

GT1455-QTBD(E), GT1450-QMBD(E) GT1450-QLBD(E)

GT14 General Description



This manual describes the part names, dimensions, mounting, and specifications of the product. Before use read this manual and manuals of relevant products fully to acquire proficiency in bandling and operating the product. Make sure to learn all the product information, safety information, and precautions.

And, store this manual in a safe place so that you can take it out and read it whenever necessary. Always forward it to the end user. Registration

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Specifications are subject to change without notice.

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Safety Precaution (Read these precautions before using.)

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".

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

Depending on circumstances, procedures indicated by "CAUTION" may also be linked to serious results.

In any case, it is important to follow the directions for usage

DESIGN PRECAUTIONS

Some failures of the GOT or cable may keep the outputs on or off 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.

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. 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.
- Incorrect operation of the touch switch(s) may lead to a serious accident if the GOT backlight is gone out. When the GOT backlight goes out, the POWER LED flickers (green/orange) and the display section turns black and causes the monitor screen to appear blank, while the input of the touch switch(s remains active. This may confuse an operator in thinking that the GOT is in "screensaver" mode, who then tries to release the GOT from this mode by touching the display section, which may cause a touch switch to operate. Note that the following occurs on the GOT when the backlight goes out.
- The POWER LED flickers (green/orange) and the monitor screen appears blank
- The display section is an analog-resistive type touch panel
- If you touch the display section simultaneously in 2 points or more, the switch that is located around the center of the touched point, if any, may operate. Do not touch the display section in 2 points or more simultaneously. 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 shut off the power of the GOT at the same time Not doing so can cause an accident due to false output or malfunction

DESIGN PRECAUTIONS		
against illegal access from the user's discretion.	GOT and relevant information need to be protected an external device via the Internet, take measures at the configured information to be read out illegally.	
Tallare to do so may cause	are compared mornation to be read out megany.	
DESIGN PRECAUTIONS		
other wiring.	ind communication cables with main-circuit, power or	
	rately from such wiring and keep them a minimum of doing so noise can cause a malfunction.	
Doing so can result in a dan	lay section with a pointed material as a pen or driver. nage or failure of the display section.	
 When using the GOT with restricted depending on the 	h Ethernet connection, available IP addresses are system configuration.	
	more GOT units to the Ethernet network: dress "192.168.0.18" to the GOT or any connected	
 When connecting one Ge Do not specify the IP add 	OT unit to the Ethernet network: dress "192.168.0.18" to any connected equipment	
	8.0.18" is specified in the above system configuration, rs when the GOT is started up, and adverse effect	
may be given to commur "192.168.0.18" is set. Op	nication in the equipment in which the IP address peration executed at IP address overlap varies	
 depending on the equipn Turn on the power of the 	nent and system. connected equipment and network equipment, and	
If the connected equipm	unication before connecting them to the GOT. nent and network equipment are not ready for cation error may occur in the GOT.	
MOUNTING PRECAUTIONS		
	es of the external power supply used by the system g the GOT to/from the panel. unit to fail or malfunction.	
-		
MOUNTING PRECAUTIONS		
described in this manual.	vironment that satisfies the general specifications . Not doing so can cause an electric shock, fire,	
	age or deterioration. the control panel, tighten the mounting screws in the lertightening can cause the GOT to drop, short circuit	
or malfunction, and dete Overtightening can cause a	riorate the waterproof effect and oilproof effect. drop, short circuit or malfunction due to the damage	
	nd deteriorate the waterproof effect and oilproof effect active cover for oil, GOT or panel.	
GOT when you drill screw h		
	SD card into/from the GOT, turn the SD card access	
· When removing a SD card	re to do so may corrupt data within the SD card. from the GOT, make sure to support the SD card by	
GOT and break.	ilure to do so may cause the SD card to drop from the	
to the USB interface firmly.	nory to the GOT, make sure to install the USB memory	
Failure to do so may cause	a malfunction due to poor contact.	

- Failu Before removing the USB memory from the GOT, operate the utility screen for
- removal. After the successful completion dialog box is displayed, remove the memory by hand carefully. Failure to do so may cause the USB memory to drop, resulting in a damage or failure of the memory.
- 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 due to the oil or chemica

entering into the GOT.

WIRING PRECAUTIONS

- Be sure to shut off all phases of the external power supply used by the syster before wiring. Failure to do so may result in an electric shock, product damage o malfunctions.
- Please make sure to ground FG terminal of the GOT power supply section by applying 100 or less which is used exclusively for the GOT. Not doing so may cause an electric shock or malfunction
- TOUCH PANEL VIRING PRECAUTIONS WARNING PRECAUTIONS Correctly wire the GOT power supply section after confirming the rated voltage For the analog-resistive film type touch panels, normally the adjustment is and terminal arrangement of the product. Not doing so can cause a fire or failure. not required. Tighten the terminal screws of the GOT power supply section in the specified However, the difference between a touched position and the object position may occur as the period of use elapses. torque range. Undertightening can cause a short circuit or malfunction. Overtightening can cause a short circuit or malfunction due to the damage of the occurs, execute the touch panel calibration screws or the GOT. Exercise care to avoid foreign matter such as chips and wire offcuts entering the occurs, other object may be activated. GOT. Not doing so can cause a fire, failure or malfunction This may cause an unexpected operation due to incorrect output of malfunction VIRING PRECAUTIONS TRANSPORTATION The cables connected to the unit must be run in ducts or clamped PRECAUTIONS 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 When transporting lithium batteries, make sure to treat them based on the cable connection fault transport regulations. (Refer to User's Manual for details of the regurated models.) When unplugging the cable connected to the unit, do not hold and pull the cable Before transporting the GOT, turn the GOT power on and check that the nortion Doing so can cause the unit or cable to be damaged or can cause a malfunction due to a cable connection fault. rating plate. Plug the communication cable into the connector of the connected unit and Transporting the GOT with the low battery voltage or the battery the reached battery life may unstabilize the backup data unstable during transportation. tighten the mounting and terminal screws in the specified torgue range. Undertightening can cause a short circuit or malfunction. Overtightening car Make sure to transport the GOT main unit and/or relevant unit(s) in the cause a short circuit or malfunction due to the damage of the screws or unit. EST OPERATION precision devices. Failure to do so may cause the unit to fail. Check if the unit operates correctly after transportation. RECAUTIONS 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 Associated Manuals 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 are required, please consult with our local distributor 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 car cause an accident TARTUP/MAINTENANCE GT WARNING PRECAUTIONS (sol When power is on, do not touch the terminals. Doing so can cause an electric shock or malfunction GT Connect the battery correctly. Do not discharge, disassemble, heat, short, solder Ver or throw the battery into the fire. Incorrect handling may cause the battery to Des generate heat, burst or take fire, resulting in injuries or fires. (Fo Before starting cleaning or terminal screw retightening, always switch off the Ser power externally in all phases. Not switching the power off in all phases can (Fu cause a unit failure or malfunction. Undertightening can cause a short circuit or 1/2. malfunction. Overtightening can cause a short circuit or malfunction due to the damage of the screws or unit. (sold GT TARTUP/MAINTENANCE Ver RECAUTIONS Des (For Do not disassemble or modify the unit. Seri Doing so can cause a failure, malfunction, injury or fire. 1/2 Do not touch the conductive and electronic parts of the unit directly. (sol Doing so can cause a unit malfunction or failure. The cables connected to the unit must be run in ducts or clamped. *1 Stored in the GT Works3/GT Designer3 in PDF format. 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 For details of a PLC to be connected, refer to the PLC user's manual respectively. cable connection fault When unplugging the cable connected to the unit, do not hold and pull the cable Bundled Items 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 or apply any impact to the battery. If any impact has been applied, discard the battery and never use it. The battery may be damaged by the drop or impact. Before touching the unit, always touch grounded metal, etc. to discharge static electricity from human body, etc. Not doing so can cause the unit to fail or malfunction Replace battery with GT11-50BAT by Mitsubishi electric Co. only. Use of another battery may present 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. DISPOSAL PRECAUTIONS When disposing of the product, handle it as industrial waste. When disposing of batteries, separate them from other wastes according to the
 - local regulations (For details of the battery directive in EU member states, refer GOT User's Manual.)

