particles and must be no direct sunlight. (Same as for saving)

Vibration Resistance

- Intermittent vibration: 10 ~ 57 Hz: 9.8 m/s²
- Continuous vibration: 57 ~ 150 Hz: 9.8 m/s²

Impact Resistance

- 57 ~ 150 Hz: 4.9 m/s² Acceleration (SwEEP Count for X, Y, Z, 10 times (80 min. in each direction))
- 57 ~ 150 Hz: 4.9 m/s² Acceleration (SwEEP Count for X, Y, Z, 10 times (80 min. in each direction))

Grounding resistance

100 Ω or less. (Class B)

Protection

IP 66F

Caution

During abnormal communication (including cable breakages) ages when monitor within the GOT, communication abnormality or communication cable used, one of the CPUs is interrupted. It is impossible to operate switches or devices in the PLC through the GOT. Communication and normal operation resumes when the GOT system is correctly configured. DO NOT configure emergency stop or safety features to operate through the GOT, and be sure that there is no adverse consequence in the event of a GOT - PLC communications malfunction.
3. Installation

**Note:**
- Do not mount the GOT in an environment that contains dust, soot corrosive or conducive dust, corrosive or flammable gas, or expose the unit to high temperatures, dew condensation, direct sunlight, rain wind or impact and vibration.
- If the GOT is used in such a place, electrical shock, fire, malfunction, damages or deterioration may caused.
- Never drop cutting chips or electric wire chips into the ventilation window of the GOT when drilling screw holes or performing wiring. Such chips may cause fire, failure or malfunction.
- Never disconnect the GOT from the PLC power supply.
- Turn off the power before securely connecting any cables. Poor connection may cause malfunction.

The GOT is designed to be mounted in a panel. Install it using the following procedure:

1) Preparing the panel surface.

On the panel surface, cut a rectangular mounting slot of the dimensions shown on the right. At this time, space of 10 mm is required at each of the top and the bottom of the slot, inside the panel for metal fixtures as shown in "4) Dimensions required inside the panel for installation".

2) Inserting the GOT into the panel surface

Attach the packing seal to the GOT, and insert the GOT from the front of the panel surface.

- **a) Packing seal**
- **b) GOT**
- **c) Mounting slot**

3) Fixing the GOT

Pull hooks of the mounting brackets (supplied) into the mounting holes of the GOT. Tighten mounting bolts (also supplied) until the GOT is securely fixed.

Fix mounting bolts in all four positions, above and below the GOT.

- **a) Clamping bolt**
- **b) Mounting bracket**

**Note:**
Make sure to tighten the clamping bolts with a torque of 0.3 – 0.5 Nm.

4) Dimensions required inside the panel for installation

When installing the GOT, make sure that the inner dimensions shown on the right are available.

- **a) PLC connection cable**
- **b) Packing seal**

4. Power Supply Wiring

**Caution:**
Cut OFF all external phases of power source, before installation or wiring to avoid electric shock or serious damage to the product.

**Note:**
- Wire the power supply using electric wires of 0.75 mm² or more so that voltage drop will not occur. Use M3 size crimp style terminals. Securely tighten crimp-style terminals with a torque of 0.5 – 0.8 Nm so that errors can be avoided.
- Insure correct termination of the DC power source, incorrect connection may result in unit failure serious damage to the GOT.
- Attach a 2 A fuse to the 24V DC power supply.
- Perform Class D (100V or less) grounding with an electric wire of at least 1.25 mm². Never perform common grounding of the GOT and a strong power system.

**Note:**
Use an external power supply to provide 24V DC. (The service power supply of the programmable controller cannot be used.)

