Changes for the Better

MITSUBISHI ELECTRIC

PROGRAMMABLE LOGIC CONTROLLERS

GOT-F900 FAMILY

⚠ Safety Warning

To ensure proper use of the products listed in this catalog, please be sure to read the instruction manual prior to use.

MITSUBISHI ELECTRIC CORPORATION

HEAD OFFICE: 1-8-12, OFFICE TOWER Z 14F HARUMI CHUO-KU 104-6212, JAPAN

HIME-B183-A0304 Printed in Japan (MEE)

New publication, effective Apr.2003
Specifications subject to change without notice.

Select the right GOT for the application.

Graphic Operation Terminal 900 series

F920GOT-K

NEW!

F920GOT-BBD-K-E
F920GOT-BBD-K-C
F920GOT-BBD5-K-E
F920GOT-BBD5-K-C

F930GOT

F930GOT-BWD-E
F930GOT-BWD-C
F930GOT-BWD-T

F930GOT-K

NEW!

F930GOT-BBD-K-E
F930GOT-BBD-K-C

A950 Handy GOT

A950GOT-LBD-M3-H
A950GOT-SBD-M3-H

A95[ ]GOT

A95[ ]GOT-(Q)TBD(-M3)
A95[ ]GOT-(Q)SBD(-M3)
A95[ ]GOT-(Q)LBD(-M3)

A956WGOT

A956WGOT-TBD

F940 Handy GOT

F940GOT-SBD-H-E
F940GOT-LBD-H-E
F940GOT-SBD-RH-E
F940GOT-LBD-RH-E

F943GOT-SBD-H-E
F943GOT-LBD-H-E
F943GOT-SBD-RH-E
F943GOT-LBD-RH-E

F940GOT

F940GOT-SWD-E
F940GOT-LWD-E
F940GOT-SWD-C
F940GOT-LWD-C

F940WGOT

F940WGOT-TWD-E
F940WGOT-TWD-C

A960GOT

A960GOT-EBA
A960GOT-EBD
A960GOT-EBA-EU

A975GOT

A975GOT-TBA-B
A975GOT-TBD-B
A975GOT-TBA-EU

A985GOT(-V)

A985GOT-TBA-V
A985GOT-TBD-V

A970GOT

A970GOT-TBA-B
A970GOT-TBD-B
A970GOT-TBA-EU
A970GOT-SBA

A970GOT-SBD
A970GOT-SBA-EU
A970GOT-LBA
A970GOT-LBD

A985GOT

A985GOT-TBA
A985GOT-TBD
A985GOT-TBA-EU

NEW!

Soft GOT2 "GT Works2-Plus"

GOT software which transforms any Windows® personal computer into a "virtual GOT" enabling the operation of GOT functions from the PC.

Monitors the operation panel and system.

Screen data is created using GT Designer 2

Applicable OS:
Microsoft® Windows®98
Microsoft® Windows®NT Workstation 4.0/SP3 or later
Microsoft® Windows®ME
Microsoft® Windows®2000 Professional
Microsoft® Windows®XP Professional, Home edition

monochrome STN LCD	monochrome STN LCD	8 colors or monochrome STN LCD	256 colors TFT LCD	monochrome EL	16 colors, 8 colors or monochrome TFT/D-STN LCD	256 colors TFT LCD	Color LCD
128 x 64 dot	240 x 80 dot	320 x 240 dot	480 x 234 dot	640 x 480 dot		800 x 600 dot	Resolution

GOT-F900 Series

GOT-A900 Series

GOT-F900 Series Lineup

The GOT-F900 Series is ideally suited for a vast range of applications.

Panel Installation

F940WGOT — Wide screen display

- F940WGOT-TWD-E
- F940WGOT-TWD-C

6.7" diagonal

256 color
TFT LCD

Vertical/Horizontal installation

F940GOT — GOT for every application

- F940GOT-SWD-E
- F940GOT-SWD-C
- F940GOT-LWD-E
- F940GOT-LWD-C

5.7" diagonal

8 color or
monochrome
STN LCD

F930GOT — Compact performance

- F930GOT-BWD-E
- F930GOT-BWD-C
- F930GOT-BWD-T

4.4" diagonal

monochrome
(blue/white)
STN LCD

Vertical/Horizontal installation

Hand-held

F940 Handy — GOT in the palm for your hand

- F940GOT-SBD-H-E
- F943GOT-SBD-H-E
- F940GOT-LBD-H-E
- F943GOT-LBD-H-E

5.7" diagonal

8 color or
monochrome
STN LCD

F940 Handy (RH model) — Handy GOT with high operational reliability

- F940GOT-SBD-RH-E
- F943GOT-SBD-RH-E
- F940GOT-LBD-RH-E
- F943GOT-LBD-RH-E

5.7" diagonal

8 colors or
monochrome
STN LCD

Keypads

F930GOT with Keypad NEW!

Feel the difference

- F930GOT-BBD-K-E
- F930GOT-BBD-K-C

4.4" diagonal

monochrome
(blue/white)
STN LCD

F920GOT with Keypad NEW!

Compact model equipped with useful functions

- F920GOT-BBD-K-E
- F920GOT-BBD-K-C
- F920GOT-BBD5-K-E
- F920GOT-BBD5-K-C

2.6" diagonal

monochrome
(blue/white)
STN LCD

GOT

F9[ ][ ][ ]GOT-○○○○-○-○-○
(1) (2) (3) (4) (5) (6) (7) (8) (9)

1) LCD size
2: 2.6 in.
3: 4.4 in.
4: 5.7 in. (6.7 in. for F940WGOT)

2) PLC connection specifications
0: RS-422,RS-232C Interface
3: RS-232C x 2ch Interface
For Handy GOT
0: RS-422 Interface
3: RS-232C Interface

3) Screen type
None: Standard
W: Wide screen

4) Screen color
T: TFT type 256-color LCD
S: STN type 8-color LCD
L: STN type black-and-white LCD
B: STN type blue LCD

5) Panel color
W: White
B: Black

6) Input power supply specifications
D: 24V DC
D5: 5V DC

7) Keypad
None: No keypad
K: With keypad

8) GOT Type
None: Panel face installation type
H: Handy GOT
RH: Handy GOT

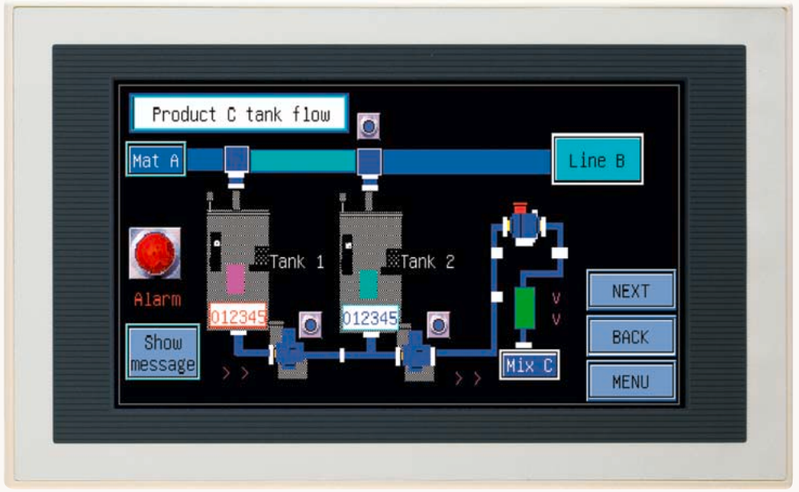
9) Overseas models
E:
C:
T:
Built-in fonts vary depending on model. For details, refer to P17.

PLC ⟷ GOT connection		Programming software	F940WGOT	F940GOT	F930GOT	F940 Handy Series		F940 Handy Series (RH model)		F930GOT with Keypad	F920GOT with Keypad	
		GT Designer 2	F940WGOT-TWD-E F940WGOT-TWD-C	F940GOT-SWD-E F940GOT-LWD-E	F930GOT-BWD-E F930GOT-BWD-C F930GOT-BWD-T	F940GOT-SBD-H-E F940GOT-LBD-H-E	F943GOT-SBD-H-E F943GOT-LBD-H-E	F940GOT-SBD-RH-E F940GOT-LBD-RH-E	F943GOT-SBD-RH-E F943GOT-LBD-RH-E	F930GOT-BBD-K-E F930GOT-BBD-K-C	F920GOT-BBD5-K-E F920GOT-BBD5-K-C	F920GOT-BBD-K-E F920GOT-BBD-K-C
MITSUBISHI ELECTRIC	MELSEC-F FX Series	✓	✓	✓	✓	✓	✓*1	✓	✓ *1	✓	✓	✓
	MELSEC-A, QnA Series Motion controller	✓	✓	✓	✓	✓	–	✓	–	✓	–	–
	MELSEC-Q Series	✓	✓	✓	✓	✓	✓	–	–	✓	✓	✓
	A computer link unit QnA, Q serial communication unit	✓	✓	✓	✓	✓	✓	✓	✓	✓	–	✓
	FX Positioning (10/20GM)	✓	✓	✓	✓	✓	✓	✓	✓	✓	–	–
	Inverter (FREQROL-A500A, E500, S500)	✓	✓	✓	✓	✓	–	✓	–	✓	–	–
OTHER PLCs	General (Microcomputer)	✓	✓	✓	✓	✓	–	✓	–	✓	–	✓
	Omron (SYSMAC C Series)	✓	✓	✓	✓	✓	✓	✓	✓	✓	–	✓
	Fuji Electric (FLEX-PC N Series)	✓	✓	✓	✓	✓	✓	✓	✓	✓	–	–
	Matsushita Electric Works (FP, FP∑ Series)	✓	✓	✓	✓	✓	✓	✓	✓	✓	–	✓
	Yasukawa Electric (machine controller)	✓	✓	✓	✓	✓	✓	✓	✓	✓	–	–
	Allen-Bradley (SLC500, MicroLogix Series)	✓	✓	✓	✓	–	✓	–	–	✓	–	✓
	SIEMENS AG (SISMATIC S7-200, S7-300 Series)	✓	✓	✓	✓	–	✓	–	–	✓	–	✓ Except S7-200
	Bar code reader, Printer	✓	✓	✓	✓	✓ Enabled when RS-232C port is available		✓	✓	✓	–	–
	Connection of two or more GOT units	✓	✓	✓ Enabled when RS-232C port is available		✓ One unit can be connected		✓	✓	✓	–	–

*1 The RS-232C adapter or board is necessary

Wide Screen display, 6.7" TFT LCD

F940WGOT



F940WGOT-TWD-E shown.

F940WGOT-TWD-E(C)

LCD	Protective rating	Memory
6.7" diagonal TFT LCD 256 colors	Equivalent to IP65f	Flash memory 1 MB

Dimensions (W x D x H)	Applicable PLC
215 x 70.6 x 133mm (8.46" x 2.78" x 5.24")	•Mitsubishi, •Siemens, •Allen-Bradley, •Others

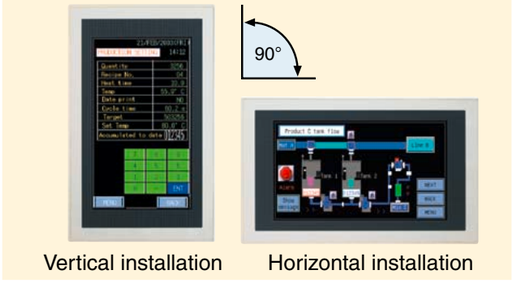
Accessories

Mounting bracket,
Packing seal for dust and water resistance

Options

Flexible layout

The F940GOT can be installed horizontally or vertically.
Screens can be oriented accordingly with programming software.

