

[DESIGN PRECAUTIONS]

- Some failures of the GOT, communication unit or cable may keep the outputs on or off. Some failures of a touch panel may cause malfunction of the input objects Some ratio of a cocor part of a second p 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. Failure to observe this instruction may result in an accident due to incorrect output or malfunction.
- The GOT backlight failure disables the operation on the touch switch(s). When the GOT backlight has a failure, the POWER LED blinks (orange/t and the display section dims. In such a case, the input by the touch switc is disabled.
- The display section of the GOT is an analog-resistive type touch panel. The GOT is multi-touch compliant; however, do not touch three points or more 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 reset the GOT, or turn on the unit again after shutting off the power as soon as possible. Not doing so can cause an accident due to false output or malfunction.
- for communication fault (including cable disconnection) neuronautorial monitoring on the GOT, communication between the GOT and PLC CPU is suspended and the GOT becomes inoperative. For bus connection : The CPU becomes faulty and the GOT becomes
- For other than bus connection : The GOT becomes inoperative. A system where the GOT is used should be configured to perform any A system where the GOT is used should be complied 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.

Products with the CI.I, DIV2 mark on the rating plate are suitable for use in Class I, Division 2, Groups A, B, C and D hazardous locations, or nonhazardous locations only. This mark indicates that the product is certified for use in the Class I, Division2 environment where flammable gases, vapors, or liquids are not likely to exist under normal conditions. When using the products in the Class I, Division 2 environment, observe the following to reduce the risk of explosion. This device is open-type and is to be installed in an enclosure suitable for the environment and require a tool or key to open. Warning – Explosion Hazard - Substitution of any component may impair suitability for Class I, Division 2. Warning – Explosion hazard - Do not disconnect equipment unless power has been removed or the area is known to be non-hazardous.
of this equipment cannot be used in Class I, Division 2 environments. Les produits marqués CI.I, DIV.2 sur la plaque signalétique peuvent étre utilisés en Class I, Division 2, local dangereux de groupe A, B, C et D, ou uniquement en local non dangereux. Ce logo indique que le produit est homologué pour utilisation en environnement de Class I, Division 2 où, dans des circonstances anormales, il peut y avoir présence de gaz, vapeurs ou liquides inflammables. Si le produit est utilisé en environnement de Class I, Division 2, observer les précautions suivantes pour réduire le risque d'explosion. * Cet appareil est de type ouvent et il doit étre installé dans une enceinte approprise à l'environnement et ne pouvant être ouverte qu'au moyen d'une clé ou d'un outil. * Avertissement - Danger d'explosion - Toute substitution de composant peut compromettre l'aptitude à l'utilisation en Class I, Division 2. * Avertissement - Danger d'explosion - Toute substitution de composant peut enternent - Danger d'explosion - Bars deconnecter l'équipement quand le circuit est sous tension, ni avant de d'être assuré de l'absence d'atmosphere inflammable. • L'interface latérale, l'interface d'extension et l'interface d'extension secondaire de cet équipement ne peuvent être utilisées dans les environnements de Classe I, Division 2.
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:
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.
OUNTING PRECAUTIONS]
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. Be sure to shut off all phases of the external power supply used by the system before mounting or removing the option unit onto/from the GOT.
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 (0.36 N·m to 0.48 N·m) with a Phillips-head screwdriver No.2. Underlighten can cause the GOT to drap, short circuit or molf-instition.

A WARNING

[M

GT2710 1)2)

- screwdriver No.2. Undertightening can cause the GOT to drop, short circuit or malfunction. Overtightening can cause a drop, short circuit or malfunction. Overtightening can cause a drop, short circuit or malfunction due to the damage of the screws or the GOT. When noauting a unit on the GOT, tighten the mounting screws in the following specified torque range. When loading the communication unit or option unit other than wireless LAN unit to the GOT, fit it to the connection interface of the GOT and tighten the mounting screws in the specified torque range (0.38 Nr to 0.48 Nr) with a Phillips-head screwdriver No.2. When loading the wireless LAN unit to the GOT, fit it to the side interface of GOT and tighten the mounting screws in the specified torque range (0.10 Nrm to 0.14 Nrm) with a Phillips-head screwdriver No.1. When he GOT is installed vertically, its side interface is positioned on the bottom. To prevent the falling of the wireless LAN commucitation unit from the side interface, install or remove the unit while holding it with hands. Under tightening can cause a drop, failure or malfunction due to the damage of the screws or unit.

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13<u>)</u> 14)

-15) —16)

- When closing the USB environmental protection cover, fix the cover to the GOT by pushing the [PUSH] mark on the latch firmly to comply with the protective structure.
- protective structure. Remove the protective film of the GOT. When the user continues using the GOT with the protective film, the film may not be removed. In addition, for the models equipped with the human sensor function, using the GOT with the protective film may cause the human sensor not to function properly Operate and store the GOT in environments without direct sunlight, high temperature, dust, humidity, and vibrations.
- When using the GOT in the environment of oil or chemicals, use the protective cover for oil. Failure to do so may cause failure or malfunction to the oil or chemical entering into the GOT.