- When any difference between a touched position and the object position
- When any difference between a touched position and the object position

- battery voltage status is normal on the Time setting & display screen (utilities screen). In addition, confirm that the adequate battery life remains on 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

The following manuals are relevant to this product. When these loose manuals

Manual name	Contents	Manual Number (Model Code)
14 User's Manual Id separately)	Describes the GT14 hardware- relevant content such as part names, external dimensions, mounting, power supply wiring, specifications, and introduction to option devices	JY997D44801 (09R823)
Designer3 rsion1 Screen sign Manual or GOT1000 ries) indamentals) , 2/2 Id separately) *1	Describes methods of the GT Designer3 installation operation, basic operation for drawing and transmitting data to GOT1000 series	SH-080866ENG (1D7MB9)
Designer3 rsion1 Screen sign Manual or GOT1000 ries) (Functions) of 2/2 Id separately) *1	Describes specifications and settings of the object functions used in GT Designer3	SH-080867ENG (1D7MC1)

Product Name	Model Name	Specifications
	GT1455-QTBDE	5.7" diagonal [320 \times 240 dots], TFT color (65536 colors), built-in battery and Ethernet interface
	GT1455-QTBD	5.7" diagonal [320 \times 240 dots], TFT color (65536 colors), built-in battery
GOT G	GT1450-QMBDE	5.7" diagonal [320 \times 240 dots], TFT monochrome (black/white), built-in battery and Ethernet interface
	GT1450-QMBD	5.7" diagonal [320 \times 240 dots], TFT monochrome (black/white), built-in battery
	GT1450-QLBDE	5.7" diagonal [320 \times 240 dots], STN monochrome (black/white), built-in battery and Ethernet interface
	GT1450-QLBD	5.7" diagonal [320 \times 240 dots], STN monochrome (black/white), built-in battery

Bundled item	Quantity
Mounting brackets	4
Mounting screws: M4 x 35mm (1.38")	4
Dust-/Water-proof packing	1
GT14 General Description (This manual)	1

1. Features

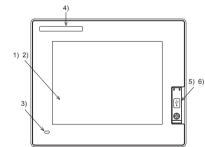
- Improved monitoring performance and connectivity to FA devices
 Multiple languages are displayed using the Unicode2.1-compatible fonts and beautiful characters are drawn using the TrueType and high quality fonte
- Two types of display modes are provided: 65536-colors display and monochrome display.

In the monochrome display, 16 scales are used to improve the display. A fine and beautiful full-color display which shows even small characters clearly, is enabled by adopting the high intensity, wide viewing angle and high definition TFT color LCD. (Also compatible with digital screen displays with 65536 colors, BMP, etc.)

- High-speed monitoring through high-speed serial communication at 115.2 kbps maximum or through Ethernet connection.
 High speed display and high speed touch switch response.
- night speed ousplay and high speed touch switch response.
 2) More efficient GOT operations including screen design, startup, adjustment, management and maintenance works
- The 9MB built-in flash memory is included as standard.
- SD card interface is included as standard.
- BS-232 interface is included as standard.
- RS-422/485 interface is included as standard.
- USB interface (host/device) are included as standard.
- Ethernet interface is included. (in some models)
- 3) Enhanced support of FA setup tools
- PLC program transfer and monitoring are possible via the personal computer that is connected to the GOT if connected directly to the A, QnA, L, Q, or FX series of the PLC CPU (FA transparent function).

2. Part Name

2.1 Front



No	Name	Specifications		
1)	Display screen	Displays the utility screen and the user creation screen. GT1455-QTBD(E):320×240 dots, TFT color liquid crystal GT1450-QMBD(E):320×240 dots, TFT monochrome (white/black) liquid crystal, 16 scales GT1450-QLBD(E):320×240 dots, STN monochrome (white/black) liquid crystal, 16 scales		
2)	Touch panel	For operating the touch switches in the utility screen and the user creation screen		
3)	POWER LED	Lit in green: Power is correctly supplied Lit in orange: Screen saving Blinking in orange/green: Blown backlight bulb Not lit: Power is not supplied		
4)	Logo label	Removable		
5)	USB interface	USB interface for connecting a personal compute (Device) OS installation, project data download, Fa transparent		
6)	USB environmental protection cover	Opens/Closes when the USB interface is used.		