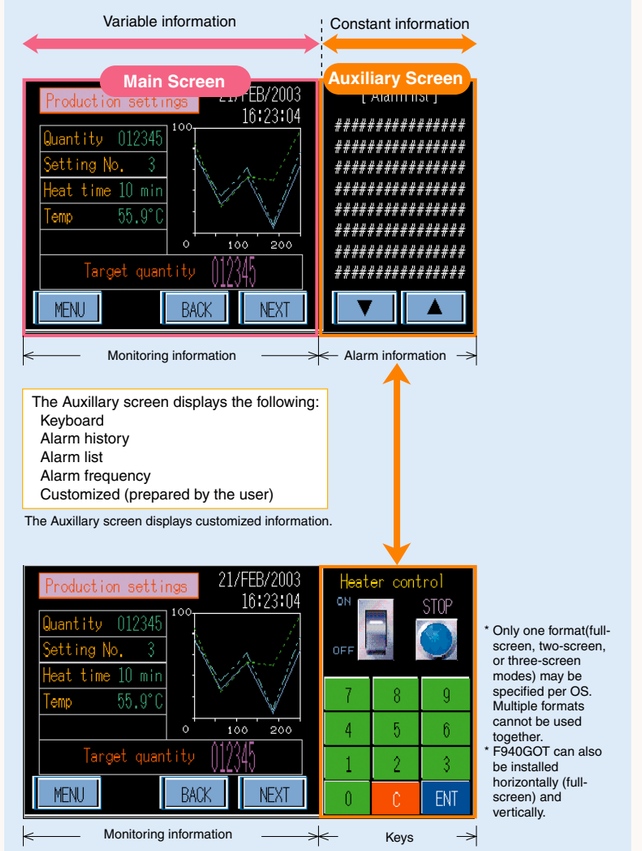


Multiple sections

Decrease operation time with screen divisions configuration

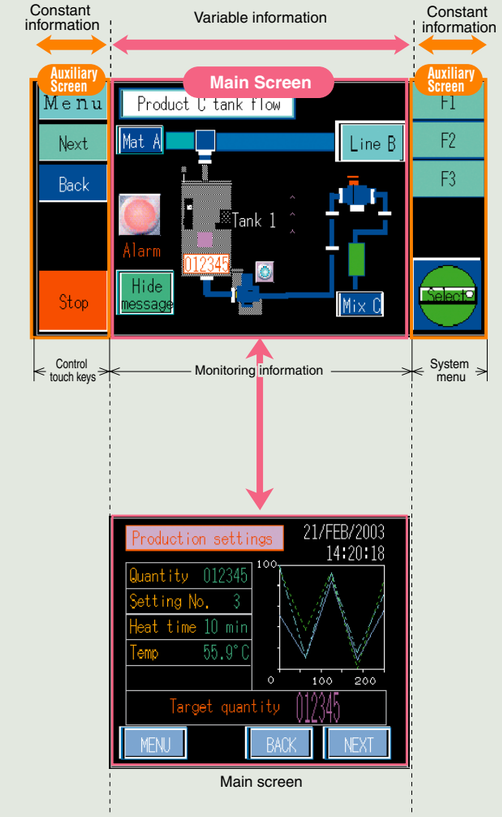
The screen can be divided into two or three displays.
Depending on the application, menu screens or operation keys may need to be always displayed on the screen.
Designing similar screens is troublesome and inefficient.

Two-screen mode



* Only one format(full-screen, two-screen, or three-screen modes) may be specified per OS. Multiple formats cannot be used together.
* F940GOT can also be installed horizontally (full-screen) and vertically.

Three-screen mode



Main screen

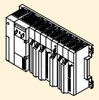
Features

Three built-in communication channels

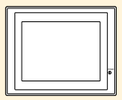
Three ports are provided as standard for communication with a PC (COM2: RS-232C) and a PLC (COM1: RS-232C and COM0: RS-422).

COM0: RS-422 port (9-pin D-Sub, female)

Connection to a PLC or peripheral device via the RS-422 port.



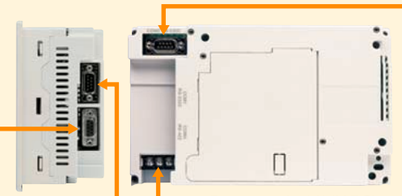
MELSEC-FX/A/QnA Series, PLC manufactured by other company, microcomputer board, etc.



GOT
Multiple GOTs can be connected.

GOT

Side view / Back view



COM2: RS-232C port (9-pin D-Sub, male)

Connection to a PC with GOT programming software or PLC programming software.

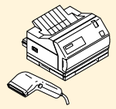
Applicable software

GT-Designer 2: GOT programming software
PLC programming software:
GX-Developer(SW[ ]D5C-GPPW),
FX-PCS/WIN

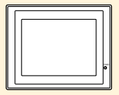
COM1: RS-232C port (9-pin D-Sub, male)

Connection to a PLC or peripheral device via the RS-232C port.

MELSEC-Q Series, PLC manufactured by other company, microcomputer board, etc.



Printer, Bar code reader, etc.



GOT
Multiple GOTs can be connected.

A single PLC can be connected to either COM0 or COM1.

GOT for every application

GOT with 5.7" LCD

F940GOT

F940GOT-SWD-E shown.

F940GOT-SWD-E(C)

LCD	Protective rating	Memory
5.7" diagonal STN LCD 8 colors	Equivalent to IP65f	Flash memory 512 kB

Dimensions (W x D x H)	Applicable PLC
162 x 57 x 130mm (6.38 x 2.24 x 5.12")	•Mitsubishi, •Siemens, •Allen-Bradley, •Others

F940GOT-LWD-E(C)

LCD	Protective rating	Memory
5.7" diagonal STN LCD monochrome (White/Black)	Equivalent to IP65f	Flash memory 512 kB

Dimensions (W x D x H)	Applicable PLC
162 x 57 x 130mm (6.38 x 2.24 x 5.12")	•Mitsubishi, •Siemens, •Allen-Bradley, •Others

Accessories

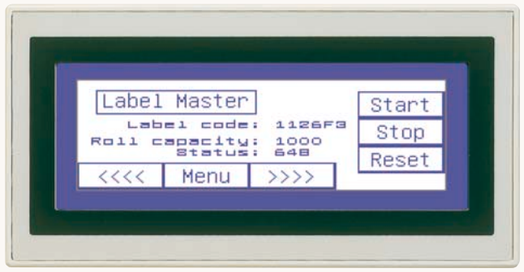
Mounting bracket,
Packing seal for dust and water resistance

Options

Compact performance

GOT with 4.4" STN LCD

F930GOT



F930GOT-BWD-E shown.

F930GOT-BWD-E(T,C)

LCD	Protective rating	Memory
4.4" diagonal STN LCD monochrome (White/Blue)	Equivalent to IP65f	Flash memory 256 kB

Dimensions (W x D x H)	Applicable PLC
146 x 49 x 75mm (5.75 x 1.93 x 2.95")	•Mitsubishi, •Siemens, •Allen-Bradley, •Others

Accessories

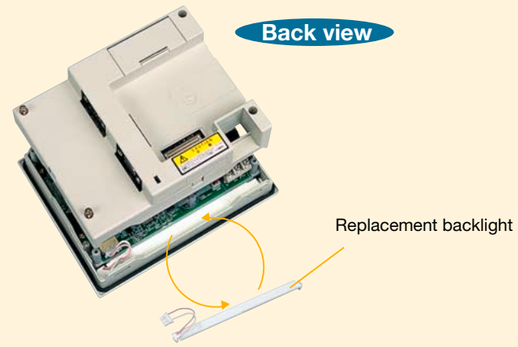
Mounting bracket,
Packing seal for dust and water resistance

Options

Features

Simple backlight replacement

The backlight battery life is rated at 50,000 hours (40,000 hours with F940GOT).
A replacement backlight is offered as an option.
The unit is equipped with an automatic backlight OFF function.



Resistant to environmental conditions (IP65f)

The display surface contains dustproof, waterproof, and oilproof properties consistent with IP65f *1.

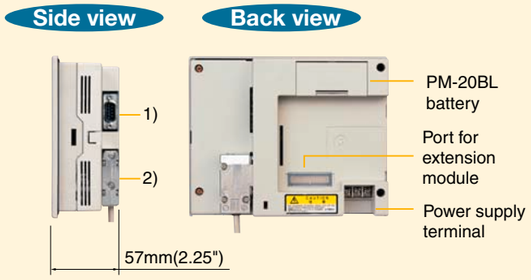
*1 This test result does not provide any guarantees that the product stands against use in all sorts of environment.

Thin operation panel surface

Slim body and structure designed so that cable connectors do not protrude.

F940 GOT 57 mm (2.25") thin

F930 GOT 49 mm (1.93") thin



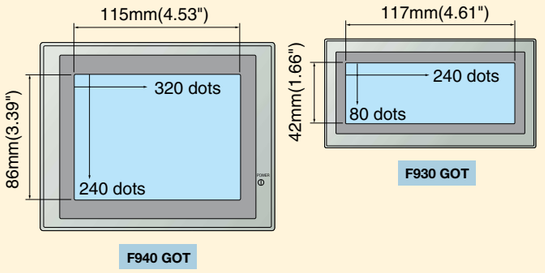
1) RS-232C port for personal computer or computer link connection
2) RS-422 port for PLC or computer link connection

High resolution LCD screen

High clarity screen provides for effective operation.

F940 GOT 320 x 240 dots

F930 GOT 240 x 80 dots



GOT-F900 with Keypad, feel the difference

4.4" LCD saves on operation time with convenient access keys.

F930GOT-K NEW!

F930GOT-BBD-K-E(C)

LCD	Protective rating	Memory
4.4" diagonal STN LCD monochrome (White/Blue)	Equivalent to IP65f	Flash memory 256 kB

Dimensions (WxDxH)	Applicable PLC
168 x 37.5 x 183mm (6.61 x 1.48 x 7.20")	•Mitsubishi, •Siemens, •Allen-Bradley, •Others

Accessories

Mounting brackets,
Packing seal for dust and water resistance
Label sheet for function keys

Options


Transparent screen protection sheet


Battery

Compact model equipped with useful functions

2.6" STN LCD

F920GOT-K NEW!

F920GOT-BBD-K-E(C)

LCD	Protective rating	Memory	Dimensions (W x D x H)	Applicable PLC
2.6" diagonal STN LCD monochrome (White/Blue)	Equivalent to IP65f	Flash memory 128 kB	106 x 35.5 x 134mm (4.17 x 1.40 x 5.28")	•Mitsubishi, •Siemens •Allen-Bradley, •Others

F920GOT-BBD5-K-E(C)

LCD	Protective rating	Memory	Dimensions (W x D x H)	Applicable PLC
2.6" diagonal STN LCD monochrome (White/Blue)	Equivalent to IP65f	Flash memory 128 kB	106 x 35.5 x 134mm (4.17 x 1.40 x 5.28")	•Mitsubishi

Accessories

Mounting brackets,
Packing seal for dust and water resistance

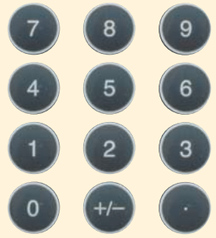
Features

External Keypads and Function Keys

Keypads (Numeric, Cursor, and Function Keys) allow quick access to frequently-viewed screens and make data entry easier while reserving the display area for screen data.

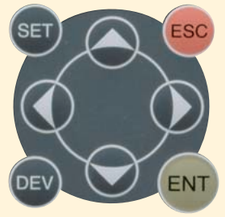
Numeric keys

Input numeric values with this set of keys.



Cursor control keys, Other (SET,DEV,ESC,ENT) keys

Used to select a numeric value or an ASCII character quickly.



Arbitrary functions can be assigned to a function key

- Customizable Function Keys
- Special functions can be assigned to either 6 or 8 function keys.

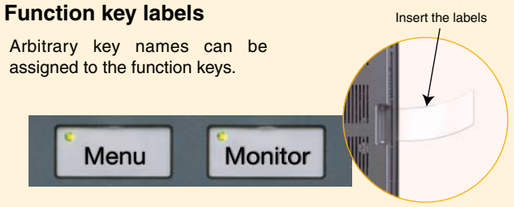
F930GOT-K F920GOT-K

Function key labels

Function key labels can be designed and replaced quickly. Clarify user-defined key names and operational functions with these labels.

Function key labels

Arbitrary key names can be assigned to the function keys.



Compatible with existing graphic data for the F930GOT.

Existing screen data for the F930GOT can be used with this unit.

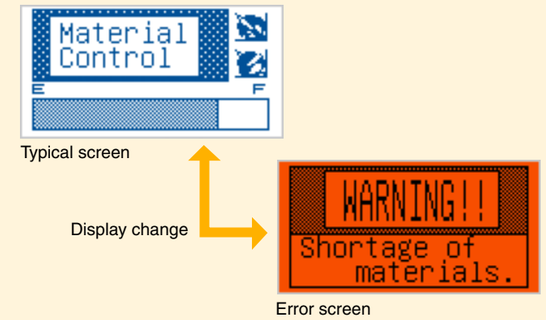
Bit Map Display

Display simple bitmaps on this highly versatile LCD display. F920GOT-BBD(5)-K has the smallest LCD screen in its class with bitmap-displaying capabilities.

Excellent Viewing Characteristics

Outstanding visibility has been achieved by using high-intensity white and red LED backlights.
(Only one backlight color can be used per screen.)

Backlights can be chosen for different purposes.



Note: Only one backlight color can be used per screen.