Even if instantaneous power interruption of less than 1 ms occurs, the GOT continues to operate. When power interruption for a considerable period of time or voltage drop occurs, the GOT stops its operation. However, when the power supply is recovered, the GOT automatically reverts its operation. (This screen displayed just after recovery is determined by the working environment originally set.)
2.2 Power Supply Specifications

<table>
<thead>
<tr>
<th>Items</th>
<th>Specifications</th>
</tr>
</thead>
<tbody>
<tr>
<td>Power Supply Voltage</td>
<td>24V DC, +10% -15%</td>
</tr>
<tr>
<td>Power Supply Ripple</td>
<td>200 mV or less</td>
</tr>
<tr>
<td>Current Consumption</td>
<td>750 mA at 24V DC or less when power supply is turned ON 400 mA at 24 V DC when backlight is turned OFF</td>
</tr>
<tr>
<td>Fuse</td>
<td>Fuse built-in GOT (impossible to change)</td>
</tr>
<tr>
<td>Max. Allowable Momentary Power Supply Failure period</td>
<td>1 ms. If less than 1 ms, the GOT will continue operation. If 1 ms or more, the GOT will shut down.</td>
</tr>
<tr>
<td>Battery</td>
<td>Built-in, PM-20L type lithium battery. (Approximately 5 years life)</td>
</tr>
</tbody>
</table>

2.3 Screen Hardware Specifications

<table>
<thead>
<tr>
<th>Items</th>
<th>Specifications</th>
</tr>
</thead>
<tbody>
<tr>
<td>Display Device</td>
<td>TFT colour liquid crystal</td>
</tr>
<tr>
<td>Resolution</td>
<td>480 x 234 (dot) 60 characters = 14 lines</td>
</tr>
<tr>
<td>Dot Pitch</td>
<td>0.324 mm (0.0127&quot;) Horizontal 0.375 mm (0.015&quot;) Vertical. (Actual character size ratio 1:1.16)</td>
</tr>
<tr>
<td>Effective Display Size</td>
<td>155.5 mm (6.12&quot;) x 97.8 mm (3.86&quot;) 7 (inch) type</td>
</tr>
<tr>
<td>Number of Colours</td>
<td>256 colours</td>
</tr>
<tr>
<td>Life of liquid crystal</td>
<td>50,000 hours or more (Operating temperature: 25°C / 77°F)</td>
</tr>
<tr>
<td>Backlight</td>
<td>Cold cathode tube</td>
</tr>
<tr>
<td>Life of Backlight</td>
<td>50,000 hours or more (Operating temperature: 25°C / 77°F)</td>
</tr>
<tr>
<td>Touch Keys</td>
<td>Maximum 50 touch keys / screen, 30 x 12 matrix</td>
</tr>
<tr>
<td>Interface</td>
<td>COM0 RS-422</td>
</tr>
<tr>
<td></td>
<td>COM1 RS-232C</td>
</tr>
<tr>
<td></td>
<td>COM2 RS-232C</td>
</tr>
<tr>
<td>Number of Screens</td>
<td>User screen: 500 screens or less System screen: Allocated screens No. 1001-1030.</td>
</tr>
<tr>
<td>User Memory</td>
<td>Flash memory 1MB (built-in)</td>
</tr>
</tbody>
</table>

- Bright dots (always lit) and dark dots (unlit) may appear on a liquid crystal display panel. It is impossible to completely avoid this symptom, as the liquid crystal display comprises of a great number of display elements. Flickers may be observed depending on the display color. Please note that these dots appear due to its characteristic and are not caused by product defect.
- When the same screen is displayed for a long time, an incidental color or partial discoloration is generated on the screen due to heat damage, and it may not disappear.
- Using the GOT Backlight OFF function can prolong the life of the backlight.
- For details on the Backlight OFF function, refer to the following.GOT-F900 Series OPERATION MANUAL/GOT-F900 Series OPERATION MANUAL (GT Designer2 Version)

3. Installation

**Caution**: Do not mount the GOT in an environment that contains dust, soot corrosive or conducive dust, corrosive or flammable gas, or expose the unit to high temperatures, dew condensation, direct sunlight, rain wind or impact and vibration.

