MITSUBISHI ELECTRIC

Changes for the Better

Mitsubishi Graphic Operation Terminal
GOT1000 Series

Tailored solutions to meet your HMI and visualization needs

GRAPHIC OPERATION TERMINAL
GOT1000

Compatible with
Windows® 7

Robot

Inverter

Servo system

CNC

Programmable
controller

Vision system

CONTENTS

GOT Solutions

FA Solutions

The GOT1000 delivers the competitive advantage:

The speed of your business and the speed of your machine hinges on many forces outside of your control.

The GOT1000 brings them back under control with speed, performance and industry leading functions that are tailored for visualization - real life solutions for your real time process. Whether your focus is centered on uptime, productivity or serviceability there is a GOT solution that fits your machine, factory and enterprise level requirements.

GOTs evolve
the face of control.

GRAPHIC OPERATION TERMINAL
GOT1000

The GOT1000 series offers six classes of terminals to fit any system or budget requirement.

GT16

High performance models with multimedia and a host of features and functions including embedded communications

GOT1000 GRAPHIC OPERATION TERMINAL

Multimedia | Video RGB | Network | Bus | Serial

15" type

XGA TFT (High-brightness, wide viewing angle)
GT1695M-XTBA AC type GT1695M-XTBD DC type
Resolution : 1024 × 768 Display colors : 65,536 colors
Multimedia, video/RGB model

12.1" type

SVGA TFT (High-brightness, wide viewing angle)
GT1685M-STBA AC type GT1685M-STBD DC type
Resolution : 800 × 600 Display colors : 65,536 colors
Multimedia, video/RGB model

10.4" type

SVGA TFT (High-brightness, wide viewing angle)
GT1675M-STBA AC type GT1675M-STBD DC type
Resolution : 800 × 600 Display colors : 65,536 colors
Multimedia, video/RGB model

VGA TFT (High-brightness, wide viewing angle)
GT1675M-VTBA AC type GT1675M-VTBD DC type
Resolution : 640 × 480 Display colors : 65,536 colors
Multimedia, video/RGB model

VGA TFT
GT1675-VNBA AC type GT1675-VNBD DC type ✳
Resolution : 640 × 480 Display colors : 4,096 colors

VGA TFT
GT1672-VNBA AC type GT1672-VNBD DC type ✳
Resolution : 640 × 480 Display colors : 16 colors

8.4" type

SVGA TFT (High-brightness, wide viewing angle)
GT1665M-STBA AC type GT1665M-STBD DC type
Resolution : 800 × 600 Display colors : 65,536 colors
Multimedia, video/RGB model

VGA TFT (High-brightness, wide viewing angle)
GT1665M-VTBA AC type GT1665M-VTBD DC type
Resolution : 640 × 480 Display colors : 65,536 colors
Multimedia, video/RGB model

VGA TFT
GT1662-VNBA AC type GT1662-VNBD DC type ✳
Resolution : 640 × 480 Display colors : 16 colors

5.7" type

VGA TFT (High-brightness, wide viewing angle)
GT1655-VTBD DC type ✳
Resolution : 640 × 480 Display colors : 65,536 colors

6.5" type Handy

VGA Handy GOT/TFT
(High-brightness, wide viewing angle)
GT1665HS-VTBD DC type ✳
Resolution : 640 × 480 Display colors : 65,536 colors

GT15

Performance models ideal for a wide range of applications in a network or standalone environment

GOT1000 GRAPHIC OPERATION TERMINAL

Multimedia | Video RGB | Network | Bus | Serial
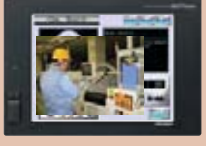
15" type

XGA TFT (High-brightness, wide viewing angle)
GT1595-XTBA AC type GT1595-XTBD DC type
Resolution : 1024 × 768 Display colors : 65,536 colors

12.1" type

SVGA TFT (High-brightness, wide viewing angle)
GT1585V-STBA AC type GT1585V-STBD DC type
Resolution : 800 × 600 Display colors : 65,536 colors
Video/RGB model

SVGA TFT (High-brightness, wide viewing angle)
GT1585-STBA AC type GT1585-STBD DC type
Resolution : 800 × 600 Display colors : 65,536 colors

10.4" type

SVGA TFT (High-brightness, wide viewing angle)
GT1575V-STBA AC type GT1575V-STBD DC type
Resolution : 800 × 600 Display colors : 65,536 colors
Video/RGB model

SVGA TFT (High-brightness, wide viewing angle)
GT1575-STBA AC type GT1575-STBD DC type
Resolution : 800 × 600 Display colors : 65,536 colors

VGA TFT (High-brightness, wide viewing angle)
GT1575-VTBA AC type GT1575-VTBD DC type
Resolution : 640 × 480 Display colors : 65,536 colors

VGA TFT
GT1575-VNBA AC type GT1575-VNBD DC type
Resolution : 640 × 480 Display colors : 256 colors

VGA TFT
GT1572-VNBA AC type GT1572-VNBD DC type
Resolution : 640 × 480 Display colors : 16 colors

8.4" type

VGA TFT (High-brightness, wide viewing angle)
GT1565-VTBA AC type GT1565-VTBD DC type
Resolution : 640 × 480 Display colors : 65,536 colors

VGA TFT
GT1562-VNBA AC type GT1562-VNBD DC type
Resolution : 640 × 480 Display colors : 16 colors

5.7" type

VGA TFT (High-brightness, wide viewing angle)
GT1555-VTBD DC type
Resolution : 640 × 480 Display colors : 65,536 colors

QVGA TFT (High-brightness, wide viewing angle)
GT1555-QTBD DC type
Resolution : 320 × 240 Display colors : 65,536 colors

QVGA STN
GT1555-QSBD DC type
Resolution : 320 × 240 Display colors : 4,096 colors

QVGA STN
GT1550-QLBD DC type
Resolution : 320 × 240 Display colors : 16 gray scales

GT14

Standard model with advanced features and communication interfaces

GOT1000 GRAPHIC OPERATION TERMINAL

Multimedia | Video RGB | Network | Bus | Serial

5.7" type

QVGA TFT NEW
GT1455-QTBDE
Resolution : 320 × 240
Display colors : 65536 colors

QVGA STN NEW
GT1450-QLBDE
Resolution : 320 × 240
Display colors : 16 gray scales

GT12

Large basic models with integrated features and communication interfaces

GOT1000 GRAPHIC OPERATION TERMINAL

Multimedia | Video RGB | Network | Bus | Serial

10.4" type

VGA TFT
GT1275-VNBA AC type
GT1275-VNBD DC type ✳
Resolution : 640 × 480
Display colors : 256 colors

8.4" type

VGA TFT
GT1265-VNBA AC type
GT1265-VNBD DC type ✳
Resolution : 640 × 480
Display colors : 256 colors

GT11

Small models with a host of advanced functions

GOT1000 GRAPHIC OPERATION TERMINAL

Multimedia | Video RGB | Network | Bus | Serial

5.7" type Handy

QVGA Handy GOT/STN
GT1155HS-QSBD DC type
Resolution : 320 × 240 Display colors : 256 colors

GT1150HS-QLBD DC type
Resolution : 320 × 240 Display colors : 16 gray scales
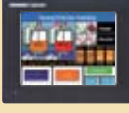
GT10

Compact models with basic functions

GOT1000 GRAPHIC OPERATION TERMINAL

Multimedia | Video RGB | Network | Bus | Serial

5.7" type

QVGA STN
GT1055-QSBD 24VDC type
Resolution : 320 × 240
Display colors : 256 colors

QVGA STN
GT1050-QBBD 24VDC type
Resolution : 320 × 240
Display colors : Monochrome (blue/white) 16 gray scales

4.7" type

QVGA STN
GT1045-QSBD 24VDC type
Resolution : 320 × 240
Display colors : 256 colors

QVGA STN
GT1040-QBBD 24VDC type
Resolution : 320 × 240
Display colors : Monochrome (blue/white) 16 gray scales

4.5" type

STN (High contrast)
GT1030-HBD Black 24VDC type RS-422 connection
GT1030-HBD2 Black 24VDC type RS-232 connection
GT1030-HBL Black 5VDC type RS-422 connection
GT1030-HWD White 24VDC type RS-422 connection
GT1030-HWD2 White 24VDC type RS-232 connection
GT1030-HWL White 5VDC type RS-422 connection
Resolution : 288 × 96
Display colors : Monochrome (black/white)
(Tricolor LED (green/orange/red)) ✳

STN (High contrast)
GT1030-HBDW Black 24VDC type RS-422 connection
GT1030-HBDW2 Black 24VDC type RS-232 connection
GT1030-HBLW Black 5VDC type RS-422 connection
GT1030-HWDW White 24VDC type RS-422 connection
GT1030-HWDW2 White 24VDC type RS-232 connection
GT1030-HWLW White 5VDC type RS-422 connection
Resolution : 288 × 96
Display colors : Monochrome (black/white)
(Tricolor LED (white/pink/red)) ✳

3.7" type

STN
GT1020-LBD Black 24VDC type RS-422 connection
GT1020-LBD2 Black 24VDC type RS-232 connection
GT1020-LBL Black 5VDC type RS-422 connection
GT1020-LWD White 24VDC type RS-422 connection
GT1020-LWD2 White 24VDC type RS-232 connection
GT1020-LWL White 5VDC type RS-422 connection
Resolution : 160 × 64
Display colors : Monochrome (black/white)
(Tricolor LED (green/orange/red))

STN
GT1020-LBDW Black 24VDC type RS-422 connection
GT1020-LBDW2 Black 24VDC type RS-232 connection
GT1020-LBLW Black 5VDC type RS-422 connection
GT1020-LWDW White 24VDC type RS-422 connection
GT1020-LWDW2 White 24VDC type RS-232 connection
GT1020-LWLW White 5VDC type RS-422 connection
Resolution : 160 × 64
Display colors : Monochrome (black/white)
(Tricolor LED (white/pink/red))

✳ : For details about the functions of GT10 models, see "GT10 (pages 48, 49)".

✳ : The GT16□□-VNB□, GT1655-VTBD, GT1665HS-VTBD, GT145□, GT12□□-VNB□ and GT1030 high contrast products (GT1030-H□□□□) are not supported by the screen design software GT Works2/GT Designer2.

GOT Solutions

Quick response to problems. Easy facility design with the GOT1000 series. Comprehensive solutions to production site problems.

GOT Solutions

FA Solutions

CASE 1

Facility uptime is increased by reducing unexpected errors on the floor.

Before

Error!

Alarm light is on

Error

What's wrong with it?

How do I deal with the problem?

What is the cause?

GOT Solution

One-Touch Ladder Jump function

The one touch function reduces equipment downtime by quickly checking equipment operation, machine status and logic with a single button.

For details, see **P.44**

When an error is detected, touch switch operations can search for and display the cause of the problem.

<Error occurred in ST2 device!>

ST1 (Normal) ST2 (Error)

Error indicator light: Y10

Error detected

Search

Touch the switch to find how Y10 is set

Touch

When errors occur, touch the Search switch to automatically start up the Ladder Monitor Screen.

<Display ladder blocks including Y10>

ST1 error
M10

Y10 Error indicator light: ON

ST2 error
M20

Touch normally open contact (M20) in state. (Coil search function)

Touch

<Display ladder blocks including M20>

Pusher LS error
M31

Air pressure error
M32

Oil pressure error
M33

M20 ST2 error

Error is detected because oil pressure (M33) is on.

No need to go back to my desk to get my PC or check ladder programs!

CASE 2

Equipment availability is greatly improved when GOTs are used to quickly edit PLC programs.

Before

Sensor malfunction!?

Part not being read by sensor

▼ Check it with the ladder monitor function.

Sensor X10

M20

The device number is wrong.

Need to fix it now.

I need a PC...

GOT Solution

Ladder Editor function

It takes only a few touches to make minor ladder program corrections. It is easy and fast.

For details, see **P.45**

Sensor X10

M20

Circuit input

X20

Correct

Change the device number from X10 to X20.

Sensor X20

M20

Repair is made easy and quick without a PC!

CASE 3

Downtime is shortened when debugging can be performed locally or over decentralized systems.

Before

It may take several workers to debug programs and operate equipment at the same time if the operation and control panels are on different floors.

2F Electrical Room

Control panel

It's difficult to perform debugging without watching the machine in operation.

1F Equipment Floor

Operation screen
Start Stop

Operation panel

I'm not sure how the program is changed and if it's operating correctly.

GOT Solution

FA Transparent function

Use GOT to connect the PLC and PC. You can check the equipment and debug programs at the same time.

For details, see **P.39**

2F Electrical Room

Control panel

PLC debugging can be performed from a PC connected to the GOT!

1F Equipment Floor

Operation screen
Start Stop Operation lamp

Operation panel

Touch panel operation is enabled even when a PC is connected. Both the GOT and PLC can be debugged in one single, efficient operation!

CASE 4

Production efficiency is maintained when the GOT is used to manage product changeovers and maintenance recovery plans.

Before

Warehouse

Office

I need to go to the warehouse to get another PLC!

I also need to go to the office to get a PC.

PLC failed!

No battery!

GOT Solution

Backup/Restoration function

No need for a PC on the production floor - simply use the GOT to manage (Read/Write) and store PLC programs.

For details, see **P.42**

Change CPU

Restore

Speedy restoration! No need for a PC or locating the program.

It is OK, because the latest program was stored in the GOT.

GOT Solutions

CASE 5

Operator efficiency is improved when manuals and work instructions can be accessed directly from the display.

Before

Alarm light is on

Error!

Error B110

Where is the manual?

What is error B110?

How do I deal with the problem?

Call the maintenance representative?

GOT Solution

Document Display function/ Video Manual Playback

You can save necessary documents such as manuals in a memory card on the GOT.
For details, see P.32 P.33

Error!

Directly assign documents and image files to touch switches.

Alarm display screen
01/11/2007 10:00 Error B110
01/10/2007 10:10 Error B112
01/10/2007 9:55 Error B110
Manual

With the Document Display function, it's easy to read the manual by changing and scrolling through pages.

Work instructions are easy to access and written in a language that I can understand.

The manual describes how to deal with the error displayed.

<Document display>   <Video manual playback>

CASE 6

Production quality can be increased when using the GOT to capture and play back real time videos and images.

Before

Machine fails, forcing the line to stop!

That machine failed again... How can I locate the cause of the problem in this unmanned, fully automated line?

GOT Solution

Multimedia function

Check the recorded view of the production line. You can find problem causes quickly.
For details, see P.32

I can use the GOT to capture the cause of this problem.

Attach a video camera on GOT. The view of the production line is recorded before and after the occurrence of a problem.

Alarm display screen
01/11/2007 10:00 Error B110
01/10/2007 10:10 Error B112
01/10/2007 9:55 Error B110
Video search

Play it on the GOT.

Play the video from the alarm display screen.
High-resolution pictures are recorded and played in VGA resolution!

<120-second long video images are recorded before and after the occurrence of a problem.>

120 seconds before   120 seconds after

Trouble

CASE 7

Minimize production mistakes by using the GOT to manage authorization and security levels.

Before

Production failure!

Product A
Screw tightening torque
Torque 1   60
Torque 2   0

● Checking the production data and timesheet information to indentify the operator takes time.

● The operator's memory about the operation is too vague to identify the problem cause.

Who was working at that time? What was being operated and how?

I don't remember.

GOT Solution

Operator Authentication function + Operation Log function

Save operator information on a memory card along with operation records. You can find sources of trouble quickly.
For details, see P.41

What is the cause of the defective product?

History check screen
Product A   Display alarm data
Product B
Product C   Display operation log

It is found that Jon Smith entered erroneous data.

The operation log including the operator information is shown for analysis.

You don't have to panic. The GOT will find the cause.

We can determine the cause of the error and this will be helpful in improving operations and preventing a recurrence in the future.

CASE 8

Reduce installation costs by using flexible mounting options.

Before

Hardware switches and lamps may require large areas of boards.

Rearranging them and reconnecting cables may be inconvenient when specifications are changed.

GOT Solution

GT10 models (GT1020/GT1030)

For simple and small applications, GOT1000 compact types are just right.
For details, see P.48

Compact and easy-to-use, with simple wiring that reduces assembly time.

Its operation is intuitive. Three backlight colors indicate different equipment statuses.

green orange red
3-color display model
white pink red
3-color model is also available)

Both horizontal and vertical mounting available to meet the needs of different applications.

GOT Solutions

FA Solutions

8

9

GRAPHIC OPERATION TERMINAL GOT1000

FA Solutions

Obstacles are often encountered when using many different types of FA devices. The following problems can be resolved by linking with GOT1000.

Enhancing sequence control.

General-purpose PLC

CASE 1 MELSEC × GRAPHIC OPERATION TERMINAL GOT1000

Powerful functionality that is useful during startup and the tuning process!

Can the program be debugged without opening the cabinet?

FA transparent function
For details, see **P.39**

Connected with a personal computer, the GOT acts as a transparent gateway to enable programming, start up, and adjustment of equipment using GX Works2 or GX LogViewer. Users do not have to bother with opening the cabinet or changing cable connections. (On the GT10 series, the FA transparent function can be used via the interface on the rear side.)

GX Works2
GX LogViewer, etc.
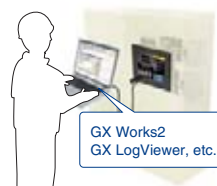
Can the PLC programs be recovered after failure?

Backup/restoration function
For details, see **P.42**

Sequence programs and parameters can be backed up to the memory card or USB memory in the GOT. Users can then perform batch operation to restore the data to the PLC.

Memory card, etc.   If data is backed up

Replace CPU   Restore

Sequence program, etc.
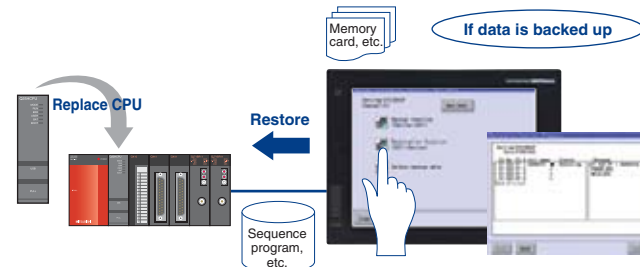
Can the PLC status or errors be checked quickly?

System monitor function
For details, see **P.46**

PLC devices can be monitored and changed.

Intelligent module monitor function
For details, see **P.46**

Buffer memory values and I/O information can be monitored and changed.

Network monitor function
For details, see **P.46**

Enable monitoring of network line conditions on a dedicated screen.

Network module status display

Enable monitoring of LED status, error status, among others of network modules on a GOT.

MELSEC-L troubleshooting functiion
For details, see **P.46**

A dedicated maintenance screen for the L series is included. The CPU status and error information can be easily confirmed without a personal computer. If a problem occurs, you can jump to a function screen such as the ladder monitor to quickly take corrective actions.

Ideal for PLCs in the field and on the plant floor!

Can PLC programs be monitored with the GOT?

Ladder monitor function and ladder editor function
For details, see **P.44** **P.45**

Sequence programs can be monitored in a circuit diagram (ladder format).

SFC monitor function
For details, see **P.44**

The Q series (Q mode) SFC programs (MELSAP3, MELSAP-L) can be monitored in a SFC diagram format.

Can the root cause be easily identified?

One-touch ladder jump function
(Q/L/QnA series ladder monitor and ladder editor function)
For details, see **P.44**

By setting a program name and coil number of the PLC to a touch switch, the relevant ladder circuit block can be displayed directly. Troubles can be handled smoothly from the alarm screen.

Display the ladder block of the coil set to the touch switch

One touch to jump to Ladder Monitor or Ladder Editor Screen
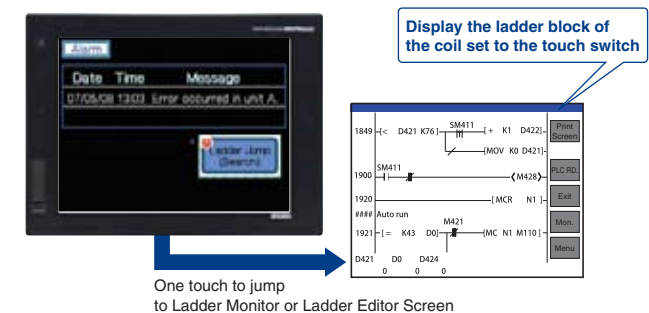
Can simple changes to ladder programs be made without a personal computer?

Ladder editor function
For details, see **P.45**

Sequence programs of the Q series (Q mode) and the L series can be edited in a circuit diagram (ladder format).

Touch the area you wish to edit. The circuit input window is displayed.

Enter ladder program

Enter ladder program

Circuit symbol: Changing from normally closed contact to normally open contact.
Device: Changing from M422 to M200.
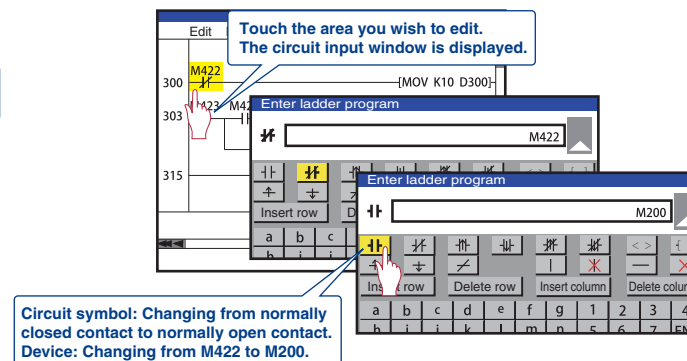
Using the MELSEC-L series or high-speed data logger module!

Can collected logging data be checked at the worksite?

Log viewer function
For details, see **P.40**

Logging data collected using the L series or high-speed data logger module can be displayed on the GOT.
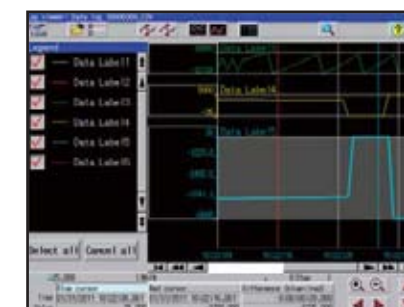
Monitoring batch control!

Can Process and Batch monitoring be simplified?

Building a process control system using GOT1000
For details, see **P.26** **P.51**

PX Developer creates GOT process control screens automatically. The automatically generated data can be used for both the GOT (worksite) and GT SoftGOT1000 (monitor room), and therefore monitor screens can be created efficiently.

FA Solutions

Making drive control even easier.

General-purpose AC Servo

CASE2

MITSUBISHI SERVO AMPLIFIERS & MOTORS
MELSERVO × GRAPHIC OPERATION TERMINAL **GOT1000**

Powerful functionality that is useful during startup and the tuning process!

Can the program be debugged without opening the cabinet?

FA transparent function — For details, see **P.39**

MT Works2
GX Works2, etc.

Connected with a personal computer, the GOT acts as a transparent gateway to enable programming, startup, and adjustment of equipment using MT Works2, GX Works2, GX Configurator-QP or MR Configurator2. Users do not have to bother with opening the cabinet or changing cable connections.
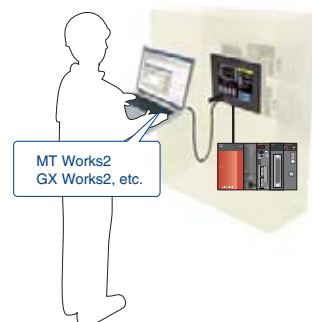
Can devices in the motion controller be validated?

System monitor function — For details, see **P.46**

Motion controller devices can be monitored and changed.

For direct connection of servo amplifiers to GOTs!

Can errors or the status of servo amplifiers be validated?

Servo amplifier monitor function — For details, see **P.47**

In a system which outputs pulse train, the GOT can be connected to a servo amplifier in a serial connection to perform the following operations: monitoring, alarm display, diagnosis, parameter setting, and test operations.

Ideal for motion controllers in the field and on the plant floor!

Can the motion controller's servo parameters be changed easily?

Q series motion monitor function — For details, see **P.47**

The GOT enables easy monitoring of motion controllers (Q series), changing of servo parameters, and display of errors on the screen.
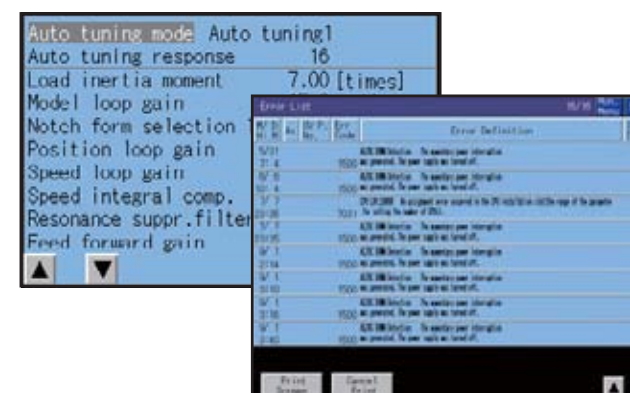
Can motion SFC programs be checked on the GOT?

Motion SFC monitor function — For details, see **P.45**

Motion controller (Q series) motion SFC programs can be monitored in SFC diagram format. Viewing the batch program monitor or the active step list enables you to see the complete status at a glance.

Detailed program window
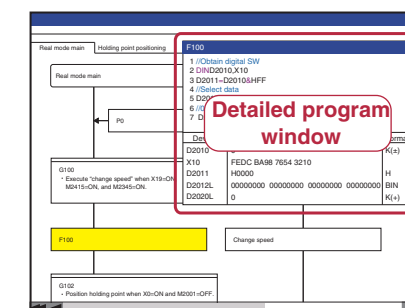
Can motion profiles be recovered after controller failures?

Backup/restoration function — For details, see **P.42**

Motion controller (Q series) programs and parameters can be backed up onto a memory card or USB memory in the GOT. Users can perform batch operation to restore the data to the motion controller.

Embedded functionality for positioning modules/simple motion modules!

Can positioning status and errors be validated?

Intelligent module monitor function — For details, see **P.46**

Buffer memory values of modules such as the QD77MS and I/O information can be monitored and changed.

Other convenient uses!

When used in combination with the FA transparent function, the positioning module/simple motion module can be efficiently debugged. If an error occurs in the positioning module/simple motion module, the details of the error can be confirmed using just the GOT.

Monitor the status, parameters, input/output information, and other data for each axis of the positioning module/simple motion module (intelligent module monitor function)
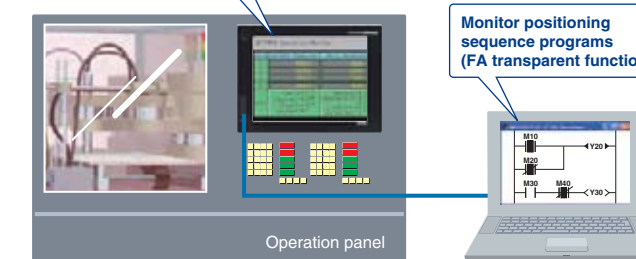
Monitor positioning sequence programs (FA transparent function)

Operation panel

FA Solutions

Simplifying inverter control.

General-purpose Inverter

CASE 3

FREQROL × **GRAPHIC OPERATION TERMINAL GOT1000**

Ideal for inverter operation!

Can the inverter status be monitored on the GOT?

Easy-to-understand display

Operation commands and parameters can be set from a GOT. On the GT1020/GT1030, three different backlight colors can be switched between screens, making it easy for operators to read and operate the screens.

Example of GT16 operation screen

Example of GT1020 parameter screen

Example of GT1030 operation screen

Ideal for inverter startups and operation!

Can connections to the inverter be simplified?

Directly connect inverters

Up to 31 inverters can be connected to a single GOT over a total distance of 500m.
FREQROL-A700 inverters can automatically configure the communication parameters for GOT connection, making connections easy.

GT10 model

Max. 500 m

Max. 31 units

RS-485 connection

FREQROL-A700

Can the parameters be checked or changed without opening the cabinet?

FA transparent function

For details, see P.39

Connected with a personal computer, the GOT acts as a transparent gateway to enable startup and adjustment of equipment using FR Configurator. Users do not have to bother with opening the cabinet or changing cable connections.

FR Configurator

Can inverter parameters be changed easily?

Ready-to-use sample screens

Sample screen data for specifying parameters is available.

FA Solutions

Faster robot control!

Industrial Robot
CASE 4 MELFA × GOT1000

Powerful functions for robotic systems!

Can the teaching box and the personal computer used for setup be consolidated into a single unit?

Consolidate and centralize robot monitoring and control functions on production floor using the GOT

Even if a teaching box is not available, the GOT can be used to operate the robot and easily check the current position data and error details. Consolidating panel operations into the GOT improves operation and maintenance work efficiency.

Immediately check the robot status!

Operation and maintenance on the GOT
• Robot operation screen
• Robot current position monitor screen
• Load rate/current value display screen
• Maintenance forecast screen

Robot internal information (data)
Error information/Variable information/Program information
Robot information (current speed/attainment rate, etc.)
Maintenance information (battery/grease remaining time, etc.)
Servo motor (load rate/current value, etc.)

Consolidated panel operations

Robot controller   Teaching box   Robot programming & engineering software

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Ideal for robot programming!

Can the robot program be easily accessed?

Ready-to-use sample screens

Sample screen data is available for robot operation, current position monitoring, and other purposes. There is no need to create robot programs from scratch.

Robot operation panel screen   Robot jog/hand operation screen   Robot current position monitor screen

Opens a video of operation examples
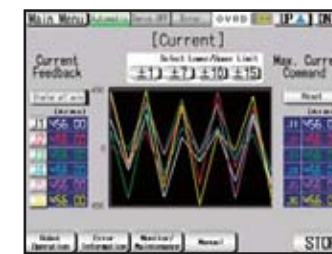
Robot load rate/current value monitor screen   Robot maintenance forecast screen   Robot manual menu screen
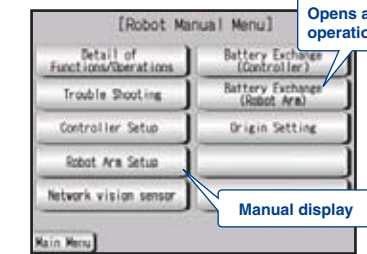
Manual display

Can the program be debugged without opening the cabinet?

FA transparent function
For details, see P.39

Connected with a personal computer, the GOT acts as a transparent gateway to enable start up and adjustment of equipment using RT ToolBox2. Users do not have to bother with opening the cabinet or changing cable connections.

RT ToolBox2

Can devices in the robot controller be validated?

System monitor function
For details, see P.46

Embedded monitoring utilities are available enabling users to view and change device values.

In the event of trouble!

Can robot profiles be recovered after controller failures?

Backup/restoration function
For details, see P.42

Robot controller data can be backed up to the memory card or USB memory in the GOT. Users can perform batch operation to restore the data to the robot controller.

Memory card, etc.   If data is backed up

Replace CPU   Restore   Robot data, etc.
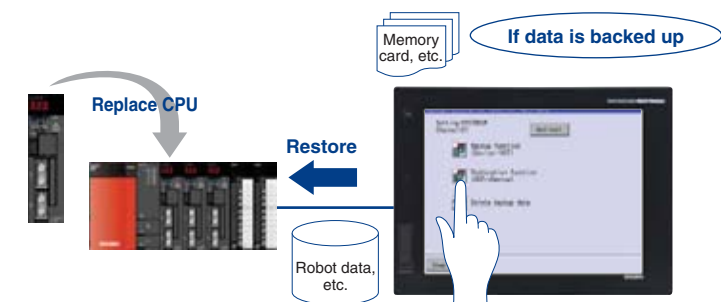
FA Solutions

Simplifying numerical control.

Numerical Control Unit

CASE 5

MITSUBISHI CNC
C70 Series × GRAPHIC OPERATION TERMINAL GOT1000

Powerful function for CNC startup, machining and changeover!

Can CNC parameters be changed easily?

CNC monitor function
For details, see P.47

The CNC C70 can be monitored and the parameters can be changed.

Can errors or the status of the CNC be validated quickly?

CNC data I/O function
For details, see P.47

Data, such as machining programs and parameters, can be copied from a GOT memory card or USB memory to the CNC C70 and vice versa. Data can be deleted as well.
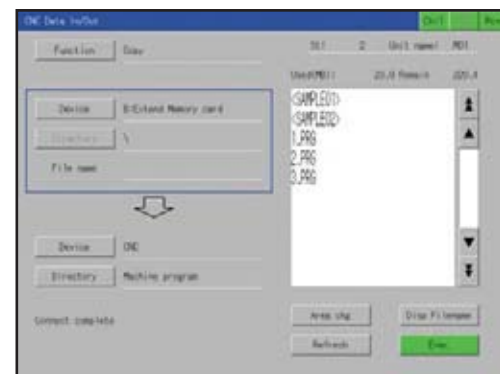
Can CNC devices be easily validated?

System monitor function
For details, see P.46

Embedded monitoring utilities are available enabling users to view and change CNC C70 device values.

Can the parameters be checked or changed without opening the panel?

FA transparent function
For details, see P.39

Connected with a personal computer, the GOT acts as a transparent gateway to specify and adjust parameters of equipment using NC Configurator. Users do not have to bother with opening the cabinet or changing cable connections.

NC Configurator
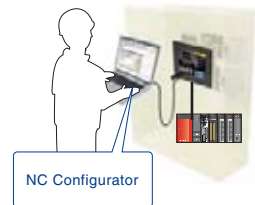
Ideal for CNC programming!

Can CNC programs be validated directly from the GOT?

Ladder monitor function
For details, see P.44

CNC C70 sequence programs can be monitored in a circuit diagram (ladder format).

Can the root cause be easily identified?

One-touch ladder jump function
For details, see P.44

By setting a program name and coil number of the CNC C70 to a touch switch, the relevant ladder circuit block can be displayed directly. Problems can be handled smoothly from the alarm screen.

Display the ladder block of the coil set to the touch switch

One touch to jump
to Ladder Monitor or Ladder Editor Screen
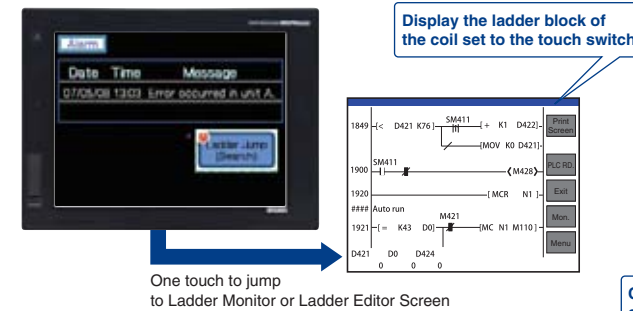
Can programs be changed easily without a personal computer?

Ladder editor function
For details, see P.45

Sequence programs of the CNC C70 can be edited in a circuit diagram (ladder format).

Touch the area you wish to edit. The circuit input window is displayed.

Circuit symbol: Changing from normally closed contact to normally open contact.
Device: Changing from M422 to M200
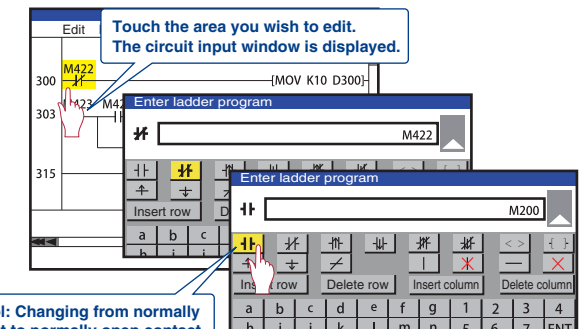
In the event of trouble!

Can the CNC programs be recovered after failure?

Backup/restoration function
For details, see P.42

CNC C70 data such as machining programs and parameters can be backed up to the memory card or USB memory in the GOT. Users can perform batch operation to restore the data to the CNC C70.

Memory card, etc.
If data is backed up

Replace CPU
Restore
Machining programs, etc.

GOT Solutions
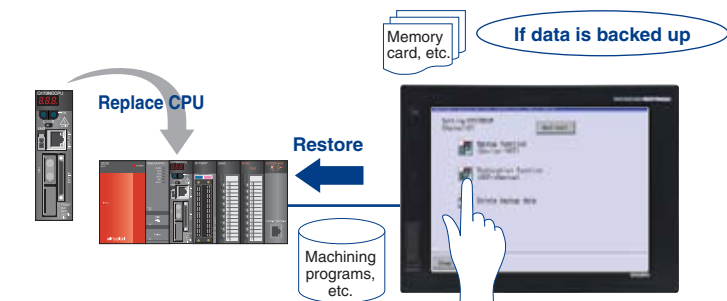
FA Solutions

FA Solutions

Improving vision integration.

CASE6 COGNEX IN-SIGHT Vision Systems

GRAPHIC OPERATION TERMINAL
× GOT1000

Powerful functions for vision systems!

Can automation and vision systems be consolidated into a single platform?

Displaying the In-Sight Series processing results on the GOT

By connecting a GOT to the In-Sight Series and PLC over Ethernet, the In-Sight Series processing results can be displayed and parameters can be changed on the GOT. The GT16 model has a built-in Ethernet port, allowing the system to be built easily.

Ethernet

In-Sight Series processing results

Parameter changes

In-Sight Series screen display

In-Sight Series

GOT1000

DataMan
※ : A RS-232 connection is required to directly exchange data between a GOT and the Dataman other than DM800/DM500/DM300/DM200 model. (Ethernet connection is not supported.)

Can other COGNEX products be connected?

Connect to various COGNEX products

The In-Sight vision system and DataMan barcode reader can be connected to the GOT.

Ideal for configuration!

Can vision parameters be changed from the GOT?

Ready-to-use sample screens

Sample screen data is available for checking the results of positioning, inspection, and reading characters.

[Alignment screen]
The workpiece position and posture detected with In-Sight Series as well as the success or failure state of the detection are displayed. The workpiece detection threshold can be changed from this screen.

[Inspection screen]
The results of workpiece inspections carried out with the In-Sight Series are displayed. The workpiece detection threshold can be changed.

[Code recognition screen]
The results of reading ID codes with the In-Sight Series are displayed. The reading mode (read/verify or change character string during verification) can be selected.

Ideal for monitoring operations!

Can vision applications be handled easily at the worksite?

Displaying In-Sight Series vision applications on the GOT

Connect the COGNEX VisionView VGA with the GOT to display the In-Sight Series Vision Application screen. While monitoring connected devices such as PLCs, it is possible to switch to the Vision Application screen when necessary to display live images, specify parameters with touch operations, and perform other operations.

Ethernet

In-Sight Series

GOT1000

RGB input function

Remote personal computer operation function (serial)

RS-232

VisionView VGA

DataMan
※ : A RS-232 connection is required to directly exchange data with GOT and Dataman. (Ethernet connection is not supported.)

※ : RGB input unit is required.
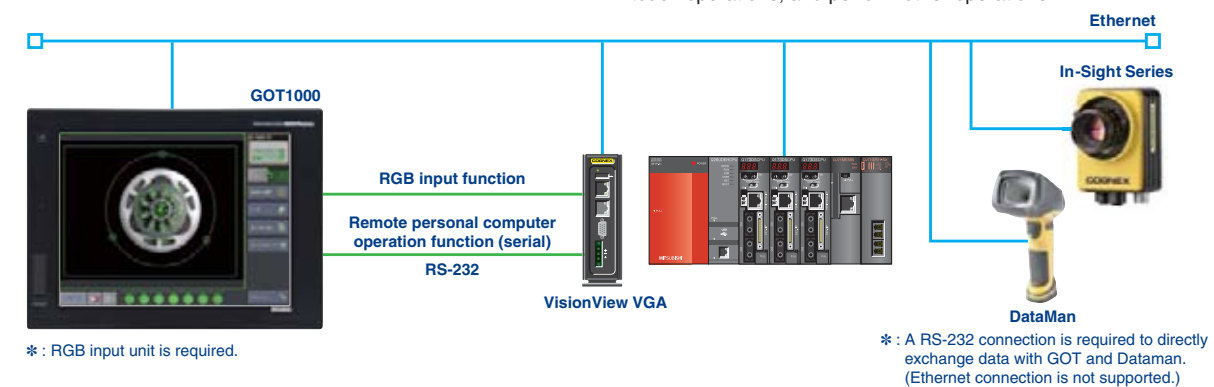
Ideal for switching jobs!

Can jobs be switched easily at the worksite?

Managing In-Sight Series job files with the GOT

Jobs can be switched easily by storing the In-Sight Series job files in the GOT's memory card or USB memory, and then restoring and loading them into the In-Sight Series when needed. Various files in the In-Sight Series, including job files, can be backed up in the GOT.

If multiple job files are stored

Memory card, etc.

Job switching

In-Sight Series

Restore

Ethernet

Job files, etc.

GOT1000
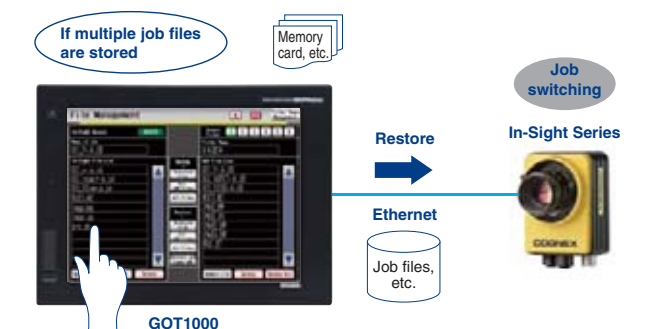
The lineup that fits in with any production line. Find   your GOT with the right functions, size, and features.

GT16

High performance models with multimedia and a host of features and functions including embedded communications

✳ See page 25 for GT16 Handy.

- User memory capacity: 15MB (GT16□□-VNB□ : 11MB)
- USB host and USB device ports are included.
- Ethernet, RS-422/485, and RS-232 interfaces are supported as standard interfaces.
- A multimedia unit and a video/RGB unit are supported.✳
- Featuring an analog touch panel

✳ : Excluding GT16□□-VNB□, GT1655

Options

| Multimedia unit | Video/RGB unit | Printer unit |
| memory card (extension) unit | Audio output unit | External I/O unit |

Human sensor

GT1695/GT1685 only

You can use a USB memory stick.

Extension unit

Connect communication units and other optional units

memory card

USB host and USB device

RS-422/485   **Ethernet**   **RS-232**

GT15

Performance models ideal for a wide range of applications in a network or standalone environment

- User memory capacity: 9MB (GT15□□-VNB□: 5MB)
- USB device port is included.
- The RS-232 interface is supported as a standard interface.
- A video/RGB unit is supported.✳

✳ : GT1585V/GT1575V only

Options

| Multimedia unit | Video/RGB unit | Printer unit |
| memory card (extension) unit | Audio output unit | External I/O unit |

Human sensor

GT1595/GT1585(V) only

Extension unit

Connect communication units and other optional units

memory card

USB device

RS-232

GT14

Standard model with advanced features and communication interfaces

- User memory capacity: 9MB
- USB host and USB device ports are included.
- Ethernet, RS-422/485, and RS-232 interfaces are supported as standard interfaces.
- SD card interface is supported as a standard interface.

Convenient options increase flexibility

Panel-mounted USB port extension
GT14-C10EXUSB-4S
Bring the rear USB port to the front surface of the control panel.

RS-232/485 signal conversion adapter
GT14-RS2T4-9P
Convert the GOT's RS-232 port into a RS-485 port.

USB device

RS-422/485

Easily connect to devices with three types of serial connections

RS-232

SD card

USB host

Ethernet

GOT, available in a variety of compact bodies, is packed with GOT1000 functions.

GT12

Large basic models with integrated features and communication interfaces

- User memory capacity: 6MB
- USB device port is included.
- Ethernet, RS-422/485, and RS-232 interfaces are supported as standard interfaces.
- Featuring an analog touch panel

USB device

memory card

RS-232
RS-422/485
Ethernet

GT10

※ : For details about the functions of GT10 models, see "GT10 (pages 48, 49)".
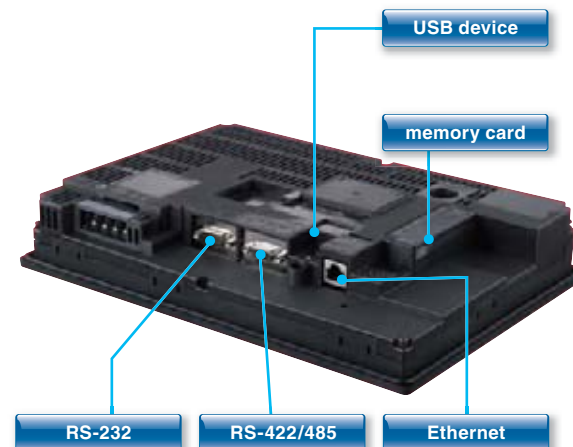
Compact models with basic functions

GT1055/GT1050/GT1045/GT1040

- User memory capacity: 3MB
- USB device port is included.
- RS-422/485 and RS-232 interfaces are supported as standard interfaces.

GT1030/GT1020

- User memory capacity: 1.5MB (GT1030)/ 512KB (GT1020)
- Three-color LED backlight indicates the equipment status at a glance.
- The RS-422/485※ interface or the RS-232 interface is supported as a standard interface.

※ : Only the RS-422 interface for the 5VDC type

RS-232
RS-422/485
USB device
RS-422/485 or RS-232

GT10 GT10
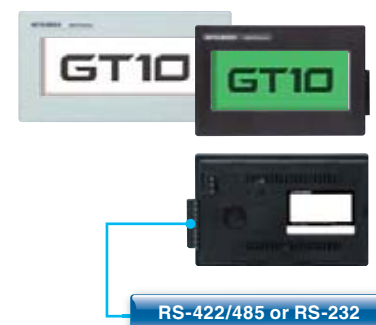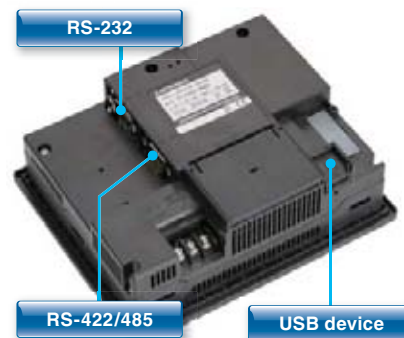
Rich functionality and high performance in the palm of your hand

GT16 Handy GOT

The light body includes the latest GT16 functions

6.5" High resolution handy GOT
GT1665HS-VTBD

Options
Emergency stop switch guard cover | External connection cable

- User memory capacity: 15MB
- USB host and USB device ports are included.
- Ethernet, RS-422/485, and RS-232 interfaces are supported as standard interfaces.
- The latest GT16 functions are available, including various types of monitoring functions.
- Display a vibrant 65,536 colors on the 6.5-inch VGA screen!

Ergonomic design allows you to change the angle of the handle.

Various types of switches are available
- Operation switches with LEDs (6)
- Emergency stop switch
- Selector switch with key
- Three-position deadman switch

Various types of external connection interfaces are available as standard interfaces
- USB host and USB device
- CF card interface
- RS-422/485 and RS-232 interfaces (switchable)[*1]
- Ethernet interface[*1]
  [*1] : Connector conversion box is required.

An example of a system configuration with Ethernet connection

Emergency stop circuit I/Os for operation display etc.

Ethernet and serial communication can be used simultaneously.

- The maximum connection distance between the connector conversion box and the GOT is 10m.
- Up to four types of FA equipment can be connected.

Connector conversion box GT16H-CNB-42S

Ethernet
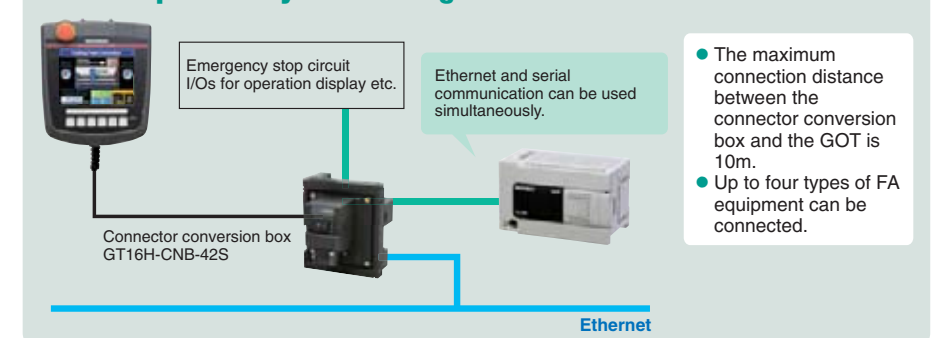
GT11 Handy GOT

Portable 5.7" operation terminal

GT1155HS-QSBD
GT1150HS-QLBD

GT11 Handy can be connected to the CC-Link network.

Q series PLC master station

CC-Link

CC-Link interface unit GT11H(S)-CCL (intelligent device station)

Cable GT11H-C□-32P
□: 30 (3m), 50 (5m), 80 (8m)

Emergency stop switch

CF card interface
USB interface

Key selector switch

Grip switch

6 operation switches

Hand strap

24
See "Specifications" (page 52 to page 60) for details of each hardware model.

See "Specifications" (page 52 to page 60) for details of each hardware model.
25

Use a personal computer or panel computer as a GOT.

HMI software for the GOT1000 series

MELSOFT

GT SoftGOT1000

Version3

GT SoftGOT1000

GT SoftGOT1000 is the HMI software that provides GOT functions on personal computers and panel computers.
This software connects with various types of equipment such as Mitsubishi PLCs and let you see screens just like the GOT1000 series.
You can also reuse GOT's project data without modification.
Along with all the advantages of a GOT, you can also enjoy the convenience and flexibility of personal computers and panel computers.

USB port license key

> GT SoftGOT1000 Version3 is software included with the GT Works3 suite.
> A separate license key is required for use.

Monitor the production site from a remote location

Reduce downtime
Use GT SoftGOT1000 to monitor the production site from your office. You can collect information quickly when a problem occurs, taking necessary actions immediately.

Use GOT project data from the production site
You can reuse project data of the GOT at your production site as the project data of GT SoftGOT1000 to reduce the design cost.

Office
Worksite
Personal computer
Personal computer
Ethernet
Production site
Line 1   Line 2   Line 3   Line 4

Monitoring Line 1   Monitoring Line 2
Monitoring Line 3   Monitoring Line 4
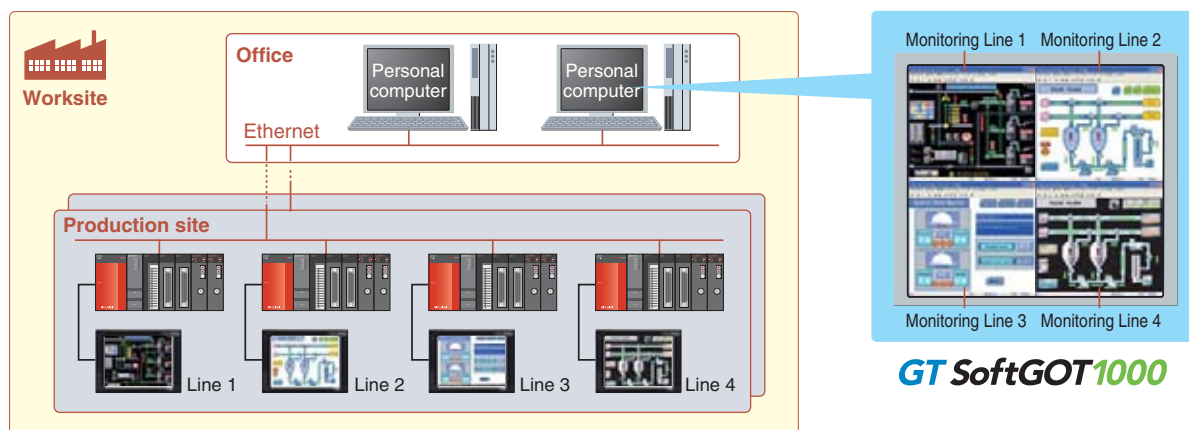
GT SoftGOT1000

Connect with MELSEC process control for process control applications

You can connect GT SoftGOT1000 to the monitor tools of the Engineering Environment PX Developer for design and maintenance work for process control. In this way, a process control monitoring system can easily be constructed.

PX Developer window screens and other tools

Tools for monitoring, operating, and tuning loop control tags. (The display position can be specified.)

GT SoftGOT1000 touch switch/object

Clicking on touch switches and objects displays various screens of PX Developer monitoring tools. (The display position can be specified.)

Security collaboration

The GT SoftGOT1000 security level is changed accordingly when the PX Developer monitor tool's mode is changed (engineer mode/operate mode/lock mode). Authority can be set for operations requiring security.
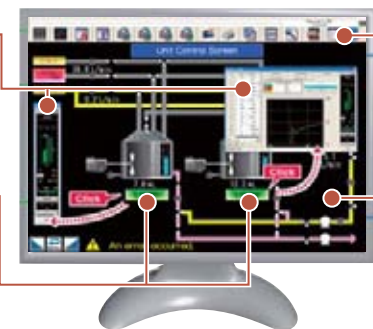
PX Developer monitoring tool bar

Clicking on buttons executes various operations such as starting up GT SoftGOT1000 and switching base screens.

GT SoftGOT1000 base screen

Make your desktop into a graphic monitoring window by displaying the GT SoftGOT1000 base screen in full-screen mode and sending the window to the back of the screen.

Link with other applications to construct a high-performance system

You can use a user-created application to read and write information to and from internal devices of GT SoftGOT1000. By linking data with user applications such as a data logger, you can construct a high-performance system package. You can also use a touch switch on the GT SoftGOT1000 monitor to launch another application.

<Development environment of user applications>
• Microsoft®Visual C++®/Visual C#®/Visual Basic® included with
  Microsoft®Visual Studio 6.0/.NET (2002)/.NET 2003/2005/2008
• Embarcadero®C++Builder®XE

Connect to various devices

The GT SoftGOT1000 can be connected to the Mitsubishi PLC, other PLC brands, MODBUS®/TCP slave devices.

✱ : See "List of connectable models" (page 69), for more details on supported models of other manufacturers.

Connect to RFID or barcode reader and input numerical values or ASCII characters.

The SoftGOT-GOT link function enhances the linkage to your onsite GOT

Monitor the screen of your onsite GOT from GT SoftGOT1000
Connect GT SoftGOT1000 with GOT by an Ethernet connection. Use the GOT's project data with GT SoftGOT1000 to monitor connected equipment.✱

✱ : Only CH1 can be monitored when GOT is connected via multi-channels.
GOT and QCPU/LCPU can be connected by a bus connection, direct CPU connection, computer link connection, or Ethernet connection. GOT and OMRON PLC can be connected via Ethernet connection.

Worksite
Office
Monitor the screen of your onsite GOT from GT SoftGOT1000
Project data
Ethernet
Monitor
GT SoftGOT1000
GOT
QCPU/LCPU
OMRON PLC
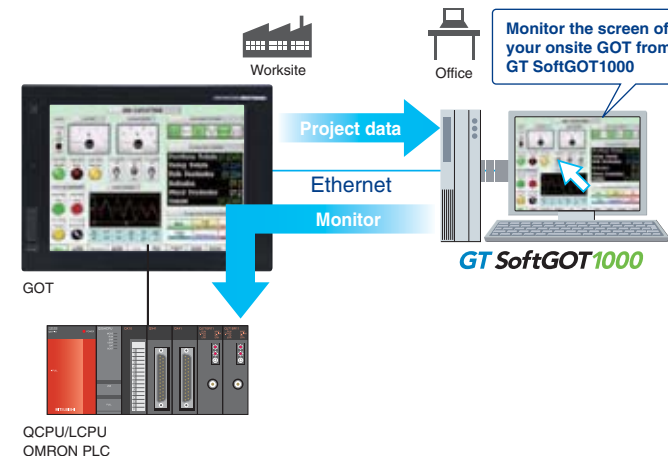
Prevent simultaneous operations from GT SoftGOT1000 and GOT
Operation of an input object (e.g. touch switch, numerical input) is allowed by either GT SoftGOT1000 or the GOT, whichever has operating authority. If one terminal does not have operating authority, the status of the operating authority can be displayed in a pop-up window. Whether it is possible to acquire operating authority from the other terminal can be notified with a dialog. It is also possible to specify the time to ensure the operating authority on the operation side after final operations.