GOT in the palm of your hand

5.7" STN LCD, 0.79 kg (1.74 lbs) compact body

F940 Handy

Handheld 0.79 kg (1.74 lbs)
Compact and light weight

Flat surface Installation
Operation on desk

Wall-Mounted
Detachable terminal

F940GOT-SBD-H-E/F943GOT-SBD-H-E

LCD	Protective rating	Memory	Dimensions (W x D x H)	Applicable PLC
5.7" diagonal STN LCD 8 colors	Equivalent to IP54	Flash memory 512 kB	156 x 78.5 x 191 mm (6.14 x 3.14 x 7.52")	•Mitsubishi, •Siemens, •Allen-Bradley, •Others

F940GOT-LBD-H-E/F943GOT-LBD-H-E

LCD	Protective rating	Memory	Dimensions (W x D x H)	Applicable PLC
5.7" diagonal STN LCD monochrome (White/Black)	Equivalent to IP54	Flash memory 512 kB	156 x 78.5 x 191 mm (6.14 x 3.14 x 7.52")	•Mitsubishi, •Siemens, •Allen-Bradley, •Others

Accessory

Label sheet for operation switches

Options

Transparent screen protection sheet | External cable (indispensable) | Relay cable to PLC | Battery | Conversion box

Features

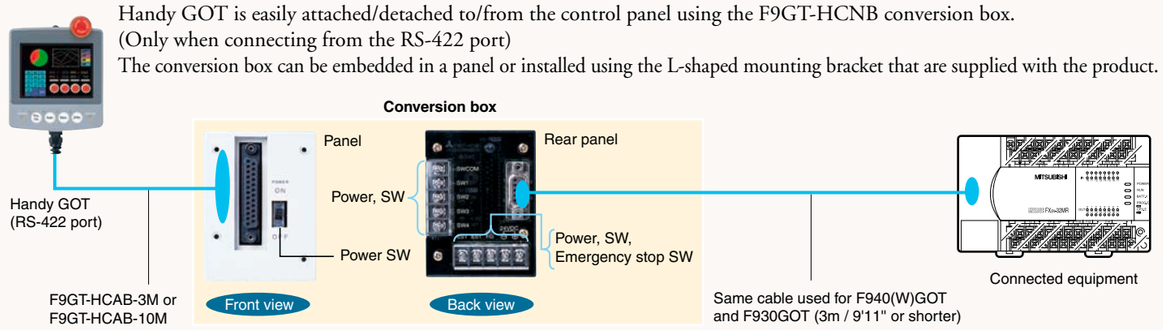
Optimal for many applications

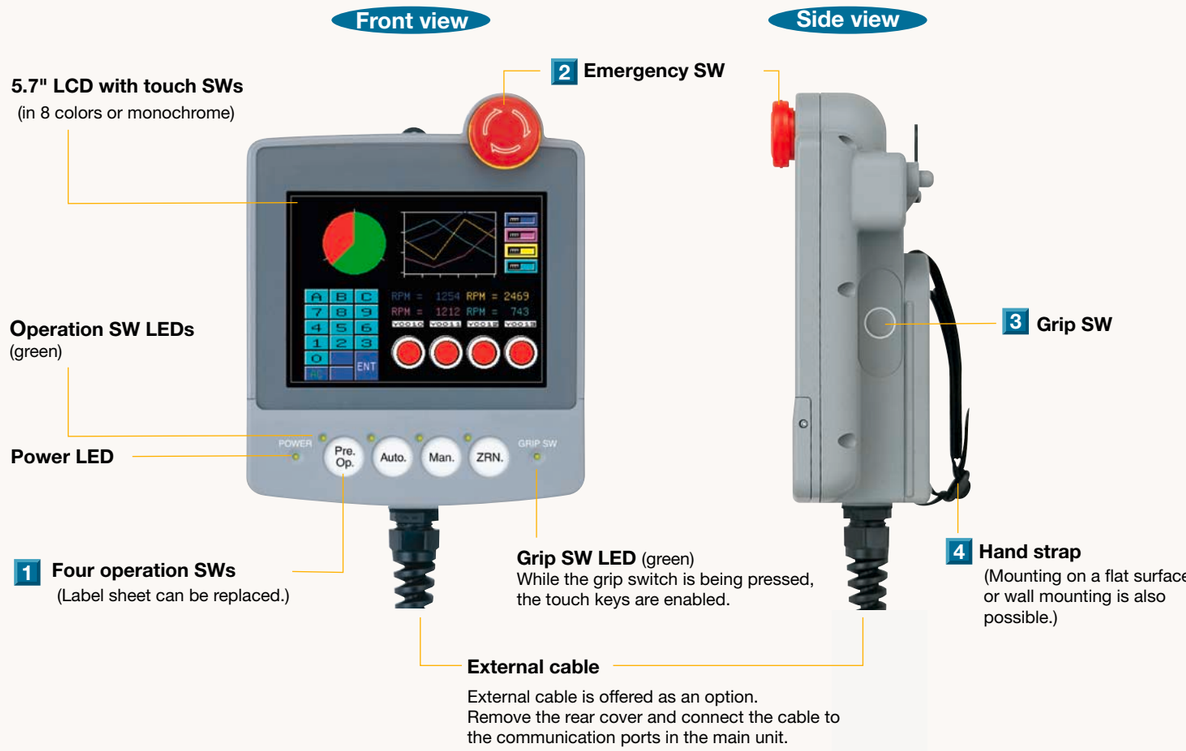
- **In limited space applications**
  Can be attached/detached when operating.
- **For start up, adjustment and change over of machine**
  Can be used as a teaching panel from various viewing directions.
- **Peripheral unit of PLC**
  Debug Programs using "PROGRAM LIST" and "MONITOR" functions.

Designed for convenient control panel installation

F940 Handy GOT (excluding RH model)

Handy GOT is easily attached/detached to/from the control panel using the F9GT-HCNB conversion box.
(Only when connecting from the RS-422 port)
The conversion box can be embedded in a panel or installed using the L-shaped mounting bracket that are supplied with the product.





1 Four operation SWs

F940 GOT Handy | F940 GOT Handy RH

These push buttons can command machines to operate/stop if wired directly to the inputs of external equipment.
The names of these operation switches can be customized using the optional label sheet.

2 Emergency stop SW

A "N/C contact type" switch is provided for safety reasons.
When the Handy GOT is removed from a machine, the switches turn from ON to OFF. This fact should be taken into consideration when designing the system.

3 Grip SW

While the grip switch is being pressed, manipulation of the touch keys on the screen is enabled.

4 Hand strap

F940 GOT Handy | F940 GOT Handy RH

The lightweight body (0.79 kg/1.74 lbs) and the hand strap on the rear of the unit provide comfortable, one-hand operation for a long period of time.

High operational reliability

5.7" STN LCD screen

F940 Handy RH

Handheld 0.87 kg (1.91 lbs)
Compact and light weight

Flat surface Installation
Flexible handling

Safety strap the unit
A strap to help grip

F940GOT-SBD-RH-E/F943GOT-SBD-RH-E

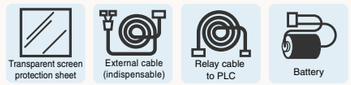
LCD	Protective rating	Memory	Dimensions (W x D x H)	Applicable PLC
5.7" diagonal STN LCD 8 colors	Equivalent to IP54	Flash memory 512 kB	176 x 84.5 x 191mm (6.93 x 3.38 x 7.52")	•Mitsubishi, •Siemens, •Allen-Bradley, •Others

F940GOT-LBD-RH-E/F943GOT-LBD-RH-E

LCD	Protective rating	Memory	Dimensions (W x D x H)	Applicable PLC
5.7" diagonal STN LCD monochrome (White/Black)	Equivalent to IP54	Flash memory 512 kB	176 x 84.5 x 191mm (6.93 x 3.38 x 7.52")	•Mitsubishi, •Siemens, •Allen-Bradley, •Others

Accessory
Label sheet for operation switches

Options



Features

User-friendly

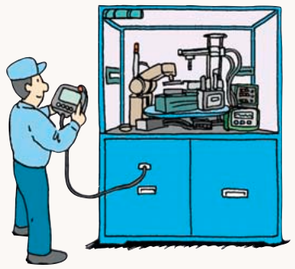
•Keylock SW
If an authorized operator is to operate certain functions (such as manual/automatic switching, mode selection, or changing over), the keylock feature is extremely convenient.
A key can be inserted/removed when it is in the left position.
Password protection function to limit the operation of a machine to certain operators is also available on the GOT screen.

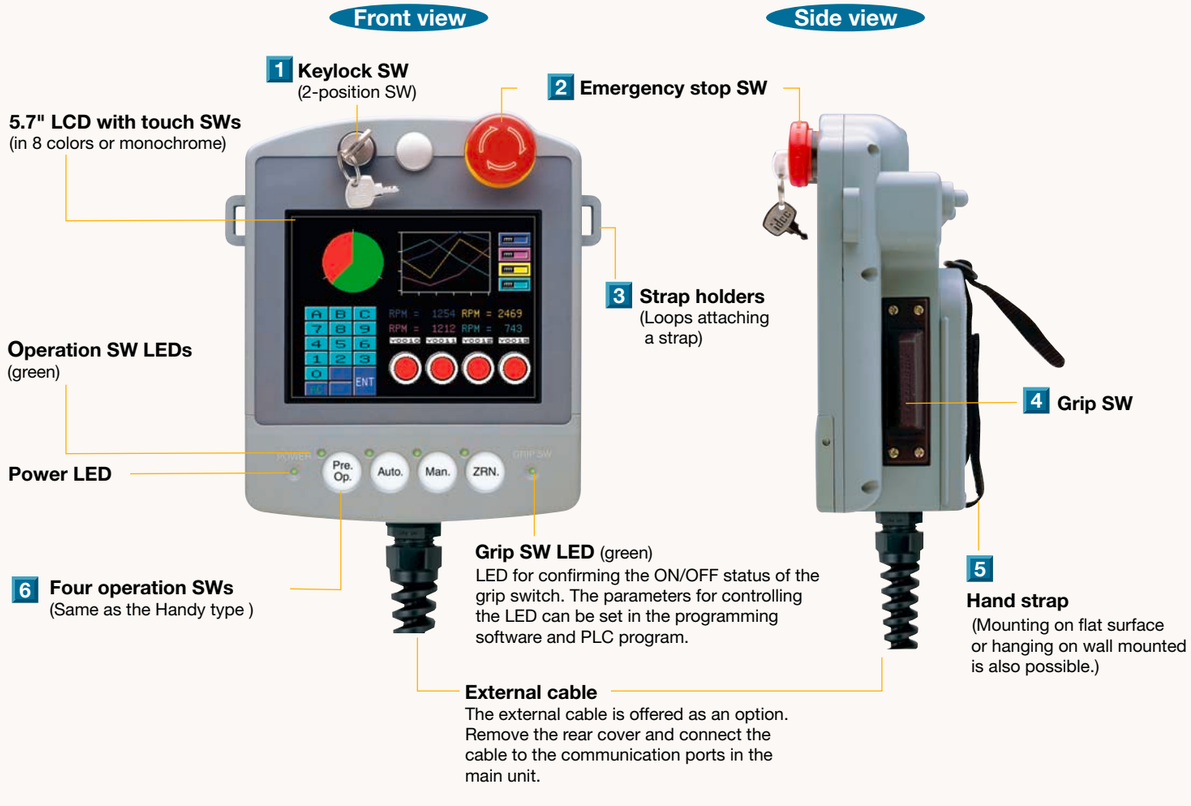
•Loops for attaching a strap
A strap for shoulder/neck carry (prepared by the user) can be attached to the loops.

•In limited space applications
Can be attached/detached when operating.

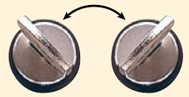
•For start up, adjustment and change over of machine
Can be used as a teaching panel from various viewing directions.

•Peripheral unit of PLC
Debug Programs using "PROGRAM LIST" and "MONITOR" functions.





1 Keylock SW



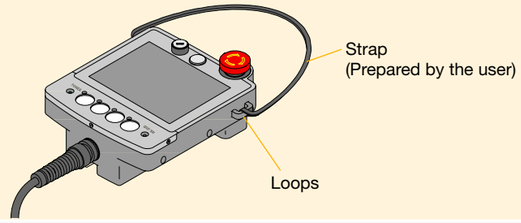
A two position switch. A key can be inserted or removed to lock the switch position.
The switch can be used to change the mode between automatic and manual.

2 Emergency stop SW

Provided as an "N/C contact type" switch for safety reasons.
When the Handy RH GOT is removed from a machine, the switches turn OFF from ON. This is the status in which the emergency stop switch is pressed. This fact should be taken into consideration at the designing phase.
Two N/C contacts are provided for the emergency stop switch. If these contacts are connected in series, the operation stop command is transmitted securely even if one contact turns ON.

3 Strap holders

A strap to help prevent accidental drops or for shoulder/hand carry (prepared by the user) can be attached to the loops.



