

iQ Platform **Graphic Operation Terminal GOT2000** Series



CH1

123456

Operation and Monitoring

Operation Seach Parameter 1 Parameter 2 Alarm Bace 10 Back

CH2

0.5

CH3

123456

09.18.2013 19:53

1.5





F Design Award 2014

CH4

123456

Your window to better production control

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Middle High Set Rotation Direction verse Stop Forward

> cy Setting (Hz) 465

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Graphic Operation Terminal

The Mitsubishi Electric Graphic Operation Terminal GOT2000 series continues to impress with solutions that fulfill all demands.

The GOT2000 boasts advanced functionality, acts as a seamless gateway to other industrial automation devices, all while increasing productivity and efficiency.

The high quality display is designed to optimize operator control and monitoring of device and line statuses. If you are looking for an intuitive operation terminal, the new tablet-like operability and the higher functionality of operation terminal makes the GOT2000 the ideal choice.

Incorporate the GOT2000 to bring forth flexibility, productivity, and quality on a global scale.

Your window to better production control



Graphic Operation Terminal

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GOT2000

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GOT2000

ion Terminal



Functions

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Support

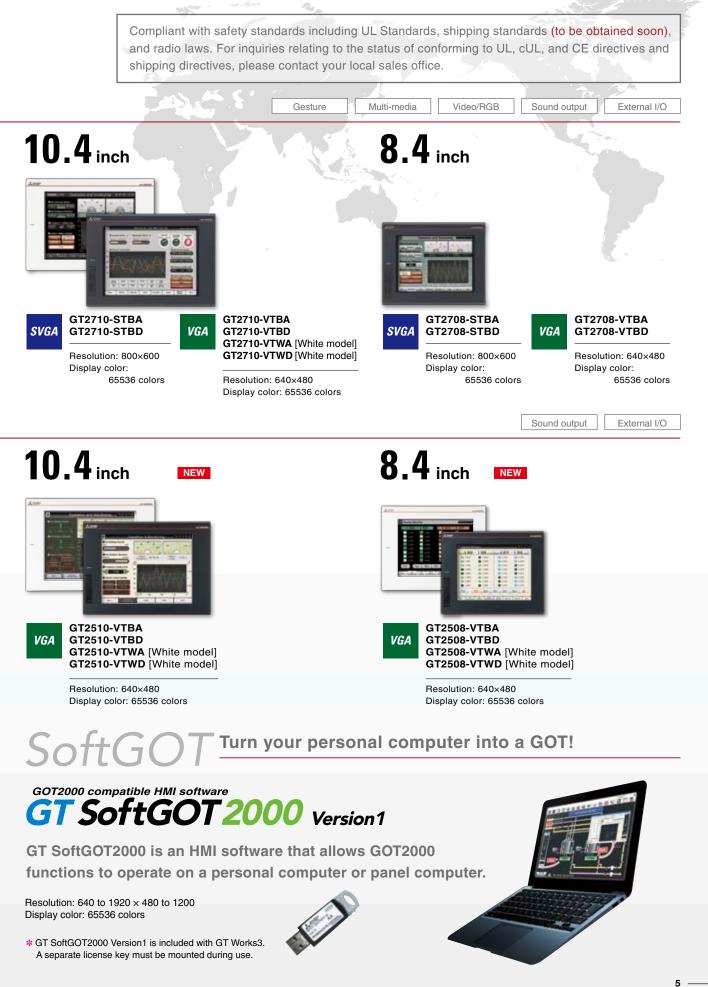
Product list

Line up

The GOT2000 inherits all the features of our popular GOT1000 series, and introduces a more refined and advanced function set. The powerful and flexible lineup includes GOTs with various features and communication options to tackle any application you may encounter.







GOT2000 - Designed to meet your industrial automation needs.



Flexible interface (Standard SD card slot)

Human sensor

The unit automatically detects an operator approaching to the unit and displays the screen. When no one is around, the backlight turns off to save energy. * GT27 15" and 12.1" only

USB device

Transfer data without opening the cabinet.

* Located on the back of the white model (GT27, GT25) and GT23.

USB host

Transfer screen data or read the data to or from the GOT using the USB memory. A USB mouse and keyboard connection is also supported.

Located on the back of the white model
 (GT27, GT25) and GT23.



High-speed processing

Easily operate the screens even during high-load processing, such as logging, script, alarm or device data transfer.

(GT16→GT27: monitor performance is 2-fold or more higher)

Increased memory capacity

Design screens without worrying about the data capacity. The product data compression technology allows up to 128MB of actual space to be used without an SD card. * An SD card may be required depending on the project.

Easy operations with multi-touch gestures

Use intuitive gestures to zoom in/out and to scroll.

See page 8 for details.

Crisp display with outline fonts and PNG images

Customize screen designs using parts library and fonts that are crisp even when enlarged or reduced.

Enhanced lineup

The new GOT2000 is suitable for applications in any industry. The GT27, GT25 white model provides an additional color option, and the flush frame without the USB port can be cleaned very easily. The GOT can be installed vertically for extra flexibility when installed in confined spaces. Coming soon

120

Easily connect to various serial devices.

IIIIII

RS-422/485

151 151

* The white model is only available

data.

Extension interface A communication unit or option

unit can be mounted. * GT27 and GT25 only.

RS-232

Connect to various industrial devices, barcode readers and serial printers.





Comparison of GT27/GT16 ROM capacity <GT16> <GT27> 128MB (actual storage data



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⁻eatures

GOT2000

onlv

GOT2000

Product list

USB host

Save the alarm and logging data by connecting a USB memory. A USB mouse and keyboard connection is also supported.



with GT27 and GT25

SD card slot

Ethernet Use Ethernet to simultaneously connect to up to four types

of PLCs from different

manufacturers.

Save large volumes of data,

including alarms and logging

Graphic Operation Terminal





Use multi-touch gestures to operate your GOT in a more natural way!

- Graphic Operation Terminal GOT2000

Screen Gestures

Zoom in to easily operate small and hard to reach switches. After zooming in, scroll the display to show the area you want to operate.





GOT2000 only



* GT27 only

Object Gestures

· Simple alarm display

Specify an object to be enlarged, scrolled or flicked.

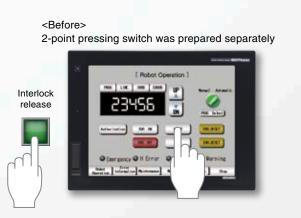
- <Target objects>
- Historical data list display Alarm display (user)
 - Alarm display (user)
 Alarm display (system)
 Historical trend graph
 Document display



2-point press operation prevents incorrect operations

Prevent accidental operations by designating two pressing points for critical operations.

* GT27 only



* Cautions apply to the arrangement of the 2-point pressing switch.

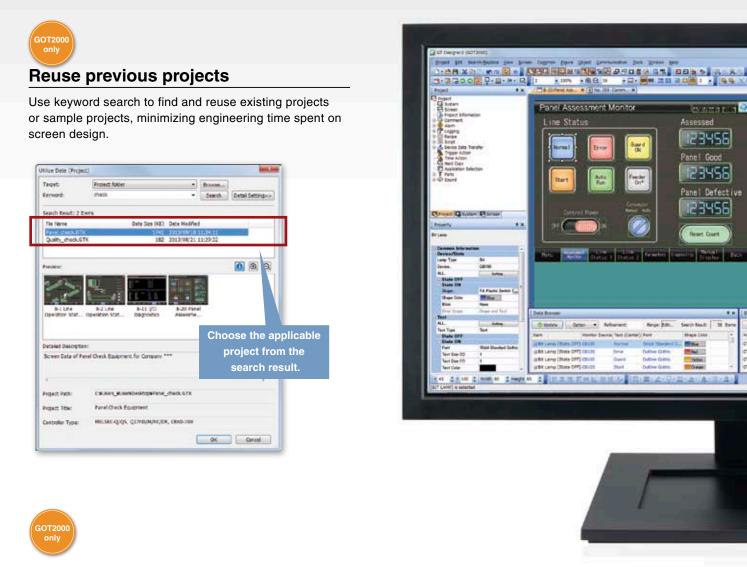


Features

9

Professional Designs in Just a Few Clicks

The GOT2000 introduces an efficient approach to reuse previously created screen designs.



Variety of reusable sample projects

GOT2000 has many sample projects that can be used when designing screens. Just select a sample and apply it to your screen.

Device monitor Alarm Recipe arm History . . X 0000 - X 000 4 Nk 01 (1-10) GT2710-VTBA 700613 Item-3 2000 0 Item-4 -IDAN ADDRE A

10



GOT Screen Design Software MELSOFT GT Works3^{+plus}

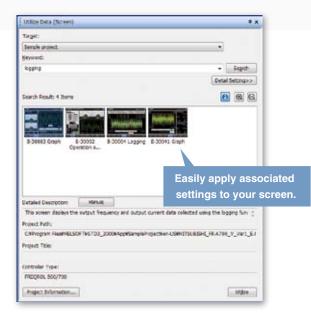


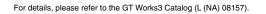




Reuse previous screens

Settings associated with a previous project, such as comment data, logging settings, etc., can be easily applied to a new project.







Programmable controller



Simple motion

Avist	Jument Feed Val.	Add Feed Rate		Energen	ay (R	op inp	a.	_
MAZ				Start No.	0	e ato	n Patt	275
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1 1	Alt Ser	ed control		Corteol Sys	ARM)	HL.	ALL.	Dec
Auto IS	itut .		Acit1	4002				
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4 10	Waning	Minder 1	Note					

Q Motion

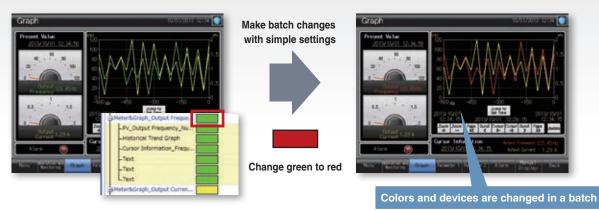


Easy Operations to Reduce Engineering Time

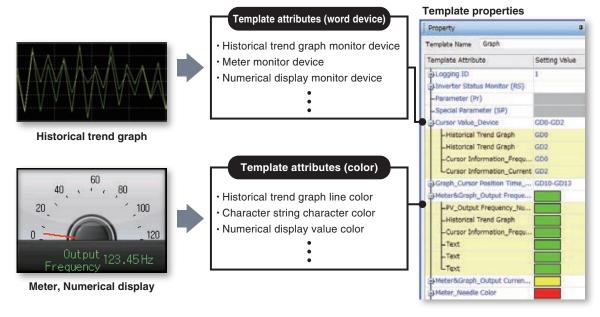
The GOT2000 Series and GOT1000 Series are supported with this single software!

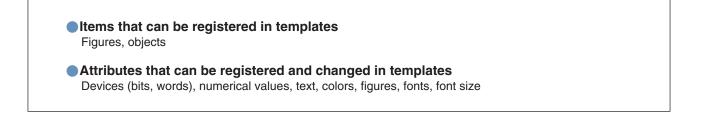
Use templates to greatly reduce your screen creation time!

Customize each template to the desired look-and-feel, ranging from color options to device selection.



Attributes such as devices and colors can be set for each template. You can easily change devices and colors by associating each object with the template's attribute.





Graphic Operation Terminal GOT2000

GOT Screen Design Software MELSOFT GT Works3^{+plus}

Quickly set devices with "Input Assist"!

When setting your devices, "Input Assist" provides a list of applicable devices, complete with device comments, device definitions, and system labels.

1) Enter a device name ② Applicable devices found in the project and recently used devices are displayed in a list. ③ Select and set a device from the list. fa boxe beheter | 🛫 🐴 Device comment set with GT Works3 device setting dialog GX Works2/GX Developer 2 Enter a keyword Device Comment COMM... × 🔂 [PRG]V ice Name M . 1 Import comment file Device Na nt & Norme nt B Norme +++ 61.6.8 8 Norral Stop (Hit 3 Applicable devices and device comments • imported from GX Works2 are displayed in a list. Select and set a device from the list. Buzzer St ... Module 1 M13 Madula 2 To Device Definition 24

Easily upgrade from GOT1000!

Simply change the GOT Type using the screen design software to upgrade your GOT1000 projects to GOT2000. It will be a drop in replacement because the panel size is exactly the same.



* The screen data cannot be converted and the GOT type cannot be changed from GOT2000 to GOT1000.

unctions

Features

Suppor

An Easy and Flexible HMI Solution

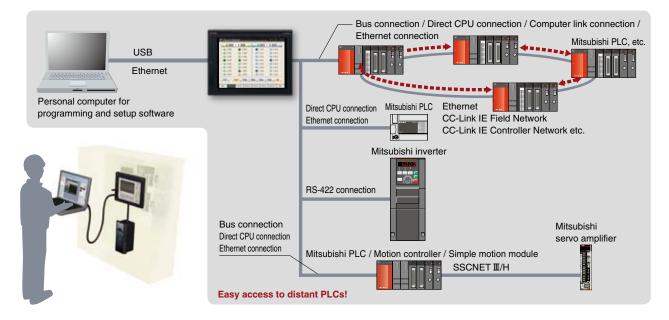
Simplifying startup and debugging

FA Transparent Function

GT27 GT25 GT23

Simplifying the startup process of industrial automation systems

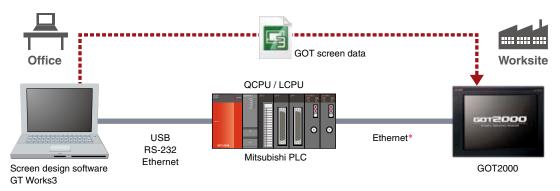
Connected with a personal computer, the GOT acts as a transparent gateway to enable programming, start up, and adjustment of industrial automation systems. Users do not have to bother with opening the cabinet or changing cable connections.



Transferring GOT screen data

GOT screen data can be transferred from a personal computer to the GOT2000 with a programmable controller acting as a gateway.

There is no need to connect cables directly from personal computers to the GOT. Editing GOT screen data during startup and maintenance is now easier than ever.



* This feature does not apply to a GOT connected to a CPU's built-in Ethernet port.

- Graphic Operation Terminal GOT2000

Record the worksite state

GT27 GT25 GT23

Multimedia Function

Quickly identify cause of errors by reviewing recordings of the production line.

Atach a video camera to the GOT, and record the production line before and after trouble occurs.

Error! 120 - secondsbefore Event trigger device: ON

[Recording specifications]

<Before-after event recording> ...A total of 240 seconds of images can be recorded, including 120 seconds before and after a system error occurs. (When event trigger device turns on.)

- <Standard mode> ...Two types of recording modes are available. Recording size VGA (640×480), frame rate max. 15fps, or recording size QVGA (320×240), frame rate max. 30fps.
- <Longtime mode> ...Approximately two days worth of video image can be recorded. The recording size is QVGA (320×240), frame rate is 15fps.