If the GOT is used in such a place, electrical shock, fire, malfunction, damages or deterioration may caused.
- Never drop cutting chips or electric wire chips into the ventilation window of the GOT when drilling screw holes or performing wiring. Such chips may cause fire, failure or malfunction.
- Turn off the power before securely connecting any cables. Poor connection may cause malfunction.

The GOT is designed to be mounted in a panel. Install it using the following procedure:
1) Preparing the panel surface.

On the panel surface, cut a rectangular mounting slot of the dimensions shown on the right. At this time, space of 10 mm is required at each of the top and the bottom of the slot, inside the panel for metal fixtures as shown in “4) Dimensions required inside the panel for installation.”

2) Inserting the GOT into the panel surface.

Attach the packing seal to the GOT, and insert the GOT from the front face of the panel surface.

a) Packing seal
b) GOT
c) Mounting slot

3) Fixing the GOT

Pull hooks of the mounting brackets (supplied) in to the mounting holes of the GOT. Tighten mounting bolts (also supplied) until the GOT is securely fixed.
Fix mounting bolts in all four positions, above and below the GOT.

a) Clamping bolt
b) Mounting bracket

**Note**: Make sure to tighten the clamping bolts with a torque of 0.3 ~ 0.5 Nm.

4) Dimensions required inside the panel for installation.

When installing the GOT, make sure that the inner dimensions shown on the right are available.

a) PLC connection cable
b) Packing seal

5. Expansion Module (F9GT-40FMB)

- Make sure that the thickness of the panel surface is no more than 5 mm (0.20”).

6. Maintenance

**Cautions**: Correctly connect the battery for memory backup. Never charge, disassemble, heat, burn or short-circuit the battery. If the battery is handled in such a way, or fire may be caused.
- Always power OFF and remove the GOT from the panel before starting replacement of the battery. If this is not the case, electrical shock may be sustained.
- Never disassemble or modify the GOT. Disassembly or modification may cause failure, malfunction or fire. For repair, please, contact a service representative.

**Note**: Turn off the power, before connecting/disconnecting cables.
Connecting/disconnecting cables while the power is turned on will cause failure or malfunction.

When repairing the backlight and liquid crystal screen, please, contact a service representative.

6.1 Battery Replacement

When the battery voltage drops, a control device (system information) set by the screen design software turns ON. The control device interlocks with an auxiliary relay in the PLC. It is recommended to provide a lamp while utilizing the output of the PLC so that voltage drop can be monitored outside the GOT.

For details of control devices, refer to the F9GT/F900 Series Operation Manual.

**Note**: For approximately one month after the control device (system information) for battery voltage drop turns ON, the battery will back up the alarm history, sampling and the current time. When the control device turns ON, replace the battery PM-20BLs as soon as possible. The screen data is stored in the flash memory, therefore, data will remain even after severe battery voltage loss.

6.1.1 Replacement Procedure

1) Turn off the power to the GOT and remove the battery holder cover.
2) Remove the existing battery from the battery holder, and disconnect.
3) Within 30 seconds, connect a new battery.
4) Insert the new battery into the battery holder, and attach the cover.

**Warranty** Mitsubishi will not be held liable for damage caused by factors found not to be the cause of Mitsubishi; opportunity loss or lost profits caused by the battery (PM-20BLs) or other than Mitsubishi products; and to other duties. For the detailed warranty, refer to the F9GT-F900 Series HARDWARE MANUAL [CONNECTION].