4 Grip SW

The grip switch is a twin contact type which performs a 3-positioned operation (OFF/ON/OFF). When trouble occurs, an operator may either press or release the button to stop the operation of a machine immediately.

Functions Hardware

Item		F940WGOT	F940GOT		F930GOT		F920GOT-K		Handy GOT		Handy RH-GOT	
Product model name ([ ] 0 or 3)		F940WGOT-TWD-E	F940GOT-SWD-E	F940GOT-LWD-E	F930GOT-BWD-E	F930GOT-BBD-K-E	F920GOT-BBD-K-E	F920GOT-BBD5-K-E	F94[ ]GOT-SBD-H-E	F94[ ]GOT-LBD-H-E	F94[ ]GOT-SBD-RH-E	F94[ ]GOT-LBD-RH-E
General specifications												
Supply voltage		24V DC +10, -15% (service power supply of PLC or separately prepared DC power supply)						5V DC ±5% (Supplied from PLC)	24V DC +10, -15% (service power supply of PLC or separately prepared DC power supply)			
24V DC current consumption (Backlight OFF)		650mA/24V DC *1 (400mA/24V DC)	410mA/24V DC	390mA/24V DC	200mA/24V DC	220mA/24V DC	80mA/24V DC (70mA/24V DC)	220mA/5V DC (180mA/5V DC)	300mA/24V DC (200mA/24V DC)			
Fuse		Built-in (non-replaceable)						—	Built-in (non-replaceable)			
Allowable momentary power failure time		Operation continues after power failure for 5ms or less						—	Operation continues after power failure for 5ms or less			
Built-in lithium battery		PM-20BL (life: Approx. 5 years)			FX2NC-32BL (life: Approx. 3 years)		—		FX2NC-32BL (life: Approx. 3 years)			
Ambient temperature		0-50°C *2	0-50°C*3		0-50°C		0-50°C		0-40°C			
Ambient humidity		35 to 85%RH (no condensation)							35 to 85%RH (no condensation)			
Working atmosphere		Free from corrosive gas and excessive dusts							Free from corrosive gas and excessive dusts			
Vibration resistance		In conformance to JIS B3502 and IEC 61131-2	With intermittent vibration	Frequency: 10-57Hz / 57-150Hz	Acceleration: — / 9.8m/s²	Amplitude: 0.075mm / —	10 times in each of X, Y and Z directions (for 80 min)					
			With continuous vibration	Frequency: 10-57Hz / 57-150Hz	Acceleration: — / 4.9m/s²	Amplitude: 0.035mm / —						
Impact resistance		In conformance to JIS B3502 and IEC 61131-2 (147 m/s², 3 times in each of X, Y and Z directions)							In conformance to JIS B3502 and IEC 61131-2 (147 m/s², 3 times in each of X, Y and Z directions)			
Noise resistance		By noise simulator of 1,000 Vp-p in noise voltage, 1 μs in noise width and 30 to 100 Hz in frequency							By noise simulator of 1,000 Vp-p in noise voltage, 1 μs in noise width and 30 to 100 Hz in frequency			
Withstand voltage		500V AC for 1 min (between all power terminals and ground terminal)					500V AC for 1 min *6		500V AC for 1 min (between all power terminals and ground terminal)			
Insulation resistance		5 MΩ or more by 500V DC megger (between all power terminals and ground terminal)					5MΩ or more by 500V DC megger *6		5MΩ or more by 500V DC megger (between all power terminals and ground terminal)			
Grounding		Class D grounding (If grounding is impossible, it can be omitted.)						—	Class D grounding (If grounding is impossible, it can be omitted.)			
Protective Rating		Equivalent to IP65f *7*8					Equivalent to IP65f *7*8		Equivalent to IP54 *7			
Screen display specifications												
Display Device		TFT color LCD	STN color LCD	STN monochrome LCD	STN monochrome LCD		STN monochrome LCD		STN color LCD	STN monochrome LCD	STN color LCD	STN monochrome LCD
Number of Colors		256 colors	8 colors	2 colors (White and Black)	2 colors (White and Blue)		2 colors (White and Blue)		8 colors	2 colors (White and Black)	8 colors	2 colors (White and Black)
Resolution		480 x 234 dot 60 characters x 14 lines	320 x 240 dot 40 characters x 15 lines		240 x 80 dot 30 characters x 5 lines		128 x 64 dot 16 characters x 4 lines		320 x 240 dot 40 characters x 15 lines		320 x 240 dot 40 characters x 15 lines	
Dot Pitch		0.324mm (0.013") Horizontal x 0.375 mm (0.015") Vertical	0.36mm (0.014") Horizontal x 0.36 mm (0.014") Vertical		0.47mm(0.019") Horizontal x 0.47mm(0.019") Vertical				0.36mm(0.014") Horizontal x 0.36mm(0.014") Vertical			
Effective Display Size		7"(6.7") diagonal 155 mm (6.12") x 87.8 mm (3.46")	6"(5.7") diagonal 115 mm (4.53") x 86 mm (3.39")		4" (4.4) diagonal 117 mm (4.61") x 42 mm (1.65")		3"(2.6") diagonal 60 mm (2.36") x 30 mm (1.18")		6" (5.7") diagonal 115 mm (4.53") x 86 mm (3.39")		6" (5.7") diagonal 115 mm (4.53") x 86 mm (3.39")	
Range of view angle		—	Left and right: 50°, Upper: 45°, lower: 60°	Left and right: 30°, Upper and Lower: 30°	Left and right: 30°, Upper: 20°, lower: 30		Left and right: 40°, Upper and lower: 40°		Left and right: 50°, Upper: 45°, lower: 60°		Left and right: 30°, Upper and lower: 30°	
Max. Number of Screens		500 User screens 30 System screens	500 User screens No. 1001-1030 System screens allocated		500 User screens No. 1001-1030 System screens allocated		500 User screens No. 1001-1030 System screens allocated		500 User screens No. 1001-1030 System screens allocated			
Language displayed on the User screen		English,Western Europe *4, Korean,Chinese(Simplified,Traditional), Japanese (Shift JIS level1,2)	English,Western Europe *4, Korean, Chinese (Simplified, Traditional), Japanese (Shift JIS level1)		English,Western Europe *4, Korean, Japanese(Shift JIS level1)		English,Western Europe *4, Korean, Japanese(Shift JIS level1,2)		English,Western Europe *4, Korean,Chinese(Simplified, Traditional), Japanese (Shift JIS level1)		English, Western Europe *4, Korean, Chinese(Simplified, Traditional), Japanese (Shift JIS level1)	
Life	Display element	Approx. 50,000 hours or more (working temperature: 25°C) Guarantee period is 1 year							Approx. 50,000 hours or more (working temperature: 25°C) Guarantee period is 1 year			
	Backlight *5	50,000 hours or more	40,000 hours or more		50,000 hours or more		—		40,000 hours or more			
		Cold cathode fluorescent tube backlight (working temperature: 25°C), Guarantee period is 1 year					LED(Red/White)		Cold cathode fluorescent tube backlight (working temperature:25°C), Guarantee period is 1 year			
User Memory	Screen data	Flash memory 1 MB (built-in)	Flash memory 512kB (built-in)		Flash memory 256kB (built-in)		Flash memory 128kB (built-in)		Flash memory 512kB (built-in)		Flash memory 512 KB (built-in)	
	Other data	RAM (Keeps Recipe, Alarm frequency, Alarm history and Sampling data)					EEPROM (Keeps Recipe, Alarm frequency, Alarm history)		RAM (Keeps Recipe, Alarm frequency, Alarm history and Sampling data)			
	ROM transfer	✓ (F9GT-40FMB only)	✓		—				—			
Touch keys		Max. 50 touch keys / screen, 30 x 12 matrix	Max. 50 touch keys / screen, 20 x 12 matrix		Max. 50 touch keys / screen, 15 x 4 matrix		—		Max. 50 touch keys / screen, 20 x12 matrix			
Communications												
Serial interface	RS-232C	9-pin D-Sub, male port, 2 channels, #4-40UNC Inch screw thread	9-pin D-Sub, male port, #4-40UNC Inch screw thread						9-pin D-Sub, male connector (Screen data transfer Dedicated to personal computer port)			
	RS-422	9-pin D-Sub, female port, M2.6 Metric screw thread							Dedicated port F940GOT-*BD-(R)H:RS-422 F943GOT-*BD-(R)H:RS-232C			
External I/O connection	For operation switch	—							4 switches (4 contacts/ common) External cable (with 25-pin D-Sub connector or untied)		4 switches (4 contacts/ common) External cable (with 37-pin D-Sub connector)	
	For emergency stop switch	—							1 switch (a contact) External cable (with 25-pin D-Sub connector or untied)		1 switch (a contact) External cable (with 37-pin D-Sub connector)	
Applicable PLC *9 *10		**Mitsubishi:** •QCPU(Q mode): Q00JCPU, Q00CPU, Q01CPU, Q02CPU, Q02HCPU, Q06HCPU, Q12HCPU and Q25HCPU units •QCPU(A mode): Q02CPU-A, Q02HCPU-A and Q06HCPU-A units •QCPU: QCPU (Q mode) and QCPU (A mode) units •QnACPU(large type): Q2ACPU, Q2ACPU-S1, Q3ACPU, Q4ACPU and Q4ARCPU units •QnACPU(small type): Q2ASCPU, Q2ASCPU-S1, Q2ASHCPU and Q2ASHCPU-S1 units •QnACPU: QnACPU (large type) and QnACPU (small type) units			•AnUCPU: A2UCPU, A2UCPU-S1, A3UCPU and A4UCPU units •AnACPU: A2ACPU, A2ACPU-S1 and A3ACPU units •AnNCPU: A1NCPU, A2NCPU, A2NCPU-S1 and A3NCPU units •ACPU(large type): AnUCPU, AnACPU and AnNCPU units •A2US(H)CPU: A2USCPU, A2USCPU-S1 and A2USHCPU-S1 units •AnS(H)CPU: A1SCPU, A1SHCPU and A2SCPU units •A1SJ(H)CPU: A1SJCPU-S3 and A1SJHCPU units •ACPU(small type): A2US(H)CPU, AnS(H)CPU and A1SJ(H)CPU units •ACPU: ACPU (large type), ACPU (small type) and A1FXCPU units			•FXCPU: FX/FX1/FX2/FX2C/FX0/FX0S/FX1S/FX0N/FX1N/FX2N/FX2NC Series main units •FX Series GM positioning unit: FX-10GM, FX-20GM, E-20GM, FX2N-10GM and FX2N-20GM •Motion controller CPU: A171SCPU-S3, A171SHCPU, A172SHCPU and A273UHCPU •FREQROL Series: A500/E500/S500 Series inverter		**Other manufactures:** •Omron: C200H, C200HX, CQM1,CPM1, CPM2, CS1 and CJ1 •Fuji Electric: FLEX-PC N Series(NB-RS1-AC, NB-RS1-DC, NJ-RS4, NJ-RS1 and NJ-RS2) •Yasukawa Electric: Machine controllers CP-9200SH, MP-920 and MP-930 •Matsushita Electric Works: FP0, FPΣ, FP2SH and FP2SH+ FP2-CCU •Allen Bradley: SLC 5/03 and SLC 5/04		•SIEMENS: SIMATIC S7-200, S7-300 and S7-400	
Switches												
Switch/ key	Operation switch	—	—		—		—		4 switches(4 contacts/common), a contact, 10 mV/24V DC, Life: 1,000,000 times			
	Function key	—	—		—	8 switches	6 switches		—			
	Grip switch	—	—		—		—		1 switch (assigned as key in display unit), a contact, 10 mV/24V DC, Life: 1,000,000 times		1 switch, 2a contact, 1A/24V DC(resistance load) 3-positioned OFF/ON/OFF (individual wiring)	
	Emergency stop switch	—	—		—		—		1 switch, b contact, 1A/24V DC(resistance load), Life: 100,000 times or more		1 switch, 2b contact, 1A/24V DC(resistance load), Life: 100,000 times or more	
	Keylock switch	—	—		—		—		—		1 switch (with 2 keys), c contact, 1A/24V DC (resistance load) Life: 100,000 times or more	
	Numeric keypad	—	—		—	0-9, (-), (.)			—			
	Cursor key	—	—		—	ENT,ESC,SET,DEV, ▼,◀,▶,▲			—			

*1 When the power is turned ON a maximum current of 750 mA/24V DC is consumed.
*2 0 to 50°C when the screen is installed laterally. 0 to 40°C when the screen is installed vertically or horizontally.
*3 0 to 40°C when the extension interface is used.
*4 Italian, Dutch, Swedish, Spanish, German, Portuguese, French
*5 The life of the backlight above indicates the value at 25°C.
*6 Between all power terminals of the PLC and ground terminal.
*7 This test result does not provide any guarantees that the product stands against use in all types of environment.
*8 As regarding the front panel.
*9 F920GOT-BBD5-K-E(C) can only connect to the FX, A, QnA Series PLCs (Refer to page 3).
*10 Refer to Hardware Manual (connection) for specific connection details.