[WIRING PRECAUTIONS]

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

- Make sure to ground the FG terminal and LG terminal of the GOT power supply section to the protective ground conductors dedicated to the GOT will a ground resistance of 100 Ω or less.
- When tightening the terminal screws, use a Phillips-head screwdriver No.2. Terminal screws which are not to be used must be tightened always at t 0.5 Nm to 0.8 Nm. Otherwise there will be a danger of short circuit against the solderless terminals. which are not to be used must be tightened always at torgu
- Use applicable solderless terminals and tighten them with the specified
- torque. If any solderless spade terminal is used, it may be disconnected when the terminal screw comes loose, resulting in failure. 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 (0.5 N+m to 0.8 N+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.
- are sumage or the sortews or the GOT. Exercise care to avoid forcign matter such as chips and wire offcuts entering the GOT. Not doing so can cause a fire, failure or malfunction. The module has an ingress prevention label on its top to prevent foreign matter, such as wire offcuts, from entering the module during wiring. Do not peel this label during wiring. Before starting system operation, be sure to peel this label because of heat dissipation.
- w peer trus label because of heat dissipation. But the person, be dure Plug the communication cable into the GOT interface or the connected unit, and tighten the mounting screws and the terminal screws in the specified torque range. Undertightening can cause a short circuit or maifunction. Overlightening can cause a short circuit or malfunction due to the damage of the screws or unit.
- Plug the QnA/ACPU/Motion controller(A series) bus connection cable by inserting it into the connector of the connected unit until it "clicks". After plugging, check that it has been inserted snugly. Not doing so can cause a malfunction due to a contact fault.

[TEST OPERATION PRECAUTIONS]

A 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.

ISTARTUP/MAINTENANCE PRECAUTIONS1

- When power is on, do not touch the terminals. Doing so can cause an electric shock or malfunction
- Correctly connect the battery connector. Do not charge, disassemble, heat, sont-circuit, solder, or throw the battery into the fire. Doing so will cause the battery to produce heat, explode, or ignite, resulting in nijury and fire.
- Before starting cleaning or terminal screwer retightening, always switch off the power externally in all phases. Not switching the power off in all phases cause cause a unit failure or mathunction. Undertightening can cause a short circuit or malfunction. Overlightening can cause a short circuit or malfunction due to the damage of the screws or unit.

- 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 car cause a malfunction due to a cable connection fault.

- Do not drop the module or subject it to stro
- Do not drop or give an impact to the battery mounted to the unit. Doing so may damage the battery, causing the battery fluid to leak insid battery. If the battery is dropped or given an impact, dispose of it without ak inside th 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.
- Use the battery manufactured by Mitsubishi Electric Corporation. Use of other batteries may cause a risk of fire or explosion. Dispose of used battery promptly. Keep away from children.Do not disassemble and do not dispose of in fire.
- Be sure to shut off all phases of the external power supply before replacing the battery or using the dip switch of the terminating resistor.Not doing so can cause the unit to fail or malfunction by static electricity.

[TOUCH PANEL PRECAUTIONS]

- For the analog-resistive film type touch panels, normally the adjustment is no required. 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 maifunction.

[PRECAUTIONS WHEN THE DATA STORAGE IS IN USE]

If the SD card is removed from drive A of the GOT while being accessed by the GOT, the GOT may stop processing data for about 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 checking the light off of SD card access LED, remove the SD card.

- If the data storage is removed from the GOT while being accessed by the GOT, the data storage and files may be damaged. Before removing the data storage from the GOT, check the SD card access LED, system signal, or others to make sure that the data storage is not accessed. When inserting a SD card into the GOT, make sure to close the SD card cover. Failure to do so causes the data not to be read or written.

- cover. Failure to do so causes the data not to be read or written. When removing the SD card from the GOT, make sure to support the SD card by hard as it may pop out. Failure to do so may cause the SD card to drop from the GOT, resulting in a failure or break. When inserting a USB device into a USB interface of the GOT, make sure to insert the device into the interface firmly Failure to do so may cause the USB device 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]

- When disposing of this product, treat it as industrial waste. When disposing of batteries, separate them from other wastes according to the local regulations. (Refer to the GOT2000 Series User's Manual (Hardware) for details of the battery directive in the EU member states.)

[TRANSPORTATION PRECAUTIONS]

- When transporting lithium batteries, make sure to treat them based on the transport regulations. (Refer to the GOT2000 Series User's Manual (Hardware) for details of the regulated models.)
- 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 a provision during on the general specifications of this manual, as they a
- 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.

GT271 STB/

GT2710-VTBA GT2710-

VTWA

. 17W

60A or less (2ms, operating ambient temperature 25, maximum load)

20 ms or less (100VAC or more)

500Vp-p noise voltage, 1μ s noise width (when easuring with a noise simulator under 25 to 60Hz

VAC for 1 minute across power terminals and each of a construction of the construction

0.75[mm²] to 2[mm²]

Solderless terminal for M3 screw RAV1.25-3, V2-S3.3, V2-N3A, FV2-N3A

0.5[N•m] to 0.8[N•m]

STBD, GT2710-VTBD, GT2710-GT2710-

42W or less 15W

8W

10 ms or less

500Vp-p noise voltage, 1μ s noise width (when measuring with a noise simulator under 25 to 60Hz noise frequency)

350VAC for 1 minute across power terminals and earth

5A or less (20ms, operating ambient temperature 25, maximum load)