5) 7) 8) Battery cover opened IV. S 13) ç 11) 12) 31 10) 15) _ cococ _ 17) 16) 17)

2) inter 3) USE 4) USE 5) Ratii 6) SD (a 7) SD (a 8) SD (a 9) Batter 10) Batter 11) Power	face 422/485 face interface onnection on pate heplate) card face card card cass LED card cass witch	For communicating with controller or personal computer (D-sub 9-pin male) For communicating with controller (D-sub 9-pin female) For data transfer, data storage USB interface (Host) Hole for fixing the USB cable with a cable tie (such as Insulock) to prevent disconnection Interface for installing the SD card to GOT Lit: SD card accessed Not II: SD card not accessed Switch for prohibiting access to SD card before removing the SD card from the GOT ON: SD card heing accessed (SD card removal prohibite OFF: No access to SD card (SD card removal prohibite) GT11-50BAT battery for storing clock data, alarm history and recipe data
2) inter 3) USE 4) USE 5) Ratii 6) SD (and the second	face interface for enting e connection mg plate neplate) card face card css LED card css switch	For data transfer, data storage USB interface (Host) Hole for fixing the USB cable with a cable tie (such as Insulock) to prevent disconnection Interface for installing the SD card to GOT Lit: SD card accessed Not lit: SD card not accessed Switch for prohibiting access to SD card before removing the SD card from the GOT ON: SD card being accessed (SD card removal prohibite OFF: No access to SD card (SD card removal prohibite OFF: No access to SD card (SD card removal prohibite GT11-50BAT battery for storing clock data, alarm history
4) Hole prevent	for enting e connection ng plate neplate) ard face card card cass LED card cass switch	Hole for fixing the USB cable with a cable tie (such as Insulock) to prevent disconnection Interface for installing the SD card to GOT Lit: SD card accessed Not lit: SD card not accessed Switch for prohibiting access to SD card before removing the SD card from the GOT ON: SD card being accessed (SD card removal prohibite OFF: No access to SD card (SD card removal prohibite OFF: No access to SD card (SD card removal prosible) GT11-50BAT battery for storing clock data, alarm history
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 7) acce 8) SD (acce 9) Batte 10) Batte 11) Pow 12) Pow 	ess LED card ess switch	Not lit: SD card not accessed Switch for prohibiting access to SD card before removing the SD card from the GOT ON: SD card being accessed (SD card removal prohibite OFF: No access to SD card (SD card removal possible) GT11-50BAT battery for storing clock data, alarm history
 8) acce 9) Batte 10) Batte 11) Pow 12) Pow 	ess switch	the SD card from the GOT ON: SD card being accessed (SD card removal prohibite OFF: No access to SD card (SD card removal possible) GT11-50BAT battery for storing clock data, alarm history
10) Batter 11) Pow 12) Pow	ery	
11) Pow		
12) Pow	ery cover	Open or close when replacing the battery. Opened and closed when the terminating resistor is changed over
	er terminal	Power terminal and FG terminal (for power supply (24VDC) to GOT and grounding)
COVE	er terminal er	Open or close when connecting a power terminal. (Color: transparent)
13) Res	et switch	Hardware reset switch (Use an isolated rod to operate.)
14) resis	ninating stor ctor switch	Terminating resistor selector switch of RS-422/485 $(330\Omega)OPEN/110\Omega)$
15) com	ernet munication us LED	SD RD: Turns on in green during data communication, 100M:Turns on in green during 100Mbps transmission.
16) Ethe inter	ernet face	For connecting the equipment through Ethernet (RJ-45 connector)
	e for unit allation g	Hole for the inserting installation fittings (accessory) durin the GOT installation to the panel (4 holes at top and bottom)

3. Specifications

3.1 General Specifications

	Item	Specifications					
Operating ambient Display section		0 to 50°C					
temperature	Other than display section	0 to 55°C (When m	ounted horizontally), 0	to 50°C (When mou	inted vertically)		
Storage ambient temperature		-20 to 60°C					
Operating ambient humidity		10 to 90% RH, non-condensing (STN liquid crystal type to be stored at or below 39°C WBT.)					
Storage ambient hu	midity	10 to 90% RH, non	-condensing (STN liqui	d crystal type to be	stored at or below 3	9°C WBT.)	
				Frequency	Acceleration	Half-amplitude	Sweep Count
			Under intermittent vibration	5 to 8.4Hz		3.5mm	10 times each in X, Y and Z directions
Vibration resistance		Conforms to JIS B3502 and		8.4 to 150Hz	9.8m/s ²		
		IEC61131-2	Under continuous	5 to 8.4Hz		1.75mm	
			vibration	8.4 to 150Hz	4.9m/s ²		
Shock resistance		Conforms to JIS B3502, IEC 61131-2 (147 m/s ² , 3 times each in X, Y and Z directions)					
Operating atmosphere Must be free of lamp black, corrosive gas, flammable gas, or excessive amount of electro conductive dust pa must be no direct sunlight. (Same as for saving)			ive dust particles and				
Operating altitude ^{*1} 2000 m (6562 ft) max.							
Installation location		Inside control panel					
Overvoltage categor	ry*2	II or less					
Pollution degree*3		2 or less					
Cooling method		Self-cooling					

*1 Do not use or store the GOT under pressure 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.

*2 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 raged voltage of 300 V is 2500 V.

*3 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.

3.2 Performance Specifications

ltem		Specifications				
	nem	GT1455-QTBD(E)	GT1450-QLBD(E)			
	Туре	TFT color liquid crystal	TFT monochrome (white/black) liquid crystal	STN monochrome (white/black) liquid crystal		
	Screen size	5.7"				
	Resolution	$320 \times 240 \text{ dots}$				
	Display size	W115(4.53) × H86(3.39)[mm](inch) (Hot	izontal format)			
	Display character	16-dot standard font: 20 characters × 15	5 lines, 12-dot standard font: 26 characters	s × 20 lines		
Display	Display color	65536 colors Monochrome (white/black), 16 scales				
section*1	Display angle ^{*2}	Left/Right: 80 degrees, Top: 80 degrees	, Bottom: 60 degrees (Horizontal format)	Left/Right: 45 degrees, Top: 20 degrees, Bottom: 40 degrees (Horizontal format)		
	Contrast adjustment		-	32-level adjustmen		
	Intensity of LCD only	400[cd/m ²]	300[cd/m ²]	•		
	Intensity adjustment	8-level adjustment				
	Life	Approx. 50,000h. (Time for display intensity to become 1/5 at operating ambient temperature of 25°C)				
Backlight		LED (irreplaceable by a user) Backlight off/screen saving time can be set.*3				
	Life	Approx. 70,000h or longer (Time for display intensity reaches 50% at the operating ambient temperature of 25°C)				
	Туре	Analog resistive film touch panel				
Touch	Key size	Minimum 2 × 2 dots (per key)				
panel*4	Number of points touched simultaneously	Simultaneous presses not allowed. (Only 1 point can be touched.)				
	Life	1 million times or more (operating force 0.98N max.)				
	C drive ^{*5}	Flash memory (Internal), for storing pro	ect data (9Mbytes) and OS			
Memory	Life (Number of write times)	100,000 times				
	D drive	SRAM (Internal), 512kbytes (battery backup)				
Battery		GT11-50BAT lithium battery				
	Туре	Magnesium maganese dioxide lithium primary battery				
	Backup target	Clock data, alarm history, recipe data, ti SRAM user area	me action setting value, advanced alarm/a	dvanced recipe, logging, hardcopy and		
	Life	Approx. 5 years (Operating ambient temperature of 25°C)				

