# MITSUBISHI ELECTRIC

# GS21 General Description

### GS2110-WTBD    GS2107-WTBD

Thank you for purchasing the GOT SIMPLE Series.

**Prior to use, please read both this manual and the detailed manual thoroughly to fully understand the product.**

## GOT SIMPLE
Graphic Operation Terminal

| MODEL | GS21-U-GD-E |
|---|---|
| Model code | 1D7MM3 |
| IB(NA)-0800523ENG-F(2109)MEAMC | |

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### ●SAFETY PRECAUTIONS●
(Always read these precautions before using this equipment.)

Before using this product, please read this manual and the relevant manuals introduced in this manual carefully and pay full attention to safety to handle the product correctly.
The precautions given in this manual are concerned with this product.
In this manual, the safety precautions are ranked as "WARNING" and "CAUTION".

| ⚠ WARNING | Indicates that incorrect handling may cause hazardous conditions, resulting in death or severe injury. |
|---|---|
| ⚠ CAUTION | Indicates that incorrect handling may cause hazardous conditions, resulting in medium or slight personal injury or physical damage. |

Note that the ⚠ CAUTION level may lead to a serious accident according to the circumstances.
Always follow the instructions of both levels because they are important to personal safety.
Please save this manual to make it accessible when required and always forward it to the end user.

## [DESIGN PRECAUTIONS]

### ⚠ WARNING

- Some failures of the GOT or cable may keep the outputs on or off. Some failures of a touch panel may cause malfunction of the input objects such as a touch switch. An external monitoring circuit should be provided to check for output signals which may lead to a serious accident. Not doing so can cause an accident due to false output or malfunction.
- Do not use the GOT as the warning device that may cause a serious accident. An independent and redundant hardware or mechanical interlock is required to configure the device that displays and outputs serious warning. Not doing so can cause an accident due to false output or malfunction.
- When the GOT detects its backlight failure, the GOT disables the input operation on the touch switch(s). Thus, operators cannot operate the GOT with touches. The GOT backlight failure can be checked with a system signal of the GOT.
- Even when the display section has dimmed due to a failure of the liquid crystal section or the backlight on the GOT, the input operation of the touch switches may still be enabled. This may cause an incorrect operation of the touch switches. For example, if an operator assumes that the display section has dimmed because of the screen save function and touches the display section to cancel the screen save, a touch switch may be activated. The GOT backlight failure can be checked with a system signal of the GOT.
- The display section of the GOT is an analog-resistive type touch panel. Simultaneous pressing of two or more areas on the display section may activate the switch between those areas. Do not press two or more areas simultaneously on the display section. Doing so may cause an accident due to incorrect output or malfunction.
- When programs or parameters of the controller (such as a PLC) that is monitored by the GOT are changed, be sure to shut off the power of the GOT promptly and power on the GOT again. Not doing so can cause an accident due to false output or malfunction.
- If a communication fault (including cable disconnection) occurs during monitoring on the GOT, communication between the GOT and PLC CPU is suspended and the GOT becomes inoperative. A system where the GOT is used should be configured to perform any significant operation to the system by using the switches of a device other than the GOT on the assumption that a GOT communication fault will occur. Not doing so can cause an accident due to false output or malfunction.

### ⚠ WARNING

- To maintain the security (confidentiality, integrity, and availability) of the GOT and the system against unauthorized access, DoS[*1] attacks, computer viruses, and other cyberattacks from unreliable networks and devices via network, take appropriate measures such as firewalls, virtual private networks (VPNs), and antivirus solutions.
  Mitsubishi Electric shall have no responsibility or liability for any problems involving GOT trouble and system trouble by unauthorized access, DoS attacks, computer viruses, and other cyberattacks.
  *1 DoS: A denial-of-service (DoS) attack disrupts services by overloading systems or exploiting vulnerabilities, resulting in a denial-of-service (DoS) state.