With operating authority
Worksite
Office
The host is now in operation. Do you want to obtain operating authority?
Yes   No
A dialog box opens with message
Ethernet
GOT
◎ Able to make operation
GT SoftGOT1000
Operating authority can be obtained.
A message pops up
✕ Not able to make operation
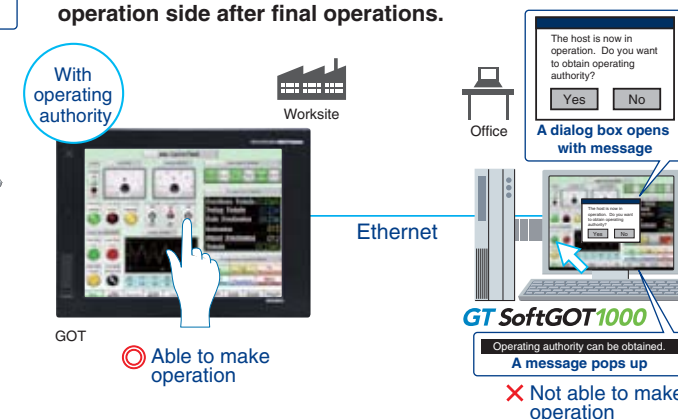
GT SoftGOT1000 Commander
By using the GT SoftGOT1000 Commander, multiple GT SoftGOT1000 modules using the SoftGOT-GOT link function can be efficiently managed, and the SoftGOT-GOT link function can be utilized easily.

<Actions possible with GT SoftGOT1000 Commander>
• Search for GOT on the Ethernet network and start with
  GT SoftGOT1000 (GT16 only)
  (It is also possible to select which GOTs are displayed in the
  Search List.) NEW
• Start/stop GT SoftGOT1000
• Check and switch GT SoftGOT1000 monitor status (online/offline)
• Designate GT SoftGOT1000 module No. displayed on top screen

GT SoftGOT1000 Commander
Management → GT SoftGOT1000 (module No. 1): Communicating with the GOT (station No.1)
Management → GT SoftGOT1000 (module No. 2): Communicating with the GOT (station No.2)
Monitoring the controller connected to the GOT (station No.1) by GT SoftGOT1000 (module No. 1)
Monitoring the controller connected to the GOT (station No.2) by GT SoftGOT1000 (module No. 2)
GT SoftGOT1000
Ethernet
GOT (station No.1)   GOT (station No.2)

> See "List of connectable models" (page 69), "Function list" (page 70), and "Notes for use (Operating environment)" (page 86).

More intuitive. No more wasted time. The screen   design software optimized for usability.

GOT1000 Screen Design Software

MELSOFT GT Works3

For more details, see the GT Works3 catalog (L (NA) 08170).

Enhanced "easy-to-use" functions for efficient screen design!

Simulator
Preview operation without connecting to a GOT.

Communication with GOT
Communication settings and drivers are automatically selected and downloaded to the GOT with the project data.

Tool Bar
Vividly colored icons make distinguishing active functions from inactive ones easy.

Library
Parts are easy to select. High resolution graphics and parts are easy create and incorporate into projects.

Dialog Box
User-friendly dialog boxes and object settings.

Work Tree
View the whole project, create a new screen, and add and delete screens with ease.

Property Sheet
A selected object or graphic's settings are displayed as a tree view. Set colors, devices, etc., on the property sheet without opening a dialog box. When selecting multiple objects or graphics, change color, character size, etc., all at the same time.

Temporary Area
Reduce workspace clutter by moving objects off of the display area.

Editor <Screen Design Area>
Many convenient and efficient development functions are included!

New functions improve your screen design efficiency than ever before!
● Use "templates" to greatly reduce your screen creation time!
● Make batch changes with a single right-click!
● Register parts with a single right-click!
● Easily create addition and subtraction word switches!

User (OEM/End User) Security Function!

The Help Function is available for quick reference!

MELSOFT iQ Works Improves Design Efficiency
Batch parameter check and system labels of MELSOFT Navigator are supported.

Data Browser
The object settings are listed allowing settings to be confirmed and revised easily!

Related Tools
GT Works3 comes with various tools such as the Data Transfer Tool and GT Converter2.

The GOT1000 series provides a variety of functions to satisfy user requirements

Usability depends on who the users are and where they carry out their tasks.

Designers want to use the most advanced HMI technology, while maintenance engineers want the most dependable HMI for their facilities.

To satisfy all of our customers, we are constantly developing more and more functions for the GOT1000 series.

INDEX

There are many different applications to be solved. How do we stay flexible?

For designers

Efficiency requires both fast data transfer as well as user-friendly functions.

For initial startup & operations

To restore a system as quickly as possible, response capabilities for "just in case" situations are the key to selecting a HMI display.

For maintenance personnel

GT 16 **GT 15** **GT 14** **GT 12** The functions bearing these marks are available on the GT16, GT15, GT14, or GT12 model. All other functions are supported by GT16, GT15, GT14, GT12, and GT11 models.

✱: For details about the functions of GT10 models, see "GT10 (pages 48, 49)".

INDEX
For Designers
For Initial Startup & Operations
For Maintenance Personnel
GT10
iQ Platform
MELSEC Process Control
Specifications, External Dimensions
List of Connectable Models, etc.

Freedom to utilize advanced display functions to enhance the GOT

Smooth, high-quality motion images help efficiently investigate the cause of a problem

GRAPHIC OPERATION TERMINAL GOT 1000

GT 16 Multimedia function

Recording audio and video, displaying input images

Clear view before and after the trouble occurrence <Recording pre/post event motion images>

● Capable of recording motion images for 120 seconds before and after an error occurrence (when the event trigger device turned on), up to 240 seconds in total.

Error!

120 -seconds- before   Event trigger device: ON   120 -seconds- after

High resolution recorded image (standard mode)

● Smooth, high resolution video can be recorded.
● Video size and frame rate
  • Maximum 15 fps in VGA (640 × 480)
  • Maximum 30 fps in QVGA (320 × 240)

Playing back motion image files

Check the motion image before and after the occurrence of a problem, and diagnose the cause immediately.

● The motion image recorded on site is saved in the memory card of the GOT's multimedia unit and can be played back immediately after being recorded.
● The motion image files saved in a memory card can be played back by selecting the file name or record date NEW with a touch switch or in the multimedia screen on the GOT main unit.
● The files can be sent to your personal computer over the Ethernet interface of the GOT's multimedia unit and can be viewed on the computer.
● Fast forward and slow motion playback functions are also available.

Use as a video guidebook for work tasks

● The GOT plays back motion image files that are created by your personal computer. Since the GOT is compatible with standard formats, commercially available software can be used to create motion image files.

<Applicable software programs> • Quick Time 7 Pro
<Compatible file formats> • 3GP and MP4

For additional recording time (extended mode)

● Over two days of video can be recorded.
● Video size QVGA (320 × 240); frame rate 15 fps
● Possible to either delete saved motion image files or save them when starting a new recording. NEW

Displaying input images

● In addition to the dedicated screen, images input from a video camera can be displayed on a user-created screen. Normally, input images are displayed on the user-created screen, and the dedicated multi-media screen is opened only when an error occurs or when playing back recorded images for confirmation.

Play back motion images recorded by the GOT on a personal computer!   Motion image file   Office

Ethernet

Worksite   Motion image file   GOT at worksite promptly plays back motion images.

Displays the file name and the record date of the motion image which is being played back. NEW
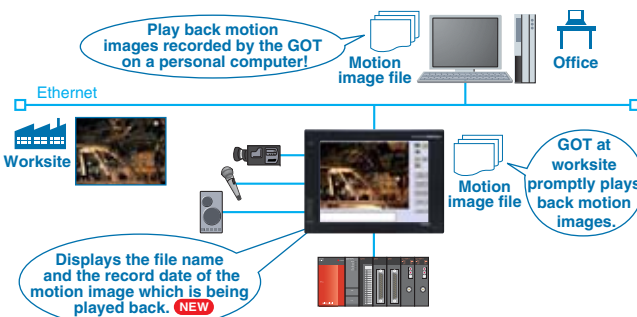
The dedicated multimedia screen is available for recording and playback. Reduce your screen design time!

✽ : Not supported by GT16□□-VNB□, GT1655, GT16 Handy.
✽ : The multimedia data link tool and multimedia data link FTP services are necessary to transmit motion image files to a personal computer.
✽ : Only one of the following devices can be used at one time: multimedia unit, video input unit, RGB input unit, video/RGB input unit or RGB input unit.

The multimedia interaction tool and multimedia interaction FTP service are multimedia-dedicated software programs included with GT Works3.

An optional device may be necessary.
For details, see "Selection of optional units and devices" (page 81).

High-quality images with 65,536 colors provide precise detail

GRAPHIC OPERATION TERMINAL GOT 1000

GT 16 GT 15 Video/RGB function

Enhanced compatibility with cameras and inspection devices <Video input>

● Input images from up to four video cameras and inspection devices are simultaneously and cleanly displayed in four windows in 65,536 colors. Images can be saved in JPEG format.

Displays PC images on the GOT <RGB input>

● Images on a personal computer display screen appear on the GOT simultaneously with the GOT's screen. RGB input of up to 2 channels is available when using the GT16M-R2.
● The display size can be changed, and the clip display is available. (For GT16 only)

Display the GOT screen on a display <RGB output>

● Connect to a commercial display so that the GOT screen can be displayed larger.

✽ : Not supported by GT16□□-VNB□, GT1655, GT16 Handy.
✽ : Only one of the following devices can be used on the GT16 at one time; video input unit, RGB input unit, video/RGB input unit, RGB output unit, or multimedia unit.
✽ : Only the GT1585V and GT1575V for the GT15 series. Only one of the following devices can be used at one time; video input unit, RGB input unit, video/RGB input unit, or RGB output unit.

An optional device may be necessary. For details, see "Selection of optional units and devices" (page 81).

Display various documents on the GOT at the worksite

GRAPHIC OPERATION TERMINAL GOT 1000

GT 16 GT 15 Document display function

● When a system error occurs, referring to recovery methods in check lists and/or manuals on the GOT can reduce downtime.

Memory card   Insert memory card

Convert documents with the document converter and save the data to a memory card

Document is displayed on the GOT

● Pages can be changed, scrolled through, enlarged or reduced, and multi-page documents can be displayed.
● The document converter that comes with GT Works3 is used to format documents to be displayed and save them to a memory card as JPEG files.
• Supported file formats : doc, xls, ppt, pdf, jpg, bmp

Display of documents and manuals on the GOT can reduce downtime.

An optional device may be necessary.
For details, see "Selection of optional units and devices" (page 81).

Central storage of FA device information on a single GOT terminal

GRAPHIC OPERATION TERMINAL GOT 1000

GT 16 GT 15 GT 14 GT 12 Multi-channel function

● Up to four FA device (PLC, servo, inverter, temperature controller, etc.) channels✽ can be monitored with one GOT unit.
✽ : GT155□, GT14, and GT12 monitor up to two channels.
● Easy device transfer between connected devices. Use GT Works3 to specify triggers for source and destination devices for device transfer. (Device data transfer function)

For various types of peripherals.

• General-purpose MODBUS® devices • External devices (operation panels, switches, lamps, etc.)
• Two-dimensional code readers, barcode readers • RFID readers, IC card readers • Speakers • Video cameras
• Displays (RGB output) • PCs (RGB input) • Serial printers • PictBridge printers • Vision sensors✽
✽ : For details, see "CASE STUDY 2 (FA Solutions)" (page 20).

The GOT1000 Series connects with PLCs, microcomputers, and other various devices. More models from more manufactures will be supported in the future.

● Sample screen data for connecting to temperature controllers, servo amplifiers, or inverters is available to make it easy to create your own screen data.
● The QnA compatible 3E frame is now supported with the microcomputer connection (Ethernet).

See "List of connectable models" (page 65 to page 69), for more details on supported models of other manufactures.

Typical applications

Third party PLCs via Ethernet GT 16 GT 14

HUB

Brand "A" PLC   Brand "B" PLC   Brand "C" PLC   MELSEC-Q
Use of the built-in Ethernet I/F enables connection with PLCs of different manufacturers via Ethernet. (GT16: up to 4 types, GT14: up to 2 types)

Third party PLCs

MELSEC
Brand "A" PLC
Easy data exchange between PLCs

PLC + Temperature controller + Inverter

Ethernet
Temperature controllers
Inverter
Capable of simultaneous communication with different FA equipment

✽ : For the Ethernet connection with GT1695 and GT1685 of function version A, if connected to equipment compatible with 10BASE-T, use a switching hub for its operation in a network environment where both 10Mbps and 100Mbps systems are operable.
✽ : The number of channels and functions, which can be used with the multi-channel function vary depending on the connection configuration. For more details, see "Notes for use" (page 81 to page 86).

An optional device may be necessary. For details, see "Selection of optional units and devices" (page 81).

INDEX | For Designers | For Initial Startup & Operations | For Maintenance Personnel | GT10 | iQ Platform | MELSEC Process Control | Specifications, External Dimensions | List of Connectable Models, etc.

Transfer real-time production data to host systems

Operate the GOT at a remote location from a personal computer in your office

GRAPHIC OPERATION TERMINAL　GOT 1000

GT 16　VNC® server function　NEW

- The screens of a GOT at a remote location can be viewed and operated from a personal computer in your office.
- Operating authority control prevents problems that may occur during simultaneous operations from a GOT at a worksite and a personal computer in a remote location. Available password setting allows control of who can view and operate the GOT.

Worksite

Display and operate GOT screen

Operating authority obtained

Office

Ethernet

GOT (VNC® server)

The remote device has operating authority.

Personal computer (VNC® client)

× Not able to make operation

The remote device has operating authority

A message pops up

○ Able to make operation

<Applicable VNC® Client Software>
- Software name: Ultra VNC version 1.0.8.2 is recommended.
- Manufacture name: UltraVNC team
- ＊: A license key (GT16-VNCSKEY) is required.

Monitor the screen of the onsite GOT from your PC screen

GRAPHIC OPERATION TERMINAL　GOT 1000

GT 16　GT 15　SoftGOT-GOT link function

- Connect GT SoftGOT1000 with the GOT with an Ethernet connection. Use the GOT's project data with GT SoftGOT1000 to monitor connected equipment.＊
- Operation of an input object (e.g. touch switch, numerical input) is allowed by either the GT SoftGOT1000 or GOT, depending on which has operating authority.
- By using the GT SoftGOT1000 Commander, multiple GT SoftGOT1000 modules using the SoftGOT-GOT link function can be efficiently managed, and the SoftGOT-GOT link function can be utilized easily.
- ＊: Only CH1 can be monitored when GOT is connected via multi-channels. GOT and QCPU/LCPU can be connected by a bus connection, direct CPU connection, computer link connection, or Ethernet connection. GOT and OMRON PLC can be connected via Ethernet connection.

See "GT SoftGOT1000" (page 27), for more details.

Files can be sent and received between a GOT and a personal computer

GRAPHIC OPERATION TERMINAL　GOT 1000

GT 16　GT 15　GT 14　File transfer function (FTP client)

- By using a GOT, files (alarm log files, hard copies, etc.) stored in the GOT's memory card and USB memory can be sent to or from a personal computer.
- File names and folder names can be specified indirectly.

Office

Logging file, etc.

Personal computer (FTP server)

Alarm log file, hard copy, etc.

Ethernet

＊: USB memory can be used with GT16 or GT14 only.

Memory card, etc.

Worksite

GOT (FTP client)　GOT (FTP client)
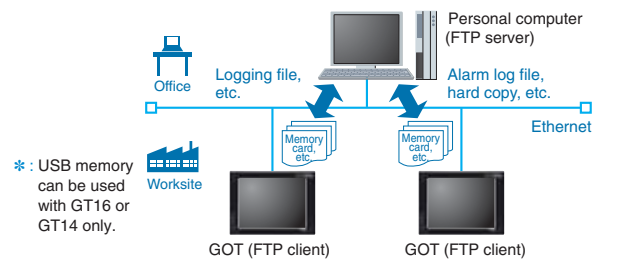
<Applicable FTP Servers>
- GOT (FTP Server Function)　●Web Server Unit (QJ71WS96)
- Windows® Server 2003 FTP Service (included with IIS)
- Cognex Vision Sensor (In-Sight Series)

An optional device may be necessary.
For details, see "Selection of optional units and devices" (page 81).

34

Operate a remote PC from an onsite GOT

GRAPHIC OPERATION TERMINAL　GOT 1000

GT 16　Remote personal computer operation function (Ethernet) (VNC® client function)

- A personal computer at a remote location can be operated from an onsite GOT when they are connected via Ethernet.
- A USB mouse/keyboard can be connected to the front USB interface.

Worksite　　Office

Display on the PC screen

PC screen

Ethernet

Operation from mouse/keyboard

PC screen

USB hub

USB mouse

USB keyboard

You can view files such as manuals stored on your personal computer, or you can use browsers and engineering tools.
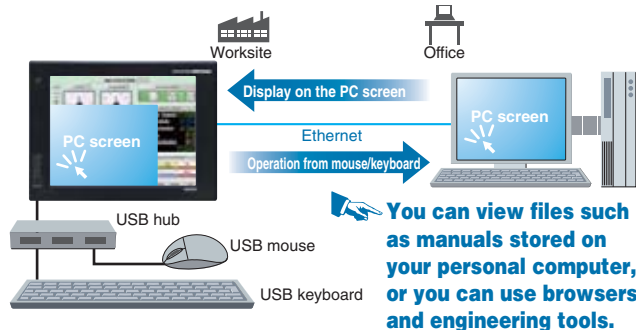
＊: Not supported by GT16□□-VNB□, GT16 Handy
＊: The license key (GT16-PCRAKEY) is necessary.

Operate a personal computer from the GOT touch screen

GRAPHIC OPERATION TERMINAL　GOT 1000

GT 16　GT 15　Remote personal computer operation function (Serial)

- When using RGB input, operate a personal computer screen displayed on the GOT by touch operation (e.g. store information such as touched coordinates in GOT internal devices, transmit the data to a personal computer).

RGB input
(Displays PC screen on GOT)

PC screen

PC screen

Remote personal computer operation function
Serial communication (RS-232)

Touch

Compatible Windows OS　Windows® XP Professional SP2/SP3, Windows® XP Home Edition SP2/SP3, Windows® 2000 Professional SP4
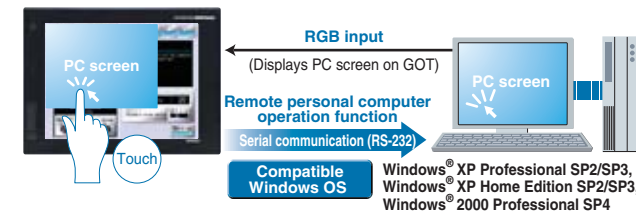
＊: Not supported by GT16□□-VNB□, GT1655, GT16 Handy
＊: Supported only on the GT1585V and GT1575V models in the GT15 series.

An optional device may be necessary.
For details, see "Selection of optional units and devices" (page 81).

Files can be sent and received between a personal computer and a GOT

GRAPHIC OPERATION TERMINAL　GOT 1000

GT 16　GT 15　GT 14　GT 12　FTP server function

- By using a personal computer, files (alarm log files, hard copies, etc.) stored in a GOT's memory card and USB memory NEW can be sent to or from the GOT.
- ＊: USB memory can be used with GT16 or GT14 only.
- ＊: This function is a part of the Gateway function. For how to select optional devices, see the section about the Gateway function.

Connect your mouse/keyboard to the front USB interface

GRAPHIC OPERATION TERMINAL　GOT 1000

GT 16　GT 14　USB mouse/keyboard connection

- In a user-created screen, you can use your mouse to click touch switches and your keyboard to enter ASCII characters and numbers.
- ＊: Not supported by GT16 Handy

This is convenient when you need to operate small switches or enter many characters.

Be alerted about worksite errors and collect device data from the office

GRAPHIC OPERATION TERMINAL　GOT 1000

GT 16　GT 15　GT 14　GT 12　Gateway function＊1

＊1 : GT12 supports only the FTP server function.

The gateway function remotely monitors the worksite and supports remote maintenance from the office.

1　Collect data on a personal computer (server function)

- A GOT (server) can be monitored from the host personal computer (MX Component) to perform indirect reading/writing of connected devices being monitored by the GOT.
- Even when third party devices are connected, MX Component can read and write the devices through the GOT using the server function.
- ＊: The collected data can be displayed and analyzed by Excel® without using any programs other than MX Sheet. Programming with Visual C++® and Visual Basic® enables applications to be flexibly designed and built. See the MELSOFT catalog (L (NA) 08008) for more details.

2　Monitor other GOTs from a GOT (client function)

- A GOT (client) indirectly reads/writes device values of equipment monitored by another GOT (server).
- The client function can also be used to indirectly read/write device values of PLC CPUs other than the one to which the GOT (client) is connected.

Database linkage support enhances productivity at your worksite

GRAPHIC OPERATION TERMINAL　GOT 1000

GT 16　GT 15　MES interface function

The GOT transmits data from connected FA devices to the server personal computer database via SQL statements.

- For communication with the database, just specify the necessary data in GT Works3 without programming. There is no need to use a gateway personal computer and complicated programs to communicate with the MES database server.

Before

More cost for installing a gateway personal computer and its maintenance

MES database server

MES application

Database (Oracle®, etc.)

Gateway PC

Host information system communication processing

Data processing
(calculation processing and logging, etc.)
(MX Component)

GOT

Gateway (server function)

When MES interface function is used

No need for gateway personal computer or database transfer programs. Minimize the cost!

MES database server

MES application

Database (Oracle®, etc.)

Send events
(SQL statement)
- SELECT (multiple data)
- UPDATE
- INSERT
Send production instruction requests and production results

GOT

MES interface function

3　Mail send function

- The alarm history display function can transmit alarm occurrences and recovery information by e-mail to personal computers and mobile phones.
- ＊: The SMTP server port should be set to 25 (fixed). The SMTP authentication is not supported.
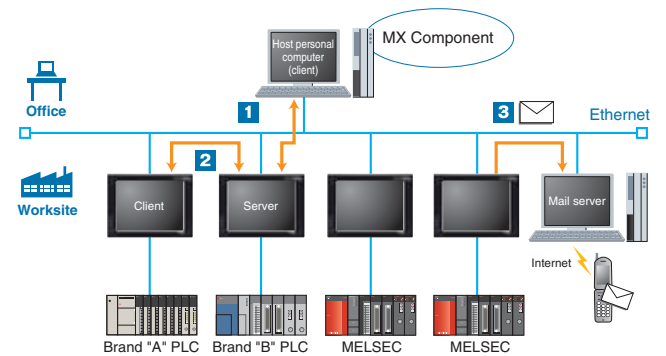
Host personal computer (client)

MX Component

Office

Ethernet

1

2

3

Worksite

Client　Server

Mail server

Internet

Brand "A" PLC　Brand "B" PLC　MELSEC　MELSEC

An optional device may be necessary.
For details, see "Selection of optional units and devices" (page 81).

MES interface function
- DB link function (tag function / trigger buffering function / trigger monitor function / SQL statement transmission function <SELECT / SELECT multiple data / UPDATE / INSERT> / calculation processing function / program execution function / DB buffering function)
- SNTP time synchronization function
- Resource data transmission function　• Diagnosis function
- DB server function (ODBC connection function / connection setting function / log output function)

Usable databases
- Oracle® 8i/9i/10g/11g　• Microsoft® Access® 2000/2003/2007/2010
- Microsoft® SQL Server® 2000/2005/2008
- Microsoft® SQL Server® 2000 Desktop Engine (MSDE2000)
- Wonderware® Historian 9.0
- ＊: Compatible only with 32-bit versions.

<MES (Manufacturing Execution System)>
A manufacturing execution system (MES) is a system which controls and manages production processes at a worksite in order to optimize quality, productivity, delivery date, and cost.

MES application + database

MES database server

Ethernet　Office

SQL statement

Worksite

Brand "A" PLC　MELSEC　Temperature controller

GOT transmits data collectively also to the equipment of other manufacturers.

＊: Not supported by the GT16 Handy.

e-F@ctory
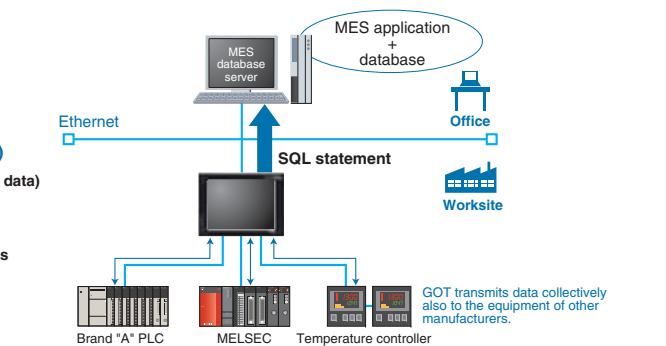
Mitsubishi Electric e-F@ctory presents the appropriate products to connect production information and MES (manufacturing execution system) to improve productivity of clients' plants.

An optional device may be necessary. For details, see "Selection of optional units and devices" (page 81).

35

Advanced functions to increase screen efficiency

Efficient input of extensive comment data
GRAPHIC OPERATION TERMINAL · GOT 1000

Comment groups

- CSV/Unicode text format files can be imported. Multiple files can also be imported to individual comment groups, allowing the task of inputting comments to be distributed among several workers, greatly reducing the required input time.

- Automatically adjusts character size and inserts line feeds according to the object size.

<Supported objects> • Touch switches or lamps where "comment group" is selected for labels
• Comment displays where "comment group" is used

When switching languages, character string length is automatically adjusted to fit within the object.
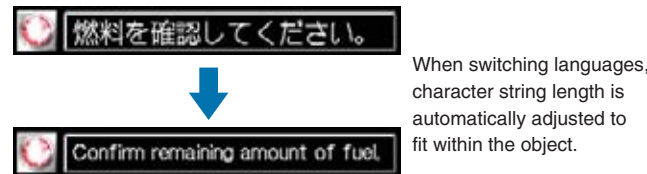
Easy creation of multilingual screens
GRAPHIC OPERATION TERMINAL · GOT 1000

Multilingual support

- By using comment groups, different language comments can be created for each comment group column to switch the display language.
- Comment group comments can be created freely for applications, as well as for different languages.
- You can specify the column number of the comment group to change the language of the startup message on the GOT.
 ＊ : Refer to "Comment groups (page 36) " for the details of comment groups.
- The system alarm and utility screen display languages can be changed in conjunction with the language selection function.

☞ Convenient for language switching

When stroke fonts are used with switching languages for touch switches, lamps or comment displays, the character size is automatically adjusted by the size of the object. There is no need to adjust the size of the object when creating a multi-language screen.

Japanese | Language switching | Thai

非常停止 ⟷ หยุดฉุกเฉิน

The character size is automatically adjusted.
 ＊ : Stroke fonts and Thai characters on GT16 and GT15 only.

36
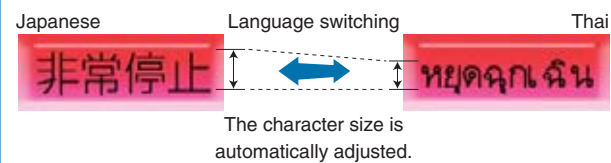
☞ Management of project data line by line is no longer required.

Example of comment group use

❶ Line-specific comment groups are created.

Line A comment | Line B comment | Line C comment | Individually edited

❷ Import

- Comment
  - Basic Comment
  - New Comment Group
  - 1 Comment Group 1: Line A
  - 2 Comment Group 2: Line B
  - 3 Comment Group 3: Line C

❸ Displayed comment group can be switched by a device.

When "1" is selected | When "2" is selected | When "3" is selected

Line A error | Line B error | Line C error

☞ Users can quickly change the language display.

Example of switching between Japanese, English, and Korean screens

❶ Use comment groups to create Japanese, English and Korean comments in their respective columns.

If D10=1, Japanese is displayed | If D10=2, English is displayed | If D10=3, Korean is displayed

Using D10 as the language switching device

❷ Set the column number to be displayed in the language switching device.

❸ The displayed comment (language) changes.

☞ Available for touch switches, lamps, comment displays, the historical data list display, the alarm history function, the user alarm function, and the advanced alarm function.

Easily create complex recipe data
GRAPHIC OPERATION TERMINAL · GOT 1000

GT16 GT15 GT14 Advanced recipe function

This function allows material combination data and processing conditions data (device values) to be held in the GOT, with only required data being written to and read from the PLC.

An extensive number of settings and flexible recipe data can be created

- Up to 2,048 blocks can be used, each block is comprised of sequential word devices, an arbitrary word device (1 point), and a bit device (1 point).
- Because devices also permit bit and word combinations and arbitrary device settings, there is no need to centralize the sequential devices used, thereby reducing the total number of device points used.
- Advanced recipe files can be converted into CSV or Unicode format text files, and can be edited on a personal computer. ＊
 ＊ : The advanced recipe file has a binary format. It must therefore be converted to either a CSV file or a Unicode text file by using GT Works3, the GOT utility, or an external control trigger device. After being converted, only the device values can be edited. When more than 251 records are included in an exported Advanced Recipe file (CSV or Unicode text format), use a text editor or Microsoft Excel 2007 or later to open the file.

Advanced recipe setting

Number of settings (max. 2,048 settings/project) | Device blocks (max. 2,048 blocks/setting)

Advanced recipe setting 2048
Advanced recipe setting 2: Stew
Advanced recipe setting 1: Curry

Devices	Device comments	Record 1 Beef curry	Record 2 Pork curry	Record 3 Chicken curry
D1000	Beef	300	0	0
D1001	Pork	0	300	0
D1002	Chicken	0	0	300
D1100	Onion	400	500	600
D1101	Potato	300	400	200
D1102	Carrot	200	250	150

Number of device points (max. 32,767 points/setting) | Records (max. 2,000 records/setting)

Easy handling of recipe data using the GOT
- Recipes can be handled easily with the GOT's utility function without having to create a recipe operation screen.
- CSV/Unicode text files can be converted into binary format files on the GOT. Even without GT Works3, you can edit data on a personal computer and use it on the GOT.

Select a recipe file | Select a record and execute the recipe

Execute recipe

Advanced recipe information screen | Advanced recipe record list screen
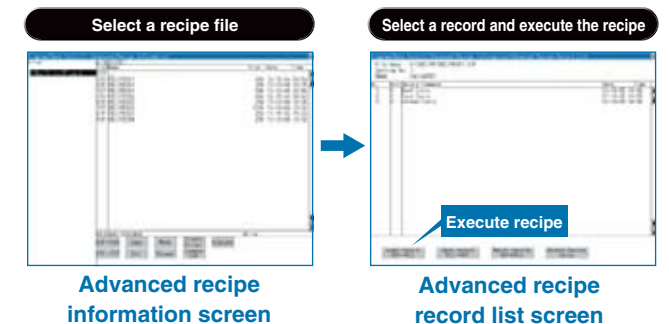
For better work efficiency and enhanced customization functions
GRAPHIC OPERATION TERMINAL · GOT 1000

Script function

Project script/screen script
- Control statements, file operation functions, string operation functions, etc. can be specified to a project or to individual screens.

Object script (For GT16/GT15/GT14 only)
- Drawing functions and display control functions can be specified per object. Object functions can be expanded, for example, to change colors and display positions and to freely draw graphics.

☞ Controlling the GOT display with scripts can reduce load on the controller and enhance maintenance performance. The editor includes input support that makes it easy for you to write scripts.

Extreme freedom in designing that enables you to create more effective screens
GRAPHIC OPERATION TERMINAL · GOT 1000

Various types of window screens

- Use overlap windows and dialog windows to create various types of screens.

Overlap window

GT16 Model can display five screens. Other models can display two screens.
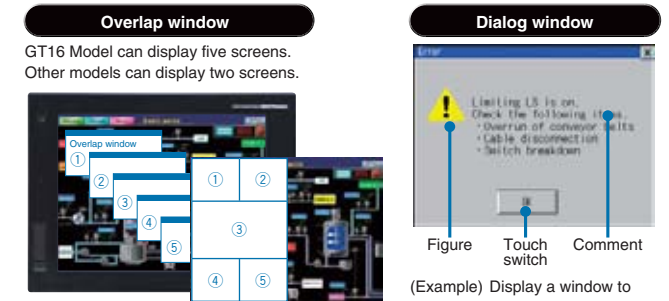
(Example) Hide the title bars to view the screens as divided windows (GT16)

Dialog window

Figure | Touch switch | Comment

(Example) Display a window to confirm the user's operation

Key window

There is no need to create keypads for numerical input and key windows for ASCII input. When using a QVGA model, the key window screen size can be set from small to large. NEW
When entering ASCII characters, you can switch windows to display character selection windows.

37

Standard functions to provide users with straightforward operation

Dramatically improved GOT overall response

GRAPHIC OPERATION TERMINAL **GOT 1000**

Drawing, computing, communication– a trio of high-speed response functions

The GOT1000 series offers faster response in drawing, computing and communication, reducing monitoring and operation load.

High-speed drawing

- Sharp and quick drawing of complex, layered component screens, and detailed photographic data in 65,536 colors.
- The GT16 further speeds up drawing operations.

High-speed computing

- Ultra-high performance processing power to satisfy the most complex and demanding of applications.

High-speed communication

- High-speed communication is possible for connections with both Mitsubishi and third party PLCs.

For connectable PLC models, see "List of connectable models" (page 65 to page 69).

GT16/GT15 response performance comparison

[Using MELSEC Q series]   As of March 2012

GT15
GT16

Bus connection
CPU direct connection
Computer link connection
MELSECNET/H connection (transient)
CC-Link Ver.2(ID connection) (transient)
CC-Link IE Controller Network connection (transient)
CC-Link IE Field Network connection (transient)
Ethernet connection
FX direct connection [FX3UC-32MT]

Faster   Response performance

The monitor screen includes about 250 points of word devices.

Adjust brightness according to surroundings

GRAPHIC OPERATION TERMINAL **GOT 1000**

Backlight brightness adjustment

- Consider the conditions in the operation environment (daytime/nighttime etc.) and user comfort. You can adjust the brightness of the backlight while viewing the user screen.
- By using the script function or the status monitor function, you can automatically adjust the brightness according to conditions.

👉 **The touch switches for brightness adjustment are registered in the system library.**

Easy-to recognize backlight state

GRAPHIC OPERATION TERMINAL **GOT 1000**

Color-coded front face LED

- The color of the LED on the front of the GOT unit indicates whether the backlight is OFF or has expired.

[Power LED: Color-coded message]

Green ON	When normal power is being applied	Orange/green blinking	When backlight life has expired
Orange ON	When in screen-save mode	OFF	When power is not being supplied

For planned commodity maintenance

GRAPHIC OPERATION TERMINAL **GOT 1000**

GT 16 **GT 15** Maintenance time notification function

- The cumulative backlight ON time is automatically monitored, and the operator is notified when maintenance is required. This facilitates scheduled maintenance and prevents system malfunctions.

<Subject to be monitored> Backlight, display area, touch keys, and built-in flash memory

Warning! Backlight needs replacement soon.

System alarm

An optional device may be necessary. For details, see "Selection of optional units and devices" (page 81).

To minimize production time, the GOT provides the user with worksite-required functions

Easy data transmission without opening the cabinet

GRAPHIC OPERATION TERMINAL **GOT 1000**

Equipped with front USB interface[*1]

*1 : Back face layout for GT12.

USB device (Mini-B)

- Connect the USB device (Mini-B) port to a personal computer. You do not need to open the panel to transfer operating systems and project data or to use the FA transparent function.

* : To connect the GOT to a personal computer, use the dedicated USB cable. For more details, see "Product list" (page 74 to page 80).

GT16   GT15   GT14

With USB environmental protection cover installed (standard feature) **IP67f** *

* : This does not guarantee protection in all users' environments.

USB host (TYPE-A) (For GT16/GT14 only)

- Operating systems, project data, and resource data can be stored in a USB memory device.
- A USB mouse/keyboard can also be used by connecting to the USB host interface.

* : The USB host interface of the GT14 model is on the rear side.

GT16

<Example of the use of a USB memory>

Backup
Restore

PLC CPU
PLC program file register

GT14

Sequence program and parameters can easily be modified at the worksite

GRAPHIC OPERATION TERMINAL **GOT 1000**

FA transparent function

- Connected with a personal computer, the GOT acts as a transparent gateway to enable programming, start up, and adjustment of FA equipment.
- Users do not have to bother with opening the cabinet or changing cable connections. (When using the USB interface)
- The FA transparent function can be used when a GOT and a personal computer are connected via USB, RS-232 or even using an Ethernet connection. (Supported only by GX Works2, MX Component/MX Sheet, MT Works2, MR Configurator2)
- When a GOT is directly connected to a FXCPU (CC-Link master station), CC-Link slave stations can be accessed from a personal computer. **NEW** (Connection between the GOT and the personal computer is USB or RS-232)

- Supported software*
  - MELSOFT Navigator
  - GX Works2
  - GX Developer
  - GX Configurator-AD/DA/SC/CT/TI/TC/AS/FL/PT/QP
  - PX Developer
  - FX Configurator-FP
  - FX3U-ENET-L Configuration Tool
  - MT Works2
  - MT Developer
  - MR Configurator
  - MR Configurator2
  - FR Configurator
  - RT ToolBox2
  - NC Configurator
  - MX Component/MX Sheet
  - GX LogViewer
  - LCPU Logging Configuration Tool

* : The version of the software depends on the system configuration. For more details, see the GOT1000 Series Connection Manual (Mitsubishi Products) for GT Works3.
* : For the software access range when using the FA transparent function, refer to the manual of the software being used.

Bus connection/direct CPU connection/computer link connection/Ethernet connection

USB/RS-232
Modem connection Ethernet

Personal computer with programming and setup software

RS-422 connection

Bus connection, direct CPU connection Ethernet connection

Mitsubishi PLC

Mitsubishi inverter

Ethernet, CC-Link IE Field Network, CC-Link Controller Network, etc.

Mitsubishi servo amplifier

SSCNETIII/H

👉 **Easy access to distant PLCs!**

INDEX

For Designers

For Initial Startup & Operations

For Maintenance Personnel

GT10

iQ Platform

MELSEC Process Control

Specifications, External Dimensions

List of Connectable Models, etc.

The GOT provides complete traceability for safe   and secure operation

INDEX

For Designers

For Initial Startup & Operations

For Maintenance Personnel

GT10

iQ Platform

MELSEC Process Control

Specifications, External Dimensions

List of Connectable Models, etc.

Smooth operation from the collection of various data to storage of time-series data

GRAPHIC OPERATION TERMINAL GOT 1000

GT16 GT15 GT14 GT12 Logging function/historical trend graph/ historical data list display

● Collecting data from temperature controllers and other units with the GOT can reduce the load on the PLC.
● Logging data is saved in the built-in SRAM even during a power failure. (For GT16/GT14 only)

PLC

Temperature controller

Memory card, etc.

Buffering area (GOT memory)

Collect device data from PLCs and temperature controllers into the buffering area

Analyze data in the memory card (CSV or Unicode text files) on a personal computer
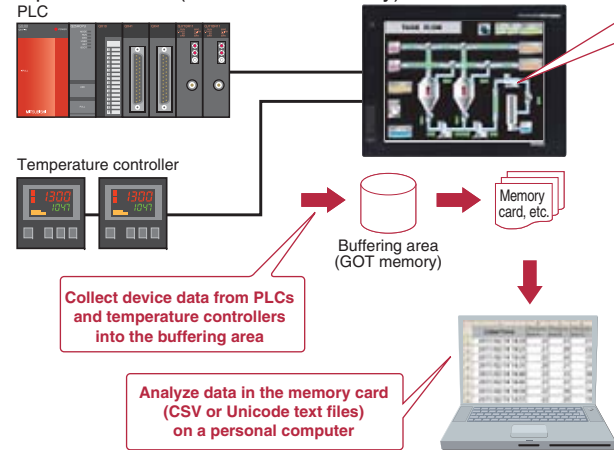
Display with graphs **Historical trend graph**

● After collecting data with the logging function, you can display the data in a time series.
● Scroll the view or specify the time so that you can check necessary data easily.
● Logging data to be displayed can be specified indirectly. NEW

Display with values **Historical data list display**

● Data collected with the logging function is displayed in list format.
● The historical trend graph for a specific time can be displayed by specifying the time.

Display logging data of a LCPU and high speed data logger module on the GOT

GRAPHIC OPERATION TERMINAL GOT 1000

GT16 Log viewer function

Display logging data without a PC

● Logging data collected by a LCPU or high speed data logger module can be displayed on the GOT.
  <Data to be displayed> Data logging (historical display)
● By displaying two cursors (multi-cursor), changes in data can easily be checked.
● The collected logging data can be searched for by time or index No. and displayed.

Red cursor **Blue cursor**
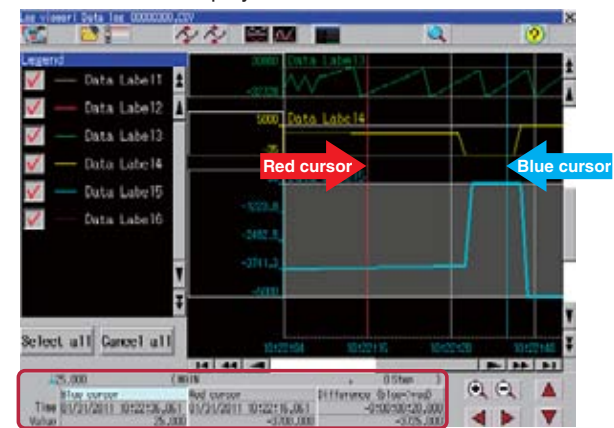
You do not need to have a PC onsite. Check logging data from the GOT, and you can take corrective actions quickly.

Logging data can be collected without opening the cabinet

● In a USB memory device attached to the USB interface on the front of the GOT, you can save logging data of the LCPU and high speed data logger module. In this way, you can collect the logging data easily with the GOT without removing the SD card from the LCPU or the CF card from the high speed data logger module.
● Connect a personal computer to the front USB interface of the GOT to view the LCPU logging data with the GX LogViewer, or to change the logging settings with the LCPU Logging Configuration Tool. (FA transparent function)

Use GX LogViewer to view and analyze logging data

Save logging data in the USB memory device/ memory card

Display logging data on the GOT

Ethernet

Logging data

Logging data

LCPU

High-speed data logger module
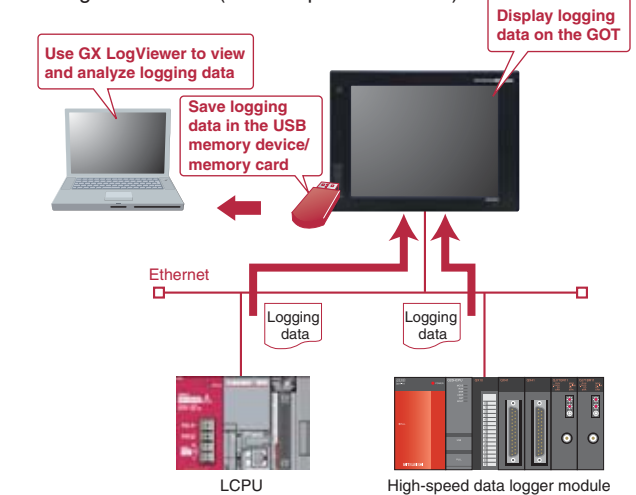
Enhanced security system using password control

GRAPHIC OPERATION TERMINAL GOT 1000

GT16 GT15 Operator authentication function

Option ①
Enter the operator name and password to log into the system.

Option ②
Use the ID card or ID tag to log in to the system.✳

Option ② can be used at the same time. Redundancy in case of an external authentication device failure.

✳: Not supported by GT16 Handy

ID card ID tag

RFID reader

Login OK

The screen appears, enabling operation!

JonSmith is now logged-in
Setting screw tightening torque (Product A)
Torque1 100 Torque3
Torque2 300

JonSmith is now logged-in
Setting screw tightening torque (Product A)
Torque1 100 Torque3
Torque2 300

Jon Smith is not authorized to change the set value of "Torque 3".

Operator information can be registered and edited by the GOT operator management information conversion tool or from the main unit of the GOT.

Memory card, etc.

The screen display and touch switches can be specified depending on the level of the logged-in operator.

The GOT operator management information conversion tool is included with GT Works3.

✳: Combined with the operation log function, who, what, when, and how the operator operated can be recorded. See "Operation log function."

● Two options are available for authentication of operators when the system starts or the screen changes.
● You can define various triggers, for example, to force operators to log out of the system automatically when a certain screen appears.

Setting the level (authority) of operation and display for each operator can strengthen security and prevent operation errors.

Very helpful for identification and analysis of causes of incorrect operation

GRAPHIC OPERATION TERMINAL GOT 1000

GT16 GT15 Operation log function

● Operations performed by operators on the GOT can be recorded with respect to time, making it possible to check when, what, and how the operation was performed.

Setting screw tightening torque (Product A)
Torque1 100 Torque2 300

A problem occurs

Record the operation log

Operation Log Data List
File Name A:\OPEROG1 \ OPEROG_20081114_01.G10
A.D. 2008
Date Time Screen No. Operation Change To
11/14 15:00:15 B-10 Touch switch: Screen switching 25
11/14 15:05:30 B-25 Time setting 15:08:00
11/14 15:30:20 B-25 Touch switch: Bit set 1
11/14 15:45:05 B-25 Touch switch: Screen switching 2
11/14 16:10:20 B-2 Touch switch: Bit set 1
11/14 16:43:10 B-2 Numerical input 100
11/14 17:00:05 B-2 Switch applications
Torque 1 set value [D100] / JonSmith

Check log on GOT

Check log outline

More detail

Date/Time:11/14/2008 16:43:10
Function :NUM_VAL
 Numerical input
Screen No. :BASE_2
Operation :
 Torque 1 set value

Operator :JonSmith (ID:1)
User ID :--
Action No :1
Data Type :BIN16
Device :D100
Change To :100
Chng From :10

Check log details

Example)
At 16:43:10 on November 14, 2008, Jon Smith changed the Numerical Input data entry to change the D100 value from 10 to 100 in "Torque 1 Set Value" on the BASE_2 screen.

● List operations by type and easily search for specific device and GOT operation state changes.
  <Specifiable operations>
  Touch switch operation, numerical value input operation, security level change, screen change, etc.
● Recorded log data is saved in the memory card and is available for checking on the GOT main unit or on a personal computer (CSV or Unicode text files).

✳: Use of this function together with the operator authentication function enables recording of "who" has operated. See "Operator authentication function".

Refer to the operation log file, and investigate the problem source.

An optional device may be necessary.
For details, see "Selection of optional units and devices" (page 81).

Functions designed to support maintenance personnel   and significantly reduce downtime!

Back up important sequence programs for assurance in case of an emergency

GRAPHIC OPERATION TERMINAL   **GOT 1000**

GT16 GT15 GT14 GT12   Backup/restoration function

With backup and restore, fear troubles no more

- The sequence program and parameter data of the PLC CPU and motion controller, etc. can be backed up to the memory card in the GOT.
- Users can perform batch operation to restore the data to the PLC CPU or motion controller.

<Objective data> Programs, parameters, device comments, device initial value data, file registers, etc.
<Objective model> MELSEC Q-Series (excluding Q12PRH/Q25PRHCPU), L-Series, FX-Series, Q-Series motion controllers (SV13/SV22 only), CNC C70, Robot controller (CRnD-700, CRnQ-700)
<Usable connection type> Bus connection, CPU direct connection, computer link connection, Ethernet connection

The backup data conversion tool is included with GT Works3.
※ : The backup data of Q00J/Q00/Q01CPU and FXCPU cannot be converted with the backup data conversion tool.
※ : Once backup data created with GX Works2 is converted by using the backup data conversion tool, the data cannot be edited with GX Works2.

Example of use ①

Make a data backup in case of a PLC or CPU failure or a dead battery to quickly replace the faulty device and restore the system using the backup data in such a case.

If data is backed up
Memory card, etc.
Replace CPU
Restore
Sequence program, etc.
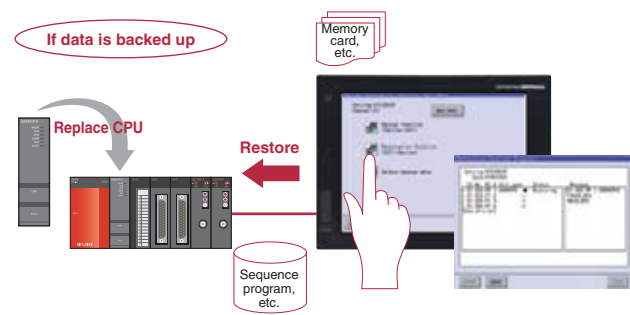
Example of use ②

When a problem occurs, or when the PLC CPU program is updated, the sequence program data can be transferred, analyzed, and corrected without requiring an experienced engineer, increasing time and cost efficiency.

Worksite
Office
Sequence program, etc.
Memory card, etc.
①Backup
Data transfer
②Analysis and correction
Memory card, etc.
③Restore

Sequence programs saved on the memory card or other memory devices can be edited in GX Developer after having been converted by the backup data conversion tool.

PLC CPU programs can be easily changed without a personal computer at the worksite or any previous GX Developer knowledge.

※ : When replacing the PLC CPU, the restoration function may not be available depending on the system configuration and connection type.

Backup multiple controllers at the same time

- Multiple controllers can be backed up at the same time over Ethernet. Target controllers for backup can be specified per station.

Network No. 1 Station 2
Network No. 1 Station 3
Ethernet
Network No. 1 Station 1
Backup multiple controllers at the same time
Multiple controllers to be backed up can be specified.
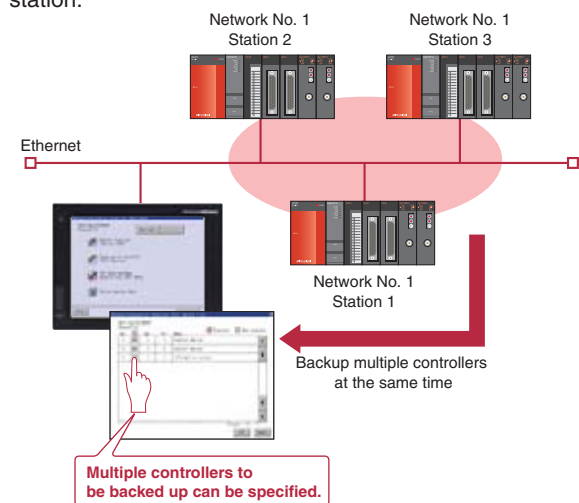
Automatic backup is available

- Besides automatic backup from touch switches, you can specify a trigger device, a day of the week, and time for automatic backup.

Backup data at 17:30 every Friday
Backup
17:30 on Friday
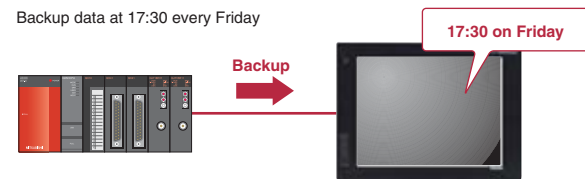
Password for enhanced security

- Define a password to perform password authentication when executing backup/restoration.

Password for backup/restoration
Backup
Restore
Enter password
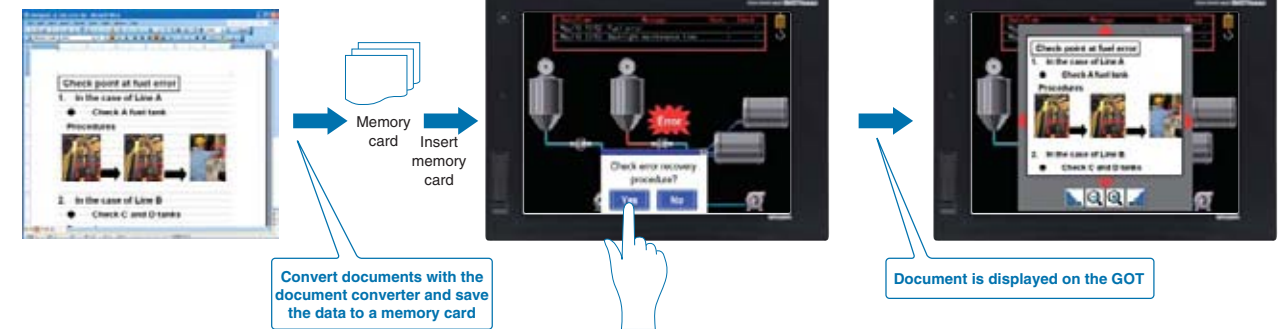
An optional device may be necessary. For details, see "Selection of optional units and devices" (page 81).
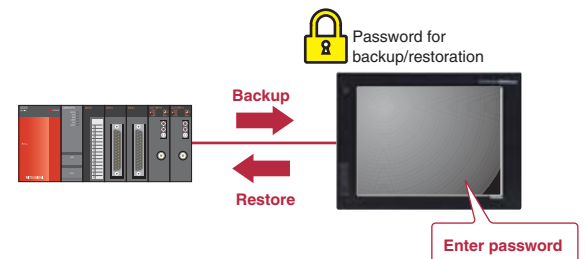
Clear communication minimizes machine downtime even during an alarm

GRAPHIC OPERATION TERMINAL   **GOT 1000**

GT16 GT15 GT14 GT12   Advanced alarm

A wider monitoring range protects even large-scale systems

- Alarm observation is possible for up to 32,767 devices with a maximum of 255 alarm observation setting groups.
- Batch display of large amounts of alarm information in large-scale systems, and unit-specific classification for easy management.
- Alarm log data can be saved in the built-in SRAM even during a power failure. (For GT16/GT14 only)

Alarm observation
Alarm observation for up to 32,767 devices

Alarm observation settings
Unit "A" observation settings
Unit "B" observation settings
Max. of 255 settings

Alarm display settings*
Display of active and recovery-completed alarms
Display of active alarms only
Popup display

History file storage

※ : Up to 8 alarm display objects per screen (excluding popup displays) **NEW**
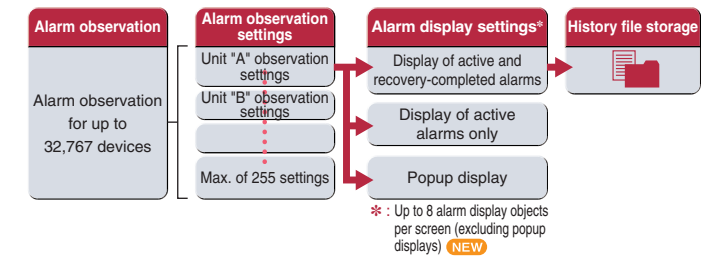
Rapid detection and corrective action for a wide array of alarms

Four-step alarm notification

- Alarm occurrence conditions can be divided into 4 steps and conveyed to the operator in an easy-to-understand, step-by-step format.
- The four-step display makes it easy to take in and sort out alarm conditions (information such as where, what, and how). This enables efficient troubleshooting when multiple problems occur.

Alarm occurrence
Step 1 Alarms by line Upper step
Step 2 Alarms by unit Middle step
Step 3 Alarm content General step
Step 4 Troubleshooting Detail step

Example of using the four steps
Line "A" stops
Where is the error?
Device "A" error
What kind of error is it?
Out of material
When will recovery occur?
Material replenishment
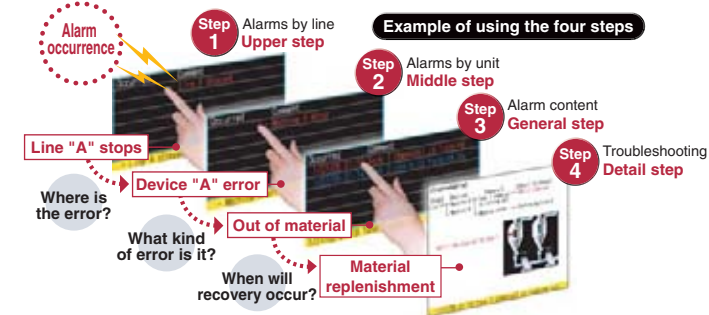
Group-specific & level-specific displays

- Alarms can be classified by group and level, with only specified alarms being displayed.

Alarm	Group	Level
M0	Transport G	Mid-level
M1	Transport G	Mid-level
M2	Transport G	Mid-level
M3	Transport G	Mid-level
M4	Transport G	Major
M5	Process G	Major
M6	Process G	Minor
M7	Process G	Minor
M8	Process G	Minor
M9	Process G	Minor

Group
Transport G alarm display
Transport G major alarm display
Combination of level & group
Minor alarm display
Level
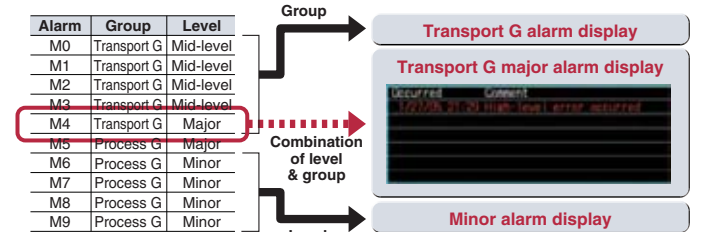
Easy searching with time designation

- Specify a time and easily check the required data.
- When used with the historical trend graph, by specifying the time at which an error appears to have occurred on the graph, the state of alarm occurrence at that time can easily be viewed.