For the PC connection, refer to the following.

	Item		Specifications			
	item	GT1455-QTBD(E)	GT1450-QMBD(E)	GT1450-QLBD(E)		
RS	S-422/485	RS-422/485 1ch Transmission speed : 115,200/57,600/38,40 Connector shape : D-sub 9-pin (Female) Application : PLC communication Terminating resistor : Open/110/0/3300 (Sv (Af factory shipment: 3) witched by terminating resistor selector	switch)*6		
RS	3-232	RS-232 1ch Transmission speed : 115,200/57,600/38,40 Connector shape : D-sub 9-pin (Male) Application : PLC communication,	,	communication unction)		
Built-in interface (Only in models equipped with Ethernet interface)		Data transfer method: 100BASE-TX/10BASE-T, 1ch Connector shape : RJ-45 (Modular jack) Application : PLC communication, Gateway functions, PC communication (Project data upload/download, OS installation, FA transparent function)				
US	Host	USB (Full Speed 12Mbps), 1ch Connector shape : TYPE-A Application : Data transfer, data sto	orage			
03	Device	USB (Full Speed 12Mbps), 1ch Connector shape : Mini-B Application : PC communication (P	Project data upload/download, OS insta	llation, FA transparent function)		
SD) card	In conformance to SD standard, 1ch Applicable memory cards : SDHC memory of Application : Project data uplo	card, SD memory card oad/download, OS installation, logging	data storage		
Buzzer output		Single tone (tone length adjustable)				
Environmental p	protective structure*7	Equivalent to IP67 (front section)				
External dimens	sions	W164(6.46) × H135(5.32) × D55(2.17)[mm](inch)(Excluding USB environmental protective cover) (Horizontal format)				
Panel cutting di	mensions	W153 (6.03) × H121(4.77)[mm] (inch) (Horizontal format)				
Veight		Approx. 0.7kg (Excluding mounting fixtures)				
Compatible software package		GT Designer3 Version1.37P or later GT	Designer3 Version1.118Y or later	GT Designer3 Version1.37P or later		
 display I diquid cr Flickers Please r caused I Flickers Please r display Howeve characte There is liquid cr characte When th display (characte Please r crystal c temperat Especia becomes Please c When th partial di may not To preve 	panel. It is impossible to comply ystal display comprises of a gn may be observed depending on 1 note that these dots appear due by product defect. and partial discoloration may b panel due to the display conte er, please note that these p pristic and are not caused by prod display panels. When usi please note that there is an indivi talk (shadow as an extension of rystal display panel. Please eristic. note that the response time, bi display section is seen from th color seems like it has changed irristic. note that the response time, bi display panel may vary depend ture. I y not he low temperature env s slow due to the characteristics of check the display response in add	 tely avoid this symptom, as the at number of display elements. to its characteristic and are not a generated on the liquid crystal the display color. a generated on the liquid crystal its between the color tones between the color tones between the display may appear on the otote that it appears due to its und difference between them. the display) may appear on the otote that it appears due to its its and are not the display angle, the Please note that it is due to its ighthess and color of the liquid area for some of the STN liquid crystal. ance for using this product. inonment, the display response of the STN liquid crystal. ance for using this product. inong time, an incidental color or the recent the following. 	Gradation inversion is a characteristic (Please be forewarned that depending (may be difficult even within the describ Using the GOT Backlight OFF function For details on the Backlight OFF function For details on the Backlight OFF function → GT14 User's Manual The touch panel is analog resistiv simultaneously in 2 points or more, the of the touched point, if any, may operal more simultaneously. Do not press the material as a pen or driver. Doing so (display section. For the analog-resistit adjustment is not required. However position and the object position occurs, This may cause an unexpected og maffunction. ROM in which new data can be written Set the terminating resistor selector sw connection type when adopting GOT m For details of GOT multidrop connection → GOT1000 Series Connection Man Compliant with IP67 when the US attached. Not compliant when a USB not und the after a serier operation prover the attached als for a long period of time of the addition, the product may not be us oil or chemicals for a long period of time	on the displayed color, the visualization ed view angle. can prolong the life of the backlight. on, refer to the following. e film-type. If you touch the pan switch that is located around the cent e. Do not touch the panel in 2 points an result in a damage or failure of the ran result in a damage or failure of the result of the period of use elapses. When solve and the object position occur hen any difference between a touched other object may be activated. operation due to incorrect output or without deleting the written data. without deleting the written data. without deletor of COT in accordance with the ultidrop connection. n, refer to the following. Jal B environmental protection cover eable is connected. Note that this doe ronment. The protection is not applie ion cover is removed. ed in environments under exposition		

3.3 Power Supply Specifications

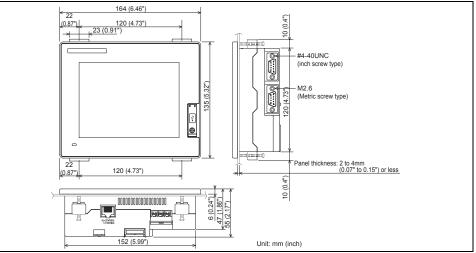
Item	Specifi	cations
nem	GT1455-QTBD, GT1450-QMBD, GT1450-QLBD	GT1455-QTBDE, GT1450-QMBDE, GT1450-QLBDE
Input power supply voltage	24VDC (+10% -15%), ripple voltage 200mV or less	
Fuse (built-in, not exchangeable)	1.6A	