### ⚠ CAUTION

- Do not bundle the control and communication cables with main-circuit, power or other wiring. Run the above cables separately from such wiring and keep them a minimum of 100mm apart. Not doing so noise can cause a malfunction.
- Do not press the GOT display section with a pointed material as a pen or driver. Doing so can result in a damage or failure of the display section.
- When the GOT is connected to the Ethernet network, the available IP address is restricted according to the system configuration.
  • When multiple GOTs are connected to the Ethernet network: Do not set the IP address (192.168.3.18) for the GOTs and the controllers in the network.
  • When a single GOT is connected to the Ethernet network: Do not set the IP address (192.168.3.18) for the controllers except the GOT in the network.
  Doing so can cause the IP address duplication. The duplication can negatively affect the communication of the device with the IP address (192.168.3.18). The operation at the IP address duplication depends on the devices and the system.
- Turn on the controllers and the network devices to be ready for communication before they communicate with the GOT. Failure to do so can cause a communication error on the GOT.
- When the GOT is subject to shock or vibration, or some colors appear on the screen of the GOT, the screen of the GOT might flicker.

## [MOUNTING PRECAUTIONS]

### ⚠ WARNING

- Be sure to shut off all phases of the external power supply used by the system before mounting or removing the GOT main unit to/from the panel. Not doing so can cause the unit to fail or malfunction.

### ⚠ CAUTION

- Use the GOT in the environment that satisfies the general specifications described in this manual.Not doing so can cause an electric shock, fire, malfunction or product damage or deterioration.
- When mounting the GOT to the control panel, tighten the mounting screws in the specified torque range (0.36N·m to 0.48N·m) with a Phillips-head screwdriver No.2. Undertightening can cause the GOT to drop, short circuit or malfunction. Overtightening can cause a drop, short circuit or malfunction due to the damage of the screws or the GOT.
- Remove the protective film of the GOT. When the user continues using the GOT with the protective film, the film may not be removed.
- Operate and store the GOT in environments without direct sunlight, high temperature, dust, humidity, and vibrations.
- Do not use the GOT in an environment with oil or chemicals. Doing so may cause failure or malfunction due to the oil or chemical entering into the GOT.

## [WIRING PRECAUTIONS]

### ⚠ WARNING

- Be sure to shut off all phases of the external power supply used by the system before wiring. Failure to do so may result in an electric shock, product damage or malfunctions.

### ⚠ CAUTION

- Please make sure to ground FG terminal of the GOT power supply section by applying 100Ω or less which is used exclusively for the GOT. Not doing so may cause an electric shock or malfunction.
- Correctly wire the GOT power supply section after confirming the rated voltage and terminal arrangement of the product. Not doing so can cause a fire or failure.
- Tighten the terminal screws of the GOT power supply section in the specified torque range (0.5N·m to 0.6N·m). Undertightening can cause a short circuit or malfunction. Overtightening can cause a short circuit or malfunction due to the damage of the screws or the GOT.
- Exercise care to avoid foreign matter such as chips and wire offcuts entering the GOT. Not doing so can cause a fire, failure or malfunction.
- Plug the communication cable into the GOT interface or the connector of the connected unit, and tighten the mounting screws and the terminal screws in the specified torque range. Undertightening can cause a short circuit or malfunction. Overtightening can cause a short circuit or malfunction dueto the damage of the screws or unit.

## [TEST OPERATION PRECAUTIONS]

### ⚠ WARNING

- Before performing the test operations of the user creation monitor screen (such as turning ON or OFF bit device, changing the word device current value, changing the settings or current values of the timer or counter, and changing the buffer memory current value), read through the manual carefully and make yourself familiar with the operation method. During test operation, never change the data of the devices which are used to perform significant operation for the system. False output or malfunction can cause an accident.

## [STARTUP/MAINTENANCE PRECAUTIONS]

### ⚠ WARNING

- When power is on, do not touch the terminals. Doing so can cause an electric shock or malfunction.
- Before starting cleaning or terminal screw retightening, always switch off the power externally in all phases. Not doing so can cause the unit to fail or malfunction. Undertightening can cause a short circuit or malfunction. Overtightening can cause a short circuit or malfunction due to the damage of the screws or unit.

### ⚠ CAUTION

- Do not disassemble or modify the unit. Doing so can cause a failure, malfunction, injury or fire.
- Do not touch the conductive and electronic parts of the unit directly. Doing so can cause a unit malfunction or failure.
- The cables connected to the unit must be run in ducts or clamped. Not doing so can cause the unit or cable to be damaged due to the dangling, motion or accidental pulling of the cables or can cause a malfunction due to a cable connection fault.
- When unplugging the cable connected to the unit, do not hold and pull from the cable portion. Doing so can cause the unit or cable to be damaged or can cause a malfunction due to a cable connection fault.
- Do not drop the module or subject it to strong shock. A module damage may result.
- Before touching the unit, always touch grounded metals, etc. to discharge static electricity from human body, etc. Not doing so can cause the unit to fail or malfunction.