Easy-to-understand display

- The use of colors and popups produce easily recognizable alarm displays.

Display subject switching
Display switching can display only active alarms or all contents.

Comment display color
Comment display colors can be specified for each type of alarm status (occurred, restored, and checked) and for each level and group, etc.

Sorting
The sorting function permits the display order to be defined by date & time, level, group, alarm status, occurrence count, or downtime.

Cursor display color
The cursor display color can be specified. Alarm displays are harder to miss.

Floating alarm display
Allows the entire text of long comments which cannot be contained in the display area to be read.

Details display
Users can create window screens to display details.
JPEG images can also be displayed.

Alarm popup display
A popup display format ensures that user alarms and system alarms are not missed. The background color can be specified.

Improved system alarms

- The PLC/GOT/Network monitoring subject can be specified in advance, with only those specified alarms being displayed.

Support in identifying alarm causes (utility function)

- Alarm occurrence conditions can be displayed in a time-series graph form.
- Alarm occurrence counts can be displayed in bar-graph form.

INDEX
For Designers
For Initial Startup & Operations
For Maintenance Personnel
GT10
iQ Platform
MELSEC Process Control
Specifications, External Dimensions
List of Connectable Models, etc.

Superior functions and connectivity to reduce maintenance time

The GOT Ladder Monitor Function is greatly improved with the One-Touch Ladder Jump function

GRAPHIC OPERATION TERMINAL **GOT 1000**

GT 16 **GT 15** **Ladder monitor function**

MELSEC Q/QS/L/QnA/A/FX series PLCs, CNC C70, MELDAS C6/C64 sequence programs can be monitored in a circuit diagram (ladder format).

✶ : Supported by XGA/SVGA/VGA models.
✶ : QS series models can only monitor the ladder program of a Q/L/QnA. It cannot alter device values, for instance.
✶ : FX3G(C) CPU is not supported.

Defect search with the One-Touch Ladder Jump function (Q/L/QnA series, CNC C70)

● By setting a program name and coil number of the PLC to a touch switch, the relevant ladder circuit block can be displayed directly.

Display the ladder block of the coil set to the touch switch

One touch to jump to Ladder Monitor Screen

● Select [SP Function]-[Ladder Monitor] from the touch switch property dialog.

Set PLC station No., CPU No., destination device, ladder search mode (coil search/factor search), and program file name. (Example) [Program name: AUTO-L1, Network No.: 2, Station No.: 3, M100]
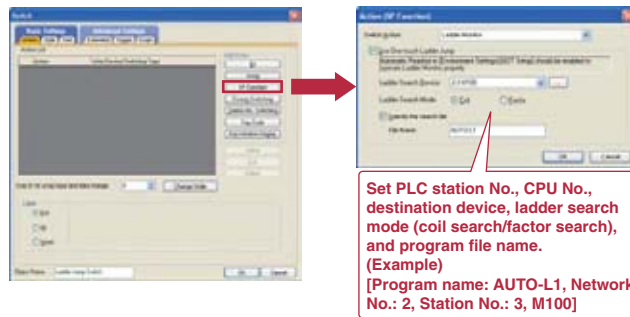
Wide monitoring range and useful functions make maintenance work more efficient!

● Not only connected PLCs, but also PLCs of other stations, multiple CPUs, multiple programs in the CPU, and local devices can be monitored.
● The programs and comments of multiple connected controllers can be saved in a memory card, so the ladder data can be switched and displayed without reading the data from the PLC.(Q/L/QnA series)
● Device values and timer (T) / counter (C) set values can be changed.
● Used together with the alarm history, a back-tracking ladder search can be performed to find the contact which triggered the alarm. <Defect search>
● Simply touching the Ladder Monitor screen can execute a coil search and contact point search. (Q/L/QnA series) <Touch search>
● The number of ladder program lines displayed on a XGA model has increased thus it is more user-friendly than ever.

Example of touch search (when error indicator light [Y10] is on)

<Display ladder blocks including Y10>   <Display ladder blocks including coil M20>
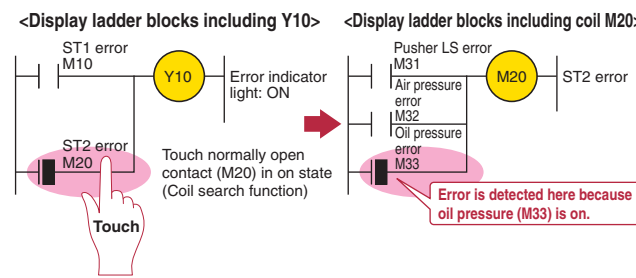
📢 **Since the source of operation halts and interlocks can be easily checked, unexpected problems can be detected quickly.**

An optional device may be necessary. For details, see "Selection of optional units and devices" (page 81).

Simple and easy!
Use the GOT to correct ladder programs, no need for a PC!

GRAPHIC OPERATION TERMINAL **GOT 1000**

GT 16 **GT 15** **Ladder editor function**

Sequence programs of MELSEC Q (Q mode)/L series PLCs and CNC C70 can be edited in the ladder format.

✶ : Supported by XGA/SVGA/VGA models excluding 5.7" types.
✶ : QnPHCPU/QnPRHCPU are not supported.

Ladder programs can easily be edited on the GOT at the worksite

● Just touch the portion (e.g. contact points, vertical lines) you want to edit in the ladder program. You can enter, change, or delete circuit symbols and devices. You can also insert or delete vertical lines and horizontal lines as well as columns and rows.

● Search and replace of devices makes it easy to locate the point to be edited. You can also make two or more modifications in one operation.
● Statements and notes can be edited.
● The details edited last can be restored (undone).

Touch the area you wish to edit. The circuit input window is displayed.

Circuit symbol: Changing from normally closed contact to normally open contact. Device: Changing from M422 to M200

Changes to M200, normally open contact!
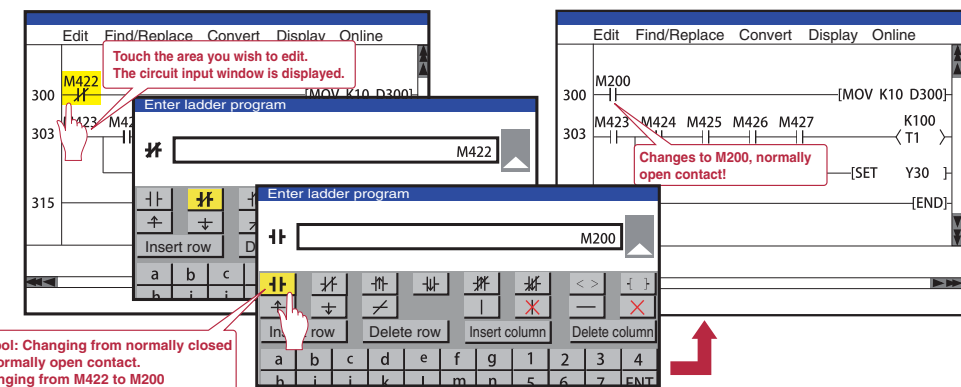
Writing into PLC while it is in operation

● Edited programs can be written from GOT to a PLC even if it is in operation. You do not need to stop equipment in operation to correct ladder programs.
● Remotely change the PLC's mode to "STOP" or "RUN" from the GOT.

Grasping CPU status with PLC diagnosis

● The CPU operation status and current errors can be monitored.

Long access range and convenient functions for efficient maintenance!

● Besides a directly connected PLC, you can edit multiple programs on another station's PLC, multi CPU, or CPU in the same network.
● You can view current values, perform a search, and conduct a device test.
● The one-touch ladder jump function is available. This is helpful to identify problem causes.

An optional device may be necessary. For details, see "Selection of optional units and devices" (page 81).

Monitor SFC programs on the GOT to make troubleshooting even easier

GRAPHIC OPERATION TERMINAL **GOT 1000**

GT 16 **GT 15** **SFC monitor function**

MELSEC Q/L series PLC SFC programs (MELSAP3, MELSAP-L) can be monitored in a graphical format.

● Viewing the block list or active step list enables you to see the complete status at a glance.
● Touch an SFC chart or a zoom window to specify a device. Then, the Ladder Monitor function displays other sequence programs that use the specified device.
● A device test can easily be conducted from a SFC chart or block list.
● Save programs and comments in the memory card of the GOT. They can be retrieved at a moment's notice.

✶ : Supported by XGA/SVGA/VGA models.

Block tabs
Touch a tab to display the block.

Step
The active step is highlighted. Touch the step to display the zoom window or SFC program of the relevant block. The SFC program scrolls automatically along with the progress of active steps.

Transition condition
Touching a transition condition displays a window for turning on or off a bit device.

Zoom window

SFC Chart
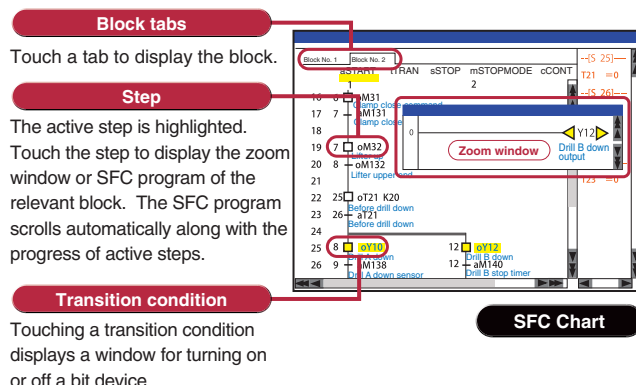
An optional device may be necessary. For details, see "Selection of optional units and devices" (page 81).

Use the GOT to monitor a motion SFC program

GRAPHIC OPERATION TERMINAL **GOT 1000**

GT 16 **GT 15** **Motion SFC monitor function**

Motion SFC programs of the Mitsubishi Motion Controller (Q Series) can be monitored.

● Viewing the batch program monitor or the active step list enables you to see the complete status at a glance.
● The detailed program window allows you to monitor programs and current values of operation control steps and transitions.
● Save programs in the memory card of the GOT. They can be retrieved at a moment's notice.

✶ : Supported by XGA/SVGA/VGA models.

Block tabs
Touch a tab to display the block.

Step/transition
The active step is highlighted. Touch the step to display the detailed program window. The SFC chart scrolls automatically along with the progress of active steps.

Detailed program window

SFC Chart
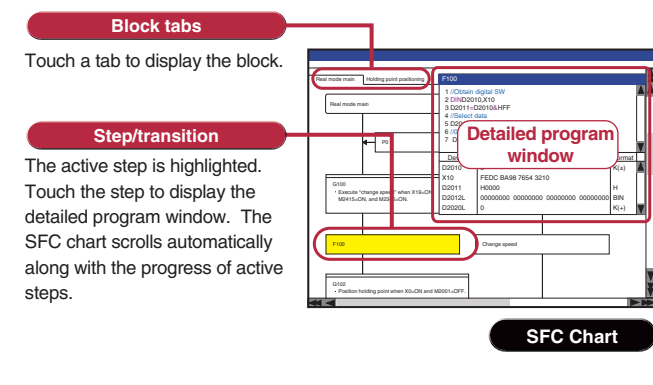
An optional device may be necessary. For details, see "Selection of optional units and devices" (page 81).

INDEX
For Designers
For Initial Startup & Operations
For Maintenance Personnel
GT10
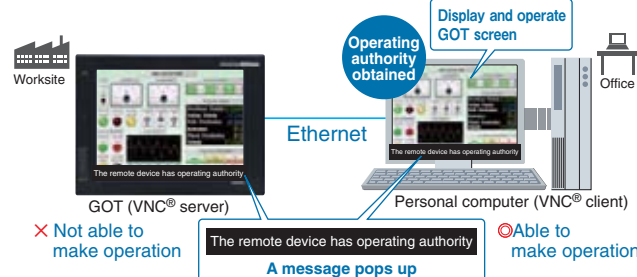iQ Platform
MELSEC Process Control
Specifications, External Dimensions
List of Connectable Models, etc.

Monitor and change Mitsubishi FA devices

GRAPHIC OPERATION TERMINAL GOT 1000

System monitor function

- The devices of PLCs, motion controllers, CNCs and robot controllers can be monitored and changed.
- ※ : Only monitoring, but not changing device values and other operations, is available with the QSCPU.
- The current values and setting values of timers (T) and counters (C) can be changed.
- The buffer memory (BM) of an intelligent function module can be monitored and changed.
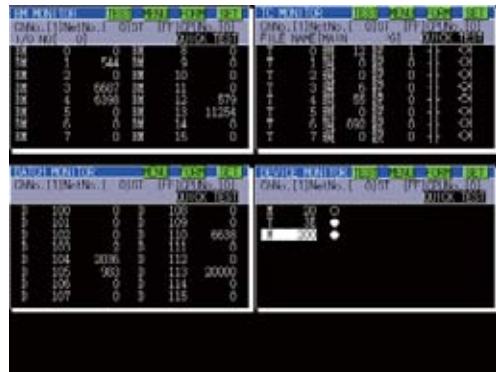
At-a-glance monitoring of network status

GRAPHIC OPERATION TERMINAL GOT 1000

GT16 GT15 Network monitor function

- Enable monitoring of network line conditions of the CC-Link IE Controller Network, CC-Link IE Field Network, MELSECNET/H, MELSECNET/10, and MELSECNET Ⅱ on a dedicated screen.
- Communication line and information from the host and other stations can be monitored to check the communication status.
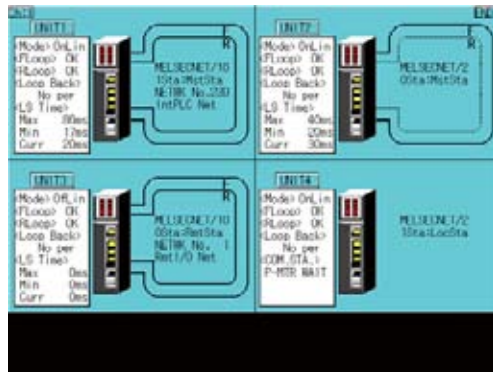
Easy adjustment of Q series motion controller

GRAPHIC OPERATION TERMINAL GOT 1000

GT16 GT15 Q series motion monitor function

- Up to 3 Q-type motion controllers can be used on a single base, with monitoring and parameter settings possible.
- Access to other stations is also possible.

<Objective models>
- Q172DS/Q173DSCPU NEW
- Q172D/Q173DCPU (-S1) • Q170MCPU
- Q172H/Q173HCPU • Q172(N)/Q173(N)CPU

※ : Supported only if the Q series motion controller CPU has the SV13/SV22 OS version. Moreover, available functions of the Q series motion monitor vary according to the CPU type or the servo amplifier model.

Easy startup and adjustment of a servo amplifier

GRAPHIC OPERATION TERMINAL GOT 1000

GT16 GT15 Servo amplifier monitor function

- In a system which outputs pulse strings, the GOT can be connected to a servo amplifier in a serial connection to perform the following operations: set up, monitoring, alarm display, diagnosis, parameter setting, and test operations.
- MR-J4-A is supported. NEW

※ : Available monitoring functions vary according to the servo amplifier type.
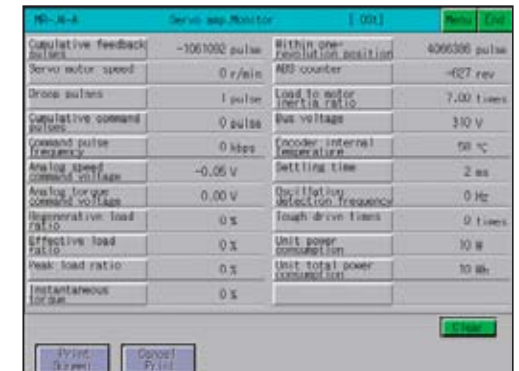
Easy-to-understand display of buffer memory values and I/O information

GRAPHIC OPERATION TERMINAL GOT 1000

GT16 GT15 Intelligent module monitor function

- Buffer memory values of intelligent function modules (e.g. QD75MH) and the ON/OFF status of I/O units can be monitored and changed.
- When a QCPU (Q mode), a QSCPU or a LCPU is in use, CPU operating status and existing errors can be monitored by PLC diagnosis.
- The status of the LCPU built-in I/O function can be checked.
- QD77MS, QD73A1, and LD75 are supported. NEW

※ : Supported by XGA/SVGA/VGA models.

Easy maintenance of MELSEC-L Series

GRAPHIC OPERATION TERMINAL GOT 1000

GT16 MELSEC-L troubleshooting function

- The maintenance screen dedicated to LCPU is installed. Without designing new screens and even without using a personal computer, you can check CPU status/error information easily.
- Just touch the dedicated screen. You can jump to a function screen such as the intelligent unit monitor to quickly take corrective actions on site.
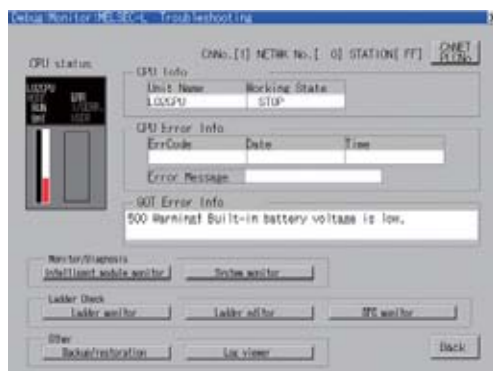
Save space and cost when no dedicated display device is required

GRAPHIC OPERATION TERMINAL GOT 1000

GT16 GT15 CNC monitor function/CNC data I/O function

CNC monitor function
- Connecting to a CNC (C70, C6/C64) enables functions such as position display and alarm diagnosis, and allows tool offset parameters to be set.

CNC data I/O function
- This function can be used to copy and delete CNC C70 work programs, parameters, etc.

※ : Supported by XGA/SVGA models.

An optional device may be necessary.
For details, see "Selection of optional units and devices" (page 81).

Convenient method for minor program changes onsite

GRAPHIC OPERATION TERMINAL GOT 1000

List editor for A/List editor for FX

- MELSEC-A series, FX series PLC sequence programs can be edited in list format (instruction word).
- Permits minor program changes onsite, even without a peripheral device.
- Used together with the ladder monitor function, the GT16 and GT15 can edit sequence programs while viewing the ladder data.

List editor for FX

List editor for A

INDEX

For Designers

For Initial Startup & Operations

For Maintenance Personnel

GT10

iQ Platform

MELSEC Process Control

Specifications, External Dimensions

List of Connectable Models, etc.

Powerful features even down to the most basic GOT

GT10

Various screen sizes

The GT10 now offers a line of models with 5.7" and 4.7" screens, enabling more flexible screen layouts.
The 4.5" and 3.7" wide screen models are also available with a white frame.

GT1050 / GT1055   5.7inch
- QVGA 320 × 240 dots
- Matrix touch panel
- Minimum touch key size: 16 × 16 dots
- Maximum number of touch keys: 50/Screen

GT1040 / GT1045   4.7inch
- QVGA 320 × 240 dots
- Matrix touch panel
- Minimum touch key size: 16 × 16 dots
- Maximum number of touch keys: 50/Screen

Black frame **White frame** **Black frame** **White frame**

GT1030 4.5inch
- 288 × 96 dots
- Matrix touch panel
- Minimum touch key size: 16 × 16 dots
- Maximum number of touch keys: 50/Screen

GT1020 3.7inch
- 160 × 64 dots
- Analog touch panel
- Minimum touch key size: 2 × 2 dots
- Maximum number of touch keys: 50/Screen

Similar dimensions to the F900 Series allows for simple replacement without panel design changes*1

*1 : When the F940GOT is replaced with the GT1050/GT1055 or when the F930GOT is replaced with the GT1030

GT1050 / GT1055

The GT1050, GT1055, and F940GOT are of the same size, 5.7", with the same LCD, QVGA 320 × 240 dots. They are highly compatible.

F940GOT ▶ GT1050/GT1055

320 dots | 240 dots
320 dots | 240 dots

- QVGA 320 × 240 dots in each model

GT1030

The GT1030 has the same panel mounting dimensions as the F930GOT yet with improved resolution*2.

*2 : 1.44 times higher resolution compared with the F930GOT

F930GOT ▶ GT1030

OPERATING ×1.4 OPERATING
Resolution

	Line1	Line2
GT1030	288 dots	
F930	240 dots	

[Monitor Window]
Line Number Line1 Line2
Production Target 0123 0123
Production Count 0123 0123

×1.4

FA transparent function

When a GOT and a personal computer are connected, the FA devices can be programmed, started and adjusted via GOT.

GT1050 / GT1055
GT1040 / GT1045
GT1030 **GT1020**

Connect a PC with PLC via GOT.

GX Works2
GX Developer

FA transparent

Direct connection with FX/Q/L/QnACPU Q/L/QnACPU serial communication unit connection etc.

GOT multi-drop connection

By using the serial multi-drop connection unit, the GT01-RS4-M, up to 16 GOT1000 units can be connected. The total distance can be up to 500m.

Mitsubishi PLC MELSEC Series FX, A, QnA or Q

※ : See relevant manuals for connectable hardware and software versions.
※ : GOT multi-drop connection is also available for GT16, GT15, GT14, GT12, and GT11.

Connection to Mitsubishi inverters and AC servos

Direct connection to Mitsubishi inverters and AC servo amplifiers with RS-485 makes it easy to adjust parameter settings etc.

Monitoring Parameter adjustment

Can connect up to **32** axes of Mitsubishi general-purpose AC servos with a total extension of **500**m.

Can connect up to **31** Mitsubishi general-purpose inverters with a total extension of **500**m.

Monitoring Operation commands

※ : See relevant manuals for connectable hardware and software versions.

Data transfer for improved user-friendliness and flexibility

Optional memory board and memory loader provide a convenient way to download project data and operating system data to terminals without a PC. Furthermore when downloading to multiple units speed and efficiency is increased.

Data transfer memory board GT10-50FMB

GT1050 / GT1055
GT1040 / GT1045

34.8
36

- Install a memory board storing the newest data
- Data can be read or written as shown in the utility window below.
- Data is written at startup when two points are pressed on the screen.

Basic OS, communication driver, and project data

Read/Write

Memory loader GT10-LDR   **GT1030** **GT1020**

- Has a compact design (70 × 110 mm), where the GOT transfer cable can be stored inside the body.
- Can write the standard monitor OS, communication driver, and project data.
- Can read the project data and resource data.
- Offers simple switch type operation, where the write-protect switch prevents erroneous reading.
- Does not require a power supply as power is supplied from the GOT or personal computer.

110
70

At the worksite
On a business trip
Visiting a customer
For copying series production units

At the desk
PC (GT Works3)

Standard monitor OS, communication driver project data, resource data*1

Read/Write

GT10-LDR

USB cable (1m) packed together

Standard monitor OS, communication driver project data, resource data*2

Read/Write

RS-232 transfer cable (0.2m) incorporated

At worksite
GT1020/GT1030

*1 : Only the standard monitor OS and communication driver can be written and only resource data can be read.
*2 : Only resource data can be read.

Common software functions

GT10 includes convenient functions of more advanced models in a compact package.
- Preinstalled OS to enable immediate use
- Choose your font
- A variety of alarm functions and window functions
- The recipe function and multi-action switch for reducing sequence program load
- Displaying custom startup screens
- Display in a variety of languages and comment switching function
- Screen save function
- Hard copy function **NEW** (connectable to a serial printer)

Functionality

Common	○Screen (base: max. 1,024 screens, window: max. 512 windows) ○Fonts (standard (6 × 8 dots: Gothic, 16 dots: Gothic, 12 dots: Gothic [except GT1020])/high quality/ TrueType/Windows) ○Screen switching function, screen call-up function, language switching function, password, system information, setting connected devices, and startup logo
Drawing and graphics	○Straight lines, continuous lines, rectangular, polygons, chamfered quadrangles, circles, ellipses, arcs, elliptic arcs, circular sectors, and elliptic sectors ○Division indication ○Painting ○Images (BMP/DXF)
Objects	○Comment registration (basic comments and comment groups) ○Parts registration ○Data computing function ○Offset function ○Security function ○Lamp indications ○Touch switches ○Numeric indications and input ○ASCII indications and input ○Clock function (GT1050, GT1055, GT1040, GT1045, GT1030: Integrated clock, GT1020: Read from the PLC clock) ○Comment displays ○Alarm list and alarm history ○Parts display ○Panel meters ○Trend graphs, kinked line graphs, bar graphs, statistic crossbar graphs, statistic circular graphs ○Status monitor function ○Recipe function (4,000 points) ○Time action function

※ : See the manual for details.

Supporting the GT Works3 simulator function

Created screens can be easily debugged without an actual machine.

Easily debug with a PC

Click!

Using the GX Works2 simulator, the sequence program can also be debugged simultaneously.

※ : Supported with GT Works3 Ver. 1.22Y or later.

INDEX

For Designers

For Initial Startup & Operations

For Maintenance Personnel

GT10

iQ Platform

MELSEC Process Control

Specifications, External Dimensions

List of Connectable Models, etc.

Real-time multi CPU access with the iQ Platform

iQ Platform

Mitsubishi FA Integrated Platform optimizes the front line of production

"iQ Platform," the next generation integrated platform
- integrated Q
- improved Quality
- intelligent & Quick
- innovation & Quest

With high speed control and convenience fully assured, controllers compatible with the iQ Platform and the GOT1000 are the keys to higher productivity at lower costs.

PLCs, motion controllers, CNCs, robot controllers, and C controllers are integrated into one as controllers compatible with the iQ Platform. The GOT1000 integrates different types of monitor units that were previously connected to each controller.

PLC   Motion controller   CNC   Robot   C controller

GOT1000

Controllers compatible with iQ Platform
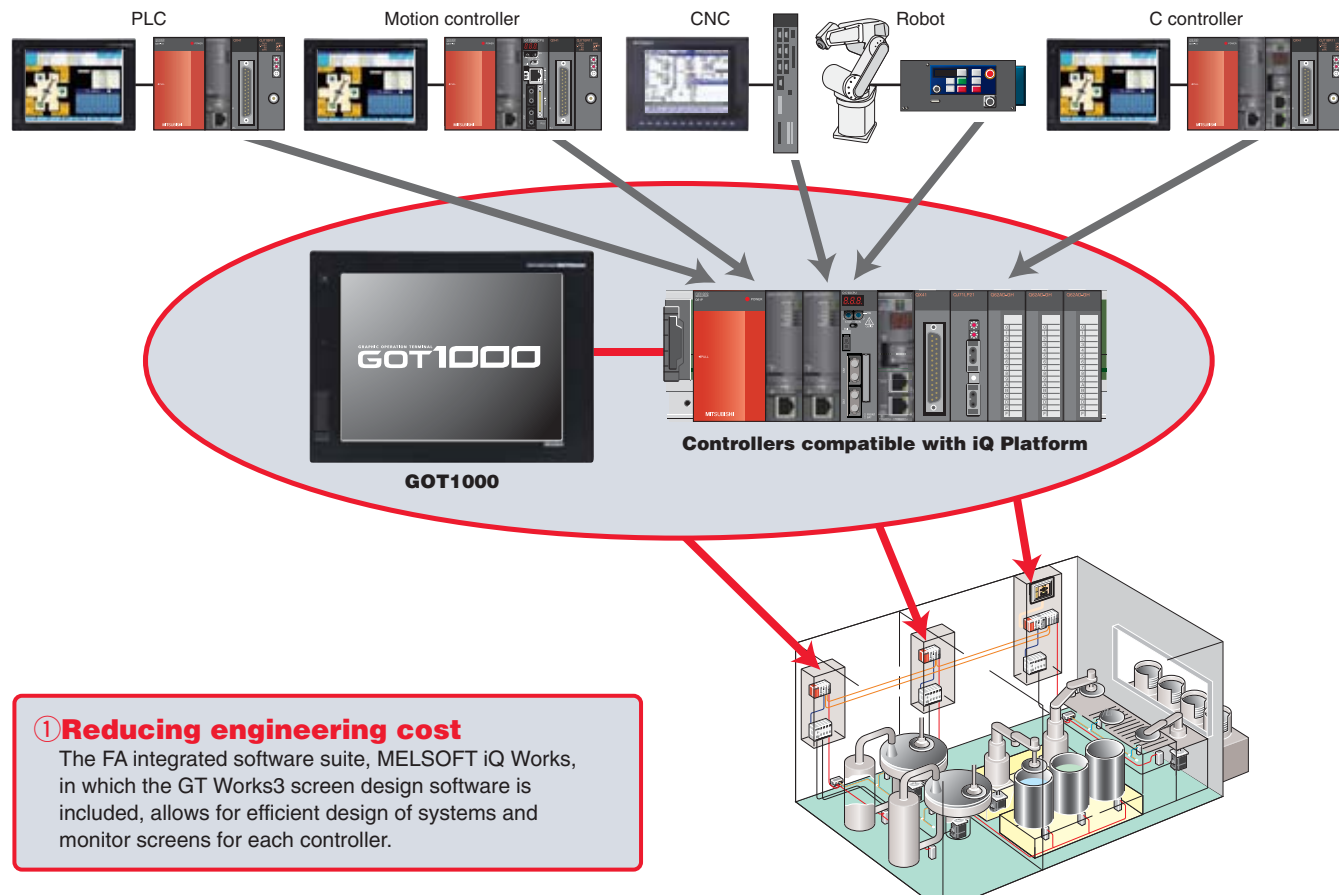
① Reducing engineering cost
The FA integrated software suite, MELSOFT iQ Works, in which the GT Works3 screen design software is included, allows for efficient design of systems and monitor screens for each controller.

② Reducing spare parts cost
A single GOT1000 can take the place of several types of monitor units, greatly reducing equipment cost.

③ Powerful support for maintenance
The GOT1000 has a variety of useful maintenance functions such as the "Q motion monitor function" and "CNC monitor function," very capable of and reliable for troubleshooting. (GT16 and GT15 only)

Quickly reduce total costs by creating a seamless integrated engineering environment.

MELSOFT iQ Works
MELSOFT

- System Management Software [MELSOFT Navigator]
- Programmable Controller Engineering Software [MELSOFT GX Works2]
- Motion Controller Engineering Software [MELSOFT MT Works2]
- Servo Setup Software [MELSOFT MR Configurator2]
- Screen Design Software for Graphic Operation Terminal [MELSOFT GT Works3]
- Robot Programming Software [MELSOFT RT ToolBox2 mini]]

※ : Connectable models and usable functions vary depending on the GOT main unit.
    For more details, see "List of connectable models" (page 65 to page 69), "Function list" (page 70 to page 73) and "Notes for use" (page 81 to page 86).

50

Create an easy-to-operate process control system.

GOT1000 flexibly ties into process control.

MELSEC PROCESS CONTROL

MELSEC will change process control. From dedicated systems to PLCs.

"MELSEC process control" is used in a wide range of applications from device process control to plant process control. The GOT1000 can be used as the monitoring interface. When used together with Mitsubishi FA devices, outstanding integration allows a high-performance process control monitor system to be created easily.

Four benefits that MELSEC process control and GOT1000 (GT16/GT15) can offer.

① PX Developer creates GOT process control monitor screens automatically
Based on the information such as tags defined by PX Developer, process control monitor screens for the GOT can be created automatically, greatly reducing the time required for screen design.
GT Works3 can then customize the automatically created screens.
By using the GT Works3 simulator function and GX Simulator, the operation of programs and screen data can be confirmed on a personal computer even without an actual machine.
※: For details on the compatible software version and functions, see the PX Developer Operating Manual.

[Screen examples that can be created automatically]

Control panel screen   Tuning screen   Alarm list screen   Trend graph screen
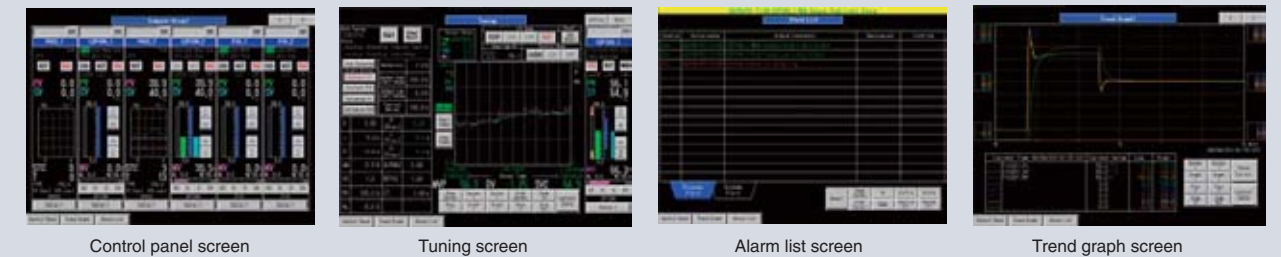
② Utilizing GOT1000 & GT SoftGOT1000 data
Only by using GT Works3 and PX Developer, a process control monitor system can be developed for both the worksite (GOT1000) and the remote monitoring location (GT SoftGOT1000).
Screen data can be shared to monitor screens efficiently.

Worksite

GOT1000 at the worksite

Monitoring location
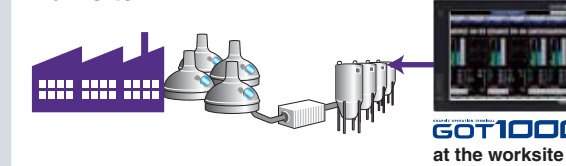
GT SoftGOT1000 in the monitoring location

- Excellent anti-environment performance (IP67f) for operation in various types of worksites.
- The VESA mount adapter is available.

- Touch switches on the GT SoftGOT1000 can call up screens such as face plates and the alarm list of the PX Developer monitor tool.
- Since GOT1000 screen data can be used for GT SoftGOT1000 without modification, no screens need to be created just for the monitoring location.

※: For more details, see "GT SoftGOT1000" (page 26)

③ Process control parts library
Library of process control parts has been added. This allows a process control graphic screen to be created easily.

Motorized valve   Piston valve

Diaphragm type 3-way valve   Pump

Control loop   Flow meter
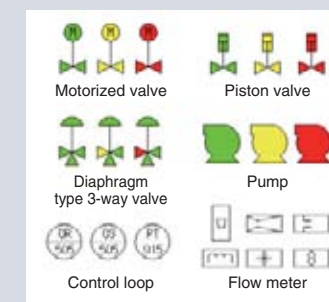
④ Various GOT1000 functions are available for process and duplex CPU
The various GOT1000 functions usable with process and duplex CPUs support the maintenance work of the process control system.
- Operation log function
- Operator authentication function
- Backup/restoration function, etc.

51

Specifications

GT16

General specifications

Item		Specification
Operating ambient temperature[*1]	Display	0°C to 50°C[*5]
	Other than display	0°C to 55°C[*5]
Storage ambient temperature		-20°C to 60°C
Operating ambient humidity		10 to 90%RH, no condensation
Storage ambient humidity		10 to 90%RH, no condensation

Vibration resistance			Frequency	Acceleration	Half amplitude	Sweep count
	Conforming to JIS B 3502 and IEC 61131-2	Under intermittent vibration	5 to 8.4Hz	–	3.5mm	10 times each in X, Y and Z directions
			8.4 to 150Hz	9.8m/s²	–	
		Under continuous vibration	5 to 8.4Hz	–	1.75mm	
			8.4 to 150Hz	4.9m/s²	–	

Item	Specification
Impact resistance	Conforming to JIS B 3502 and IEC 61131-2 (147m/s², 3 times each in X, Y and Z directions)
Operating atmosphere	No oily smoke, corrosive gas or combustible gas, less conductive dust, away from direct sunlight (the same in storage)
Operating altitude[*2]	2000m or less
Installation location	In control panel[*6]
Overvoltage category[*3]	Ⅱ or lower
Contamination level[*4]	2 or less
Cooling method	Self-cooling
Grounding	Type D grounding (100Ω or less). Connect to panel if unable to ground.

[*1] : The maximum operating ambient temperature should be 5°C lower than that shown in the table on the left when connecting to a multimedia unit (GT16M-MMR), MELSECNET/H communication unit (GT15-J71LP23-25 or GT15-J71BR13) or CC-Link communication unit (GT15-J61BT13).

[*2] : Do not operate or store the GOT unit in pressurized environments where the pressure exceeds 0m elevation atmospheric pressure, as this could result in abnormal operation.
Do not pressurize inside the control panel for air purge cleaning. The pressure could raise the surface sheet, making the touch panel difficult to operate or causing the sheet to come off.

[*3] : Assuming that the device is connected at some point between a public power distribution network and local system equipment.
Category Ⅱ applies to devices that are supplied with power from fixed equipment. The surge withstand voltage is 2,500V for devices with ratings up to 300V.

[*4] : Index that indicates the level of foreign conductive matter in the operating environment of the device. Contamination level 2 denotes an environment contaminated only by non-conductive matter which may, under certain conditions, become temporarily conductive due to condensation.

[*5] : 0 to 40°C for GT1665M

[*6] : Excluding GT1665HS

Do not use or store the GOT under direct sun light or in an environment with excessively high temperature, dust, humidity or vibration.

For inquiries relating to products which conform to UL, cUL, and CE directives and shipping directives, please contact your local sales office.

Performance specifications

Item		Specification						
		GT1695M-XTBA GT1695M-XTBD	GT1685M-STBA GT1685M-STBD	GT1675M-STBA GT1675M-STBD	GT1675M-VTBA GT1675M-VTBD	GT1675-VNBA GT1675-VNBD	GT1672-VNBA GT1672-VNBD	GT1665M-STBA GT1665M-STBD
Display[*1]	Type	TFT color LCD (high-brightness, wide viewing angle)				TFT color LCD		TFT color LCD (high-brightness, wide viewing angle)
	Screen size	15"	12.1"		10.4"			8.4"
	Resolution	XGA: 1024 × 768 [dots]	SVGA: 800 × 600 [dots]	SVGA: 800 × 600 [dots]		VGA: 640 × 480 [dots]		SVGA: 800 × 600 [dots]
	Display size	304.1(W) × 228.1(H)[mm]	246(W) × 184.5(H)[mm]		211(W) × 158(H)[mm]			171(W) × 128(H)[mm]
	No. of displayed characters	16-dot standard font: 64 chars. × 48 lines (2-byte) 12-dot standard font: 85 chars. × 64 lines (2-byte)	16-dot standard font: 50 chars. × 37 lines (2-byte) 12-dot standard font: 66 chars. × 50 lines (2-byte)		16-dot standard font: 40 chars. × 30 lines (2-byte) 12-dot standard font: 53 chars. × 40 lines (2-byte)			16-dot standard font: 50 chars. × 37 lines (2-byte) 12-dot standard font: 66 chars. × 50 lines (2-byte)
	Display colors	65,536 colors				4,096 colors	16 colors	65,536 colors
	View angle[*2]	Right/left: 75°, Up: 50°, Down: 60°	Right/left: 80°, Up: 60°, Down: 80°	Right/left/up/down: 88°	Right/left: 80°, Up: 80°, Down: 60°[*14]	Right/left: 45°, Up: 30°, Down: 20°		Right/left: 80°, Up: 80°, Down: 60°
	Intensity	450 [cd/m²]	470 [cd/m²]	400 [cd/m²]	500 [cd/m²][*15]	200 [cd/m²]		400 [cd/m²]
	Intensity adjustment	8-step adjustment				4-step adjustment		8-step adjustment
	Life	Approx. 52,000 hours (operating ambient temperature: 25°C)		Approx. 43,000 hours (operating ambient temperature: 25°C)		Approx. 52,000 hours (operating ambient temperature: 25°C)		Approx. 43,000 hours (operating ambient temperature: 25°C)
Backlight		Cold-cathode fluorescent tube (replaceable), with backlight OFF detection function. Backlight off time and screen save time can be set.						
	Life[*3]	Approx. 50,000 hours or more (Time for display intensity reaches 50% at operating ambient temperature of 25°C)						
Touch panel[*10]	Type	Analog resistive type						
	Key size	Min. 2 × 2 [dots] (per key)						
	No. of simultaneous touch points	Simultaneous touch prohibited[*4] (If two or more points are pressed simultaneously, the switch may function near the center of the pressed points.)						
	Life[*11]	1,000,000 times or more (operating force 0.98N or less)						
Human sensor	Detection distance	1 [m]				–		
	Detection range	Right/left/up/down: 70°				–		
	Detection delay time	0 to 4 [sec]				–		
	Detection temperature	Temperature difference to be 4°C or more between human body and ambient air				–		
Memory[*5]	C drive	15MB built-in flash memory (for saving project data and OS)				11MB built-in flash memory (for saving project data and OS)		15MB built-in flash memory (for saving project data and OS)
	Life (No. of writings)	100,000 times						
Internal clock accuracy		3.47 to 8.38 secs/day (operating ambient temperature: 25°C)[*12]						
Battery	Backed up data	GT15-BAT type lithium battery						
		Clock data, maintenance time notification data, system log data and SRAM user area (500KB)						
	Life	Approx. 5 years (operating ambient temperature: 25°C)						
Built-in interface	RS-232[*7]	RS-232, 1ch Transmission speed: 115200/57600/38400/19200/9600/4800bps Connector shape: D-sub 9-pin (male) Application: Communication with connected devices, connection to personal computer (project data read/write, OS installation, FA transparent function)						
	RS-422/485	RS-422/485, 1ch Transmission speed: 115200/57600/38400/19200/9600/4800bps Connector shape: 14-pin (female) Application: Communication with connected devices						
	Ethernet	Data transfer system: 100BASE-TX, 10BASE-T, 1ch[*8] Connector shape: RJ-45 (modular jack) Application: Communication with connected devices, gateway function, connection to personal computer (project data read/write, OS installation, MES interface function)						
	USB	USB (full-speed 12Mbps), host 1ch Connector shape: TYPE-A Application: USB mouse/keyboard connection, USB memory data transfer and storage FAT16 format: max. 2GB, FAT32 format: max. 32GB[*13]						
		USB (full-speed 12Mbps), device 1ch Connector shape: Mini-B Application: Connection to personal computer (project data read/write, OS installation, FA transparent function)						
	CF card	Compact flash slot, 1ch Connector shape: TYPE Ⅰ Application: Data transfer, data storage, GOT startup FAT16 format: max. 2GB, FAT32 format: max. 32GB[*13]						
	Optional function board	1ch for optional function board installation						
	Extension unit[*7]	2ch for communication unit/optional unit installation						
Buzzer output		Single tone (tone length adjustable)						
Protective construction		Front: IP67f[*6] In panel: IP2X						
External dimensions		397(W) × 296(H) × 61(D)[mm]	316(W) × 242(H) × 52(D)[mm]		303(W) × 214(H) × 49(D)[mm]			241(W) × 190(H) × 52(D)[mm]
Panel cut dimensions		383.5(W) × 282.5(H)[mm]	302(W) × 228(H)[mm]		289(W) × 200(H)[mm]			227(W) × 176(H)[mm]
Weight (excl. mounting brackets)		5.0[kg]	2.7[kg]		2.1[kg]	2.3[kg][*16]		2.3[kg]	1.7[kg]
Applicable software packages		GT Works3 Version1.54G or later				GT Works3 Version1.54G or later (not supported by GT Works2/GT Designer2)		GT Works3 Version1.54G or later

52

Power supply specifications

Item	Specification						
	GT1695M-XTBA	GT1685M-STBA	GT1675M-STBA GT1675M-VTBA GT1675-VNBA GT1672-VNBA GT1665M-STBA GT1665M-VTBA[*5] GT1662-VNBA	GT1695M-XTBD	GT1685M-STBD	GT1675M-STBD GT1675M-VTBD GT1675-VNBD GT1672-VNBD GT1665M-STBD GT1665M-VTBD GT1662-VNBD	GT1655-VTBD	GT1665HS-VTBD
Input power supply voltage	100 to 240VAC (+10%, -15%)			24VDC (+25%, -20%)				24VDC (+10%, -15%)
Input frequency	50/60Hz ±5%			–				
Input maximum apparent power	150VA (at max. load)	110VA (at max. load)	100VA (at max. load)	–				
Power consumption	64W or less	46W or less	39W or less	60W or less	40W or less	38W or less	16W or less	11.6W or less
With backlight off	38W or less	32W or less	30W or less	30W or less	26W or less	27W or less	14W or less	8.2W or less
Inrush current	28A or less (4ms, at max. load)			12A or less (75ms, at max. load)	12A or less (55ms, at max. load)		67A or less (1ms, at max. load)	30A or less (2ms, at max. load)
Permissible instantaneous failure time	Within 20ms (100VAC or more)			Within 10ms				Within 5ms
Noise resistance	Noise voltage 1500Vp-p, noise width 1μs by noise simulator with noise frequency 25 to 60Hz			Noise voltage 500Vp-p, noise width 1μs by noise simulator with noise frequency 25 to 60Hz				Noise voltage 1000Vp-p, noise width 1ms by noise simulator with noise frequency 30 to 100Hz
Withstand voltage	1500VAC for 1 minute between power supply terminal and ground			500VDC for 1 minute between power supply terminal and ground				
Insulation resistance	10MΩ or higher with an insulation resistance tester (500VDC between power supply terminal and ground)							
Applicable wire size	0.75 to 2 [mm²]							–
Clamp terminal	Clamp terminals for M3 screw RAV1.25-3, V2-S3.3, V2-N3A, FV2-N3A							–
Tightening torque (terminal block's terminal screws)	0.5 to 0.8 [N·m]							–

Performance specifications

Item		Specification			
		GT1665M-VTBA GT1665M-VTBD	GT1662-VNBA GT1662-VNBD	GT1655-VTBD	GT1665HS-VTBD
Display[*1]	Type	TFT color LCD (high-brightness, wide viewing angle)	TFT color LCD	TFT color LCD (high-brightness, wide viewing angle)	
	Screen size	8.4"		5.7"	6.5"
	Resolution	VGA: 640 × 480 [dots]			
	Display size	171(W) × 128(H)[mm]		115(W) × 86(H)[mm]	132.5(W) × 99.4(H)[mm]
	No. of displayed characters	16-dot standard font: 40 chars. × 30 lines (2-byte) 12-dot standard font: 53 chars. × 40 lines (2-byte)			
	Display colors	65,536 colors	16 colors	65,536 colors	
	View angle[*2]	Right/left: 80°, Up: 80°, Down: 60°	Right/left: 45°, Up/Down: 20°	Up/down/right/left: 80°	Right/left: 80°, Up: 60°, Down: 80°
	Intensity	600 [cd/m²]	200 [cd/m²]	350 [cd/m²]	550 [cd/m²]
	Intensity adjustment	8-step adjustment	4-step adjustment	8-step adjustment	
	Life	Approx. 43,000 hours (operating ambient temperature: 25°C)	Approx. 52,000 hours (operating ambient temperature: 25°C)	Approx. 50,000 hours (operating ambient temperature: 25°C)	Approx. 41,000 hours (operating ambient temperature: 25°C)
Backlight		Cold-cathode fluorescent tube (replaceable), with backlight OFF detection function. Backlight off time and screen save time can be set.		LED (not replaceable), with backlight OFF detection function. Backlight off and screen save time can be set.	–
	Life[*3]	Approx. 50,000 hours or more (Time for display intensity reaches 50% at operating ambient temperature of 25°C)	Approx. 40,000 hours or more	Approx. 70,000 hours or more	–
Touch panel[*10]	Type	Analog resistive type			
	Key size	Min. 2 × 2 [dots] (per key)			
	No. of simultaneous touch points	Simultaneous touch prohibited[*4] (If two or more points are pressed simultaneously, the switch may function near the center of the pressed points.)			
	Life[*11]	1,000,000 times or more (operating force 0.98N or less)			
Human sensor	Detection distance	–			
	Detection range	–			
	Detection delay time	–			
	Detection temperature	–			
Memory[*5]	C drive	15MB built-in flash memory (for saving project data and OS)	11MB built-in flash memory (for saving project data and OS)	15MB built-in flash memory (for saving project data and OS)	
	Life (No. of writings)	100,000 times			
Internal clock accuracy		3.47 to 8.38 secs/day (operating ambient temperature: 25°C)[*12]	-3.61 to 2.16 secs/day (operating ambient temperature: 25°C)[*12]	3.47 to 8.38 secs/day (operating ambient temperature: 25°C)[*12]	
Battery	Backed up data	GT15-BAT type lithium battery	GT11-50BAT type lithium battery	GT15-BAT type lithium battery	
		Clock data, maintenance time notification data, system log data and SRAM user area (500KB)			
	Life	Approx. 5 years (operating ambient temperature: 25°C)			
Built-in interface	RS-232[*7]	RS-232, 1ch Transmission speed: 115200/57600/38400/19200/9600/4800bps Connector shape: D-sub 9-pin (male) Application: Communication with connected devices, connection to personal computer (project data read/write, OS installation, FA transparent function)			RS-232, RS-422/485, 1ch, each (When using, select one of the channels.) Transmission speed: 115200/57600/38400/19200/9600/4800bps Connector shape: Square, 42-pin (male) Application: Communication with connected devices
	RS-422/485	RS-422/485, 1ch Transmission speed: 115200/57600/38400/19200/9600/4800bps Connector shape: 14-pin (female) Application: Communication with connected devices			
	Ethernet	Data transfer system: 100BASE-TX, 10BASE-T, 1ch Connector shape: RJ-45 (modular jack) Application: Communication with connected devices, gateway function, connection to personal computer (project data read/write, OS installation, FA transparent function, MES interface function)			Data transfer system: 100BASE-TX, 10BASE-T, 1ch Connector shape: Square, 42-pin (male) Application: Communication with connected devices, gateway function, connection to personal computer (project data read/write, OS installation, FA transparent function)
	USB	USB (full-speed 12Mbps), host 1ch Connector shape: TYPE-A Application: USB mouse/keyboard connection, USB memory data transfer and storage FAT16 format: max. 2GB, FAT32 format: max. 32GB[*13]			USB (full-speed 12Mbps), host 1ch Connector shape: TYPE-A Application: USB memory data transfer and storage FAT16 format: max. 2GB, FAT32 format: max. 32GB[*13]
		USB (full-speed 12Mbps), device 1ch Connector shape: Mini-B Application: Connection to personal computer (project data read/write, OS installation, FA transparent function)			
	CF card	Compact flash slot, 1ch Connector shape: TYPE Ⅰ Application: Data transfer, data storage, GOT startup FAT16 format: max. 2GB, FAT32 format: max. 32GB[*13]			
	Optional function board	1ch for optional function board installation			–
	Extension unit[*7]	2ch for communication unit/optional unit installation			1ch for communication unit/optional unit installation
Buzzer output		Single tone (tone length adjustable)			
Protective construction		Front: IP67f[*6] In panel: IP2X			IP65f[*9] (when external connection cable is connected)
External dimensions		241(W) × 190(H) × 52(D)[mm]		267(W) × 135(H) × 60(D)[mm]	201(W) × 230(H) × 97(D)[mm]
Panel cut dimensions		227(W) × 176(H)[mm]		153(W) × 121(H)[mm]	–
Weight (excl. mounting brackets)		1.7[kg]	1.8[kg]	1.0[kg]	1.2[kg] (main unit only)
Applicable software packages		GT Works3 Version1.54G or later	GT Works3 Version1.54G or later (not supported by GT Works2/GT Designer2)		

Component names

GT1695/GT1685/GT167□/GT166□/GT1655

GT1665HS (Handy)

[*1] : On LCD panels, bright dots (permanently lit) and black dots (never lit) generally appear. Because the number of display elements that exist on an LCD panel is large, it is not possible to reduce appearance of the bright and black dots to zero.
Individual differences in LCD panels may cause differences in color, uneven brightness and flickering. Note that this is a characteristic of LCD panels and it does not mean the products are defective or damaged.

[*2] : LCD panels have characteristics of tone reversal. Note that even within the indicated view angles, the screen display may not be clear enough depending on the display color.

[*3] : Using the GOT screen save/backlight OFF functions prevents screen burn-in and extends backlight life.

[*4] : An analog resistive touch display is used. When 2 points on the screen are touched simultaneously, if a switch is located the middle of the 2 points then the switch will be activated. Therefore, avoid touching 2 points on the screen simultaneously.

[*5] : The memory is ROM that permits overwriting of new data without having to delete the existing data.

[*6] : With the USB environmentally protective cover is on, pressing firmly the portion marked "△" makes it conform to IP67f. (The USB interface conforms to IP2X when a USB cable or a USB memory is connected.) However, this does not guarantee protection in all users' environments. The unit may not be used in an environment where it is exposed to splashing oil or chemicals for a long time or it is soaked with oil mist.

[*7] : Where more than one extension unit, barcode reader, and RFID controller are used, the sum of their current consumptions should be within the current level which the GOT can supply. For the currents which the extension units, barcode reader, and RFID controller consume and the current level which the GOT can supply, see "Notes for use" (page 81 to page 86).

[*8] : The function version A of GT1695/GT1685 is not compatible with 10BASE-T.

[*9] : The degree of protection is not guaranteed under all users' environmental conditions. If the protective cover or the rear face protective cover is removed, the specification does not apply.
• Material: Polyacetal resin • Pen point radius: 0.8mm or more (The stylus pen cannot be used with the GT1665HS.)

[*10] : If necessary, use a stylus pen meeting the following specifications.

[*11] : When using a stylus pen, it will be 100,000 times or more (operating force 0.98N max.). Since the touch panel is a consumable product structurally, it may not be used even fewer than above, depending on the usage method and environment.

[*12] : If the operating ambient temperature is other than 25°C, operation errors may increase.

[*13] : USB memory and CF cards that can store more than 2GB are available for the GT16 with the following versions of OSs installed.
• Boot OS version: 05.09.00AF or later
• Standard monitor OS version: 05.09.00 or later
With OSs earlier than the above versions, the GOT cannot correctly recognize the USB memory and the CF card that store more than 2GB.
If the above versions of OSs are not installed, install the OSs on the GOT by using GT Designer3 with version 1.17T or later. GT Designer2 version□ is not compatible with USB memory and CF cards that can store more than 2GB.

[*14] : 88° in each direction for function version C or earlier.

[*15] : 450 [cd/m²] for function version C or earlier.

[*16] : 2.1 [kg] for function version C or earlier.

53

Specifications

GT15

General specifications

Item		Specification
Operating ambient temperature[*1]	Display	0°C to 50°C
	Other than display	0°C to 55°C
Storage ambient temperature		-20°C to 60°C
Operating ambient humidity[*2]		10 to 90%RH, no condensation
Storage ambient humidity[*2]		10 to 90%RH, no condensation

Vibration resistance[*3]			Frequency	Acceleration	Half amplitude	Sweep count
	Conforming to JIS B 3502 and IEC 61131-2	Under intermittent vibration	5 to 8.4Hz	–	3.5mm	10 times each in X, Y and Z directions
			8.4 to 150Hz	9.8m/s²	–	
		Under continuous vibration	5 to 8.4Hz	–	1.75mm	
			8.4 to 150Hz	4.9m/s²	–	

Item	Specification
Impact resistance	Conforming to JIS B 3502 and IEC 61131-2 (147m/s², 3 times each in X, Y and Z directions)
Operating atmosphere	No oily smoke, corrosive gas or combustible gas, less conductive dust, away from direct sunlight (the same in storage)
Operating altitude[*4]	2000m or less
Installation location	In control panel
Overvoltage category[*5]	Ⅱ or lower
Contamination level[*6]	2 or less
Cooling method	Self-cooling
Grounding	Type D grounding (100Ω or less). Connect to panel if unable to ground.

[*1] : The maximum operating ambient temperature should be 5°C lower than that shown in the table on the left when connecting to a MELSECNET/H communication unit (GT15-J71LP23-25 or GT15-J71BR13) or CC-Link communication unit (GT15-J61BT13).
[*2] : Water bulb temperature for STN display type must be 39°C or lower.
[*3] : Refer to the Communication Unit User's Manual for vibration resistance specifications when using the MELSECNET/10 communication unit (GT15-75J71LP23-Z or GT15-75J71BR13-Z) or CC-Link communication unit (GT15-75J61BT13-Z). (The specifications of communication units are different from those of the GOT main unit.)
[*4] : Do not operate or store the GOT unit in pressurized environments where the pressure exceeds 0m elevation atmospheric pressure, as this could result in abnormal operation.
Do not pressurize inside the control panel for air purge cleaning. The pressure could raise the surface sheet, making the touch panel difficult to operate or causing the sheet to come off.
[*5] : Assuming that the device is connected at some point between a public power distribution network and local system equipment.
Category Ⅱ applies to devices that are supplied with power from fixed equipment. The surge withstand voltage is 2,500V for devices with ratings up to 300V.
[*6] : Index that indicates the level of foreign conductive matter in the operating environment of the device.
Contamination level 2 denotes an environment contaminated only by non-conductive matter which may, under certain conditions, become temporarily conductive due to condensation.