GT2708-STBD,

ST2708 VTBD

39W or less 13W

8W

VTBD

30W o less 7W

5W

GT2708 STBA

GT2708 VTBA

15W

GT2712

STBA GT2712 STWA

19W

500V DC insulation resistance tester

3.2.2 For GOTs powered from the 24VDC power

GT2712

STBD, GT2712 STWD

45W oi

18W

8W

GT2715 XTBA

25W

maximum load Stand alone

backlight of

Allowable momentary power ailure time

Dielectric withstand voltage

opplicable solderless terminal

nal screw)

GT2715 XTBD

23W

8W

Applicable tightening torque

supply

sulation resistance

Applicable wire size

rminal block terr

wer supply voltage

onsu nptior

rush current

ower failure tim

Dielectric withstand

loise immunity

Allowable m

rature must

naximum load

Stand alon

backlight of

Stand alone with

ower

nrush current

oise immunity

Manual The following shows manuals relevant to this product.						
Manual name	Manual number (Model code)					
GOT2000 Series User's Manual (Hardware)	SH-081194ENG (1D7MJ5)					
GOT2000 Series User's Manual (Utility)	SH-081195ENG (1D7MJ6)					
For detailed manuals and relevant manuals, reference manuals stored in the DVD-ROM for the drawing	er to the Help or the PDF g software used.					
The latest manuals are also available from MITS	SUBISHI ELECTRIC FA Globa					

A Globa Website (http://www.MitsubishiElectric.co.jp/fa/) © 2013MITSUBISHI ELECTRIC CORPORATION

Before using the GOT

Connect the connector of the GOT to the connector of the battery. Refer to the GOT2000 Series User's Manual (Hardware) for the connection instructions

For details on the GOT specifications, installing instructions, wiring, maintenance and inspection, or checking procedure for the version and the compatible standard, refer to the GOT2000 Series User's Manual (Hardware).

Packing List he GOT product p kage includes the following

Description	Quantity
GT27	1
Battery (GT11-50BAT) (Attached to the GOT)	1
Installation fitting	4, 8(Only GT2715)
GT27 General Description (This manual)	1
GT27 本体概要説明書	1

1. FEATURES

- (1) Abundant standard equipment Variety of connection with FA devices SD card interface compatible with the SDHC card having a large capacity
- and allowing high-speed communication Connection with various peripheral devices with the USB host
- (2) Improved usability Abundant troubleshooting

· Easy and clear screen creation like operatio

19) 18) 7) 25) 23) 23) 21) 24) 22) GT2708 1)2) 1)12)13) 14) 19) 18) 7) 17) 16) | 23) | 24) 22) 21)



No.	Name	Description
1)	Display screen	Displays the utility and the user-created screen.
2)	Touch Pane	For operating the touch switches in the utility and the user- created screen
3)	USB interface (Host/Front face)	For connecting a USB mouse, connecting a USB keyboard, data transfer, and data sorrage (connector type: TYPE-A) (Only GT2715-XTBA/D, GT2712-STBA/D, GT2710-STBA/ D, GT2710-VTBA/D, GT2708-STBA/D, GT2708-VTBA/D, GT2705-VTBA/D, GT2708-STBA/D, GT2708-VTBA/D, GT2705-VTBD)
4)	USB interface (Device /Front face)	For connecting a personal computer (connector type: Mini- B) (Only GT2715-XTBA/D, GT2712-STBA/D, GT2710- STBA/D, GT2710-VTBA/D, GT2708-STBA/D, GT2708- VTBA/D, GT2705-VTBD)
5)	POWER LED	Lit in blue : Power is properly supplied. Lit in orange : Screen saving Blinks in orange/blue : Backlight failure Not lit : Power is not supplied
6)	Human sensor	Detects human movement.(Only GT2715, GT2712)
7)	Unit installation fitting	Mounting fixtures for fixing the GOT to the control panel
8)	Reset switch	Hardware reset switch
9)	Installation switch	Used for OS installations at the GOT startup
10)	SD card access LED	Lit : SD card mounted Blinking : SD card accessed No lit : SD card not mounted or SD card mounted (removable)
11)	SD card interface	For installing a SD card
12)	SD card cover	With a switching function for accepting and stopping the access to the SD card When the cover is opened : Access is prohibited When the cover is closed : Access is allowed
13)	Battery holder	Houses the battery
14)	Side interface	For installing a communication unit
15)	USB interface (Host/Back face)	For connecting a USB mouse, connecting a USB keyboard, data transfer, and data storage (connector type: TYPE-A)
16)	Hole for attaching a cable clamp	Hole for attaching a cable clamp for preventing USB cable from being pulled out (Recommended product: RSG-130- V0 made by KITAGAWA INDUSTRIES CO.,LTD)
17)	Terminating resistor setting switch (Inside cover)	For switching on and off of the terminating resistor for the RS-422/485 communication port (Default (Off))
18)	Auxiliary extension interface	For installing an option unit
19)	Extension interface	For installing a communication unit or an option unit
20)	Vertical installation arrow mark	For the vertical installation, install the GOT so that the arrow points upward.
21)	Power terminal	Power input terminal, LG terminal, FG terminal
22)	Ethernet interface	For communicating with a controller or connecting a personal computer (connector type: RJ-45 (modular jack))
23)	RS-232 interface	For communicating with a controller (Connector type: D sub 9-pin (male))
24)	RS-422/485 interface	For communicating with a controller (Connector type: D sub 9-pin (female))
25)	USB interface (Device/ Back face)	For connecting personal computers (connector type: Mini-B (Only GT2712-STWA/D,GT2710-VTWA/D)