## [TOUCH PANEL PRECAUTIONS]

### ⚠ CAUTION

- For the analog-resistive film type touch panels, normally the adjustment is not required.However, the difference between a touched position and the object position may occur as the period of use elapses. When any difference between a touched position and the object position occurs, execute the touch panel calibration.
- When any difference between a touched position and the object position occurs, other object may be activated. This may cause an unexpected operation due to incorrect output or malfunction.

## [PRECAUTIONS WHEN THE DATA STORAGE IS IN USE]

### ⚠ WARNING

- If the SD card mounted on drive A of the GOT is removed while the GOT is accessed, processing for the GOT might be interrupted about for 20 seconds. The GOT cannot be operated during this period. The functions that run in the background including a screen updating, alarm, logging, scripts, and others are also interrupted. Since this interruption makes an impact to the system operation, it might cause failure. After inhibiting access to the SD card on the GOT utility screen, check that the SD card access LED is off and remove the SD card.

### ⚠ CAUTION

- If the data storage mounted on the GOT is removed while the GOT is accessed, the data storage and files are damaged. To remove the data storage from the GOT, check that the access to the data storage in SD card access LED, the system signal, and others is not performed.
- When removing the SD card from the GOT, make sure to support the SD card by hand as it may pop out. Not doing so may cause the SD card to drop from the GOT, resulting in a failure or break.
- Before removing the USB device from the GOT, follow the procedure for removal on the utility screen of the GOT. After the successful completion dialog is displayed, remove the USB device by hand carefully. Failure to do so may cause the USB device to drop from the GOT, resulting in a failure or break.

## [DISPOSAL PRECAUTIONS]

### ⚠ CAUTION

- When disposing of this product, treat it as industrial waste.

## [TRANSPORTATION PRECAUTIONS]

### ⚠ CAUTION

- Make sure to transport the GOT main unit and/or relevant unit(s) in the manner they will not be exposed to the impact exceeding the impact resistance described in the general specifications of this manual, as they are precision devices. Failure to do so may cause the unit to fail. Check if the unit operates correctly after transportation.
- When fumigants that contain halogen materials such as fluorine, chlorine, bromine, and iodine are used for disinfecting and protecting wooden packaging from insects, they cause malfunction when entering our products. Please take necessary precautions to ensure that remaining materials from fumigant do not enter our products, or treat packaging with methods other than fumigation (heat method). Additionally, disinfect and protect wood from insects before packing products.

### Associated Manuals

The following manuals are relevant to this product. When these loose manuals are required, please consult with your local distributor.

| Manual name | Contents | Manual Number (Model Code) |
|---|---|---|
| GT Works3 Installation Instructions | Installation Instructions | BCN-P5999-0066 |
| GOT SIMPLE Series User's Manual[*1] | Describes the GOT SIMPLE series hardware-relevant content such as part names, external dimensions, mounting, power supply wiring, specifications, and introduction to option devices | JY997D52901 |
| GT Designer3 (GOT2000) Screen Design Manual[*1] (sold separately) | Describes methods of the GT Designer3 basic operation for drawing, transmitting data to GOT SIMPLE series, and specifications and settings of the object functions used in GT Designer3 | SH-081220ENG (1D7ML9) |
| GOT2000 Series Connection Manual (Mitsubishi Products) for GT Works3 Version1[*1] (sold separately) | Describes system configurations of connection methods applicable to GOT2000 series and cable creation methods | SH-081197ENG (1D7MJ8) |
| GOT2000 Series Connection Manual (Non-Mitsubishi Products 1) for GT Works3 Version1[*1] | Describes system configurations of connection methods applicable to GOT2000 series and cable creation methods | SH-081198ENG |
| GOT2000 Series Connection Manual (Non-Mitsubishi Products 2) for GT Works3 Version1[*1] | Describes system configurations of connection methods applicable to GOT2000 series and cable creation methods | SH-081199ENG |
| GOT2000 Series Connection Manual (Microcomputer, MODBUS Products, Peripherals) for GT Works3 Version1[*1] | Describes system configurations of connection methods applicable to GOT2000 series and cable creation methods | SH-081200ENG |

*1 The manual in PDF-format is included in the GT Works3 products. For details of a PLC to be connected, refer to the PLC user's manual respectively.