Review documents at the production site

GT27 GT25 GT23

Document Display

When errors occur on-site, a check sheet or manual can be displayed on the GOT with instructions on how to restore the system. This can reduce the downtime.

<Supported file format> doc, xls, ppt, pdf, jpg, bmp





Functions

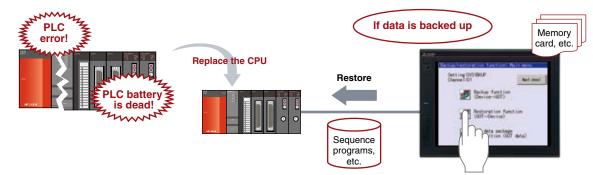
15

An Easy and Flexible HMI Solution

Easily backup and restore programs

Backup/Restore

Data such as the programs and parameters of the programmable controller CPU, motion controller, robot controller and CNC can be backed up onto the GOT's SD card or USB memory. With a backup of data in the GOT, there's no need to use a personal computer when replacing the industrial devices such as the programmable controller CPU. All replacement and restoration can be completed with just the GOT.



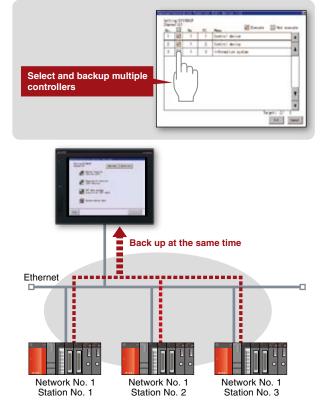
<objective data=""></objective>	. Programs, parameters, device comments, device default value data, file registers, etc.
<objective models=""></objective>	. MELSEC-Q Series (excluding Q12PRH/Q25PRHCPU), L Series, FX Series
-	Motion controller Q Series (SV13/SV22 only), CNC C70 Coming soon
	Robot controller (CR750/751-Q, CR750/751-D, CRnQ-700, CRnD-700) NEW
<supported connection="" types=""></supported>	. Bus connection, direct CPU connection, computer link connection, Ethernet connection

Back up multiple controllers at the same time

Multiple controllers connected on Ethernet can be backed up at the same time, reducing the time needed to back up each controller separately.

Automatic backup

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



Backup every Friday at 17:30







- Graphic Operation Terminal GOT2000

Monitor and edit ladder programs without a personal computer Sequence Program Monitor

GT27 GT25 GT23

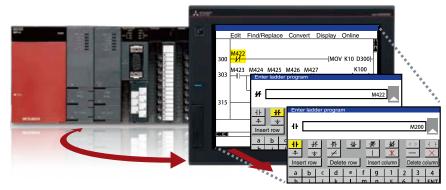
Line up

Features

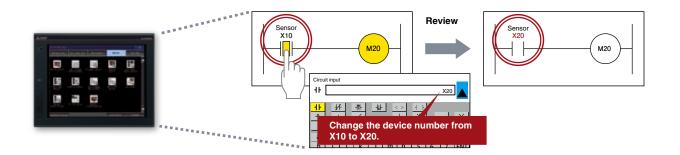
Functions

FA Solutions

When an error occurs, monitor the ladder program and identify the cause of error. There is no need for a personal computer on the production floor.



Just touch the GOT screen and easily edit the ladder program to make simple changes.



<Target models> MELSEC-Q Series (excluding QnPHCPU/QnPRHCPU/QnUDPVCPU), L Series, Motion controller Q Series (programmable controller CPU section)



An Easy and Flexible HMI Solution

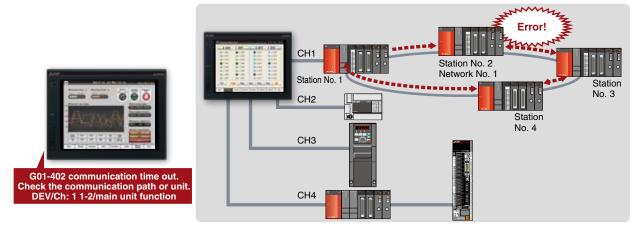
Identify the cause of alarms

GT27 GT25 GT23

System Alarms

Information such as the channel No., network No., station No., and CPU No., has been added to the system alarm making it possible to identify the abnormal device just by looking at the current alarm.

The number of the screen and the ID of the object that caused the alarm are also recorded and displayed, so that operators can easily identify what operations caused an alarm.



Easily search for causes when alarm occurs

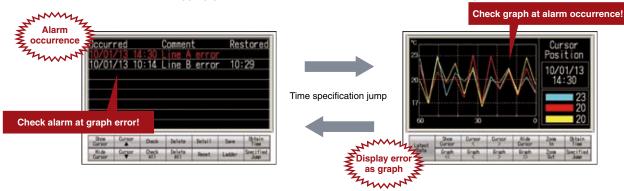
GT27 GT25 GT23

Alarm Function

Alarms can be divided into groups and displayed by system or levels, or can be displayed all at the same time. Troubleshooting multiple alarm occurrences may be complicated in a large system, however, breaking down the alarms leads to effective and fast resolution. The alarm log data can be saved in the built-in SRAM even if the power fails.



The alarm function works with the logging graph, so that the situation at alarm occurrence or graph error can be seen easily.



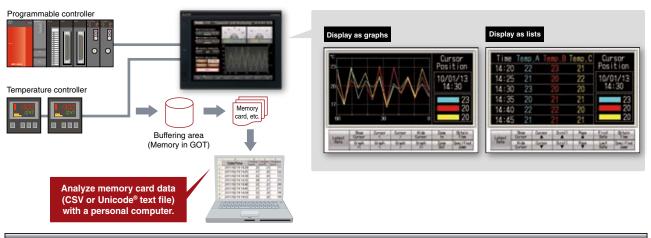
Graphic Operation Terminal GOT2000

Easily collect data

Logging & Graphs and Lists

GT27 GT25 GT23

Use the GOT to collect data from the programmable controller and temperature controllers. The data can be displayed in graphs and lists. It can also be exported to a personal computer for further analysis. The logging data can be saved in the built-in SRAM even if the power fails.



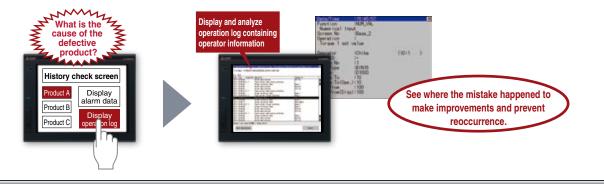
Easily identify the cause from operation history

GT27 GT25 GT23

Operator Authentication & Operation Log

The operation and display level (authority) can be set for each operator to strengthen security and prevent operation errors from reoccurring.

The operation log file saved with the operator information can be viewed to identify causes, and help make improvements and prevent recurrence.



Perform changeover even without changing the ladder program

Recipe Function

GT27 GT25 GT23

Recipe information (device values) such as material blend and machine conditions are saved in the GOT. This information can be written from the GOT to quickly perform changeover.

Data such as the production quantity and product name can be exported from the programmable controller to the GOT where it can be confirmed.

Recipe files can be converted into CSV files or Unicode[®] text files and easily edited on a personal computer. <Supported device formats> ... Bit, BIN, BCD, real numbers, character strings

Device	D1000	D2000	D2001	D2002	
Device format	Character string	BIN	BIN	BIN	
Device comment	Product name	Beef	Chicken	Shrimp, squid	
Device value	Beef curry	300	0	0	
Device value	Chicken curry	0	300	0	Recipe C
Device value	Seafood curry	0	0	150	

Powerful Remote Access Options

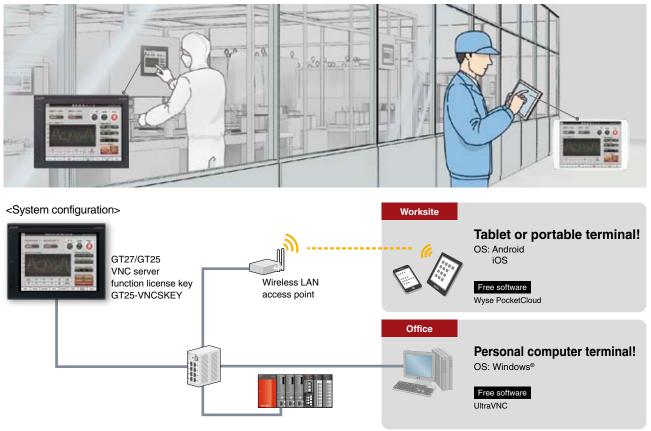
Operate GOT remotely

GOT Remote Access (VNC Server)

GT27 GT25 GT23

Remotely view and operate the GOT screen from a personal computer, tablet, or portable terminal that is connected via Ethernet.

Utility functions including the sequence program monitor and the network monitor are also supported.

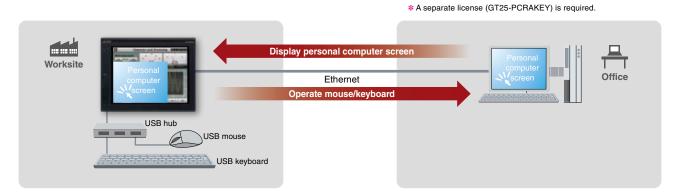


*: For the list of applicable VNC client software, please refer to the Technical Bulletin No. GOT-A-0069.

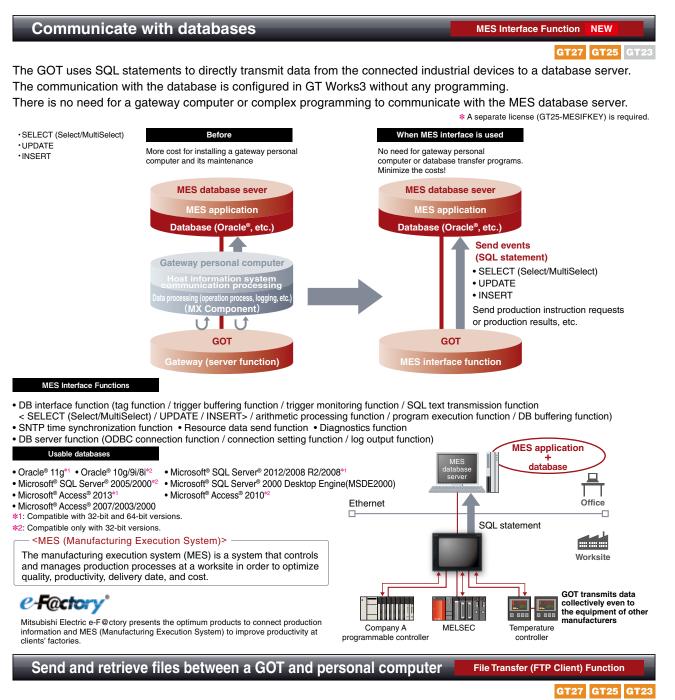
Use GOT to remotely operate a personal computer Remote Personal Computer Operation (Ethernet)

GT27 GT25 GT23

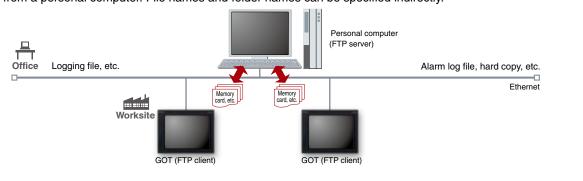
A GOT can remotely operate a personal computer that is connected via Ethernet. Connect a USB mouse and keyboard to the USB interface found in the front or at the back of the GOT. This allows you to open files such as manuals that are stored in the personal computer, view the computer's browser, and use engineering tools.



Graphic Operation Terminal GOT2000



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



Perfectly Complemented by SoftGOT

Execute GOT functions on your personal computer

SoftGOT allows GOT functions to be executed on a personal computer. Similar to the GOT2000, a variety of industrial devices can be connected and monitored. The GT SoftGOT2000 Version1 software is included in GT Works3, but requires a separate license key to operate.

Monitor the production site from a remote location

Reduce downtime

Factory

Production site

Use GT SoftGOT2000 to monitor the production site from your office. You can collect information quickly when a problem occurs, taking necessary actions immediately.

Office

Etherne

Use GOT project data from the production site

The GOT project file running at your production site can be reused as the GT SoftGOT2000 project file, greatly reducing your design costs.

USB port license key



SoftGOT

GT SoftGOT 2000

Engage with MELSEC process control NEW

Simplify design and maintenance of a process control system by connecting PX Developer's monitor tools with GT SoftGOT2000. This process control monitoring system can be easily used in various process control applications.

PX Developer face plates, etc.

Monitor, operate or tune the loop control tags. (The display position can be specified.)

GT SoftGOT2000 touch switch / object

Click on touch switches and objects to open the various screens of the PX Developer monitor tool. (The display position can be specified.)

Security collaboration



PX Developer monitor tool bar

Click on buttons to execute various operations such as starting GT SoftGOT2000 or switching base screens.

GT SoftGOT2000 base screen

Turn your desktop into a graphic monitoring window with the full-screen and back-screen mode.

The GT SoftGOT2000 security level is changed accordingly when the PX Developer monitor tool's mode is changed (engineer mode / operator mode / lock mode). Authority can be set for operations requiring security.





Remote monitoring with SoftGOT

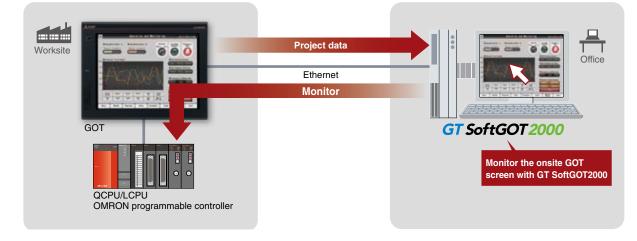
SoftGOT-GOT Link Function

GT SoftGOT2000 Commander

GT27 GT25 GT23

GT27 GT25 GT23

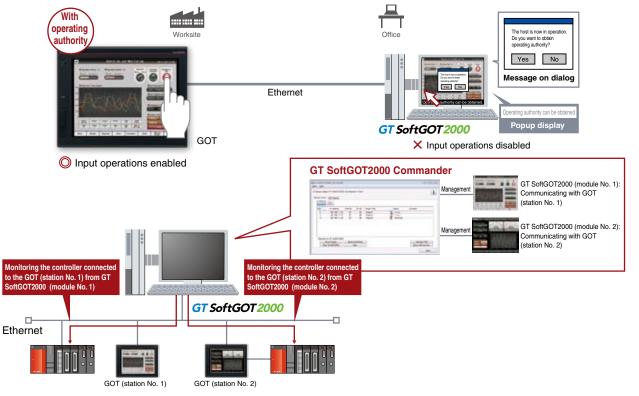
GT SoftGOT2000 allows remote monitoring of devices connected on the worksite. This feature is available by connecting the GT SoftGOT2000 with the GOT via Ethernet and sharing the GOT project data.