Do not use or store the GOT under direct sun light or in an environment with excessively high temperature, dust, humidity or vibration.

For inquiries relating to products which conform to UL, cUL, and CE directives and shipping directives, please contact your local sales office.

Performance specifications

Item		GT1595-XTBA GT1595-XTBD	GT1585V-STBA GT1585V-STBD GT1585-STBA GT1585-STBD	GT1575V-STBA GT1575V-STBD GT1575-STBA GT1575-STBD	GT1575-VTBA GT1575-VTBD	GT1575-VNBA GT1575-VNBD	GT1572-VNBA GT1572-VNBD	GT1565-VTBA GT1565-VTBD	GT1562-VNBA GT1562-VNBD
Display[*1]	Type	TFT color LCD (high-brightness, wide viewing angle)			TFT color LCD			TFT color LCD (high-brightness, wide viewing angle)	TFT color LCD
	Screen size	15"	12.1"		10.4"				8.4"
	Resolution	XGA: 1024 × 768 [dots]	SVGA: 800 × 600 [dots]		VGA: 640 × 480 [dots]				
	Display size	304.1(W) × 228.1(H) [mm]	246(W) × 184.5(H) [mm]		211(W) × 158(H) [mm]				171(W) × 128(H) [mm]
	No. of displayed characters	16-dot standard font: 64 chars. × 48 lines (2-byte) 12-dot standard font: 85 chars. × 64 lines (2-byte)	16-dot standard font: 50 chars. × 37 lines (2-byte) 12-dot standard font: 66 chars. × 50 lines (2-byte)		16-dot standard font: 40 chars. × 30 lines (2-byte) 12-dot standard font: 53 chars. × 40 lines (2-byte)				
	Display colors	65,536 colors			256 colors	16 colors		65,536 colors	16 colors
	View angle[*3]	Right/left: 75°, Up: 50°, Down: 60°	GT1585V Right/left: 60°, Up: 40°, Down: 50° GT1585 Right/left: 65°, Up: 45°, Down: 55°	Right/left/up/down: 85°	Right/left: 45°, Up: 30°, Down: 20°			Right/left: 65°, Up: 50°, Down: 60°	Right/left: 45°, Up: 20°, Down: 20°
	Contrast adjustment				–				
	Intensity	450 [cd/m²]	GT1585V: 350 [cd/m²] GT1585: 400 [cd/m²]	400 [cd/m²]	380 [cd/m²]	200 [cd/m²]		380 [cd/m²]	150 [cd/m²]
	Intensity adjustment	8-step adjustment			4-step adjustment			8-step adjustment	4-step adjustment
	Life	Approx. 52,000 hours (operating ambient temperature: 25°C)	Approx. 50,000 hours (operating ambient temperature: 25°C)		Approx. 41,000 hours (operating ambient temperature: 25°C)				
Backlight		Cold-cathode fluorescent tube (replaceable), with backlight OFF detection function. Backlight off time and screen save time can be set.							
	Life[*4]	Approx. 50,000 hours or more			Approx. 40,000 hours or more				
		(Time for display intensity reaches 50% at operating ambient temperature of 25°C)							
Touch panel[*9]	Type	Analog resistive type	Matrix resistive type						
	No. of touch keys	–	1900 keys/screen (38 lines × 50 columns)		1200 keys/screen (30 lines × 40 columns)				
	Key size	Min. 2 × 2 [dots] (per key)	Min. 16 × 16 [dots] (per key) (16 × 8 only on lowermost line)		Min. 16 × 16 [dots] (per key)				
	No. of simultaneous touch points	Simultaneous touch prohibited[*5] (1 point only)	Max. 2 points						
	Life	1,000,000 times or more (operating force 0.98N or less)[*10]							
Human sensor	Detection distance	1 [m]	–						
	Detection range	Right/left/up/down: 70°	–						
	Detection delay time	0 to 4 [sec]	–						
	Detection temperature	Temperature difference to be 4°C or more between human body and ambient air	–						
Memory[*6]	C drive	9MB built-in flash memory (for saving project data and OS)			5MB built-in flash memory (for saving project data and OS)		9MB built-in flash memory (for saving project data and OS)	5MB built-in flash memory (for saving project data and OS)	
	Life (No. of writings)	100,000 times							
Battery	Backed up data	GT15-BAT type lithium battery (optional)							
		Clock data and maintenance time notification data							
	Life	Approx. 5 years (operating ambient temperature: 25°C)							
Built-in interface	RS-232[*8]	RS-232, 1ch Transmission speed: 115200/57600/38400/19200/9600/4800bps Connector shape: D-sub 9-pin (male) Application: Communication with connected devices, connection to personal computer (project data read/write, OS installation, FA transparent function)							
	USB	USB (full-speed 12Mbps), device 1ch Connector shape: Mini-B Application: Connection to personal computer (project data read/write, OS installation, FA transparent function)							
	CF card	Compact flash slot, 1ch Connector shape: TYPE Ⅰ Application: Data transfer, data storage, GOT startup FAT16 format: max. 2GB, FAT32 format: not usable							
	Optional function board	1ch for optional function board installation							
	Extension unit[*8]	2ch for communication unit/optional unit installation							
Buzzer output		Single tone (tone length adjustable)							
Protective construction		Front: IP67[*7] In panel: IP2X							
External dimensions (without USB port cover)		397(W) × 296(H) × 61(D) [mm]	316(W) × 242(H) × 52(D) [mm]		303(W) × 214(H) × 49(D) [mm]			241(W) × 190(H) × 52(D) [mm]	
Panel cut dimensions		383.5(W) × 282.5(H) [mm]	302(W) × 228(H) [mm]		289(W) × 200(H) [mm]			227(W) × 176(H) [mm]	
Weight (excl. mounting brackets)		5.0 [kg]	2.8 [kg]		GT1575V: 2.3 [kg] GT1575: 2.4 [kg]	2.4 [kg]		2.3 [kg]	1.9 [kg]
Applicable software package		GT Works3 Version1.54G or later							

Power supply specifications

Item	GT1595-XTBA	GT1585V-STBA GT1585-STBA	GT1575V-STBA GT1575-STBA GT1575-VTBA GT1575-VNBA GT1572-VNBA GT1565-VTBA GT1562-VNBA	GT1595-XTBA	GT1585V-STBD GT1585-STBD	GT1575V-STBD GT1575-STBD GT1575-VTBD GT1575-VNBD GT1572-VNBD GT1565-VNBD GT1562-VNBD	GT1555-VTBD	GT1555-QTBD	GT1555-QSBD	GT1550-QLBD
Input power supply voltage	100 to 240VAC (+10%, -15%)			24VDC (+25%, -20%)						
Input frequency	50/60Hz ±5%			–						
Input maximum apparent power	110VA (at max. load)			–						
Power consumption	56W or less	41W or less	39W or less	57W or less (2380mA/24VDC)	43W or less (1790mA/24VDC)	41W or less (1710mA/24VDC)	19W or less (790mA/24VDC)	18W or less (750mA/24VDC)	17W or less (710mA/24VDC)	15W or less (620mA/24VDC)
With backlight off	30W or less	28W or less	28W or less	32W or less (1330mA/24VDC)	30W or less (1250mA/24VDC)	30W or less (1250mA/24VDC)	14W or less (580mA/24VDC)		13W or less (540mA/24VDC)	
Inrush current	50A or less (4ms, at max. load)	45A or less (4ms, at max. load)	40A or less (4ms, at max. load)	100A or less (4ms, at max. load)	115A or less (1ms, at max. load)	115A or less (1ms, at max. load)	67A or less (1ms, at max. load)		60A or less (1ms, at max. load)	
Permissible instantaneous failure time	Within 20ms (100VAC or more)			Within 10ms						
Noise resistance	Noise voltage 1500Vp-p, noise width 1μs by noise simulator with noise frequency 25 to 60Hz			Noise voltage 500Vp-p, noise width 1μs by noise simulator with noise frequency 25 to 60Hz						
Withstand voltage	1500VAC for 1 minute between power supply terminal and ground			500VDC for 1 minute between power supply terminal and ground						
Insulation resistance	10MΩ or higher with an insulation resistance tester (500VDC between power supply terminal and ground)									
Applicable wire size	0.75 to 2 [mm²]									
Clamp terminal	Clamp terminals for M3 screw RAV1.25-3, V2-S3.3, V2-N3A, FV2-N3A									
Tightening torque (terminal block's terminal screws)	0.5 to 0.8 [N·m]									

Performance specifications

Item		GT1555-VTBD	GT1555-QTBD	GT1555-QSBD	GT1550-QLBD
Display[*1][*2]	Type	TFT color LCD (high-brightness, wide viewing angle)		STN color LCD	STN monochrome (black/white) LCD
	Screen size	5.7"			
	Resolution	VGA: 640 × 480 [dots]		QVGA: 320 × 240 [dots]	
	Display size	115(W) × 86(H) [mm]			
	No. of displayed characters	16-dot standard font: 40 chars. × 30 lines (2-byte) 12-dot standard font: 53 chars. × 40 lines (2-byte)	16-dot standard font: 20 chars. × 15 lines (2-byte) 12-dot standard font: 26 chars. × 20 lines (2-byte)		
	Display colors	65,536 colors		4,096 colors	Monochrome (black/white) 16 gray scale
	View angle[*3]	Right/left: 80°, Up: 80°, Down: 70°	Right/left: 70°, Up: 70°, Down: 50°	Right/left: 55°, Up: 65°, Down: 70°	Right/left: 45°, Up: 20°, Down: 40°
	Contrast adjustment	–		16-step adjustment	
	Intensity	350 [cd/m²]	400 [cd/m²]	380 [cd/m²]	220 [cd/m²]
	Intensity adjustment	8-step adjustment			
	Life	Approx. 50,000 hours (operating ambient temperature: 25°C)			
Backlight		Cold-cathode fluorescent tube (not replaceable), with backlight OFF detection function. Backlight off time and screen save time can be set.			
	Life[*4]	Approx. 75,000 hours or more			Approx. 58,000 hours or more
		(Time for display intensity reaches 50% at operating ambient temperature of 25°C)			
Touch panel[*9]	Type	Matrix resistive type			
	No. of touch keys	1200 keys/screen (30 lines × 40 columns)	300 keys/screen (15 lines × 20 columns)		
	Key size	Min. 16 × 16 [dots] (per key)			
	No. of simultaneous touch points	Max. 2 points			
	Life	1,000,000 times or more (operating force 0.98N or less)			
Human sensor	Detection distance	–			
	Detection range	–			
	Detection delay time	–			
	Detection temperature	–			
Memory[*6]	C drive	9MB built-in flash memory (for saving project data and OS)			
	Life (No. of writings)	100,000 times			
Battery	Backed up data	GT15-BAT type lithium battery (optional)			
		Clock data and maintenance time notification data			
	Life	Approx. 5 years (operating ambient temperature: 25°C)			
Built-in interface	RS-232[*8]	RS-232, 1ch Transmission speed: 115200/57600/38400/19200/9600/4800bps Connector shape: D-sub 9-pin (male) Application: Communication with connected devices, connection to personal computer (project data read/write, OS installation, FA transparent function)			
	USB	USB (full-speed 12Mbps), device 1ch Connector shape: Mini-B Application: Connection to personal computer (project data read/write, OS installation, FA transparent function)			
	CF card	Compact flash slot, 1ch Connector shape: TYPE Ⅰ Application: Data transfer, data storage, GOT startup FAT16 format: max. 2GB, FAT32 format: not usable			
	Optional function board	1ch for optional function board installation			
	Extension unit[*8]	1ch for communication unit/optional unit installation			
Buzzer output		Single tone (tone length adjustable)			
Protective construction		Front: IP67[*7] In panel: IP2X			
External dimensions (without USB port cover)		167(W) × 135(H) × 60(D) [mm]			
Panel cut dimensions		153(W) × 121(H) [mm]			
Weight (excl. mounting brackets)		1.1 [kg]			
Applicable software package		GT Works3 Version1.54G or later			

Component names
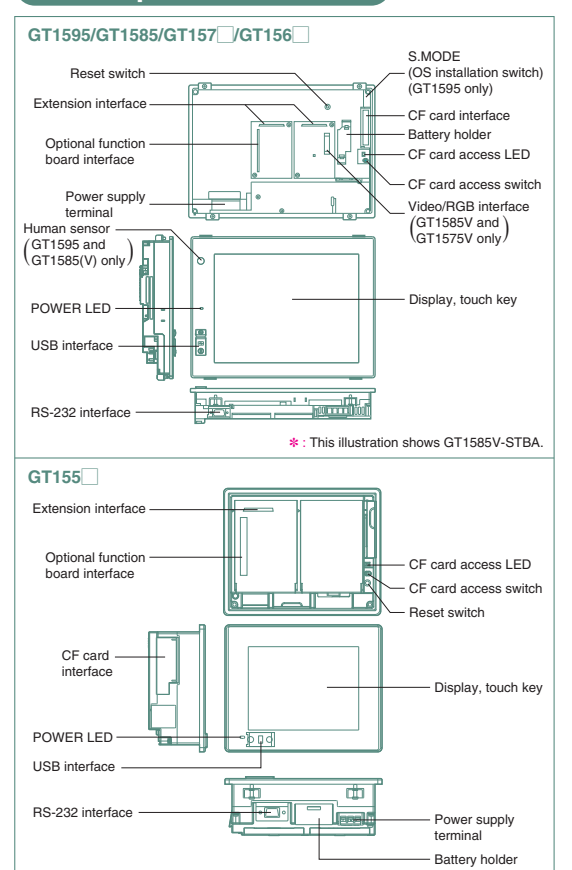
GT1595/GT1585/GT157□/GT156□

S.MODE (OS installation switch) (GT1595 only)
Reset switch
Extension interface
CF card interface
Battery holder
Optional function board interface
CF card access LED
Power supply terminal
CF card access switch
Video/RGB interface (GT1585V and GT1575V only)
Human sensor (GT1595 and GT1585(V) only)
POWER LED
USB interface
Display, touch key
RS-232 interface

※ : This illustration shows GT1585V-STBA.

GT155□

Extension interface
Optional function board interface
CF card access LED
CF card access switch
Reset switch
CF card interface
Display, touch key
POWER LED
USB interface
RS-232 interface
Power supply terminal
Battery holder

[*1] : On LCD panels, bright dots (permanently lit) and black dots (never lit) generally appear.
Because the number of display elements that exist on an LCD panel is large, it is not possible to reduce appearance of the bright and black dots to zero.
Individual differences in LCD panels may cause differences in color, uneven brightness and flickering. Note that this is a characteristic of LCD panels and it does not mean the products are defective or damaged.
[*2] : Flickering may occur depending on the display colors.
[*3] : LC panels have characteristics of tone reversal. Note that even within the indicated view angles, the screen display may not be clear enough depending on the display color.
[*4] : Using the GOT screen save/backlight OFF functions prevents screen burn-in and extends the backlight life.
[*5] : An analog resistive touch display is used. When 2 points on the screen are touched simultaneously, if a switch is located the middle of the 2 points then the switch will be activated. Therefore, avoid touching 2 points on the screen simultaneously.
[*6] : The memory is ROM that permits overwriting of new data without having to delete the existing data.
[*7] : IP67 is supported when the USB environmentally protective cover is on. (The USB interface conforms to IP2X when a USB cable is connected.) However, this does not guarantee protection in all users' environments.
The unit may not be used in an environment where it is exposed to splashing oil or chemicals for a long time or it is soaked with oil mist.
[*8] : Where more than one extension unit, barcode reader, and RFID controller are used, the sum of their current consumptions should be within the current level which the GOT can supply. For the currents which the extension units, barcode reader, and RFID controller consume and the current level which the GOT can supply, see "Notes for use" (page 81 to page 86).
[*9] : If necessary, use a stylus pen meeting the following specifications.
• Material: Polyacetal resin • Pen point radius: 0.8mm or more
[*10] : When using a stylus pen with GT1595-XTB□, it will be 100,000 times or more (operating force 0.98N max.). Since the touch panel is a consumable product structurally, it may not be used even fewer than above, depending on the usage method and environment.

Specifications

GT14

General specifications

Item		Specification
Operating ambient temperature	Display	0°C to 50°C
	Other than display	0°C to 55°C (horizontal installation), 0°C to 50°C (vertical installation)
Storage ambient temperature		-20°C to 60°C
Operating ambient humidity[*1]		10 to 90%RH, no condensation
Storage ambient humidity[*1]		10 to 90%RH, no condensation
Vibration resistance	Conforming to JIS B 3502 and IEC 61131-2	Frequency / Acceleration / Half amplitude / Sweep count — see table
Impact resistance		Conforming to JIS B 3502 and IEC 61131-2 (147m/s², 3 times each in X, Y and Z directions)
Operating atmosphere		Free from oil mist, corrosive gases, flammable gases and excessive conductive dusts or direct sun beams (The same applies to unit storage.)
Operating altitude[*2]		2000m or less
Installation location		In control panel
Overvoltage category[*3]		Ⅱ or lower
Contamination level[*4]		2 or less
Cooling method		Self-cooling
Grounding		Type D grounding (100Ω or less). Connect to panel if unable to ground.

Vibration resistance detail:

	Frequency	Acceleration	Half amplitude	Sweep count
Under intermittent vibration	5 to 8.4Hz	–	3.5mm	10 times each in X, Y and Z directions
	8.4 to 150Hz	9.8m/s²	–	
Under continuous vibration	5 to 8.4Hz	–	1.75mm	–
	8.4 to 150Hz	4.9m/s²	–	

[*1] : Water bulb temperature for STN display type must be 39°C or lower.
[*2] : Do not operate or store the GOT unit in pressurized environments where the pressure exceeds 0m elevation atmospheric pressure, as this could result in abnormal operation. Do not pressurize inside the control panel for air purge cleaning. The pressure could raise the surface sheet, making the touch panel difficult to operate or causing the sheet to come off.
[*3] : Assuming that the device is connected at some point between a public power distribution network and local system equipment. Category Ⅱ applies to devices that are supplied with power from fixed equipment. The surge withstand voltage is 2500V for devices with ratings up to 300V.
[*4] : Index that indicates the level of foreign conductive matter in the operating environment of the device. Contamination level 2 denotes contamination by non-conductive matter only, though momentary conductivity may occur due to occasional condensation.

Do not use or store the GOT under direct sun light or in an environment with excessively high temperature, dust, humidity or vibration.

For inquiries relating to products which conform to UL, cUL, and CE directives and shipping directives, please contact your local sales office.

Performance specifications

Item		GT1455-QTBDE	GT1450-QLBDE
Display [*1]	Type	TFT color LCD	STN monochrome (black/white) LCD
	Screen size	5.7"	
	Resolution	QVGA: 320 × 240 [dots]	
	Display size	115(W) × 86(H) [mm] (in horizontal display mode)	
	No. of displayed characters	16-dot standard font: 20 chars. × 15 lines (2-byte) (in horizontal display mode); 12-dot standard font: 26 chars. × 20 lines (2-byte) (in horizontal display mode)	
	Display colors	65536 colors	Monochrome (black/white) 16 gray scale
	View angle [*2]	Right/left: 80°, Up: 80°, Down: 60° (in horizontal display mode)	Right/left: 45°, Up: 20°, Down: 40° (in horizontal display mode)
	Contrast adjustment	–	32-step adjustment
	Intensity	400 [cd/m²]	300 [cd/m²]
	Intensity adjustment	8-step adjustment	
	Life	Approx. 50,000 hours (Time for display contrast reaches 20% at operating ambient temperature of 25°C)	
Backlight		LED (not replaceable) with backlight OFF detection function. Backlight off time and screen save time can be set.	
	Life [*3]	Approx. 75,000 hours or more (Time for display intensity reaches 50% at operating ambient temperature of 25°C)	
Touch panel	Type	Analog resistive type	
	Key size	Min. 2 × 2 [dots] (per key)	
	No. of simultaneous touch points	Simultaneous touch prohibited [*4] (If two or more points are pressed simultaneously, the switch may function near the center of the pressed points.)	
	Life	1,000,000 times or more (operating force 0.98N or less)	
Memory	C drive [*5]	9MB built-in flash memory (for saving project data and OS)	
	Life (No. of writings)	100,000 times	
	D drive	512KB built-in SRAM (for battery backup)	
Battery		GT11-50BAT type lithium battery	
	Backed up data	Clock data, alarm history, recipe data, time action set values, advanced alarm, advanced recipe, logging, hardcopy, SRAM user area	
	Life	Approx. 5 years (operating ambient temperature: 25°C)	
Built-in interface	RS-422/485	RS-422/485, 1ch Transmission speed: 115200/57600/38400/19200/9600/4800bps Connector shape: D-sub 9-pin (female) Application: Communication with connected devices Terminal resistance [*6]: OPEN/110Ω /330Ω (switching by terminal resistance transfer switch)	
	RS-232	RS-232, 1ch Transmission speed: 115200/57600/38400/19200/9600/4800bps Connector shape: D-sub 9-pin (male) Application: Communication with connected devices, connection to barcode reader/RFID, connection to personal computer (project data read/write, OS installation, FA transparent function)	
	Ethernet	Data transfer system: 100BASE-TX, 10BASE-T, 1ch Connector shape: RJ-45 (modular jack) Application: Communication with connected devices, gateway function, connection to personal computer (project data read/write, OS installation, FA transparent function)	
	USB	USB (full-speed 12Mbps), host 1ch Connector shape: TYPE-A Application: USB mouse/keyboard connection, USB memory data transfer and storage FAT16 format: max. 2GB, FAT32 format: max. 32GB; USB (full-speed 12Mbps), device 1ch Connector shape: Mini-B Application: Connection to personal computer (project data read/write, OS installation, FA transparent function)	
	SD card	Complied with SD standard, 1ch, Supported memory card: SDHC memory card, SD memory card Application: project data read/write, OS installation, logging data storage FAT16 format: max. 2GB, FAT32 format: max. 32GB	
Buzzer output		Single tone (tone length adjustable)	
Protective construction		Front: IP67f [*7]	
External dimensions		164(W) × 135(H) × 55(D) [mm]	
Panel cut dimensions		153(W) × 121(H) [mm]	
Weight (excl. mounting brackets)		0.7kg	
Applicable software packages		GT Works3 Version1.54G or later (not supported by GT Works2/GT Designer2)	

Power supply specifications

Item	GT1455-QTBDE	GT1450-QLBDE
Input power supply voltage	24VDC (+10%, -15%), ripple voltage of 200mV or less	
Input frequency	–	
Input maximum apparent power	–	
Fuse (built-in, not replaceable)	1.6A	
Power consumption	8.40W or less (350mA/24VDC)	
With backlight off	7.44W or less (310mA/24VDC)	
Inrush current	30A or less (2ms, at max. load)	
Permissible instantaneous failure time	Within 5ms	
Noise resistance	Noise voltage 1000Vp-p, noise width 1μs by noise simulator with noise frequency 30 to 100Hz	
Withstand voltage	500VAC for 1 minute between power supply terminal and ground	
Insulation resistance	10MΩ or higher with an insulation resistance tester (500VDC between power supply terminal and ground)	
Applicable wire size	0.75 to 2 [mm²]	
Clamp terminal	Clamp terminals for M3 screw RAV1.25-3, V2-N3A, FV2-N3A	
Tightening torque (terminal block's terminal screws)	0.5 to 0.8 [N·m]	

Component names

GT14

Display, touch key; POWER LED; RS-232 interface; RS-422/485 interface; Power supply terminal; USB interface (host); USB interface (device); SD card access LED; SD card access switch; SD card interface; Reset switch; Dip switch for setting terminal resistance (inside cover); Ethernet interface

[*1] : On LCD panels, bright dots (permanently lit) and black dots (never lit) generally appear. Because the number of display elements that exist on an LCD panel is large, it is not possible to reduce appearance of the bright and black dots to zero. Flickering may occur depending on the display colors. Note that the existence of bright and black dots is a standard characteristic of LCD panels, and it does not mean that the products are defective or damaged. Displaying one single screen for a long time can lead to burn-in, causing afterimages or image irregularities that could not disappear. Use the screen saver that is effective to prevent burn-in.
[*2] : LCD panels have characteristics of tone reversal. Note that even within the indicated view angles, the screen display may not be clear enough depending on the display color.
[*3] : Using the GOT screen save/backlight OFF functions prevents screen burn-in and extends the backlight life.
[*4] : An analog resistive touch display is used. When 2 points on the screen are touched simultaneously, if a switch is located the middle of the 2 points then the switch will be activated. Therefore, avoid touching 2 points on the screen simultaneously.
[*5] : The memory is ROM that permits overwriting of new data without having to delete the existing data.
[*6] : In the case of GOT multi-drop connection, set the terminal resistance transfer switch on the GOT main unit according to the connection configuration.
[*7] : This does not guarantee protection in all users' environments. The specification is not applied when the interface protective cover and rear face protective cover are removed. The unit may not be used in an environment where it is exposed to splashing oil or chemicals for a long time or soaked with oil mist.

GT12

General specifications

Item		Specification
Operating ambient temperature	Display	0°C to 50°C
	Other than display	0°C to 55°C
Storage ambient temperature		-20°C to 60°C
Operating ambient humidity		10 to 90%RH, no condensation
Storage ambient humidity		10 to 90%RH, no condensation
Vibration resistance	Conforming to JIS B 3502 and IEC 61131-2	see table
Impact resistance		Conforming to JIS B 3502 and IEC 61131-2 (147m/s², 3 times each in X, Y and Z directions)
Operating atmosphere		No oily smoke, corrosive gas or combustible gas, less conductive dust, away from direct sunlight (the same in storage)
Operating altitude[*1]		2,000m or lower
Installation location		In control panel
Overvoltage category[*2]		Ⅱ or lower
Contamination level[*3]		2 or less
Cooling method		Self-cooling
Grounding		Type D grounding (100Ω or less). Connect to panel if unable to ground.

Vibration resistance detail:

	Frequency	Acceleration	Half amplitude	Sweep count
Under intermittent vibration	5 to 8.4Hz	–	3.5mm	10 times each in X, Y and Z directions
	8.4 to 150Hz	9.8m/s²	–	
Under continuous vibration	5 to 8.4Hz	–	1.75mm	–
	8.4 to 150Hz	4.9m/s²	–	

[*1] : Do not operate or store the GOT unit in pressurized environments where the pressure exceeds 0 m elevation atmospheric pressure, as this could result in abnormal operation. Do not pressurize inside the control panel for air purge cleaning. The pressure could raise the surface sheet, making the touch panel difficult to operate or causing the sheet to come off.
[*2] : Assuming that the device is connected at some point between a public power distribution network and local system equipment. Category Ⅱ applies to devices that are supplied with power from fixed equipment. The surge withstand voltage is 2,500V for devices with ratings up to 300V.
[*3] : Index that indicates the level of foreign conductive matter in the operating environment of the device. Contamination level 2 denotes an environment contaminated only by non-conductive matter which may, under certain conditions, become temporarily conductive due to condensation.

Do not use or store the GOT under direct sun light or in an environment with excessively high temperature, dust, humidity or vibration.

For inquiries relating to products which conform to UL, cUL, and CE directives and shipping directives, please contact your local sales office.

Performance specifications

Item		GT1275/75-VNBA GT1275-VNBD	GT1265/75-VNBA GT1265-VNBD
Display [*1]	Type	TFT color LCD	
	Screen size	10.4"	8.4"
	Resolution	VGA: 640 × 480 [dots]	
	Display size	211.2(W) × 158.4(H) [mm]	170.9(W) × 128.2(H) [mm]
	No. of displayed characters	16-dot standard font: 40 chars. × 30 lines (2-byte); 12-dot standard font: 53 chars. × 40 lines (2-byte)	
	Display colors	256 colors	
	View angle [*2]	Right/left: 45°, Up/down: 20°	
	Intensity	200 [cd/m²]	
	Intensity adjustment	4-step adjustment	
	Life	Approx. 52,000 hours (operating ambient temperature: 25°C)	
Backlight		Cold-cathode fluorescent tube (replaceable), 1CCFL light	
	Life [*3]	50,000 hours or more (at standard lamp current = 6.0 [mA]) / 40,000 hours or more (at standard lamp current = 7.0 [mA]) (Time for display intensity reaches 50% at operating ambient temperature of 25°C)	
Touch panel [*7]	Type	Analog resistive type	
	Key size	Min. 2 × 2 [dots] (per key)	
	No. of simultaneous touch points	Simultaneous touch prohibited [*4] (If two or more points are pressed simultaneously, the switch may function near the center of the pressed points.)	
	Life [*8]	1,000,000 times or more (operating force 0.98N or less)	
Human sensor	Detection distance	–	
	Detection range	–	
	Detection delay time	–	
	Detection temperature	–	
Memory [*5]	C drive	6MB built-in flash memory (for saving project data and OS)	
	Life (No. of writings)	100,000 times	
Battery		GT11-50BAT type lithium battery (optional)	
	Backed up data	Clock data, alarm history, and recipe data	
	Life	Approx. 5 years (operating ambient temperature: 25°C)	
Built-in interface	RS-232 [*6]	RS-232, 1ch Transmission speed: 115200/57600/38400/19200/9600/4800bps Connector shape: D-sub 9-pin (male) Application: Communication with connected devices, connection to personal computer (project data read/write, OS installation, FA transparent function)	
	RS-422/485	RS-422/485, 1ch Transmission speed: 115200/57600/38400/19200/9600/4800bps Connector shape: D-sub 9-pin (female) Application: Communication with connected devices	
	Ethernet	Data transfer system: 100BASE-TX, 1ch Connector shape: RJ-45 (modular jack) Application: Communication with connected devices, connection to personal computer (project data read/write, OS installation, FA transparent)	
	USB	USB (Full Speed 12 Mbps), device 1ch Connector shape: Mini-B Application: Connection to personal computer (project data read/write, OS installation, FA transparent function)	
	CF card	Compact flash slot, 1ch Connector shape: TYPE Ⅰ Application: Data transfer, data storage, GOT startup FAT16 format: max. 2GB, FAT32 format: not usable	
	Optional function board	–	
	Extension unit[*6]	–	
Buzzer output		Single tone (tone length adjustable)	
Protective construction		IP67f	
External dimensions		303(W) × 214(H) × 53(D)	241(W) × 190(H) × 58(D)
Panel cut dimensions		289(W) × 200(H) [mm]	227(W) × 176(H) [mm]
Weight (excl. mounting brackets)		2.3 [kg]	1.7 [kg]
Applicable software package		GT Works3 Version1.54G or later (not supported by GT Works2/GT Designer2)	

Power supply specifications

Item	GT1265/75-VNBA	GT1265/75-VNBD
Input power supply voltage	100 to 240VAC (+10%, -15%)	24VDC (+25%, -20%)
Input frequency	50/60Hz ±5%	–
Input maximum apparent power	44VA (at max. load)	–
Power consumption	18W or less	11W or less
With backlight off	15W or less	6W or less
Inrush current	40A or less (4ms, at max. load)	29A or less (2ms, at max. load)
Permissible instantaneous failure time	Within 20ms (100VAC or more)	Within 10ms
Noise resistance	Noise voltage 1500Vp-p, noise width 1μs by noise simulator with noise frequency 25 to 60Hz	Noise voltage 500Vp-p, noise width 1μs by noise simulator with noise frequency 25 to 60Hz
Withstand voltage[*1]	1500VAC for 1 minute between power supply terminal and ground	500VDC for 1 minute between power supply terminal and ground
Insulation resistance[*1]	10MΩ or higher with an insulation resistance tester (500VDC between power supply terminal and ground)	
Applicable wire size	0.75 to 2 [mm²]	
Clamp terminal	Clamp terminals for M3 screw RAV1.25-3, V2-S3.3, V2-N3A, FV2-N3A	
Tightening torque (terminal block's terminal screws)	0.5 to 0.8 [N·m]	

[*1] : In DC type products, the surge absorber is connected between the power supply and the ground to avoid a malfunction due to noise caused by the application of lightning surge. The values of the dielectric withstand voltage and insulation resistance are recorded when the surge absorber is not connected.

Component names

GT1275/GT1265

POWER LED; Battery holder; Dip switch for setting terminal resistance (inside cover); Ethernet interface; RS-422/485 interface; Display, touch panel; S.MODE (OS installation switch); CF card interface; CF card access LED; CF card access switch; USB interface; Power supply terminal; RS-232 interface

[*1] : On LCD panels, bright dots (permanently lit) and black dots (never lit) generally appear. Because the number of display elements that exist on an LCD panel is large, it is not possible to reduce appearance of the bright and black dots to zero. Individual differences in LCD panels may cause differences in color, uneven brightness and flickering. Note that this is a characteristic of LCD panels and it does not mean the products are defective or damaged.
[*2] : LCD panels have characteristics of tone reversal. Note that even within the indicated view angles, the screen display may not be clear enough depending on the display color.
[*3] : Using the GOT screen save/backlight OFF functions prevents screen burn-in and extends the backlight life.
[*4] : An analog resistive touch display is used. When 2 points on the screen are touched simultaneously, if a switch is located the middle of the 2 points then the switch will be activated. Therefore, avoid touching 2 points on the screen simultaneously.
[*5] : The memory is a ROM that permits overwriting of new data without having to delete the existing data.
[*6] : Where more than one extension unit, barcode reader, and RFID controller are used, the sum of their current consumptions should be within the current level which the GOT can supply. For the currents which the extension units, barcode reader, and RFID controller consume and the current level which the GOT can supply, see "Notes for use" (page 81).
[*7] : If necessary, use a stylus pen meeting the following specifications. • Material: Polyacetal resin • Pen point radius: 0.8mm or more
[*8] : When using a stylus pen, it will be 100,000 times or more (operating force 0.98N max.). Since the touch panel is a consumable product structurally, it may not be used even fewer than above, depending on the usage method and environment.

56 / 57

Side tabs: INDEX, For Designers, For Initial Startup & Operations, For Maintenance Personnel, GT10, iQ Platform, MELSEC Process Control, Specifications, External Dimensions, List of Connectable Models, etc.

Specifications

General specifications

Item		Specification
Operating ambient temperature	Display	0°C to 50°C[*5]
	Other than display	0°C to 55°C (horizontal installation), 0°C to 50°C (vertical installation)[*5]
Storage ambient temperature		-20°C to 60°C
Operating ambient humidity[*1]		10 to 90%RH, no condensation
Storage ambient humidity[*1]		10 to 90%RH, no condensation

Vibration resistance			Frequency	Acceleration	Half amplitude	Sweep count
	Conforming to JIS B 3502 and IEC 61131-2	Under intermittent vibration	5 to 8.4Hz	–	3.5mm	10 times each in X, Y and Z directions
			8.4 to 150Hz	9.8m/s²	–	
		Under continuous vibration	5 to 8.4Hz	–	1.75mm	–
			8.4 to 150Hz	4.9m/s²	–	

Item	Specification
Impact resistance	Conforming to JIS B 3502 and IEC 61131-2 (147m/s², 3 times each in X, Y and Z directions)
Operating atmosphere	Free from oil mist, corrosive gases, flammable gases and excessive conductive dusts or direct sun beams (The same applies to unit storage.)
Operating altitude[*2]	2000m or less
Installation location	In control panel[*6]
Overvoltage category[*3]	II or lower
Contamination level[*4]	2 or less
Cooling method	Self-cooling
Grounding	Type D grounding (100Ω or less). Connect to panel if unable to ground.[*7]

*1 : Water bulb temperature for STN display type must be 39°C or lower.
*2 : Do not operate or store the GOT unit in pressurized environments where the pressure exceeds 0m elevation atmospheric pressure, as this could result in abnormal operation.
*3 : Assuming that the device is connected at some point between a public power distribution network and local system equipment. Category II applies to devices that are supplied with power from fixed equipment. The surge withstand voltage is 2500V for devices with ratings up to 300V.
*4 : Index that indicates the level of foreign conductive matter in the operating environment of the device. Contamination level 2 denotes contamination by non-conductive matter only, though momentary conductivity may occur due to occasional condensation.
*5 : 0 to 40°C for GT115□HS
*6 : Excluding GT115□HS
*7 : The 5VDC type requires no grounding.

Do not use or store the GOT under direct sun light or in an environment with excessively high temperature, dust, humidity or vibration.

For inquiries relating to products which conform to UL, cUL, and CE directives and shipping directives, please contact your local sales office.

Performance specifications

Item		GT1155-QTBD	GT1155-QSBD	GT1150-QLBD	GT1155-QTBDQ GT1155-QTBDA	GT1155-QSBDQ GT1155-QSBDA	GT1150-QLBDQ GT1150-QLBDA	GT1155HS-QSBD	GT1150HS-QLBD
Display[*1]	Type	TFT color LCD	STN color LCD	STN monochrome (black/white) LCD	TFT color LCD	STN color LCD	STN monochrome (black/white) LCD	STN color LCD	STN monochrome (black/white) LCD
	Screen size	5.7"							
	Resolution	QVGA: 320 × 240 [dots]							
	Display size	115(W) × 86(H) [mm] (in horizontal display mode)			115(W) × 86(H) [mm] (in horizontal display mode)			115(W) × 86(H) [mm]	
	No. of displayed characters	16-dot standard font: 20 chars. × 15 lines (2-byte) 12-dot standard font: 26 chars. × 20 lines (2-byte) (in horizontal display mode)							
	Display colors	256 colors		Monochrome (black/white) 16 gray scale	256 colors		Monochrome (black/white) 16 gray scale	256 colors	Monochrome (black/white) 16 gray scale
	View angle	Right/left: 70°, Up: 70°, Down: 50° (in horizontal display mode)	• Right/left: 50°, Up: 50°, Down: 60° (Hardware versions A and B) (in horizontal display mode) • Right/left: 55°, Up: 65°, Down: 70° (Hardware version C or later) (in horizontal display mode)	Right/left: 45°, Up: 20°, Down: 40° (in horizontal display mode)	Right/left: 70°, Up: 70°, Down: 50° (in horizontal display mode)	Right/left: 55°, Up: 65°, Down: 70° (in horizontal display mode)	Right/left: 45°, Up: 20°, Down: 40° (in horizontal display mode)	• Right/left: 55°, Up: 50°, Down: 60° (Hardware versions A and B) • Right/left: 55°, Up: 65°, Down: 70° (Hardware version C or later)	Right/left: 45°, Up: 20°, Down: 40°
	Contrast adjustment	–	16-step adjustment		–		16-step adjustment		
	Intensity	400 [cd/m²]	• 350 [cd/m²] (Hardware versions A and B) • 380 [cd/m²] (Hardware version C or later)	220 [cd/m²]	400 [cd/m²]	380 [cd/m²]	220 [cd/m²]	• 350 [cd/m²] (Hardware versions A and B) • 380 [cd/m²] (Hardware version C or later)	220 [cd/m²]
	Intensity adjustment	8-step adjustment							
	Life	Approx. 50,000 hours (operating ambient temperature: 25°C)							
Backlight	Type	Cold-cathode fluorescent tube (not replaceable), with backlight OFF detection function. Backlight off time and screen save time can be set.							
	Life[*2]	Approx. 75,000 hours or more	Approx. 54,000 hours or more	Approx. 75,000 hours or more	Approx. 54,000 hours or more	Approx. 75,000 hours or more	Approx. 54,000 hours or more	Approx. 75,000 hours or more	Approx. 54,000 hours or more
		(Time for display intensity reaches 50% at operating ambient temperature of 25°C)							
Touch panel	Type	Matrix resistive type							
	No. of touch keys	300 keys/screen (matrix consisting of 15 lines × 20 columns)							
	Key size	Min. 16 × 16 [dots] (per key)							
	No. of simultaneous touch points	Max. 2 points							
	Life	1,000,000 times or more (operating force 0.98N or less)							
Memory	C drive[*3] Life (No. of writings)	3MB built-in flash memory (for saving project data and OS)							
		100,000 times							
	D drive	512KB built-in SRAM (battery backup)							
Battery		GT11-50BAT type lithium battery							
	Backed up data	Clock data, alarm history, recipe data, time action set values							
	Life	Replacement guideline approx. 5 years (operating ambient temperature: 25°C)							
Built-in interface	Bus	1ch for QCPU (Q mode)/motion controller CPU (Q series) or 1ch for QnA/ACPU/motion controller CPU (A series) Application: For bus connection of PLC			–				
	RS-422/485	RS-422/485, 1ch Transmission speed: 115200/57600/38400/19200/9600/4800bps Connector shape: D-sub 9-pin (female) Application: Communication with PLCs Terminal resistance[*5]: OPEN/110Ω/330Ω (switching by terminal resistance transfer switch)			–			–	
	RS-422/232	–			–			RS-422/232, 1ch (Select one when using.) Transmission speed: 115200/57600/38400/19200/9600/4800bps Connector shape: Round type, 32-pin (male) Application: Communication with connected devices	
	RS-232	RS-232, 1ch Transmission speed: 115200/57600/38400/19200/9600/4800bps Connector shape: D-sub 9-pin (male) Application: Communication with connected devices, connection to personal computer (project data read/write, OS installation, FA transparent function, etc.)			RS-232, 1ch Transmission speed: 115200/57600/38400/19200/9600/4800bps Connector shape: D-sub 9-pin (male) Application: Connection to barcode reader/personal computer (project data read/write, OS installation, FA transparent function, etc.)			RS-232, 1ch, Transmission speed: 115200/57600/38400/19200/9600/4800bps Connector shape: Mini-DIN 6-pin (male) Application: Connection to personal computer (project data read/write, OS installation, FA transparent function, etc.)	
	USB	USB (full-speed 12Mbps), device 1ch Connector shape: Mini-B Application: Connection to personal computer (project data read/write, OS installation, FA transparent function)							
	CF card	Compact flash slot, 1ch Connector shape: TYPE I Application: Data transfer, data storage, GOT startup FAT16 format: max. 2GB, FAT32 format: not usable							
	Optional function board	Embedded in main unit							
Buzzer output		Single tone (tone length adjustable)							
Protective construction[*4]		Front: IP67f In panel: IP2X			Front: IP67f In panel: IP2X			IP65f (when external connection cable is connected)	
External dimensions (without USB port cover)		164(W) × 135(H) × 56(D) [mm]			167(W) × 135(H) × 65(D) [mm]			176(W) × 220(H) × 93(D) [mm]	
Panel cut dimensions		153(W) × 121(H) [mm]			153(W) × 121(H) [mm]			–	
Weight		0.7 [kg] (excl. mounting brackets)			0.9 [kg] (excl. mounting brackets)			1.0 [kg] (main unit only)	
Applicable software package		GT Works3 Version1.54G or later							

Power supply specifications

Item	GT1155-QTBD GT1155-QSBD GT1155HS-QSBD	GT1150-QLBD GT1150HS-QLBD	GT1155-QTBDQ GT1155-QTBDA	GT1155-QSBDQ GT1155-QSBDA	GT1150-QLBDQ GT1150-QLBDA	GT1055-QSBD	GT1050-QBBD	GT1045-QSBD	GT1040-QBBD
Input power supply voltage	24VDC (+10%, -15%), ripple voltage of 200mV or less								
Input frequency	–								
Input maximum apparent power	–								
Power consumption	9.84W or less (410mA/24VDC)	9.36W or less (390mA/24VDC)	11.16W or less (465mA/24VDC)	9.72W or less (405mA/24VDC)	7.92W or less (330mA/24VDC)	9.84W or less (410mA/24VDC)	9.36W or less (390mA/24VDC)	3.6W or less (150mA/24VDC)	
With backlight off	4.32W or less (180mA/24VDC)		5.04W or less (210mA/24VDC)			4.32W or less (180mA/24VDC)		2.9W or less (120mA/24VDC)	
Inrush current	15A or less (2ms, at max. load)		26A or less (4ms, at max. load)			15A or less (2ms, at max. load)		15A or less (26.4V) 2ms	
Permissible instantaneous failure time	Within 5ms		Within 10ms			Within 5ms			
Noise resistance	Noise voltage 1000Vp-p, noise width 1μs by noise simulator with noise frequency 30 to 100Hz		Noise voltage 500Vp-p, noise width 1μs by noise simulator with noise frequency 25 to 60Hz			Noise voltage 1000Vp-p, noise width 1μs by noise simulator with noise frequency 30 to 100Hz			
Withstand voltage	500VAC for 1 minute between power supply terminal and ground								
Insulation resistance	10MΩ or higher with an insulation resistance tester (500VDC between power supply terminal and ground)								
Applicable wire size	0.75 to 2 [mm²][*1]					Single-wire installation: 0.14 to 1.5 [mm²], AWG26 to AWG16 (single wire) / 0.14 to 1.0 [mm²], AWG26 to AWG16 (stranded wire) / 0.25 to 0.5 [mm²], AWG24 to AWG20 (bar terminal with insulation sleeve); Two-wire installation: 0.14 to 0.5 [mm²], AWG26 to AWG20 (single wire) / 0.14 to 0.2 [mm²], AWG26 to AWG24 (stranded wire)			
Clamp terminal	Clamp terminals for M3 screw RAV1.25-3, V2-N3A, FV2-N3A[*1]					AI2.5-6BU, AI0.34-6TQ, AI0.5-6WH (made by Phoenix Contact)			
Tightening torque (terminal block's terminal screws)	0.5 to 0.8 [N·m][*1]					0.22 to 0.25 [N·m]			

*1 : Excluding GT115□HS

Performance specifications

Item		GT1055-QSBD	GT1050-QBBD	GT1045-QSBD	GT1040-QBBD
Display[*1]	Type	STN color LCD	STN monochrome (blue/white) LCD	STN color LCD	STN monochrome (blue/white) LCD
	Screen size	5.7"		4.7"	
	Resolution	QVGA: 320 × 240 [dots]			
	Display size	115(W) × 86(H) [mm] (in horizontal display mode)		96(W) × 72(H) [mm] (in horizontal display mode)	
	No. of displayed characters	16-dot standard font: 20 chars. × 15 lines (2-byte), 12-dot standard font: 26 chars. × 20 lines (2-byte) (in horizontal display mode)			
	Display colors	256 colors	Monochrome (blue/white) 16 gray scale	256 colors	Monochrome (blue/white) 16 gray scale
	View angle	• Right/left: 55°, Up: 65°, Down: 70° (in horizontal display mode)	Right/left: 45°, Up: 20°, Down: 40° (in horizontal display mode)	Right/left: 50°, Up: 40°, Down: 70° (in horizontal display mode)	Right/left: 50°, Up: 20°, Down: 40° (in horizontal display mode)
	Contrast adjustment	16-step adjustment			
	Intensity	380 [cd/m²]	260 [cd/m²]	150 [cd/m²]	300 [cd/m²]
	Life	Approx. 50,000 hours (Time for display contrast reaches 20% at operating ambient temperature of 25°C)			
Backlight		Cold-cathode fluorescent tube (not replaceable) with backlight OFF detection function. Backlight off time and screen save time can be set.		LED (no need to replace) Backlight off time and screen save time can be set.	
	Life[*2]	Approx. 75,000 hours or more	Approx. 54,000 hours or more	–	
		(Time for display intensity reaches 50% at operating ambient temperature of 25°C)		–	
Touch panel	Type	Matrix resistive type			
	No. of touch keys	Max. 50 keys/screen			
	Key size	Min. 16 × 16 [dots] (per key)			
	No. of simultaneous touch points	Max. 2 points			
	Life	1,000,000 times or more (operating force 0.98N or less)			
Memory	User memory[*3]	Built-in flash memory for saving project data (3 MB or less) and OS			
	Life (No. of writings)	100,000 times			
Battery		GT11-50BAT type lithium battery			
	Backed up data	Clock data, alarm history, recipe data, time action set values			
	Life	Replacement guideline approx. 5 years (operating ambient temperature: 25°C)			
Built-in interface	RS-422/485	RS-422/485, 1ch Transmission speed: 115200/57600/38400/19200/9600/4800bps Connector shape: D-sub 9-pin (female) Application: Communication with PLCs Terminal resistance[*5]: OPEN/110Ω/330Ω (switched by terminal resistance transfer switch)			
	RS-232	RS-232, 1ch Transmission speed: 115200/57600/38400/19200/9600/4800bps Connector shape: D-sub 9-pin (male) Application: Communication with PLCs, connection with barcode readers, communication with personal computers (project data read/write, OS installation, transparent function)			
	USB	USB (full-speed 12Mbps), device 1ch Connector shape: Mini-B Application: Communication with personal computer (project data read/write, OS installation, transparent function)			
	Memory board	For installing memory board (GT10-50FMB) 1ch			
Buzzer output		Single tone (tone length adjustable/none)			
Protective construction[*4]		Conforming to IP67f (front panel)			
External dimensions		164(W) × 135(H) × 56(D) [mm]		139(W) × 112(H) × 41(D) [mm]	
Panel cut dimensions		153(W) × 121(H) [mm]		130(+1 -0)(W) × 103(+1 -0)(H)[mm]	
Weight (excl. mounting brackets)		0.7 [kg]		0.45[kg]	
Applicable software package		GT Works3 Version1.54G or later			

*1 : On LCD panels, bright dots (permanently lit) and black dots (never lit) generally appear. Because the number of display elements that exist on an LCD panel is large, it is not possible to reduce appearance of the bright and black dots to zero. Flickering may occur depending on the display colors. Note that the existence of bright and black dots is a standard characteristic of LCD panels, and it does not mean that the products are defective or damaged. Displaying one single screen for a long time can lead to burn-in, causing afterimages or image irregularities that could not disappear. Use the screen saver that is effective to prevent burn-in.
*2 : Using the GOT screen save/backlight OFF functions prevents screen burn-in and extends the backlight life.
*3 : The memory is ROM that permits overwriting of new data without having to delete the existing data.
*4 : This does not guarantee protection in all users' environments. The specification is not applied when the interface protective cover and rear face protective cover are removed. The unit may not be used in an environment where it is exposed to splashing oil or chemicals for a long time or it is soaked with oil mist.
*5 : In the case of GOT multi-drop connection, set the terminal resistance transfer switch on the GOT main unit according to the connection configuration.

Component names

GT11

- CF card access LED
- CF card access switch
- CF card cover
- Battery
- Power supply terminal
- Reset switch
- CF card interface
- POWER LED
- USB interface
- Display, touch key

	GT115□-Q□BD	GT115□-Q□BDQ GT115□-Q□BDA
A	RS-232 interface	Bus interface
B	RS-422 interface	RS-232 interface
C	Terminal resistance transfer switch (inside cover)	–

* : GT115□-Q□BDQ and GT115□-Q□BDA do not have a reset switch.

GT115□HS (Handy)

- Interface protective cover
- CF card interface
- RS-232 interface
- USB interface
- Emergency stop switch
- Key type selector switch
- Hook for wall mounting
- Neck strap hook
- Display, touch key
- Rear face protective cover
- POWER LED
- Battery
- Operation switches (6 switches)
- Hand strap
- RS-422/232 interface
- Grip switch

GT105□

- Memory board interface
- Battery
- USB interface
- Power supply terminal
- Terminal resistance transfer switch (inside cover)
- POWER LED
- RS-232 interface
- RS-422 interface
- Display, touch key

GT104□

- Memory board interface
- Battery
- Terminal resistance transfer switch (inside cover)
- USB interface
- Power supply terminal
- Display, touch key
- RS-232 interface
- RS-422 interface

GT10

Power supply specifications

Item		Specification						
		GT1030-HBD GT1030-HWD GT1030-HBD2 GT1030-HWD2	GT1030-HBDW GT1030-HWDW GT1030-HBDW2 GT1030-HWDW2	GT1020-LBD GT1020-LWD GT1020-LBD2 GT1020-LWD2	GT1020-LBDW GT1020-LWDW GT1020-LBDW2 GT1020-LWDW2	GT1030-HBL GT1030-HWL GT1030-HBLW GT1030-HWLW	GT1020-LBL GT1020-LWL GT1020-LBLW GT1020-LWLW	
Input power supply voltage		24VDC (+10%, -15%), ripple voltage of 200mV or less				5VDC (±5%), supplied from PLC communication cable		
Input frequency		–						
Input maximum apparent power		–						
Power consumption		2.2W or less (90mA/24VDC)		1.9W or less (80mA/24VDC)		1.1W or less (220mA/5VDC)		
	With backlight off	1.7W or less (70mA/24VDC)		1.2W or less (50mA/24VDC)		0.6W or less (120mA/5VDC)		
Inrush current		18A or less (26.4DCV) 1ms		13A or less (26.4DCV) 1ms		–		
Permissible instantaneous failure time		Within 5ms						
Noise resistance		Noise voltage 1000Vp-p, noise width 1µs by noise simulator with noise frequency 30 to 100Hz						
Withstand voltage		500VAC for 1 minute between power supply terminal and ground				–		
Insulation resistance		10MΩ or higher with an insulation resistance tester (500VDC between power supply terminal and ground)				–		
Applicable wire size	Single-wire installation	0.14 to 1.5mm², AWG26 to AWG16 (single wire), 0.14 to 1.0mm², AWG26 to AWG16 (stranded wire), 0.25 to 0.5mm², AWG24 to AWG20 (bar terminal with insulation sleeve)						
	Two-wire installation	0.14 to 0.5mm², AWG26 to AWG20 (single wire), 0.14 to 0.2mm², AWG26 to AWG24 (stranded wire)						
Clamp terminal		AI2.5-6BU, AI0.34-6TQ, AI0.5-6WH (made by Phoenix Contact)						
Tightening torque (terminal block's terminal screws)		0.22 to 0.25 [N·m]						

Do not use or store the GOT under direct sun light or in an environment with excessively high temperature, dust, humidity or vibration.

For inquiries relating to products which conform to UL, cUL, and CE directives and shipping directives, please contact your local sales office.