3. Specifications

General Specifications

o.i Genera	i opec	mean	0113				
Item			Specif	ications			
Operating ambient temperature ^{*1} <i>Température</i> <i>ambiante de</i> fonctionnement ^{*1}		0 to 55°C *2 0 å 55°C *2					
Storage ambient temperature			-20 te	o 60°C			
Operating ambient humidity		10	to 90% RH,	non-condens	ing		
Storage ambient humidity		10	to 90% RH,	non-condens	ing		
			Frequency	Acceleration	Half- amplitude	Sweep count	
	Complian	Under	5 to 8.4Hz	-	3.5mm	10 time	
Vibration resistance	ibration resistance B 3502 and IEC 61131-2	intermitten t vibration Under continuou s vibration	8.4 to150Hz	9.8m/s ²	-	Y and direction	
			5 to 8.4Hz	-	1.75mm		
			8.4 to 150Hz	4.9m/s ²	-	-	
Shock resistance	Comp	liant with JI 3 time	S B 3502 an s each in X	d IEC 61131- Y and Z dire	2 147 m/s ² ctions	(15G),	
Operating atmosphere	No gro conductiv	easy fumes, /e dust, and	corrosive g direct sunlig	as, flammable ght (Same as	e gas ^{*6} , exc storage atr	essive	
Operating altitude*3			2000 m (6	562 ft) max.			
Installation location			Inside co	ntrol panel			
Overvoltage category*4	ge II or less						
Pollution degree ^{*5}			2 0	r less			
Cooling method			Self-	cooling			
Grounding	Type D grounding (100Ω or less).						

- Multi-touch function. Gesture function
- Support for the vertical installation
- (3) Enhanced compatibility with Mitsubishi FA devices
- (4) Easy replacement]
- (5) LED backlight
- (6) External controllers including multimedia and video supported (excluding GT2705)
- (7) Various extended functions supported

2. Part Names and Settings

The following shows the part names for GT2715, GT2712, GT2710, GT2708 and GT2705.



11)12)



*1:GT2705-V when used, for using multiple extension units, a barcode reader or an RFID controller, the total current for the extension units, barcode reader or RFID controller must be within the current that the GT2705-V can supply. refer to the following GOT2000 Series Use's Manual

de fonctionnement doit être réduite de 5°C par rapport aux valeurs maximales

*1: The operating ambient temperature includes the temperature inside the enclosure of the control panel to which the GOT is installed.

Enclosure of the control panel to which the GoT is installed. La température ambiante de fonctionnement inclut la température à l'init du boîtier du tableau de commande sur lequel le GOT est installé. When mounting a multimedia unit (GT27-MMR-Z), MELSECNET/H communication unit (GT15-J71LP23-25, GT15-J71BR13), or CC-Link communication unit (GT15-J71E73-J61BT13), the operating ambient temperatur be reduced 5°C against the maximum values described in general moraliserie

be reductor os specifications. Lors du montage d'un module multimédia (GT27-MMR-Z), du modu communication MELSECNET/H (GT15-UTLP23-25, GT15-J71BRT CONTENTS) de températur

de fonctionnement doit être réduite de 5°c par rapport aux valeurs maximales décrites dans les spécifications générales.
*3: Do not use or store the GOT under pressure higher than the atmospheric pressure of altitude 0 m(0ft).
Failure to observe this instruction may cause a malfunction.
When an air purge is made inside the control panel by adding pressure, there may be a clearance between the surface sheet and the screen making it difficult to use the touch panel, or the sheet may come 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 300 V is 2500 V.

- The surge voltage withstand level for up to the rated vortage of suU v is 2 sou v. 5: This index indicates the degree to which conductive material 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. 76: Some models have ANSI/ISA12.12.01 approval for use in Class I, Division 2 hazardous locations. For the details, go to the MITSUBISHI ELECTLIC FA Global Website (http://www.MitsubishiElectric.co.jp/fa/).

Refer to the GOT2000 Series User's Manual (Hardware) for details on the performance specifications of each GOT

3.2 Power Supply Specifications

The following indicates the po

Note

Operation at momentary failure

If an instantaneous power failure occurs in the power supply and cor than the permissible period, the GOT will be reset. Make sure to power on the unit more than 5 seconds after power-off er supply and continues for more

3.2.1 For GOTs powered from the 100 to 240VAC power supply

	Specifications					
Item	GT2715- XTBA	GT2712- STBA GT2712- STWA	GT2710- STBA GT2710- VTBA GT2710- VTWA	GT2708- STBA GT2708- VTBA		
Power supply voltage	AC100 to 240VAC (+10%, -15%)					
Power frequency	50/60Hz ± 5%					
Max. apparent power	140VA 100VA					

Insulation resistance	insulation resistance tester
Applicable wire size	0.75[mm ²] to 2[mm ²]
Applicable solderless terminal	Solderless terminal for M3 screw RAV1.25-3, V2-S3.3, V2- N3A, FV2-N3A
Applicable tightening torque (Terminal block terminal screw)	0.5[N•m] to 0.8[N•m]

3.3 External Dimsions



Unit : mm (inch)

4. EMC AND LOW VOLTAGE DIRECTIVE

For the products sold in European countries, the conformance to the EMC Directive, which is one of the European Directives, has been a legal obligation since 1996. Also, conformance to the Low Voltage. Directive, another European Directives, has been a legal obligation since 1997