Item	Specifications				
item	GT1455-QTBD, GT1450-QMBD, GT1450-QLBD GT1455-QTBDE, GT1450-QMBDE, GT1450-QLBD				
Power consumption	7.68W (320mA/24VDC) or less	8.40W (350mA/24VDC) or less			
At backlight off	6.72W (280mA/24VDC) or less 7.44W (310mA/24VDC) or less				
Inrush current	30A or less (26.4V) 2ms				
Permissible instantaneous power failure time*1	Within 5ms				
Noise immunity	Noise voltage: 1000Vp-p, Noise width: 1µs (by noise simulator of 30 to 100Hz noise frequency)				
Dielectric withstand voltage	500VAC for 1 minute (across power supply terminals and earth)				
Insulation resistance	$10M\Omega$ or larger by insulation resistance tester (across power supply terminals and earth)				
Applicable wire size	For power supply: 0.75[mm ²] or more, For grounding: 2[mm ²] or more				
Applicable solderless terminal	Solderless terminal for M3 screw RAV1.25-3, V2-N3A, FV2-N3A				
Applicable tightening torque (Terminal block terminal screw)	0.5 to 0.8[N-m]				

*1 The GOT continues to operate even upon 5ms or shorter instantaneous power failure.

The GOT stops operating if there is extended power failure or voltage drop, while it automatically resumes operation as soon as the power is restored.

3.4 External Dimensions



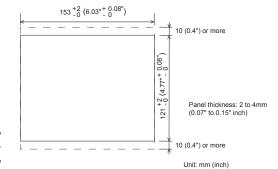
4. Installation

inside dimensions.

L30 (1.19"

4.2 Panel Cutting Dimensions

Mount the GOT onto the control panel while considering the following control panel Make holes in the panel according to the dimensions list below. Also, ensure 10mm spaces in upper and lower parts of the panel for mounting fixtures.



Applicable cable

No

1)

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.

•~;-

Name

4.1 Control Panel Inside Dimensions for Mounting GOT

0

PLC connection cable/PC connection cable

(h) 1941

152 (5.99")

- ® :

SD CARD

> SD 5 6 20

Unit: mm (inch)

52")

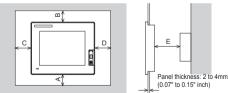
4.3 Mounting Position

When mounting the GOT, the clearances shown on the right must be left from a structure or the other device

Installation Environment	A,D	В	С	E
In the presence of radiated-noise or heat-generating equipment nearby	50 mm (1.97") or more	80 mm (3.14") or more ^{*1}	50 mm (1.97") or more* ²	100 mm (3.93") or more
In the absence of radiated-noise or heat-generating equipment nearby	20 mm (0.79") or more	20 mm (0.79") or more	20 mm (0.79") or more	20 mm (0.79") or more

*1 Vertical format 50 mm (1.97") or more

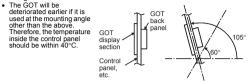
*2 Vertical format 80 mm (3.14") or more



4.4 Control Panel Inside Temperature and Mounting Angle

When mounting the main unit to a control panel or similar, set the display section as shown below When the temperature inside the control panel is 40 to 55°C (Horizontal mount)

40 to 50°C (Vertical mount) the mounting angle should be in the range 60° to 105° degrees



4.5 Installation Procedure

The GOT is designed to be embedded into a panel. Mount the GOT by following the procedure below. For panel cutting dimensions, refer to Section 4.2. Note that the panel thickness should be within 2 to 4mm. 1) Installing the packing

Packing

Magnified

Installing the packing Install packing to the packing installation groove on the back panel of the GOT. While referring to the cross sectional view of the packing shown right, push the thinner side into the packing groove. (Right drawing is the example of lateral format

2) Inserting into the panel face Insert the GOT from the front side of the nanel

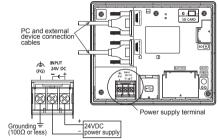
3) Fixing the GOT Engage the hook of the mounting fitting (accessory) to the unit fixing hole of the GOT and tighten the screw until the GOT is fixed with the mounting bolt (accessory) The GOT will be fixed in 4 upper lower parts Tighten the mounting screw with the specified torque (Failure to do so may distort the panel and make a surface

4) A protection film is attached on the display section of GOT prior to shipment. Remove the film when the installation is completed.

5. Wiring

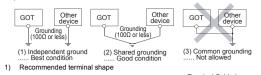
5.1 Power Supply Wiring

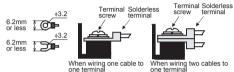
Connect the power supply to the power terminals on the back panel of the GOT. Use 0.75mm² or thicker cables to avoid voltage drop and tighten the terminal screw with the specified torque securely.



- Carry out the independent grounding if possible.
- . If the independent grounding is impossible, carry out the shared grounding as shown in fig 2) below

 Use the cable of 2mm² or more for grounding. Set the grounding point closer to the GOT to make the grounding cable short as nossible





Applicable solderless terminal RAV 1 25-3 V2-N3A and EV2-N3A

6. Maintenance and Inspection

The COT does not include consumable components that will cause the shorten life. However, note that battery life is 5 years and LCD life is 50,000 hours. The life of backlight is 70 000 hours

It is recommended to replace the battery periodically. (For the replacement of the liquid crystal screen and backlight, please consult your nearest sales office or FA Center. Refer to the following for the daily inspection and the periodic inspection. → →GT14 User's Manual

6.1 Battery Replacement

The battery is used for backing up the clock data, alarm history, recipe data, time action setting value, advanced alarm, advanced recipe, logging, hardcopy or SRAM user area. Screen data is stored in the flash memory and data is retained even if the battery. is dead

Battery cover

Battery cover

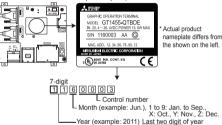
 Battery model name GT14 is shipped with the following battery

Product name Model name GT11-50BAT Battery replacement procedure 1) Turn the GOT power off. 2) Open the battery cover of the GOT 3) Remove the old battery from the GOT. 4) Disconnect the old battery connector and insert the new battery connector within 30s. 5) Insert the new battery into the GOT Connecto and close the battery cover. 6) Turn the GOT power on. 7) Check if the battery condition is normal with the utility. Refer to the following for the details of battery status display. → GT14 User's Manual Connecto

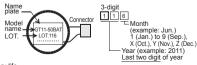
How to confirm production year and month

The production year and month of the battery built in the purchased GOT can be confirmed by the production No. (S/N) marked on the GOT main unit

Example nameplate (manufacture's serial number 1160003)



The production date of the optional replacement battery can be confirmed by the lot No marked on the namenlate (label) affixed on the battery



Battery life
 Approximate battery life:

5 years (ambient temperature: 25°C) Battery replacement: In 4 to 5 years

Approximate life is 5 years, but life may be shorter depending on the ambient temperature, therefore, note that the battery must be replaced in 4 to 5 years. Make sure to purchase a new battery as needed as it self-discharges.