Programming software

MELSOFT MITSUBISHI TOTAL FA SOLUTION

NEW!

GT Designer 2

Features

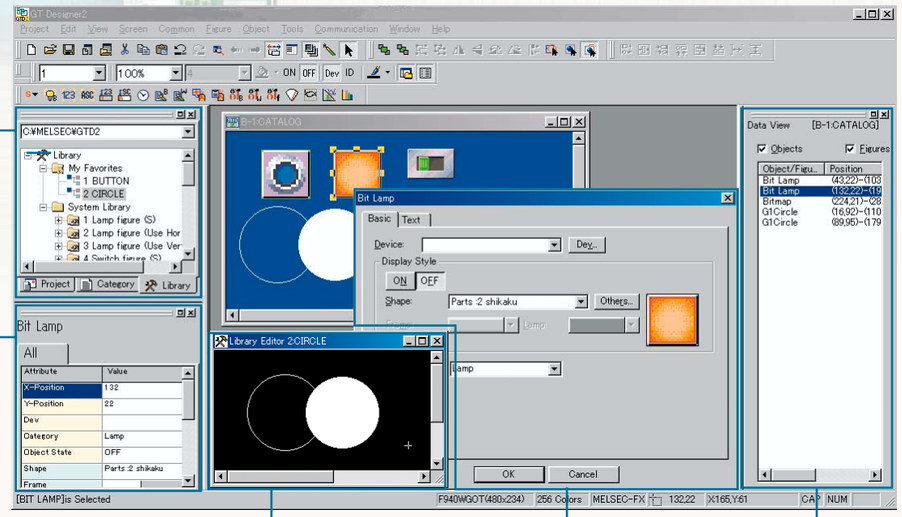
- Screens can be created easily.
- Individual screens can be transferred.
- A full range of excellent features.

OS :
Microsoft® Windows® 98 Microsoft® Windows® Millennium Edition
Microsoft® Windows® NT Workstation4.0+Service pack3 or later
Microsoft® Windows® 2000 Professional
Microsoft® Windows® XP Professional NEW!
Microsoft® Windows® XP Home Edition NEW!

WORK SPACE
- The workspace allows the user to navigate through the GOT project. Screens can be easily added/deleted/copied and moved across the Tree structured workspace window.
- Index tabs for quick access to the Project, Category and Library are available.

PROPERTY SHEET
- Settings for the selected objects and figures are displayed.

LIBRARY EDITOR
- Registered libraries can b edited.

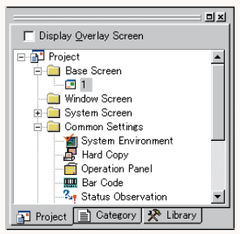


DIALOG BOX
- Customizing user-friendly.

DATA VIEW
- When an Object or Figure is double clicked, a dialog box for easy editing is displayed.

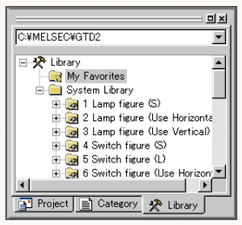
Function

Navigating



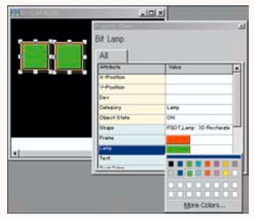
•Project Work Space
Quick access to user screens

Library parts



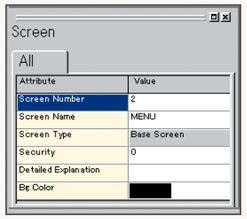
•Library Work Space
Effortlessly construct user screens using the user-friendly parts lists

Registering parts

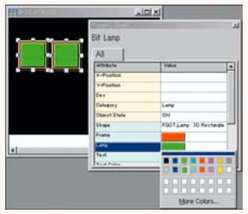


•Library Editor
Create and edit library parts

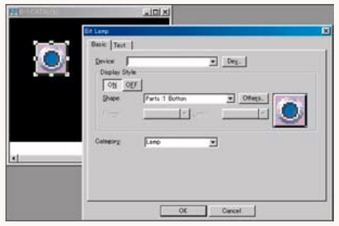
Configuring Properties



•Project Work Space
Dialog box settings are not needed with the use of the Property Sheet



•Library Work Space
One-step setting for multiple parts



•Property box
Graphical check, less mistakes

System requirements

	GT Designer 2
PC	Pentium® 200 MHz or higher
Required memory	64 MB or more
Hard disk capacity	For installing: 250 MB or more, For operating: 50 MB or more
Disk drive	CD-ROM drive required
Display colors	256 colors
Display	Resolution: 800 x 600 dots or better
Other	Internet Explorer 5.0 or later must be installed.

System language

Name	GOT model name *1	Language displayed on system screen *2		In-built fonts (user screen) *3												
		Default	Optional	English	Japanese		Korean	Chinese		Western Europe						
					Shift JIS level-1	Shift JIS level-2		Simplified	Traditional	Italian	Dutch	Swedish	Spanish	German	Portuguese	French
F940WGOT	F940WGOT-TWD	Japanese	English	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
	F940WGOT-TWD-E	English	Japanese	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
	F940WGOT-TWD-C	Chinese (Simplified)	English	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
F940GOT	F94[ ]GOT-SWD	Japanese	English	✓	✓	—	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
	F94[ ]GOT-LWD															
	F940GOT-SWD-E	English	Japanese	✓	✓	—	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
	F940GOT-LWD-E															
	F940GOT-SWD-C	Chinese (Simplified)	English	✓	✓	—	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
	F940GOT-LWD-C															
F930GOT-K	F930GOT-BBD-K	Japanese	English	✓	✓	—	—	—	—	✓	✓	✓	✓	✓	✓	✓
	F930GOT-BBD-K-E	English	Japanese	✓	✓	—	✓*4	—	—	✓	✓	✓	✓	✓	✓	✓
	F930GOT-BBD-K-C	Chinese (Simplified)	English	✓	—	—	—	✓	—	—	—	—	—	—	—	—
F930GOT	F93[ ]GOT-BWD	Japanese	English	✓	✓	✓	—	—	—	✓	✓	✓	✓	✓	✓	✓
	F930GOT-BWD-E	English	Japanese	✓	✓	—	✓*4	—	—	✓	✓	✓	✓	✓	✓	✓
	F930GOT-BWD-C	Chinese (Simplified)	English	✓	—	—	—	✓	—	—	—	—	—	—	—	—
	F930GOT-BWD-T	English	—	✓	—	—	—	—	✓	—	—	—	—	—	—	—
F920GOT-K	F920GOT-BBD5-K	Japanese	English	✓	✓	✓	—	—	—	✓	✓	✓	✓	✓	✓	✓
	F920GOT-BBD5-K-E	English	Japanese	✓	✓	✓	✓*4	—	—	✓	✓	✓	✓	✓	✓	✓
	F920GOT-BBD5-K-C	Chinese (Simplified)	English	✓	—	—	—	✓	✓	—	—	—	—	—	—	—
Handy GOT	F94[ ]GOT-SBD-H	Japanese	English	✓	✓	—	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
	F94[ ]GOT-LBD-H															
	F94[ ]GOT-SBD-H-E	English	Japanese	✓	✓	—	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
	F94[ ]GOT-LBD-H-E															
Handy GOT (RH model)	F94[ ]GOT-SBD-RH	Japanese	English	✓	✓	—	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
	F94[ ]GOT-LBD-RH															
	F94[ ]GOT-SBD-RH-E	English	Japanese	✓	✓	—	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
	F94[ ]GOT-LBD-RH-E															

*1.[ ] in the GOT model name indicates 0 or 3. (The in-built interface varies as shown below)

Name	0	3
F940GOT, F930GOT	RS-422(1), RS-232C(1)	RS-232C(2)
Handy GOT, Handy GOT RH model	RS-422(1)	RS-232C(1)

*2.A change on a system screen can be made in the programming software or GOT main unit.
*3.The font which can be displayed on a user screen Depending on the OS, the font may not be displayed even if it is built-in to the GOT-F900.
*4.Only Hangul is available. (Excluding Korean KS standard kanji)

Cable for the Handy GOT and the PLC

:Female type :Male type The connector figure shows the engagement face.

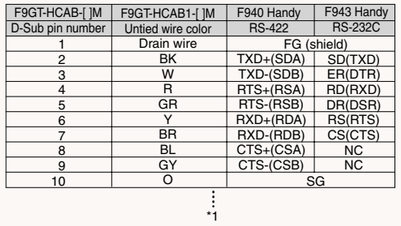
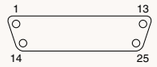
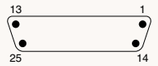
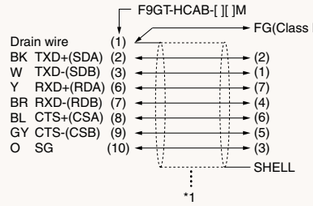
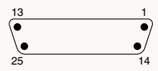
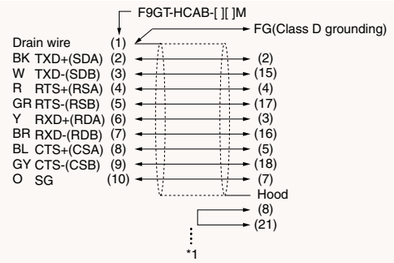
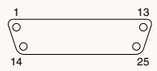
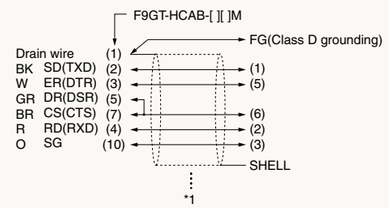
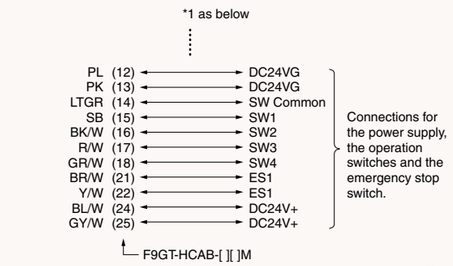
Model name	Connector	Connection diagram	Connector
F9GT-HCAB-3M RS-422 Connection **F9GT-HCAB-10M** RS-232C Connection 	Dedicated connector		To F9GT-HCAB2-150, F9GT-HCAB3-150 or F9GT-HCAB5-150  25Pin D-SUB, male
F9GT-HCAB1-3M RS-422 Connection **F9GT-HCAB1-10M** RS-232C Connection 	Dedicated connector		Untied cable
MELSEC-F FX Series **F9GT-HCAB2-150** RS-422 Connection 	F9GT-HCAB F9GT-HCAB1  25Pin D-SUB, female		FX0/FX0S/FX1S/FX0N/ FX1N/FX2N/FX1NC/FX2NC  8Pin MINI DIN, male
MELSEC-F FX Series MELSEC-A,QnA Series **F9GT-HCAB3-150** RS-422 Connection 	F9GT-HCAB F9GT-HCAB1  25Pin D-SUB, female		FX1/FX2/FX2C/ A/QnA Series  25Pin D-SUB, male
MELSEC-Q Series **F9GT-HCAB5-150** RS-232C Connection 	F9GT-HCAB  25Pin D-SUB, female		Q Series  6Pin MINI DIN, male

Table 1

Abbreviation/generic name/term		Description
Connection diagram	BK	Black
	W	White
	Y	Yellow
	BR	Brown
	BL	Blue
	GY	Gray
	O	Orange
	PL	Purple
	PK	Pink
	LTGR	Light green
	SB	Sky blue
	R	Red
	GR	Green

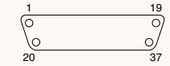
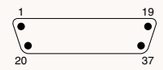
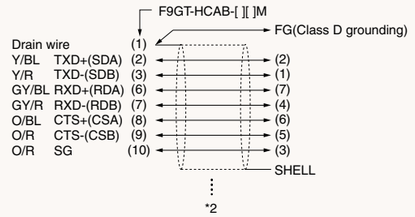
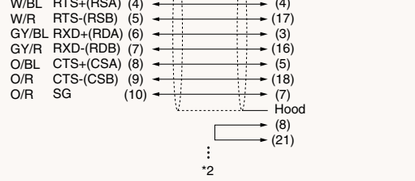
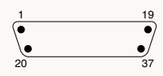
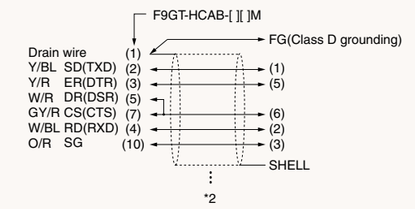
Standard Connections



Note: No.11,19,20,23 .....NC

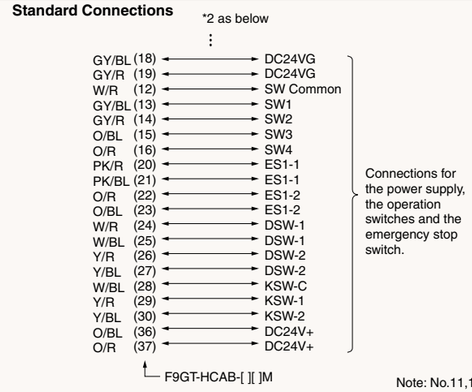
Cable for the Handy GOT RH model and the PLC

:Female type :Male type The connector figure shows the engagement face.