Control multiple SoftGOT modules

GT SoftGOT2000 Commander

By using GT SoftGOT2000 Commander, multiple GT SoftGOT2000 modules using the SoftGOT-GOT link function can be efficiently managed, and the SoftGOT-GOT link function can be utilized easily.



"Easier Operations!"

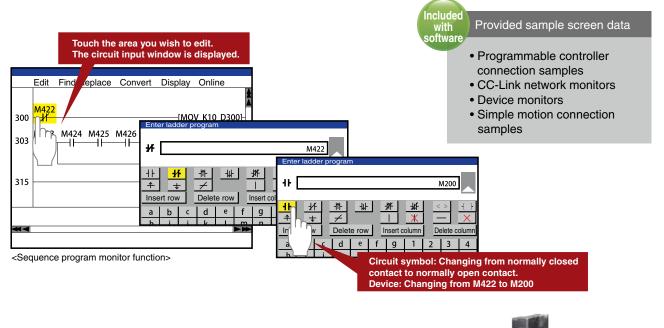
The GOT2000 engages various industrial devices to support maintenance





The Q and L Series sequence programs can be monitored and edited in ladder format using the sequence program monitor function.

Quickly perform maintenance operation on the GOT even if a personal computer is not readily available.



Easily monitor various controllers without creating screens!

General-purpose AC Servo

Dedicated screens for motion controllers, positioning modules/simple motion modules, and servo amplifiers are available. Screens do not need to be created for monitoring motion controllers or changing servo parameters, monitoring or changing buffer memory values of positioning modules/simple motion modules, or monitoring or parameter setting of servo amplifiers.



<Intelligent module monitor function>



vith

oftware

+ FA Solutions

Provided sample screen data

A800 connection sample

A700 connection sample
D700 connection sample
E700 connection sample
F700P connection sample
E700EX connection sample

NEW

NEW

FREQROL

GOT2000

personnel and reduce downtime.

Easily debug your programs without opening the cabinet!

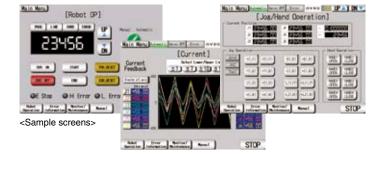
<FA transparent function>

Connected with a personal computer, the GOT acts as a transparent gateway to enable startup and adjustment of equipment using FR Configurator2/FR Configurator. Users do not have to bother with opening the cabinet or changing cable connections.

Sample screen data on which the operation commands and parameters can be set are available.



Sample screen data is available to read the controller status and control the operation directly from the GOT. The robot can be started and stopped, and the status and alarms can be monitored easily from the GOT.



Quickly recover from trouble! Coming soon

Backup the CNC C70 machining data and parameters onto the GOT's SD card or USB memory using the backup/restore function. Users can perform batch operation to restore the data to the CNC C70.



MELFA

70 Series

"More Options!" ---

The GOT2000 engages various industrial devices to support maintenance

Unique functions designed for iQ Platform controllers!

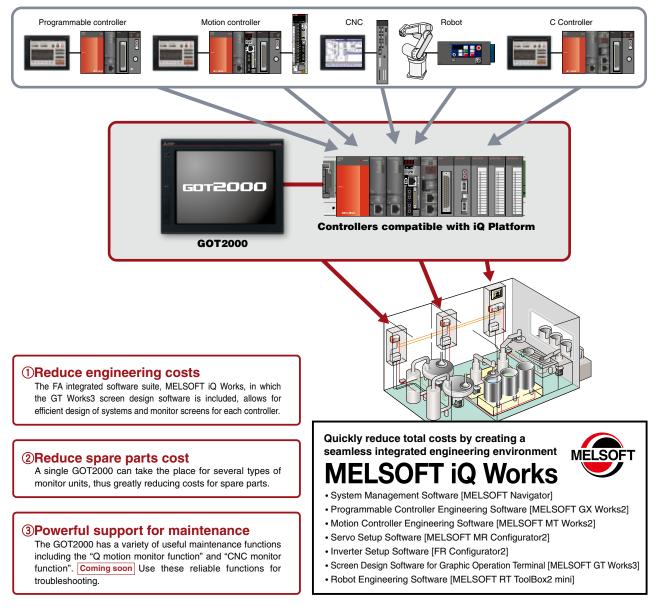
Mitsubishi FA Integrated Platform optimizes the front line of production **Platform**

"iQ Platform," the next generation integrated platform ■ improved Quality

■ intelligent & Quick

■ innovation & Quest

With high speed control and convenience fully assured, controllers compatible with the iQ Platform and the GOT2000 are the keys to higher productivity at lower cost. PLCs, motion controllers, CNCs, robot controllers, and C controllers are integrated into one as controllers compatible with the iQ Platform. The GOT2000 integrates different types of monitor units that were previously connected to each controller.



- Graphic Operation Terminal GOT2000

MELSEC-L

programmable controller

Fiber sensor

Pressure sensor



GX Works2

.............

engineering environment

Laser displacem Laser sensor Pressure sensor

+ FA Solutions

GOT2000 HMI

Photoelectric

Proximity sensor

Proximity sensor

personnel and reduce downtime.

Powerful support for sensor startup, operation, and maintenance!

Sensors used in production sites are incorporating more features and becoming more complex. Are you spending lots of time and money managing your configuration tools, or starting up and servicing your sensor systems? To simplify sensor configuration and maintenance, Mitsubishi Electric has collaborated with various manufacturers and developed OneTool. This powerful integration of sensors, programmable controllers, GOTs, and engineering tools is the solution to reducing your TCO.

This is the iQ Sensor Solution (iQss).

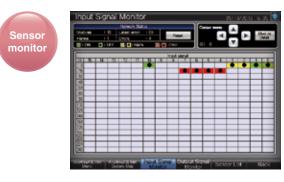
* TCO: Total Cost of Ownership

Previously

Sensor status could not be monitored collectively and was time consuming

With GOT2000? The statuses are displayed on one screen!

iQSS partner sensors are displayed on a single screen for comprehensive monitoring



Input signal monitor screen



Sensor detailed information (Parameter setting screen)

Previously It was a hassle to backup sensor parameters because each manufacturer has a different software

With GOT 2000? Unify the configuration of all settings with a single operation!

Backup and restore the parameters of any iQSS partner sensor to the SD card mounted on the LCPU, allowing work time to be reduced.



1055	com	Datible	partner	sensor

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3	A3, INF2	Any/Giref 3, 198	ATT Ex	003
4				000
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1	or match inter	1	t atting	44

iQSS backup (sensor - programmable controller) screen

GT27

General specifications

Item		Specifications							
Operating ambient temperature *1		0 to 55°C *2							
Storage ambient temperature		-20 to 60°C							
Operating ambient humidity			10 to 90% RH, no	on-condensing					
Storage ambient humidity			10 to 90% RH, no	on-condensing					
			Frequency	Acceleration	Half-amplitude	Sweep count			
Vibration resistance	Compliant with JIS B3502 and IEC61131-2	Under intermittent vibration	5 to 8.4Hz	-	3.5mm	10 times each in X, Y and Z			
			8.4 to 150Hz	9.8m/s ²	-	directions			
		Under continuous vibration	5 to 8.4Hz	-	1.75mm				
			8.4 to 150Hz	4.9m/s ²	-	-			
Shock resistance	Compliar	t with JIS B3502, IEC	61131-2 (147 m/s	2 (15G), 3 times ea	ch in X, Y and Z dire	ections)			
Operating atmosphere	No oily smoke, corro	sive gas or combustil	ole gas, less condu	ctive dust, away from	m direct sunlight (the	e same in storage)			
Operating altitude *3			2000m o	r less					
Installation location			Inside contr	ol panel					
Overvoltage category *4			ll or le	SS					
Pollution level *5			2 or le	SS					
Cooling method			Self-coo	bling					
Grounding		Type D grounding	(100Ω or less). Co	nnect to panel if una	able to ground.				

- *1 The operating ambient temperature includes the temperature inside the enclosure of the control panel to which the GOT is installed.
- *2 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 (GT27-MMR-Z), MELSECNET/H communication unit (GT15-J71E92-25 or GT15-J71E9713) or CC-Link communication unit (GT15-J61E9T13).
- *3 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.
- Assuming that the device is connected at some point between a public power distribution network and local system equipment. Categoryll 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.
- *5 Index that indicates the level of foreign conductive matter in the operating environment of the device. Pollution 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.

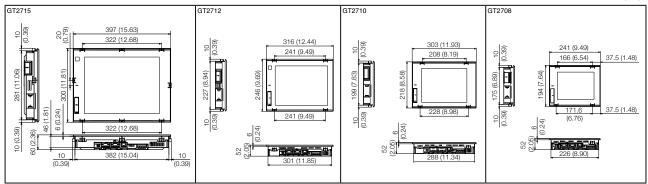
For inquiries relating to the status of conforming to UL, cUL, and CE directives and shipping directives, please contact your local sales office.

Unit: mm (inch)

Power supply specifications

					Specifi	cations			
	ltem	GT2715-XTBA	GT2712-STBA GT2712-STWA	GT2710-STBA GT2710-VTBA GT2710-VTWA	GT2708-STBA GT2708-VTBA	GT2715-XTBD	GT2712-STBD GT2712-STWD	GT2710-STBD GT2710-VTBD GT2710-VTWD	GT2708-STBD GT2708-VTBD
Power sup	ply voltage		100 to 240VAC	C (+10%, -15%)			24VDC (+2	25%, -20%)	
Power sup	ply frequency		50/60H	Iz ±5%				_	
D	Maximum load	51W or less	44W or less	41W or less	41W or less	48W or less	45W or less	42W or less	39W or less
Power consumption	Stand alone	25W	19W	17W	15W	23W	18W	15W	13W
oonoumpion	Stand alone with backlight off	10W	10W	10W	10W	8W	8W	8W	8W
Inrush curr	ent	40A or less (3ms, ambient temperature 25°C, maximum load)	60A or less (2ms, a	mbient temperature 2	5°C, maximum load)	5A or less (20ms, ambient temperature 25°C, maximum load)			
Allowable r	nomentary power failure time		Within 20ms (10	00VAC or more)		Within 10ms			
Noise imm	unity	Noise voltage 1500Vp	-p, noise width 1µs by n	oise simulator with noise	e frequency 25 to 60Hz	Noise voltage 500Vp-p, noise width 1µs by noise simulator with noise frequency 25 to 60Hz			
Withstand	voltage	1500VAC f	or 1 minute between p	ower supply terminal	and ground	350VAC for 1 minute between power supply terminal and ground			
Insulation i	esistance		10MΩ o	r higher with an insula	tion resistance tester (500VDC between pow	ver supply terminal and	l ground)	

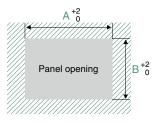
External dimensions

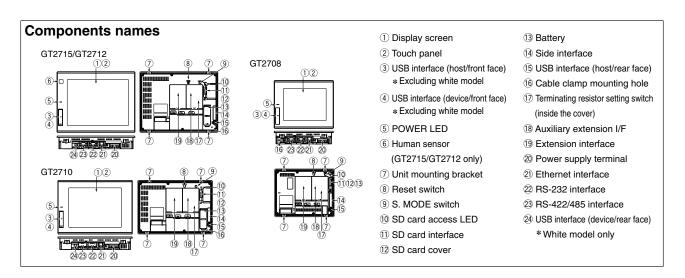


Unit: mm (inch)

Panel cutting dimensions

Screen size	Model	А	В	Remarks
15"	GT2715	383.5 (15.10)	282.5 (11.12)	Same dimensions as GT1695, GT1595.
12.1"	GT2712	302 (11.89)	228 (8.98)	Same dimensions as GT1685, GT1585, A985GOT.
10.4"	GT2710	289 (11.38)	200 (7.87)	Same dimensions as GT167, GT157, A97GOT.
8.4"	GT2708	227 (8.94)	176 (6.93)	Same dimensions as GT1665, GT1565.





Performance specifications

					Specifi	cations						
	Item	GT2715-XTBA GT2715-XTBD	GT2712-STBA GT2712-STBD	GT2712-STWA GT2712-STWD	GT2710-STBA GT2710-STBD	GT2710-VTBA GT2710-VTBD	GT2710-VTWA GT2710-VTWD	GT2708-STBA GT2708-STBD	GT2708-VTBA GT2708-VTBD			
	Display device				TFT co	lor LCD						
	Screen size	15"	12	2.1"		10.4"		8	.4"			
	Resolution	XGA: 1024×768 dots		SVGA: 800×600 dots		VGA: 640	0×480 dots	SVGA: 800×600 dots	VGA: 640×480 dots			
	Display size	304.1(12.0)(W)× 228.1(8.98)(H) mm(inch)		×184.5(7.264)(H) (inch)	211.2(8.31	15)(W)×158.4(6.236)(H	I) mm(inch)	170.9(6.728)(W) x 128.2(5.047)(H) mm(inch)				
Display section *1 *2	Number of characters	16-dot standard font: 64 chars. × 48 lines (2-byte) 12-dot standard font: 85 chars. × 64 lines (2-byte)		ard font: 50 chars. × 37 ard font: 66 chars. × 50			chars. × 30 lines (2-byte) 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)	16-dot standard font: 40 chars. × 30 lines (2-byte) 12-dot standard font: 53 chars. × 40 lines (2-byte)			
	Display color				65536	colors						
	Intensity adjustment				32-level a	adjustment						
	Backlight				LED (not r	eplaceable)						
	Backlight life *4		Approx. 60000 hours or more (Time for display intensity reaches 50% at ambient temperature of 25°C)									
	Туре				Analog re	sistive film						
Touch panel *3	Key size				Minimum 2 × 2	2 dots (per key)						
rouch panel	Simultaneous press	Maximum 2 points										
	Life		1 million times or more (operating force 0.98N or less)									
Human	Detection distance		1m				-					
sensor	Detection temperature	Temperature difference between human body and ambient air; 4°C or higher										
User memory	User memory capacity					age (ROM): 57MB tion (RAM): 128MB						
	Life (No. of writings)				10000	0 times						
Internal clock	accuracy	±90 sec/month (ambient temperature 25°C)										
Battery		GT11-50BAT lithium battery										
	Life	Approx. 5 years (ambient temperature 25°C)										
	RS-232	1ch Transmission speed: 115200/57600/38400/19200/9600/4800bps Connector shape: D-sub 9-pin (male)										
	RS-422/485		1ch Trar	smission speed: 11520	0/57600/38400/19200	/9600/4800bps Conne	ector shape: D-sub 9-pi	n (female)				
	Ethernet		1	Ich Data transfer meth	od: 10BASE-T/100BAS	SE-TX Connector shap	pe: RJ-45 (modular jac	k)				
	USB (host)	2ch (front fa	ce/rear face)	1ch (rear face)	2ch (front fa	ce/rear face)	1ch (rear face)	2ch (front fa	ce/rear face)			
Built-in				Maximum tran	sfer speed: High-Spee	d 480Mbps Connector	r shape: USB-A					
interface	USB (device)	1ch (fro	ont face)	1ch (rear face) Maximum transfe	1ch (fro er speed: High-Speed 4	ont face) 180Mbps Connector sl	1ch (rear face) hape: USB Mini-B	1ch (fro	ont face)			
	SD card				1ch SDHC complia	nt (maximum 32GB)	-					
	Extension interface				For communication ur	nit/option unit mounting						
	Auxiliary extension I/F					init mounting						
	Side interface					ion unit mounting						
Buzzer output						ne length adjustable)						
POWER LED	·					olors (blue, orange)						
Protective stru	ucture					control panel: IP2X						
External dime		397(15.63)(W)× 300(11.81)(H)×60(D) mm(inch)	316(12.44)(W)×246(9.69))(H)×52(2.05)(D) mm(inch))×218(8.58)(H)×52(2.0	5)(D) mm(inch)	241(9.49)(W)×194(7.64)	(H)×52(2.05)(D) mm(inch)			
Panel cutting	dimensions	383.5(15.10)(W)× 282.5(11.12)(H) mm(inch)	302(11.89)(W)×228	3(8.98)(H) mm(inch)	289(11.	38)(W)×200(7.87)(H) r	nm(inch)	227(8.94)(W)×176	(6.93)(H) mm(inch)			
Weight (excl. r	mounting brackets)	4.5kg	2.4	4kg		2.1kg		1.9	5kg			
Compatible se	oftware package				GT Designer3 Ver	sion1.112S 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. Individual differences in LCD panels may cause differences in color, uneven brightness and flickering. Note that these are characteristics of LCD panels and it does not mean the products are defective or damaged.