### Referenced Standard: GB/T15969.2
### (Requirement of Chinese standardized law)

### Bundled Items

| Model Name | Specifications |
|---|---|
| GS2110-WTBD | 10" [800 × 480 dots], TFT color liquid crystal, 65536 colors 24VDC, Memory capacity: 9MB, built-in Ethernet interface, built in RS-232 interface, built in RS-422 interface |
| GS2107-WTBD | 7" [800 × 480 dots], TFT color liquid crystal, 65536 colors 24VDC, Memory capacity: 9MB, built-in Ethernet interface, built in RS-232 interface, built in RS-422 interface |

| Bundled item | Quantity |
|---|---|
| Mounting fitting | 4 |
| GS21 General Description (This manual) | 1 |

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# 1. SPECIFICATIONS

## 1.1 General Specifications

| Item | | Specifications | | | |
|---|---|---|---|---|---|
| Operating ambient temperature[*1] | 0 to 50°C | | | | |
| Storage ambient temperature | -20 to 60°C | | | | |
| Operating/Storage ambient humidity | 10% RH to 90% RH, non-condensing[*2] | | | | |
| Vibration resistance | Conforms to IEC 61131-2 | Under intermittent vibration | Frequency | Acceleration | Half-amplitude | Sweep Count |
| | | | 5 to 8.4Hz | — | 3.5mm | 10times each in X, Y and Z directions |
| | | | 8.4 to 150Hz | 9.8m/s² | — | |
| | | Under continuous vibration | 5 to 8.4Hz | — | 1.75mm | |
| | | | 8.4 to 150Hz | 4.9m/s² | — | |
| Shock resistance | Conforms to IEC 61131-2 (147m/s², 3 times each in the X, Y, and Z directions) | | | | |
| Operating atmosphere | No greasy fumes, corrosive gas, flammable gas, excessive conductive dust, and direct sunlight (as well as at storage) | | | | |
| Operating altitude[*3] | 2000m (6562ft) max. | | | | |
| Installation location | Inside control panel | | | | |
| Overvoltage category[*4] | II or less | | | | |
| Pollution degree[*5] | 2 or less | | | | |
| Cooling method | Self-cooling | | | | |
| Grounding | Grounding with a ground resistance of 100 Ω or less by using a ground cable that has a cross-sectional area of 2 mm² or more. If impossible, connect the ground cable to the control panel. | | | | |

*1: Includes the temperature inside the enclosure of the control panel on which the GOT is installed.
*2: If the ambient temperature exceeds 40°C, the absolute humidity must not exceed 90% RH at 40°C.
*3: Do not use or store the GOT under pressures higher than the atmospheric pressure of altitude 0m (0ft). Failure to observe this instruction may cause a malfunction. When the air inside the control panel is purged by pressurization, the surface sheet may be lifted by high pressure. As a result, the touch panel may be difficult to press, and the sheet may be peeled off.
*4: This indicates the section of the power supply to which the equipment is assumed to be connected between the public electrical power distribution network and the machinery within the premises. Category II applies to equipment for which electrical power is supplied from fixed facilities. The surge voltage withstand level for up to the rated voltage of 300V is 2500V.
*5: This index indicates the degree to which conductive pollution is generated in the environment where the equipment is used. In pollution degree 2, only non-conductive pollution occurs but temporary conductivity may be produced due to condensation.

## 1.2 Performance Specifications

| Item | | Specifications | |
|---|---|---|---|
| | | GS2110-WTBD | GS2107-WTBD |
| Display section[*1][*2] | Type | TFT color liquid crystal display | |
| | Screen size | 10" | 7" |
| | Resolution | WVGA: 800 × 480 dots | |
| | Display size | W222(8.74) × H132.5(5.22) [mm] (inch) | W154(6.06) × H85.9(3.38) [mm] (inch) |
| | Display character | 16-dot standard font: 50 characters × 30 rows (two-byte characters) 12-dot standard font: 66 characters × 40 rows (two-byte characters) | |
| | Display color | 65536 colors | |
| | Brightness | 32-level adjustment | |
| | Backlight[*3] | LED-type (no replacement required) | |
| Touch panel[*4] | Type | Analog-resistive film type | |
| | Key size | Minimum 2 × 2 dots[*7] (per key) | |
| | Number of points touched simultaneously | Simultaneous 2-point presses prohibited (Only one point can be touched.)[*5] | |
| | Life | 1 million times (operating force 0.98N max.) | |
| Memory | Flash memory (Internal) (9MB), for storing project data, OS | | |
| | C drive | Life (Number of write times) 100000 times | |
| Built-in interface | RS-422 | RS-422, 1ch Transmission speed: 115200/57600/38400/19200/9600/4800bps Connector shape: D-sub 9 pins (Female) Application: For communicating with a controller Terminating resistor: 330Ω fixed | |
| | RS-232 | RS-232, 1ch Transmission speed: 115200/57600/38400/19200/9600/4800bps Connector shape: D-sub 9 pins (Male) Application: For communicating with a controller or barcode reader For PC connection (Project data read/write, FA transparent function) | |