1997. Manufacturers who recognize their products must conform to the EMC and Low Voltage Directive are required to declare that their products conform to these Directives and put a "CE mark" on their products. Authorized representative in Europe Authorized representative in Europe is shown below. Name - Mitsubishi Electric Europe BV Address :Gothaer strase 8, 40880 Ratingen, Germany

4.1 Requirements to Meet EMC Directive

EMC Directives are those which require "any strong electromagnetic force is not output to the external. Emission (electromagnetic interference)" and "It is not influenced by the electromagnetic wave from the external. Immunity (electromagnetic sensitivity)". Items4.1.1 through4.1.3 summarize the precautions to use GOT and configure the mechanical unit in order to match the EMC directives. Though the data described herein are produced with our best on the basis of the requirement items and standards of the restrictions gathered basis of the requirement items and standards of the restrictions gathered by Mitsubishi, they do not completely guaranteed that all mechanical unit inufactured according to the data do not always match the above.

4.1.1 EMC directive

The standards of the EMC Directive are shown below.

standard	resi standaru	l est details	Standard value		
	CISPR16-2-3 Radiated noise*1	Electromagnetic emissions from the product are measured.	30M-230MHz QP: 30dB _µ V/m (30m in measurement range)*2, *3 230M-1000MHz QP: 37dB _µ V/m(30m in measurement range)*2, *3		
	CISPR16-2-1 Conducted noise ^{*1}	Electromagnetic emissions from the product to the power line is measured.	150k-500kHz QP:79dB, Mean: 66dB ^{*2} 500k-30MHz QP:73dB, Mean: 60dB ^{*2}		
	IEC61000-4-2 Electrostatic immunity ^{*1}	Immunity test in which static electricity is applied to the cabinet of the equipment.	± 4kV Contact discharge ± 8kV Aerial discharge		
	IEC61000-4-3 Radiated electromagnetic field AM modulation	Immunity test in which field is irradiated to the product.	80-1000MHz:10V/m 1.4-2GHz:3V/m 2.0-2.7GHz:1V/m 80%AM modulation@1kHz		
	IEC61000-4-4 Fast transient burst noise*1	Immunity test in which burst noise is applied to the power line and signal lines.	Power line:2kV Digital I/O(24V or higher): 1kV (Digital I/O(24V or less))> 250V (Analog I/O, signal lines)> 250V		
EN61131-2 : 2007	IEC61000-4-5 Surge immunity ^{*1}	Immunity test in which lightening surge is applied to the product.	AC power type Power line (between line and ground): $\pm 2kV$ Power line (between lines) $: \pm 1kV$ Data communication port $\pm 1kV$ DC power type Power line (between line and ground): $\pm 0.5kV$ Power line (between lines) $: \pm 0.5kV$ Data communication port $: \pm 1kV$		
	IEC61000-4-6 Conducted RF immunity ^{*1}	Immunity test in which a noise inducted on the power and signal lines is applied.	Power line: 10V Data communication port: 10V		
	IEC61000-4-8 Power supply frequency magnetic field immunity	Test for checking normal operations under the circumstance exposed to the ferromagnetic field noise of the power supply frequency (50/60Hz).	30 A/m		
	IEC61000-4-11 Instantaneous power failure and voltage dips immunity	Test for checking normal operations at instantaneous power failure.	AC power type 0.5 cycle 0% (interval 1 to 10s) 250/300 cycle 0% 10/12 cycle 40% 25/30 cycle 70%		

The GOT is an open type device (device installed to another device) and must be installed in a conductive control panel.
 The above test items are conducted in the condition where the GOT is installed on the conductive control panel and combined with the Mitsubishi PLC.
 22: OP (Quasi-Peak): Quasi-peak value, Mean: Average value

59(2.32) more 48(1.89) or more[18(0.71) or more] OT only Bus connection unit is fit-48(1.89) o more 48(1.89) or more[18(0.71) or more] more [29(1.14 7(1.85) 48(1.89) or more[18(0.71) or more] fitted (1.97)CC-Link communication unit (GT15-J61BT13) fit-48(1.89) or more[18(0.71) o more [22(0.87 MELSECNET/H commu-3(1.89) o 8(1.89) 67(2.64) or 31(3.19) o more [18(0.71) more [38(1.50) more [45(1.77 MELSECNET/H 77(3.03) 48(1.89) or more[18(0.71) or more] CC-Link IE Controlle 55(2.17) more ork communication 48(1.89) or more[18(0.71) or more] init fitted Link IE Field Network 5(2.17) 48(1.89) or more[18(0.71) or more 48(1.89) or 48(1.89) or 67(2.64) more more [38(1.50) more [45(1.77] more [18(0.71) eo input unit fitted RGB input unit fitted 8(1.89) Video/RGB input unit fit-ted*1*3 67(2.64) more [18(0.71) more [38(1.50) more [45(1.77] more RGB out 18(1.89) 67(2.64) more more [38(1.50) more [45(1.77] ultimedia unit fitted* more [18(0.71)

*3: The above test items are conducted in the following conditions. 30M-230MHz QP : $40dB_{\mu}V/m$ (10m in measurement range) 230M-1000MHz QP : $47dB_{\mu}V/m$ (10m in measurement range)

4.1.2 Control panel

The GOT is an open type device (device installed to another device) and must be installed in a conductive control panel. It not only assure the safety but also has a large effect to shut down the noise generated from GOT, on the control panel. (1) Control Panel

(a) The control panel must be conductive.