#2 Flickering may occur due to vibration or shock, or depending on the display colors.

*3 The life of using a stylus pen is 100,000. Use a stylus pen meeting the following specifications • Material: Polyacetal resin • Pen point radius: 0.8mm or more

*4 Using the GOT screen saver/backlight OFF functions prevents screen burn-in and extends backlight life.

*5 Pressing "PUSH" mark firmly and locking the USB environmentally protective cover makes it conform to IP67F. (The USB interface conforms to IP2X when the cover is open.) 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.

Line up

-eature:

unctions

GT25

General specifications

Item		Specifications						
Operating ambient temperature *1		0 to 55°C *2						
Storage ambient temperature		-20 to 60°C						
Operating ambient humidity		10 to 90% RH, non-condensing						
Storage ambient humidity			10 to 90% RH, no	on-condensing				
		\sim	Frequency	Acceleration	Half-amplitude	Sweep count		
Vibration resistance	Compliant with JIS B3502 and IEC61131-2	Under intermittent vibration	5 to 8.4Hz	-	3.5mm	10 times each		
			8.4 to 150Hz	9.8m/s ²	-	in X, Y and Z directions		
		Under continuous vibration	5 to 8.4Hz	-	1.75mm	_		
			8.4 to 150Hz	4.9m/s ²	-			
Shock resistance	Compliar	nt with JIS B3502, IEC	61131-2 (147 m/s	2 (15G), 3 times ea	ch in X, Y and Z dire	ections)		
Operating atmosphere	No oily smoke, corro	sive gas or combustil	ole gas, less condu	ctive dust, away from	m direct sunlight (the	e same in storage)		
Operating altitude *3			2000m o	r less				
Installation location			Inside contr	rol panel				
Overvoltage category *4			ll or le	SS				
Pollution level *5			2 or le	SS				
Cooling method			Self-co	oling				
Grounding		Type D grounding	(100Ω or less). Co	nnect to panel if una	able to ground.			

- *1 The operating ambient temperature includes the temperature inside the enclosure of the control panel to which the GOT is installed.
- *2 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).
- 43 Do not operate or store the GOT unit in pressurized environments where the pressure exceeds om 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.
- *4 Assuming that the device is connected at some point between a public power distribution network and local system equipment. Categoryll 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.
- *5 Index that indicates the level of foreign conductive matter in the operating environment of the device. Pollution level 2 denotes an environment contaminated only by non-conductive matter which may, under certain conditions, become temporarily conduction due to explore the productive. conductive due to condensation.

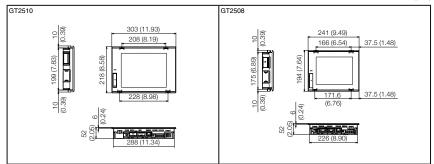
Do not use or store the GOT under direct sun light or in an environment with excessively high temperature, dust, humidity or vibration.

For inquiries relating to the status of conforming to UL, cUL, and CE directives and shipping directives, please contact your local sales office.

Power supply specifications

			Specifi	cations		
Item		GT2510-VTBA GT2510-VTWA	GT2508-VTBA GT2508-VTWA	GT2510-VTBD GT2510-VTWD	GT2508-VTBD GT2508-VTWD	
Power supply voltage		100 to 240VAC	(+10%, -15%)	24VDC (+25%, -20%)		
Power supply frequency		50/60H	lz ±5%	-	-	
	Maximum load	34W or less	31W or less	33W or less	31W or less	
Power consumption	Stand alone	12W	11W	10W	8W	
	Stand alone with backlight off	7W	7W	6W	6W	
Inrush curr	ent	60A or less (2ms, ambient tem	perature 25°C, maximum load)	5A or less (20ms, ambient temperature 25°C, maximum load)		
Allowable r	nomentary power failure time	Within 20ms (10	00VAC or more)	Within 10ms		
Noise imm	unity	Noise voltage 1500Vp-p, noise width 1µs by n	bise 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 p	ower supply terminal and ground	350VAC for 1 minute between power supply terminal and ground		
Insulation r	esistance	10MΩ o	higher with an insulation resistance tester (500VDC between power supply terminal and	ground)	

External dimensions

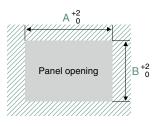


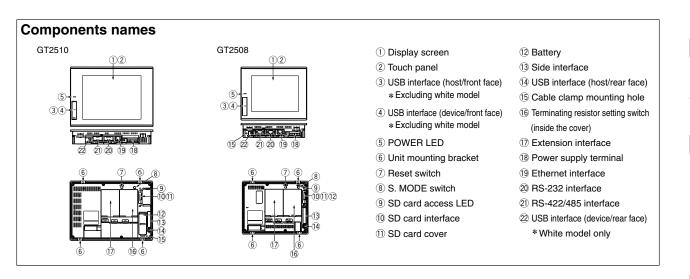
Panel cutting dimensions

Unit: mm (inch)

Unit: mm (inch)

	U						
Screen size	Model	А	в	Remarks			
10.4"	GT2510	289 (11.38)	200 (7.87)	Same dimensions as GT167, GT157, A97GOT.			
8.4"	GT2508	227 (8.94)	176 (6.93)	Same dimensions as GT1665, GT1565.			





Performance specifications

			Specifi	cations					
	Item	GT2510-VTBA GT2510-VTBD	GT2510-VTWA GT2510-VTWD	GT2508-VTBA GT2508-VTBD	GT2508-VTWA GT2508-VTWD				
	Display device		TFT co	lor LCD					
	Screen size	10.	4"	8.	4"				
	Resolution		VGA: 640	×480 dots					
	Display size	211.2(8.315)(W)×158.	4(6.236)(H) mm(inch)	170.9(6.728)(W) x 128	.2(5.047)(H) mm(inch)				
Display section *1 *2	Number of characters			chars. × 30 lines (2-byte) chars. × 40 lines (2-byte)					
	Display color		65536	colors					
	Intensity adjustment		32-level a	adjustment					
	Backlight		LED (not re	eplaceable)					
	Backlight life *4	Appro	x. 60000 hours or more (Time for display inte	ensity reaches 50% at ambient temperature of	25°C)				
	Туре		Analog re:	sistive film					
Touch panel *3	Key size		Minimum 2 × 2	2 dots (per key)					
Touch parter **	Simultaneous press	Simultaneous press prohibited ^{#5} (only 1 point can be pressed)							
	Life	1 million times or more (operating force 0.98N or less)							
User memory	User memory capacity	Memory for storage (ROM): 32MB Memory for operation (RAM): 80MB							
	Life (No. of writings)	100000 times							
Internal clock	accuracy	±90 sec/month (ambient temperature 25°C)							
Dattant		GT11-50BAT lithium battery							
Battery	Life	Approx. 5 years (ambient temperature 25°C)							
	RS-232	1ch Transmission speed: 115200/57600/38400/19200/9600/4800bps Connector shape: D-sub 9-pin (male)							
	RS-422/485	1ch Transmission speed: 115200/57600/38400/19200/9600/4800bps Connector shape: D-sub 9-pin (female)							
	Ethernet	1	ch Data transfer method: 10BASE-T/100BAS	SE-TX Connector shape: RJ-45 (modular jack	<)				
	USB (host)	2ch (front face/rear face)	1ch (rear face)	2ch (front face/rear face)	1ch (rear face)				
Built-in	USB (HOSI)		Maximum transfer speed: High-Speed	d 480Mbps Connector shape: USB-A					
interface	USB (device)	1ch (front face)	1ch (rear face)	1ch (front face)	1ch (rear face)				
	USB (device)	Maximum transfer speed: High-Speed 480Mbps Connector shape: USB Mini-B							
	SD card		1ch SDHC complia	nt (maximum 32GB)					
	Extension interface		For communication un	nit/option unit mounting					
	Side interface	For communication unit mounting							
Buzzer output		Single tone (tone, tone length adjustable)							
POWER LED		Emission color: 2 colors (blue, orange)							
Protective stru	icture		Front: IP67F *6 In	control panel: IP2X					
External dimer	nsions	303(11.93)(W)×218(8.58)	H)×52(2.05)(D) mm(inch)	241(9.49)(W)×194(7.64)(H)×52(2.05)(D) mm(inch)					
Panel cutting of	dimensions	289(11.38)(W)×200	(7.87)(H) mm(inch)	227(8.94)(W)×176(6.93)(H) mm(inch)					
Weight (excl. r	mounting brackets)	2.1	kg	1.5	ikg				
Compatible so	ftware package		GT Designer3 Ver	sion1.112S 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. Individual differences in LCD panels may cause differences in color, uneven brightness and flickering. Note that these are characteristics of LCD panels and it does not mean the products are defective or damaged.

*2 Flickering may occur due to vibration or shock, or depending on the display colors.

*3 The life of using a stylus pen is 100,000. Use a stylus pen meeting the following specifications. Material: Polyacetal resin
 Pen point radius: 0.8mm or more

*4 Using the GOT screen saver/backlight OFF functions prevents screen burn-in and extends backlight life.

*5 When 2 points on the touch panel are pressed simultaneously, if a switch is located in the middle of the 2 points then the switch will be activated. Therefore, avoid pressing 2 points on the touch panel simultaneously. *6 Pressing "PUSH" mark firmly and locking the USB environmentally protective cover makes it conform to IP67F. (The USB interface conforms to IP2X when the cover is open.)

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.

GT23

General specifications

Item	Specifications									
Operating ambient temperature *1		0 to 55°C								
Storage ambient temperature		-20 to 60°C								
Operating ambient humidity			10 to 90% RH, non	-condensing *2						
Storage ambient humidity			10 to 90% RH, non	-condensing *2						
			Frequency	Acceleration	Half-amplitude	Sweep count				
	Compliant with	Under intermittent	5 to 8.4Hz	-	3.5mm	10 times each				
Vibration resistance		vibration	8.4 to 150Hz	9.8m/s ²	-	in X, Yand Z directions				
		Under continuous	5 to 8.4Hz	-	1.75mm					
		vibration	8.4 to 150Hz	4.9m/s ²	-	-				
Shock resistance	Compliar	nt with JIS B3502, IEC	C 61131-2 (147 m/s	2 (15G), 3 times ead	ch in X, Y and Z dire	ections)				
Operating atmosphere	No oily smoke, corro	sive gas or combustil	ole gas, less condu	ctive dust, away fror	m direct sunlight (the	e same in storage)				
Operating altitude *3			2000m o	r less						
Installation location			Inside contr	ol panel						
Overvoltage category *4			ll or le	SS						
Pollution level *5	2 or less									
Cooling method			Self-coo	oling						
Grounding		Type D grounding (100Ω or less). Connect to panel if unable to ground.								

- *1 The operating ambient temperature includes the temperature inside the enclosure of the control panel to which the GOT is installed.
- *2 If ambient temperature exceeds 40°C, absolute humidity should not exceed 90% at 40°C.
- Not exceed 90% at 40°C.
 \$3 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 pressure could raise the surface sheet, making the touch panel difficult to operate or causing the sheet to come off.
- 44 Assuming that the device is connected at some point between a public power distribution network and local system equipment. Categoryll 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.
- *5 Index that indicates the level of foreign conductive matter in the operating environment of the device. Pollution level 2 denotes an environment contaminated only by non-conductive matter which may, under certain conditions, become temporarily conductive due to condensation.

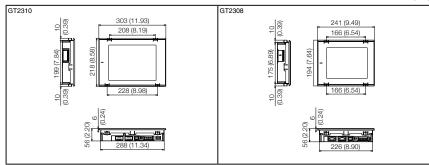
Do not use or store the GOT under direct sun light or in an environment with excessively high temperature, dust, humidity or vibration.

For inquiries relating to the status of conforming to UL, cUL, and CE directives and shipping directives, please contact your local sales office.

Power supply specifications

	ltem	Specifications							
	nem	GT2310-VTBA	GT2308-VTBA	GT2310-VTBD	GT2308-VTBD				
Power sup	ply voltage	100 to 240VAC	(+10%, -15%)	24VDC (+2	25%, -20%)				
Power sup	ply frequency	50/60H	lz ±5%	-	-				
_	Maximum load	18W or less	11W or less	16W or less	11W or less				
Power consumption	Stand alone	15W	9W	13W	8W				
	Stand alone with backlight off	8W	6W	7W	6W				
Inrush curr	ent	40A or less (4ms, ambient tem	perature 25°C, maximum load)	40A or less (2ms, ambient temperature 25°C, maximum load)					
Allowable r	nomentary power failure time	Within 20ms (10	00VAC or more)	Within 10ms					
Noise imm	unity	Noise voltage 1500Vp-p, noise width 1µs by no	bise 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	AC external terminal and ground	350VAC 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	l ground)				

External dimensions

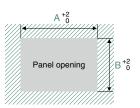


Panel cutting dimensions

Unit: mm (inch)

Unit: mm (inch)

Screen size	Model	А	В	Remarks
10.4"	GT2310	289 (11.38)	200 (7.87)	Same dimensions as GT167, GT157, A97GOT.
8.4"	GT2308	227 (8.94)	176 (6.93)	Same dimensions as GT1665, GT1565.