Battery status can be confirmed on a GOT utility screen Battery status can be confirmed on a GO I utility screen. For details of battery status or how to output alarm, refer to the following: → GT14 User's Manual

7. Notification of CE marking

- The following products have shown compliance through
- CE direct testing (to the identified standards) and design analysis (forming a technical construction file) to the European Directive for Electromagnetic Compatibility (2004/108/EC) when used as directed by the appropriate documentation

 This product is designed for use in industrial applications Type: Graphic Operation Terminal

Models: GOT series

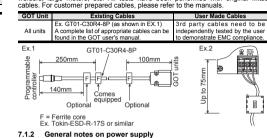
Standard		Remark
EN61131-2 : 2007	EMI	Compliance with all relevant aspects of the standard. (Radiated Emissions)
Programmable controllers - Equipment, requirements and tests	EMS	Compliance with all relevant aspects of the standard. (ESD,RF electromagnetic field, EFTB, Surge, RF conducted disturbances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

→ GT14 User's Manual 7.1 Notes regarding the use of GOT units

7.1.1 General notes on the use of communication cables

Any device which utilizes a data communication function is susceptible to the wider effects of local EMC noise. Therefore, when installing any communication cables care should always be taken with the routing and location of those cables. Optional ferrite cores are recommended when the cable route is close to EMC noise sources like welders, large motors, etc. All tests have been performed with original Mitsubishi



All units require an additional ferrite filter to be attached to the 24V DC power supply cables. The filter should be attached in a similar manner as shown in the figure opposite, i.e. the power cables are wrapped around the filter. However, as with all EMC situations the more correctly applied precautions the better the system's electromagnetic compatibility. The ferrite recommended is a TDK ZCAT3035-1330 or similar (shown in Ex.2). The ferrite should be placed as near to the 24V DC terminals of the all units as possible (which should be within 75mm of the GOT terminal)

Note: The customer must evaluate conformance of the final produced unit with the EMC directive.

8. Certification of UL, cUL standards

Environmental rating

Front: Type 4X (indoor use only) • Using GOT

GOT is for use on a flat surface of a Type 1 or Type 4X (indoor use only) enclosure

「电器电子产品有害物质限制使用标识要求」的表示方式





含有有害6物质的名称,含有量,含有部品 本产品中所含有的有害6物质的名称,含有量,含有部品如下表

所示。

产品中有害物质的名称及含量

		有害物质							
部作	‡名称	铅 (Pb)	汞 (Hg)	镐 (Cd)	六价铬 (Cr (VI))	多溴联苯 (PBB)	多溴 二苯醚 (PBDE)		
	外壳	0	0	0	0	0	0		
显示器	印刷基板	×	0	0	0	0	0		
GOT	背光灯 (CCFL)	0	×	0	0	0	0		
	电缆	×	0	0	0	0	0		

本表格依据SI/T 11364的规定编制。

〇:表示该有害物质在该部件所有均质材料中的含量均在GB/T 26572规定的限量要求以下。

×:表示该有害物质至少在该部件的某一均质材料中的含量超出GB/ T 26572规定的限量要求。

This manual confers no industrial property rights or any rights of any other kind, nor does it confer any patent licenses. Mitsubishi Electric Corporation cannot be held responsible for any problems involving industrial property rights which may occur as a result of using the contents noted in this manual.

Warranty

- 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
- (2) 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 Mitsuhishi products
- (4) Replacement by the user, maintenance of on-site equipment, start-up test run and other tasks



- 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.

MITSUBISHI ELECTRIC CORPORATION

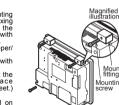
HEAD OFFICE : TOKYO BUILDING, 2-7-3 MARUNOUCHI, CHIYODA-KU, TOKYO 100-8310, JAPAN

Packing cross sectional view Inserting

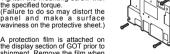
Packing installation groove

Packing





Mounting Mounting screv





DESIGN PRECAUTIONS When the security of the GOT and relevant information need to be protecte against illegal access from an external device via the Internet, take measures a the user's discretion. Failure to do so may cause the configured information to be read out illegally. GT1455-QTBD(E), GT1450-QMBD(E) GT1450-QLBD(E) GT14 General Description DESIGN PRECAUTIONS other wiring Manual Number JY997D43901G Oct. 2016 This manual describes the part names, dimensions, mounting, and specifications of the product. Before use, read this manual and manuals of relevant products fully to acquire proficiency in handling and operating the product. Make sure to learn all the product information, safety information, and precautions. And, store this manual in a safe place so that you can take it out and read it whenever necessary. Always forward it to the end user. Registration Ethernet is a trademark of Xerox Corporation in the United States. The company name and the product name to be described in this manual are the registered trademarks or trademarks of each company. Effective Oct. 2016 Specifications are subject to change without notice © 2011 MITSUBISHI ELECTRIC CORPORATION Safety Precaution (Read these precautions before using.) 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 corr The precautions given in this manual are concerned with this product. In this manual, the safety precautions are ranked as "WARNING" and In this manual, "CAUTION". Indicates that incorrect handling may cause hazardou conditions, resulting in death or severe injury. Indicates that incorrect handling may cause hazardou conditions, resulting in medium or slight personal inju or physical damage. **ACAUTION** Depending on circumstances, procedures indicated by "C linked to serious results. In any case, it is important to follow the directions for usage DESIGN PRECAUTIONS Some failures of the GOT or cable may keep the outputs on or off. 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. 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. Failure to configure the device that displays and outputs serious warning. Failure to observe this instruction may result in an accident due to incorre output or malfunction. output or malfunction. Incorrect operation of the touch switch(s) may lead to a serious accident if the GOT backlight is gone out. When the GOT backlight goes out. the POWET LED flickers (green/orange) and the display section turns black and cause. the monitor screen to appear blank, while the input of the touch switch(s remains active. This may confuse an operator in thinking that the GOT is "screensaver" mode, who then tries to release the GOT from this mode by touching the display section, which may cause a touch switch to operate. Note that the following occurs on the GOT when the backlight goes out. - The POWER LED flickers (green/orange) and the monitor screen appears blank

- blank The display section is an analog-resistive type touch panel. If you touch the display section simultaneously in 2 points or more, the switch that is located around the center of the touched point, if any, may operate. Do not touch the display section in 2 points or more simultaneously. 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 shut off the power of the GOT at the same time. Not doing so can cause an accident due to false output or malfunction.