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**Manual number**: JY992D93901
**Manual revision**: E
**Date**: Sep. 2008
2.2 Power Supply Specifications

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<tr>
<td>Power Supply Ripple</td>
<td>200 mA or less</td>
</tr>
<tr>
<td>Current Consumption</td>
<td>Ratings: 650 mA at 24V DC; 750 mA at 24V DC or less when power supply is turned ON; 400 mA at 24V DC when backlight is turned OFF</td>
</tr>
<tr>
<td>Fuse</td>
<td>Fuse built-in GOT (impossible to change)</td>
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<td>Flash memory 1MB (built-in)</td>
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3. Installation

**Note:**
- Do not mount the GOT in an environment that contains dust, soot corrosive or conducive dust, corrosive or flammable gas, or expose the unit to high temperatures, dew condensation, direct sunlight, rain wind or impact and vibration.
- If the GOT is used in such a place, electrical shock, fire, malfunction, damages or deterioration may caused.
- Never perform common grounding of the GOT and a strong power system.
- Turn off the power before securely connecting any cables. Poor connection may cause malfunction.
- The GOT is designed to be mounted in a panel. Install it using the following procedure:
  1. Preparing the panel surface.
     - On the panel surface, cut a rectangular mounting slot of the dimensions shown on the right.
     - At this time, space of 10 mm is required at each of the top and the bottom of the slot, inside the panel for metal fixtures as shown in “4) Dimensions required inside the panel for installation”.

4. Power Supply Wiring

**Caution:**
Cut OFF all external phases of power source, before installation or wiring to avoid electric shock or serious damage to the product.

**Note:**
- Wire the power supply using electric wires of 0.75 mm² or more so that voltage drop will not occur. Use M3 size crimp style terminals. Securely tighten crimp-style terminals with a torque of 0.5 - 0.8 N·m so that errors can be avoided.
- Insure correct termination of the DC power source, incorrect connection may result in unit failure serious damage to the GOT.
- Attach a 2 A fuse to the 24V DC power supply.
- Perform Class D (100Ω) or less grounding with an electric wire of at least 1.25 mm². Never perform common grounding of the GOT and a strong power system.

5. Expansion Module (F9GT-40FMB)

- F9GT-40FMB has a built-in flash memory and can transfer screen data when installed in the GOT.
  - When installed in the OS earlier than version 1.40, screen display is not available while transferring data from F9GT-40FMB to the GOT.
  - For the use methods and specifications, refer to the manual for F9GT-40FMB.

6. Maintenance

**Caution:**
- Correctly connect the battery for memory backup. Never charge, desassemble, heat, burn or short-circuit the battery. If the battery is handled in such a way, or fire may be caused.
- Always power OFF and remove the GOT from the panel before starting replacement of the battery. If this is not the case, electrical shock may be sustained.
- Never disassemble or modify the GOT. Disassembly or modification may cause failure, malfunction or fire. For repair, please, contact a service representative.

**Note:**
- Turn off the power, before connecting/disconnecting cables.
- Connecting/disconnecting cables while the power is turned on will cause failure or malfunction.
- When repairing the backlight and liquid crystal screen, please, contact a service representative.

6.1 Battery Replacement

When the battery voltage drops, a control device (system information) set by the screen design software turns ON. The control device interlocks with an auxiliary relay in the PLC. It is recommended to provide a lamp while utilizing the output of the PLC so that voltage drop can be monitored outside the GOT.

For details of control devices, refer to the F9GT-F900 Series Operation Manual.

**Note:**
- For approximately one month after the control device (system information) for battery voltage drop turns ON, the battery will back up the alarm history, sampling and the current time. When the control device turns ON, replace the battery (PM-20BL) as soon as possible.
- The screen data is stored in the flash memory, therefore, data will remain even after severe battery voltage loss.

6.1.1 Replacement Procedure

1. Turn off the power to the GOT and remove the battery holder cover.
2. Remove the existing battery from the battery holder, and disconnect.
3. Within 30 seconds, connect a new battery.
4. Insert the new battery into the battery holder, and attach the cover.

**Warranty**
Mitsubishi will not be held liable for damage caused by factors found not to be the case of Mitsubishi: opportunity loss or lost profits caused by factors in the Mitsubishi products; damage, secondary damage, accident compensation caused by special factors unpredictable by Mitsubishi; damages to products other than Mitsubishi products, and to other duties.