- Graphic Operation Terminal

Components names 1 Display screen 10 USB interface (device) GT2310 / GT2308 2 Touch panel 1 Cable clamp mounting hole ③ POWER LED 12 Terminating resistor setting switch 12 (inside the cover) (4) Unit mounting bracket 3 (5) S. MODE switch 13 Battery 6 SD card access LED (1) Power supply terminal ⑦ SD card interface 15 Ethernet interface 11 (4 (13) 12 4 (8) SD card cover (16) RS-232 interface 17 16 15 14 (9) USB interface (host) 17 RS-422/485 interface

Performance specifications

		Specific	cations					
	Item	GT2310-VTBA GT2310-VTBD	GT2308-VTBA GT2308-VTBD					
	Display device	TFT col	or LCD					
	Screen size	10.4"	8.4"					
	Resolution	VGA: 6402	×480 dots					
	Display size	211.2(8.315)(W)×158.4(6.236)(H) mm(inch)	170.9(6.728)(W) × 128.2(5.047)(H) mm(inch)					
Display section *1 *2	Number of characters	16-dot standard font: 40 d 12-dot standard font: 53 d						
	Display color	65536	colors					
	Intensity adjustment	16-level ad	djustment					
	Backlight	LED (not re	placeable)					
	Backlight life *4	Approx. 50000 hours or more (Time for display inter	nsity reaches 50% at ambient temperature of 25°C)					
	Туре	Analog res	sistive film					
Touch panel *3	Key size	Minimum 2 × 2	dots (per key)					
Touch panel	Simultaneous press	Simultaneous press prohibited *5 (only 1 point can be pressed)						
	Life	1 million times or more (operating force 0.98N or less)						
User memory	User memory capacity	Memory for storage (ROM): 9MB Memory for operation (RAM): 9MB						
	Life (No. of writings)	100000 times						
Internal clock a	accuracy	±90 sec/month (ambient temperature 25°C)						
Detter		GT11-50BAT lithium battery						
Battery	Life	Approx. 5 years (ambient temperature 25°C)						
	RS-232	1ch Transmission speed: 115200/57600/38400/19200/9600/4800bps Connector shape: D-sub 9-pin (male)						
	RS-422/485	1ch Transmission speed: 115200/57600/38400/19200/	9600/4800bps Connector shape: D-sub 9-pin (female)					
	Ethernet	1ch Data transfer method: 10BASE-T/100BAS	E-TX Connector shape: RJ-45 (modular jack)					
Built-in	USB (host)	10	h					
interface	USB (HUSI)	Maximum transfer speed: Full-Speed 12Mbps Connector shape: USB-A						
	USB (device)	10	h					
	USB (device)	Maximum transfer speed: Full-Speed 1	2Mbps Connector shape: USB Mini-B					
	SD card	1ch SDHC complian	nt (maximum 32GB)					
Buzzer output		Single tone (tone I	length adjustable)					
POWER LED		Emission color: 2 co	olors (blue, orange)					
Protective stru	cture	Front: IP67F *6 In c	control panel: IP2X					
External dimer	nsions	303(11.93)(W)×218(8.58)(H)×56(2.20)(D) mm(inch)	241(9.49)(W)×194(7.64)(H)×56(2.20)(D) mm(inch)					
Panel cutting of	limensions	289(11.38)(W)×200(7.87)(H) mm(inch)	227(8.94)(W)×176(6.93)(H) mm(inch)					
Weight (excl. r	nounting brackets)	1.9kg	1.5kg					
Compatible so	ftware package	GT Designer3 Version1.112S 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. Individual differences in LCD panels may cause differences in color, uneven brightness and flickering. Note that these are characteristics of LCD panels and it does not mean the products are defective or damaged.

*2 Flickering may occur due to vibration or shock, or depending on the display colors.

*3 The life of using a stylus pen is 100,000. Use a stylus pen meeting the following specifications.
 • Material: Polyacetal resin
 • Pen point radius: 0.8mm or more

*4 Using the GOT screen saver/backlight OFF functions prevents screen burn-in and extends backlight life.

*5 When 2 points on the touch panel are pressed simultaneously, if a switch is located in the middle of the 2 points then the switch will be activated. Therefore, avoid pressing 2 points on the touch panel simultaneously.

*6 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.

Function list

Screen design

For details of functions, supported controllers, and connection types, please refer to the GOT2000 Series Manual or Help, Supported -: Not supported

GT SoftGOT2000 Function name GT27 GT25 GT23 Category Necessary devices * Figure Logo text Touch switch • . • . Lamp • Numerical display, Numerical input c . Text display, Text input Date display, Time display (Battery) • Comment display Parts display (SD card or USB memory) . • . . Parts movement (SD card or USB memory) . Figure/object functions Historical data list display . Simple alarm display . . . System alarm display . . . (SD card or USB memory, battery) Alarm display (user) . . Alarm display (system) (SD card or USB memory, battery) Level Panelmeter Line graph . . Trend graph • Bar graph • • . . Statistic bar graph Statistic pie graph . Scatter graph Historical trend graph Slider . Document display SD card (SD card or USB memory, battery) • Logging Recipe Functions performed on background of GOT (SD card or USB memory) . -. Device data transfer • . • Trigger action . (SD card or USB memory) Time action File output SD card or USB memory . . . Hard copy Serial printer output . . • PictBridge printer output IEW Printer unit . Project/screen script . . Object script Barcode function õ RFID function • Remote personal computer operation function (Ethernet) License . . RGB input unit or Video/RGB input unit Remote personal computer operation function (serial) peripheral devices GOT remote access function (VNC server function) License . . Video display function Video input unit or Video/RGB input unit • RGB display function RGB input unit or Video/RGB input unit . Multimedia function Multimedia unit, CF card . External I/O function External I/O unit • . . • with Operation panel function External I/O unit . RGB output function RGB output unit used
 Serial printer output

 PictBridge printer output
 • • Printer unit . Functions Sound output function . . Sound output unit Server function, Client function . . Mail send function • . FTP server function (SD card or USB memory) . File transfer (FTP client) function SD card or USB memory . . MES interface function License, (SD card) Base screen . . . Overlap window Superimpose window . . Dialog window Key window • • . Language switching System information • • • . (SD card or USB memory) Operator authentication Operation log SD card or USB memor . . . Startup logo . . Kana-kanji conversion FA transparent . . • SoftGOT-GOT link . SD card or USB memory Backup/Restore • can be mounted) Multi-channel function 4ch (Up to 3 units) 4ch (Up to 3 units) 2ch (No units Station No. switching • . Screen gesture function Object gesture function Vertical display Coming soon . • Device monitor . . SD card or USB memory Sequence program monitor (Ladder) Sequence program monitor (SFC) SD card or USB memory . . Network monitor Intelligent module monitor . . Servo amplifier monitor Q motion monitor . Motion SFC monitor SD card or USB memory • CNC monitor Coming soon • . CNC data I/O Coming soon SD card or USB memory CNC machining program edit Coming soon . . (SD card or USB memory) . Log viewer MELSEC-FX list editor • FX ladder monitor . . MELSEC-L troubleshooting .

*1 Necessary units when using GT27, GT25, or GT23 are shown. Parenthesized devices will be required depending on conditions of use *2 Data is output to the printer that is recognized by the personal computer

*3 CSV files are saved in the virtual drive of the personal computer so that it is recommended to output the files to printers.

*4 Only the GOTs with SVGA or higher resolution are supported.

GOT

Debug functions

- Graphic Operation Terminal

GOT model name

GT2	27 15 - X T B A										
GT27	Advanced model with multi-touch gesture	Code	Screen size	Code	Resolution	Code	Display section	Code	Panel color	Code	Power supply type
G127	functions	15	15"	X	XGA	Т	TFT color	В	Black	A	100 to 240VAC
GT25	High performance, cost efficient, mid-range	12	12.1"	S	SVGA			W	White	D	24VDC
G125	model	10	10.4"	V	VGA						
GT23	GT23 Unchallenged cost performance		8.4"								

GOTs

Ca	tegory	Model name	Screen size	Display section	Display color	Panel color	Power supply	Remarks
	GT2715		NEW 15" XGA			Black	AC	
		GT2715-XTBD	NEW			Biddit	DC	
		GT2712-STBA				Black	AC	
	GT2712	GT2712-STBD	12.1" SVGA			Diack	DC	
		GT2712-STWA	12.1 0704			White	AC	
		GT2712-STWD				Winte	DC	
		GT2710-STBA	10.4" SVGA				AC	
GT27		GT2710-STBD	10.4 0704			Black	DC	Multimedia & Video/RGB compliant
0127	GT2710	GT2710-VTBA				Didek	AC	Multi-touch compliant
		GT2710-VTBD	10.4" VGA				DC	
		GT2710-VTWA	10.4 VGA			White	AC	
		GT2710-VTWD					DC	
		GT2708-STBA	8.4" SVGA				AC	
	GT2708	GT2708-STBD	0.1 010.1			Black	DC	
	012700	GT2708-VTBA	8.4" VGA	TFT color	65536 colors		AC	
		GT2708-VTBD					DC	
	GT2512	GT2512-STBA Coming	12.1" SVGA			Black	AC	
		GT2512-STBD Coming	soon				DC	
			NEW			Black	AC	
	GT2510	GT2510-VTBD	NEW 10.4" VGA			Diddk	DC	
GT25		GT2510-VTWA	NEW			White	AC	_
0125		GT2510-VTWD	NEW			Winte	DC	
			NEW			Black	AC	
	GT2508	GT2508-VTBD	NEW 8.4" VGA			Black	DC	
	012000		NEW			White	AC	
		GT2508-VTWD	NEW				DC	
	GT2310	GT2310-VTBA	10.4" VGA			Black	AC	
GT23		GT2310-VTBD	10.4 VGA			Didok	DC	_
0120	GT2308	GT2308-VTBA	8.4" VGA			Black	AC	
	0.2000	GT2308-VTBD	0.4 Van			2.aux	DC	

*For inquiries relating to the status of conforming to UL, cUL, and CE directives and shipping directives, please contact your local sales office. Features

Functions

Communication units

Product name	Model name	Specifications	Applicable model			
Product name	model name	Specifications	GT27	GT25	GT23	
	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) *1 *2	•	•	-	
Serial communication unit	GT15-RS4-TE	RS-422/485 serial communication unit (terminal block) *1 Usable only when connecting to temperature controllers/indicating controllers via RS-485 or in GOT multi-drop connection	•	•	-	
	GT15-QBUS	Q bus connection (1ch) unit standard model		•	-	
Q bus connection unit	GT15-QBUS2	Q bus connection (2ch) unit standard model	•	•	-	
Q bus connection unit	GT15-75QBUSL	Q bus connection (1ch) unit slim model *3	•	•	-	
	GT15-75QBUS2L	Q bus connection (2ch) unit slim model *3	•	•	-	
MELSECNET/H communication unit	GT15-J71LP23-25	Normal station unit (optical loop)	•	•	-	
MELSECNET/H communication unit	GT15-J71BR13	Normal station unit (coaxial bus)	•	•	-	
CC-Link IE Controller Network communication unit	GT15-J71GP23-SX	Normal 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 CC-LINK Ver. 2 compliant	•	•	-	
Serial multi-drop connection unit	GT01-RS4-M	For GOT multi-drop connection	•	•	-	

*1 The unit may not be able to be used depending on the connection destination. Please refer to the GOT2000 Series Connection Manual.

*2 The unit cannot be used when connecting to temperature controllers/indicating controllers via RS-485 (2-wire type).

*3 The unit cannot be used stacked on other units.

Option units

Product name	Model name	Specifications	Applicable model		
Product name	Model name	Specifications	GT27	GT25	GT23
Printer unit	GT15-PRN	USB slave (PictBridge) for printer connection, 1ch Cable for connection between printer unit and printer (3m) included	NEW	•	_
Multimedia unit	GT27-MMR-Z	For video input (NTSC/PAL) 1ch, Record video images/play video files	•	-	-
Video input unit	GT27-V4-Z	For video input (NTSC/PAL) 4ch	•	-	-
RGB input unit	GT27-R2-Z	For analog RGB input 2ch	•	-	-
Video/RGB input unit	GT27-V4R1-Z	For video input (NTSC/PAL) 4ch / analog RGB 1ch input	•	-	-
RGB output unit	GT27-ROUT-Z	For analog RGB output 1ch	•	-	-
Sound output unit	GT15-SOUT	For sound output (\$3.5 stereo pin jack)	•	•	-
External I/Q unit	GT15-DIOR	For external I/O devices and operation panel connection (negative common input / source type output)	•	•	-
External 1/0 unit	GT15-DIO	For external I/O devices and operation panel connection (positive common input / sink type output)	•	•	-

Software

Product name	Model name	Contents				
	SW1DND-GTWK3-E		Standard license product			
HMI screen design software MELSOFT GT Works3	SW1DND-GTWK3-EA	English Version	Volume license product *1	DVD-ROM		
	SW1DND-GTWK3-EAZ	Poroioin -	Additional license product *1 *6			
FA Integrated Engineering Software MELSOFT iQ Works *2 *3	SW1DND-IQWK-E	English Version	Standard license product (Version1.77F or later)	DVD-ROM		
License key for GT SoftGOT2000 *4	GT27-SGTKEY-U	USB port licence	e key			
PC remote operation function (Ethernet) license *5	GT25-PCRAKEY	1 license				
VNC® server function license *5	GT25-VNCSKEY	1 license (License for GOT remote access function)				
MES interface function license *5	GT25-MESIFKEY NEW	1 license				

*1 The desired number of licenses (2 or more) can be purchased. For details, please contact your local sales office.

*2 Volume 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]
Motion Controller Engineering Software [MELSOFT MT Works2]
Inverter Setup Software [FR Configurator2]
Robot Engineering Software (MELSOFT RT ToolBox2 mini]

*4 To use GT SoftGOT2000, a license key for GT SoftGOT2000 is necessary for each personal computer.

*5 1 license is required for 1 GOT unit.

*6 This product does not include the DVD-ROM. Only the license certificate with the product ID No. is issued.