| Item | | Specifications | |
|---|---|---|---|
| | | GS2110-WTBD | GS2107-WTBD |
| Built-in interface | Ethernet | Data Transfer method: 100BASE-TX, 10BASE-T, 1ch Connector shape: RJ45 (modular jack) AUTO MDI/MDI-X Application: For communication with a controller For PC connection (Project data read/write, FA transparent function) | |
| | USB (Device) | 1 channel (rear face) USB version: USB1.1 (Full-Speed 12 Mbps), Connector shape: USB Mini-B Application: For PC connection (Project data read/write, FA transparent function) | |
| | SD card | Conforms to the SD standard, 1ch Supported memory card: SDHC memory card, SD memory card Application: Project data read/write, logging data save | |
| Buzzer output | Single tone (LONG/SHORT/OFF adjustable) | | |
| Protective structure | IP65F (only the front part of the panel)[*6][*8] | | |
| External dimensions | W272(10.71) × H214(8.43) × D56(2.21) [mm] (inch) | W206(8.11) × H155(6.11) × D50(1.97) [mm] (inch) | |
| Panel cutting dimensions | W258(10.16) × H200(7.88) [mm] (inch) | W191(7.52) × H137(5.40) [mm] (inch) | |
| Weight (excluding a fitting) | Approx. 1.3 (2.9) [kg] (lb) | Approx. 0.9 (2.0) [kg] (lb) | |
| Compatible software package (Version of GT Designer3) | Version 1.105K or later | | |

*1: Bright dots (always lit) and dark dots (unlit) may appear on a liquid crystal display panel. It is impossible to completely avoid this symptom, as the liquid crystal display comprises of a great number of display elements. Flickers and partial discoloration may be generated on the liquid crystal display panel due to individual differences of panels. Please note that these phenomena appear due to its characteristic and are not caused by product defect.
*2: Flickering may occur due to vibration, shock, or the display colors.
*3: To prevent the display section from burning in and lengthen the backlight life, enable the screen save function and turn off the backlight.
*4: When a stylus is used, the touch panel has a life of 100 thousand touches. The stylus must satisfy the following specifications.
  Material: Polyacetal resin
  Tip radius: 0.8mm or more
*5: If you touch two points or more simultaneously on the touch panel, a switch in an unintended location may operate. Do not press two or more areas simultaneously on the touch panel.
*6: Note that this does not guarantee all users' operation environment. The GOT may not be used in an environment where the GOT is exposed to oil or chemicals for a long time, or where oil mist fills the air.
*7: Minimum size of a key that can be arranged.
  To ensure safe use of the product, the following settings are recommended.
  Key size: 16 × 16 dots or larger
  Distance between keys: 16 dots or more
*8: The suffix "F" of "IP65F" is a symbol that indicates protection rate against oil. It is described in the Appendix of JIS C 0920 of the Japanese Industrial Standards.

## 1.3 Power Supply Specifications

| Item | | Specifications | |
|---|---|---|---|
| | | GS2110-WTBD | GS2107-WTBD |
| Input power supply voltage | 24VDC (+10% -15%), ripple voltage 200mV or less | | |
| Power consumption | 7.6W (317mA/24V) or less | 6.5W (271mA/24V) or less | |
| At backlight off | 3.8W (158mA/24V) or less | 3.8W (158mA/24V) or less | |
| Inrush current | 17A or less (6ms, 25°C, at the maximum load) | | |
| Permissible instantaneous power failure time | Within 5ms | | |
| Noise immunity | Conforms to IEC61000-4-4, 2kV (power supply line) | | |
| Dielectric withstand voltage | 350VAC for 1 minute (across power supply terminals and earth) | | |
| Insulation resistance | 500VDC across power terminals and earth, 10 MΩ or more by an insulation resistance tester | | |

# 2. GT DESIGNER3 VERSION1 (COMPATIBLE WITH GS SERIES) INSTALLATION PROCEDURE

This chapter explains how to install and uninstall GT Designer3 Version1 (compatible with the GS Series).