Component names

GT1030/GT1020

Display, touch key

	GT1030-HBD GT1030-HWD GT1030-HBDW GT1030-HWDW GT1020-LBD GT1020-LWD GT1020-LBDW GT1020-LWDW	GT1030-HBL GT1030-HWL GT1030-HBLW GT1030-HWLW GT1020-LBL GT1020-LWL GT1020-LBLW GT1020-LWLW	GT1030-HBD2 GT1030-HWD2 GT1030-HBDW2 GT1030-HWDW2 GT1020-LBD2 GT1020-LWD2 GT1020-LBDW2 GT1020-LWDW2
C	Power supply terminal	–	Power supply terminal
D	RS-422 interface	RS-422 interface, Power supply terminal	RS-232 interface
E	Terminal resistance transfer switch	–	–

Performance specifications

Item		Specification								
		GT1030-HBD GT1030-HWD GT1030-HBL GT1030-HWL	GT1030-HBDW GT1030-HWDW GT1030-HBLW GT1030-HWLW	GT1030-HBD2 GT1030-HWD2	GT1030-HBDW2 GT1030-HWDW2	GT1020-LBD GT1020-LWD GT1020-LBL GT1020-LWL	GT1020-LBDW GT1020-LWDW GT1020-LBLW GT1020-LWLW	GT1020-LBD2 GT1020-LWD2	GT1020-LBDW2 GT1020-LWDW2	
Display[*1]	Type	STN monochrome (black/white) LCD								
	Screen size	4.5"				3.7"				
	Resolution	288 × 96 [dots] (in horizontal mode)				160 × 64 [dots] (in horizontal mode)				
	Display size	109.42(W) × 35.98(H)[mm](in horizontal mode)				86.4(W) × 34.5(H)[mm](in horizontal mode)				
	No. of displayed characters	16-dot standard font: 36 chars. × 6 lines (1-byte) or 18 chars. × 6 lines (2-byte) (in horizontal mode) 12-dot standard font: 48 chars. × 8 lines (1-byte) or 24 chars. × 8 lines (2-byte) (in horizontal mode)				16-dot standard font: 20 chars. × 4 lines (1-byte) or 10 chars. × 4 lines (2-byte) (in horizontal mode)				
	Display colors	Monochrome (black/white)								
	View angle	Right/left: 30°, Up: 20°, Down: 30°(in horizontal display mode)								
	Contrast adjustment	16-step adjustment								
	Intensity	200 [cd/m²] (in green)	500 [cd/m²] (in white)	200 [cd/m²] (in green)	500 [cd/m²] (in white)	200 [cd/m²] (in green)	300 [cd/m²] (in white)	200 [cd/m²] (in green)	300 [cd/m²] (in white)	
	Intensity adjustment	8-step adjustment								
	Life	Approx. 50,000 hours (Time for display contrast reaches 20% at operating ambient temperature of 25°C)								
Backlight	Color	3-color LED (green, orange and red) (no need to replace)	3-color LED (white, pink and red) (no need to replace)	3-color LED (green, orange and red) (no need to replace)	3-color LED (white, pink and red) (no need to replace)	3-color LED (green, orange and red) (no need to replace)	3-color LED (white, pink and red) (no need to replace)	3-color LED (green, orange and red) (no need to replace)	3-color LED (white, pink and red) (no need to replace)	
	Function	Status control (color, on/flashing/off) is available and screen save time setting can be set. PLC can control color and status of backlight based on system information.								
Touch panel	Type	Matrix resistive type				Analog resistive type				
	No. of touch keys	Max. 50 keys/screen								
	Key size	Min. 16 × 16 [dots] (per key)				Min. 2 × 2 [dots] (per key)				
	No. of simultaneous touch points	Max. 2 points				Impossible (If there is a switch near the center of the pressed keys, the switch may function.)				
	Life	1,000,000 times or more (operating force 0.98N or less)								
Memory	User memory[*2]	Built-in flash memory for saving project data (1.5MB or less) and OS				Built-in flash memory for saving project data (512KB or less), OS, alarm history, recipe data, time action set values				
	Life (No. of writings)	100,000 times								
Battery		GT11-50BAT type lithium battery				–				
	Backed up data	Clock data, alarm history, recipe data, time action set values				–				
	Life	Replacement guideline approx. 5 years (operating ambient temperature: 25°C)				–				
Built-in interface	For communication with PLC	GT1030-HBD/HWD, GT1030-HBDW/HWDW RS-422/485, 1ch Transmission speed: 115200/57600/38400/19200/9600/4800bps Connector shape: Connecter terminal block, 9-pin Application: Communication with PLC Terminal resistance[*3]: OPEN/110Ω/330Ω (switched by terminal resistance transfer switch) GT1030-HBL/HWL, GT1030-HBLW/HWLW RS-422, 1ch Transmission speed: 115200/57600/38400/19200/9600/4800bps Connector shape: Connecter terminal block, 9-pin Application: Communication with PLC		RS-232, 1ch Transmission speed: 115200/ 57600/38400/19200/9600/4800bps Connector shape: Connecter terminal block, 9-pin Application: Communication with PLC		GT1020-LBD/LWD, GT1020-LBDW/LWDW RS-422/485 1ch Transmission speed: 115200/57600/38400/19200/9600/4800bps Connector shape: Connecter terminal block, 9-pin Application: Communication with PLC Terminal resistance[*3]: OPEN/110Ω/330Ω (switched by terminal resistance transfer switch) GT1020-LBL/LWL, GT1020-LBLW/LWLW RS-422 1ch Transmission speed: 115200/57600/38400/19200/9600/4800bps Connector shape: Connecter terminal block, 9-pin Application: Communication with PLC		RS-232, 1ch Transmission speed: 115200/ 57600/38400/19200/9600/4800bps Connector shape: Connecter terminal block, 9-pin Application: Communication with PLC		
	For communication with personal computer	RS-232, 1ch Transmission speed: 115200/57600/38400/19200/9600/4800bps Connector shape: Mini DIN 6-pin (female) Application: Communication with personal computer (project data read/write, OS installation, transparent function)								
Buzzer output		Single tone (tone length adjustable/none)								
Protective construction[*4]		Conforming to IP67f (front panel)								
External dimensions		145(W) × 76(H) × 29.5(D)[mm]				113(W) × 74(H) × 27(D)[mm]				
Panel cut dimensions		137(W) × 66(H)[mm]				105(W) × 66(H)[mm]				
Weight		GT1030-H□D(W): 0.3kg (excl. mounting brackets) GT1030-H□L(W): 0.28kg (excl. mounting brackets)	0.3kg (excl. mounting brackets)			GT1020-L□D(W): 0.2kg (excl. mounting brackets) GT1020-L□L(W): 0.18kg (excl. mounting brackets)	0.2kg (excl. mounting brackets)			
Applicable software packages		GT Works3 Version1.54G or later (not supported GT Works2/GT Designer 2)				GT Works3 Version1.54G or later				

*1 : On LCD panels, bright dots (permanently lit) and black dots (never lit) generally appear.
Because the number of display elements that exist on an LCD panel is large, it is not possible to reduce appearance of the bright and black dots to zero.
Flickering may occur depending on the display colors.
Note that the existence of bright and black dots is a standard characteristic of LCD panels, and it does not mean that the products are defective or damaged.
Displaying one single screen for a long time can lead to burn-in, causing afterimages or image irregularities that could not disappear. Use the screen saver that is effective to prevent burn-in.
*2 : The memory is ROM that permits overwriting of new data without having to delete the existing data.
*3 : In the case of GOT multi-drop connection, set the terminal resistance transfer switch on the GOT main unit according to the connection configuration.
*4 : This does not guarantee protection in all users' environments. The specification is not applied when the interface protective cover and rear face protective cover are removed.
The unit may not be used in an environment where it is exposed to splashing oil or chemicals for a long time or it is soaked with oil mist.

External dimensions

GOT main units

■External dimensions
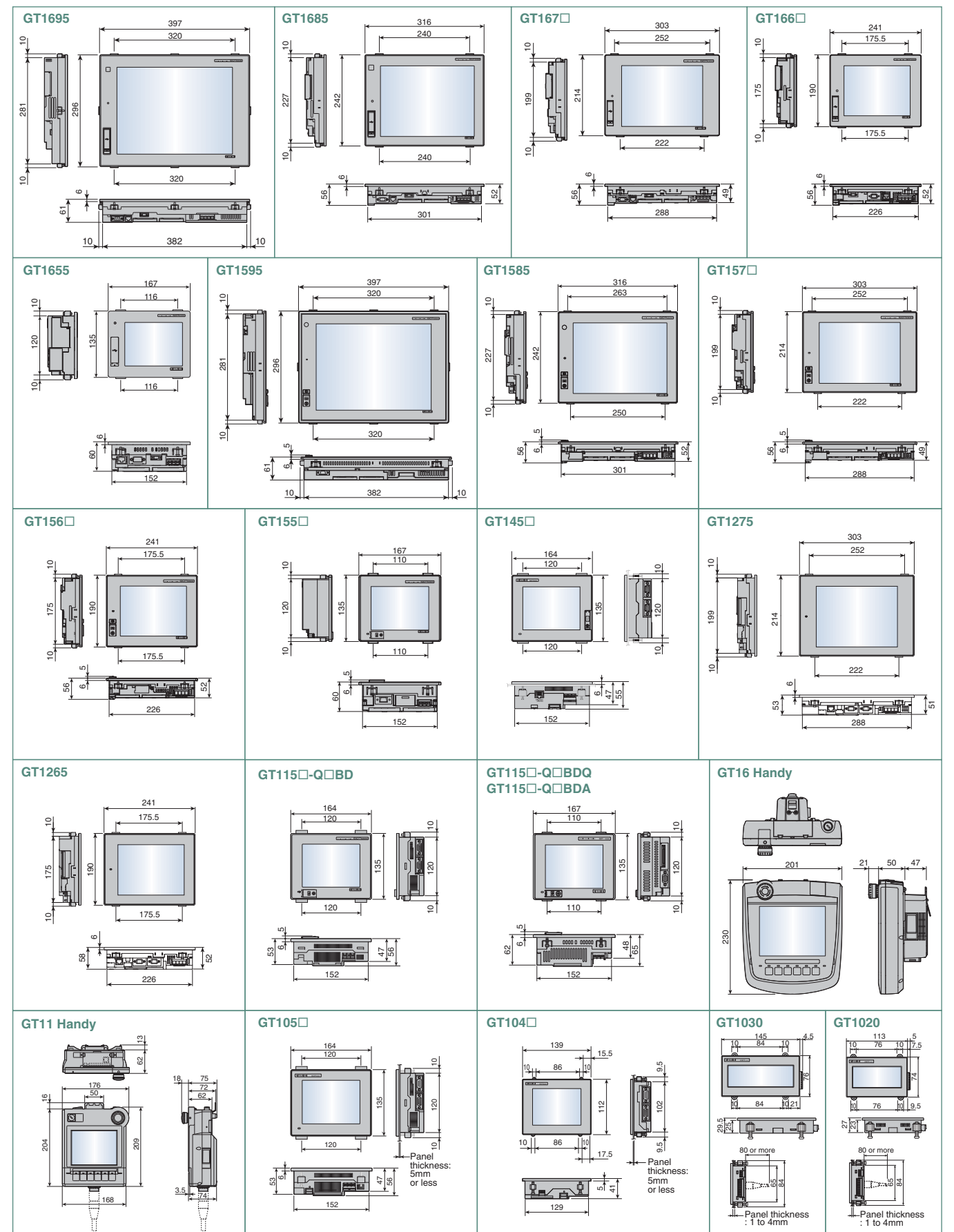
(Unit: mm)

GT1695, GT1685, GT167□, GT166□, GT1655, GT1595, GT1585, GT157□, GT156□, GT155□, GT145□, GT1275, GT1265, GT115□-Q□BD, GT115□-Q□BDQ / GT115□-Q□BDA, GT16 Handy, GT11 Handy, GT105□, GT104□, GT1030, GT1020

External dimensions

■Panel cut dimensions

●When the GOT is installed
(Unit: mm)

Screen size	Type of GOT main unit	A	B
15"	GT1695	383.5	282.5
	GT1595		
12.1"	GT1685*1	302	228
	GT1585*1		
10.4"	GT167□*2	289	200
	GT157□*2		
8.4"	GT1275	227	176
	GT166□		
	GT156□		
	GT1265		
5.7"	GT1655*3	153	121
	GT155□*3		
	GT145□*3		
	GT115□*3		
	GT105□*3		
4.7"	GT104□	130	103
4.5"	GT1030	137	66
3.7"	GT1020	105	66

*1 : Same dimensions as A985GOT(-V)
*2 : Same dimensions as A975/970GOT(-B)
*3 : Same dimensions as F940GOT
*4 : For the GT104□, GT1030 and GT1020, the tolerances are +1/0.

Panel opening

A $^{+2}_{0}$ *4

B $^{+2}_{0}$ *4
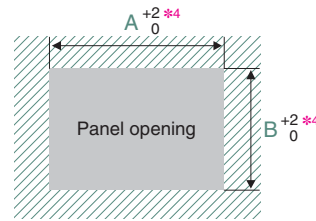
●When the CF card extension unit (mounting unit on control panel) is installed

Type	A	B
GT15-CFEX-C08SET	94.0	33.0

●Cautions when installing and uninstalling
When installing the CF card extension unit on the control panel, make sure that the extension unit does not interfere with the extension unit cable or the CF card interface of the GOT. Place the CF card extension unit at a distance of 25mm or more from the GOT.
For installation locations, see the GT16 User's Manual (Hardware) or the GT15 User's Manual.

For compatibility with GOT900 series, see "Backward compatibility" (page 81).

■Product installation spacing

The GOT must have the clearances from other devices as shown in [Fig. A]. The GOT may require more distance than the dimensions shown in the table depending on the types of connection cables. Consider the connector dimensions and cable bending radius when designing the installation.

●GT16/GT15
(Unit: mm)

Item	GT1695	GT1685	GT167□	GT166□	GT1655	GT1595	GT1585	GT157□	GT156□	GT155□
GOT only	50 or more (20 or more)	50 or more (26 or more)	50 or more (36 or more)	61 or more	50 or more (20 or more)			50 or more (35 or more)	50 or more (21 or more)	49 or more
When a bus connection unit is installed	50 or more (20 or more)	50 or more (26 or more)	50 or more (36 or more)	50 or more	50 or more (20 or more)			50 or more (35 or more)	50 or more (21 or more)	50 or more
When a serial communication unit is installed	50 or more (20 or more)	50 or more (26 or more)	50 or more (36 or more)	49 or more	50 or more (20 or more)				50 or more (21 or more)	49 or more
When a RS-422 conversion unit is installed	50 or more	51 or more	63 or more	73 or more	–	50 or more (20 or more)	50 or more (39 or more)	53 or more	58 or more	–
When an Ethernet communication unit is installed	–					50 or more (20 or more)				
When the CC-Link communication unit (GT15-J61BT13) is installed	50 or more (20 or more)				50 or more (24 or more)	50 or more (20 or more)				50 or more (24 or more)
When a MELSECNET/H communication unit (coaxial) is installed	50 or more (20 or more)	50 or more (24 or more)	50 or more (33 or more)	50 or more	50 or more (20 or more)	50 or more (30 or more)			50 or more (35 or more)	64 or more
When a MELSECNET/H communication unit (optical) is installed	50 or more (20 or more)*1			79 or more*1	50 or more (20 or more)*1	50 or more (23 or more)*1	50 or more (37 or more)*1		50 or more (42 or more)*1	79 or more*1
When a CC-link IE Controller Network communication unit is installed	50 or more (20 or more)			57 or more	50 or more (20 or more)			50 or more (23 or more)	50 or more (28 or more)	57 or more
When a CC-Link IE Field Network communication unit is installed	50 or more (20 or more)			57 or more	50 or more (20 or more)			50 or more (23 or more)	50 or more (28 or more)	57 or more
A	When a printer unit is installed	50 or more (20 or more)	50 or more (26 or more)	50 or more (36 or more)	50 or more (29 or more)	50 or more (20 or more)				50 or more (29 or more)
	When a multimedia unit is installed	50 or more (20 or more)*2								
	When a video input unit is installed	50 or more (20 or more)*2		–	61 or more*2	75 or more*2	–
	When a RGB input unit is installed	50 or more (20 or more)*3		–	50 or more (20 or more)*3	–
	When a video/RGB input unit is installed	50 or more (20 or more)*2 *3		–	61 or more*2 *3	75 or more*2 *3	–
	When a RGB output unit is installed	50 or more (20 or more)*3		–	50 or more (20 or more)*3	–
	When a CF card unit is installed	50 or more (20 or more)	50 or more (26 or more)	50 or more (36 or more)	50 or more (20 or more)			
	When a CF card extension unit is installed	50 or more (20 or more)	50 or more (26 or more)	50 or more (36 or more)	50 or more	50 or more (20 or more)	50 or more (49 or more)	63 or more	68 or more	97 or more
	When an audio output unit is installed	50 or more (20 or more)	50 or more (26 or more)	50 or more (36 or more)	50 or more	50 or more (20 or more)			
	When an external input/output unit is installed	50 or more (20 or more)	50 or more (26 or more)	50 or more (36 or more)	50 or more	50 or more (20 or more)		50 or more (24 or more)	50 or more (29 or more)	58 or more
B		80 or more (20 or more)								
C	(When a CF card is not used)	50 or more (20 or more)		50 or more (20 or more)*4	50 or more (20 or more)		
	(When a CF card is used)	50 or more (20 or more)		100 or more	50 or more (20 or more)		100 or more
D		50 or more (20 or more)								
E		100 or more (20 or more)								

*1 : The distance varies depending on the cable to be used. For details, consult your local sales office.
The values in the table are given for your reference only and may not reflect actual conditions.
*2 : The distances required when the coaxial cable 3C-2V (JIS C 3501) is used.
*3 : The distance varies depending on the cable used. When the bending radius of the cable is larger than the indicated value, leave enough space appropriate for the bending radius.
*4 : When using a battery, the required dimension is greater than when using a CF card.

●GT14
(Unit: mm)

GOT main unit	A, D	B	C	E
GT1455	50 or more*3 (20 or more)	80 or more*1 (20 or more)	50 or more*2 (20 or more)	100 or more*4 (20 or more)
GT1450				

*1 : 50 or more (20 or more) in the case of vertical installation
*2 : 80 or more (20 or more) in the case of vertical installation
*3 : The distance varies depending on the Ethernet cable used. When the bending radius of the Ethernet cable is larger than the indicated value, leave enough space appropriate for the bending radius.
*4 : When using a USB memory or SD card, allow space for removal and mounting when installing.

●GT12
(Unit: mm)

GOT main unit	A, D	B	C (When CF card is not used)	C (When CF card is used)	E
GT1275	50 or more	80 or more	50 or more	50 or more	100 or more
GT1265				100 or more	

●GT11
(Unit: mm)

GOT main unit	A, D	B	C (When CF card is not used)	C (When CF card is used)	E
GT1155	50 or more (20 or more)	80 or more*1 (20 or more)	50 or more*2 (20 or more)	100 or more	100 or more (20 or more)
GT1150					

*1 : 50 or more (20 or more) in the case of vertical installation
*2 : 80 or more (20 or more) in the case of vertical installation

●GT10
(Unit: mm)

GOT main unit	A	B	C	D	E
GT105□	50 or more (20 or more)	80 or more (20 or more)	50 or more (20 or more)	50 or more (20 or more)	100 or more (20 or more*3)
GT104□					
GT1030	50 or more (20 or more*1)	80 or more (20 or more)	50 or more (20 or more)	50 or more	80 or more (20 or more*2)
GT1020					

*1 : 50 or more when a RS-232/USB conversion adapter is used.
*2 : 80 or more when a personal computer connection cable is used or when a personal computer RS-232 interface is used for connecting multiple GOTs.
50 or more when a RS-232 interface is used for using an RS-232/USB conversion adapter.
*3 : 80 or more when using a USB cable or a memory board.

[Fig. A]

E

C

B

A

D

Other device
or control panel

Thickness:
2 to 4mm
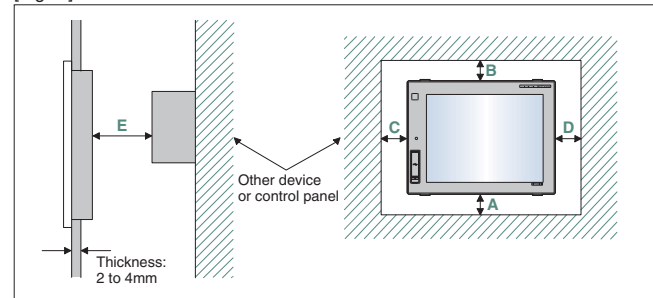
●Dimensions shown in parentheses apply when there are no devices nearby (contactor, etc.) which produce radiated noise or heat. Even with these dimensions, however, the ambient temperature must never exceed 55°C.
Depending on the unit and cable being used, a cable length longer than dimension A (or dimension D for the GT10) in above [Fig. A] may be required.

Bus connection cables

Cable model name	Cable length (L)	External dimensions
GT15-QC□B	0.6, 1.2, 3, 5, 10m	Fig. 1
GT15-QC□BS	15, 20, 25, 30, 35m	Fig. 1
GT15-C□NB	1.2, 3, 5m	Fig. 2
GT15-AC□B	0.6, 1.2, 3, 5m	Fig. 3
GT15-A370C□B-S1	1.2, 2.5m	Fig. 4
GT15-A370C□B	1.2, 2.5m	Fig. 5
GT15-A1SC□B	0.7, 1.2, 3, 5m	Fig. 6
GT15-A1SC□NB	0.45, 0.7, 3, 5m	Fig. 7
GT15-C□EXSS-1*1	10.6, 20.6, 30.6m	Figs. 8 & 9
GT15-EXCNB	0.5m	Fig. 8
GT15-C□BS	0.7, 1.2, 3, 5, 10, 20, 30m	Fig. 9
GT15-J2C10B	1m	Fig. 10

*1 : GT15-C□EXSS-1 is a set consisting of GT15-EXCNB and GT15-C□BS.
(See Fig. A.)

[Fig. A]

PLC side | GOT side

GT15-EXCNB (Fig. 8) GT15-C□BS (Fig. 9)
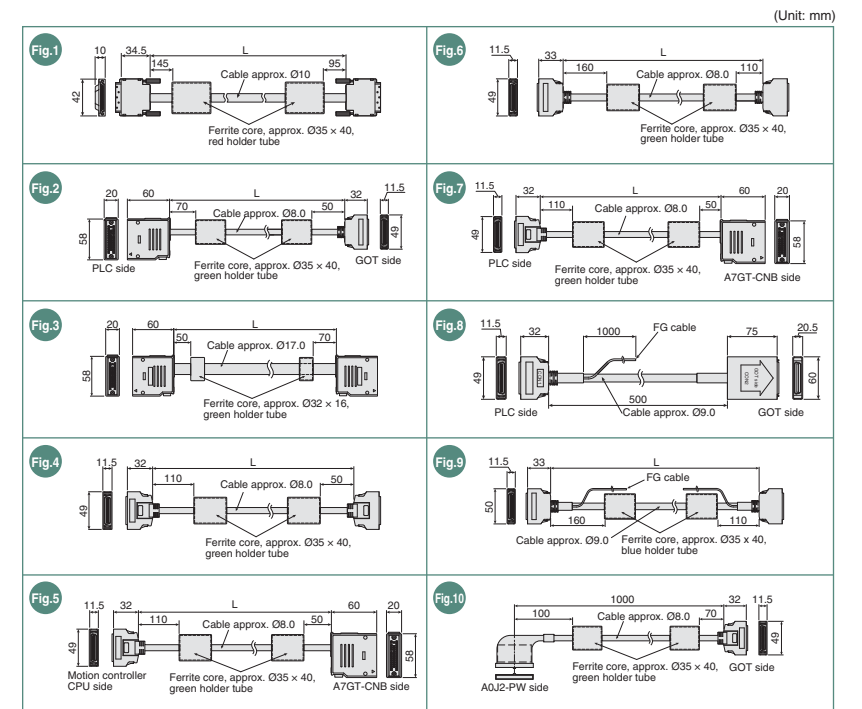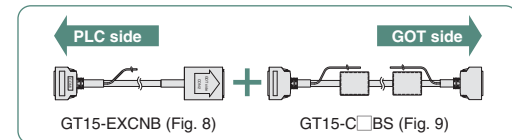
RS-422 cables

Cable model name	Cable length (L)	External dimensions
GT16-C02R4-9S	0.2m	Fig. 11
GT01-C30R4-25P	3m	Fig. 12
GT01-C□R4-25P	10, 20, 30m	Fig. 13
GT01-C□R4-8P	1, 3, 10, 20, 30m	Fig. 14
GT10-C□R4-8P	1, 3, 10, 20, 30m	Fig. 15
GT10-C□R4-25P	3, 10, 20, 30m	Fig. 16
GT10-C10R4-8PL	1m	Fig. 17
GT10-C02H-9SC	0.2m	Fig. 18

RS-232 cables

Cable model name	Cable length (L)	External dimensions
GT01-C30R2-6P	3m	Fig. 19
GT01-C30R2-9S	3m	Fig. 20
GT01-C30R2-25P	3m	Fig. 21
GT10-C30R2-6P	3m	Fig. 22

RS-485 terminal block conversion unit

Model name	Cable length (L)	External dimensions
FA-LTBGTR4CBL□	0.5, 1, 2m	Fig. 23
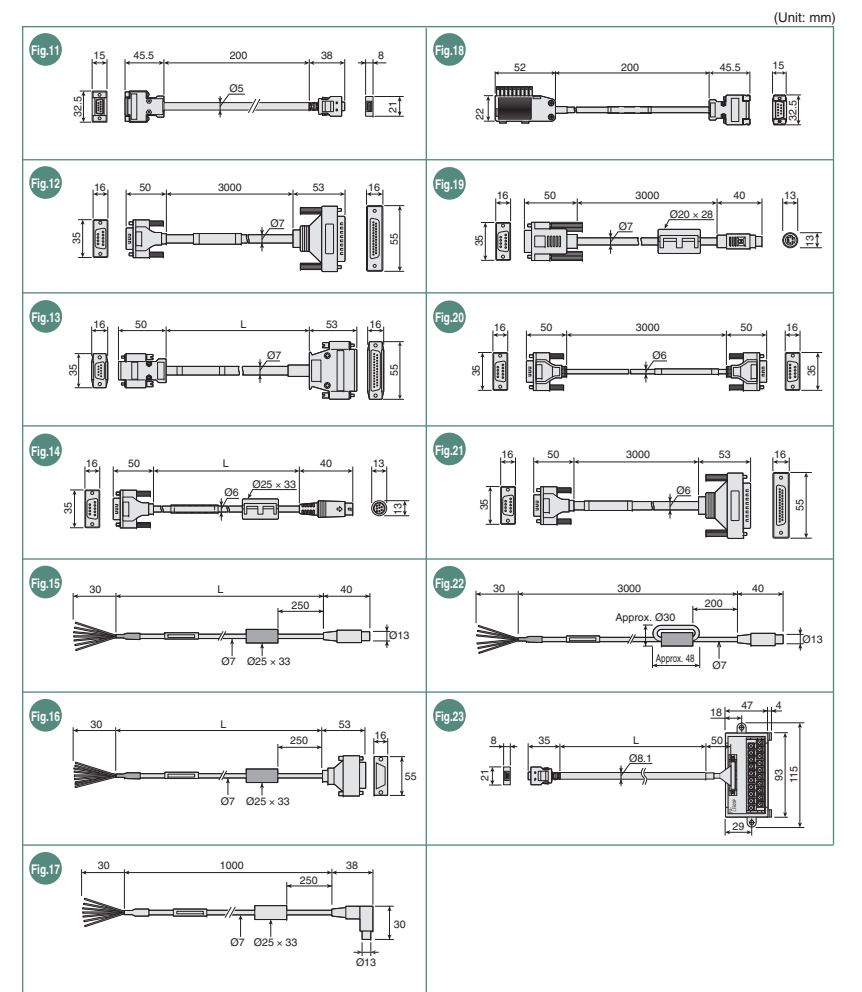
INDEX
For Designers
For Initial Startup & Operations
For Maintenance Personnel
GT10
iQ Platform
MELSEC Process Control
Specifications, External Dimensions
List of Connectable Models, etc.

External dimensions

(Unit: mm)

Communication units/optional units

●Communication units/bus extension connector boxes

Product name			Model name	External dimensions
Bus connection unit	Standard model of bus connection unit for QCPU (Q mode)/motion controller CPU (Q Series)	1ch	GT15-QBUS	Fig. 1
		2ch	GT15-QBUS2	Fig. 2
	Standard model of bus connection unit for QnA/ACPU/motion controller CPU (A Series)	1ch	GT15-ABUS	Fig. 1
		2ch	GT15-ABUS2	Fig. 2
	Thin model of bus connection unit for QCPU (Q mode)/motion controller CPU (Q Series)	1ch	GT15-75QBUSL	Fig. 3
		2ch	GT15-75QBUS2L	Fig. 3
	Thin model of bus connection unit for QnA/ACPU/motion controller CPU (A Series)	1ch	GT15-75ABUSL	Fig. 3
		2ch	GT15-75ABUS2L	Fig. 3
Serial communication unit	RS-232 serial communication unit (D-sub 9-pin (male))		GT15-RS2-9P	Fig. 4
	RS-422/485 serial communication unit (D-sub 9-pin (female))		GT15-RS4-9S	Fig. 4
	RS-422/485 serial communication unit (terminal block)		GT15-RS4-TE	Fig. 5
RS-422 conversion unit	RS-232→RS-422 conversion unit (9-pin)		GT15-RS2T4-9P	Fig. 6
	RS-232→RS-422 conversion unit (25-pin)		GT15-RS2T4-25P	Fig. 6
Bus extension connector box			A9GT-QCNB	Fig. 7
Bus connector conversion box			A7GT-CNB	Fig. 8
MELSECNET/H communication unit	Optical loop unit		GT15-J71LP23-25	Fig. 9
	Coaxial bus unit		GT15-J71BR13	Fig. 10
CC-Link IE Controller Network communication unit			GT15-J71GP23-SX	Fig. 11
CC-Link IE Field Network communication unit			GT15-J71GF13-T2	Fig. 12
CC-Link communication unit	Intelligent device station unit		GT15-J61BT13	Fig. 13
Ethernet communication unit			GT15-J71E71-100	Fig. 14
Serial multi-drop connection unit			GT01-RS4-M	Fig. 15
Connector conversion adapter			GT10-9PT5S	Fig. 16
RS-232/485 signal conversion adapter			GT14-RS2T4-9P	Fig. 17
CC-Link interface unit			GT11H(S)-CCL	Fig. 18

●Optional units

Product name	Model name	External dimensions
Printer unit	GT15-PRN	Fig. 19
Multimedia unit	GT16M-MMR	Fig. 20
Video input unit	GT16M-V4	Fig. 21
	GT15V-75V4	Fig. 22
RGB input unit	GT16M-R2	Fig. 21
	GT15V-75R1	Fig. 22
Video/RGB input unit	GT16M-V4R1	Fig. 21
	GT15V-75V4R1	Fig. 22
RGB output unit	GT16M-ROUT	Fig. 23
	GT15V-75ROUT	Fig. 23
CF card unit	GT15-CFCD	Fig. 24
CF card extension unit	GT15-CFEX-C08SET	Fig. 25
Audio output unit	GT15-SOUT	Fig. 26
External input/output unit	GT15-DIOR	Fig. 27
	GT15-DIO	Fig. 27
Handy GOT connector conversion box	GT11H-CNB-37S	Fig. 28
	GT16H-CNB-42S	Fig. 29

※1 : The connector shape varies depending on the model.
※2 : Dimensions A to D for each communication unit

Model name	A	B	C	D
GT15-QBUS	2.5	12	31.5	–
GT15-QBUS2	2.5	11	29	33.5
GT15-ABUS	4.5	15	29.5	–
GT15-ABUS2	4.5	11	31	31

※3 : Dimension X when GOT is installed
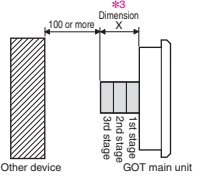
●GOT main unit factor

Type of GOT	Y (main unit factor)
GT1695	-2
GT1595	-0.5
GT1685, GT1585	-3.5
GT167□, GT157□	-0.5
GT166□, GT1655, GT156□, GT155□	1.5

(Unit: mm)

●Option factor for communication units / option units

Model name	Z (option factor)
GT15-CFCD, GT15-CFEX-C08SET	20.5
GT16M-V4, GT16M-R2, GT16M-V4R1, GT16M-ROUT, GT15V-75V4, GT15V-75R1, GT15V-75V4R1, GT15V-75ROUT, GT15-QBUS, GT15-QBUS2, GT15-ABUS, GT15-ABUS2, GT15-RS2-9P, GT15-RS4-9S, GT15-RS4-TE, GT15-J71LP23-25, GT15-J71E71-100, GT15-J71BR13, GT15-J61BT13, GT15-PRN, GT15-DIO, GT15-DIOR, GT15-SOUT	21.5
GT16M-MMR, GT15-J71GP23-SX, GT15-J71GF13-T2	35.5

(Unit: mm)

●Calculation of dimension X
One-layer configuration: Y (main unit factor) + Z (option factor)
Two-layer configuration: Y (main unit factor) + Z (option factor) + Z (option factor)
Three-layer configuration: Y (main unit factor) + Z (option factor) + Z (option factor) + Z (option factor)

※4 : Dimension A for each communication unit

Model name	A
GT15-75QBUSL	2.5
GT15-75QBUS2L	2.5
GT15-75ABUSL	4
GT15-75ABUS2L	4

※5 : Dimension X when GOT is installed

●For GT16			●For GT15		
15"	6.5		15", 10.4"	8	
12.1"	5		12.1"	5	
10.4"	8		8.4", 5.7"	10	
8.4", 5.7"	10				

List of connectable models

Mitsubishi PLCs/Motion controllers/Safety controllers/ C controllers — Connectable to a broad range of product lines.

(Connection configuration matrix tables for MELSEC-Q series (Q mode), MELSEC-QS series, MELSEC-Q series (A mode), MELSEC-L series, MELSEC-WS series, C controller, MELSEC-QnA series (QnACPU type), MELSEC-QnA series (QnASCPU type), MELSEC-A series (AnCPU type), MELSEC-A series (AnSCPU type), MELSEC-A series, Motion controller CPU (Q series), Motion controller CPU (A series) (large type / small type), MELSEC-FX series, MELSECNET/H remote I/O station, CC-Link IE Field Network head unit, CC-Link IE Field Network Ethernet adaptor unit.)

Connection configuration columns: GT16/GT15/GT14/GT12/GT11 (Bus connection, CPU direct connection, Computer link, MELSECNET/H, MELSECNET/10, CC-Link IE Controller Network, CC-Link IE Field Network, CC-Link (ID), CC-Link (via G4), Ethernet) / GT10 (CPU direct connection, Computer link, CC-Link (via G4)).

※8 : Use function version B or later for the CPU and MELSECNET/H network unit.
※9 : In a Q4ARCPU redundant system, the GOT must be connected via bus connection to the last stage's redundant system extension base A68RB version B or later.
※10 : Computer link unit software version U or later must be used for the A2SCPU, A2SHCPU, A1SHCPU, A1SJHCPU, A0J2HCPU, A171SHCPU and A172SHCPU computer link connections. A0J2-C214-S1 (dedicated computer link unit for A0J2HCPU) cannot be used.
※11 : Only the following software version or later can be used to write data to the AnNCPU(S1), A2SCPU, A0J2HCPU and A2CCPU. Earlier versions cannot be used.
 • AnNCPU(S1)   : Version L or later for CPUs with link, and version H or later for CPUs without link
 • A2SCPU   : Version H or later
 • A0J2HCPU-DC24 : Version B or later   • A2CCPU : Version H or later
※12 : Cannot connect to bus if an extension base is connected.
※13 : Use of SV13, SV22 or SV43 requires a motion controller with the following OS version installed.
 SW6RN-SV13Q□ : 00H or later (00E or later in the case of bus connection or CPU direct connection with Q172CPU or Q173CPU)
 SW6RN-SV22Q□ : 00H or later (00E or later in the case of bus connection or CPU direct connection with Q172CPU or Q173CPU)
 SW6RN-SV43Q□ : 00B or later
※14 : Only a USB interface is available on the CPU unit. The CPU can be accessed via RS-232 of the QCPU of a multi-CPU system.
※15 : Use a unit with the following Serial No.
 Q172CPU Serial No. ※※※※※※ or later   Q173CPU Serial No. J※※※※※※ or later
※16 : Use a unit with the following Serial No.
 Q172CPU Serial No. N※※※※※※ or later   Q173CPU Serial No. M※※※※※※ or later
※17 : When an expansion base is used, use A168B.
※18 : Applicable to GOT multi-drop connection. If a large number of devices are monitored on a GOT, the device updating cycles on the screen may be delayed. (In general, it is recommended to monitor up to 250 device points per GOT, up to 750 device points in total)
 The GT11 Handy is not applicable to GOT multi-drop connection.
※19 : Access these units through multi-CPU, QCPU (RS-232).
※20 : L6ADP-R2 is required.
※21 : Use Q12DCCPU-V having a serial number (first five digits) "12042" or later.
※22 : Use C24 serial port controlled by another CPU in a multi-CPU system.
※23 : Monitoring is possible only for the PLC CPU.
※24 : Not supported by the GT14.
※25 : Supported by the GT16, GT15, and GT12 only.
※26 : Applicable to the multiple-GT14, GT12, GT11, GT10 connection function. Note that when GT14, GT12, GT11 and GT10 are intermingled, the multiple connection function is not supported.

※1 : Supported by the GT16 and GT15 only. (Excluding the GT16 Handy)
※2 : Supported by the GT16, GT15, and GT11 only. When connecting multiple GOTs, note that the following GOT models cannot be used together: GOT1000 series, GOT800 series and A77GOT. If both of the GOT1000 series and the GOT-A900 series are included in a system, please refer to the Technical Bulletin No. GOT-A-0009.
※3 : When MELSECNET/H is used in NET/10 mode, the GOT terminal cannot be connected directly to a remote I/O station.
※4 : CC-Link (via G4) : Connected as CC-Link (intelligent device station)
※5 : When using A series computer link or an Ethernet module with a QnACPU, only the device ranges within AnACPU specifications are supported. The following devices cannot be monitored:
 • Devices that have been newly added to the QnACPU
 • Latch relays (L) and step relays (S)
 (In the QnACPU, the latch relay (L) and step relay (S) are separate devices from the internal relay (M), but the internal relay is nonetheless accessed when either a latch relay or step relay is specified.)
 • File register (R)
※6 : Use CPU function version B or later in a multi-CPU system.
※7 : When using a bus extension connector box, it must be installed on an extension base. (It cannot be installed on the main base.)

List of connectable models

■Modules usable when connected with Mitsubishi PLCs

●For computer link connection

CPU series	Serial communication module/computer link module*1		
	Model name	CH1	CH2
MELSEC-Q series (Q mode) Motion controller CPU (Q series) MELSECNET/H remote I/O station	QJ71C24 *2	RS-232	RS-422/485
	QJ71C24-R2 *2	RS-232	RS-232
	QJ71C24N	RS-232	RS-422/485
	QJ71C24N-R2	RS-232	RS-232
	QJ71C24N-R4	RS-422/485	RS-422/485
	QJ71CMO *3	Modular connector	RS-232
	QJ71CMON *3	Modular connector	RS-232
MELSEC-L Series	LJ71C24	RS-232	RS-422/485
CC-Link IE Field Network head unit	LJ71C24-R2	RS-232	RS-232
MELSEC-QS series (A mode)	A1SJ71UC24-R2	RS-232	–
	A1SJ71UC24-R4	RS-422/485	–
MELSEC-QnA series	AJ71QC24 *4	RS-232	RS-422/485
	AJ71QC24-R2 *4	RS-232	RS-232
	AJ71QC24-R4 *4	RS-422	RS-422/485
	AJ71QC24N *4	RS-232	RS-422/485
	AJ71QC24N-R2 *4	RS-232	RS-232
	AJ71QC24N-R4 *4	RS-422	RS-422/485
	A1SJ71QC24 *4	RS-232	RS-422/485
	A1SJ71QC24-R2 *4	RS-232	RS-232
	A1SJ71QC24N *4	RS-232	RS-422/485
	A1SJ71QC24N-R2 *4	RS-232	RS-232
	A1SJ71QC24N1 *4 *6	RS-232	RS-422/485
	A1SJ71QC24N1-R2 *6	RS-232	RS-232
	AJ71UC24 *4	RS-232	RS-422/485
	A1SJ71UC24-R2 *4 *5	RS-232	–
	A1SJ71UC24-R4 *5	RS-422/485	–
	AJ71UC24 *5	RS-232	RS-422/485
MELSEC-A series Motion controller CPU (A series)	A1SJ71UC24-R2 *5 *6	RS-232	–
	A1SJ71UC24-R4 *5	RS-422/485	–
	A1SJ71C24-R2 *5	RS-232	–
	A1SJ71C24-R4 *5	RS-422/485	–
	A1SCPUC24-R2	RS-232	–
	A2CCPUC24	RS-232	RS-422/485

*1 : RS-485 communication is not possible; therefore, A0J2-C214-S1 is unusable. When using A series computer link with QnACPU, only the device ranges within AnACPU specifications are supported. The following devices cannot be monitored: • Latch relays (L) and step relay (S) (In the QnACPU, the latch relay (L) and step relay (S) are separate devices from the internal relay (M), but the internal relay is nonetheless accessed when either a latch relay or step relay is specified.) • File register (R)

*2 : With function version A, either CH1 or CH2 can be connected. With function version B or later, both CH1 and CH2 can be connected.
*3 : Only CH2 can be connected.
*4 : Either CH1 or CH2 can be connected.
*5 : When connecting to A1SHCPU, A2SCPU(S1), A2SHCPU(S1), A1SJHCPU, A0J2HCPU, A17TSHCPU(N) or A172SHCPU(N), use computer link module software version U or later.
*6 : Computer link module/serial communication module operate within the range of devices available on AnACPU. (R devices cannot be used.)

●For Ethernet connection

CPU series	Ethernet module*1				
MELSEC-Q series (Q mode)/MELSEC-QS series	QJ71E71-100	QJ71E71-B5	QJ71E71-B2	QJ71E71	
MELSEC-QnA series	AJ71QE71N3-T	AJ71QE71N-T	AJ71QE71-B5	A1SJ71QE71N-B2	A1SJ71QE71-B5
	AJ71QE71N-B5	AJ71QE71N-B5T	A1SJ71QE71N3-T	A1SJ71QE71-B2	
	AJ71QE71N-B2	AJ71QE71	A1SJ71QE71N-B5	A1SJ71QE71N-B5T	
MELSEC-Q series (A mode) MELSEC-A series Motion controller CPU (A series)	AJ71E71N3-T	AJ71E71N-T	A1SJ71E71N3-T	A1SJ71E71-B5-S3	
	AJ71E71N-B5	AJ71E71N-B5T	A1SJ71E71N-B5	A1SJ71E71-B2-S3	
	AJ71E71N-B2	AJ71E71-S3	A1SJ71E71N-B2		
MELSEC-FX series	FX3U-ENET (-L)				

Inverters
The GOT can be connected to Mitsubishi inverters to set their parameters and display alarms.

Model name	GT16/GT15/GT14/GT12/GT11/GT10	
	RS-422	RS-232
FREQROL-S500/S500E	○	×
FREQROL-E500	○	×
FREQROL-F500/F500L	○	×
FREQROL-F500J	○	×
FREQROL-A500/A500L	○	×
FREQROL-V500/V500L	○	×
FREQROL-E700	○	×
FREQROL-F700	○	×
FREQROL-A700	○	×
FREQROL-D700	○	×
FREQROL-F700P/F700PJ	○	×

Servo amplifiers
The GOT can be connected to Mitsubishi servo amplifiers to set their parameters and display alarms.

Series	Model name	GT16/GT15/GT14/GT12/GT11/GT10	
		RS-422	RS-232
MELSERVO-J4 series	MR-J4-□A	○	○
MELSERVO-J3 series	MR-J3-□A	○	○
	MR-J3-□T	○	○
MELSERVO-J2-Super series	MR-J2S-□A	○	○
	MR-J2S-□CP	○	○
	MR-J2S-□CL	○	○
MELSERVO-J2M series	MR-J2M-P8A	○	○
	MR-J2M□DU	○	○

Robot controllers
The GOT can be used to monitor Mitsubishi robot controllers and set their parameters.

Controller name	GT16/GT15/GT14/GT12/GT11								
	Connection configuration								
	Bus connection *6	CPU direct connection	Computer link	MELSEC NET/H *1	MELSEC NET/10 *1 *2	CC-Link IE Controller Network *1	CC-Link IE Field Network *1	CC-Link (ID) *1 *3	CC-Link (via G4)	Ethernet *7
CRnQ-700	○	*4	○	○	○	○	○	○	○	*5
CRnD-700	×	×	×	×	×	×	×	×	×	×

*1 : Supported by the GT16 and GT15 only. (Excluding the GT16 Handy)
*2 : Supported only when MELSECNET/H is used in NET/10 mode. The GOT terminal cannot be connected to a remote I/O net.
*3 : CC-Link (ID): Connected as CC-Link (intelligent device station).
*4 : The CRnQ-700 can be accessed via RS-232 of the QCPU of a multi-CPU system.
*5 : The CRnQ-700's DISP I/F cannot be used. Access the controller via the Ethernet module or the Ethernet port of the QCPU of a multi-CPU system.
*6 : Supported by the GT16, GT15, and GT11 only.
*7 : Supported by the GT16, GT15, GT14, and GT12 only. (The GT14 supports connection to CRnQ-700 only.)

●For MELSECNET/H connection

CPU series	MELSECNET/H module		
	Optical loop		Coaxial bus
MELSEC-Q series (Q mode)*1	QJ71LP21	QJ71LP21S-25	QJ71BR11
MELSEC-QS series	QJ71LP21-25		
C controller	QJ71LP21-25	QJ71LP21S-25	

*1 : Use CPU and MELSECNET/H network unit function version B or later.

●For MELSECNET/10 connection

CPU series	MELSECNET/H (NET/10 mode), MELSECNET/10 module		
	Optical loop		Coaxial bus
MELSEC-Q series (Q mode)*1	QJ71LP21	QJ71LP21S-25	QJ71BR11
MELSEC-QS series	QJ71LP21-25		
C controller	QJ71LP21-25	QJ71LP21S-25	
MELSEC-QnA series	AJ71QLP21	A1SJ71QLP21	AJ71QBR11
	AJ71QLP21S	A1SJ71QLP21S	A1SJ71QBR11
MELSEC-QnA series (A mode) MELSEC-A series Motion controller CPU (A series)	AJ71LP21 A1SJ71LP21		AJ71BR11 A1SJ71BR11

*1 : Use CPU and MELSECNET/H network unit function version B or later.

●For CC-Link IE Controller Network connection

CPU series	CC-Link IE Controller Network communication unit
MELSEC-Q series (Q mode)	QJ71GP21-SX*1
MELSEC-QS series	QJ71GP21S-SX*1
C controller	

*1 : In the extension mode, use a CPU with the first 5 digits of the serial No. are 12052 or higher.

●For CC-Link IE Field Network connection

CPU series	CC-Link IE Field Network communication unit
MELSEC-Q series (Q-mode) C controller	QJ71GF11-T2
MELSEC-QS series	QS0J71GF11-T2
MELSEC-L series	LJ71GF11-T2

●For CC-Link (ID) connection

CPU series	CC-Link unit
MELSEC-Q series (Q mode)	QJ61BT11
C controller	QJ61BT11N
MELSEC-L series	LJ61BT11
MELSEC-QnA series	AJ61QBT11*1 A1SJ61QBT11*1
MELSEC-QnA series (A mode)	AJ61BT11*1
MELSEC-A series Motion controller CPU (A series)	A1SJ61BT11*1

*1 : GOT can communicate only with CC-Link units function version B or later and software version J or later.

●For CC-Link (via G4) connection*1

CPU series	CC-Link unit	Peripheral device unit
MELSEC-Q series (Q mode)	QJ61BT11	AJ65BT-G4-S3
C controller	QJ61BT11N	AJ65BT-R2N
MELSEC-L series	LJ61BT11	

*1 : GT11 and GT10 can monitor only the master station.

*1 : When using an A series computer link with QnACPU, only the device ranges within AnACPU specifications are supported except for the following devices. • Devices that have been newly added to the QnACPU • Latch relays (L) and step relays (S) (In the QnACPU, the latch relay (L) and step relay (S) are separate devices from the internal relay (M), but the internal relay is nonetheless accessed when either a latch relay or step relay is specified.) • File register (R)

CNC
The GOT can be used to monitor Mitsubishi CNC C70 and C6/C64 and to set their parameters.

Series	Model name	GT16/GT15/GT14/GT12/GT11										
		Connection configuration										
		Bus connection *6	CPU direct connection	Computer link	MELSEC NET/H *1	MELSEC NET/10 *1 *2	CC-Link IE Controller Network	CC-Link IE Field Network *1	CC-Link (ID) *1 *3	CC-Link (via G4)	Ethernet *7
CNC C70	Q173NCCPU	○	*5	○	○	○	○	○	○	○	○
MELDAS C6/C64	FCA C6	×	*4	×	×	×	×	×	*4	×	*4
	FCA C64										

*1 : Supported by the GT16 and GT15 only. (Excluding the GT16 Handy)
*2 : When MELSECNET/H is used in NET/10 mode, the GOT terminal cannot be connected directly to a remote I/O station.
*3 : CC-Link (ID): Connected as CC-Link (intelligent device station).
*4 : Use NC system software version D0 or later.
*5 : Only a USB interface is available on the Q173NCCPU. The Q173NCCPU can be accessed via RS-232 of the QCPU of a multi-CPU system.
*6 : Supported by the GT16, GT15, and GT11 only.
*7 : Supported by the GT16, GT15, GT14, and GT12 only.

■Units usable when connected with MELDAS C6/C64

●For MELSECNET/10 connection

Series	MELSECNET/H (NET/10 mode), MELSECNET/10 module	
	Optical loop	Coaxial bus
MELDAS C6/C64	FCU6-EX879	FCU6-EX878

●For CC-Link (ID) connection

Series	CC-Link unit
MELDAS C6/C64	FCU6-HR865

●For Ethernet connection

Series	Ethernet module
MELDAS C6/C64	FCU6-EX875

*: Applicable GOT varies depending on the connection destination.
GT16 ⋯ When connected via RS-232, RS-422/485 or Ethernet: All models (Use the built-in interface of the GOT main unit.) When connected via ports other than above: All models (Bus connection and network connection are enabled by mounting a communication unit on the GOT main unit.)
GT15 ⋯ When connected via RS-232 : All models (Use the built-in interface of the GOT main unit.) When other than RS-232 : All models (Bus connection and network connection are enabled by mounting a communication unit on the GOT main unit.)
GT14 ⋯ When connected via RS-232, RS-422/485 or Ethernet: All models (Use the built-in interface of the GOT main unit.)
GT12 ⋯ When connected via RS-232, RS-422/485 or Ethernet: All models (Use the built-in interface of the GOT main unit.)
GT11 ⋯ When connected via RS-232 or RS-422: GT115□-Q□BD When using bus connection : GT115□-Q□BDQ, GT115□-Q□BDA
Handy GT10 ⋯ When connected via RS-232 or RS-422: GT1665HS-VTBD When connected via RS-232 or RS-422: GT115□-HS-Q□BD
GT10 ⋯ When connected via RS-232 : GT105□-Q□BD, GT104□-Q□BD, GT1030-H□D2/H□DW2, GT1020-L□D2/L□DW2
When connected via RS-422 : GT105□-Q□BD, GT104□-Q□BD, GT1030-H□D/H□DW, GT1030-H□L/H□LW, GT1020-L□D/L□DW, GT1020-L□L/L□LW (The GT1030-H□L/H□LW and GT1020-L□L/L□LW can be used only with the MELSEC-FXCPU.)

Third party PLCs/Motion controllers/Safety controllers
The GOT can be connected with third party PLCs through RS-232 communication at up to 115.2kbps or Ethernet.

Manufacturer		Model name		GT16/GT15/GT14/GT12/GT11/GT10				
				Computer link connection		CPU direct connection		Ethernet connection *9
				RS-422	RS-232	RS-422	RS-232	
OMRON	SYSMAC CPM	CPM1	CPM1A		×			×
		CPM2A		×	○			○
		CPM2C						○
	SYSMAC CQM1	CQM1			×		*2	○
	SYSMAC CPQ1H	CQM1H					×	○
	SYSMAC CJ1	CJ1H	CJ1M				○	*12
		CJ1G		○*3				
	SYSMAC CJ2	CJ2H						
		CJ2M					○*14	
	SYSMAC CP1	CP1H	CP1L		×		×	*12
		CP1E (N type) *13					○*13	
	SYSMAC C200HS	C200HS					×	×
	SYSMAC C200H	C200H					×	×
	SYSMAC α	C200HX	C200HE				○	
		C200HG						
	SYSMAC CS1	CS1H	CS1D				○	*12
		CS1G						
	SYSMAC C1000H	C1000H			○*3		×	×
	SYSMAC C2000H	C2000H					×	
	SYSMAC CVM1/CV	CV500	CV2000				○	*3
		CV1000	CVM1					
KEYENCE		KV-700	KV-3000					
		KV-1000		○	×	○	×	×
		KV-5000	KV-5500					
KOYO ELECTRONICS INDUSTRIES *1	KOSTAC SU series	SU-5E	SU-5M	○	○	○	○	×
		SU-6B	SU-6M					
	PZ series	PZ3		×	×	×	×	×
	DirectLOGIC 205 series	D2-240				×	×	
		D2-250-1	D2-260	○	○	○	○	×
	DirectLOGIC 05 series	D0-05AA	D0-05DD					
		D0-05AD	D0-05DD-D					
		D0-05AR	D0-05DR	○	○	×	○	×
		D0-05DA	D0-05DR-D					
	DirectLOGIC 06 series	D0-06DD1	D0-06AA					
		D0-06DD2	D0-06DD1-D					
		D0-06DR	D0-06DD2-D	○	○	×	○	×
		D0-06DA	D0-06DR-D					
		D0-06AR						
Sharp Manufacturing Systems *1		JW-21CU	JW-50CUH	○	×	×	×	×
		JW-31CUH						
		JW-22CU	JW-70CUH	○	×	○	○*3	×
		JW-32CUH	JW-100CUH					
		JW-33CUH	JW-100CU					
		Z-512J		×	×	×	○*3	×
JTEKT *1	TOYOPUC series	PC3JG-P-CPU	PC3JG-CPU	○	○*4	○	○*4	
		PC3J-CPU	PC3JL-CPU	○	○*4	○	○*4	
		PC2JC-CPU	PC2J16PR-CPU		○*4		○*4	×
		PC2J16P-CPU						
		PC2J-CPU	PC2JR-CPU	○	○*4	×	×	
		PC2JS-CPU						
TOSHIBA	PROSEC T series	T2 (PU224)		○	×	×	×	×
		T2E	T2N	○	×	○	○*3	
		T3	T3H			○	×	
	PROSEC V series	model 3000 (S3)		×	×	×	×	×
		model 2000 (S2)						
		model 2000 (S2T)						
		model 2000 (S2E)						
TOSHIBA MACHINE	Unified controller nv series	PU811		×	×	×	×	○
	TCmini series	TC3-01	TC6-00	×	×	×	×	○
		TC3-02	TC8-00					
	Robot controller	TS2000	TS2100	×	×	×	×	○
Hitachi Industrial Equipment Systems *1	Large-sized H series	H-302	H-4010					
		H-702	H-300					
		H-1002	H-700	○*3	×	×	×	
		H-2002	H-2000					
	H-200 to 252 series	H-200	H-252B					
		H-250	H-252C	×	×	×	×	×
		H-252						
	H series board type	H-20DR	H-28DT					
		H-28DR	H-40DT					
		H-40DR	H-64DT	×	×	×	×	×
		H-64DR	HL-40DR					
		H-20DT	HL-64DR					
	EH-150 series	EH-CPU104	EH-CPU308	×	×	×	×	×
		EH-CPU208	EH-CPU316					
		EH-CPU516	EH-CPU548					
Hitachi *1	S10V	LQP510		○	×	×	×	×
		LQP520						
	S10mini	LQP800	LQP011	○	×	×	×	×
		LQP000	LQP120					
		LQP010						
Fuji Electric FA Components & Systems *1	MICREX-F	F55	F140S	○	○	○	○	×
		F70	F15□S					
		F120S						
		FP0-C16CT	FP1-C24C					
		FP0-C32CT	FP1-C40C	×	×	×	×	×
		FP0R						
Panasonic Corporation		FP2	FP5					
		FP2SH	FP10 (S)	×	×	×	×	×
		FP3	FP10SH					
		FP-M (C20TC)	FP-Σ	×	×	×	×	×
		FP-M (C32TC)						
		FP-X		○	○	×	×	×
YASKAWA Electric *10		GL120		×	×	×	×	×
		GL130						
		GL60S		○	○	×	×	×
		GL60H						
		GL70H						
		CP-9200SH		×	○	×	×	○
		CP-9300MS			×			×
		MP920		○	○	×	×	○
		MP930						○
		MP940						○
		PROGIC-8		×	×	×	×	×
		CP-9200 (H)						○
		CP-312						○
		CP-317		×	×	×	×	○
		MP2200		○	○	×	×	○
		MP2300 (S)						○
Yokogawa Electric *10	FA500	FA500		○*3	×	×	×	×
		F3SP05	F3SP08	○	×	×	×	×
		F3SP10		×				
	FA-M3	F3SP20	F3SP30					×
		F3FP36						
		F3SP21	F3SP38	○	×	×	×	
		F3SP25	F3SP53					○
		F3SP35	F3SP58					
		F3SP28	F3SP59					
		F3SP66	F3SP67	×	×	×	×	
STARDOM		NFCP100	NFJT100	×	×	×	×	○*11

Manufacturer		Model name	GT16/GT15/GT14/GT12/GT11/GT10				
			Computer link connection		CPU direct connection		Ethernet connection *9
			RS-422	RS-232	RS-422	RS-232	
Allen-Bradley (Rockwell Automation, Inc)	SLC500 series *5	SLC500-20					
		SLC500-30					
		SLC500-40					○*1
		SLC5/01	×	×	×	×	×
		SLC5/02					
		SLC5/03					
		SLC5/04					○
		SLC5/05					
	MicroLogix 1000 series (digital CPU) *5 *6 *7	1761-L10BWA					
		1761-L10BWB					
		1761-L16AWA					
		1761-L16BWA					
		1761-L16BWB	×	×	×	×	×
		1761-L32BBB					
		1761-L32AWA					
		1761-L32AWA					
		1761-L32BWB					
		1761-L32BBB					
		1761-L32AAA					
	MicroLogix 1000 series (analog CPU) *5	1761-L20AWA-5A					
		1761-L20BWA-5A					
		1761-L20BWB-5A					
	MicroLogix 1200 series *5	1762-L24BWA					
	MicroLogix 1500 series *5	1764-LSP					
	ControlLogix series	1756-L					
		1756-L1M1					
		1756-L1M2					
		1756-L1M3					
		1756-L61					
		1756-L62	×	×	×	○*1	○*8
		1756-L63					
		1756-L55M12					
		1756-L55M13					
		1756-L55M14					
		1756-L55M16					
		1756-L55M22					
		1756-L55M23					
		1756-L55M24					
	CompactLogix series	1769-L31					×*8
		1769-L32E	×	×	×	○*1	×*8
		1769-L32C					×
		1769-L35E					×
		1769-L35CR					○*8
	FlexLogix series	1794-L33	×	×	×	○*1	○*8
		1794-L34					
GE Fanuc Automation Corporation *1	Series 90-30	IC693CPU311					
		IC693CPU313					
		IC693CPU323					
		IC693CPU350					
		IC693CPU360	○	○	×	×	×
		IC693CPU363					
		IC693CPU366					
		IC693CPU367					
		IC693CPU374					
	Series 90-70	IC697CPU731					
		IC697CPX772					
		IC697CPX782					
		IC697CPX928					
		IC697CPX935	○	○	×	×	×
		IC697CPU780					
		IC697CGR772					
		IC697CGR935					
		IC697CPU788					
		IC697CPU789					
		IC697CPM790					
	VersaMax Micro	IC200UAA003					
		IC200UAR014					
		IC200UDD104					
		IC200UDD112					
		IC200UDR001				×	
		IC200UDR002					
		IC200UDR003					
		IC200UAL004					
		IC200UAL005					
		IC200UAL006	×	×	×	×	×
		IC200UAA007					
		IC200UAR028					
		IC200UDD110					
		IC200UDD120					
		IC200UDD212					
		IC200UDR005					
		IC200UDR006					
		IC200UDR010					
		IC200UDD064					
		IC200UDR164					
		IC200UDR064					
LS Industrial Systems	K300S	K4P-15S					×
	K200S	K3P-07□S				×	
	K120S	K7M-D□□□U	○	○	×	×	○
	K80S	K7M-D□□□S (/DC)				×	
Schneider Electric SA	Modicon Premium	TSX P57 203M					
		TSX P57 253M					
		TSX P57 303M					
		TSX P57 353M					
		TSX P57 453M					
	Modicon Quantum	140 CPU 311 10					
		140 CPU 434 12U					
		140 CPU 534 14U	×	×	×	×	○*11
		140 CPU 651 50					
		140 CPU 651 60					
		140 CPU 671 60					
		140 CPU 113 02					
		140 CPU 113 03					
		140 CPU 434 12A					
		140 CPU 534 14A					
SICK AG		Flexi Soft series	×	×	×	×	×
Siemens AG		SIMATIC S7-200 series					×
		SIMATIC S7-300 series	×	×	×	×	○
		SIMATIC S7-400 series					

*1 : The GT10 cannot be connected.
*2 : The GOT cannot be connected to the CQM1-CPU11 because it does not have an RS-232 interface.
*3 : RS-422 or RS232 is selectable.
*4 : RS-232/RS-422 converter (TXU-2051) is required.
*5 : Connection to the DH485 network via an adapter (1770-KF3) is possible.
*6 : Connection to the DH485 requires a C-Series or later CPU. (B-Series and earlier models do not support the DH485 protocol.)
*7 : Not applicable to duplex Ethernet

*8 : EtherNet/IP (PCCC protocol) is supported.
*9 : Supported by the GT16, GT15, GT14, and GT12 only.
*10 : Connection to the DH485 requires a C-Series or later CPU. (C-Series and earlier models do not support the DF1 half-duplex format.)
*11 : Only MODBUS®/TCP connection is supported. Use a MODBUS/TCP communication driver.
*12 : Not applicable to duplex Ethernet
*13 : CPU1 units with 20 points or less of CP1E (N type) can be connected only directly to CPU.
*14 : Only the CJ2M-CPU1□ can be connected.