- Graphic Operation Terminal GOT2000

Options

Drodu	ot nomo	Model name	C		Applicable model		
Product name		Model name		Specifications	GT27	GT25	GT23
		GT27-15PSGC NEW	For 15"		•	-	-
		GT25-12PSGC	For 12.1"	Surface treatment: anti-glare Sheet color: transparent	•	• Coming soon	-
		GT25-10PSGC	For 10.4"	USB environmental protection cover area: open Number of sheets included in a set: 5	•	•	-
		GT25-08PSGC	For 8.4"		•	•	-
		GT27-15PSCC NEW	For 15"		•	-	-
Protective sheet *1		GT25-12PSCC	For 12.1"	Surface treatment: clear Sheet color: transparent	•	• Coming soon	-
		GT25-10PSCC	For 10.4"	USB environmental protection cover area: open Number of sheets included in a set: 5	•	•	-
		GT25-08PSCC	For 8.4"		•	•	-
		GT25-12PSCC-UC	For 12.1"	Surface treatment: clear Sheet color: transparent	•	• Coming soon	-
		GT25-10PSCC-UC	For 10.4"	USB environmental protection cover area: closed *2	•	•	•
		GT25-08PSCC-UC	For 8.4"	Number of sheets included in a set: 5	•	•	•
JSB environment	al protection cover	GT25-UCOV	Protective c	over for USB interface on GOT front panel (for replacement)	•	•	-
		GT20-15PCO NEW	For 15"		•	-	-
Protective cover f	or oil *3	GT20-12PCO	For 12.1"		•	• Coming soon	-
		GT20-10PCO	For 10.4"			•	۲
		GT20-08PCO	For 8.4"			•	۲
		GT15-90STAND	For 15"		•	-	-
Stand		GT15-80STAND	For 12.1"			• Coming soon	-
		GT15-70STAND	For 10.4"/8.	4"	•	•	۲
	SD card	L1MEM-2GBSD	2GB SD me	mory card for GOT	•	•	۲
	SD card	L1MEM-4GBSD	4GB SDHC	memory card for GOT	•	•	•
		GT05-MEM-128MC	128MB CF (card for GT27-MMR-Z	•	-	-
	CF card	GT05-MEM-256MC	256MB CF (card for GT27-MMR-Z	•	-	-
lemory card		GT05-MEM-512MC	512MB CF (card for GT27-MMR-Z	•	-	-
viciniory card		GT05-MEM-1GC	1GB CF car	d for GT27-MMR-Z	•	-	-
		GT05-MEM-2GC	2GB CF card for GT27-MMR-Z		•	-	-
		GT05-MEM-4GC		d for GT27-MMR-Z	•	-	-
		GT05-MEM-8GC		d for GT27-MMR-Z	•	-	-
		GT05-MEM-16GC	16GB CF ca	ard for GT27-MMR-Z	•	-	-
lemory card ada	pter	GT05-MEM-ADPC	CF card→m	emory card (TYPE II) conversion adapter for GT27-MMR-Z	•	-	-
		GT15-70ATT-98	For 10.4"	For conversion from GT168, GT158, A985GOT *4	•	•	•
Attachment		GT15-70ATT-87		For conversion from A870GOT-SWS/TWS, A8GT-70GOT-TB/TW/SB/SW	•	•	•
		GT15-60ATT-97	- For 8.4"	For conversion from GT167, GT157, A97GOT	•	•	•
		GT15-60ATT-96		For conversion from A960GOT	•	•	•
		GT15-60ATT-87		For conversion from A870GOT-EWS, A8GT-70GOT-EB/EW, A77GOT-EL, A77GOT-EL-S5/S3	•	•	•
		GT15-60ATT-77		For conversion from A77GOT-CL, A77GOT-CL-S5/S3, A77GOT-L, A77GOT-L-S5/S3	•		•
Battery		GT11-50BAT	Battery for b	backup of SRAM data, clock data, and system status log data	(For replacement)	(For replacement)	(Option

*1 The while model does not have the front USB interface. It is recommended to use the products that the USB environmental protection cover area is closed.

*2 When using the product with the USB environmental protection cover area closed, the front USB interface cannot be used.

*3 Check if the protective cover for oil can be used in the actual environment before use. When using the cover, the front USB interface and human sensor cannot be used.

*4 Including the GP250 and GP260 manufactured by Digital Electronics Corporation.

Product list

Cables

			Cable	Recommended	•	Appl	icable n	nodel
	Product name	Model name	length	product *1	Specifications	GT27	GT25	GT23
		GT15-QC06B	0.6m					
	QCPU connection cable	GT15-QC12B	1.2m					
	GOT-to-GOT connection cable	GT15-QC30B	3m	0	Between QCPU and GOT Between GOT and GOT	•	•	-
		GT15-QC50B	5m]				
QCPU bus connection		GT15-QC100B	10m					
cable		GT15-QC150BS	15m					
	QCPU connection cable GOT-to-GOT connection cable (for long distance connection)	GT15-QC200BS	20m		Between QCPU and GOT (for long-distance connection)			
		GT15-QC250BS	25m	0	ASGT-QCNB required Between GOT and GOT (for long-distance connection)	•	•	-
		GT15-QC300BS	30m					
		GT15-QC350BS	35m					
Bus extension	on connector box	A9GT-QCNB	-	-	Attach to PLC main base when using QCPU and GOT long-distance connection	•	•	-
Ferrite core	set for Q bus cable	GT15-QFC	-	-	Attach to GOT-A900 bus connection cable when replacing existing GOT-A900 with GOT2000 (two-pack)	•	•	-
		FA-LTBGT2R4CBL05	0.5m		RS-485 terminal block conversion unit			
RS-485 term	ninal block conversion unit	FA-LTBGT2R4CBL10	1m	0	With cable for connection between RS-422/485 (connector) of GOT2000 and	•	•	-
		FA-LTBGT2R4CBL20	2m		RS-485 terminal block conversion unit			
BS-422 con	version cable	FA-CNV2402CBL	0.2m	0	Between QCPU/L02SCPU(-P) and RS-422 cable (GT01-C_R4-25P, GT10- C_R4-25P)	•	•	•
	1	FA-CNV2405CBL	0.5m		Between L6ADP-R2 and RS-422 cable (GT01-C R4-25P, GT10-C R4-25P) [MINI-DIN6 pin and D-sub 25-pin]			
	QnA/A/FXCPU direct	GT01-C30R4-25P	3m		Between QnA/ACPU/motion controller CPU (A series)/FXCPU and GOT			
	connection cable Computer link	GT01-C100R4-25P	10m		Between RS-422 conversion cable (FA-CNV CBL) and GOT Between serial communication module and GOT Between peripheral connection module (AJ65BT-G4-S3) and GOT [Between D-sub 25-pin and D-sub 9-pin]			
	connection cable CC-Link(G4) connection cable	GT01-C200R4-25P	20m	_		•	•	•
		GT01-C300R4-25P	30m					
	Computer link connection cable	GT09-C30R4-6C	3m	0	Between serial communication module and GOT Between computer link module and GOT [Between loose wire and D-sub 9-pin]			
RS-422		GT09-C100R4-6C	10m			•	•	•
cable		GT09-C200R4-6C	20m					
		GT09-C300R4-6C	30m					
	FXCPU direct connection cable FXCPU communication expansion board connection cable	GT01-C10R4-8P	1m		Between FXCPU and GOT Between FXCPU communication expansion board and GOT [Between MINI-DIN 8-pin connector and D-sub 9-pin]			
		GT01-C30R4-8P	3m					
		GT01-C100R4-8P	10m			•	•	•
		GT01-C200R4-8P	20m					
		GT01-C300R4-8P	30m					
	Q/LCPU direct connection cable	GT01-C30R2-6P	3m	-	Between Q/LCPU and GOT Between L6ADP-R2 and personal computer (GT SoftGOT2000) [Between MINI-DIN 6-pin and D-sub 9-pin]	•	•	•
	FXCPU communication expansion board connection cable FXCPU communication special adapter connection cable	GT01-C30R2-9S	Зm	-	Between FXCPU communication expansion board and GOT/personal computer (GT SoftGOT2000) Between FXCPU communication special adapter and GOT/personal computer (GT SoftGOT2000) [Between D-sub 9-pin and D-sub 9-pin]	•	•	•
RS-232 cable	FXCPU communication special adapter connection cable	GT01-C30R2-25P	3m	-	Between FXCPU communication special adapter and GOT/personal computer (GT SoftGOT2000) [Between D-sub 25-pin connector and D-sub 9-pin]	•	•	•
	Computer link connection cable CC-Link(G4) connection cable	GT09-C30R2-9P	3m	0	Between serial communication module and GOT Between computer link module and GOT Between peripheral connection module (AJ65BT-R2N) and GOT [Between D-sub 9-pin and D-sub 9-pin]	•	•	•
	Computer link connection cable	GT09-C30R2-25P	3m	0	Between serial communication module and GOT Between computer link module and GOT [Between D-sub 25-pin and D-sub 9-pin]	•	•	•
External I/O unit connection conversion cable		GT15-C03HTB	0.3m	0	Between external I/O unit (GT15-DIO) and GOT-A900 external I/O interface unit connection cable (A8GT-C05TK, A8GT-C30TB, user-fabricated cable)	•	•	-
Analog RGE	3 cable	GT15-C50VG	5m	0	Between external monitor, personal computer and vision sensor and GOT	•	-	-
USB cable	Data transfer cable Printer connection cable	GT09-C30USB-5P	3m	0	Between personal computer (screen design software) and GOT Between personal computer (GT SoftGOT2000) and QnU/L/FXCPU Between PictBridge-compatible printer and printer unit (GT15-PRN) [Between USB-A and USB Mini-B]	•	•	•
		1		1	-			

*1 FA-LTBGT2R4CBL_, FA-CNV240_CBL are developed by Mitsubishi Electric Engineering Company Limited and sold through your local sales office.

The other products listed are developed by Mitsubishi Electric Systems & Service Co., LTD. and sold through your local sales office.

- Graphic Operation Terminal GOT2000

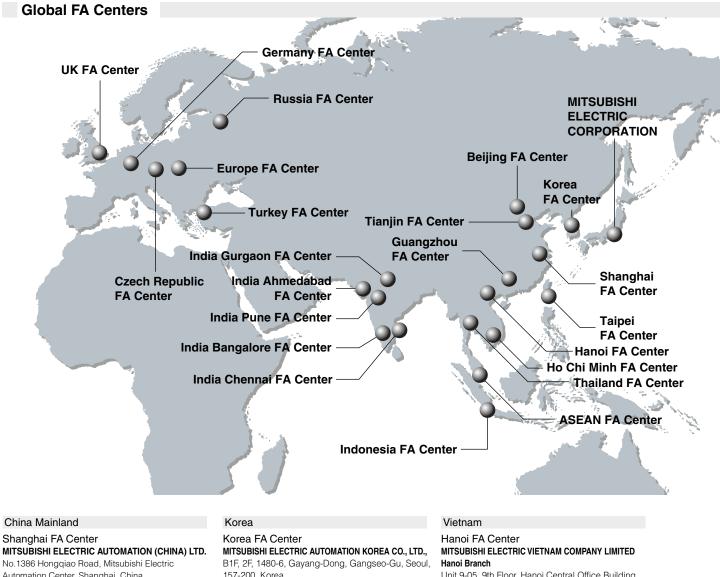
Cables for non-Mitsubishi FA products

RS-232 and RS-422 cables are available from every manufacturer. For more details, please see the GOT2000 Series Connection Manual.

Manuals

Manual name	Manual number
GOT2000 Series User's Manual (Hardware)	SH-081194ENG
GOT2000 Series User's Manual (Utility)	SH-081195ENG
GOT2000 Series User's Manual (Monitor)	SH-081196ENG
GOT2000 Series Connection Manual (Mitsubishi Products) for GT Works3 Version1	SH-081197ENG
GT Designer3 (GOT2000) Screen Design Manual	SH-081220ENG

"Mitsubishi Global FA Centers" are located around the world in



Automation Center, Shanghai, China Tel: +86-21-2322-3030 / Fax: +86-21-2322-3000(9611#)

Beijing FA Center MITSUBISHI ELECTRIC AUTOMATION (CHINA) LTD. Beijing Branch

Unit 901, 9F, Office Tower 1, Henderson Centre, 18 Jianguomennei Avenue, Dongcheng District, Beijing, China

Tel: +86-10-6518-8830 / Fax: +86-10-6518-2938

Tianjin FA Center MITSUBISHI ELECTRIC AUTOMATION (CHINA) LTD. **Tianiin Branch**

Room 2003 City Tower, No.35, Youyi Road, Hexi District, Tianjin, China Tel: +86-22-2813-1015 / Fax: +86-22-2813-1017

Guangzhou FA Center MITSUBISHI ELECTRIC AUTOMATION (CHINA) LTD. Guangzhou Branch

Room 1609, North Tower, The Hub Center, No.1068, Xingang East Road, Haizhu District, Guangzhou, China Tel: +86-20-8923-6730 / Fax: +86-20-8923-6715

157-200. Korea Tel: +82-2-3660-9632 / Fax: +82-2-3663-0475

Taiwan

Taipei FA Center

SETSUYO ENTERPRISE CO., LTD. 3F, No.105, Wugong 3rd Road, Wugu District,

New Taipei City 24889, Taiwan, R.O.C. Tel: +886-2-2299-9917 / Fax: +886-2-2299-9963

ASEAN

ASEAN FA Center MITSUBISHI ELECTRIC ASIA PTE. LTD.

307, Alexandra Road, Mitsubishi Electric Building, Singapore 159943 Tel: +65-6470-2480 / Fax: +65-6476-7439

Indonesia Indonesia FA Center PT. MITSUBISHI ELECTRIC INDONESIA

Gedung Jaya 11th Floor, JL MH. Thamrin No.12, Jakarta, Pusat 10340, Indonesia Tel: +62-21-3192-6461 / Fax: +62-21-3192-3942 Unit 9-05, 9th Floor, Hanoi Central Office Building, 44B Ly Thuong Kiet Street, Hoan Kiem District, Hanoi City, Vietnam Tel: +84-4-3937-8075 / Fax: +84-4-3937-8076

Ho Chi Minh FA Center

MITSUBISHI ELECTRIC VIETNAM COMPANY LIMITED

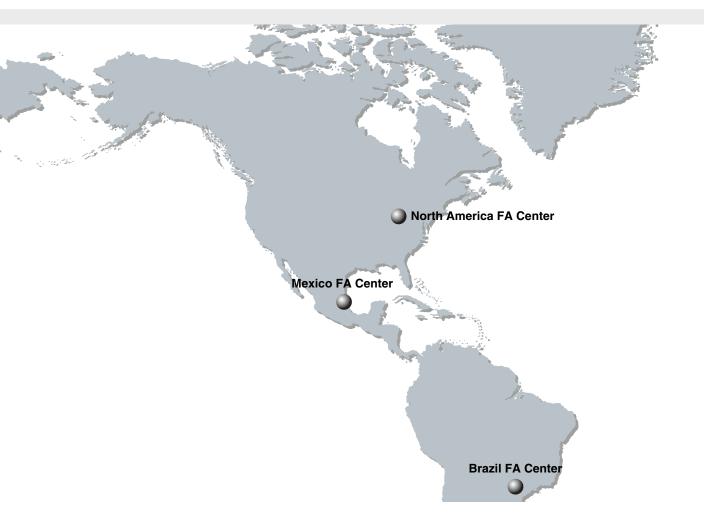
Unit 01-04, 10th Floor, Vincom Center, 72 Le Thanh Ton Street, District 1, Ho Chi Minh City, Vietnam Tel: +84-8-3910-5945 / Fax: +84-8-3910-5947

Thailand

Thailand FA Center MITSUBISHI ELECTRIC FACTORY AUTOMATION (THAILAND) CO., LTD.