For the detailed warranty, refer to the F9GT-F900 Series HARDWARE MANUAL [CONNECTION]
1. Introduction

The F940WGOT series (hereafter called “GOT”) is to be mounted on the face of a control panel or operating panel, and connected to the programming port (CPU port) or the communication port (communication port) of a PLC. Various devices can be monitored and PLC data changed through the GOT screens. Several display screens are built-in to the GOT, and additional personalized screens can be created by the user.

1) The GOT can connect to MELSEC FX, A, QnA PLCs as well as a host of third party manufactured units. Further information can be found in GOT-F900 Series Hardware Manual.

2) PLC user programs can be downloaded, uploaded and monitored using programming software GX-Developer or FX-PCS/WIN-E on a personal computer via the GOT. Further information can be found in GOT-F900 Series Operation Manual.

3) Display screens are created using the following software:

Software Name & Version
GT Designer2 (SW*D5C-GTD2-E) GT Designer2 (SW*D5C-GOTR-PACK2 (EU) indicates version)
GT Designer (SW*D5C-GOTR-PACK2 (EU) indicates version)
FX-PCS-DUWIN-W/E FX-PCS-DUWIN-W/E version 6.0 or later
FX-PCS-DUWIN-W/E FX-PCS-DUWIN-W/E version 6.0 or later

Note's on the Symbols 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 equipment.

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

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

Associated Manuals

F940WGOT Series (F940WGOT-TWD) Installation Manual
JY992D93901E
Describes the specifications, wiring, and installation of F940WGOT Series graphic operation terminal (hardware).

GOT-F900 OPERATION MANUAL (described GT Designer2)
JY992D09101
Separate volume
Describes the operation and use of the GOT-F900 Series graphic operation terminals and GT Designer2.

GOT-F900 Series Operation Manual
JY992D43701
Separate volume
Describes the operation and use of the GOT-F900 Series graphic operation terminals, GT Designer and FX-PCS-DUWIN-E.

GOT-F900 Series Hardware Manual (connection diagram)
JY992D64501
Separate volume
Describes wiring and installation of the GOT-F900 Series graphic operation terminals.

GT Designer2 Version1 Reference Manual
FP96 on CD-ROM included with product
Describes the specifications and setting of object functions in GT Designer2 (SW*DSC-GT2D-6).

GT Designer2 Reference Manual
FP96 on CD-ROM included with product
Describes the specifications and setting of object functions in GT Designer2 (SW*DSC-GT2D-6).

GT Designer Operating Manual
FP96 on CD-ROM included with product
Describes the operation of GT Designer (SW*DSC-GOTR-PACK2) and data transfer to the GOT-900 Series.

FX-PCS-DUWIN-E SOFTWARE MANUAL
JY992D83801 (included with the screen creation software)
Describes the operation of FX-PCS-DUWIN-E screen creation software.

Reference Manual
JY992D98601
This manual contains explanations for installing and operating procedures of the FG974-IFMB data transfer adapter.
2.2 Power Supply Specifications

<table>
<thead>
<tr>
<th>Specifications</th>
<th>Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>Power Supply Voltage</td>
<td>24V DC, ±10% -15%</td>
</tr>
<tr>
<td>Power Supply Ripple</td>
<td>200 mA or less</td>
</tr>
<tr>
<td>Current Consumption</td>
<td>750 mA at 24V DC or less</td>
</tr>
<tr>
<td>Power Supply Failure period</td>
<td>1000 mA at 24 V DC when backlight is turned OFF</td>
</tr>
<tr>
<td>Fuse</td>
<td>Fuse built-in GOT (impossible to change)</td>
</tr>
<tr>
<td>Battery</td>
<td>Built-in, PM-20BL type lithium battery (Approximately 5 years life)</td>
</tr>
</tbody>
</table>