## 2.1 Installing GT Designer3 version 1.215Z or later

### 2.1.1 Installation procedure

1) Insert the product disc of GT Works3 version 1.215Z or later into the disc drive.
2) Double-click the following installer.
  <Root>\Disk1\GTD3_2000\setup.exe
3) Operate the personal computer in accordance with instructions given on the screen.
4) When the installation completed message appears, click the [Finish] button to exit the installation.

### 2.1.2 Uninstallation procedure

1) In the Windows Control Panel, click [Add or Remove Programs], select [Designer3 (GOT2000) ], and click the [Uninstall] button.

## 2.2 Installing GT Designer3 version earlier than 1.215Z

### 2.2.1 Before installation

1) Prepare the product disc (DVD-ROM) of GT Works3 Version 1.104J or later at hand.
2) Install GT Designer3 (GOT2000) version 1.104J or later in advance.
  * For using the GS Series in the data transfer tool, it is necessary to install in advance the data transfer tool Version 3.02C or later. For installation of GT Designer3 (GOT2000)/data transfer tool, refer to "GT Works3 Version1 Installation Procedure" packed together with the product disc of GT Works3 Version 1.104J or later.
3) GS Installer storage place
  The installer is stored in the following folder saved in the product disc (DVD-ROM) of GT Works3 Version 1.104J or later.
  <Root>\Disk1\TOOL\GS\GS Installer.exe
4) For installing GS Installer, set to OFF the automatic playback function of the drive before inserting the product disc into the drive, or finish the started installation if GT Works3 Installer was automatically started by the automatic playback function.

### 2.2.2 Installation procedure

1) Double-click GS Installer.exe stored in the folder shown in 2.2.1 3) above. Operate the personal computer in accordance with instructions given on the screen.
2) When the installation completed message appears, click the [Finish] button to exit the installer.

### 2.2.3 Uninstallation procedure

When GT Designer3 (GOT2000) is uninstalled, the GS Series is automatically uninstalled. For uninstallation of GT Designer3 (GOT2000), refer to 2.1.2.

### 2.2.4 Precautions
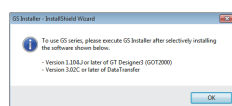
When the following screen appears after startup of GS Installer, operate the personal computer in accordance with instructions given on the screen.

# 3. NOTIFICATION OF CE MARKING

The following products have shown compliance through direct testing (to the identified standards) and design analysis (forming a technical construction file) to the European Directive for Electromagnetic Compatibility when used as directed by the appropriate documentation.
• This product is designed for use in industrial applications
• Authorized Representative in the European Community:
  Mitsubishi Electric Europe BV
  Mitsubishi-Electric-Platz 1, 40882 Ratingen, Germany
- Type: Graphic operation terminal
- Models: GOT SIMPLE series

| Standard | | Remark |
|---|---|---|
| EN61131-2: 2007 Programmable controllers - Equipment, requirements and tests | EMI | Compliance with all relevant aspects of the standard. (Radiated Emissions) |
| | EMS | Compliance with all relevant aspects of the standard. (ESD, RF electromagnetic field, EFTB, Surge, RF conducted disturbances and Power frequency magnetic field) |

For more details please contact your local Mitsubishi Electric sales site.
For details of CE marking, refer to the following.
→GOT SIMPLE series User's Manual

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## Warranty

Mitsubishi Electric will not be held liable for damage caused by factors found not to be the cause of Mitsubishi Electric; machine damage or lost profits caused by faults in the Mitsubishi Electric products; damage, secondary damage, accident compensation caused by special factors unpredictable by Mitsubishi Electric; damages to products other than Mitsubishi Electric products; and to other duties.