Model name	Connector	Connection diagram	Connector
F9GT-RHCAB-3M RS-422 Connection **F9GT-RHCAB-6M** RS-232C Connection **F9GT-RHCAB-10M** 	Dedicated connector		To F9GT-RHCAB2-150, F9GT-RHCAB3-150 or F9GT-RHCAB5-150  37Pin D-SUB, male
MELSEC-F FX Series **F9GT-RHCAB2-150** RS-422 Connection 	F9GT-RHCAB  37Pin D-SUB, female		FX0/FX0S/FX1S/FX0N/ FX1N/FX2N/FX2NC  8Pin MINI DIN, male
MELSEC-F FX Series MELSEC-A,QnA Series **F9GT-RHCAB3-150** RS-422 Connection 	F9GT-RHCAB  37Pin D-SUB, female		FX1/FX2/FX2C/ A/QnA Series  37Pin D-SUB, male
MELSEC-Q Series **F9GT-RHCAB5-150** RS-232C Connection 	F9GT-RHCAB  37Pin D-SUB, female		Q Series  6Pin MINI DIN, male

Refer to Table 1

Standard Connections



Note: No.11,17,31,32,33,34,35.....NC

Connectors/Cables

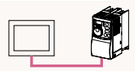
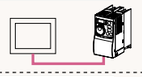
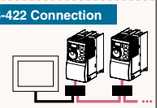
GOT-F900 Series and PLC cables

F940WGOT F940GOT F930GOT F930GOT--K F920GOT-K

:Female type :Male type The connector figure shows the engagement face.

Model name		Application	Connection diagram	Application
MELSEC-F FX Series **FX-50DU-CAB0** **FX-50DU-CAB0-1M** **FX-50DU-CAB0-10M** **FX-50DU-CAB0-20M** **FX-50DU-CAB0-30M** **FX-50DU-CAB0L** *1	RS-422 Connection 	GOT-F900 9Pin D-SUB, male	(1)–(2) (2)–(7) (4)–(6) (5)–(3) (6)–(1) (7)–(4) (9)–(5)	FX_0/FX_{0S}/FX_{1S}/FX_{0N}/ FX_{1N}/FX_{2N}/FX_{1NC}/FX_{2NC} 8Pin MINI DIN, male
MELSEC-A,FX Series **MELSEC-QnA Series** **FX-40DU-CAB** **FX-40DU-CAB-10M** **FX-40DU-CAB-20M** **FX-40DU-CAB-30M** **FX-50DU-CABL** *1	RS-422 Connection 	GOT-F900 (excluding F920GOT-BBD5-K) 9Pin D-SUB, male	(1)–(2) (2)–(3) (3)–(4) (4)–(5) (5)–(7) (6)–(15) (7)–(16) (8)–(17) (9)–(18) (8)–(21)	FX_1/FX_2/FX_{2C} A/QnA Series 25Pin D-SUB, male
Prepared by the user (Cable length 3m (9'10") or less) Resistance per wire: 0.67 Ω or less (Approximately AWG 28 or thicker)	RS-422 Connection	F920GOT-BBD5-K 9Pin D-SUB, male	(1)–(2) (2)–(3) (3)–(4) (4)–(20) (5)–(7) (6)–(15) (7)–(16) (8)–(17) (9)–(12) (8)–(21)	QnA Series 25Pin D-SUB, male
MELSEC-Q Series **QC30R2**	RS-232C Connection 	GOT-F900 (excluding F920GOT-BBD5-K) 9Pin D-SUB, female		Q Series 6Pin MINI DIN, male
Prepared by the user (Cable length 3m (9'10") or less) Resistance per wire: 0.67 Ω or less (Approximately AWG 28 or thicker)	RS-232C Connection	F920GOT-BBD5-K 9Pin D-SUB, female	FG(Class D grounding)–FG(Class D grounding) (2)–(2) (3)–(1) (4)–(5) (5)–(3) (6)–(6) (8) (9)–(4)	Q Series 6Pin MINI DIN, male
MELSEC-A,QnA,Q Series Computer link **Prepared by user**	RS-422 Connection	GOT-F900 9Pin D-SUB, male	FG(Class D grounding)–FG(Class D grounding) (1)–RXD+(RDA) (6)–RXD-(RDB) (2)–TXD+(SDA) (7)–TXD+(SDB) (5)–SG(GND) Signal name for computer link	Terminal block Computer link unit side (PLC side)
Prepared by user If proper monitoring is not executed due to external noise when connecting A1SJ71QC24 (-R2), connect all signals in pair with SG (except SG and FG).	RS-232C Connection	GOT-F900 9Pin D-SUB, female	FG(Class D grounding) (1)–(1)CD(DCD) (2)–(2)RD(RXD) (3)–(3)SD(TXD) (4)–(4)DR(DTR) (5)–(5)SG(GND) (6)–(6)DR(DSR) (7)–(7)RS(RTS) (8)–(8)CS(CTS) Signal name for computer link	Computer link unit side (PLC side) 9Pin D-SUB, male
MELSEC-A Series Computer link **F2-232CAB-1** (The connection diagram is partially different) 	RS-232C Connection	GOT-F900 9Pin D-SUB, female	(1)–(1)FG (2)–(2)SD(TXD) (3)–(3)RD(RXD) (7)–(4)RS(RTS) (8)–(5)CS(CTS) (6)–(6)DR(DSR) (5)–(7)DG(GND) (8)CD(DCD) (4)–(20)ER(DTR) Signal name for computer link	Computer link unit side (PLC side) 25Pin D-SUB, male

*1 F930GOT(-K), F920GOT-K cannot be used.

Model name		Application	Connection diagram	Application
MELSEC-F FX Series positioning unit connection **FX-50DU-CAB0** **FX-50DU-CAB0-1M** **FX-50DU-CAB0L** *1	RS-422 Connection 	GOT-F900 9Pin D-SUB, male	(1)–(2) (2)–(7) (4)–(6) (5)–(3) (6)–(1) (7)–(4) (9)–(5)	FX_{2N}-10GM/FX_{2N}-20GM 8Pin MINI DIN, male
FX-30DU-GM-CAB	RS-422 Connection	GOT-F900 9Pin D-SUB, male	(1)–(2) (2)–(3) (3)–(4) (4)–(5) (5)–(7) (6)–(12) (7)–(13) (8)–(14) (9)–(15) (10) (20)	FX10GM/E-20GM/FX-20GM 20Pin D-SUB, male
FREQROL Series Inverter **Prepared by the user** PU port of A500 Series, E500 Series or S500 Series	RS-422 Connection 	GOT-F900 9Pin D-SUB, male	(1)–(3) (2)–(5) (5)–(1) (6)–(6) (7)–(4)	PU port PJ-45 plug, male
Prepared by the user FR-A5NR of A500 Series	RS-422 Connection 	GOT-F900 9Pin D-SUB, male	(1)–RDA (2)–SDA (5)–SG (6)–RDB (7)–SDB	Terminal block of FR-A5NR
Prepared by the user Between distributor and distributor	RS-422 Connection 	Distributor PJ-45 plug, male	(1)–(1) (2) Do not connect. (2) (3)–(3) (4)–(4) (5)–(5) (6)–(6) (7)–(7) (8) Do not connect. (8)	Distributor PJ-45 plug, male
Prepared by the user Between distributor and FR-A5NR of A500 Series		Distributor PJ-45 plug, male	(1)–SG (2) Do not connect. (2) (3)–RDA (4)–SDB (5)–SDA (6)–RDB (7)–(7) (8) Do not connect. (8)	Terminal block for FR-A5NR
Microcomputer **General-purpose equipment** **Prepared by the user**	RS-422 Connection	GOT-F900 9Pin D-SUB, male	FG(class D grounding)–FG(class D grounding) (1)–RXD+(RDA) (6)–RXD-(RDB) (2)–TXD+(SDA) (7)–TXD-(SDB) (5)–SG(GND) Signal name on microcomputer side	Microcomputer side
Prepared by the user	RS-232C Connection	GOT-F900 9Pin D-SUB, female	FG(class D grounding) (2)–SD(TXD) (3)–RD(RXD) (7) (8) (6) (4) (5)–SG(GND) Signal name on microcomputer side	Microcomputer side

*1 F930GOT(-K), F920GOT-K cannot be used.

Connecting two or more GOT-F900 units together

:Female type :Male type The connector figure shows the engagement face.

Model name		Application	Connection diagram	Application
F2-232CAB-1		Personal computer(25Pin) connector 25Pin D-SUB, female	(1) shield–(2) (2)–(3) (3)–(8) (5)–(4) (6)–(5) (7)–(6) (20)	GOT-F900 9Pin D-SUB, female
FX-232CAB-1		Personal computer (9Pin) connector 9Pin D-SUB, female	(2)–(2) (3)–(3) (6)–(6) (8)–(8) (5)–(5) (4)–(4)	GOT-F900 9Pin D-SUB, female

Options and replacement parts for the GOT-F900 Series

EPROM memory (for storing user screen data)

EPROM memory

FX-EPROM-4M

F940GOT

Application

Stores user screens, alarm messages, and recipes.
Written with programming software.
The F9GT-40UMB data transfer adapter is also needed to transfer data to the F940GOT.

Specification

M27C4002-**F (4 MBit)

Screen data transfer board

GOT Screen data transfer board

F9GT-40FMB

F940WGOT F940GOT

Application

Enables fast and easy screen data transfer between GOTs without a writing device such as a ROM writer (flash memory built in).

F9GT-40UMB

F940GOT

With FX-EPROM-4M attached

Application

Enables transfer of identical screen data to multiple F940GOTs at high speed (approx. two seconds for 64 KB data).

* When using the programming software GT Designer 2, files are created in Intel HEX format. Transfer data to a ROM writer using communications software.

Battery

Guaranteed for one year from the manufacturing date

Battery

PM-20BL (Supplied as standard equipment)

F940WGOT F940GOT

Application

Stores sampling data, alarm frequency, and alarm history. Screen data is stored in the built-in flash memory, and kept even if battery expires.
The life is approximately five years.

Specification

Power supply: 3.6 V 850 mA

FX2NC-32BL (Supplied as standard equipment)

F930GOT F930GOT-K Handy GOT

Application

Stores sampling data, alarm frequency, and alarm history. Screen data is stored in the built-in flash memory, and kept even if battery expires.
The life is approximately five years.

Specification

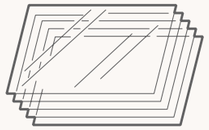
Power supply: 3.6 V 410 mA

Transparent screen protection sheet

Transparent screen protection sheet

F9WGT-40PSC (Five sheets per package)

F940WGOT



Application

Protects the display surface from oil or being soiled by handling.
Only the soiled part on the adhesive sheet can be replaced.

Specification

Size (W) x (H): 158 x 92 mm (6.23" x 3.63")

F9GT-40PSC (Five sheets per package)

F940GOT Handy GOT

Application

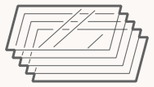
Protects the display surface from oil or being soiled by handling.
Only the soiled part on the adhesive sheet can be replaced.

Specification

Size (W) x (H): 120 x 92 mm (4.73" x 3.63")

F9GT-30PSC (Five sheets per package)

F930GOT F930GOT-K



Application

Protects the display surface from oil or being soiled by handling.
Only the soiled part on the adhesive sheet can be replaced.

Specification

Size (W) x (H): 120 x 45 mm (4.73" x 1.78")

Backlight

Backlight

F9GT-40LTS (Supplied as standard equipment)

F940GOT

Application

The life is 40,000 hours. A user can replace the backlight easily.

F9GT-30LTB (Supplied as standard equipment)

F930GOT

Application

The life is 50,000 hours. A user can replace the backlight easily.