12th Floor, SV. City Building, Office Tower 1, No.896/19 and 20 Rama 3 Road, Kwaeng Bangpongpang, Khet Yannawa, Bangkok 10120, Thailand Tel: +66-2682-6522 to 31 / Fax: +66-2682-6020

Asia, North America and Europe to provide optimum services.



India

India Pune FA Center MITSUBISHI ELECTRIC INDIA PVT. LTD. Pune Branch

Emerald House, EL -3, J Block, M.I.D.C., Bhosari, Pune - 411026, Maharashtra, India Tel: +91-20-2710-2000 / Fax: +91-20-2710-2100

India Gurgaon FA Center MITSUBISHI ELECTRIC INDIA PVT. LTD. **Gurgaon Head Office**

2nd Floor, Tower A & B, Cyber Greens, DLF Cyber City, DLF Phase - III, Gurgaon - 122002 Haryana, India Tel: +91-124-463-0300 / Fax: +91-124-463-0399

India Bangalore FA Center MITSUBISHI ELECTRIC INDIA PVT. LTD. **Bangalore Branch**

Prestige Emerald, 6th Floor, Municipal No.2, Madras Bank Road (Lavelle Road), Bangalore -560001, Karnataka, India Tel: +91-80-4020-1600 / Fax: +91-80-4020-1699

India Chennai FA Center MITSUBISHI ELECTRIC INDIA PVT. LTD. Chennai Branch

"Citilights Corporate Centre" No.1, Vivekananda Road, Srinivasa Nagar, Chetpet, Chennai - 600031, Tamil Nadu, India

Tel: +91-44-4554-8772 / Fax: +91-44-4554-8773

India Ahmedabad FA Center MITSUBISHI ELECTRIC INDIA PVT. LTD. Ahmedabad Branch

303/A, 3rd Floor, Primate, Judges Bungalow Cross Road, Bodakdev, Ahmedabad - 380054, Gujarat, India Tel: +91-79-6512-0063 / Fax: -

Americas

North America FA Center 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

Mexico Mexico FA Center MITSUBISHI ELECTRIC AUTOMATION, INC. Mexico Branch

Mariano Escobedo #69, Col. Zona Industrial, Tlalnepantla Edo, C.P.54030, Mexico Tel: +52-55-3067-7511 / Fax:

Brazil

Brazil FA Center MITSUBISHI ELECTRIC DO BRASIL COMÉRCIO E SERVIÇOS LTDA.

Rua Jussara, 1750- Bloco B Anexo, Jardim Santa Cecilia, CEP 06465-070, Barueri, - SP, Brasil Tel: +55-11-4689-3000 / Fax: +55-11-4689-3016

Europe

Europe FA Center MITSUBISHI ELECTRIC EUROPE B.V. Polish Branch 32-083 Balice ul. Krakowska 50, Poland

Tel: +48-12-630-47-00 / Fax: +48-12-630-47-01

Germany FA Center

MITSUBISHI ELECTRIC EUROPE B.V. German Branch Gothaer Strasse 8, D-40880 Ratingen, Germany Tel: +49-2102-486-0 / Fax: +49-2102-486-1120

UK FA Center

MITSUBISHI ELECTRIC EUROPE B.V. UK Branch Travellers Lane, Hatfield, Hertfordshire, AL10 8XB, U.K. Tel: +44-1707-28-8780 / Fax: +44-1707-27-8695

Czech Republic FA Center

MITSUBISHI ELECTRIC EUROPE B.V. Czech Branch Avenir Business Park, Radlicka 751/113e, 158 00 Praha5, Czech Republic Tel: +420-251-551-470 / Fax: +420-251-551-471

Russia FA Center

MITSUBISHI ELECTRIC EUROPE B.V. Russian Branch St. Petersburg Office

Piskarevsky pr. 2, bld 2, lit "Sch", BC "Benua", office 720; 195027, St. Petersburg, Russia Tel: +7-812-633-3497 / Fax: +7-812-633-3499

Turkev FA Center

MITSUBISHI ELECTRIC TURKEY A.S. Umraniye Branch

Serifali Mahallesi Nutuk Sokak No:5, TR-34775 Umranive, Istanbul, Turkey Tel: +90-216-526-3990 / Fax: +90-216-526-3995

A Solutions

Line

Suppon

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.
 - ()Failure 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.
 - When 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.
 - (4) Failure that could have been avoided if consumable parts designated in the user's manual etc. had been correctly serviced or replaced.
 - ⑤Replacement of consumable parts (battery, display device, touch panel, fuse, etc.).
 - 6 Failure 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.
 - (8) Any 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

- 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 some 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.

FA Products

PL(

MELSEC-Q Series Universal Model

Introducing the high-speed QCPU (QnUDVCPU) for faster processing of large data volumes.



Realize high-speed, high-accuracy machine control with various iQ Platform compatible controllers and multiple CPUs.
 Easily connect to GOTs and Programming tools using built-in Ethernet port.
 25 models from 10k step small capacity to 1000k step large capacity, are available.
 Seamless communication and flexible integration at any network level.

Product Specifications	
Program capacity	10k steps to 1000k steps
Number of I/O points [X/Y], number of I/O device points [X/Y]	256 points to 4096 points/8192 points
Basic instruction processing speed (LD instruction)	120 ns to 1.9 ns
External connection interface	USB (all models equipped), Ethernet, RS-232, memory card, extended SRAM cassette
Function module	I/O, analog, high-speed counter, positioning, simple motion, temperature input, temperature control, network module
Module extension style	Building block type
Network	Ethernet, CC-Link IE controller network, CC-Link IE field network, CC-Link, CC-Link/LT, MELSECNET/H, SSCNETII (/H), AnyWire, RS-232, RS-422

MELSEC-L Series

"Light & Flexible" condensing various functions easily and flexibly.

◎CPU equipped as a standard with various functions including counter, positioning and CC-Link.
◎The base-less structure with high degree of freedom saves space in the control panel.

©Easily confirm the system status and change the settings with the display unit.

◎Ten models are available in program capacities from 20 k steps to 260 k steps.

20 k steps/60 k steps/260 k steps
1024 points/4096 points
8192 points
60 ns/ 40 ns/ 9.5 ns
USB, Ethernet, RS-232, SD memory card, CC-Link (L26CPU-BT/PBT)
I/O, analog, high-speed counter, positioning, simple motion, temperature control, network module
Base-less structure
Ethernet, CC-Link IE Field network, CC-Link, CC-Link/LT, SSCNETIII(/H), RS-232, RS-422

MELSEC-F Serie

All-in-One Micro Programmable Controller equipped with all necessary functions in a compact body

Supporting small-scale control from 10 points to 384 points (using CC-Link) with an outstanding cost performance.
 Wide range of options available for additional functions required by your system.



PLC

©Easy to use and highly reliable. More than 12 million units have shipped worldwide. (April 2013) ©Small-scale control is available in various networks such as CC-Link, Ethernet, and MODBUS.

Product specifications	
Program capacity	16k steps (FX _{3s}) to 64 k steps (FX _{3U} /FX _{3Uc})
Number of input/output points	10 points (FX _{3s}) to 384 points (FX _{3U} /FX _{3UC} with CC-Link)
Basic instruction processing speed	0.21µs (FX3s) to 65 ns (FX3u/FX3uc)
External connection interface	RS-422, USB (FX3s/FX3g/FX3gc/FX3ge only), Ethernet (FX3ge only), CC-Link/LT (FX3uc-32MT-LT(-2) only)
Built-in functions	I/O, high-speed counter input, positioning pulse output, analog (FX30E only)
Extended functions	I/O, analog, temperature control, high-speed counter, positioning, network
Unit expansion style	Backplane-less design
Network	Ethernet, CC-Link, CC-Link/LT, SSCNETIII, CANopen, J1939, RS-232C, RS-422, RS-485, MODBUS





FA Products

Mitsubishi General-Purpose AC Servo MELSERVO-J4 Series



Industry-leading level of high performance servo

Industry-leading level of basic performance: Speed frequency response (2.5kHz), 4,000,000 (4,194,304p/rev) encoder
 Advanced one-touch tuning function achieves the one-touch adjustment of advanced vibration suppression control II, etc.
 Equipped with large capacity drive recorder and machine diagnosis function for easy maintenance.
 2-axis and 3-axis servo amplifiers are available for energy-conservative, space-saving, and low-cost machines.

Product Specifications	
Power supply specifications	1-phase/3-phase 200V AC, 1-phase 100V AC, 3-phase 400V AC
Command interface	SSCNET II/H, SSCNET II (compatible in J3 compatibility mode), CC-Link IE Field
	Network interface with Motion, pulse train, analog
Control mode	Position/Speed/Torque/Fully closed loop
Speed frequency response	2.5kHz
Tuning function	Advanced one-touch tuning, advanced vibration suppression control II, robust filter, etc.
Safety function	STO, SS1
	SS2, SOS, SLS, SBC, SSM (compatible when combined with motion controller)
Compatible servo motor	Rotary servo motor (rated output: 0.05 to 22kW), linear servo motor (continuous
	thrust 50 to 3000N), direct drive motor (rated torque: 2 to 240N·m)

Inverte

FR-A800 Series

High-functionality, high-performance inverter

Realize even higher responsiveness during real sensor-less vector control or vector control, and achieve faster operating frequencies.
 The latest automatic tuning function supports various induction motors and also sensor-less PM motors.
 The standard model is compatible with EU Safety Standards STO (PLd, SIL2). Add options to support higher level safety standards.
 A variety of useful functions provide USB memory support and customization with a PLC function.

Product	Specifications	
---------	----------------	--

Inverter capacity	200V class: 0.4kW to 90kW, 400V class: 0.4kW to 500kW
Control method	High-carrier frequency PWM control (Select from V/F, advanced flux vector,
	real sensor-less vector or PM sensor-less vector control), vector control (when using options)
Output frequency range	0.2 to 590Hz (when using V/F control or advanced flux vector control)
Regenerative braking torque	200V class: 0.4K to 1.5K (150% at 3%ED) 2.2K/3.7K (100% at 3%ED) 5.5K/7.5K (100% at 2%ED)
(Maximum tolerable usage rate)	11K to 55K (20% continuous) 75K or more (10% continuous), 400V class: 0.4K to 7.5K (100% at 2%ED)
	11K to 55K (20% continuous) 75K or more (10% continuous)
Starting torque	200% 0.3Hz (3.7K or less), 150% 0.3Hz (5.5K or more) (when using real sensor-less vector, vector control)

ensor-less Servo FR-E700EX Series, MM-GKR Serie

Compact and high-function drive unit, low-inertial small capacity sensor-less PM motor



© Use PM sensor-less vector control to control dedicated PM motors with high accuracy without an encoder. ⊚ High-accuracy speed control (speed fluctuation rate ±0.05%) and positioning control are supported. © The dedicated PM motor (MM-GKR) is quiet as it has no cooling fan. The compact and lightweight unit also supports reduction gears. © The standard model supports RS-485 communication. CC-Link communication is supported with an additional option.

Product Specif	ications	
Drive unit / motor capacity		200V class: 0.1kW to 0.75kW
Control method		PM sensor-less vector control (low speed range: high frequency superimposition control)
Rated speed		3000r/min
Speed fluctuation rate		$\pm 0.05\%$ (at 0 to 100% load fluctuation)
Position control	Command input method	The point table method and zero point return enable position control with absolute position commands
	Positioning accuracy	±1.8° (machine angle: equivalent to 200 [pulses/rev] resolution, input voltage 200V, wiring length within 5m)
Starting torque		200% (default value)
Communication specifications		Built-in: RS-485 communication (Mitsubishi inverter protocol, Modbus-RTU protocol), option: CC-Link communication

Three-Phase Motor | High Performance Energy-Saving Motor Super Line Premium Series SF-PR

High Efficiency & Compatible. New Launch of Super Line Premium Series SF-PR Model ©Compared to general-purpose motor SF-JR model, generated loss is reduced by 37% on average, and it is compatible with highly efficient premium IE3. ©Easy replacement is achieved as mounting dimension (frame number) is compatible with general-purpose motor SF-JR model. ©One motor can accommodate different power sources of Japan and the U.S. Three ratings in Japan meet the Top Runner standards, while it corresponds to EISA in the U.S. ©Can be driven by inverters as standard. Advanced magnetic-flux vector control by our FR-A800 achieves steady torque drive up to 0.5Hz.

Product Specifications

 Number of poles
 2-poles, 4-poles, 6-poles

 Voltage-Frequency
 200/200/220/230V 50/60/60Hz EISA 230V 60Hz or 400/400/440/460V 50/60/60Hz EISA 460V 60Hz

 Exterior
 Totally enclosed fan cooled type (inside, outside installation)

 Protection system
 IP44

 Electrically-driven
 Motor with 2-poles over 11kW is dedicated for a direct connection.

 power system
 Counter-clock-wise (CCW) direction viewed from the edge of axis.

 Compatible standard
 JEC-2137-2000 (Efficiency is compatible with IEC 60034-30.)

Robo



MELFA F Series

High speed, high precision and high reliability industrial robot

Compact body and slim arm design, allowing operating area to be expanded and load capacity increased.
 The fastest in its class using high performance motors and unique driver control technology.

OImproved flexibility for robot layout design considerations.

Optimal motor control tuning set automatically based on operating position, posture, and load conditions.

Product Specifications	
Degrees of freedom	Vertical:6 Horizontal:4
Installation	Vertical:Floor-mount, ceiling mount, wall mount (Range of motion for J1 is limited) Horizontal:Floor-mount
Maximum load capacity	Vertical:2-20kg Horizontal:3-20kg
Maximum reach radius	Vertical:504-1503mm Horizontal:350-1,000mm

Magnetic Starter



Exceed your expectations.

©10A frame model is over 16% smaller with a width of just 36mm!!

ONew integrated terminal covers.

◎Reduce your coil inventory by up to 50%.