- (b) When fixing a top or bottom plate of the control panel with bolts, do not coat the plate and bolt surfaces so that they will come into contact
- And connect the door and box using a thick grounding cable in order to ensure the low impedance under high frequency
- (c) When using an inner plate to ensure electric conductivity with the control panel, do not coat the fixing bolt area of the inner plate and control panel to ensure conductivity in the largest area as possible
- (d) Ground the control panel using a thick grounding cable in order to
- (e) Orong the low impedance under high frequency.
 (e) The diameter of cable holes in the control panel must be 10cm (3.94in.). In order to reduce the chance of radio waves leaking out, ensure that the space between the control panel and its door is small as possible.
- Paste the EMI gasket directly on the painted surface to seal the space so that the leak of electric wave can be suppressed. Our test has been carried out on a panel having the damping characteristics of 37dB max. and 30dB mean (measured by 3m
- (2) Connection of power and ground wires
 Ground and power supply wires for the GOT must be connected as
 - described below. (a) Provide a grounding point near the GOT. Short-circuit the LG and FG terminals of the GOT (LG: line ground, FG: frame ground) and ground them with the thickest and shortest wire possible (The wire length must be 30cm (11.81in.) or shorter.) The LG and FG terminals function is to pass the noise generated in the PC system to the ground, so an impedance that is as low as possible must be ensured. As the wires are used to relieve the
 - noise, the wire itself carries a large noise content and thus short wiring means that the wire is prevented from acting as an Note) A long conductor will become a more efficient antenna at
- high frequency. (b) The earth wire led from the earthing point must be twisted with
- the power supply wires. By twisting with the earthing wire, noise flowing from the pow supply wires can be relieved to the earthing. However, if a filter is installed on the power supply wires, the wires and the earthing wire may not need to be twisted.

4.1.3 Noise filter (power supply line filter)

The noise filter (power supply line filter) is a device effective to reduce conducted noise. Except some models, installation of a noise filter onto the power supply lines is not necessary. However conducted noise can be reduced if it is installed. (The noise filter is generally effective for reducing conducted noise in the band of 10MHz or less.) Usage of the following filters is recommended.

Trated voltage						
Rated voltage	250V					
Rated current	3A	6A	3A			
Manufacturer	SCHAFFNER	SCHAFFNER	TDK			
Model name	FN343-3/05	FN660-6/06	RSHN-2003			

he precautions required when installing a noise filter are desc belov

(1) Do not install the input and output cables of the noise filter together to prevent the output side noise will be inducted into the input side cable where noise has been eliminated by the noise filer.





the shortest cable as possible (approx. 10cm (3.94 in.) or less)



structures et dispositifs. Certains câbles peuvent être plus longs que les dimensions spécifies lors de la connexion au GOT. Par conséquent, prenez également en compte les dimensions du connecteur et le rayon de courbure du câble pour l'installation. Pour connaître l'espace à laisser pour les câbles sous le GOT, référezvous au manuel GOT2000 Series User's Manual (Hardware) tallation à la verticale, installez le GOT d

4.2 Requirements for Compliance with the Low Voltage Directive

The Low Voltage Directive requires each device which operates with power supply ranging from 50VAC to 1000V and 75VDC to 1500V to satisfy necessary safety items. In the Sections from 4.2.1 to 4.2.5, cautions on installation and wiring of the GOT to conform to the Low Voltage Directive requires are described.

We have put the maximum effort to develop this material based on the requirements and standards of the Directive that we have collected. However, compatibility of the devices which are fabricated according to the contents of this manual to the above Directive is not guaranteed. Each manufacturer who fabricates such device should make the final judgement about the application method of the Low Voltage Directive and the product compatibility.

4.2.1 Standard subject to GOT

EN61131-2 Programmable controllers - Equipment requirements and tests Standard applied to GOT : EN60950-1 Safety of Information Technology Equipment

4.2.2 Power supply

The insulation specification of the GOT was designed assuming installation category II. Be sure to use the installation category II power supply to the GOT.

The installation category indicates the durability level against surge voltage generated by lightning strike. Category I has the lowest durability; category IV has the highest

durability



Installation category Category II indicates a power supply whose voltage has been reduced by two or more levels of isolating transformers from the public power distribution distribution

4.2.3 Control panel

Because the GOT is open type equipment (device designed to be stored within another device), be sure to use it only when installed in a control

- (1) Shock Protection
 - In order to prevent those who are unfamiliar with power facility, e.g., an operator, from getting a shock, make sure to take the following measures on the control panel.

(a) Store the GOT within the control panel locked, and allow only those who are familiar with power facility to unlock the panel. (b) Build the structure in order that the power supply will be shut off

when the control panel is opened.