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

| Country/Region | Sales office/Tel |
|---|---|
| USA | Mitsubishi Electric Automation, Inc. 500 Corporate Woods Parkway, Vernon Hills, IL 60061, U.S.A. Tel: +1-847-478-2100 |
| Brazil | Mitsubishi Electric do Brasil Comercio e Servicos Ltda. Avenida Adelino Cardana, 293, 21 andar, Bethaville, Barueri SP, Brazil Tel: +55-11-4689-3000 |
| Mexico | Mitsubishi Electric Automation, Inc. Mexico Branch Boulevard Miguel de Cervantes Saavedra 301, Torre Norte Piso 5, Ampliacion Granada, Miguel Hidalgo, Ciudad de Mexico, Mexico, C.P.11520 Tel +52-55-3067-7512 |
| Germany | Mitsubishi Electric Europe B.V. German Branch Mitsubishi-Electric-Platz 1, 40882 Ratingen, Germany Tel: +49-2102-486-0 |
| UK | Mitsubishi Electric Europe B.V. UK Branch Travellers Lane, UK-Hatfield, Hertfordshire, AL10 8XB, U.K. Tel: +44-1707-28-8780 |
| Italy | Mitsubishi Electric Europe B.V. Italian Branch Centro Direzionale Colleoni - Palazzo Sirio, Viale Colleoni 7, 20864 Agrate Brianza (MB), Italy Tel: +39-039-60531 |
| Spain | Mitsubishi Electric Europe B.V. Spanish Branch Carretera de Rubi, 76-80-Apdo. 420, E-08190 Sant Cugat del Valles (Barcelona), Spain Tel: +34-935-65-3131 |
| France | Mitsubishi Electric Europe B.V. French Branch 25, Boulevard des Bouvets, 92741 Nanterre Cedex, France Tel: +33-1-55-68-55-68 |
| Czech | Mitsubishi Electric Europe B.V. Czech Branch Pekarska 621/7, 155 00 Praha 5, Czech Republic Tel: +420-255 719 200 |
| Turkey | Mitsubishi Electric Turkey A.S. Umraniye Branch Serifali Mahallesi Nutuk Sokak No:5, TR-34775 Umraniye / Istanbul, Turkey Tel: +90-216-526-3990 |
| Poland | Mitsubishi Electric Europe B.V. Polish Branch ul. Krakowska 48, 32-083 Balice, Poland Tel: +48-12-347-65-00 |
| Russia | Mitsubishi Electric (Russia) LLC St. Petersburg Branch Piskarevsky pr. 2, bld 2, lit "Sch", BC "Benua", office 720; 195027 St. Petersburg, Russia Tel: +7-812-633-3497 |
| South Africa | Adroit Technologies 20 Waterford Office Park, 189 Witkoppen Road, Fourways, South Africa Tel: +27-11-658-8100 |
| China | Mitsubishi Electric Automation (China) Ltd. Mitsubishi Electric Automation Center, No.1386 Hongqiao Road, Shanghai, China Tel: +86-21-2322-3030 |
| Taiwan | SETSUYO ENTERPRISE CO., LTD. 6F., No.105, Wugong 3rd Road, Wugu District, New Taipei City 24889, Taiwan Tel: +886-2-2299-2499 |
| Korea | Mitsubishi Electric Automation Korea Co., Ltd. 7F to 9F, Gangseo Hangang Xi-tower A, 401, Yangcheon-ro, Gangseo-Gu, Seoul 07528, Korea Tel: +82-2-3660-9569 |
| Singapore | Mitsubishi Electric Asia Pte. Ltd. 307 Alexandra Road, Mitsubishi Electric Building, Singapore 159943 Tel: +65-6473-2308 |
| 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 |
| Indonesia | PT. Mitsubishi Electric Indonesia Gedung Jaya 8th Floor, JL. MH. Thamrin No.12, Jakarta Pusat 10340, Indonesia Tel: +62-21 3192-6461 |
| Vietnam | Mitsubishi Electric Vietnam Company Limited 11th & 12th Floor, Viettel Tower B, 285 Cach Mang Thang 8 Street, Ward 12, District 10, Ho Chi Minh City, Vietnam. Tel: +84-28-3910-5945 |
| India | 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 |
| Australia | MITSUBISHI ELECTRIC AUSTRALIA PTY. LTD. 348 Victoria Road, P.O. Box 11, Rydalmere, N.S.W 2116, Australia Tel: +61-2-9684-7777 |

MITSUBISHI ELECTRIC
AUTOMATION MANUFACTURING (CHANGSHU) CO.,LTD.
No.1181 Southeast Road, Changshu New & Hi-tech Industrial Development Zone of Jiangsu, 215500 China

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