[©]Be certified to the highest international levels while work is ongoing to gain other country.

Product specifications	
Frame	10 A to 32 A
Applicable standards	Certification to various standards including IEC, JIS, CE, UL, TÜV, CCC.
Terminal cover	Standard terminal cover improves safety, simplifies ordering, and reduces inventory, etc.
Improved wiring	Wiring and operability are improved with streamlining wiring terminal BC specifications.
Operation coil rating	Wide range of operation coil ratings reduces number of coil types from 14 (N Series) to 7 types and simplifies selection.
Option units	Diverse lineup includes Auxiliary Contact Block, Operation Coil Surge Absorber Unit, Mechanical Interlock Unit.

FA Products

Low Voltage Circuit Breakers Mitsubishi WS-V Series Molded Case Circuit Breakers, Earth Leakage Circuit Breakers

Technologies based on long year experience realize more improved performance.

OThe new electronic circuit breakers can display various measurement items.

◎Improvement of breaking performance with new breaking technology "Expanded ISTAC".

OCompliance with global standard for panel and machine export.

©Commoditization of internal accessories for shorter delivery time and stock reduction.



Product Specifications.

Frame	32-250A Frame
Applicable standard	Applicable to IEC, GB, UL, CSA, JIS and etc.
Expansion of UL listed product line-up	New line-up of 480VAC type with high breaking performance for SCCR requirement
Commoditization of internal accessories	Reduction of internal accessory types from 3 to 1
Commoditization for AC and DC circuit use	Common use of 32/63A frame in both AC and DC circuit
Compact size for easy to use	Thermal adjustable and electronic circuit breakers are same size as 250AF fixed type
Measuring Display Unit (MDU) breakers	MDU breakers measure, display and transmit energy date to realize energy management.

iQ Platform compatible CNC to provide TCO reduction effect.

OA CNC structured in building block method on iQ Platform.

◎High performance CNC integrated with high-speed PLC offers high-speed control to reduce cycle time. OA wide variety of FA products helps construct flexible lines.



Product specifications

Maximum number of control axes (NC axis + spindle + PLC axis)	16 axes		
Maximum number of part system	Machining center system: 7 systems, Lathe system: 3 systems		
Maximum number of NC axes per part system	8 axes		
Maximum program capacity	2,000 kB (5,120 m)		
Maximum number of files to store	124 files/252 files		
Number of input/output points	4,096 points		
Safety observation function	Safety signal comparison function, speed monitoring function, duplexed emergency stop		
For detailed information, please refer to: http://www.mitsubishielectric.com/fa/worldwide/index.html			

Next-generation Innovations of our best selling Performance Machine.



◎Total running cost reduced up to 42%, which is accounted for 90% by filter, ion exchange resin and power consumption.

- OImproved productivity by an innovative automatic wire threading.
- ©Faster machining is realized with improved power-supply performance.
 - (Rz3. 5 μ m/Ra0. 45 μ m with 3cuts) (Rz2. 0 μ m/Ra0. 28 μ m with 4cuts)

Product Specifications

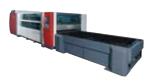
Model	MV1200R		
Machining travel (X×Y×Z)[mm] (in)	400(15.7)×300(11.8)×220(8.7)(XY axis OPT-drive specifications)		
Machining travel (U×V)[mm] (in)	$\pm 60(2.4) \times \pm 60(2.4)$ (OPT-drive specifications)		
Max. taper angle [°]	15° (maximum 200mm)(7.9")		
Max. workpiece dimensions [mm] (in)	810(31.9)×700(27.6)×215(8.5)		
Wire diameter [mm] (in)	0.1(.004) to 0.3(.012)*1		
Dielectric fluid	Water		
Footprint (W×D)[mm] (in)	2025(79.7)×2760(108.7)		
×1: (0.20,00) DD guidee and (1.50,00) ist pazzle are standard equipment			

%1:Φ0.2(0.08) DD guides and Φ1.5(0.06) jet nozzle are standard equipment.

Laser Processing Machine | CO2 2-Dimensional Laser Processing Machine eX-Series

A global standard CO2 2-dimensional laser processing systems.

Productivity has been dramatically enhanced owing to improved acceleration and the latest control technologies exclusive to Mitsubishi Electric.
 Action Cutting allows for the entire process, from job setup to parts cutting, to be completed in two simple actions.
 When not processing, the system switches to ECO mode and the resonator stops idling. Minimizes energy consumption, reducing running costs by up to 99%¹¹ during standby.
 Compared to the previous LV-Series with Mitsubishi's designated benchmark shape.



Product specifications			
Model Name	ML3015eX		
Drive system	Flying optic (3-axis beam movement)		
Stroke (X×Y×X) [mm]	3100×1565×150		
Rapid feedrate [m/min]	X,Y axes: Max. 100; Z-axis: Max. 65		
Processing feedrate [m/min]	Max. 50		
Positioning accuracy [mm]	0.05 / 500 (X,Y axes)		
Repeat accuracy [mm]	± 0.01 (X,Y axes)		
Rated output [W]	4500		

Revolutionary, next-generation controllers building a new era in automation

Coming soon!

MELSEC iQ-R

As the core for the next-generation automation environment, realizing an automation controller with added value while reducing TCO



To succeed in highly competitive markets, it's important to build automation systems that ensure high productivity and consistent product quality. The MELSEC iQ-R Series has been developed from the ground up based on common problems faced by customers and rationalizing them into seven key areas: Productivity, Engineering, Maintenance, Quality, Connectivity, Security and Compatibility. Mitsubishi Electric is taking a three-point approach to solving these problems: **Reduce TCO***, increasing **Reliability** and **Reuse** of existing assets. As a bridge to the next generation in automation, the MELSEC iQ-R Series is a driving force behind **revolutionary** progress in the future of manufacturing.

Reduce TCO



Productivity Improve productivity through advanced performance/functionality

New high-speed system bus realizing shorter production cycle
 Super-high-accuracy motion control utilizing advanced multiple CPU features
 Inter-modular synchronization resulting in increased processing accuracy



Engineering Reducing development costs through intuitive engineering

Intuitive engineering environment covering the product development cycle
 Simple point-and-click programming architecture

Understanding globalization by multiple language support



Maintenance Reduce maintenance costs and downtime

utilizing easier maintenance features

Visualize entire plant data in real-time
 Extensive preventative maintenance functions embedded into modules



Connectivity Seamless network reduces system

costs

- Seamless connectivity within all levels of manufacturing
 High-speed and large data bandwidth ideal for large-scale control
- systemsEasy connection of third-party components utilizing device library

Reuse



Compatibility Extensive compatibility with existing products

Utilize existing assets while taking advantage of cutting-edge technology
 Compatible with most existing MELSEC-Q Series I/O



Reliability

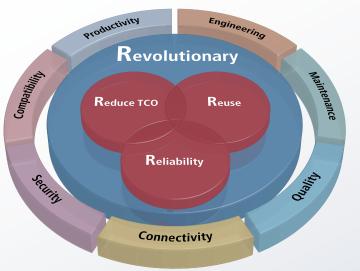
Security Robust security that can be relied on

Protect intellectual property
 Unauthorized access protection across distributed control network



Quality Reliable and trusted MELSEC product quality

Robust design ideal for harsh industrial environments
Improve and maintain actual manufacturing quality
Conforms to main international standards



One Software, Many Possibilities

GX Works:

Intuitive and easy engineering

With GX Works3 programming cannot be made any easier with various intuitive features such as graphic-based system configuration and an extensive module library provided as standard. In addition to multiple language support realizing a global engineering tool required for current automation needs.







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.

Abbrev. **Certification Organization** Country American Bureau of Shipping **United States** ABS **Bureau Veritas** France ΒV Det Norske Veritas DNV Norway Germany GL Germanischer Lloyd LR Lloyd's Register England NIPPON KAIJI KYOKAI NK Japan RINA Registro Italiano Navale Italy

Shipping Standards> To be obtained soon

MEMO

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Android is a registered trademark or trademark of Google Inc.

PocketCloud is a registered trademark or trademark of Wyse Technology Inc.

Other product and company names are either trademarks or registered trademarks of their respective owners.

The actual color may differ slightly from the pictures in this catalog. The actual display may differ from what are shown on GOT screen images.

Precautions for Choosing the Products

This catalog explains the typical features and functions of the GOT2000 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.

\Lambda For safe use

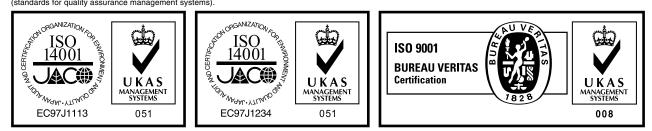
- To use the products given in this catalog properly, always read the related manuals before starting to use them.
- The products within this catalog have been manufactured as general-purpose parts for general industries and have not been designed or manufactured to be incorporated into any devices or 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.



iQ Platform Graphic Operation Terminal GOT2000 Series

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
Brazil	MITSUBISHI ELECTRIC DO BRASIL COMÉRCIO E SERVIÇOS LTDA. Rua Jussara, 1750- Bloco B Anexo, Jardim Santa Cecilia, CEP 06465-070, Barueri - SP, Brasil	Tel: +55-11-4689-3000 Fax: +55-11-4689-3016
Mexico	MITSUBISHI ELECTRIC AUTOMATION, INC. Mexico Branch Mariano Escobedo #69, Col.Zona Industrial, TlaInepantla Edo, C.P.54030, México	Tel: +52-55-9171-7600 Fax: +52-55-9171-7649
Germany	MITSUBISHI ELECTRIC EUROPE B.V. German Branch Gothaer Strasse 8, D-40880 Ratingen, Germany	Tel: +49-2102-486-0 Fax: +49-2102-486-1120
UK	MITSUBISHI ELECTRIC EUROPE B.V. UK Branch Travellers Lane, Hatfield, Hertfordshire, AL10 8XB, U.K.	Tel: +44-1707-28-8780 Fax: +44-1707-27-8695
Italy	MITSUBISHI ELECTRIC EUROOPE B.V. Italy Branch Centro Direzionale Colleoni - Palazzo Sirio Viale Colleoni 7, 20864 Agrate Brianza (Milano), Italy	Tel: +39-039-60531 Fax: +39-039-6053-312
Spain	MITSUBISHI ELECTRIC EUROPE B.V. Spanish Branch Carretera de Rubí 76-80-Apdo.420, 08173 Sant Cugat del Vallés (Barcelona), Spain	Tel: +34-935-65-3131 Fax: +34-935-89-1579
France	MITSUBISHI ELECTRIC EUROPE B.V. French Branch 25, Boulevard des Bouvets, F-92741 Nanterre Cedex, France	Tel: +33-1-55-68-55-68 Fax: +33-1-55-68-57-57
Czech Republic	MITSUBISHI ELECTRIC EUROPE B.V. Czech Branch Avenir Business Park, Radlicka 751/113e, 158 00 Praha 5, Czech Republic	Tel: +420-251-551-470 Fax: +420-251-551-471
Turkey	MITSUBISHI ELECTRIC TURKEY A.S. Umraniye Branch Serifali Mahallesi Nutuk Sokak No:5, TR-34775 Umraniye, Istanbul, Turkey	Tel: +90-216-526-3990 Fax: +90-216-526-3995
Poland	MITSUBISHI ELECTRIC EUROPE B.V. Polish Branch ul. Krakowska 50, 32-083 Balice, Poland	Tel: +48-12-630-47-00 Fax: +48-12-630-47-01
Russia	MITSUBISHI ELECTRIC EUROPE B.V. Russian Branch St. Petersburg Office Piskarevsky pr. 2, bld 2, lit "Sch", BC "Benua", office 720; RU-195027 St. Petersburg, Russia	Tel: +7-812-633-3497 Fax: +7-812-633-3499
South Africa	ADROIT TECHNOLOGIES 20 Waterford Office Park, 189 Witkoppen Road, ZA-Fourways, South Africa	Tel: +27-11-658-8100 Fax: +27-11-658-8101
China	MITSUBISHI ELECTRIC AUTOMATION (CHINA) LTD. No.1386 Hongqiao Road, Mitsubishi Electric Automation Center, Changning District, Shanghai, China	Tel: +86-21-2322-3030 Fax: +86-21-2322-3000
Taiwan	SETSUYO ENTERPRISE CO., LTD. 6F., No.105, Wugong 3rd Road, Wugu District, New Taipei City 24889, Taiwan, R.O.C.	Tel: +886-2-2299-2499 Fax: +886-2-2299-2509
Korea	MITSUBISHI ELECTRIC AUTOMATION KOREA CO., LTD. 1480-6, Gayang-Dong, Gangseo-Gu, Seoul 157-200, Korea	Tel: +82-2-3660-9530 Fax: +82-2-3664-8372/8335
Singapore	MITSUBISHI ELECTRIC ASIA PTE. LTD. 307, Alexandra Road, Mitsubishi Electric Building, Singapore 159943	Tel: +65-6473-2308 Fax: +65-6476-7439
Thailand	MITSUBISHI ELECTRIC FACTORY AUTOMATION (THAILAND) CO., LTD. 12th Floor, SV.City Building, Office Tower 1, No. 896/19 and 20 Rama 3 Road, Kwaeng Bangpongpang, Khet Yannawa, Bangkok 10120, Thailand	Tel: +66-2682-6522 to 31 Fax: +66-2682-6020
Indonesia	PT. MITSUBISHI ELECTRIC INDONESIA Gedung Jaya 11th Floor, JL. MH. Thamrin No.12, Jakarta Pusat 10340, Indonesia	Tel: +62-21-3192-6461 Fax: +62-21-3192-3942
Vietnam	MITSUBISHI ELECTRIC VIETNAM COMPANY LIMITED Unit 01-04, 10th Floor, Vincom Center, 72 Le Thanh Ton Street, District 1, Ho Chi Minh City, Vietnam	Tel: +84-8-3910-5945 Fax: +84-8-3910-5947
India	MITSUBISHI ELECTRIC INDIA PVT. LTD. Pune Branch Emerald House, EL-3, J Block, M.I.D.C., Bhosari, Pune, 411026, Maharastra State, India	Tel: +91-20-2710-2000 Fax: +91-20-2710-2100
Australia	MITSUBISHI ELECTRIC AUSTRALIA PTY. LTD. 348 Victoria Road, P.O. Box 11, Rydalmere, N.S.W. 2116, Australia	Tel: +61-2-9684-7777 Fax: +61-2-9684-7245

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MITSUBISHI ELECTRIC CORPORATION

HEAD OFFICE: TOKYO BLDG., 2-7-3, MARUNOUCHI, CHIYODA-KU, TOKYO 100-8310, JAPAN NAGOYA WORKS: 1-14, YADA-MINAMI 5, HIGASHI-KU, NAGOYA, JAPAN

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