INDEX · For Designers · For Initial Startup & Operations · For Maintenance Personnel · GT10 · iQ Platform · MELSEC Process Control · Specifications, External Dimensions · List of Connectable Models, etc.

List of connectable models

Third party PLCs/Motion controllers/Safety controllers

■ Modules usable when connected with a third party computer link and Ethernet modules

Manufacturer	RS-422	RS-232	Ethernet
OMRON Host link unit/ communication unit/ communication board/ Ethernet unit	C200H-LK202-V1 C500-LK201-V1 CQM1-SCB41 CJ1W-SCU41 CJ1W-SCU21-V1+CP1W-EXT01 CS1W-SCB41 C200HW-COM03/06 CP1W-CIF11 CJ1W-CIF11	C200H-LK201-V1 C500-LK201-V1 CS1W-SCU21 CS1W-SCB21/41 CJ1W-SCU21-V1 CJ1W-SCU41 C200HW-COM02/05/06 CQM1-CIF01/02 CQM1-SCB41 CPM1-CIF01 CPM2C-CN111 CPM2C-CIF01-V1 CP1W-CIF01	CS1W-ETN21 CS1W-EIP21 CS1D-ETN21D CJ1W-ETN21 CJ1W-EIP21
KEYENCE Multi-communication unit	KV-L20R KV-L20V KV-L20	KV-L20R KV-L20V KV-L20	—
KOYO ELECTRONICS INDUSTRIES Data communication module/ serial data communication module	U-01DM D2-DCM D0-DCM	U-01DM D2-DCM D0-DCM	—
Sharp Manufacturing Systems Link unit	JW-21CM ZW-10CM JW-10CM	—	—
JTEKT Link unit	THU-2755 THU-5139 THU-2927	—	—
TOSHIBA Ethernet unit	—	—	EN811
Hitachi Industrial Equipment Systems Intelligent serial port module	COMM-H COMM-2H	COMM-H COMM-2H	—
Hitachi Communication module	LQE565 LQE165	LQE560 LQE160 LQE060	—
Fuji Electric FA Components & Systems	RS-232C interface card: FFK120A-C10 / RS-232C/485 interface capsule: — / General interface module: NC1L-RS4 FFU120B	NV1L-RS2 FFK120A-C10 NC1L-RS2 FFU120B	—
Panasonic Corporation Computer communication unit	AFPX-COM3	AFP2462 AFPX-COM1 AFP3462 AFPX-COM2 AFP5462 AFPX-COM4	—
YASKAWA Electric MEMOBUS module/ communication module	JAMSC-120NOM27100 JAMSC-IF612 217IF 217IF-01	JAMSC-IF60 217IF JAMSC-IF61 217IF-01 CP-217IF 218IF-01 218IF-02	218IF 218IF-01 218IF-02
Yokogawa Electric Personal computer link module/ Ethernet interface module	LC02-0N F3LC11-2N	LC01-0N F3LC11-1N LC02-0N F3LC11-1F F3LC01-1N F3LC12-1F	F3LE01-5T F3LE11-0T F3LE12-0T
Allen-Bradley (Rockwell Automation, Inc.) EtherNet/IP communication module	—	—	1756-ENBT 1756-ENET
GE Fanuc Automation Corporation Communication module	IC693CMM311 IC697CMM711	IC693CMM311 IC697CMM711	—
LS Industrial Systems	Cnet communication unit: G7L-CUEC / Cnet communication module: G6L-CUEC G4L-CUEA	G7L-CUEB G6L-CUEB G4L-CUEA	—
Schneider Electric SA Ethernet unit	—	—	TSX ETY 4102 TSX ETY 5102 140 NOE 771 00 140 NOE 771 10 140 NWM 100 00

Servo amplifiers
The GOT can be used to set parameters and display alarms.

Manufacturer	Model name	GT16/GT15/GT14/GT12/GT11 RS-485	RS-232
Panasonic	MINAS A4 series MINAS A4F series MINAS A4L series MINAS A5 series	○	○

Robot controllers
The GOT can be used to monitor robot controllers and set their parameters.

Manufacturer	Model name		GT16/GT15/GT14/GT12/GT11/GT10 RS-422	RS-232
IAI	X-SEL	XSEL-J/K/KE XSEL-P/Q XSEL-KT/KET XSEL-JX/KX XSEL-KTX XSEL-PX/QX	×	○
	SSEL	SSEL		
	ASEL	ASEL		
	PSEL	PSEL		
	PCON	PCON-C/CG/CF/CY PCON-SE PCON-PL/PO	○	×
	ACON	ACON-C/CG/CY ACON-SE ACON-PL/PO		
	SCON	SCON-C		
	ERC2	ERC2		

Temperature controllers/Other controllers
The GOT can be used to log data, set parameters, and display alarms.

Manufacturer	Model name		GT16/GT15/GT14/GT12/GT11 RS-485	RS-422	RS-232	Ethernet*10
Azbil Corporation	SDC	SDC15 SDC36 SDC25 SDC45 SDC26 SDC46 SDC35	○ (2-wire type)*1	×	○*3	×
		SDC20 SDC40A SDC21 SDC40B SDC30 SDC40G SDC31	○ (2-wire type)*1 4-wire type			
	DMC	DMC10 DMC50	○ (2-wire type)*1 ○ 2-wire type / 4-wire type	×	×	
	NX	NX-D15 NX-DX1 NX-D25 NX-DX2 NX-D35 NX-DY	○ (2-wire type)*1 *11	×	×	○*12
	CMS	CMS	○ 2-wire type *1 / 4-wire type			
	CML	CML				
	CMF	CMF015 CMF050				
	MQV	MQV	○ (2-wire type)*1	×	○*3	×
	MPC	MPC				
	MVF	MVF				
	PBZ	PBC201-VN2	○ 2-wire type *1 / 4-wire type			
	AUR	AUR350C AUR450C	○ (2-wire type)*1			
	RX	RX				
	CMC	CMC10B	○ (4-wire type)*1			

(third party table, continued — OMRON / Shinko Technos / CHINO / Fuji Electric Systems / Yokogawa / RKC Instrument)

Manufacturer	Model name		GT16/GT15/GT14/GT12/GT11 RS-485	RS-422	RS-232	Ethernet*10
OMRON	Thermac NEO	E5AN E5CN E5EN E5GN	○ (2-wire type)*1			○*3
	In-Panel NEO	E5ZN				
Shinko Technos	ACS-13A series	ACS-13A-□/□□C5*9	○ (2-wire type)*1			○*3
	DCL-33A series	DCL-33A-□/M,□C5*9				
	JC series	JCS-33A-□/□/□C5*9 JCR-33A-□/□/□C5*9 JCD-33A-□/□/□C5*9				
	JCM-33A series	JCM-33A-□/□/□C5*9				
	FCR-100 series	FCR-13A-□/M,C FCR-15A-□/M,C				
	FCD-100 series	FCD-13A-□/M,C FCD-15A-□/M,C	×	×		
	FCR-23A series	FCR-23A-□/□,M,C				○*5
	PC-900 series	PC935-□/M,C PC935-□/M,C5*9 PC955-□/M,C PC955-□/M,C5*9	○ (2-wire type)*2 × ○ (2-wire type)*2 ×			
	PCD-300 series	PCD-33A-□/M,C5*9	○ (2-wire type)*2			
	FIR series	FIR-201-M,C	×			
	JIR-301-M series	JIR-301-M□□C5*9	○ (2-wire type)*2			○*3 ○*4
CHINO	LT300 series	LT350 LT370		○		○*3 ○*4
	LT400 series	LT450 LT470		○		
	DZ1000 series *8	DZ1000		○		
	DZ2000 series *8	DZ2000 *8		○		
	LT230 series	LT230	○ (2-wire type)*2	×		○*3
	LT830 series	LT830				
	GT120 series	GT120	○	×		
	DB1000 series	DB1000		○		
	DB2000 series	DB2000		○		
	KP series	KP1000 KP2000		○		
	AL3000 series	AL3000		○		
	AH3000 series	AH3000	○ (2-wire type)*2	○		
	SE3000 series	SE3000		○		
	JU series	JU		×		
	KE series	KE3000		×		
	LE5000 series	LE5000				
Fuji Electric Systems	Micro Controller X	PXR PXR3/4/5/9 PXG PXG4/5/9 PXH PXH9	○ (2-wire type)*1			○*3
Yokogawa	GREEN series	UT320 UP350 UT321 UP351 UT350 UP550 UT351 UP750 UT420 UM330 UT450 UM331 UT520 UM350 UT550 UM351 UT551 US1000 UT750	○ (2-wire type*2/ 4-wire type)	×		○*3
	UT100 series	UT130 UP155 UT150 UP150 UT152	○ (2-wire type)*2			
	UT2000 series	UT2400 UT2800	○ (4-wire type)			
	UTAdvanced series	UT32A UP35A UT35A UP55A UT52A UM33A UT55A	○ (2-wire type*2/ 4-wire type)			○*12
RKC Instrument	SR Mini HG	H-PCP-J H-PCP-A H-PCP-B*8	○ (2-wire type)*1 ×	○		○
	SRZ	Z-TIO Z-CT Z-DIO	○ (2-wire type)*1 *7	○*6		○*3
	CB	CB100 CB700 CB400 CB900*8 CB500*8		×	×	
	FB	FB100 FB400 FB900	○ (2-wire type)*1	○		○
	RB	RB100 RB700 RB400 RB900 RB500		×	×	○*3
	PF	PF900 PF901		○		
	HA	HA400 HA900 HA401 HA901		○		
	RMC	RMC500		×		○*3
	MA	MA900 MA901		×		
	AG	AG500	○ (2-wire type)*1	×		
	THV	THV-A1		×		
	SA	SA100 SA200		○		
	SRX	X-TIO		×		○*3

※1 : Supported by the GT16, GT15, and GT14 only. Not supported by the GT16 Handy.
(notes ※1–※12 continue below)

MODBUS® devices
Connection to all MODBUS®/RTU and MODBUS®/TCP slave devices is possible by using the MODBUS/RTU communication driver or the MODBUS/TCP communication driver. (For the GT11 and GT10, only MODBUS® RTU connection is supported.)

For details regarding operation-verified MODBUS® devices, refer to Technical Bulletin No. GOT-A-0037 (List of Valid Devices Applicable for GOT1000 Series MODBUS® Connection).

Microcomputer connection
Data can be written to and read from virtual devices on a GOT by connecting a personal computer, microcomputer board, PLC, etc. to the GOT.

■ GT SoftGOT1000 Version3

[PLCs/motion controllers]
Mitsubishi PLCs and motion controllers

Series	Model name	CPU direct connection	Computer link	MELSECNET/H	MELSECNET/10	CC-Link IE Controller Network	CC-Link IE Field Network	Ethernet
MELSEC-Q series (Q mode)	Q00JCPU *3 Q00CPU *3 Q01CPU *3 Q02CPU *3 Q06HCPU *3 Q06HCPU *3 Q12HCPU *3 Q25HCPU *3 Q00HCPU Q02PHCPU Q06PHCPU Q12PHCPU Q25PHCPU	USB connection ○	○	○*5	○*5	○	×	○
Redundant system (main base)	Q12PRHCPU Q25PRHCPU	×	○	○*5 *6 *12	○*5 *6	○	×	○
Redundant system (extension base)	Q12PRHCPU Q25PRHCPU	×	×	×	×	×	×	×
MELSEC-QS series	QS001CPU	○	×	×	×	×	×	×
MELSEC-Q series (A mode)	Q02CPU-A Q02HCPU-A Q06HCPU-A	○	○	×	×	×	×	○
MELSEC-L series	L02CPU L26CPU-BT L02CPU-P L26CPU-PBT	○	○*14	×	×	×	×	○
MELSEC-WS series	WS0-CPU0 WS0-CPU1	×	×	×	×	×	×	○
C controller	Q12DCCPU-V *16	○	×	×	×	×	×	○
MELSEC-QnA series (QnACPU type)	Q2ACPU (-S1) Q3ACPU Q4ACPU Q4ARCPU	○	○*4	○	○	×	×	○*4
MELSEC-QnA series (QnASCPU type)	Q2ASCPU Q2ASHCPU Q2ASCPU-S1 Q2ASHCPU-S1	○	○*4	○	○	×	×	○*4
MELSEC-A series (AnCPU type)*10	A2UCPU (-S1) A3UCPU A4UCPU A2ACPU (-S1) A2ACPUP21 (-S1) A2ACPUR21 (-S1) A3ACPU A3ACPUP21 A3ACPUR21 A1NCPU A1NCPUP21 A1NCPUR21 A2NCPU (-S1) A2NCPUP21 (-S1) A2NCPUR21 (-S1) A3NCPU A3NCPUP21 A3NCPUR21	○*7	○	○	○	×	×	○
MELSEC-A series (AnSCPU type)*10	A2USCPU (-S1) A2USHCPU-S1 A1SCPU A1SCPUC24-R2 A1SHCPU A2SCPU (-S1) A2SHCPU (-S1) A1SJCPU	○*7	○	○	○	×	×	○
MELSEC-A series*10	A0J2HCPU A0J2HCPUP21 A0J2HCPUR21 A0J2HCPU-DC24 A2CCPU A2CCPUP21 A2CCPUC24 A2CCPUC24-PRF A2CJCPU-S3 A1FXCPU	○*7 ○*7 ○*7 ○*7 ○*7	○	○	○	×	×	○
Motion CPU (Q series)	Q172CPU (N) Q173CPU (N) Q172HCPU Q173HCPU Q172DCPU (-S1) Q173DCPU (-S1) Q172DSCPU Q173DSCPU Q170MCPU *13	USB connection ○	×	×	×	×	×	○
Motion controller CPU (A series/large type)	A273UH A273UHCPU (-S3) A373UCPU (-S3)	○*8	○*8	○	○	×	×	○
Motion controller CPU (A series/small type)	A171SCPU (-S3) A171SCPU-S3N A171SHCPU (N) A172SHCPU (N) A173UHCPU (-S1)	○*8	○*8	×	×	×	×	○
MELSEC-FX series	FX0S FX1NC FX0N FX2N FX1S FX2NC FX1N FX2N FX3GC FX2NC FX3GC FX3G FX3UC FX3U FX3UC	○	○	×	×	×	×	○
MELSECNET/H remote I/O station	QJ72LP25-25 QJ72LP25G QJ72BR15	×	×	○	×	×	×	×
CC-Link IE Field Network head unit	LJ72GF15-T2	×	×	×	×	×	○	×
CC-Link IE Field Network Ethernet adaptor unit*15	NZ2GF-ETB	×	×	×	×	×	○	×

Modules usable when connected with Mitsubishi PLCs
■ For computer link connection*

CPU series	Serial communication module/computer link module
MELSEC-Q series (Q mode)	QJ71C24(-R2)/QJ71C24N(-R2)/QJ71CMO(N)
MELSEC-Q series (A mode)	A1SJ71UC24-R2/A1SJ71C24-R2
MELSEC-L series/CC-Link IE Field Network	LJ71C24 (-R2)
MELSEC-QnA series	AJ71QC24(-R2)/AJ71QC24N(-R2)/ A1SJ71QC24(-R2)/A1SJ71QC24N(-R2)
	AJ71C24-S8/AJ71UC24/A1SJ71C24-R2/A1SJ71UC24-R2

：Only RS-232 communication is possible.

■ For MELSECNET/H and MELSECNET/10 connection
Use a network unit applicable to the network board used for GT SoftGOT1000. The network boards that can be used with GT SoftGOT1000 are shown on the right. Q80BD-J71BR11 (coaxial loop), Q80BD-J71LP21(S)-25 (optical loop), Q80BD-J71LP21G (optical loop) , and Q81BD-J71LP21-25 (optical loop)

■ For CC-Link IE Controller Network connection
Use a network unit applicable to the network board used for GT SoftGOT1000. The network boards that can be used with GT SoftGOT1000 are shown on the right. Q80BD-J71GP21(S)-SX and Q81BD-J71GP21(S)-SX (optical loop)

■ For CC-Link IE Field Network connection
Use a network unit applicable to the network board used for GT SoftGOT1000. The network boards that can be used with GT SoftGOT1000 are shown on the right. Q81BD-J71GF11-T2

■ For Ethernet connection

CPU series	Ethernet module
MELSEC-Q series (Q mode)/MELSEC-QS series	QJ71E71-100/QJ71E71-B5/QJ71E71-B2/QJ71E71
MELSEC-QnA series	AJ71QE71N3-T/AJ71QE71N-B5/AJ71QE71N-B2/AJ71QE71N-T/ AJ71QE71N-B5T/AJ71QE71/AJ71QE71-B5/A1SJ71QE71N3-T/ A1SJ71QE71N-B5/A1SJ71QE71N-B2/A1SJ71QE71N-T/ A1SJ71QE71N-B5T/A1SJ71QE71-B5/A1SJ71QE71-B2
MELSEC-Q series (A mode)/ MELSEC-A series/ Motion controller CPU (A series)*	AJ71E71-T3/AJ71E71N3-T/AJ71E71N-B5/AJ71E71N-B2/AJ71E71-T/ AJ71E71N-B5T/AJ71E71N-T/A1SJ71E71N3-T/A1SJ71E71N-B5/ A1SJ71E71N-B2/A1SJ71E71N-T/A1SJ71E71N-B5T/ A1SJ71E71N-B5-S3/A1SJ71E71-B2-S3
MELSEC-FX series	FX3U-ENET (-L)

：Only the device ranges within AnACPU specifications are supported.

Third party PLCs

Manufacturer		Model name	CPU direct connection (RS-232)	Computer link (RS-232)	Ethernet
OMRON	Micro PLC	CPM2A C200HK CQM1 C200HG CQM1H CS1H CJ1G CS1G CJ1M CS1D CJ2H CJ1H CJ2M CP1E (N type)	○	○*17	○*18
	Small-size PLC				
	Large-size PLC	CV500 CV2000 CV1000 CVM1	×	×	—
TOSHIBA	Unified controller nv series	PU811	×	×	○
Yaskawa Electric		GL120 GL130 GL60S GL60H GL70H CP-9200SH CP-9300MS MP920 MP930 MP940 PROGIC-8 CP-9200 (H) MP2200 MP2300 (S)	×	○ ○ ○ ○ ○ ○ ○ ○ ○	× ○ ○ ○ ○ ○ ○ ○ ○ ○
Yokogawa Electric		F3SP05 F3SP38 F3SP08 F3SP53 F3P36 F3SP58 F3SP21 F3SP59 F3SP25 F3SP66 F3SP35 F3SP67 F3SP28	—	—	○
Siemens AG		SIMATEC S7-300 series SIMATEC S7-400 series	×	×	○

Modules usable when connected with PLCs made by the OMRON Corporation
■ For Ethernet connection

Ethernet unit	CS1W-ETN21, CS1D-ETN21D, CJ1W-ETN21

Modules usable when connected with PLCs made by the Yaskawa Electric Corporation
■ For computer link connection

MEMOBUS module/communication module	JAMSC-IF60, JAMSC-IF61, CP-217IF, 217IF-01, 217IF, 218IF-01

■ For Ethernet connection

Communication module	218IF, 218IF-01

Modules usable when connected with PLCs made by the Yokogawa Electric Corporation
■ For Ethernet connection

Ethernet interface module	F3LE01-5T, F3LE11-0T, F3LE12-0T

[CNCs] Mitsubishi CNCs

Series	Model name	CPU direct connection	Computer link	MELSECNET/H	MELSECNET/10	CC-Link IE Controller Network	CC-Link IE Field Network	Ethernet
CNC C70	Q173NCCPU	○*1 *3	×	○*1	×	×	×	○
MELDAS C6/C64	FCA C6 FCA C64	○*9	×	×	×	×	×	○*9

Usable units when connected to the MELDAS C6/C64
■ For Ethernet connection

CPU series	Ethernet module
MELDAS C6/C64	FCU6-EX875

[Robot] Mitsubishi Industrial Robots

Controller name	CPU direct connection	Computer link	MELSECNET/H	MELSECNET/10	CC-Link IE Controller Network	CC-Link IE Field Network	Ethernet
CRnQ-700	○*11	×	×	×	×	×	○*19
CRnD-700	×	×	×	×	×	×	○

[MODBUS® devices]
Connection to all MODBUS®/TCP slave devices is possible by using the MODBUS/TCP communication driver. For details regarding operation-verified MODBUS® devices, refer to Technical Bulletin No. GOT-A-0037 (List of Valid Devices Applicable for GOT1000 Series MODBUS® Connection).

※1 : Connection configuration for network type MELSECNET/H mode and MELSECNET/H extension mode (PC-to-PC net).
※2 : Connection configuration for network type MELSECNET/10 mode (PC-to-PC net). (Including the case where the mode is switched from MELSECNET/H to MELSECNET/10 (PC-to-PC net))
※3 : For multi-CPU configuration, use the CPU function version B or later.
※4 : When using a computer link module for A series or an Ethernet module with QnACPU, GT SoftGOT1000 cannot monitor the module.
※5 : Use the PLC CPU and MELSECNET/H network module function version B or later.
※6 : Use the driver (SW0DNC-MNETH-B) of version K or later for the MELSECNET/H board.
※7 : Only the following software version or later can be used to monitor the AnNCPU(S1), A2SCPU, A0J2HCPU and A0J2HCPUP21 with GT SoftGOT1000.
※8 : Select a model name that supports the MODBUS® communication function.
※9 : Use a MELDAS C6/C64 of the following NC system software version.
※10 : Computer link of software version U or later must be used for the A2SCPU, A2SHCPU, A1SHCPU, A1SJHCPU, A0J2HCPU, A171SHCPU and A172SHCPU computer link connection.
※11 : Accessing Q173NCCPU, CRnQ-700 must be performed via USB or RS-232 of QCPU in the multi-CPU system.
※12 : MELSECNET/H extension mode cannot be used.
※13 : Only the PLC unit (No.1) of Q170MCPU can be connected. The peripheral I/F cannot be used.
※14 : For connection through RS-232, L6ADP-R2 is required.
※15 : Host station monitoring is not possible.
※16 : Use a CPU with the first 5 digits of the serial No. are 12042 or higher.
※17 : Only the CJ2M-CPU1□ can be connected.
※18 : Not applicable to duplex CPUs.
※19 : Use the CRnQ-700's DISP I/F cannot be used. Access the controller via the Ethernet module or the Ethernet port of the QCPU of a multi-CPU system.

Function list

Model — GT16 / GT15 / GT14 / GT12 / GT SoftGOT

Column headers (GT16):
- GT1695M-XTB☐ XGA 15"
- GT1685M-STB☐ SVGA 12.1"
- GT1675M-STB☐ SVGA 10.4"
- GT1675M-VTB☐ VGA 10.4"
- GT167☐-VNB☐ VGA 10.4"
- GT1665M-STB☐ SVGA 8.4"
- GT1665M-VNB☐ VGA 8.4"
- GT1662-VNB☐ VGA 8.4"
- GT1655-VTBD VGA 8.4"
- GT1665 HS-VTBD VGA 6.5" *4
- GT1595-XTB☐ XGA 15"

Column headers (GT15):
- GT1585(V)-STB☐ SVGA 12.1"
- GT1575(V)-STB☐ SVGA 10.4"
- GT1575-VTB☐ VGA 10.4"
- GT157☐-VNB☐ VGA 10.4"
- GT1565-VTB☐ VGA 8.4"
- GT1562-VNB☐ VGA 8.4"
- GT155☐-☐BD VGA/QVGA 5.7"

Column headers (GT14 / GT12 / GT SoftGOT):
- GT145☐-Q☐BDE QVGA 5.7" (GT14)
- GT1275-VNB☐ VGA 10.4" (GT12)
- GT1265-VNB☐ VGA 8.4" (GT12)
- GT SoftGOT1000 Version3 *4

Model — GT11 / GT10

Column headers (GT11):
- GT115☐-Q☐BD QVGA 5.7"
- GT115☐-Q☐BD QVGA 5.7"
- GT115☐ HS-Q☐BD QVGA 5.7" *4

Column headers (GT10):
- GT105☐-Q☐BD QVGA 5.7"
- GT104☐-Q☐BD QVGA 4.7"
- GT1030-HB☐(W)(2) QVGA 4.5"
- GT1020-LB☐(W)(2) QVGA 3.7"

Row labels

Connection configuration
- Mitsubishi PLC bus connection
- Mitsubishi PLC CPU direct connection
- Mitsubishi PLC computer link connection
- Mitsubishi PLC MELSECNET/H connection
- Mitsubishi PLC MELSECNET/10 connection
- Mitsubishi PLC CC-Link IE Controller Network connection
- Mitsubishi PLC CC-Link IE Field Network connection
- Mitsubishi PLC CC-Link connection (ID station/via G4)
- Mitsubishi PLC Ethernet connection
- Third party PLC connection
- Microcomputer connection
- MODBUS®/RTU connection
- MODBUS®/TCP connection
- Temperature controller connection
- Inverter connection
- Servo amplifier connection
- CNC connection
- Robot controller connection
- GOT multi-drop connection
- Multiple-GT14, GT12, GT11, GT10 connection *14

Memory
- Standard memory capacity
- Total memory capacity when using optional memory (standard + optional)

Display colors
- 65,536 colors
- 4,096 colors
- 256 colors
- 16 colors
- Monochrome (black/white) 16 gray scales
- Monochrome (black/white) 2 colors
- Monochrome (blue/white) 16 gray scales

Resolution
- 1920 × 1200 dots (WUXGA) (max. at specified resolution)
- 1600 × 1200 dots (UXGA)
- 1280 × 1024 dots (SXGA)
- 1024 × 768 dots (XGA)
- 800 × 600 dots (SVGA)
- 640 × 480 dots (VGA)
- 320 × 240 dots (QVGA)
- 288 × 96 dots
- 160 × 64 dots

Built-in interface
- RS-232 interface
- RS-422 interface
- RS-422/232 interface
- RS-422/485 interface
- Bus interface
- Ethernet interface
- USB interface (USB host / USB device)
- CF card interface
- SD card interface
- Optional function board interface
- Extension interface
- Multimedia & Video/RGB interface
- Video/RGB interface

Others
- Vertical display
- Clock function (Battery)
- Buzzer output
- Human sensor
- Printer (Printer unit)
- Memory card unit (Memory card extension unit)
- Sound output
- External input/output
- Video input / RGB input / RGB output
- USB mouse/keyboard connection
- Backlight OFF detection function

Main unit functions
- Start from memory card
- Project data read/write
- Resource data read
- FA transparent function
- Multi-channel function
- Gateway function
- MES interface function
- SoftGOT-GOT link function
- File transfer function (FTP client)

Footnotes

*1 : The function details, such as the number of settings and the data storage destination, vary depending on the model.
*2 : An optional function board is required to use the functions that are indicated as "Required" in the "Optional function board" column. Some other optional functions may require the optional function board depending on the GOT function version and hardware version.
The extension/optional function OS must be installed to use the functions that are indicated as "Required" in the "Extended/optional function OS installation" column. A memory card or optional function board may be required when the extension/optional function OS is installed.
Check the size of the data stored in the GOT. For more details, see "Optional function board, memory card (CF card, SD card), and USB memory selection <GT16/GT15/GT14/GT12/GT11> (page 82 to page 83).
The GT14 and GT12 do not require the optional function board. The GT10 and GT SoftGOT1000 do not require the optional function board or installation of the extension/optional function OS.
*3 : Necessary optional units, memory cards, and USB memory devices other than the optional function board are shown. Parenthesized devices will be required depending on conditions of use. For details, see "Notes for use" (page 81 to page 86).
*4 : For details, see "GT10" (page 48), "Handy GOT" (page 25) and "GT SoftGOT1000" (page 26).

*5 : The RS-232 interface can be used as an RS-422 interface by connecting an RS-422 conversion unit.
*6 : Structural restrictions are applied.
*7 : Only user alarms can be used.
*8 : To use the historical data list display and the historical trend graph, it is necessary to specify the logging function in advance. In addition, it is necessary to install the optional function OS (logging).
*9 : Read from the PLC clock.
*10 : Different connection configurations may require different communication units. For details, see the GOT1000 Series Handbook and the GOT1000 Series Connection Manual.
*11 : For the compatible hardware versions, please contact your local sales office.
*12 : Only CPU direct connection and Ethernet connection are supported.
*13 : Only the FTP server function is supported.
*14 : When GT14, GT12, GT11 and GT10 are intermingled, the multiple connection function is not supported.

Function list

Model

GT16

Category	Function (※1)	Details page	GT1695M-XTB□ XGA 15"	GT1685M-STB□ SVGA 12.1"	GT1675M-STB□ SVGA 10.4"	GT1675M-VTB□ VGA 10.4"	GT167□-VNB□ VGA 10.4"	GT1665M-STB□ SVGA 8.4"	GT1665M-VTB□ VGA 8.4"	GT1662-VNB□ VGA 8.4"	GT1655-VTBD VGA 5.7"	GT1665HS-VTBD※4 VGA 6.5"	GT1595-XTB□ XGA 15"

GT15 / GT14 / GT12 / GT SoftGOT

GT1585(V)-STB□ SVGA 12.1"	GT1575(V)-STB□ SVGA 10.4"	GT1575-VTB□ VGA 10.4"	GT157□-VNB□ VGA 10.4"	GT1565-VTB□ VGA 8.4"	GT1562-VNB□ VGA 8.4"	GT155□-□□BD VGA/QVGA 5.7"	GT145□-Q□BDE QVGA 5.7"	GT1275-VNB□ VGA 10.4"	GT1265-VNB□ VGA 8.4"	GT SoftGOT1000 Version3 ※4

Specifications

Category	Sub	Function	Opt. function board	Ext./opt. OS	Other devices	Details page
Specifications		Base screen, window screen				P.37
		Dialog window display				
	Graphic drawing	BMP image display				
		JPEG image display				
		DXF data				
		IGES data				
	Standard fonts (basic)	(Japanese, Japanese (supporting European languages), Chinese (Simplified), Chinese (Simplified, supporting European languages), Chinese (Traditional), Chinese (Traditional, supporting European languages))				
	Standard fonts (optional)	Chinese (Simplified), Chinese (Traditional), Japanese		Required		
		High-quality font				
		TrueType font, TrueType font (7 segments)				
		Windows® font				
		Stroke basic font (extended)		Required		
		Stroke font (optional)		Required		
		Logo character function				

Common settings

Common settings		Parts (object + figure) layer function				
		Station No. switching				
		Multilingual support function				P.36
		Password				
		Boot logo				
		Data operation function				
		Offset function				
	Security function	Security level authentication				
		Operator authentication		Required	(Memory card/USB memory <GT16 only>)	P.41

Screen design — Object settings

Screen design	Object settings	Lamp display				
		Touch switch				
		Numeric display/input				
		Data list display				
		Historical data list display※8		Required※8		P.40
		ASCII display/input		Required		
	Kana-Kanji conversion function	Normal version		Required		
		Enhanced version		Required		
		Clock display				
		Comment display				
		Advanced alarm observation/display			(Memory card) (Battery)	P.43
		Alarm display				
		Alarm history display			(Memory card)	
		Floating alarm display			(Memory card)	
		Parts display			(Memory card)	
		Parts movement			(Memory card)	
		Panel meter display				
		Level display				
		Trend graph/Line graph/Bar graph/Statistical graph				
		Historical trend graph※8		Required※8		P.40
		Scatter graph				
		Status observation function				
		Advanced recipe function		Required	(Memory card)	P.37
		Recipe function		Required	(Memory card)	

Others

Others		Report function		Required	(Printer unit) (Memory card)	
	Hardcopy function	File saving in memory card		Required	Memory card	
		Printing on printer		Required	(Printer unit)	P.33
		Barcode function		Required		P.33
		RFID function		Required		
		Multimedia function		Required	Multimedia unit / Memory card	P.32
		Remote personal computer function (Ethernet)		Required	License	P.34
		Remote personal computer function (serial)		Required	Video/RGB input unit	P.34
		VNC® server function		Required	License	P.34
		Operation panel function		Required	External input/output unit	
		Operation log function		Required	Memory card	P.41
		Document display function	Required※2 (GT15 only)	Required	Memory card	P.33
		Logging function		Required	(Memory card) (Battery)	P.40
		Log viewer function		Required	(Memory card/USB memory)	P.40
	Script function	Project script/Screen script		Required		P.37
		Object script		Required		
		Device data transfer function		Required		P.33

Maintenance functions

Maintenance functions	Device monitor function		Required			
	System monitor function		Required			P.46
	List editor for A		Required			P.47
	List editor for FX		Required			
	SFC monitor function		Required※2 (GT15 only)	Required	Memory card	P.44
	Motion SFC monitor function		Required※2 (GT15 only)	Required	Memory card	P.45
	Ladder editor function		Required※2 (GT15 only)	Required	Memory card	P.45
	Ladder monitor function		Required※2 (GT15 only)	Required	(Memory card)	P.44
	Intelligent module monitor function		Required			P.46
	Q motion monitor function		Required			P.47
	Servo amplifier monitor function		Required			
	Network monitor function		Required			P.46
	CNC monitor function		Required			P.47
	CNC data input/output function		Required	Memory card / USB memory<GT16 only>		
	Backup/restoration function		Required	Memory card and USB memory <GT16/GT14 only>		P.42
	MELSEC-L troubleshooting function		Required			P.46
	Maintenance time notification function			Battery		P.38

GT11 / GT10

Model

	GT11			GT10 ※4			
	GT115□-Q□BD QVGA 5.7"	GT115□-Q□BD QVGA 5.7"	GT115□HS-Q□BD※4 QVGA 5.7"	GT105□-Q□BD QVGA 5.7"	GT104□-Q□BD QVGA 4.7"	GT1030-HB□(W)(2) QVGA 4.5"	GT1020-LB□(W)(2) QVGA 3.7"

※1 : The function details, such as the number of settings and the data storage destination, vary depending on the model.
※2 : An optional function board is required to use the functions that are indicated as "Required" in the "Optional function board" column. Some other optional functions may require the optional function board depending on the GOT function version and hardware version.
The extension/optional function OS must be installed to use the functions that are indicated as "Required" in the "Extended/optional function OS installation" column. A memory card or optional function board may be required when the extension/optional function OS is installed.
Check the size of the data stored in the GOT. For more details, see "Optional function board, memory card (CF card, SD card), and USB memory selection <GT16/GT15/GT14/GT12/GT11> (page 82 to page 83).
※3 : Necessary optional units, memory cards, and USB memory devices other than the optional function board are shown. Parenthesized devices will be required depending on conditions of use. For details, see "Notes for use" (page 81 to page 86).
※4 : For details, see "GT10" (page 48), "Handy GOT" (page 25) and "GT SoftGOT1000" (page 26).

※5 : The RS-232 interface can be used as an RS-422 interface by connecting an RS-422 conversion unit.
※6 : Structural restrictions are applied.
※7 : Only user alarms can be used.
※8 : To use the historical data list display and the historical trend graph, it is necessary to specify the logging function in advance. In addition, it is necessary to install the optional function OS (logging).
※9 : Read from the PLC clock.
※10 : Different connection configurations may require different communication units. For details, see the GOT1000 Series Handbook and the GOT1000 Series Connection Manual.
※11 : For the compatible hardware versions, please contact your local sales office.
※12 : Only CPU direct connection and Ethernet connection are supported.
※13 : Only the FTP server function is supported.
※14 : When GT14, GT12, GT11 and GT10 are intermingled, the multiple connection function is not supported.

Product list

Main unit model name

GT16 95 M - XTBA □□

Code	Screen size	Code	Display colors	Code	Mounting type
9	15"	5	256 colors or more	V	Compatible wirh video/RGB
8	12.1"	2	16 colors	None	Panel mount type
7	10.4"	0	Monochrome	HS	Handy type
6	8.4", 6.5"			M	Compatible with
5	5.7"				multimedia & Video/RGB
4	4.7"				
3	4.5"				
2	3.7"				

Code	Resolution
X	XGA (1024 × 768 dots)
S	SVGA (800 × 600 dots)
V	VGA (640 × 480 dots)
Q	QVGA (320 × 240 dots)
None	(288 × 96 dots) (160 × 64 dots)

Code	Display device
T	TFT color (high brightness, wide viewing angle)
N	TFT color
S	STN color
B	STN monochrome (blue/white)
L	STN monochrome
H	STN monochrome (White/black, high contrast)

Code	Power supply
A	100 to 240VAC
D	24VDC
L	5VDC

Code	Communication interface
Q*1	With built-in bus connection interface for QCPU (Q mode)/motion controller CPU (Q series)
A*1	With built-in bus connection interface for QnA/ACPU/motion controller CPU (A series)
E*2	With built-in Ethernet
2*3	With built-in RS-232
None*3	With built-in RS-422

*1 : GT115□-Q□BDQ and GT115□-Q□BDA only
*2 : GT145□-Q□BDE only
*3 : GT10 only

Code	Main unit frame
B	Black
W	White

Code	GT10 backlight
W	White backlight
None	Green backlight

GT16	High performance models with multimedia and a host of features and functions
GT15	Performance models ideal for a wide range of applications in a network or standalone environment
GT14	Standard model with advanced features and communication interfaces
GT12	Large basic models with integrated features and communication interfaces
GT11	Small models with a host of advanced functions
GT10	Compact models with basic functions

※ For inquiries relating to products which conform to UL, cUL, and CE directives and shipping directives, please contact your local sales office.

GOT main units

Model name		Screen size [resolution]	Display	Display colors (number of colors)	Power supply	Memory size	Remarks
GT16	GT1695	GT1695M-XTBA	15" XGA [1024 × 768 dots]	TFT color LCD (high brightness, wide viewing angle)	65,536 colors	100-240VAC	15MB	Compatible with multimedia & Video/RGB
		GT1695M-XTBD				24VDC		
	GT1685	GT1685M-STBA	12.1" SVGA [800 × 600 dots]	TFT color LCD (high brightness, wide viewing angle)	65,536 colors	100-240VAC	15MB	Compatible with multimedia & Video/RGB
		GT1685M-STBD				24VDC		
	GT167□	GT1675M-STBA	10.4" SVGA [800 × 600 dots]	TFT color LCD (high brightness, wide viewing angle)	65,536 colors	100-240VAC	15MB	Compatible with multimedia & Video/RGB
		GT1675M-STBD				24VDC		
		GT1675M-VTBA	10.4" VGA [640 × 480 dots]	TFT color LCD (high brightness, wide viewing angle)	65,536 colors	100-240VAC	15MB	Compatible with multimedia & Video/RGB
		GT1675M-VTBD				24VDC		
		GT1675-VNBA*1		TFT color LCD	4,096 colors	100-240VAC	11MB	—
		GT1675-VNBD*1				24VDC		
		GT1672-VNBA*1		TFT color LCD	16 colors	100-240VAC	11MB	—
		GT1672-VNBD*1				24VDC		
	GT166□	GT1665M-STBA	8.4" SVGA [800 × 600 dots]	TFT color LCD (high brightness, wide viewing angle)	65,536 colors	100-240VAC	15MB	Compatible with multimedia & Video/RGB
		GT1665M-STBD				24VDC		
		GT1665M-VTBA	8.4" VGA [640 × 480 dots]	TFT color LCD (high brightness, wide viewing angle)	65,536 colors	100-240VAC	15MB	Compatible with multimedia & Video/RGB
		GT1665M-VTBD				24VDC		
		GT1662-VNBA*1		TFT color LCD	16 colors	100-240VAC	11MB	—
		GT1662-VNBD*1				24VDC		
	GT1655	GT1655-VTBD*1	5.7" VGA [640 × 480 dots]	TFT color LCD (high brightness, wide viewing angle)	65,536 colors	24VDC	15MB	—
	Handy GOT	GT1665HS-VTBD*1	6.5" VGA [640 × 480 dots]	TFT color LCD (high brightness, wide viewing angle)	65,536 colors	24VDC	15MB	—
GT15	GT1595	GT1595-XTBA	15" XGA [1024 × 768 dots]	TFT color LCD (high brightness, wide viewing angle)	65,536 colors	100-240VAC	9MB	—
		GT1595-XTBD				24VDC		
	GT1585	GT1585V-STBA	12.1" SVGA [800 × 600 dots]	TFT color LCD (high brightness, wide viewing angle)	65,536 colors	100-240VAC	9MB	Compatible with Video/RGB
		GT1585V-STBD				24VDC		
		GT1585-STBA		TFT color LCD (high brightness, wide viewing angle)		100-240VAC		—
		GT1585-STBD				24VDC		
	GT157□	GT1575V-STBA	10.4" SVGA [800 × 600 dots]	TFT color LCD (high brightness, wide viewing angle)	65,536 colors	100-240VAC	9MB	Compatible with Video/RGB
		GT1575V-STBD				24VDC		
		GT1575-STBA		TFT color LCD (high brightness, wide viewing angle)		100-240VAC		—
		GT1575-STBD				24VDC		
		GT1575-VTBA	10.4" VGA [640 × 480 dots]	TFT color LCD (high brightness, wide viewing angle)	65,536 colors	100-240VAC	9MB	—
		GT1575-VTBD				24VDC		
		GT1575-VNBA		TFT color LCD	256 colors	100-240VAC	5MB	—
		GT1575-VNBD				24VDC		
		GT1572-VNBA		TFT color LCD	16 colors	100-240VAC	5MB	—
		GT1572-VNBD				24VDC		
	GT156□	GT1565-VTBA	8.4" VGA [640 × 480 dots]	TFT color LCD (high brightness, wide viewing angle)	65,536 colors	100-240VAC	9MB	—
		GT1565-VTBD				24VDC		
		GT1562-VNBA		TFT color LCD	16 colors	100-240VAC	5MB	—
		GT1562-VNBD				24VDC		
	GT155□	GT1555-VTBD	5.7" VGA [640 × 480 dots]	TFT color LCD (high brightness, wide viewing angle)	65,536 colors	24VDC	9MB	—
		GT1555-QTBD	5.7" QVGA [320 × 240 dots]		65,536 colors			
		GT1555-QSBD		STN color LCD	4,096 colors			
		GT1550-QLBD		STN monochrome LCD	Monochrome (black/white) 16 gray scales			
GT14	GT145□	GT1455-QTBDE*1 NEW	5.7" QVGA [320 × 240 dots]	TFT color LCD	65,536 colors	24VDC	9MB	—
		GT1450-QLBDE*1 NEW		STN monochrome LCD	Monochrome (black/white)16 gray scales			
GT12	GT1275	GT1275-VNBA	10.4" VGA [640× 480 dots]	TFT color LCD	256 colors	100-240VAC	6MB	—
		GT1275-VNBD				24VDC		
	GT1265	GT1265-VNBA	8.4" VGA [640 × 480 dots]			100-240VAC		
		GT1265-VNBD				24VDC		
GT11	GT1155	GT1155-QTBD	5.7" QVGA [320 × 240 dots]	TFT color LCD	256 colors	24VDC	3MB	—
		GT1155-QTBDQ						Dedicated to Q bus connection
		GT1155-QTBDA						Dedicated to A bus connection
		GT1155-QSBD		STN color LCD				—
		GT1155-QSBDQ						Dedicated to Q bus connection
		GT1155-QSBDA						Dedicated to A bus connection
	GT1150	GT1150-QLBD		STN monochrome LCD	Monochrome (black/white) 16 gray scales			—
		GT1150-QLBDQ						Dedicated to Q bus connection
		GT1150-QLBDA						Dedicated to A bus connection
	Handy GOT	GT1155HS-QSBD		STN color LCD	256 colors			—
		GT1150HS-QLBD		STN monochrome LCD	Monochrome (black/white) 16 gray scales			
GT10	GT105□	GT1055-QSBD	5.7" QVGA [320 × 240 dots]	STN color LCD	256 colors	24VDC	3MB	—
		GT1050-QBBD		STN monochrome LCD	Monochrome (blue/white) 16 gray scales			
	GT104□	GT1045-QSBD	4.7" QVGA [320 × 240 dots]	STN color LCD	256 colors	24VDC	3MB	—
		GT1040-QBBD		STN monochrome LCD	Monochrome (blue/white) 16 gray scales			

GOT main units

Model name		Screen size [resolution]	Display	Display colors (number of colors)		Power supply	Memory size	Remarks
GT10	GT1030	GT1030-HBD*1	4.5" [288 × 96 dots]	STN monochrome LCD (High contrast)	Frame color Black	Monochrome (black/white)	3-color LED (green, orange, red)	24VDC	1.5MB	Dedicated to RS-422 connection
		GT1030-HBD2*1						24VDC		Dedicated to RS-232 connection
		GT1030-HBL*1						5VDC		Dedicated to RS-422FX connection
		GT1030-HBDW*1					3-color LED (white, pink, red)	24VDC		Dedicated to RS-232 connection
		GT1030-HBDW2*1						24VDC		Dedicated to RS-232 connection
		GT1030-HBLW*1						5VDC		Dedicated to RS-422FX connection
		GT1030-HWD*1	4.5" [288 × 96 dots]	STN monochrome LCD (High contrast)	White	Monochrome (black/white)	3-color LED (green, orange, red)	24VDC	1.5MB	Dedicated to RS-422 connection
		GT1030-HWD2*1						24VDC		Dedicated to RS-232 connection
		GT1030-HWL*1						5VDC		Dedicated to RS-422FX connection
		GT1030-HWDW*1					3-color LED (white, pink, red)	24VDC		Dedicated to RS-232 connection
		GT1030-HWDW2*1						24VDC		Dedicated to RS-232 connection
		GT1030-HWLW*1						5VDC		Dedicated to RS-422FX connection
	GT1020	GT1020-LBD	3.7" [160 × 64 dots]	STN monochrome LCD	Black	Monochrome (black/white)	3-color LED (green, orange, red)	24VDC	512KB	Dedicated to RS-422 connection
		GT1020-LBD2						24VDC		Dedicated to RS-232 connection
		GT1020-LBL						5VDC		Dedicated to RS-422FX connection
		GT1020-LBDW					3-color LED (white, pink, red)	24VDC		Dedicated to RS-232 connection
		GT1020-LBDW2						24VDC		Dedicated to RS-232 connection
		GT1020-LBLW						5VDC		Dedicated to RS-422FX connection
		GT1020-LWD	3.7" [160 × 64 dots]	STN monochrome LCD	White	Monochrome (black/white)	3-color LED (green, orange, red)	24VDC	512KB	Dedicated to RS-422 connection
		GT1020-LWD2						24VDC		Dedicated to RS-232 connection
		GT1020-LWL						5VDC		Dedicated to RS-422FX connection
		GT1020-LWDW					3-color LED (white, pink, red)	24VDC		Dedicated to RS-232 connection
		GT1020-LWDW2						24VDC		Dedicated to RS-232 connection
		GT1020-LWLW						5VDC		Dedicated to RS-422FX connection

*1 : Not supported by GT Works2/GT Designer2.

Communication interface

Product name	Model name	Specifications	Applicable model						
			GT16	GT15	GT14	GT12	GT11	Handy GOT	GT10
Bus connection unit	GT15-QBUS	Bus connection (1ch) unit standard model for QCPU (Q mode)/motion controller CPU (Q series)	●	●	—	—	—	—	—
	GT15-QBUS2	Bus connection (2ch) unit standard model for QCPU (Q mode)/motion controller CPU (Q series)	●	●	—	—	—	—	—
	GT15-ABUS	Bus connection (1ch) unit standard model for QnA/ACPU/motion controller CPU (A series)	●	●	—	—	—	—	—
	GT15-ABUS2	Bus connection (2ch) unit standard model for QnA/ACPU/motion controller CPU (A series)	●	●	—	—	—	—	—
	GT15-75QBUSL	Bus connection (1ch) unit thin model*1 for QCPU (Q mode)/motion controller CPU (Q series)	●	●	—	—	—	—	—
	GT15-75QBUS2L	Bus connection (2ch) unit thin model*1 for QCPU (Q mode)/motion controller CPU (Q series)	●	●	—	—	—	—	—
	GT15-75ABUSL	Bus connection (1ch) unit thin model*1 for QnA/ACPU/motion controller CPU (A series)	●	●	—	—	—	—	—
	GT15-75ABUS2L	Bus connection (2ch) unit thin model*1 for QnA/ACPU/motion controller CPU (A series)	●	●	—	—	—	—	—
Serial communication unit	GT15-RS2-9P	RS-232 serial communication unit (D-sub 9-pin (male))	●	●	—	—	—	—	—
	GT15-RS4-9S	RS-422/485 serial communication unit (D-sub 9-pin (female))*2 *3	●	●	—	—	—	—	—
	GT15-RS4-TE	RS-422/485 serial communication unit (terminal block)*2 ※ Usable only when connecting to temperature controllers/indicating controllers via RS-485 or in GOT multi-drop connection	●	●	—	—	—	—	—
RS-422 conversion unit	GT15-RS2T4-9P	RS-232→RS-422 conversion unit (RS-422 connector: 9-pin)	●*6 *7	●*4	—	—	—	—	—
	GT15-RS2T4-25P	(RS-422 connector: 25-pin)	●*6 *7	●*4	—	—	—	—	—
MELSECNET/H communication unit	GT15-J71LP23-25	Standard station unit (optical loop)	●	●	—	—	—	—	—
	GT15-J71BR13	Standard station unit (coaxial bus)	●	●	—	—	—	—	—
CC-Link IE Controller Network communication unit	GT15-J71GP23-SX	Standard station unit (optical loop)	●	●	—	—	—	—	—
CC-Link IE Field Network communication unit	GT15-J71GF13-T2	Intelligent device station unit	●	●	—	—	—	—	—
CC-Link communication unit	GT15-J61BT13	Intelligent device station unit (supporting CC-Link version 2)	●	●	—	—	—	—	—
Ethernet communication unit	GT15-J71E71-100	Ethernet (100Base-TX) unit	—	●	—	—	—	—	—
Serial multi-drop connection unit	GT01-RS4-M	For GOT multi-drop connection	●	●*5	●	●*5	●*5	—	●*5
Connector conversion adapter	GT10-9PT5S	Conversion connector between D sub 9-pin male and Europe terminal block 5-pin	—	—	●*5	●*5	●*5	—	●*5
RS-232/485 Signal Conversion Adapter	GT14-RS2T4-9P NEW	Conversion adapter from RS-232 to RS-485	—	—	●	—	—	—	—
CC-Link interface unit	GT11HS-CCL	CC-Link interface unit for Handy GOT	—	—	—	—	—	●	—
	GT11H-CCL		—	—	—	—	—	●	—

*1 : The unit cannot be used stacked on other units.
*2 : The unit may not be able to be used depending on the connection destination. See "List of connectable models" (page 65).
*3 : The unit cannot be used when connecting to temperature controllers/indicating controllers via RS-485 (2-wire type)
*4 : The unit cannot be used with the GT155□.
*5 : For the hardware version compatible with GOT, please contact your local sales office.
*6 : For the instructions for connection of GT16/GT15, please contact your local sales office. The unit cannot be used with the GT1655.
*7 : When using the unit in a direct connection with a QCPU, only the □QnUCPU is supported.

Optional units

Product name	Model name	Specifications	Applicable model						
			GT16	GT15	GT14	GT12	GT11	Handy GOT	GT10
Printer unit	GT15-PRN	USB slave (PictBridge) for printer connection, 1ch ※ Cable for printer connection (3m) included	●	●	—	—	—	—	—
Multimedia unit	GT16M-MMR	For video input (NTSC/PAL) 1ch Record video images/play video files	●*2	—	—	—	—	—	—
Video input unit	GT16M-V4	For video input (NTSC/PAL) 4ch	●*2	—	—	—	—	—	—
	GT15V-75V4	For video input (NTSC/PAL) 4ch	—	●*3	—	—	—	—	—
RGB input unit	GT16M-R2	For analog RGB input 2ch	●*2	—	—	—	—	—	—
	GT15V-75R1	For analog RGB input 1ch	—	●*3	—	—	—	—	—
Video/RGB input unit	GT16M-V4R1	For video input (NTSC/PAL) 4ch / analog RGB 1ch composite input	●*2	—	—	—	—	—	—
	GT15V-75V4R1	For video input (NTSC/PAL) 4ch / analog RGB 1ch composite input	—	●*3	—	—	—	—	—
RGB output unit	GT16M-ROUT	For analog RGB output 1ch	●*2	—	—	—	—	—	—
	GT15V-75ROUT	For analog RGB output 1ch	—	●*3	—	—	—	—	—
CF card unit	GT15-CFCD	For additional CF card port (B drive) on the back of the GOT	●	●	—	—	—	—	—
CF card extension unit	GT15-CFEX-C08SET	For additional CF card port (B drive) at the front of the control panel*1	●	●	—	—	—	—	—
Sound output unit	GT15-SOUT	For sound output	●	●	—	—	—	—	—
External input/output unit	GT15-DIOR	For external input/output devices and operation panel connection (negative common input / source type output)	●	●	—	—	—	—	—
	GT15-DIO	For external input/output devices and operation panel connection (positive common input / sink type output)	●	●	—	—	—	—	—

*1 : Includes unit to be installed on the control panel, unit to be installed on the GOT, and connection cable (0.8m).
*2 : Excluding the GT16□□-VNB□ and GT1655.
*3 : Only the GT1585V and GT1575V are supported.