- (2) Dustproof and waterproof features The control panel also provides protection from dust, water and other substances. Insufficient ingression protection may lower the insulation withstand voltage, resulting in insulation destruction. The insulation in the GOT is designed to cope with the pollution level 2, so use in an environment with pollustion level 2 or better
 - Pollution level 1: An environment where the air is dry and conductive dust does not exist. Pollution level 2: An environment where conductive dust does not usually exist, but occasional temporary conductivity occurs due to the accumulated dust. Generally, this is the level for inside the control panel equivalent a control room or on the floor of a typical factory.
 - factory. An environment where conductive dust exits and Pollution level 3: conductivity may be generated due to the accumulated
 - dust An environment for a typical factory floor. Continuous conductivity may occur due to rain, snow etc. An outdoor environment. Pollution level 4:

48 (1,89) ou plus[18 (0,71) ou plus

48 (1,89) ou plus[18 (0,71) ou plus]

48 (1.89) 48 (1.89)

48 (1.89) ou plus[18 (0.71) ou plus]

48 (1,89) 48 (1,89)

ou plus] ou plus]

48 (1,89) ou plus[18 (0,71) ou plus

ou plus] ou plus

89) ou plus[18

ou plus [45 (1,77) ou plus]

ou plus [45 (1,77)

48 (1,89

[45 (1,77)

48 (1,89) ou plus[18 (0,71) ou plus]

48 (1,89) ou plus[18 (0,71) ou plus]

zontal: 78 (3.07) ou plus[18 (0.71) ou pl

50 (1,97) ou plus[20 (0,79) ou plus]

Vertical: 80 (3,15) ou plus[20 (0.79) ou plus

100 (3,94) ou plus[20 (0,79) ou plus

ontal: 50 (1.97) ou plus[20 (0.79) ou i

 Vertical:
 48 (1,89)
 ou plus[18 (0,71)
 ou plus]

 50 (1,97)
 ou plus
 50 (1,97)
 100 (3.9)

 [20 (0,79)
 ou plus]
 ou plus
 ou plus

67 (2,64) ou plus

67 (2,64 ou plus

67 (2,64 ou plus

ou plus

ou plus [38 (1,50) ou plus]

ou plus [38 (1,50)

48 (1,89)

[38 (1,50)

4.2.4 Grounding

The following are applicable ground terminals. Use them in the grounded

state Be sure to ground the GOT for ensuring the safety and complying with the EMC Directive.

2(1.89)

or more 18(0,71)

(1.89)

18(0,71)

or more]

Functional grounding \perp : Improves the noise resistance

nication ur CC-Lini

odule de co dule de communication eau de champ CC-Link IE

Module d'entrée vidéo encas

Module d'entrée vidéo/RGB encastré^{*1*3}

Module de sortie RGB encas-

fodule multimédia encastré

odule d'E/S externe encastré

Quand la carte SD est utilisée Quand la carte SD n'est pas

Imprimante encastrée

le de sortie a

rée RGB enc.

4.2.5 External wiring

- (1) External devices When a device with a hazardous voltage circuit is externally connected to the GOT, select a model which complies with the Low Voltage Directive's requirements for isolation between the primary and secondary circuits.
 (2) Insulation requirements
 - Dielectric withstand voltages are shown in the following table Reinforced Insulation Withstand Voltage (Installation Category II, source : IEC664) Surge withstand voltage (1.2/50µs) 150 VAC or below
- 300 VAC or belo 4000

5. INSTALLATION

5.1 **Control Panel Inside Dimensions for** Mounting GOT

Install the GOT on the control panel out of the way for the equipment inside the control panel. Do not install the GOT and the unit in prohibited areas for the installation.

Point

Applicable cable Some cables may need to be longer than the specified dimensions when connecting to the GOT. Therefore, consider the connector dimensions and bending radius of the cable as

5.2 Panel Cutting Dimensions



5.3 Mounting Position

When mounting the GOT, the following clearances must be maintained from other structures and devices. Some cables may need to be longer than the specified dimensions when connecting to the GOT.

Therefore, consider the connector dimensions and bending radius of the cable as well for installation.

For the lead-in allowance for cables at the bottom of the GOT, refer to the GOT2000 Series User's Manual (Hardware). For the vertical installation, install the GOT so that the vertical installation arrow printed on the GOT rear face points upward.



1.6 to 4mn (0.06 to 0.16 inch)

According to the dimensions in the following table, leave clearances between the GOT and the other devices. The values enclosed in square brackets apply to the case where no other equipment generating radiated noise (such as a contactor) or heat is installed near the GOT. However, keep the ambient temperature of the GOT to 55°C or lower

Warranty

Braz

Gerr

U.K

Italy

Snai

Fran

Hon

Chir

Taiw

Kore

Sing

Thai

Indo

India

Aust

55(2.17

55(2.17

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▲ For safe use

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

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••••••	_,					
Dimensions intérieures du tableau de commande pour le montage du GOT ez le GOT sur le tableau de commande en laissant de l'espace e dispositif à l'intérieur du tableau de commande. N'installez GOT et le module dans des zones où l'installation est interdite.						
int applicable is câbles peuvent être p cion au GOT. Par consé cteur et le rayon de cou	olus longs qu quent, prene rbure du câbl	e les dim z égalem le pour l'il	ensions spéci lent en compte nstallation.	fiées lors de la e les dimensior	ns du	
Cotes de découpe du panneau For GT2715-X						
- Ťor H		1 607	4	(0,06 a 0,16	o pouce)	
8		GT 2715	A 383,5 (15,10) +2 (0,08) 0 (0)	282,5 (11,12) +2 (0,08) 0 (0)	<u> </u>	
Horizontal		GT 2712	302 (11,89) +2 (0,08) 0 (0)	228 (8,98) +2 (0,08) 0 (0)		
For GT27 (sauf GT2	Vertical 2715-X) B C	GT 2710	289 (11,38) +2 (0,08) 0 (0)	200 (7,87) +2 (0,08) 0 (0)	10 (0.39) ou plus	
		GT 2708	227 (8,94) +2 (0,08) 0 (0)	176 (6,93) +2 (0,08) 0 (0)		
Ω		GT 2705	153 (6.02) +2 (0,08) 0 (0)	121 (4.76) +2 (0.08) 0 (0)		
				Unité : mm	(pouce)	
Horizontal	Vertical	_				
Position de montage						