Bundled item	Quantity
Mounting brackets	4
Mounting screws: M4 x 35mm (1.38")	4
Dust-/Water-proof packing	1
GT14 General Description (This manual)	1

1. Features

- 1) Improved monitoring performance and connectivity to FA devices Multiple languages are displayed using the Unicode2.1-compatible fonts and beautiful characters are drawn using the TrueType and high quality fonts
- Two types of display modes are provided: 65536-colors display and
- monochrome display. In the monochrome display, 16 scales are used to improve the display. A fine and beautiful full-color display which shows even small characters clearly, is enabled by adopting the high intensity, wide viewing angle and high definition TFT color LCD. (Also compatible with digital screen displays
- with 65536 colors, BMP, etc.) High-speed monitoring through high-speed serial communication at 115.2 kbps maximum or through Ethernet connection. High speed display and high speed touch switch response
- 2) More efficient GOT operations including screen design, startup, adjustment, management and maintenance works The 9MB built-in flash memory is included as standard.
- SD card interface is included as standard.
- RS-232 interface is included as standard. RS-422/485 interface is included as standard
- USB interface (host/device) are included as standard
- Ethernet interface is included. (in some models)
- 3) Enhanced support of FA setup tools PLC program transfer and monitoring are possible via the persona computer that is connected to the GOT if connected directly to the A, QnA, L, Q, or FX series of the PLC CPU (FA transparent function).
- 2. Part Name
- 2.1 Front

Do not bundle the control and communication cables with main-circuit, power Run the above cables separately from such wiring and keep them a minimum of 100mm (3.94in.) apart.Not doing so noise can cause a malfunction. Do not press the GOT display section with a pointed material as a pen or drive Doing so can result in a damage or failure of the display section. When using the GOT with Ethernet connection, available IP addresses are restricted depending on the system configuration. - When connecting two or more GOT units to the Ethernet network: Do not specify the IP address "192.168.0.18" to the GOT or any connected equipment When connecting one GOT unit to the Ethernet network: Do not specify the IP address "192.168.0.18" to any connected equipment other than the GOT. If the IP address "192.168.0.18" is specified in the above system configuration If the in address 192, 100,016 is specified in the address system comigurat IP address overlap occurs when the GOT is started up, and adverse effect may be given to communication in the equipment in which the IP address "192,168,0.18" is set. Operation executed at IP address overlap varies depending on the equipment and system. Turn on the power of the connected equipment and network equipment, and make them ready for communication before connecting them to the GOT. If the connected equipment and network equipment are not ready for communication, a communication error may occur in the GOT. Be sure to shut off all phases of the external power supply used by the system before mounting or removing the GOT to/from the panel. Not doing so can cause the unit to fail or malfunction. MOUNTING PRECAUTIONS ACAUTION 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. Undertightening can cause the GOT to drop, short circuit or malfunction, and deteriorate the waterproof effect and oilproof effect. Overtightening can cause a drop, short circuit or the screws or the GOT, and deteriorate the waterproof effect and oilproof effect due to distortion of the protective cover for oil, GOT or panel. Never drop cutting chips and electric wire chips into the ventilation window of the GOT when you drill screw holes or perform wiring. Otherwise, fire, failure or malfunction may be caused. When inserting/removing a SD card into/from the GOT, turn the SD card access When inserting/removing a SD card into/from the GOT, turn the SD card access switch off in advance. Failure to do so may corrupt data within the SD card. When removing a SD card from the GOT, make sure to support the SD card by hand, as it may pop out. Failure to do so may cause the SD card to drop from the GOT and break. When installing a USB memory to the GOT, make sure to install the USB memory to the USB interface firmly. Failure to do so may cause a malfunction due to poor contact. Before removing the USB memory from the GOT, operate the utility screen for removal. After the successful completion dialog box is displayed, remove the memory by hand carefully. Failure to do so may cause the USB memory to drop resulting in a damage or failure of the memory. resulting in a damage or failure or the memory. 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 due to the oil or chemica entering into the GOT. **/IRING PRECAUTIONS** sten ge o Be be ma Ple ap ca n by may