Product list

Software

Product name	Model name	Contents		
HMI Screen Design Software MELSOFT GT Works3 Version1	SW1DNC-GTWK3-E	Single license	*CD-ROM	English version
	SW1DNC-GTWK3-EA	Multiple-licence*1	*CD-ROM	English version
FA Integrated Engineering Software MELSOFT iQ Works *3	SW1DNC-IQWK-E	Single license	*CD-ROM	English version
	SW1DND-IQWK-E	Single license	*DVD-ROM	English version
License key for GT SoftGOT1000*4	GT15-SGTKEY-U	For USB port		
Personal computer remote operation function (Ethernet) license*5	GT16-PCRAKEY	1 license		
VNC® server function license*5	GT16-VNCSKEY NEW	1 license		

*1 : The desired number of licenses (2 or more) can be purchased. For details, please contact your local sales office.
*2 : Multiple-license product and additional license product are also available. For more details, please refer to the MELSOFT iQ Works catalog (L(NA)08232).
*3 : The product includes the following software.
 • System Management Software [MELSOFT Navigator] • Programmable Controller Engineering Software [MELSOFT GX Works2] • Motion Controller Engineering Software [MELSOFT MT Works2]
 • Servo Setup Software [MELSOFT MR Configurator2] • Screen Design Software for Graphic Operation Terminal [MELSOFT GT Works3] • Robot Programming Software [MELSOFT RT ToolBox2 mini]
*4 : To use GT SoftGOT1000, a license key for GT SoftGOT1000 is necessary for each personal computer.
*5 : 1 license is required for 1 GOT unit.

Options

Product name	Model name	Specifications		Applicable model						
				GT16	GT15	GT14	GT12	GT11	Handy GOT	GT10
Backlight	GT16-90XLTT	Backlight	For GT1695M-XTB☐	●	—	—	—	—	—	—
	GT16-80SLTT		For GT1685M-STB☐	●	—	—	—	—	—	—
	GT16-70SLTT		For GT1675M-STB☐	●	—	—	—	—	—	—
	GT16-70VLTT		For GT1675M-VTB☐*1	●	—	—	—	—	—	—
	GT16-70VLTTA		For GT1675M-VTB☐*2	●	—	—	—	—	—	—
	GT16-70VLTN		For GT1675-VNB☐/GT1672-VNB☐	●	—	—	—	—	—	—
	GT16-50SLTT		For GT1665M-STB☐	●	—	—	—	—	—	—
	GT16-60VLTT		For GT1665M-VTB☐	●	—	—	—	—	—	—
	GT16-60VLTN		For GT1662-VNB☐	●	—	—	—	—	—	—
	GT15-90XLTT		For GT1595-XTB☐	—	●	—	—	—	—	—
	GT15-80SLTT		For GT1585V-STB☐/GT1585-STB☐	—	●	—	—	—	—	—
	GT15-70SLTT		For GT1575-STB☐*3	—	●	—	—	—	—	—
	GT15-70VLTT		For GT1575V-STB☐/GT1575-VTB☐/GT1575-STB☐*4	—	●	—	—	—	—	—
	GT15-70VLTN		For GT1575-VNB☐/GT1572-VNB☐	—	●	—	—	—	—	—
	GT15-60VLTT		For GT1565-VTB☐	—	●	—	—	—	—	—
	GT15-60VLTN		For GT1562-VNB☐	—	●	—	—	—	—	—
	GT12-70VLTN		For GT1275-VNB☐	—	—	—	●	—	—	—
	GT12-60VLTN		For GT1265-VNB☐	—	—	—	●	—	—	—
Optional function board	GT16-MESB	Optional function board	For MES interface function	●	—	—	—	—	—	—
	GT15-FNB		(No expansion memory)	—	●	—	—	—	—	—
	GT15-QFNB	* The required optional function board varies depending on the GOT main unit and function. For the details, see "Notes for use" (page 81).	(No expansion memory)	—	●	—	—	—	—	—
	GT15-QFNB16M		+ 16MB expansion memory	—	●	—	—	—	—	—
	GT15-QFNB32M		+ 32MB expansion memory	—	●	—	—	—	—	—
	GT15-QFNB48M		+ 48MB expansion memory	—	●	—	—	—	—	—
	GT15-MESB48M		+ 48MB expansion memory	—	●	—	—	—	—	—
	GT11-50FNB		—	—	—	—	—	●*5	●*9	—
GT10 memory loader	GT10-LDR	For GT1030/GT1020 (for OS project data transfer) no power source required		—	—	—	—	—	—	●
GT10 memory board	GT10-50FMB	For GT105☐/GT104☐ (for OS and project data transfer)		—	—	—	—	—	—	●
Protective sheet	GT16-90PSCB	Protective sheet for 15" screen (for GT16)	Clear, 5 sheets	●	—	—	—	—	—	—
	GT16-90PSGB		Anti-glare, 5 sheets	●	—	—	—	—	—	—
	GT16-90PSCW		Clear (frame: white), 5 sheets	●	—	—	—	—	—	—
	GT16-90PSGW		Anti-glare (frame: white), 5 sheets	●	—	—	—	—	—	—
	GT16-90PSCB-012		Clear (USB protective cover type), 5 sheets*14	●	—	—	—	—	—	—
	GT15-90PSCB	Protective sheet for 15" screen (for GT15)	Clear, 5 sheets	—	●	—	—	—	—	—
	GT15-90PSGB		Anti-glare, 5 sheets	—	●	—	—	—	—	—
	GT15-90PSCW		Clear (frame: white), 5 sheets	—	●	—	—	—	—	—
	GT15-90PSGW		Anti-glare (frame: white), 5 sheets	—	●	—	—	—	—	—
	GT16-80PSCB	Protective sheet for 12.1" screen (for GT16)	Clear, 5 sheets	●	—	—	—	—	—	—
	GT16-80PSGB		Anti-glare, 5 sheets	●	—	—	—	—	—	—
	GT16-80PSCW		Clear (frame: white), 5 sheets	●	—	—	—	—	—	—
	GT16-80PSGW		Anti-glare (frame: white), 5 sheets	●	—	—	—	—	—	—
	GT16-80PSCB-012		Clear (USB protective cover type), 5 sheets*14	●	—	—	—	—	—	—
	GT15-80PSCB	Protective sheet for 12.1" screen (for GT15)	Clear, 5 sheets	—	●	—	—	—	—	—
	GT15-80PSGB		Anti-glare, 5 sheets	—	●	—	—	—	—	—
	GT15-80PSCW		Clear (frame: white), 5 sheets	—	●	—	—	—	—	—
	GT15-80PSGW		Anti-glare (frame: white), 5 sheets	—	●	—	—	—	—	—
	GT16-70PSCB	Protective sheet for 10.4" screen (for GT16)	Clear, 5 sheets	●	—	—	—	—	—	—
	GT16-70PSGB		Anti-glare, 5 sheets	●	—	—	—	—	—	—
	GT16-70PSCW		Clear (frame: white), 5 sheets	●	—	—	—	—	—	—
	GT16-70PSGW		Anti-glare (frame: white), 5 sheets	●	—	—	—	—	—	—
	GT16-70PSCB-012		Clear (USB protective cover type), 5 sheets*14	●	—	—	—	—	—	—
	GT15-70PSCB	Protective sheet for 10.4" screen (for GT15)	Clear, 5 sheets	—	●	—	—	—	—	—
	GT15-70PSGB		Anti-glare, 5 sheets	—	●	—	—	—	—	—
	GT15-70PSCW		Clear (frame: white), 5 sheets	—	●	—	—	—	—	—
	GT15-70PSGW		Anti-glare (frame: white), 5 sheets	—	●	—	—	—	—	—
	GT11-70PSCB	Protective sheet for 10.4" screen (for GT12)	Clear, 5 sheets	—	—	—	●	—	—	—
	GT16-60PSCB	Protective sheet for 8.4" screen (for GT16)	Clear, 5 sheets	●	—	—	—	—	—	—
	GT16-60PSGB		Anti-glare, 5 sheets	●	—	—	—	—	—	—
	GT16-60PSCW		Clear (frame: white), 5 sheets	●	—	—	—	—	—	—
	GT16-60PSGW		Anti-glare (frame: white), 5 sheets	●	—	—	—	—	—	—
	GT16-60PSCB-012		Clear (USB protective cover type), 5 sheets*14	●	—	—	—	—	—	—
	GT15-60PSCB	Protective sheet for 8.4" screen (for GT15)	Clear, 5 sheets	—	●	—	—	—	—	—
	GT15-60PSGB		Anti-glare, 5 sheets	—	●	—	—	—	—	—
	GT15-60PSCW		Clear (frame: white), 5 sheets	—	●	—	—	—	—	—
	GT15-60PSGW		Anti-glare (frame: white), 5 sheets	—	●	—	—	—	—	—
	GT11-60PSCB	Protective sheet for 8.4" screen (for GT12)	Clear, 5 sheets	—	—	—	●	—	—	—
	GT16H-60PSC	Protective sheet for 6.5" screen (for GT16 Handy GOT)	Clear, 5 sheets	—	—	—	—	—	●	—
	GT16-50PSCB	Protective sheet for 5.7" screen (for GT16)	Clear, 5 sheets	●	—	—	—	—	—	—
	GT16-50PSGB		Anti-glare, 5 sheets	●	—	—	—	—	—	—
	GT16-50PSCW		Clear (frame: white), 5 sheets	●	—	—	—	—	—	—
	GT16-50PSGW		Anti-glare (frame: white), 5 sheets	●	—	—	—	—	—	—
	GT16-50PSCB-012		Clear (USB protective cover type), 5 sheets*14	●	—	—	—	—	—	—
	GT15-50PSCB	Protective sheet for 5.7" screen (for GT15)	Clear, 5 sheets	—	●	—	—	—	—	—
	GT15-50PSGB		Anti-glare, 5 sheets	—	●	—	—	—	—	—
	GT15-50PSCW		Clear (frame: white), 5 sheets	—	●	—	—	—	—	—
	GT15-50PSGW		Anti-glare (frame: white), 5 sheets	—	●	—	—	—	—	—
	GT14-50PSCB NEW	Protective sheet for 5.7" screen (for GT14)	Clear, 5 sheets	—	—	●	—	—	—	—
	GT14-50PSGB NEW		Anti-glare, 5 sheets	—	—	●	—	—	—	—
	GT14-50PSCW NEW		Clear (frame: white), 5 sheets	—	—	●	—	—	—	—
	GT14-50PSGW NEW		Anti-glare (frame: white), 5 sheets	—	—	●	—	—	—	—
	GT11-50PSCB	Protective sheet for 5.7" screen (for GT11)	Clear, 5 sheets	—	—	—	—	●	—	—
	GT11-50PSGB		Anti-glare, 5 sheets	—	—	—	—	●	—	—
	GT11-50PSCW		Clear (frame: white), 5 sheets	—	—	—	—	●	—	—
	GT11-50PSGW		Anti-glare (frame: white), 5 sheets	—	—	—	—	●	—	—

Options

Product name	Model name	Specifications		Applicable model						
				GT16	GT15	GT14	GT12	GT11	Handy GOT	GT10
Protective sheet	GT11H-50PSC	Protective sheet for 5.7" screen (for GT11 Handy GOT)		—	—	—	—	—	●	—
	GT10-50PSCB	Protective sheet for 5.7" screen (for GT105☐)	Clear, 5 sheets	—	—	—	—	—	—	●
	GT10-50PSGB		Anti-glare, 5 sheets	—	—	—	—	—	—	●
	GT10-50PSCW		Clear (frame: white), 5 sheets	—	—	—	—	—	—	●
	GT10-50PSGW		Anti-glare (frame: white), 5 sheets	—	—	—	—	—	—	●
	GT10-40PSCB	Protective sheet for 4.7" screen (for GT104☐)	Clear, 5 sheets	—	—	—	—	—	—	●
	GT10-40PSGB		Anti-glare, 5 sheets	—	—	—	—	—	—	●
	GT10-40PSCW		Clear (frame: white), 5 sheets	—	—	—	—	—	—	●
	GT10-40PSGW		Anti-glare (frame: white), 5 sheets	—	—	—	—	—	—	●
	GT10-30PSCB	Protective sheet for 4.5" screen (for GT1030)	Clear, 5 sheets	—	—	—	—	—	—	●
	GT10-30PSGB		Anti-glare, 5 sheets	—	—	—	—	—	—	●
	GT10-30PSCW		Clear (frame: white), 5 sheets	—	—	—	—	—	—	●
	GT10-30PSGW		Anti-glare (frame: white), 5 sheets	—	—	—	—	—	—	●
	GT10-20PSCB	Protective sheet for 3.7" screen (for GT1020)	Clear, 5 sheets	—	—	—	—	—	—	●
	GT10-20PSGB		Anti-glare, 5 sheets	—	—	—	—	—	—	●
	GT10-20PSCW		Clear (frame: white), 5 sheets	—	—	—	—	—	—	●
	GT10-20PSGW		Anti-glare (frame: white), 5 sheets	—	—	—	—	—	—	●
USB protective cover	GT16-UCOV	Protective cover for USB interface on main unit front panel (for replacement)	For 15"/12.1"/10.4"/8.4"	●	—	—	—	—	—	—
	GT16-50UCOV		For 5.7"	●	—	—	—	—	—	—
	GT15-UCOV		For 15"/12.1"/10.4"/8.4"	—	●	—	—	—	—	—
	GT14-50UCOV NEW		For 5.7"	—	—	●	—	—	—	—
	GT11-50UCOV		For 5.7"	—	—	—	—	●	—	—
Oil resistant cover*7	GT05-90PCO	Oil resistant cover for 15" screen		●	●	—	—	—	—	—
	GT05-80PCO	Oil resistant cover for 12.1" screen		●	●	—	—	—	—	—
	GT05-70PCO	Oil resistant cover for 10.4" screen		●	●	—	●	—	—	—
	GT05-60PCO	Oil resistant cover for 8.4" screen		●	●	—	●	—	—	—
	GT16-50PCO	Oil resistant cover for 5.7" screen		●	—	—	—	—	—	—
	GT05-50PCO	Oil resistant cover for 5.7" screen		—	●	—	●	●	—	—
	GT10-40PCO	Oil resistant cover for 4.7" screen		—	—	—	—	—	—	●
	GT10-30PCO	Oil resistant cover for 4.5" screen		—	—	—	—	—	—	●
	GT10-20PCO	Oil resistant cover for 3.7" screen		—	—	—	—	—	—	●
Emergency stop switch guard	GT16H-60ESCOV	Cover for accidental operation prevention of emergency stop switch (for GT16 Handy GOT)		—	—	—	—	—	●	—
	GT11H-50ESCOV	Cover for accidental operation prevention of emergency stop switch (for GT11 Handy GOT)		—	—	—	—	—	●	—
Stand	GT15-90STAND	Stand for 15" type		●	●	—	—	—	—	—
	GT15-80STAND	Stand for 12.1" type		●	●	—	—	—	—	—
	GT15-70STAND	Stand for 10.4"/8.4" type		●	●	—	●	—	—	—
	GT05-50STAND	Stand for 5.7" type		●	●	●	●	●	—	—
Memory card	CF card	GT05-MEM-128MC	128MB flash ROM	●	●	—	●	—	—	—
		GT05-MEM-256MC	256MB flash ROM	●	●	—	●	—	—	—
		GT05-MEM-512MC	512MB flash ROM	●	●	—	●	—	—	—
		GT05-MEM-1GC	1GB flash ROM	●	●	—	●	—	—	—
		GT05-MEM-2GC	2GB flash ROM	●	●	—	●	—	—	—
		GT05-MEM-4GC	4GB flash ROM	●	—	—	—	—	●*10	—
		GT05-MEM-8GC	8GB flash ROM	●	—	—	—	—	●*10	—
		GT05-MEM-16GC	16GB flash ROM	●	—	—	—	—	●*10	—
	SD card	L1MEM-2GBSD NEW	2GB SD memory card	—	—	●	—	—	—	—
		L1MEM-4GBSD NEW	4GB SDHC memory card	—	—	●	—	—	—	—
Memory card adapter	GT05-MEM-ADPC	CF card→memory card (TYPE Ⅱ) conversion adapter		●	●	—	●	—	—	—
Attachment	GT15-70ATT-98	Attachment for 10.4" type	A985GOT *8	GT167☐ →GT157☐ GT1275	●	●	—	●	—	—	—
	GT15-70ATT-87		A870GOT-SWS A8GT-70GOT-TB / A870GOT-TWS A8GT-70GOT-SW / A8GT-70GOT-TW A8GT-70GOT-SB		●	●	—	●	—	—	—
	GT15-60ATT-97	Attachment for 8.4" type	A97☐GOT	GT166☐ →GT156☐ GT1265	●	●	—	●	—	—	—
	GT15-60ATT-96		A960GOT		●	●	—	●	—	—	—
	GT15-60ATT-87		A870GOT-EWS A77GOT-EL-S5 / A8GT-70GOT-EW A77GOT-EL-S3 / A8GT-70GOT-EB A77GOT-EL		●	●	—	●	—	—	—
	GT15-60ATT-77		A77GOT-CL-S5 A77GOT-L-S5 / A77GOT-CL-S3 A77GOT-L-S3 / A77GOT-CL A77GOT-L		●	●	—	●	—	—	—
	GT15-50ATT-95W	Attachment for 5.7" type	A956WGOT F940WGOT	GT1655 GT155☐ →GT145☐ GT115☐	●	●	●	—	●	—	—
	GT15-50ATT-85		A85☐GOT		●	●	●	●	●	—	—
Battery	GT15-BAT	Battery for backup of clock data and maintenance time notification data		●*11	●	—	—	—	●*13	—
	GT11-50BAT	Battery for backup of clock data, alarm history, recipe data, time action set values (for replacement)		●*12	—	—	—	—	●	●*6

*1 : Function version C or earlier.
*2 : Function version D or later.
*3 : Function version B or earlier.
*4 : Function version C or later.
*5 : Excluding the GT115☐-Q☐BDQ and GT115☐-Q☐BDA.
*6 : Excluding the GT1020.
*7 : Check if the oil resistant cover can be used in the actual environment before use. When using the oil resistant cover, the front USB interface and human sensor cannot be used.
*8 : Including the GP250☐ and GP260☐ manufactured by Pro-face.
*9 : Can be used only with the GT11 Handy.

*10 : Can be used only with the GT16 Handy.
*11 : Excluding GT1655. Application: Battery for backup of clock data, maintenance time notification data, system log data, SRAM user area (for replacement)
*12 : Can be used only with the GT1655. Application: Battery for backup of clock data, maintenance time notification data, system log data, SRAM user area (for replacement)
*13 : Can be used only with the GT16 Handy. Application: Battery for backup of clock data, maintenance time notification data, system log data, SRAM user area (for replacement)
*14 : The front-face USB interface cannot be used when using a protective sheet that covers the USB protective cover area.

Manuals *Manuals are supplied as PDF documents with the software package in the CD-ROM. Printed manuals are also available.

Manual title	Catalog No.	Manual title	Catalog No.
GT Designer3 Version1 Screen Design Manual (Fundamentals)	SH-080866ENG	GOT1000 Series User's Manual (Extended Functions, Option Functions) for GT Works3	SH-080863ENG
GT Designer3 Version1 Screen Design Manual (Functions) *A set of two volumes	SH-080867ENG	GT16 User's Manual (Hardware)	SH-080928ENG
GOT1000 Series Connection Manual (Mitsubishi Products) for GT Works3	SH-080868ENG	GT16 User's Manual (Basic Utility)	SH-080929ENG
GOT1000 Series Connection Manual (Non-Mitsubishi Products 1) for GT Works3	SH-080869ENG	GT15 User's Manual	SH-080528ENG
GOT1000 Series Connection Manual (Non-Mitsubishi Products 2) for GT Works3	SH-080870ENG	GT14 User's Manual	JY997D44801C
GOT1000 Series Connection Manual (Microcomputer, MODBUS Products, Peripherals) for GT Works3	SH-080871ENG	GT12 Supplementary Description	SH-080864ENG
GOT1000 Series Gateway Functions Manual for GT Works3	SH-080858ENG	GT11 User's Manual	JY997D17501
GOT1000 Series MES Interface Function Manual for GT Works3	SH-080859ENG	GT16 Handy GOT User's Manual (Hardware • Utility, Connection) *A set of two volumes	JY997D41201
GT SoftGOT1000 Version3 Operating Manual for GT Works3	SH-080861ENG	GT11 Handy GOT User's Manual (Hardware • Utility, Connection) *A set of two volumes	JY997D20101
GT Simulator3 Version1 Operating Manual for GT Works3	SH-080860ENG	GT10 User's Manual	JY997D24701
GT Converter2 Version3 Operating Manual for GT Works3	SH-080862ENG		

Cables

Product name		Model name	Cable length	Third party products *1	Application	GT16	GT15	GT14	GT12	GT11	Handy GOT	GT10
Bus connection cable for QCPU (Q mode)	QCPU extension cable / GOT-to-GOT connection cable	GT15-QC06B	0.6m	○	For connection between QCPU and GOT / For connection between GOT and GOT	●	●	—	—	●	—	—
		GT15-QC12B	1.2m									
		GT15-QC30B	3m									
		GT15-QC50B	5m									
		GT15-QC100B	10m									
	Long-distance connection cable for QCPU / GOT-to-GOT long-distance connection cable	GT15-QC150BS	15m	○	For long-distance (13.2m or more) connection between QCPU and GOT (A9GT-QCNB required) / For long-distance connection between GOT and GOT	●	●	—	—	●	—	—
		GT15-QC200BS	20m									
		GT15-QC250BS	25m									
		GT15-QC300BS	30m									
		GT15-QC350BS	35m									
Bus extension connector box		A9GT-QCNB	—	—	Used for QCPU long-distance (13.2m or more) bus connection	●	●	—	—	●	—	—
Bus connection cable for QnA/ACPU/motion controller CPU (A series)	Large CPU extension cable	GT15-C12NB	1.2m	○	For connection between QnA/ACPU/motion controller CPU (A series, extension base) and GOT	●	●	—	—	●	—	—
		GT15-C30NB	3m									
		GT15-C50NB	5m									
		GT15-AC06B	0.6m	○	For connection between QnA/ACPU/motion controller CPU (A series, extension base) and A7GT-CNB	●	●	—	—	●	—	—
		GT15-AC12B	1.2m									
		GT15-AC30B	3m									
		GT15-AC50B	5m									
		GT15-A370C12B-S1	1.2m	○	For connection between motion controller CPU (A series, main base) and GOT	●	●	—	—	●	—	—
		GT15-A370C25B-S1	2.5m									
		GT15-A370C12B	1.2m	○	For connection between motion controller CPU (A series, main base) and A7GT-CNB	●	●	—	—	●	—	—
		GT15-A370C25B	2.5m									
	Small CPU extension cable	GT15-A1SC07B	0.7m	○	For connection between QnAS/AnSCPU/motion controller CPU (A series) and GOT	●	●	—	—	●	—	—
		GT15-A1SC12B	1.2m									
		GT15-A1SC30B	3m									
		GT15-A1SC50B	5m	○	For connection between QnAS/AnSCPU and GOT	●	●	—	—	●	—	—
		GT15-A1SC05NB	0.45m	○	For connection between QnAS/AnSCPU/motion controller CPU (A series) and A7GT-CNB	●	●	—	—	●	—	—
		GT15-A1SC07NB	0.7m									
		GT15-A1SC30NB	3m									
		GT15-A1SC50NB	5m	○	For connection between QnAS/AnSCPU and A7GT-CNB	●	●	—	—	●	—	—
	Small CPU long-distance connection cable	GT15-C100EXSS-1	10.6m		For long-distance connection between QnAS/AnSCPU/motion controller CPU (A series) and GOT	●	●	—	—	●	—	—
		GT15-C200EXSS-1	20.6m									
		GT15-C300EXSS-1	30.6m		For long-distance connection between A7GT-CNB and GOT *Set of GT15-EXCNB and GT15-C□BS							
	GOT-to-GOT connection cable	GT15-C07BS	0.7m	○	For connection between GOT and GOT	●	●	—	—	●	—	—
		GT15-C12BS	1.2m									
		GT15-C30BS	3m									
		GT15-C50BS	5m									
	GOT-to-GOT long-distance connection cable	GT15-C100BS	10m	○	For connection between GOT and GOT	●	●	—	—	●	—	—
		GT15-C200BS	20m									
		GT15-C300BS	30m									
	A0J2HCPU connection cable	GT15-J2C10B	1m	○	For connection between power supply unit (A0J2-PW) for A0J2HCPU and GOT	●	●	—	—	●	—	—
Bus connector conversion box		A7GT-CNB	—	—	Used for QnA/ACPU long-distance bus connection	●	●	—	—	●	—	—
Buffer circuit cable		GT15-EXCNB	0.5m	○	Usable as GT15-C□EXSS-1 in combination with GT15-C□BS	●	●	—	—	●	—	—
Ferrite core set for Q bus cable (two-pack)		GT15-QFC	—	—	Ferrite cores for replacing existing GOT-A900 bus cable with bus cable for GOT1000							
Ferrite core set for A bus cable (two-pack)		GT15-AFC	—	—								
RS-422 conversion cable		GT16-C02R4-9S	0.2m	○	For connection between RS-422/485 (connector) of GT16 and RS-422 cable (D-sub 9 pins)	●	—	—	—	—	—	—
		GT16-C02R4-25S	0.2m	○	For connection between RS-422/485 (connector) of GT16 and RS-422 cable (D-sub 25 pins)	●	—	—	—	—	—	—
RS-485 terminal block conversion unit		FA-LTBGTR4CBL05	0.5m	○	RS-485 terminal block conversion unit *With cable for connection between RS-422/485 (connector) of GT16 and RS-485 terminal block conversion unit	●	—	—	—	—	—	—
		FA-LTBGTR4CBL10	1m									
		FA-LTBGTR4CBL20	2m									
QnA/A/FXCPU direct connection cable / Computer link connection cable		GT01-C30R4-25P	3m	—	For connection between QnA/ACPU/motion controller CPU (A series)/FXCPU (D-sub 25-pin connector) and GOT / For connection between FA-CNV□CBL and GOT / For connection between serial communication unit and GOT / For connection between AJ65BT-G4-S3 and GOT	●*6	●	●	●	●	●*3	●*4
		GT01-C100R4-25P	10m									
		GT01-C200R4-25P	20m									
		GT01-C300R4-25P	30m									
		GT10-C30R4-25P	3m	—	For connection between QnA/A/FXCPU (D-sub 25-pin connector) and GOT / For connection between serial communication unit (AJ71QC24(N)-R4) and GOT	—	—	—	—	—	—	●*5
		GT10-C100R4-25P	10m									
		GT10-C200R4-25P	20m									
		GT10-C300R4-25P	30m									
Computer link connection cable		GT09-C30R4-6C	3m	○	For connection between serial communication unit and GOT / For connection between computer link unit and GOT	●*6	●	●	●	●	●*3	●*4
		GT09-C100R4-6C	10m									
		GT09-C200R4-6C	20m									
		GT09-C300R4-6C	30m									
RS-422 cable	FXCPU direct connection cable / FX communication function extension board connection cable	GT01-C10R4-8P	1m	—	For connection between FXCPU (MINI-DIN 8-pin connector) and GOT	●*6	●	●	●	●	●*3	●*4
		GT01-C30R4-8P	3m									
		GT01-C100R4-8P	10m									
		GT01-C200R4-8P	20m									
		GT01-C300R4-8P	30m									
		GT10-C10R4-8P	1m	—	For connection between FXCPU (MINI-DIN 8-pin connector) and GOT / For connection between FXCPU communication function extension board (MINI-DIN 8-pin connector) and GOT	—	—	—	—	—	—	●*5
		GT10-C30R4-8P	3m									
		GT10-C100R4-8P	10m									
		GT10-C200R4-8P	20m									
		GT10-C300R4-8P	30m									
		GT10-C10R4-8PL	1m	—	For connection between FXCPU (MINI-DIN 8-pin connector) and GOT / For connection between FXCPU communication function extension board (MINI-DIN 8-pin connector) and GOT *The unit cannot be used with the FX1NC, FX2NC, FX3UC-D/DSS, FX3G.							
		GT10-C10R4-8PC	1m	—	For connection between FXCPU (MINI-DIN 8-pin connector) and GOT / For connection between FXCPU communication function extension board (MINI-DIN 8-pin connector) and GOT	—	—	—	—	—	—	●*5
		GT10-C30R4-8PC	3m									
		GT10-C100R4-8PC	10m									
		GT10-C200R4-8PC	20m									
		GT10-C300R4-8PC	30m									
Connector conversion cable for F930→GT1030 replacement		GT10-C02H-9SC	0.2m	—	For replacing a F930GOT unit with the GT1030 series unit Converts D-sub 9-pin connector to loose wire (Europe terminal block)	—	—	—	—	—	—	●
RS-232 cable	Q/LCPU direct connection cable / Data transfer cable	GT01-C30R2-6P	3m	—	For connection between Q/LCPU and personal computer (GT SoftGOT1000) (D-sub 9-pin) / For connection between personal computer (screen design software) (D-sub 9-pin, female) and GOT (MINI-DIN 6-pin, male)	●	●	●	●	●	●	●*4 / ●*5
		GT10-C30R2-6P	3m	—	For connection between Q/LCPU and GOT / For connection between GOT and GOT	—	—	—	—	—	—	●*5
		GT11H-C30R2-6P	3m	—	For connector conversion box between Q/LCPU and Handy GOT	—	—	—	—	—	●	—

Cables

Product name		Model name	Cable length	Third party products *1	Application	GT16	GT15	GT14	GT12	GT11	Handy GOT	GT10
RS-232 cable	FX communication function extension board connection cable, FX communication function adapter connection cable, Data transfer cable	GT01-C30R2-9S	3m	—	For connection between FXCPU communication function extension board (D-sub 9-pin connector) and GOT/personal computer (GT SoftGOT1000) (D-sub 9-pin) For connection between FXCPU communication function adapter (D-sub 9-pin connector) and GOT For connection between personal computer (screen design software) (D-sub 9-pin, female) and GOT (D-sub 9-pin, female)	●	●	●	●	●	●*3	●*4
	FX communication function adapter connection cable	GT01-C30R2-25P	3m	—	For connection between FXCPU communication special adapter (D-sub 25-pin connector) and GOT, personal computer (GT SoftGOT1000) (D-sub 9-pin)	●	●	●	●	●	●*3	●*4
	Computer link connection cable	GT09-C30R2-9P	3m	○	For connection between serial communication unit and GOT For connection between computer link unit and GOT For connection between AJ65BT-R2N and GOT (GT09-C30R2-9P only)	●	●	●	●	●	●*3	●*4
		GT09-C30R2-25P	3m									
Connector conversion box for Handy GOT		GT16H-CNB-42S	—	—	Converts Handy GOT connector to RJ-45 for terminal block, D-sub connector or Ethernet for each signal type	—	—	—	—	—	●*7	—
		GT11H-CNB-37S	—	—	Converts D-sub 37-pin connector to terminal block and D-sub 9-pin connector	—	—	—	—	—	●*8	—
External connection cable	FA device, power supply and operation switch connection cable	GT16H-C30-42P	3m	—	For connection between connector conversion box and Handy GOT	—	—	—	—	—	●*7	—
		GT16H-C60-42P	6m									
		GT16H-C100-42P	10m									
		GT16H-C30-32P	3m	—	For connection between CC-Link interface unit and Handy GOT	—	—	—	—	—	●*7	—
		GT16H-C50-32P	5m									
		GT16H-C80-32P	8m									
		GT16H-C130-32P	13m									
		GT11H-C30-37P	3m	—	For connection between FA device connection relay cable and GOT	—	—	—	—	—	●*8	—
		GT11H-C60-37P	6m									
		GT11H-C100-37P	10m									
		GT11H-C30	3m	—	For connection between FA device, power supply and operation switches and GOT	—	—	—	—	—	●*8	—
		GT11H-C60	6m									
		GT11H-C100	10m									
	Dedicated cable for CC-Link interface unit	GT11H-C30-32P	3m	—	For connection between CC-Link interface unit and Handy GOT	—	—	—	—	—	●*8	—
		GT11H-C50-32P	5m									
		GT11H-C80-32P	8m									
		GT11H-C130-32P	13m									
FA device connection relay cable	RS-422, power supply and operation switch connection cable	GT11H-C15R4-8P	1.5m	—	For connection between FXCPU and GOT / For connection between power supply and operation switches and GOT	—	—	—	—	—	●*8	—
		GT11H-C15R4-25P	1.5m	—	For connection between A/QnACPU and GOT / For connection between power supply and operation switches and GOT	—	—	—	—	—	●*8	—
	RS-232, power supply and operation switch connection cable	GT11H-C15R2-6P	1.5m	—	For connection between QCPU and GOT / For connection between power supply and operation switches and GOT	—	—	—	—	—	●*8	—
Barcode reader connection cable		GT10-C02H-6PT9P	0.2m	—	For connection between barcode reader (D-sub 9-pin, male) and GOT (MINI-DIN 6-pin, male) RS-232	—	—	—	—	—	—	●*5
External I/O unit connection conversion cable		GT15-C03HTB	0.3m	○	For connection between GOT1000 (external I/O unit) and GOT-A900 external I/O interface unit connection cable (A8GT-C05TK/A8GT-C30TB/user-fabricated cable)	●	●	—	—	—	—	—
Analog RGB cable		GT15-C50VG	5m	○	For connection between external monitor, personal computer and vision sensor and GOT	●	●	—	—	—	—	—
USB cable	RS-232/USB conversion adapter for data transfer	GT10-RS2TUSB-5S	—	—	For connection between personal computer (USB) and GOT (RS-232) (Adapter and personal computer are connected with GT09-C30USB-5P.)	—	—	—	—	—	—	●*5
	Data transfer cable	GT09-C30USB-5P	3m	○	For connection between personal computer (USB) and GOT (USB mini-B) For connection between QnUCPU (USB mini-B) and personal computer (GT SoftGOT1000) For connection between printer and GOT (printer unit)	●	●	●	●	●	—	●
Extension USB waterproof cable		GT14-C10EXUSB-4S (NEW)	1m	—	For extending the USB port of GOT to the control panel	—	—	●	—	—	—	—
		GT10-C10EXUSB-5S	1m	—		—	—	—	—	—	—	●

*1 : FA-LTBGTR4CBL□ is developed by Mitsubishi Electric Engineering Company Limited and sold through your local sales office. The other products listed are developed by Mitsubishi Electric System & Service Co., LTD. and sold through your local sales office.
*2 : The applicable connection configuration and cable vary depending on the GOT main unit. For more details, see the GOT1000 Series Handbook and the GOT1000 Series Connection Manual.
*3 : Can be used when used together with the Handy GOT connector conversion box.
*4 : Can be used with the GT105□ and GT104□.
*5 : Can be used only with the GT1030 and GT1020.
*6 : To connect with RS-422/485 interface of GT16 main unit, an RS-422 conversion cable (GT16-C02R4-9S) is required.
*7 : Can be used only with the GT16 Handy.
*8 : Can be used only with the GT11 Handy.

Cables for third party FA devices

Product name		Model name	Cable length	Third party products *1	GOT connection destination	GT16	GT15	GT14	GT12	GT11	Handy GOT	GT10
RS-232 cable	Cable for OMRON PLC	GT09-C30R20101-9P	3m	○	PLC CPU: CPM2A/CQM1(H)/CS1/CJ1/CJ2H/CP1E/C200HX/C200HG/C200HE/CV500/CV1000/CV2000/CVM1 RS-232C adapter: CPM1-CIF01/CPM2C-CIF01-V1 Cable: CPM2C-CN111/CQM1-CIF02 Serial communication unit/board: CQM1-SCB41/C200HW-COM02/C200HW-COM05/C200HW-COM06/CS1W-SCB21(-V1)/CS1W-SCB41(-V1)/CS1W-SCU21(-V1)/CJ1W-SCU21(-V1)/CJ1W-SCU41(-V1)/CP1W-CIE01	●	●	●	●	●	●*3	●*4
		GT09-C30R20102-25S	3m		Connection cable: CQM1-CIF01							
		GT09-C30R20103-25P	3m		Base mount type host link unit: C500-LK201-V1/C200H-LK201-V1							
	Cable for KEYENCE PLC	GT09-C30R21101-6P	3m		PLC CPU: KV-700/1000/3000							
		GT09-C30R21102-9S	3m		Multi-communication unit: KV-L20/KV-L20R/KV-L20V (port 1)							
		GT09-C30R21103-3T	3m		Multi-communication unit: KV-L20/KV-L20R/KV-L20V (port 2)							
	Cable for Sharp Manufacturing Systems PLC	GT09-C30R20601-15P	3m		PLC CPU: JW-22CU/70CUH/100CUH/100CU							
		GT09-C30R20602-15P	3m		PLC CPU: JW-32CUH/33CUH/Z-512J							
	Cables for JTEKT PLC	GT09-C30R21201-25P	3m		RS-232/RS-422 converter: TXU-2051							
	Cable for Shinko Technos digital indicating controller	GT09-C30R21401-4T	3m		Digital indicating controller: FCR-100/FCD-100/FCR-23A/PC-900/FIR series							
	Cable for TOSHIBA PLC	GT09-C30R20501-9P	3m		PLC CPU: T2E							
		GT09-C30R20502-15P	3m		PLC CPU: T2N							
	Cable for Hitachi Industrial Equipment Systems PLC	GT09-C30R20401-15P	3m		PLC CPU: Large-size H series/H200 to 252 series/H series board type/EH-150 series Intelligent serial port module: COMM-H/COMM-2H							
		GT09-C30R20402-15P	3m		PLC CPU: H-4010/H-252C/EH-150 series							
	Cable for Hitachi PLC	GT09-C30R21301-9S	3m		Communication module: LQE560/LQE060/LQE160							
	Cable for Fuji Electric FA Components & Systems PLC	GT09-C30R21003-25P	3m		RS-232C interface card: NV1L-RS2 RS-232C/485 interface capsule: FFK120A-C10 General interface module: NC1L-RS2/FFU120B							
	Cable for Panasonic Corporation PLC	GT09-C30R20901-25P	3m		RS-422→232 conversion adapter: AFP8550							
		GT09-C30R20902-9P	3m		PLC CPU: FP2/FP2SH/FP3/FP5/FP10(S)/FP10SH/FP-M Computer communication unit: AFP2462/AFP3462/AFP5462							
		GT09-C30R20903-9P	3m		PLC CPU: FP1-C24C/C40C							
		GT09-C30R20904-3C	3m		PLC CPU: FP1-C16CT/C32CT/FPOR							

*1 : Items listed above are developed by Mitsubishi Electric System & Service Co., LTD., and sold through your local sales office.
*2 : The applicable connection configuration and cable vary depending on the GOT main unit. For more details, see the GOT1000 Series Handbook and the GOT1000 Series Connection Manual.
*3 : RS-422 cables less than 10m and the RS-232 cable less than 3m can be used when the connector conversion box for the Handy GOT is used.
*4 : Can be used only with the GT105□ and GT104□.

INDEX | For Designers | For Initial Startup & Operations | For Maintenance Personnel | GT10 | iQ Platform | MELSEC Process Control | Specifications, External Dimensions | List of Connectable Models, etc.

Cables for third party FA devices

Product name		Model name	Cable length	Third party products *1	GOT connection destination	GT16	GT15	GT14	GT12	GT11	Handy GOT	GT10
RS-232 cable	Cable for YASKAWA Electric PLC	GT09-C30R20201-9P	3m		PLC CPU: GL120/GL130/MP-920/MP-930/CP-9200(H)/PROGIC-8 (port 1) MEMOBUS module: JAMSC-IF60/JAMSC-IF61 Communication module: 217IF/CP-217IF (when connected to CN1)/217IF-01/218IF-01							● *4
		GT09-C30R20202-15P	3m		PLC CPU: PROGIC-8 (port 2)							
		GT09-C30R20203-9P	3m		PLC CPU: CP-9300MS							
		GT09-C30R20204-14P	3m		PLC CPU: MP-940							
		GT09-C30R20205-25P	3m		MEMOBUS module: CP-217IF (when connected to CN2) Yokogawa Electric personal computer module: LC01-0N/LC02-0N	●	●	●	●	●	● *3	
	Cable for Yokogawa Electric PLC	GT09-C30R20301-9P	3m		CPU port/D-sub 9-pin conversion cable: KM10-0C/KM10-0S Personal computer link module: F3LC01-1N/F3LC11-1N/F3LC11-1F/F3LC12-1F							–
		GT09-C30R20302-9P	3m									
		GT09-C30R20305-9S	3m		PLC CPU: NFCP100/NFJT100							
	Cable for Yokogawa Electric temperature controller	GT09-C30R20304-9S	3m		Converter: ML2-□							
	Cable for Allen-Bradley (Rockwell Automation, Inc.) PLC	GT09-C30R20701-9S	3m		PLC CPU: SL500 series							● *4
	Cable for Siemens AG PLC	GT09-C30R20801-9S	3m		HMI adapter							
RS-422 cable	Cable for OMRON PLC	GT09-C30R40101-9P	3m		PLC CPU: CV500/CV1000/CV2000/CVM1 Serial communication unit: CJ1W-SCU41 Serial communication board: CQM1-SCB41/CS1W-SCB41 Communication board: C200HW-COM03/COM06							● *4
		GT09-C100R40101-9P	10m									
		GT09-C200R40101-9P	20m									
		GT09-C300R40101-9P	30m									
		GT09-C30R40102-9P	3m		Base mount type host link unit: C200H-LK202-V1/C500-LK201-V1							
		GT09-C100R40102-9P	10m									
		GT09-C200R40102-9P	20m									
		GT09-C300R40102-9P	30m									
		GT09-C30R40103-5T	3m		Communication board: CP1W-CIF11/CP1W-CIF12/CJ1W-CIF11							
		GT09-C100R40103-5T	10m									
		GT09-C200R40103-5T	20m									
		GT09-C300R40103-5T	30m									
	Cable for KEYENCE PLC	GT09-C30R41101-5T	3m		Multi-communication unit: KV-L20/KV-L20R/KV-L20V (port 2)							
		GT09-C100R41101-5T	10m									
		GT09-C200R41101-5T	20m									
		GT09-C300R41101-5T	30m									
	Cable for Sharp Manufacturing Systems PLC	GT09-C30R40601-15P	3m		PLC CPU: JW-22CU/70CUH/100CUH/100CU							
		GT09-C100R40601-15P	10m									
		GT09-C200R40601-15P	20m									
		GT09-C300R40601-15P	30m									
		GT09-C30R40602-15P	3m		PLC CPU: JW-32CUH/33CUH/Z-512J	●						–
		GT09-C100R40602-15P	10m									
		GT09-C200R40602-15P	20m									
		GT09-C300R40602-15P	30m									
		GT09-C30R40603-6T	3m		Link unit: JW-21CM/JW-10CM/ZW-10CM							
		GT09-C100R40603-6T	10m									
		GT09-C200R40603-6T	20m									
		GT09-C300R40603-6T	30m									
	Cable for JTEKT PLC	GT09-C30R41201-6C	3m	○	PLC CPU: PC3J/PC3JL Communication module: PC/CMP2-LINK							
		GT09-C100R41201-6C	10m									
		GT09-C200R41201-6C	20m									
		GT09-C300R41201-6C	30m									
	Cable for TOSHIBA PLC	GT09-C30R40501-15P	3m		PLC CPU: T2/T3/T3H/model3000(S3)							
		GT09-C100R40501-15P	10m									
		GT09-C200R40501-15P	20m									
		GT09-C300R40501-15P	30m									
		GT09-C30R40502-6C	3m		PLC CPU: T2E/model2000(S2)							
		GT09-C100R40502-6C	10m									
		GT09-C200R40502-6C	20m									
		GT09-C300R40502-6C	30m									
		GT09-C30R40503-15P	3m		PLC CPU: T2N	● *5	●	●	●	●	● *3	–
		GT09-C100R40503-15P	10m									
		GT09-C200R40503-15P	20m									
		GT09-C300R40503-15P	30m									
	Cable for Hitachi Industrial Equipment Systems PLC	GT09-C30R40401-7T	3m		Intelligent serial port module: COMM-H/COMM-2H							
		GT09-C100R40401-7T	10m									
		GT09-C200R40401-7T	20m									
		GT09-C300R40401-7T	30m									
	Cable for Hitachi PLC	GT09-C30R41301-9S	3m		PLC CPU: LQP510 Communication module: LQE565/LQE165							
		GT09-C100R41301-9S	10m									
		GT09-C200R41301-9S	20m									
		GT09-C300R41301-9S	30m									
	Cable for Fuji Electric FA Components & Systems PLC	GT09-C30R41001-6T	3m		RS-232C/485 interface capsule: FFK120A-C10 General interface module: NC1L-RS4/FFU120B							
		GT09-C100R41001-6T	10m									
		GT09-C200R41001-6T	20m									
		GT09-C300R41001-6T	30m									
	Cable for Yaskawa Electric PLC	GT09-C30R40201-9P	3m		MEMOBUS module: JAMSC-120NOM27100/JAMSC-IF612							● *4
		GT09-C100R40201-9P	10m									
		GT09-C200R40201-9P	20m									
		GT09-C300R40201-9P	30m									
		GT09-C30R40202-14P	3m		PLC CPU: MP940							
		GT09-C100R40202-14P	10m									
		GT09-C200R40202-14P	20m									
		GT09-C300R40202-14P	30m									
	Cable for Yokogawa Electric — PLC	GT09-C30R40301-6T	3m		Personal computer link module: F3LC11-2N							–
		GT09-C100R40301-6T	10m									
		GT09-C200R40301-6T	20m									
		GT09-C300R40301-6T	30m									
		GT09-C30R40302-6T	3m		Personal computer link module: LC02-0N							
		GT09-C100R40302-6T	10m									
		GT09-C200R40302-6T	20m									
		GT09-C300R40302-6T	30m									
	Cable for Yokogawa Electric — Temperature controller	GT09-C30R40303-6T	3m		Temperature controller: GREEN series							
		GT09-C100R40303-6T	10m									
		GT09-C200R40303-6T	20m									
		GT09-C300R40303-6T	30m									
		GT09-C30R40304-6T	3m		Temperature controller: UT2000 series							
		GT09-C100R40304-6T	10m									
		GT09-C200R40304-6T	20m									
		GT09-C300R40304-6T	30m									

*1 : Items listed above are developed by Mitsubishi Electric System & Service Co., LTD., and sold through your local sales office.
*2 : The applicable connection configuration and cable vary depending on the GOT main unit. For more details, see the GOT1000 Series Handbook and the GOT1000 Series Connection Manual.
*3 : RS-422 cables less than 10m and the RS-232 cable less than 3m can be used when the connector conversion box for the Handy GOT is used.
*4 : Can be used only with the GT105□ and GT104□.
*5 : To connect with RS-422/485 interface of GT16 main unit, an RS-422 conversion cable (GT16-C02R4-9S) is necessary.

Backward compatibility

Project data

■ GT Designer/GT Designer2 → GT Works3 compatibility ✱

Project data created in GT Designer2 can be used in GT Works3.
Project data created in GT Designer can be used in GT Works3 after the data is converted by GT Designer2/GT Designer2 Classic.

■ GOT900 series → GOT1000 series compatibility ✱

● **Using data from the GOT-A900 series**

Project data for the GOT-A900 series can be used in the GOT1000 series.
For the details, see Technical Bulletin No.GOT-A-0009 "Precautions when Replacing GOT-A900 Series with GOT1000 Series".

● **Using data from the GOT-F900 series**

Project data for the GOT-F900 series can be used in the GOT1000 series.
For the details, see "Replacement Guidance (for GOT1000 Series) – From GOT-F900/A950 Handy Series to GOT1000 Series" (JY997D39301).

✱Some data and functions cannot be used in the GOT1000 series.

Cables

- For details on using the GOT-A900 series bus connection cables, RS-422 cables and RS-232 cables with the GOT1000 series, see Technical Bulletin No.GOT-A-0009.
- For details regarding use of the GOT-F900 series RS-422 cable with the GOT1000, please contact your local sales office.
- The bus connection cables, RS-422 cables and RS-232 cables for the GOT1000 series cannot be used for the GOT900 series.
(For details regarding use of bus connection cables in systems where both the GOT-A900 and GOT1000 series coexist, see Technical Bulletin No. GOT-A-0009.)

Panel cut dimensions

■ GOT900 series → GOT1000 series compatibility

- The A985GOT(-V) and GT1685/GT1585, A975/970GOT(-B) and GT167□/GT157□, F940GOT and GT1655/GT155□/GT145□/GT115□/GT105□ have the same panel dimensions, respectively. Therefore, it is not necessary to change the mounting hole size.
- Although the A95□ differs in panel cut dimensions from the GT1655, GT155□, GT115□-Q□BDQ and GT115□-Q□BDA, the GOT900 series model can be replaced with any of the GOT1000 series ones without changing the mounting hole size.

Selection of optional units and devices

Using the optional functions listed in the table below may require optional devices or units as shown. Note that the availability of the function or the required optional units and devices may vary depending on the model of the GOT main unit.
Functions not listed in the table below may also require a memory card or a USB memory device depending on the application. For details, see "Function list" (page 70 to page 73) and "GT Designer3 Version1 Screen Design Manual."
An optional function board or a memory card may be necessary depending on the function version and hardware version of the GOT main unit or available space of the user area.
For details, see "Optional function board, memory card (CF card, SD card), and USB memory selection <GT16/GT15/GT14/GT12/GT11>" (page 82 to page 83).

— : Function that cannot be used on the model

Function		Required optional units and devices						
		GT16	GT16 Handy	GT15	GT14	GT12	GT11 *6	GT10
Memory extension		CF card	CF card	Optional function board: GT15-QFNB□M or GT15-MESB48M CF card	SD card	—	—	—
Multi-channel function		Not necessary	Not necessary	Optional function board: GT15-QFNB(□M) or GT15-MESB48M	Not necessary	Not necessary	—	—
Multimedia function*1		Multimedia unit: GT16M-MMR CF card for multimedia	—	—	—	—	—	—
Video/RGB function	Video input*1 *2	Video input unit: GT16M-V4 or Video/RGB input unit: GT16M-V4R1	—	Video input unit: GT15V-75V4 or Video/RGB input unit: GT15V-75V4R1	—	—	—	—
	RGB input*1 *2	RGB input unit: GT16M-R2 or Video/RGB input unit: GT16M-V4R1	—	RGB input unit: GT15V-75R1 or Video/RGB input unit: GT15V-75V4R1	—	—	—	—
	RGB output*1 *2	RGB output unit: GT16M-ROUT	—	RGB output unit: GT15V-75ROUT	—	—	—	—
CF card unit/CF card extension unit		CF card unit: GT15-CFCD or CF card extension unit: GT15-CFEX-C08SET	—	CF card unit: GT15-CFCD or CF card extension unit: GT15-CFEX-C08SET	—	—	—	—
Sound output function		Sound output unit: GT15-SOUT	—	Sound output unit: GT15-SOUT	—	—	—	—
Remote personal computer operation function (serial)*1 *2		RGB input unit: GT16M-R2 or Video/RGB input unit: GT16M-V4R1	—	RGB input unit: GT15V-75R1 or Video/RGB input unit: GT15V-75V4R1	—	—	—	—
External input/output function, operation panel function		External input/output unit: GT15-DIO or GT15-DIOR	—	External input/output unit: GT15-DIO or GT15-DIOR	—	—	—	—
File transfer function (FTP client)		USB memory device or CF card	USB memory or CF card	Ethernet communication unit: GT15-J71E-100 CF card	USB memory or SD card	—	—	—
Gateway function		Not necessary	Not necessary	Ethernet communication unit: GT15-J71E71-100	Not necessary	Not necessary	—	—
MES interface function		Optional function board: GT16-MESB	—	Ethernet communication unit: GT15-J71E71-100 Optional function board: GT15-MESB48M	—	—	—	—
Document display function		CF card	CF card	Optional function board: GT15-QFNB(□M) or GT15-MESB48M CF card	—	—	—	—
Operation log function		CF card	CF card	CF card	—	—	—	—
Backup/restoration function		USB memory device or CF card	USB memory or CF card	CF card	USB memory or SD card	CF card	—	—
Maintenance time notification function		Not necessary (equipped with battery as standard feature)	Not necessary (equipped with battery as standard feature)	Battery: GT15-BAT	—	—	—	—
CNC data input/output function*3		USB memory device or CF card	—	CF card	—	—	—	—
Ladder monitor function*4 (when using Q/L/QnA ladder monitor function)		Not necessary	Not necessary	Optional function board: GT15-QFNB(□M) or GT15-MESB48M	—	—	—	—
SFC monitor function*4		CF card	CF card	Optional function board: GT15-QFNB□M or GT15-MESB48M CF card	—	—	—	—
Motion SFC monitor function*4		CF card	CF card	Optional function board: GT15-QFNB□M or GT15-MESB48M CF card	—	—	—	—
Ladder editor function*5		CF card	CF card	Optional function board: GT15-QFNB□M or GT15-MESB48M CF card	—	—	—	—
Report function		Printer unit: GT15-PRN (when PictBridge-compatible printer is used) CF card	—	Printer unit: GT15-PRN (when PictBridge-compatible printer is used) CF card	—	—	—	—
Hard copy function	Saving files on memory card	CF card	CF card	CF card	SD card*7	CF card	—	—
	Printing by printer (serial)	Not necessary	—	Not necessary	—	Not necessary	—	Not necessary
	Printing by printer (PictBridge)	Printer unit: GT15-PRN	—	Printer unit: GT15-PRN	—	—	—	—

*1 : Excluding the GT16□□-VNB□ and GT1655.
*2 : For the GT15, only the GT1585V and GT1575V are applicable.
*3 : Only XGA and SVGA of the GT16 and GT15 are applicable.
*4 : Excluding QVGA of the GT155□.
*5 : Excluding the GT155□.
*6 : Including the GT11 Handy.
*7 : Not necessary when the data storage drive is the built-in SRAM.

Optional function board, memory card (CF card, SD card), and USB memory selection <GT16/GT15/GT14/GT12/GT11>
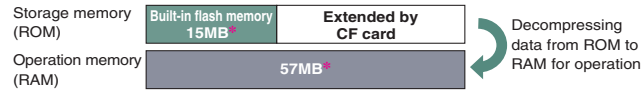
When using the GT16

■**Necessary optional function board when using optional functions**
The following optional function board is necessary when using optional functions

Function	Necessary optional function board
MES interface function	GT16-MESB
Optional function other than the above (Refer to P.84 [Table A])	Not necessary

■**Storage memory (ROM) and operation memory (RAM)**
The GOT operates by decompressing the OS and project data, which is stored in the storage memory (ROM), into the operation memory (RAM). Since the GT16 compresses some data before storing it in the storage memory (ROM), the data size becomes larger when decompressed in the operation memory (RAM).
The GT16 has a 15MB* built-in flash memory for storage memory (ROM) as a standard feature. The CF card expands the memory capacity if the OS and project data exceeds 15MB*.
The GT16 has a 57MB* operation memory (RAM) as a standard feature. The operation memory is not extendable.
The built-in flash memory is for "drive C". The CF card is for "drive A (standard)" or "drive B (extension)."

Storage memory (ROM) | Built-in flash memory 15MB* | Extended by CF card | Decompressing data from ROM to RAM for operation
Operation memory (RAM) | 57MB*

∗: Differs depending on the GOT main unit model.