100 (3.94) ou plus[20 (0.79) ou plus] 1: Cette valeur est utilisée pour le cáble coaxial 3C-2V (JIS C 3501). Pour connaître les spécifications du cáble, référez-vous au manuel GOT2000 Series Connection Manual for a controller used. *2: Cette valeur différe selon le cáble utilisé. *3 : Cette valeur différe selon le cáble utilisé. Si le rayon de courbure du cáble utilisé est supérieur à la valeur spécifiée ci-dessus, appliquez la valeur du cáble utilisé. *4 : Pour ouvrir ou fermer le couvercle de la batterie : 72 (2,83) ou plus 5.4 Température intérieure et angle

This value is for use of the coaxial cable 3

For specifications of the cable, refer to the GOT2000 Series Connection Manual for a controller used.

Vertical: 48(1.89) or more[18(0.71) of

50(1.97)or more[20(0.79) or more] 50(1.97) 100(3.94 or more or more

50(1.97) or more[20(0.79) or more]

Horizontal: 50(1.97) or more[20(0.79) or more Vertical: 80(3.15) or more[20(0.79) or more]

- *2: This value differs depending on the cable used
- *3: This value differs depending on the cable used. If the bending radius of the cable used is greater than the value specified above, apply the value of the cable used
- *4: When opening or closing the battery cover: 72(2.83) or more

5.4 Control Panel Inside Temperature and Installation Angle

When installing the GOT to a panel, set the display section as shown below.Using the GOT with the installation angle other than the following deteriorates the GOT earlier.

Installing the GOT horizontally

nter unit fitteo

When the SD card is used

hen the SD card is no

When installing the GOT with the installation angle between 60 to 105 °, the temperature inside the control panel must be within 55°C. When installing the GOT with the installation angle other than between 60 to 105°, the temperature inside the control panel must be within 40 °C.

When the GOT vertically When the GOT is installed a 90° angle, the control panel inside temperature must be within 55°C. When the GOT is installed at any angle other than 90°, the control panel inside temperature must be within 40°C



d'installation à la verticale imprimée sur la face arrière du GOT pointe vers le haut.



Laissez les espaces entre le GOT et les autres dispositifs en fonction des dimensions contenues dans le tableau suivant. Les valeurs entre des aimensions contenues dans le tableau suivant. Les valeurs et parenthèses s'appliquent au cas où aucun dispositif générant des émissions sonores (comme un contacteur) ou de la chaleur n'est ir près du GOT. Toutefois, maintenez la température ambiante du GOT à 55°C ou moins Unité · mm (nouce

1						pouoo)
	Article	GT2715	GT2712	GT2710	GT2708	GT2705
	GOT uniquement	48 (1,89) ou plus[18 (0,71) ou plus]			48 (1,89) ou plus [29 (1,14) ou plus]	59(2.32) or more
	Unité de connexion de bus encastrée	48 (1,89) o	23 (0,91) ou plus [29 (1,14) ou plus]	48(1.89) or more		
	Unité de connexion série encastrée	48 (1,89) ou plus[18 (0,71) ou plus]				47(1.85) or more
	Module de communication CC- Link (GT15-J61BT13) encastré	48 (1,89) ou plus[18 (0,71) ou plus]				50(1.97) or more [22(0.87) or more]
	Module de communication MELSECNET/H (coaxial) encastré ^{*1}	48(1,89) or more [18(0,71) or more]	48 (1,89) ou plus [38 (1,50) ou plus]	48 (1,89) ou plus [45 (1,77) ou plus]	67 (2,64) ou plus	81(3.19) or more
Module de communication MELSECNET/H (optique) encastré ^{*2}		48 (1,89) ou plus[18 (0,71) ou plus]				77(3.03) or more

plus tôt. Installation du GOT à l'horizontale

mme indiaué ci-dessous

Lors de l'installation du GOT avec un angle d'installation compris entre 60 et 105°, la température à l'intérieur du tableau de commande doit étre d'environ 55°C. Lors de l'installation du GOT avec un angle d'installation non compris entre 60 et 105°, la température à l'intérieur du tableau de commande doit être d'environ 40°C Installation du GOT à la verticale

d'installation du tableau de commande

Lors de l'installation du GOT sur un panneau, réglez la zone d'affichage

Si l'angle d'installation est différent de celui indiqué, le GOT se détériore

Lors de l'installation du GOT avec un angle de 90°, la température à l'intérieur du panneau de commande ne doit pas dépasser 55°C. Lors de l'installation du GOT avec tout autre angle que 90°, la température à l'intérieur du panneau de commande ne doit pas dépasser 40°C.



6. MAINTENANCE AND INSPECTION

Refer to the GOT2000 Series User's Manual (Hardware) fo maintenance and inspection for the GOT.

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