Conversion box

Conversion box

F9GT-HCNB

Handy GOT(excluding RH model)

Front view

Back view

Application

Mounted on a panel face or mounted with an L-shaped mounting bracket to easily connect/disconnect the Handy GOT to the RS-422 port using the dedicated cable, F9GT-HCAB-[ ][ ]M.

Accessory

L-shaped mounting bracket

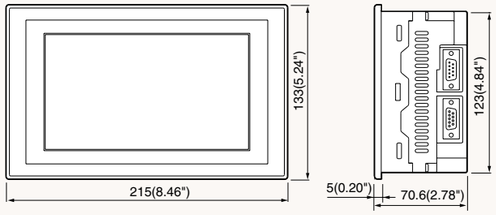
Dimensions

FGOT and panel installation dimensions.

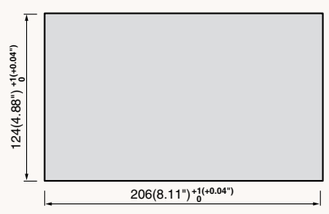
F940WGOT Series — F940WGOT-TWD-E

Unit: mm (inches)

• Dimensions



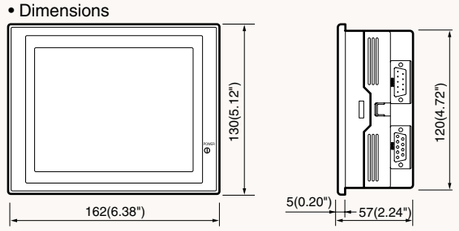
• Panel cut dimensions *1



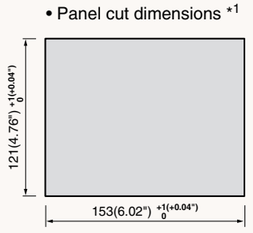
F940GOT Series — F940GOT-SWD-E, F940GOT-LWD-E, F943GOT-SWD-E, F943GOT-LWD-E

Unit: mm (inches)

• Dimensions



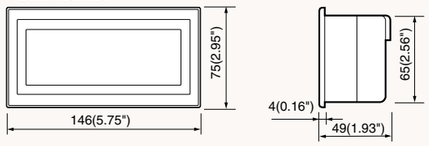
• Panel cut dimensions *1



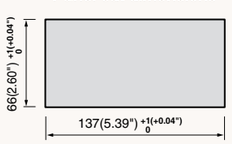
F930GOT Series — F930GOT-BWD-E

Unit: mm (inches)

• Dimensions



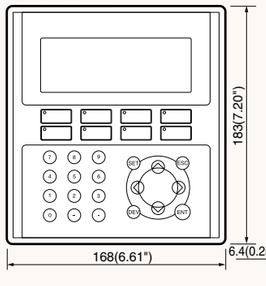
• Panel cut dimensions *1



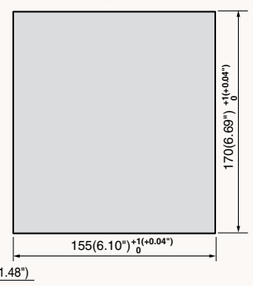
F930GOT-K — F930GOT-BBD-K-E

Unit: mm (inches)

• Dimensions



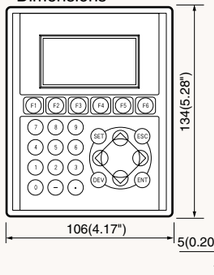
• Panel cut dimensions *1



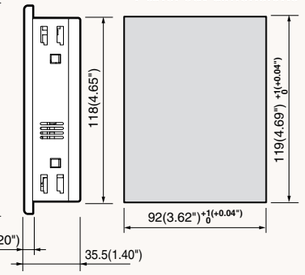
F920GOT-K — F920GOT-BBD(5)K-E

Unit: mm (inches)

• Dimensions



• Panel cut dimensions *1

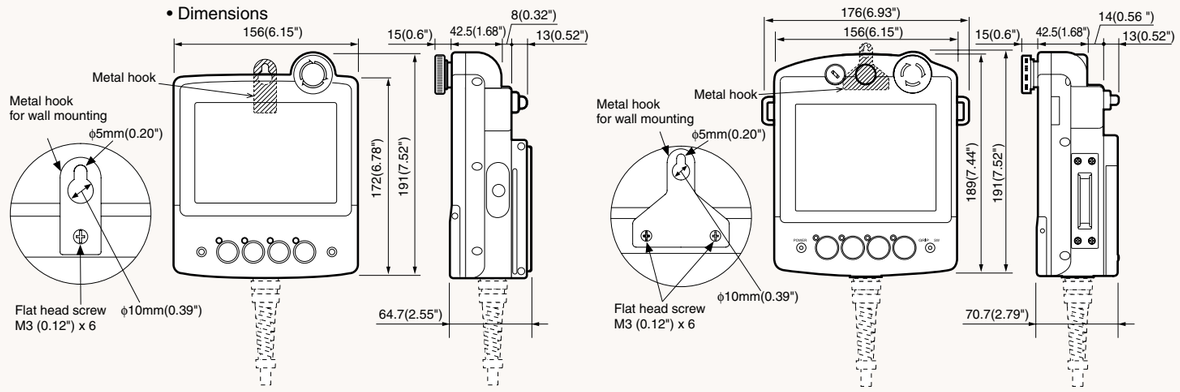


*1 In addition to the panel cut dimension, a 10mm(0.4") space is required an every side to accommodate the mounting brackets.

Handy GOT — F940GOT-SBD-H(-RH)-E, F940GOT-LBD-H(-RH)-E, F943GOT-SBD-H(-RH)-E, F943GOT-LBD-H(-RH)-E

Unit: mm (inches)

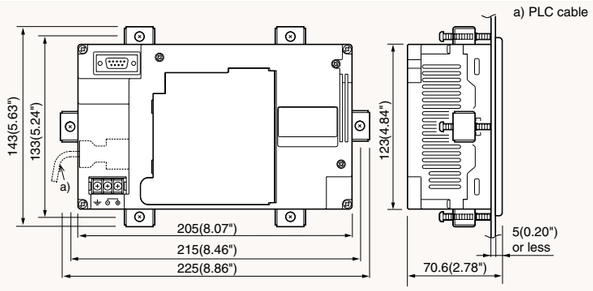
• Dimensions



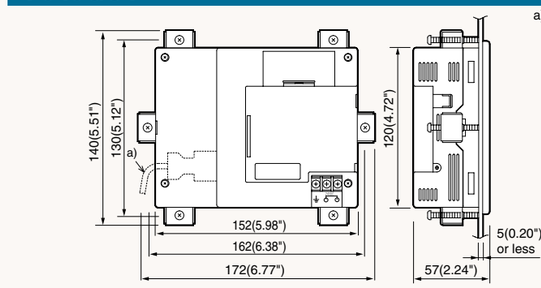
Dimensions required for panel installation

Unit: mm (inches)

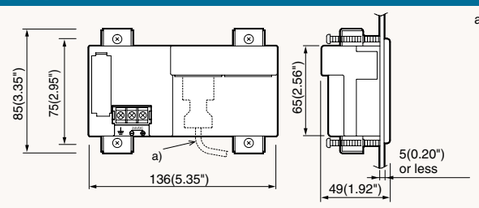
F940WGOT



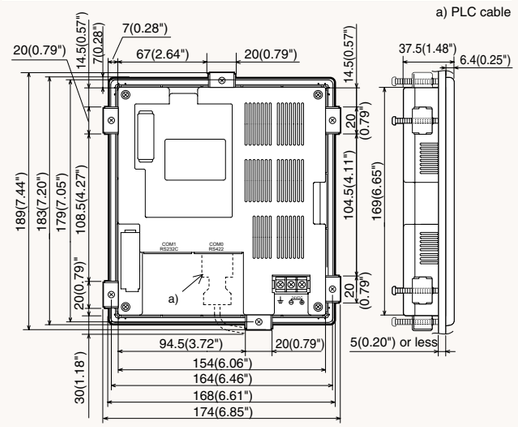
F940GOT



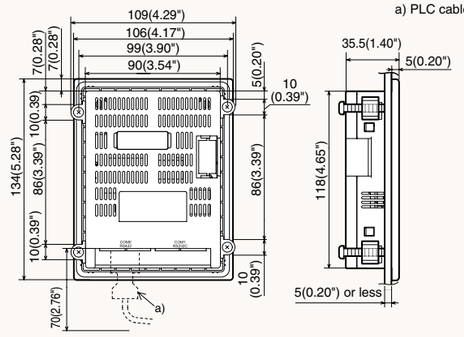
F930GOT



F930GOT-K

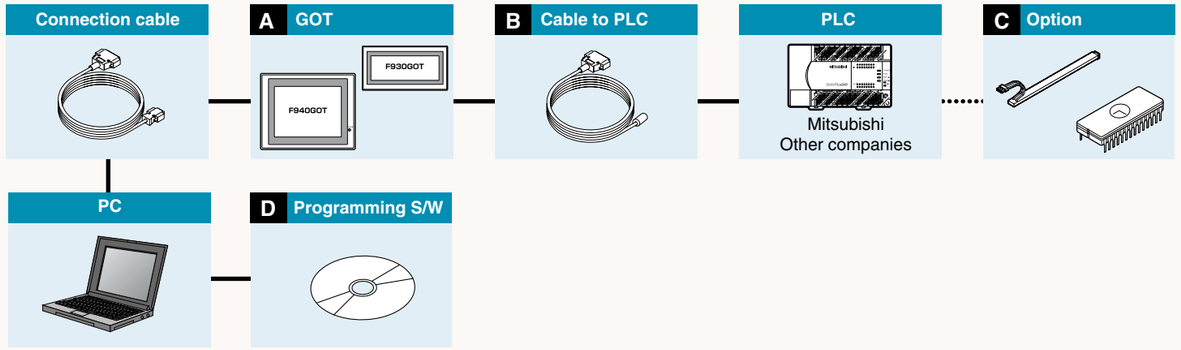


F920GOT-K



Configuration

F940WGOT, F940GOT, F930GOT, F930GOT-K, F920GOT-K



A GOT (Power Specifications)

Model name	Name	Display	Power	Built-in Interface	
				1 RS-422	2 RS-232C
F940WGOT-TWD-E	F940WGOT	6.7 inch 256 colors TIF LCD	24V DC	✓	✓
F940GOT-SWD-E	F940GOT	5.7 inch 8 colors STN LCD	24V DC	✓	✓
F940GOT-LWD-E		5.7 inch monochrome STN LCD			
F930GOT-BWD-E	F930GOT	4.4 inch blue STN LCD	24V DC	✓	✓
F930GOT-BBD-K-E	F930GOT-K	4.4 inch blue STN LCD	24V DC	✓	✓
F920GOT-BBD-K-E	F920GOT-K	2.6 inch blue STN LCD	24V DC	✓	✓
F920GOT-BBD5-K-E		2.6 inch blue STN LCD	5V DC		✓

B PLC ⟷ GOT

•MITSUBISHI ELECTRIC

Interface	PLC		Cable length (m)	Model name	Note
1 RS-422	MELSEC-F FX Series	FX_1,FX_2,FX_{2C}	3	FX-40DU-CAB	FX CPU direct connection
			10	FX-40DU-CAB-10M	
			20	FX-40DU-CAB-20M	
			30	FX-40DU-CAB-30M	
			3	FX-50DU-CABL	FX CPU direct connection (excluding F930GOT(-K), F920-GOT-K)
		FX_0,FX_{0S},FX_{1S},FX_{0N}, FX_{1N},FX_{2N},FX_{1NC}, FX_{2NC}	3	FX-50DU-CAB0	FX CPU direct connection
			1	FX-50DU-CAB0-1M	
			10	FX-50DU-CAB0-10M	
			20	FX-50DU-CAB0-20M	
			30	FX-50DU-CAB0-30M	
			3	FX-50DU-CAB0L	FX CPU direct connection (excluding F930GOT(-K), F920-GOT-K)
		FX Positioning (10GM/20GM)	3	FX-50DU-CAB0	FX_{2N}-10GM,FX_{2N}-20GM direct connection
			1	FX-50DU-CAB0-1M	
			3	FX-50DU-CAB0L	FX_{2N}-10GM,FX_{2N}-20GM direct connection (excluding F930GOT(-K), F920-GOT-K)
			3	FX-30DU-GM-CAB	FX-10GM,FX-20GM,E-20GM direct connection
2 RS-232C		FX_{1S},FX_{1N}	3	FX-232CAB-1	FX_{1N}-232-BD is necessary
			3 to 15	Prepared by user	
		FX_{2N}	3	FX-232CAB-1	FX_{2N}-232-BD is necessary
			3 to 15	Prepared by user	
		FX_{1S},FX_{1N}	3	F2-232CAB-1	FX_{1N}-CNV-BD and FX_{0N}-232ADP are necessary
			3 to 15	Prepared by user	
		FX_{2N}	3	F2-232CAB-1	FX_{2N}-CNV-BD and FX_{0N}-232ADP are necessary
			3 to 15	Prepared by user	
		FX_{1NC},FX_{2NC}	3	F2-232CAB-1	FX_{0N}-232ADP or FX_{2NC}-232ADP is necessary
			3 to 15	Prepared by user	
1 RS-422	MELSEC-A MELSEC-QnA MELSEC-Q Series	A,QnA CPU, Motion controller	3	FX-40DU-CAB	A, QnA CPU direct connection
			10	FX-40DU-CAB-10M	
			20	FX-40DU-CAB-20M	
			to 30	FX-40DU-CAB-30M	
			3	FX-50DU-CABL	A, QnA CPU direct connection (excluding F930GOT(-K), F920-GOT-K)
		A computer link	to 30	Prepared by user	–
		QnA,Q Serial communication unit	to 30	Prepared by user	–
2 RS-232C		A computer link	3	F2-232CAB-1	For D-SUB 25Pin
			3 to 15	Prepared by user	–
		QnA,Q Serial communication unit	3	F2-232CAB-1	For D-SUB 25Pin
			3 to 15	Prepared by user	–
		Q CPU	3	QC30R2	Q CPU direct connection
1 RS-422	FREQROL Series inverter	A500,E500,S500	3	Prepared by user	For one unit
			3 to 30		For more than one unit (1 to 10)

•Other companies PLC

Please refer to Hardware manual for other PLC companies.