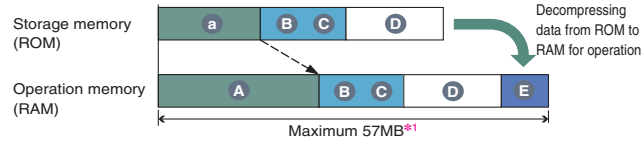■**Data types, capacities, and CF card selection**
The data types and capacities are as shown in the table below.

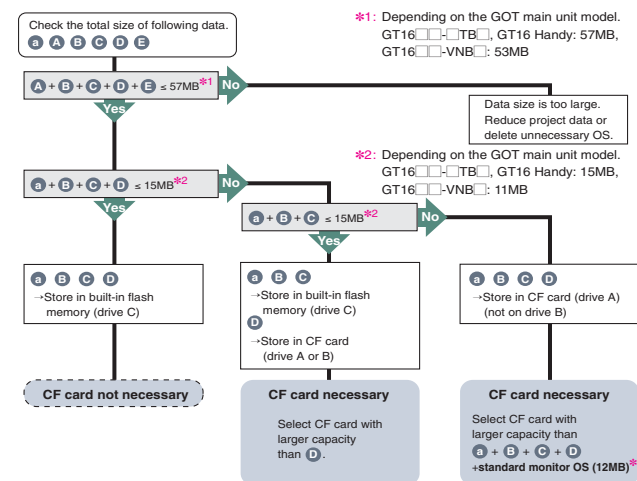| Data type	Data capacity
ⓐ Extended function OS and optional function OS stored in ROM	Capacity of "GT16(ROM)" in [Table A] on page 84
Ⓐ Extended function OS and optional function OS decompressed in RAM	Capacity of "GT16(RAM)" in [Table A] on page 84
Ⓑ Communication driver	Check with [Table B] on page 84.
Ⓒ Special data	Check with screen design software.
Ⓓ Project data	Check with screen design software.
Ⓔ Buffering area	Check with screen design software.

As for the extended function OS and optional function OS, when decompressing the compressed data ⓐ in the storage memory (ROM) to the operation memory (RAM), the data size becomes larger as shown in Ⓐ.
The buffering area Ⓔ is an area for storing resource data for the functions such as logging and advanced alarms. It uses the operation memory (RAM). The data size differs depending on the setting.
When the file save mode is specified in the screen design software, the accumulated resource data is stored in the designated storage (drive A or B). (The storage memory (ROM) is not used.)
If the size of data decompressed on the operation memory (RAM) exceeds 57MB*[1], it is necessary to reduce, for instance, the project data size or delete unnecessary OS components.

Storage memory (ROM) | ⓐ Ⓑ Ⓒ Ⓓ | Decompressing data from ROM to RAM for operation
Operation memory (RAM) | Ⓐ Ⓑ Ⓒ Ⓓ Ⓔ
Maximum 57MB*[1]

Necessity and capacity of the CF card depends on the data size.
Determine the necessity and capacity of the CF card according to the following flow chart.

Check the total size of following data.
ⓐ Ⓐ Ⓑ Ⓒ Ⓓ Ⓔ

∗1: Depending on the GOT main unit model.
GT16□□-□TB□, GT16 Handy: 57MB,
GT16□-VNB□: 53MB

ⓐ + Ⓑ + Ⓒ + Ⓓ + Ⓔ ≤ 57MB*[1] — No → Data size is too large. Reduce project data or delete unnecessary OS.
Yes ↓

∗2: Depending on the GOT main unit model.
GT16□□-□TB□, GT16 Handy: 15MB,
GT16□-VNB□: 11MB

ⓐ + Ⓑ + Ⓒ + Ⓓ ≤ 15MB*[2] — No →
Yes ↓
Ⓐ + Ⓑ + Ⓒ ≤ 15MB*[2] — No →
Yes ↓

ⓐ Ⓑ Ⓒ Ⓓ →Store in built-in flash memory (drive C) | Ⓐ Ⓑ Ⓒ Ⓓ →Store in built-in flash memory (drive C) Ⓓ →Store in CF card (drive A or B) | Ⓐ Ⓑ Ⓒ Ⓓ →Store in CF card (drive A) (not on drive B)

CF card not necessary | CF card necessary Select CF card with larger capacity than Ⓓ. | CF card necessary Select CF card with larger capacity than ⓐ + Ⓑ + Ⓒ + Ⓓ +standard monitor OS (12MB)*

∗: When storing the extended function OS and optional function OS in the CF card (drive A), the standard monitor OS (standard monitor OS, standard font, etc.) needs to be stored in the CF card (drive A).

■**CF card and USB memory capacities**
The CF card and USB memory capacities are as follows.
FAT16 format: max. 2GB, FAT32 format: max. 32GB.
(Boot OS and standard monitor OS of GT Designer3 Ver.1.17T or later must be installed in order to use a CF card or USB memory with a capacity exceeding 2GB. Such CF cards and USB memories cannot be used with GT Works2 / GT Designer2.)
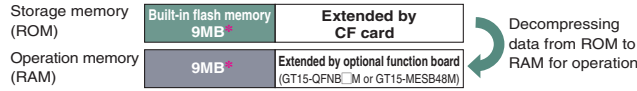
When using the GT15

■**Necessary optional function board when using optional functions**
The following optional function board is necessary when using optional functions

Function	Necessary optional function board
MES interface function	GT15-MESB48M
SFC monitor function Motion SFC monitor function	GT15-QFNB□M or GT15-MESB48M
Multi-channel function Document display function MELSEC-Q/L/QnA ladder monitor function	GT15-QFNB (□M) or GT15-MESB48M
Optional function other than the above (Refer to P.84 [Table A])	Built in the GOT main unit (It is necessary to install the standard monitor OS on the GOT by using GT Designer2 Version 2.55H or later).
	GT15 function version D or later
	GT15 function version C or earlier	GT15 (- Q) FNB (□M) or GT15-MESB48M

■**Storage memory (ROM) and operation memory (RAM)**
The GOT operates by decompressing the OS and project data, which is stored in the storage memory (ROM), into the operation memory (RAM). The GT15 has a 9MB* memory for the storage memory (ROM) and the operation memory (RAM) as a standard feature. When the OS or the project data exceeds 9MB*, use a CF card and an optional function board with expansion memory (GT15-QFNB□M or GT15-MESB48M) to increase the memory capacity.
The built-in flash memory is for "drive C". The CF card is for "drive A (standard)" or "drive B (extension)."

Storage memory (ROM) | Built-in flash memory 9MB* | Extended by CF card | Decompressing data from ROM to RAM for operation
Operation memory (RAM) | 9MB* | Extended by optional function board (GT15-QFNB□M or GT15-MESB48M)

∗: Differs depending on the GOT main unit model: GT15□□-□TB□: 9MB, GT15□□-VNB□: 5MB

■**Data types, capacities, and selection of CF card and optional function board**
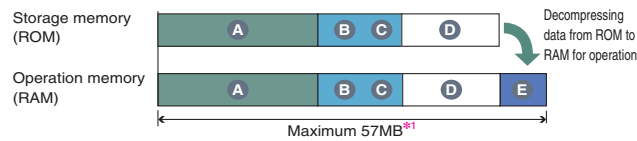The data types and capacities are as shown in the table below.

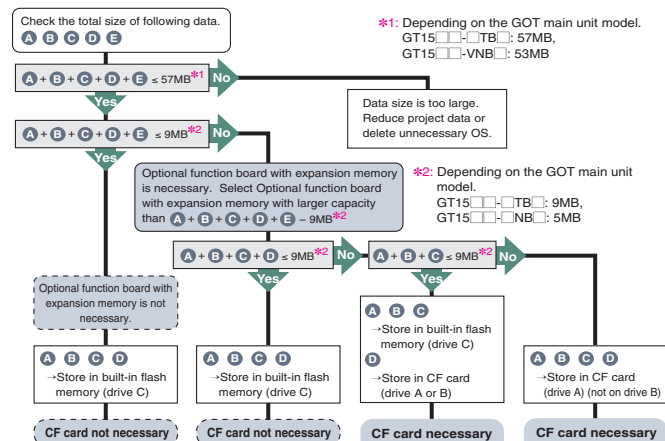| Data type	Data capacity
Ⓐ Extended function OS and optional function OS	Capacity of "GT15" in [Table A] on page 84
Ⓑ Second communication driver and onwards	150KB for each
Ⓒ Special data	Check with screen design software.
Ⓓ Project data	Check with screen design software.
Ⓔ Buffering area	Check with screen design software.

The buffering area Ⓔ is an area for storing resource data for the functions such as logging and advanced alarms. It uses the operation memory (RAM). The data size differs depending on the setting.
When the file save mode is specified in the screen design software, the accumulated resource data is stored in the designated storage (drive A or B). (The storage memory (ROM) is not used.)
If the size of data decompressed on the operation memory (RAM) exceeds 57MB*[1], it is necessary to reduce, for instance, the project data size or delete unnecessary OS components.

Storage memory (ROM) | Ⓐ Ⓑ Ⓒ Ⓓ | Decompressing data from ROM to RAM for operation
Operation memory (RAM) | Ⓐ Ⓑ Ⓒ Ⓓ Ⓔ
Maximum 57MB*[1]

Necessity and capacity of the optional function board with expansion memory and the CF card depends on the data size. Determine the necessity and capacity of the optional function board with expansion memory and the CF card according to the following flow chart.

Check the total size of following data.
Ⓐ Ⓑ Ⓒ Ⓓ Ⓔ

∗1: Depending on the GOT main unit model.
GT15□□-□TB□: 57MB,
GT15□-VNB□: 53MB

Ⓐ + Ⓑ + Ⓒ + Ⓓ + Ⓔ ≤ 57MB*[1] — No → Data size is too large. Reduce project data or delete unnecessary OS.
Yes ↓

Ⓐ + Ⓑ + Ⓒ + Ⓓ + Ⓔ ≤ 9MB*[2] — No →
Yes ↓

∗2: Depending on the GOT main unit model.
GT15□□-□TB□: 9MB,
GT15□-□NB□: 5MB

Optional function board with expansion memory is necessary. Select Optional function board with expansion memory with larger capacity than Ⓐ + Ⓑ + Ⓒ + Ⓓ + Ⓔ – 9MB*[2]

Ⓐ + Ⓑ + Ⓒ + Ⓓ ≤ 9MB*[2] — No → | Ⓐ + Ⓑ + Ⓒ ≤ 9MB*[2] — No →
Yes ↓ | Yes ↓

Optional function board with expansion memory is not necessary.

Ⓐ Ⓑ Ⓒ Ⓓ →Store in built-in flash memory (drive C) | Ⓐ Ⓑ Ⓒ Ⓓ →Store in built-in flash memory (drive C) Ⓓ →Store in CF card (drive A or B) | Ⓐ Ⓑ Ⓒ Ⓓ →Store in CF card (drive A) (not on drive B)

CF card not necessary | CF card not necessary | CF card necessary Select CF card with larger capacity than Ⓓ. | CF card necessary Select CF card with larger capacity than Ⓐ + Ⓑ + Ⓒ + Ⓓ +standard monitor OS (6MB)*[3]

∗3: When storing the extended function OS and optional function OS in the CF card (drive A), the standard monitor OS (standard monitor OS, standard font, first communication driver) needs to be stored in the CF card (drive A).
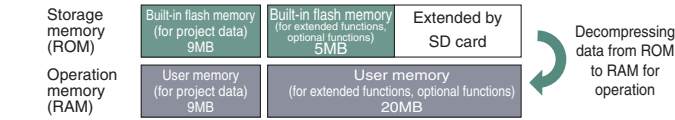
■**CF card capacities**
The CF card capacities are as follows. FAT16 format: max. 2GB, FAT32 format: not usable

When using the GT14

■**Necessary optional function board when using optional functions**
No optional function board is required when using the optional functions or extended functions.
Some functions, however, may require a SD card due to OS installation.
See below for details.

■**Storage memory (ROM) and operation memory (RAM)**
The GOT operates by decompressing the OS and project data, which is stored in the storage memory (ROM), into the operation memory (RAM). Since the GT14 compresses some data before storing it in the storage memory (ROM), the data size becomes larger when decompressed in the operation memory (RAM).
The GT14 has a built-in flash memory (9MB for project data, 5MB for optional functions) for storage memory (ROM) as a standard feature. The SD card expands the memory capacity if the OS and project data exceeds 5MB.
The GT14 has a 20MB operation memory (RAM) as a standard feature. The operation memory is not extendable.
The built-in flash memory is for "drive C". The SD card is for "drive A (standard)".

Storage memory (ROM) | Built-in flash memory (for project data) 9MB | Built-in flash memory (for extended functions, optional functions) 5MB | Extended by SD card | Decompressing data from ROM to RAM for operation
Operation memory (RAM) | User memory (for project data) 9MB | User memory (for extended functions, optional functions) 20MB

■**Data types, capacities, and SD card selection**
The data types and capacities to store in the GOT are as shown in the table below.

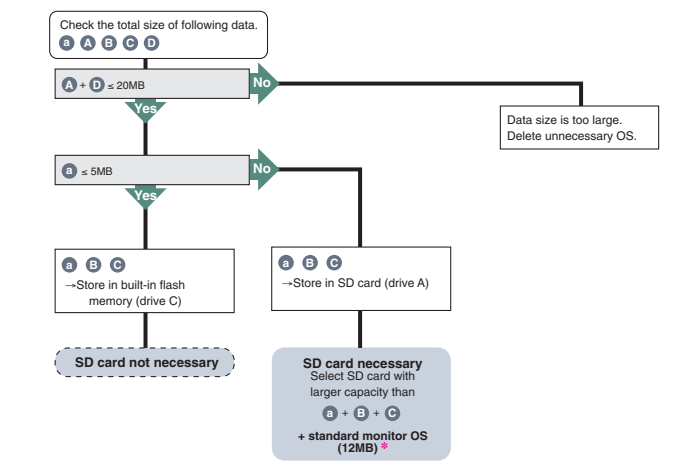| Data type	Data capacity
ⓐ Extended function OS and optional function OS stored in ROM	Capacity of "GT14(ROM)" in [Table A] on page 84
Ⓐ Extended function OS and optional function OS decompressed in RAM	Capacity of "GT14(RAM)" in [Table A] on page 84
Ⓑ Communication driver	Check with [Table B] on page 84.
Ⓒ Project data	Check with screen design software
Ⓓ Buffering area	Check with screen design software

As for the extended function OS and optional function OS, when decompressing the compressed data ⓐ in the storage memory (ROM) to the operation memory (RAM), the data size becomes larger as shown in Ⓐ.
The buffering area Ⓓ is an area for storing resource data for the functions such as logging and advanced alarms. It uses the operation memory (RAM). The data size differs depending on the setting.
When the file save mode is specified in the screen design software, the accumulated resource data is stored in the designated storage (drive A or D). (The storage memory (ROM) is not used.)
If the size of data decompressed on the operation memory (RAM) exceeds 20MB, it is necessary to reduce, for instance, the project data size or delete unnecessary OS components.

Storage memory (ROM) | ⓐ Ⓑ Ⓒ | Decompressing data from ROM to RAM for operation
Operation memory (RAM) | Ⓐ Ⓓ Ⓑ Ⓒ
Maximum 20MB
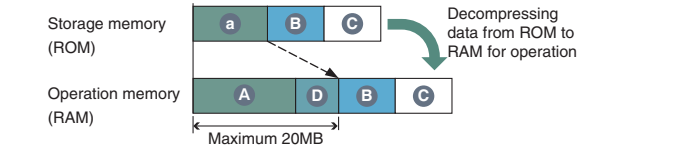
Necessity and capacity of the SD card depends on the data size.
Determine the necessity and capacity of the SD card according to the following flow chart.

Check the total size of following data.
Ⓐ Ⓐ Ⓑ Ⓒ Ⓓ

Ⓐ + Ⓓ ≤ 20MB — No → Data size is too large. Delete unnecessary OS.
Yes ↓

ⓐ ≤ 5MB — No →
Yes ↓

ⓐ Ⓑ Ⓒ →Store in built-in flash memory (drive C) | ⓐ Ⓑ Ⓒ →Store in SD card (drive A)

SD card not necessary | SD card necessary Select SD card with larger capacity than ⓐ + Ⓓ + Ⓒ + standard monitor OS (12MB)*

∗: When storing the extended function OS and optional function OS in the SD card (drive A), the standard monitor OS (standard monitor OS, standard font, etc.) needs to be stored in the SD card (drive A).

■**SD card and USB memory capacities**
The SD card and USB memory capacities are as follows.
FAT16 format: max. 2GB, FAT32 format: max. 32GB.

When using the GT11

■**Necessary optional function board when using optional functions**
The following optional function board is necessary when using the optional functions in [Table A] on page 84.

GOT type	Necessary optional function board
GT115□-Q□BDQ, GT115□-Q□BDA, GT1155-QTBD, GT115□-Q□BD (hardware version C or later), GT115□HS-Q□BD (hardware version B or later)	Built in the GOT main unit
GT11 other than the above	GT11-50FNB

When using the GT12

■**Necessary optional function board when using optional functions**
No optional function board is required when using the optional functions or extended functions.
Some functions, however, may require a CF card due to OS installation.
See below for details.

■**Storage memory (ROM) and operation memory (RAM)**
The GOT operates by decompressing the OS and project data, which is stored in the storage memory (ROM), into the operation memory (RAM).
The GT12 has a 9MB built-in flash memory for storage memory (ROM) as a standard feature.
The CF card expands the memory capacity if the OS and project data exceeds 9MB.
Up to 6MB of project data can be stored in the storage memory (ROM) or a CF card. When storing the project data to the storage memory (ROM), the maximum size of the project data may be less than 6MB depending on the data size of the extended function OS, optional function OS, and communication drivers.
The GT12 has a 12MB operation memory (RAM) as a standard feature. The operation memory is not extendable.
The extended function OS, optional function OS, and communication drivers occupy 6MB of the operation memory (RAM). The remaining 6MB of the operation memory (RAM) is used for the project data and the buffering area.

Storage memory (ROM) | Built-in flash memory 9MB | Extended by CF card | Decompressing data from ROM to RAM for operation
Operation memory (RAM) | 12MB

The built-in flash memory is for "drive C". The CF card is for "drive A (standard)".

■**Data types, capacities, and CF card selection**
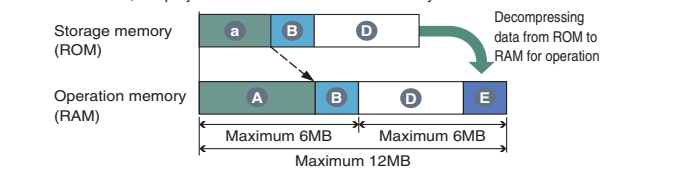The data types and capacities are as shown in the table below.

Data type	Data capacity
ⓐ Extended function OS and optional function OS stored in ROM	Capacity of "GT12(ROM)" in [Table A] on page 84
Ⓐ Extended function OS and optional function OS decompressed in RAM	Capacity of "GT12(RAM)" in [Table A] on page 84
Ⓑ Communication driver	Check with [Table B] on page 84.
Ⓓ Project data	Check with screen design software.
Ⓔ Buffering area	Check with screen design software.

As for the extended function OS and optional function OS, when decompressing the compressed data ⓐ in the storage memory (ROM) to the operation memory (RAM), the data size becomes larger as shown in Ⓐ.
Up to 6MB of the operation memory (RAM) can be used for the total of the data Ⓐ and the data Ⓑ.

The buffering area Ⓔ is an area for storing resource data for the functions such as logging and advanced alarms. It uses the operation memory (RAM). The data size differs depending on the setting.
When the file save mode is specified in the screen design software, the accumulated resource data is stored in the designated storage (drive A). (The storage memory (ROM) is not used.)
Up to 6MB of the operation memory (RAM) can be used for the total of the project data Ⓓ and the buffering area Ⓔ. If the total data size exceeds 6MB, it is necessary to reduce, for instance, the project data size or delete unnecessary OS.

Storage memory (ROM) | ⓐ Ⓑ Ⓓ | Decompressing data from ROM to RAM for operation
Operation memory (RAM) | Ⓐ Ⓑ Ⓓ Ⓔ
Maximum 6MB | Maximum 6MB
Maximum 12MB

Necessity and capacity of the CF card depends on the data size.
Determine the necessity and capacity of the CF card according to the following flow chart.

Check the total size of following data.
Ⓐ Ⓑ Ⓓ Ⓔ

Ⓓ + Ⓔ ≤ 6MB — No → The project data size is too large. Reduce project data.
Yes ↓

ⓐ Ⓑ + Ⓓ ≤ 9MB — No → OR
Yes ↓

ⓐ Ⓑ →Store in built-in flash memory (drive C) →Store in CF card (drive A) | ⓐ Ⓑ Ⓓ →Store in built-in flash memory (drive C) | ⓐ Ⓑ Ⓓ →Store in CF card (drive A)

CF card not necessary | CF card necessary Select CF card with larger capacity than ⓐ + Ⓑ + Ⓓ +standard monitor OS (6MB)* | CF card necessary Select CF card with larger capacity than ⓐ + Ⓑ + Ⓓ +standard monitor OS (6MB)*
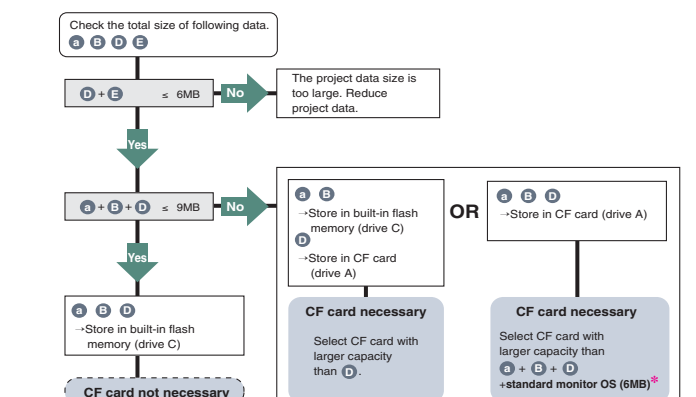
∗: When storing the extended function OS and optional function OS in the CF card (drive A), the standard monitor OS (standard monitor OS, standard font, etc.) needs to be stored in the CF card (drive A).

■**CF card capacities**
The CF card capacities are as follows. FAT16 format: max. 2GB, FAT32 format: not usable

■**CF card capacities**
The CF card capacities are as follows. FAT16 format: max. 2GB, FAT32 format: not usable

INDEX
For Designers
For Initial Startup & Operations
For Maintenance Personnel
GT10
iQ Platform
MELSEC Process Control
Specifications, External Dimensions
List of Connectable Models, etc.

Notes for use

【Table A】 Used capacity of extended functional OS and optional function OS

Function		User area size to be used (KB)					
		GT16/GT12 *13 RAM	GT16/GT12 *13 ROM	GT15	GT14 RAM	GT14 ROM	GT11
Barcode *13		84	50	84	83	83	*1
RFID *13		166	50	166	166	166	*1
System monitor *13		692	450	746	691	691	*1
Report		235	150	235	None	None	None
Printer (PictBridge)		1104	552	1104	None	None	None
Printer (serial)		200	80	200	200	200	None
Device name conversion library *12 *14		800	400	800	800	800	None
Stroke font	Stroke font support function	400	300	400	1300	400	None
	Stroke basic font (Japanese)	2160	2160	2160	2160	2160	None
	Stroke basic font (Japanese) (with Hangul)	3175	3175	3175	3175	3175	None
	Stroke basic font (Chinese: Simplified)	1474	1474	1474	1474	1474	None
	Stroke basic font (Chinese: Simplified) (with Hangul)	2016	2016	2016	2016	2016	None
Extended functions	Video display RGB display	Video/RGB	480	298	512	None	None	None
	Multimedia		1074	292	None	None	None	None
	Remote personal computer operation (Ethernet)		5130	860	None	None	None	None
	Remote personal computer operation (serial)	Video/RGB	480	292	512	None	None	None
		Remote personal computer operation (serial)	84	50	84	None	None	None
	VNC® server		8192	512	None	None	None	None
	Backup/restoration *12 *13		766	420	820	766	766	None
	Operator authentication	Operator authentication	730	460	784	None	None	None
	USB mouse/keyboard function		200	80	None	200	200	None
	Audio output		200	100	200	None	None	None
	External I/O, operation panel		100	70	100	None	None	None
	CNC data input/output	CNC data input/output	383	210	437	None	None	None
		GOT platform library	200	77	100	None	None	None
	Device data transfer		100	50	100	100	100	None
	MELSEC-L troubleshooting function		770	340	None	None	None	None
	SoftGOT-GOT link function		200	100	200	None	None	None
	Log viewer function		3882	1434	None	None	None	None
	File transfer function (FTP client)		1300	300	1300	1300	1300	None
Optional functions	Maintenance time notification		*2	*2	*2	None	None	None
	Multi-channel *13		*2	*2	*2	*2	*2	None
	Chinese region	Standard font (Chinese: Simplified)	1280	1280	1280	1280	1280	None
		Standard font (Chinese: Traditional)	1920	1920	1920	1920	1920	None
		Standard font (Japanese)	1280	1280	1280	1280	1280	None
		Stroke font (Japanese)	1037	1037	1037	1036	1036	None
		Stroke font (Chinese: Simplified)	1248	1248	1248	1248	1248	None
		Stroke font (Chinese: Traditional)	1680	1680	1680	1680	1680	None
	Operation log *12		1221	384	1218	None	None	None
	Document display		3072	150	2048	None	None	None
	Kana-Kanji conversion		None	None	1223	None	None	None
	Kana-Kanji conversion (enhanced version)		2774	1242	2774	None	None	None
	Historical data list display *3 *13		*2	*2	*2	*2	*2	None
	Historical trend graph *3 *13		*2	*2	*2	*2	*2	None
	Logging *4 *13		710	380	740	710	710	None
	Recipe *13		100	70	100	100	100	*1
	Advanced recipe		1187	310	1241	1024	1024	None
	Object script *4		360	180	360	360	360	None
	Ladder monitor	MELSEC-A ladder monitor	674	342	523	None	None	None
		MELSEC-FX ladder monitor	674	342	592	None	None	None
		MELSEC-Q/L/QnA ladder monitor	4170	590	1082	None	None	None
	A list editor *13	MELSEC-A list editor	1024	542	1058	1024	1024	*1
	FX list editor *13	MELSEC-FX list editor	1024	542	1058	1024	1024	*1
	Intelligent unit monitor		770	390	384	None	None	None
	Network monitor		370	210	324	None	None	None

Function		User area size to be used (KB)					
		GT16/GT12 *13 RAM	GT16/GT12 *13 ROM	GT15	GT14 RAM	GT14 ROM	GT11
Optional functions	Q motion monitor		770	390	607	None	None	None
	Servo amplifier monitor		770	390	524	None	None	None
	CNC monitor		770	390	588	None	None	None
	SFC monitor *7	GOT platform library	200	77	100 *5	None	None	None
		SFC monitor	2108	442	1373 *5	None	None	None
		GOT function extension library	19381	4729	4729 *5	None	None	None
	Motion SFC monitor *10	GOT platform library	200	77	100 *11	None	None	None
		Motion SFC monitor	12522	1240	2477 *11	None	None	None
	Ladder editor *8	GOT platform library	200	77	100 *6	None	None	None
		Ladder editor	8192	2567	5121 *6	None	None	None
		GOT function extension library	19381	4729	4729 *6	None	None	None
	Gateway	Gateway (server, client)	100	50	100	100	100	None
		Gateway (mail)	100	50	100	100	100	None
		Gateway (FTP server) *13	84	50	64	84	84	None
	MES interface		13461	1598	3196 *9	None	None	None

*1 : Requires installation of the optional function OS and extended function OS, but does not use the user area.
*2 : Installation of the optional function OS is not required.
*3 : It is necessary to specify the logging function and install the optional function OS (logging) in advance.
*4 : Necessary when using the GOT project data that is automatically created by PX Developer (Ver. 1.15 or later). For details, see "PX Developer Version 1 Operating Manual (GOT Screen Generator)(SH-080772ENG)."
*5 : To use the SFC monitor, free space of 6202KB or more is necessary in the user area of the specified drive for installing the extension function OS and optional function OS. The total capacity of the memory necessary for using the SFC monitor is 14399KB. Due to the above, the setting shown in Table 1 is necessary depending on the GOT to be used.

<Table 1>

GOT	Necessary setting
GT157□-VN, GT1562-VN	· Set boot source of OS to "A: standard CF card." · Memory extension (install optional function board with expansion memory)
Other than above	· Memory extension (install optional function board with expansion memory)

For setting the boot source of the OS, see "GT Designer3 Version1 Screen Design Manual (Fundamentals)."
*6 : To use the ladder editor, free space of 9950KB or more is necessary in the user area of the specified drive for installing the extension function OS and optional function OS. The total capacity of the memory necessary for using the ladder editor is 21212KB. For the above reasons, when using the ladder editor, specify "A: Standard CF card" for the OS boot source, and mount an optional function board with a memory capacity of 16MB or more.
*7 : To use the SFC monitor, it is necessary to install all of the GOT platform library, SFC monitor and GOT function extension library.
*8 : To use the ladder editor, it is necessary to install all of the GOT platform library, ladder editor and GOT function extension library.
*9 : The operation of the MES interface function uses 8218KB of the extended memory (GT15-MESB48M(48MB)) of GT15's operation memory.
*10 : To use the motion SFC monitor, it is necessary to install all of the GOT platform library and motion SFC monitor.
*11 : To use the motion SFC monitor, free space of 2577KB or more is necessary in the user area of the specified drive for installing the extended function OS and optional function OS. The total capacity of the memory necessary for using the motion SFC monitor is 12622KB. For the above reasons, mount an optional function board with a memory capacity of 16MB or more.
*12 : The device name conversion library (extended function) is required when confirming the trigger device on the GOT using the backup/restoration function and when outputting the device name using the operation log function.
*13 : Function usable with the GT12.
*14 : The GT12 user usage area is as follows. RAM: 500KB, ROM: 250KB

【Table B】 Capacity of communication driver

Units connected	Communication driver name	Capacity (KB)
Mitsubishi PLC, motion controller, robot controller, CNC	Bus connection Q	180
	A/QnA/L/QCPU, LJ71C24, QJ71C24	180
	MELSEC-FX	180
	MELSECNET/H	200
	CC-Link IE Controller Network	200
	CC-Link IE Field Network	230
Third party PLC, motion controller	JTEKT Corporation TOYOPUC-PC	160
	GE Fanuc Automation Corporation	180
	Ethernet (Yaskawa Electric Corporation)	160
	Ethernet (SIEMENS S7)	200
Microcomputer	Microcomputer connection, Ethernet (microcomputer)	230
Communication drivers other than above		150

To use the multi-channel function <GT16/GT15/GT14/GT12>

The multi-channel function is designed to connect and monitor multiple FA devices by mounting multiple communication units on a single GOT unit or by using the standard interface.

■Acceptable combinations

The following connection combinations can be used for the multi-channel function.

When using GT16:
① Bus connection or network connection *1 + serial connection *2
② Bus connection or network connection *1 + Ethernet connection *3
③ Ethernet connection *3 + serial connection *2
④ Bus connection or network connection *1 + Ethernet connection *3 + serial connection *2
⑤ Serial connection *2
⑥ Ethernet connection *3
✳ GT16 Handy can be connected only by methods ③ or ⑥.

When using GT15:
① Bus connection, network connection *1, or Ethernet connection *3 + serial connection *2
② Serial connection *2

When using GT14:
① Ethernet connection *3 + serial connection *2
② Serial connection *2

When using GT12:
① Ethernet connection *3 + serial connection *2
② Serial connection *2
*1 : The network connections include the following connection configurations.
   • MELSECNET/H connection • MELSECNET/10 connection
   • CC-Link IE Controller Network connection • CC-Link IE Field Network connection
   • CC-Link connection (ID)
*2 : The serial connections include the following connection configurations.
   • CPU direct connection • Computer link connection • CC-Link connection (via G4)
   • Microcomputer connection (serial) • Connection with third party PLCs (serial)
   • Temperature controller connection • Inverter connection • Servo amplifier connection
   • CNC connection (CPU direct connection) • GOT multi-drop connection
   • MODBUS®/RTU connection • Robot controller connection (serial)

*3: The Ethernet connections include the following connection configurations.
   • Ethernet connection • MODBUS®/TCP connection • Third party PLC connection (Ethernet)
   • Robot controller connection (Ethernet) • CNC connection (Ethernet)
   • Microcomputer connection (Ethernet)

■Maximum number of connectable channels, mountable units and mounting stages
(1) Number of connectable channels
   The number of connectable channels varies depending on the GOT model.
   See Table C on the following page.
(2) Number of mountable units and mounting stages
   When the multi-channel function is used, add interfaces to the GOT using any of the following methods.
   (a) Stack communication units on the extension interface.
   (b) Mount communication units on the extension interface to use the unit in combination with the standard interface. The number of mountable units and mounting stages vary depending on the GOT model. See Table C on the following page.
   ✳ The performance of GOT may be affected depending on the configuration of connected devices.
   ✳ Up to two channels can be connected to the GT12.
   ✳ No communication units can be mounted on the GT12.

■Optional function board
Not necessary when using the GT16, GT14, and GT12.
The GT15 requires an optional function board. Use the optional function board GT15-QFNB(□M) or GT15-MESB48M. The GT15-FNB cannot be used.

■Communication driver
A communication driver must be installed for each of the connection configurations.
For the GT16 and GT14, the communication driver is installed in the user area.
For the GT15, communication drivers for the second and subsequent channels will be installed in the user area.
For the GT12, the communication driver is installed in the system area.

【Table C】 Number of connectable channels, number of mountable units and number of mountable stages when the multi-channel function is used

		GT1695/GT1685/ GT167□/GT166□	GT1655	GT1595/GT1585/ GT157□/GT156	GT155□	GT14/GT12	Handy GT16	Description
(1)	Number of connectable channels	Up to 4 channels			Up to 2 channels	Up to 2 channels	Up to 4 channels	**<GT16/GT15>** The number of communication ports (communication units and interfaces) for use for communication on the GOT. • Only one channel per one GOT can be connected in the bus connection and network connection. • Ethernet connection is available for up to four channels. (GT16 only) • When the Ethernet interface built into the GOT (GT16) or the Ethernet communication unit (GT15) is used for functions other than communication with the connected device*4, the interface is not included in the number of connected channels. • The number of channels does not include the interface used for connection with external devices. *5 **<GT14/GT12>** The number of communication ports (communication interfaces) for use for communication on the GOT. • Ethernet connection is available for up to two channels. (GT1455-QTBDE, GT1450-QLBDE only) • When the Ethernet interface built into the GOT is used for functions other than communication with the connected device*4, the interface is not included in the number of connected channels. • The number of channels does not include the interface used for connection with external devices. *5
(2)	Number of mountable units	Up to 5 units	Up to 3 units	Up to 5 units	Up to 3 units	No units can be mounted	No units can be mounted	The number of units that can be mounted on extension interfaces 1 and 2 of the GOT. • More than one serial communication unit *6 of the same model can be mounted. • Optional units are included in the number of units. • RS-422 conversion units are not included in the number of units. (The RS-422 conversion unit cannot be used with GT1655 and GT155□.) • It is necessary to calculate the total current consumed by the units to be mounted. (☞ See "Calculation of current consumed by units < GT16/GT15>" (page 85).
	Number of mounting stages	Up to 3 stages (2 slots)	Up to 3 stages (1 slot)	Up to 3 stages (2 slots)	Up to 3 stages (1 slot)	No units can be mounted	No units can be mounted	The number of mounting stages that units can be stacked on extension interfaces 1 and 2 of GOT. • Units that occupy two slots *7 *8 must be mounted on the first stage. • When any units in *8 are used, mount the unit on the first stage, then mount other units on the second or subsequent stages. • Units in *9 cannot be stacked on other units. Mount units on the first stage.	(☞ See "External dimensions" (page 61) and "Mounting units on the GOT side interface <GT16/GT15>" (page 85).

*4 : Ethernet download function, gateway function, MES interface function, file transfer function (FTP client), remote personal computer function (Ethernet)
*5 : Barcode reader, RFID controller, personal computer (remote personal computer function [serial], FA transparent function, OS write, and project data write), and printer (serial)
*6 : GT15-RS2-9P, GT15-RS4-9S and GT15-RS4-TE
*7 : GT15-QBUS2, GT15-ABUS2, GT15-J71LP23-25, GT15-J71BR13, GT15-J61BT13, GT15-J71GP23-SX
*8 : GT16M-V4, GT15V-75V4, GT16M-R2, GT15V-75R1, GT16M-V4R1, GT15V-75V4R1, GT16V-75ROUT, GT16M-MMR
*9 : GT15-75QBUSL, GT15-75QBUS2L, GT15-75ABUSL, GT15-75ABUS2L, GT15-75J71LP23-Z, GT15-75J71BR13-Z, GT15-75J61BT13-Z

Mounting units on the GOT interface <GT16/GT15>

(Example: GT1685)

Extension interface 1 (On GT16 Handy, no units can be mounted because it does not have extension interface 1 or 2.)

Extension interface 2 (GT1655 and GT155□ has the extension interface 1 only)
Up to 3 communication units and optional units can be mounted on each extension interface.

Mount a unit that occupies two slots on the first stage.
However, when any of the following units are used, mount the unit on the first stage, then mount other units on the second and subsequent stages.
For GT16 (Only one of these units can be mounted on the GT16 except GT16□□-VNB□ and GT1655)
●GT16M-V4, GT16M-R2, GT16-V4R1, GT16-ROUT, GT16M-MMR
For GT15 (Only one of these units can be mounted on the GT1585V and GT1575V)
●GT15V-75V4, GT15V-75R1, GT15V-75V4R1, GT15V-75ROUT

The following units must not be stacked on other units. Mount any of them on the first stage.
●GT15-75QBUSL, GT15-75QBUS2L, GT15-75ABUSL, GT15-75ABUS2L
●GT15-75J71LP23-Z, GT15-75J71BR13-Z, GT15-75J61BT13-Z (GT16 or GT155□ cannot be used.)

Instructions for mounting and removing the GT15-CFCD
●An extension unit cannot be mounted on a CF card unit. When extension units are mounted, mount the CF card unit on the last stage.
●When mounting a CF card unit on extension interface 1 (left), ensure that the number of extension units mounted on extension interface 2 (right) is smaller than the number on the extension interface 1 (left). Otherwise, the CF card cannot be inserted or removed.
●Remove the CF card unit in the designated direction (△PULL) to prevent damage to the connector.

Unit occupying two slots
Ex.: GT15-QBUS2

2 slots (1st stage) are occupied.

Standard interface (built-in RS-232 interface)
The interface can establish a serial connection with connected devices and peripheral devices, such as a barcode reader.

Standard interface (built-in Ethernet interface) (GT16 only)
The interface can establish a connection with connected devices via Ethernet.

Standard interface (built-in RS-422/485 interface) (GT16 only)
The interface can establish a serial connection with connected devices.

Calculation of current consumed by units <GT16/GT15>

When using multiple units, a barcode reader, and a RFID controller, the total current consumed by the units, barcode reader and RFID controller must be less than the current that can be supplied by the GOT. Design the system using the following values so that the total current is within the range of the current supply capacity of the GOT.

(1) Current that can be supplied by the GOT

GOT model	Current supply capacity (A)
GT1695	2.4
GT1685	2.4
GT167□	2.4
GT166□	2.4
GT1655	1.3
GT1595	2.13
GT1585 (incl. GT1585V)	1.74
GT157□ (incl. GT1575V)	2.2
GT156□	2.2
GT155□	1.3

(2) Current used by units, barcode reader and RFID controller

Unit model	Consumed current (A)	Unit model	Consumed current (A)
GT15-QBUS GT15-QBUS2 GT15-75QBUSL GT15-75QBUS2L	0.275 *1	Barcode reader	*2
		GT15-PRN	0.09
		GT16M-V4	0.12 *1
		GT15V-75V4	0.2 *1
GT15-ABUS GT15-ABUS2 GT15-75ABUSL GT15-75ABUS2L	0.12	GT16M-R2	0 *1
		GT15V-75R1	0.2 *1
		GT16M-V4R1	0.12 *1
		GT15V-75V4R1	0.2 *1
GT15-RS2-9P	0.29	GT16M-ROUT	0.11 *1
GT15-RS4-9S	0.33	GT15V-75ROUT	0.11
GT15-RS4-TE	0.3	GT16M-MMR	0.27 *1
GT15-RS2T4-9P	0.098	GT15-CFCD	0.07
GT15-J71E71-100	0.224	GT15-CFEX-C08SET	0.15
GT15-J71GP23-SX	1.07	GT15-SOUT	0.08
GT15-J71LP23-25	0.56	GT15-DIO	0.1
GT15-J71LP23-25	0.56	GT15-DIOR	0.1
GT15-J71BR13	0.77	RFID controller	*2
GT15-J61BT13	0.56		

*1 : This value is used for calculating the current consumption of multi-channel functions. For the specifications of each unit, see the manual supplied with each unit.
*2 : When using a barcode reader or a RFID controller to which the power is supplied from the standard interface, add the current to be used by the barcode reader or RFID controller at 5VDC. (Maximum: less than 0.3A)

(3) Calculation example
When GT15-J71BR13, GT15-RS4-9S (3 units), and barcode reader (0.12A) are connected to a GT1695.

Current supply capacity of GOT (A)	Total current to be consumed (A)
2.4	0.77+0.33+0.33+0.33+0.12=1.88

Since the total current is within the current supply capacity of the GOT, the units can be used.

Notes for use

MELSOFT GT Works3 (English version) operating environment

Item	Description
Personal computer	PC/AT compatible machine on which the following OS operates
OS (English, Simplified Chinese, Traditional Chinese, Korean, German versions)	Microsoft® Windows® 7 (64bit/32bit) (Enterprise, Ultimate, Professional, Home Premium, Starter) Microsoft® Windows Vista® (32bit) (Enterprise, Ultimate, Business, Home Premium, Home Basic) Microsoft® Windows® XP Service Pack2 or later (32bit) (Professional, Home Edition) Microsoft® Windows® 2000 Professional Service Pack4
CPU	1GHz or more recommended
Required memory	Microsoft® Windows® 7, Microsoft® Windows Vista®: 1GB or more recommended Microsoft® Windows® XP, Microsoft® Windows® 2000: 512MB or more recommended
Display	Resolution XGA（1024 x 768 dots）or more
Available hard disk space	To install GT Designer3: 2GB or more recommended To run GT Designer3: 512MB or more recommended
Display colors	High Color (16 bits) or more

Simulation on a PC requires the following software:
- ●GX Works2 version 1.12N or later*1 or GX Simulator version 5.00A or later *1.
  - ＊ The applicable software version of GX Works2 or GX Simulator varies depending on the PLC CPU to be simulated.

PLC CPU to be simulated	GX Simulator version	GX Works2 version
QCPU (A mode), ACPU, motion controller CPU (A series)	5.00A or later	—
QnACPU		
FX0 series, FX0N series, FX0S series, FX1 series, FX1N series, FX1NC series, FX1S series, FX2 series, FX2C series, FX2N series, FX2NC series	5.40E or later	1.24A or later
QCPU (Q mode) (except Q00J/Q00/Q01CPU)		1.12N or later
Q00JCPU, Q00CPU, Q01CPU	6.00A or later	
Q02PHCPU, Q06PHCPU	7.20W or later	—
Q12PHCPU, Q25PHCPU	6.10L or later	
Q12PRHCPU, Q25PRHCPU	6.20W or later	
FX3UC series, FX3U series*2	7.08J or later	1.24A or later
FX3G series*2	7.22Y or later	
FX3GC series*2	—	1.77F or later
Q00UJCPU, Q00UCPU, Q01UCPU, Q02UCPU, Q03UDCPU, Q04UDHCPU, Q06UDHCPU, Q10UDHCPU, Q13UDHCPU, Q20UDHCPU, Q26UDHCPU, Q03UDECPU, Q04UDEHCPU, Q06UDEHCPU, Q10UDEHCPU, Q13UDEHCPU, Q20UDEHCPU, Q26UDEHCPU	7.23Z or later	1.12N or later
LCPU	—	1.24A or later
Q50UDEHCPU, Q100UDEHCPU	—	1.30G or later

Others	Mouse, keyboard, printer, CD-ROM drive (for installation only), sound function (sound card)*3, speaker*3 used with the above OS
Applicable GOT	GOT1000 series
Applicable software version	GT Works3 Version 1.54G or later

*1 ：Use GT Simulator3, GX Developer, GX Simulator, and GX Works2 of the same language version.
*2 ：The GOT-A900 cannot be simulated.
*3 ：May be required when the simulation function is used.

[Cautions]
•The software installation and the GOT-A900 simulation require administrator authority.
•Using GT Works3 application requires an account with higher privileges than the standard user in Windows® 7 and Windows Vista®.
•To use GT Works3 alongside another application in Windows® 7 and Windows Vista®, use an administrator account to run it if an administrator accout is used to run the other application.
•The following functions are not supported in Windows® 7, Windows Vista®, or Windows® XP.
 Running Applications in Windows® Compatibility Mode, Fast User Switching, Desktop Theme (Font Size) Change, Remote Desktop, DPI Setting other than 100%.
•Windows XP Mode, Windows Touch features are not supported in Windows® 7.

GT SoftGOT1000 Version3 (English version) operating environment

Item	Description	
	With DOS/V personal computer	With PC CPU module
Personal computer	PC/AT compatible machine on which the following OS operates	CONTEC PC CPU unit (PPC-852-212, PPC-852-217, PPC-852-226)*3
OS (English, Simplified Chinese, Traditional Chinese, Korean, German versions)	Microsoft® Windows® 7 (64bit/32bit) (Enterprise, Ultimate, Professional, Home Premium, Starter) Microsoft® Windows Vista® (32bit) (Enterprise, Ultimate, Business, Home Premium, Home Basic) Microsoft® Windows® XP Service Pack2 or later (32bit) (Professional, Home Edition, Embedded *4) Microsoft® Windows® 2000 Professional Service Pack4	
CPU	1GHz or more recommended	
Required memory	Microsoft® Windows® 7, Microsoft® Windows Vista®: 1GB or more recommended Microsoft® Windows® XP, Microsoft® Windows® 2000: 512MB or more recommended	
Display	Resolution VGA　(640 x 480 dots) or more	
Available hard disk space*1	For installation: 2GB or more recommended For execution: 512MB or more recommended	
Display colors	High Color (16 bits) or more	
Hardware*2	GT15-SGTKEY-U (License key (for USB port)) GT15-SGTKEY-P (License key (for parallel port))	GT15-SGTKEY-U (License key (for USB port))
Software	When creating or editing project data ：GT Designer3 *5 When using with PX Developer ：PX Developer Version 1.14Q or later (PX Developer Version 1.31H or later when using the security level change)	
Others	Mouse, keyboard, printer, CD-ROM drive (for installation only), sound function (sound card), speaker used with the above OS	

*1 ：Use of GT Designer3 and PX Developer requires additional memory space. For free space required when using the PX Developer monitoring tool, refer to the PX Developer Version1 Operation Manual (Monitor Tool). Additional memory space is also required when using user-created applications.
*2 ：The PC must be equipped with a USB port to use the GT15-SGTKEY-U. The PC must be equipped with a parallel port (Centro/printer connector) to use the GT15-SGTKEY-P.
*3 ：For CONTEC PC CPU unit, refer to the manual for the PC CPU module.
*4 ：Use is possible only when PPC-852-226 is preinstalled.
*5 ：GT Designer3 and GT SoftGOT1000 must be installed from the same GT Works3 suite.

[Cautions]
•The software installation and the GOT-A900 simulation require administrator authority.
•Using GT Works3 application requires an account with higher privileges than the standard user in Windows® 7 and Windows Vista®.
•To use GT Works3 alongside another application in Windows® 7 and Windows Vista®, use an administrator account to run it if an administrator account is used to run the other application.
•The following functions are not supported in Windows® 7, Windows Vista®, or Windows® XP.
 Running Applications in Windows® Compatibility Mode, Fast User Switching, Desktop Theme (Font Size) Change, Remote Desktop, DPI Setting other than 100%.
•Windows XP Mode, Windows Touch features are not supported in Windows® 7.

Specification

Item	Description
Resolution (dots)	640 × 480, 800 × 600, 1024 × 768, 1280 × 1024, 1600 × 1200 Specifiable resolution (640 to 1920 × 480 to 1200)
Display colors	65,536 colors
Memory capacity	57MB
Connection configuration*1	Bus connection*2, CPU direct connection, Computer link connection, CC-Link IE Controller Network connection, CC-Link IE Field Network connection, MELSECNET connection, Ethernet connection

*1 ：The required devices vary depending on the connection configuration.
*2 ：Connectable only when using a PC CPU unit.

Warranty

> Please confirm the following product warranty details before using this product.

Gratis Warranty Term and Gratis Warranty Range

If any faults or defects (hereinafter "Failure") found to be the responsibility of Mitsubishi occurs during use of the product within the gratis warranty term, the product shall be repaired at no cost via the sales representative or Mitsubishi Service Company.
However, if repairs are required onsite at domestic or overseas location, expenses to send an engineer will be solely at the customer's discretion. Mitsubishi shall not be held responsible for any re-commissioning, maintenance, or testing on-site that involves replacement of the failed module.

■Gratis Warranty Term
The gratis warranty term of the product shall be for thirty-six (36) months after the date of purchase or delivery to a designated place.
Note that after manufacture and shipment from Mitsubishi, the maximum distribution period shall be six (6) months, and the longest gratis warranty term after manufacturing shall be forty-two (42) months. The gratis warranty term of repair parts shall not exceed the gratis warranty term before repairs.

■Gratis Warranty Range
(1) The customer shall be responsible for the primary failure diagnosis unless otherwise specified.
    If requested by the customer, Mitsubishi Electric Corporation or its representative firm may carry out the primary failure diagnosis at the customer's expense.
    The primary failure diagnosis will, however, be free of charge should the cause of failure be attributable to Mitsubishi Electric Corporation.
(2) The range shall be limited to normal use within the usage state, usage methods, usage environment, etc. which follow the conditions, precautions, etc. given in the instruction manual, user's manual, caution labels on the product, etc.
(3) Even within the gratis warranty term, repairs shall be charged for in the following cases.
    ①Failure occurring from inappropriate storage or handling, carelessness or negligence by the user. Failure caused by the user's hardware or software design.
    ②Failure caused by unapproved modifications, etc., to the product by the user.
    ③When the Mitsubishi product is assembled into a user's device, Failure that could have been avoided if functions or structures, judged as necessary in the legal safety measures the user's device is subject to or as necessary by industry standards, had been provided.
    ④Failure that could have been avoided if consumable parts designated in the user's manual etc. had been correctly serviced or replaced.
    ⑤Replacing consumable parts such as the battery, backlight and fuses.
    ⑥Failure caused by external irresistible forces such as fires or abnormal voltages, and Failure caused by force majeure such as earthquakes, lightning, wind and water damage.
    ⑦Failure caused by reasons unpredictable by scientific technology standards at time of shipment from Mitsubishi.
    ⑧Any other failure found not to be the responsibility of Mitsubishi or that admitted not to be so by the user.

Onerous repair term after discontinuation of production

(1) Mitsubishi shall accept onerous product repairs for seven (7) years after production of the product is discontinued. Discontinuation of production shall be notified with Mitsubishi Technical Bulletins, etc.
(2) Product supply (including repair parts) is not available after production is discontinued.

Overseas service

Overseas, repairs shall be accepted by Mitsubishi's local overseas FA Center. Note that the repair conditions at each FA Center may differ.

Exclusion of loss in opportunity and secondary loss from warranty liability

Regardless of the gratis warranty term, Mitsubishi shall not be liable for compensation to damages caused by any cause found not to be the responsibility of Mitsubishi, loss in opportunity, lost profits incurred to the user by Failures of Mitsubishi products, special damages and secondary damages whether foreseeable or not, compensation for accidents, and compensation for damages to products other than Mitsubishi products, replacement by the user, maintenance of on-site equipment, start-up test run and other tasks.

Changes in product specifications

The specifications given in the catalogs, manuals or technical documents are subject to change without prior notice.

Product application

(1) In using the Mitsubishi graphic operation terminal, the usage conditions shall be that the application will not lead to a major accident even if any problem or fault should occur in the graphic operation terminal device, and that backup and fail-safe functions are systematically provided outside of the device for any problem or fault.
(2) The Mitsubishi graphic operation terminal has been designed and manufactured for applications in general industries, etc. Thus, applications in which the public could be affected such as in nuclear power plants and other power plants operated by respective power companies, and applications in which a special quality assurance system is required, such as for Railway companies or Public service purposes shall be excluded from the graphic operation terminal applications.
    In addition, applications in which human life or property that could be greatly affected, such as in aircraft, medical applications, incineration and fuel devices, manned transportation equipment for recreation and amusement, and safety devices, shall also be excluded from the graphic operation terminal range of applications.
    However, in certain cases, some applications may be possible, providing the user consults the local Mitsubishi representative outlining the special requirements of the project, and providing that all parties concerned agree to the special circumstances, solely at our discretion.
    In one of these cases, however, Mitsubishi Electric Corporation may consider the possibility of an application, provided that the customer notifies Mitsubishi Electric Corporation of the intention, the application is clearly defined and any special quality is not required.

Support

"Mitsubishi Global FA Centers" are located around the world in Asia, North America and Europe to provide optimum services.

● **Global FA Centers**

◎ **Shanghai FA Center**
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◎ **North American FA Center**
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◎ **Czech Republic FA Center**
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◎ **Korean FA Center**
MITSUBISHI ELECTRIC AUTOMATION KOREA CO., LTD., (Service)
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157-200, Korea
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◎ **Brazil FA Center**
MELCO-TEC Representacao Comercial e
Assessoria Tecnica Ltda.
Av. Paulista, 1439, cj74, Bela Vista, Sao Paulo
CEP: 01311-200 - SP Brazil
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◎ **Russian FA Center**
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◎ **Taiwan FA Center**
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ISO9001 and ISO14001 certified.

All of Mitsubishi Electric's FA component products have acquired the international quality assurance "ISO9001" and the environment management system standard "ISO14001" certification.

Mitsubishi's products comply with various standards and laws.

Mitsubishi's products also comply with various safety standards including UL standards, shipping standards, and radio laws.

<Safety Standards>

Mark	Standards/Agency	Country/Region
CE	EN Standards	Europe
UL	UL Standards	United States
cUL	Canadian Standards Association (CSA)	Canada

<Radio Laws>

Mark	Law	Country
KC	Korea Radio Waves Act	Korea

For the details on the approval model within each standards,
please contact your local sales office.

<Shipping Standards>

Abbrev.	Certification Organization	Country
ABS	American Bureau of Shipping	United States
BV	Bureau Veritas	France
DNV	Det Norske Veritas	Norway
GL	Germanischer Lloyd	Germany
LR	Lloyd's Register	England
NK	NIPPON KAIJI KYOKAI	Japan
RINA	Registro Italiano Navale	Italy

MEMO

MEMO

MEMO

iQ Platform   CC-Link IE   MELSOFT

ISO 14001 JAC EC97J1113   UKAS MANAGEMENT SYSTEMS 051

ISO 14001 JAC EC97J1234   UKAS MANAGEMENT SYSTEMS 051

ISO 9001 BUREAU VERITAS Certification   UKAS MANAGEMENT SYSTEMS 009

Mitsubishi Graphic Operation Terminal

Precautions for Choosing the Products

This catalog explains the typical features and functions of the GOT1000 series HMI and does not provide restrictions and other information on usage and module combinations.
When using the products, always read the user's manuals of the products.
Mitsubishi will not be held liable for damage caused by factors found not to be the cause of Mitsubishi; machine damage or lost profits caused by faults 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 safe use

- To use the products given in this catalog properly, always read the related manuals before starting to use them.
- The products within this catalog have been manufactured as general-purpose parts for general industries and have not been designed or manufactured to be incorporated into any devices or systems used in purpose related to human life.
- Before using any product for special purposes such as nuclear power, electric power, aerospace, medicine or passenger movement vehicles, consult with Mitsubishi.
- The products within this catalog have 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.

Country/Region	Sales office	Tel/Fax
USA	MITSUBISHI ELECTRIC AUTOMATION, INC. 500 Corporate Woods Parkway, Vernon Hills, IL 60061, U.S.A.	Tel: +1-847-478-2100 Fax: +1-847-478-2253
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