2.3 Screen Hardware Specifications

<table>
<thead>
<tr>
<th>Specifications</th>
<th>Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>Display Device</td>
<td>TFT colour liquid crystal</td>
</tr>
<tr>
<td>Resolution</td>
<td>480 x 234 (60 characters x 16 lines)</td>
</tr>
<tr>
<td>Dot Pitch</td>
<td>0.324 mm (0.013&quot;) Horizontal x 0.375 mm (0.015&quot;) Vertical</td>
</tr>
<tr>
<td>Effective Display Size</td>
<td>155.5 mm (6.12&quot;) x 87.8 mm (3.46&quot;)</td>
</tr>
<tr>
<td>Number of Colours</td>
<td>256 colours</td>
</tr>
<tr>
<td>Life of liquid crystal</td>
<td>50,000 hours or more (Operating temperature: 25°C / 77°F)</td>
</tr>
<tr>
<td>Backlight</td>
<td>Cold cathode tube</td>
</tr>
<tr>
<td>Backlight Life</td>
<td>50,000 hours or more (Operating temperature: 25°C / 77°F)</td>
</tr>
<tr>
<td>Touch Keys</td>
<td>Maximum 50 touch keys / screen, 30 x 12 matrix</td>
</tr>
<tr>
<td>Interface</td>
<td>COM0: RS-422, COM1: RS-232C, COM2: RS-232C</td>
</tr>
<tr>
<td>Number of Screens</td>
<td>User screen: 500 screens or less, System screen: Allocated screens No. 1001-1030</td>
</tr>
<tr>
<td>User Memory</td>
<td>Flash memory 14M (built-in)</td>
</tr>
</tbody>
</table>

4. Power Supply Wiring

Caution:
Cut OFF all external phases of power source, before installation or wiring to avoid electric shock or serious damage to the product.

Note:
- Wire the power supply using electric wires of 0.75 mm² or more so that voltage drop will not occur. Use M3 size crimp style terminals. Securely tighten crimp-style terminals with a torque of 0.5 - 0.8 Nm so that errors can be avoided.
- Insure correct termination of the DC power source, incorrect connection may result in unit failure serious damage to the GOT.
- Attach a 2 A fuse to the 24V DC power supply.
- Perform Class D (100 Ω or less) grounding with an electric wire of at least 1.25 mm². Never perform common grounding of the GOT and a strong power system.

5. Expansion Module (F9GT-40FMB)

F9GT-40FMB has a built-in flash memory and can transfer screen data when installed in the GOT. (When installed in the OS earlier than version 1.40, screen display is not available while transferring data from F9GT-40FMB to the GOT.)

For the use methods and specifications, refer to the manual for F9GT-40FMB.

6. Maintenance

Caution:
- Correctly connect the battery for memory backup. Never charge, disassemble, heat, burn or short-circuit the battery. If the battery is handled in such a way, fire may be caused.
- Always power OFF and remove the GOT from the panel before starting replacement of the battery. If this is not the case, electrical shock may be sustained.
- Never disassemble or modify the GOT. Disassembly or modification may cause failure, malfunction or fire. For repair, please, contact a service representative.

Note:
- Turn off the power, before connecting/disconnecting cables.
- Connecting/disconnecting cables while the power is turned on will cause failure or malfunction.

When repairing the backlight and liquid crystal screen, please, contact a service representative.

6.1 Battery Replacement

When the battery voltage drops, a control device (system information) set by the screen design software turns ON. The control device interlocks with an auxiliary relay in the PLC. It is recommended to provide a lamp while utilizing the output of the PLC so that voltage drop can be monitored outside the GOT.

For details of control devices, refer to the F9GT900 Series Operation Manual.

Note:
For approximately one month after the control device (system information) for battery voltage drop turns ON, the battery will back up the alarm history, sampling and the current time. When the control device turns ON, replace the battery (PM-20BL) as soon as possible.

The screen data is stored in the flash memory, therefore, data will remain even after severe battery voltage drop loss.

6.1.1 Replacement Procedure

1) Turn off the power to the GOT and remove the battery holder cover.
2) Remove the existing battery from the battery holder, and disconnect.
3) Within 30 seconds, connect a new battery.
4) Insert the new battery into the battery holder, and attach the cover.

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