C Options (Parts)

Name	Type	Model name	Note
F940WGOT	Transparent screen protection sheet	F9WGT-40PSC	Five sheets per package
	Screen data transfer board	F9GT-40FMB	Enables fast and easy screen data transfer between GOTs without the need for a writing device such as a ROM writer (flash memory built in).
F940GOT	Transparent screen protection sheet	F9GT-40PSC	Five sheets per package
	EPROM memory	FX-EPROM-4M	Stores programming user screens, alarm messages, and recipes. Written with programming software. The F9GT-40UMB data transfer adapter is also needed to transfer data to the F940GOT.
	Screen data transfer board	F9GT-40FMB	Enables fast and easy screen data transfer between GOTs without the needed for a writing device such as a ROM writer (flash memory built in).
		F9GT-40UMB	Enables transfer of identical screen data to multiple F940GOTs at high speed (approx. two seconds for 64 KB data).
F930GOT	Transparent screen protection sheet	F9GT-30PSC	Five sheets per package

Option (Repair parts)

Name	Type	Model name	Note
F940WGOT	Battery	PM-20BL	Built-in GOT
F940GOT	Battery	PM-20BL	Built-in GOT
	Backlight	F9GT-40LTS	
F930GOT	Battery	FX_{2NC}-32BL	Built-in GOT
	Backlight	F9GT-30LTS	

D Programming software

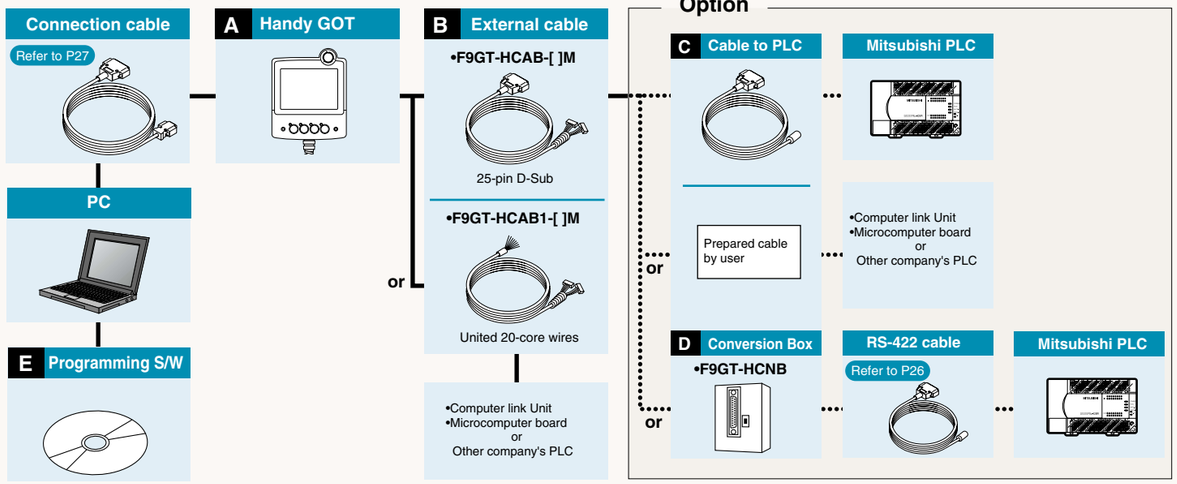
Name	Model name	Note
GT Designer 2	SW[ ]D5C-DTD2-E	GOT-A900 and GOT-F900 programming software.

GOT ⟷ Personal computer

Name	Type	Model name	Note
F940WGOT, F940GOT F930GOT, HandyGOT	RS-232C Cable	F2-232CAB-1	D-SUB 25-Pin connection
		FX-232CAB-1	D-SUB 9-Pin connection

Configuration

F940 Handy GOT



A Handy GOT

Model name	Name	Display	Power	Built-in inter face	
				1 RS-422	2 RS-232C
F940GOT-SBD-H-E	F940 Handy GOT	5.7 inch 8 colors STN LCD	24V DC	✓	–
F940GOT-LBD-H-E		5.7 inch monochrome STN LCD			
F943GOT-SBD-H-E		5.7 inch 8 colors STN LCD		–	✓
F943GOT-LBD-H-E		5.7 inch monochrome STN LCD			

B 1. Handy Got External cable

1 RS-422	2 RS-232C	PLC	Cable length(m)	Model name	D F9GT-HCNB	Note
✓	✓	Common cable	3	F9GT-HCAB-3M	✓	D-SUB 25-Pin connection
✓	–		10	F9GT-HCAB-10M	✓	
✓	✓		3	F9GT-HCAB1-3M	–	Multi-core wire
✓	–		10	F9GT-HCAB1-10M	–	

C 2. PLC ⟷ GOT

•MITSUBISHI ELECTRIC

H: F9GT-HCNB used

Interface	PLC		Cable length(m)	Model name	Note
1 RS-422	MELSEC-F FX Series	FX_1,FX_2,FX_{2C}	1.5	F9GT-HCAB3-150	FX CPU direct connection
			3	H FX-40DU-CAB	
			3	H FX-50DU-CABL	
		FX_0,FX_{0S},FX_{1S}, FX_{0N},FX_{1N},FX_{2N}, FX_{1NC},FX_{2NC}	1.5	F9GT-HCAB2-150	FX CPU direct connection
			3	H FX-50DU-CAB0	
			1	H FX-50DU-CAB0-1M	
			3	H FX-50DU-CAB0L	
		FX-Positioning (10GM/20GM)	1.5	F9GT-HCAB2-150	FX_{2N}-10GM,FX_{2N}-20GM direct connection
			3	H FX-50DU-CAB0	
			1	H FX-50DU-CAB0-1M	
			Max. 3	Prepared by user	FX-10GM,FX-20GM,E-20GM direct connection
2 RS-232C		FX_{1S},FX_{1N}	Max. 6	Prepared by user	FX_{1N}-232-BD is necessary
		FX_{2N}			FX_{2N}-232-BD is necessary
		FX_{1S},FX_{1N}			FX_{1N}-CNV-BD is necessary
		FX_{2N}			FX_{2N}-CNV-BD and FX0N-232ADP is necessary
		FX_{1NC},FX_{2NC}			FX_{0N}-232ADP is FX_{2NC}-232ADP necessary
1 RS-422	MELSEC-A MELSEC-QnA MELSEC-Q Series	A,QnA, CPU Motioncontroller	1.5	F9GT-HCAB3-150	A, QnA CPU direct connection
			3	H FX-40DU-CAB	
			3	H FX-50DU-CABL	
		A computer link	11.5	Prepared by user	
		QnA,Q Serial communication unit	11.5	Prepared by user	
2 RS-232C		A computer link	Max. 6	Prepared by user	
			3	H F2-232CAB-1	For D-SUB 25-Pin
		QnA,Q Serial communication unit	Max. 6	Prepared by user	
			3	H F2-232CAB-1	For D-SUB 25-Pin
		Q CPU	1.5	F9GT-HCAB5-150	Q CPU direct connection
1 RS-422	FREQROL Series inverter	A500,E500,S500	3	Prepared by user	For one unit
			11.5		For multiple units (1 to 10)

*1 Please refer to Hardware manual for other PLC companies.

F940 Handy GOT RH Type

A Handy GOT RH Type

Model name	Name	Display	Power	Built-in I/F	
				1 RS-422	2 RS-232C
F940GOT-SBD-RH-E	F940 Handy GOT RH Type	5.7 inch 8 colors STN LCD	24V DC	✓	–
F940GOT-LBD-RH-E		5.7 inch monochrome STN LCD			
F943GOT-SBD-RH-E		5.7 inch 8 colors STN LCD		–	✓
F943GOT-LBD-RH-E		5.7 inch monochrome STN LCD			

B 1. Handy GOT External cable

1 RS-422	2 RS-232C	PLC	Cable length(m)	Model name	Note
✓	✓	Common cable	3	F9GT-RHCAB-3M	D-SUB 25-Pin connection
✓	–		6	F9GT-RHCAB-6M	
✓	–		10	F9GT-RHCAB-10M	

C 2. PLC ⟷ GOT

•MITSUBISHI ELECTRIC

Inter face	PLC		Cable length(m)	Model name	Note
1 RS-422	MELSEC-F FX Series	FX_1,FX_2,FX_{2C}	1.5	F9GT-RHCAB3-150	FX CPU direct connection
			11.5	Prepared by user	
		FX_0,FX_{0S},FX_{1S},FX_{0N},FX_{1N}, FX_{2N},FX_{1NC},FX_{2NC}	1.5	F9GT-RHCAB2-150	FX CPU direct connection
			11.5	Prepared by user	
		FX-Positioning (10GM/20GM)	1.5	F9GT-RHCAB2-150	FX_{2N}-10GM,FX_{2N}-20GM direct connection
			11.5	Prepared by user	
2 RS-232C		FX_{1S},FX_{1N}	Max. 6	Prepared by user	FX_{1N}-232-BD is necessary
		FX_{2N}			FX_{2N}-232-BD is necessary
		FX_{1S},FX_{1N}			FX_{1N}-CNV-BD is necessary
		FX_{2N}			FX_{2N}-CNV-BD and FX0N-232ADP is necessary
		FX_{1NC},FX_{2NC}			FX_{0N}-232ADP or FX_{2NC}-232ADP is necessary
1 RS-422	MELSEC-A MELSEC-QnA MELSEC-Q Series	A,QnA, CPU Motion controller	1.5	F9GT-RHCAB3-150	CPU direct connection
			11.5	Prepared by user	
		A computer link	11.5	Prepared by user	
		QnA,Q Serial communication unit	11.5	Prepared by user	
2 RS-232C		A computer link	Max. 6	Prepared by user	
		QnA,Q Serial communication unit	Max. 6	Prepared by user	
		Q CPU	1.5	F9GT-RHCAB5-150	Q CPU direct connection
1 RS-422	FREQROL Series inverter	A500,E500,S500	3	Prepared by user	For one unit
			11.5		For multiple units (1 to 10)

•Other companies PLC

Name	PLC	Cable length(m)	Model name	Note
Prepared by user				

Handy GOT Options

D Option (Parts)

Name	Type	Model name	Note
Handy GOT	Transparent screen protection sheet	F9GT-40PSC	Five sheets per package
	Conversion box	F9GT-HCNB	For attaching/detaching cable F9GT-HCAB-[ ]M to/from panel surface. (RS-422 port only. Excluding Handy GOT RH model)

Option (Repart parts)

Name	Type	Model name	Note
Handy GOT	Battery	FX_{2NC}-32BL	Built-in GOT

E Programming software

Name	Model name	Note
GT Designer 2	SW[ ]D5C-DTD2-E	

For safe use

This product has been manufactured as a general-purpose part for general industries, and has not been designed or manufactured to be incorporated in a device or system used in purposes related to human life.
Before using the product for special purposes such as nuclear power, electric power, aerospace, medicine or passenger movement vehicles, consult with Mitsubishi.
This product has been manufactured under strict quality control. However, when installing the product where major accidents or losses could occur if the product fails, install appropriate backup or failsafe functions in the system.