/IRING PRECAUTIONS OUCH PANEL RECAUTIONS **CAUTION** WARNING 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 For the analog-resistive film type touch panels, normally the adjustment not required. Tighten the terminal screense of the GOT power supply section in the specified torque range. 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. However, the difference between a touched position and the object position When any difference between a touched position and the object position occurs, execute the touch panel calibration. Overt 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 o maifunction. Exercise care to avoid foreign matter such as chips and wire offcuts entering th GOT. Not doing so can cause a fire, failure or malfunction. VIRING PRECAUTIONS TRANSPORTATION 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 danglin motion or accidental pulling of the cables or can cause a malfunction due to cable connection fault. RECAUTIONS When transporting lithium batteries, make sure to treat them based on th cable connection fault. When unplugging the cable connected to the unit, do not hold and pull 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. Plug the communication cable into the connector of the connected unit and tighten the mounting and terminal screws in the specified torque range. 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. (Refer to User's Manual for details of the regurated models.) Before transporting the GOT, turn the GOT power on and check that the battery voltage status is normal on the Time setting & display screen (utilities screen). In addition, confirm that the adequate battery life remains on the Screen). In addition, commit near the additional and addition article and addition of the addi TEST OPERATION PRECAUTIONS WARNING Before performing the test operations of the user creation monitor screen (suct 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 Associated Manuals he following manuals are relevant to this product. When these loose manuals re required, please consult with our local distributor. 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 t Manual name Contents perform significant operation for the system. False output or malfunction car cause an accident. Describes the GT14 hardware relevant content such as part names external dimensions, mounting, powe supply wiring, specifications, and introduction to option devices STARTUP/MAINTENANCE PRECAUTIONS GT14 User's Manu (sold separately) When power is on, do not touch the terminals. Doing so can cause an electric shock or malfunction GT Designer3 Connect the battery correctly. Do not discharge, disassemble, heat, short, solder or throw the battery into the fire. Incorrect handling may cause the battery to generate heat, burst or take fire, resulting in injuries or fires. Version1 Screen Design Manual (For GOT1000 Describes methods of the G1 Designer3 installation operation, basic operation for drawing and transmitting Before starting cleaning or terminal screw retightening, always switch off the power externally in all phases. Not switching the power off in all phases can cause a unit failure or malfunction. Undertightening can cause a short circuit or Series) (Fundamentals) data to GOT1000 series 1/2. 2/2 malfunction. Overtightening can cause a short circuit or malfunction due to the damage of the screws or unit. (sold separately) *1 GT Designer3 STARTUP/MAINTENANCE Version1 Screen Design Manual PRECAUTIONS Describes specifications and settings of the object functions used in GT 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. (For GOT1000 Series) (Functions) Designer3 1/2, 2/2 (sold separately) *1 The cables connected to the unit must be run in ducts or clamped *1 Stored in the GT Works3/GT Designer3 in PDF format. 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 motion or accidental p cable connection fault. For details of a PLC to be connected, refer to the PLC user's manual respectively. When unplugging the cable connected to the unit, do not hold and pull the cable portion. Doing so can cause the unit or cable to be damaged or can cause **Bundled Items** malfunction due to a cable connection fault. Model Name Specifications Do not drop or apply any impact to the battery. If any impact has been applied discard the battery and never use it. Name The battery may be damaged by the drop or impact. 5.7" diagonal [320 \times 240 dots], TFT color (65536 colors), built-in battery and Ethernet interface GT1455-QTBDE Before touching the unit, always touch grounded metal, etc. to discharge static electricity from human body, etc. 5.7" diagonal [320 × 240 dots], TFT color (65536 Not doing so can cause the unit to fail or malfunction GT1455-OTBD olors), built-in battery Replace battery with GT11-50BAT by Mitsubishi electric Co. only. Use of another battery may present 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. .7" diagonal [320 \times 240 dots], TFT monochrome black/white), built-in battery and Ethernet interface GT1450-QMBDI GOT .7" diagonal [320 \times 240 dots], TFT monochrome black/white), built-in battery GT1450-QMBD

nual Numbe

(Model Code)

JY997D44801

(09R823)

SH-080866ENG

(1D7MB9)

SH-080867ENG

(1D7MC1)

.7" diagonal [320 × 240 dots], STN monochrome

plack/white), built-in battery and Ethernet interface

.7" diagonal [320 × 240 dots], STN monochrome black/white), built-in battery

GT1450-OLBDE

GT1450-QLBD

- When disposing of the product, handle it as industrial waste. When disposing of batteries, separate them from other wastes according to the
- (For details of the battery directive in EU member states, refer GOT User' Manual.)

3. Specifications

3.1 General Specifications

	Item	Specifications						
Operating ambient Display section		0 to 50°C						
temperature	Other than display section	0 to 55°C (When m	ounted horizontally), 0	to 50°C (When mou	inted vertically)			
Storage ambient ten	nperature	-20 to 60°C						
Operating ambient h	umidity	10 to 90% RH, non	-condensing (STN liqui	d crystal type to be	stored at or below 3	39°C WBT.)		
Storage ambient hur	nidity	10 to 90% RH, non	-condensing (STN liqui	d crystal type to be	stored at or below 3	39°C WBT.)		
				Frequency	Acceleration	Half-amplitude	Sweep Count	
		Conforms to JIS	Under intermittent	5 to 8.4Hz		3.5mm		
Vibration resistance		B3502 and	vibration	8.4 to 150Hz	9.8m/s ²		10 times each in X.	
		IEC61131-2	Under continuous vibration	5 to 8.4Hz		1.75mm	Y and Z directions	
				8.4 to 150Hz	4.9m/s ²			
Shock resistance		Conforms to JIS B3	3502, IEC 61131-2 (147	7 m/s ² , 3 times each	in X, Y and Z direc	tions)		
Operating atmosphe	re		np black, corrosive gas unlight. (Same as for s		r excessive amount	t of electro conducti	ve dust particles an	
Operating altitude*1		2000 m (6562 ft) max.						
Installation location		Inside control panel						
Overvoltage categor	y [*] 2	II or less						
Pollution degree ^{*3}		2 or less						
Cooling method		Self-cooling						

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 raged voltage of 300 V is 2500 V.

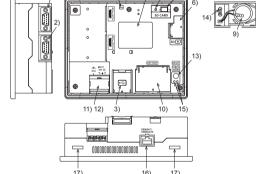
*3 This index indicates the degree to which conductive material is generated in the environment where the equipment is used. In pollution degree 2, only non-conductive pollution occurs but temporary conductivity may be produced due to condensation

3.2 Performance Specifications

Specifications Item

for writing. Failure to do so may result in an electr lifunctions. asee make sure to ground FG terminal of the GG lyving 100 or less which is used exclusively for use an electric shock or malfunction.	ic shock, product damage or OT power supply section by
Back/Bottom	Battery cover opened

2.2



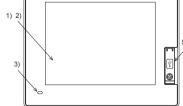
No.	Name	Specifications
1)	RS-232 interface	For communicating with controller or personal computer (D-sub 9-pin male)
2)	RS-422/485 interface	For communicating with controller (D-sub 9-pin female)
3)	USB interface	For data transfer, data storage USB interface (Host)
4)	Hole for preventing USB cable disconnection	Hole for fixing the USB cable with a cable tie (such as Insulock) to prevent disconnection
5)	Rating plate (nameplate)	

Interface for installing the SD card to GOT

SD card

nterface

6)



No	Name	Specifications	11)	Power
		Displays the utility screen and the user creation screen. GT1455-QTBD(E):320×240 dots, TFT color liquid	12)	Power t cover
		crystal	13)	Reset s
1)	Display screen	GT1450-QMBD(E):320×240 dots, TFT monochrome (white/black) liquid crystal, 16 scales GT1450-QLBD(E):320×240 dots, STN monochrome	14)	Termina resistor selector
		(white/black) liquid crystal, 16 scales	15)	Etherne
2)	Touch panel	For operating the touch switches in the utility screen and the user creation screen		status L
		Lit in green: Power is correctly supplied	16)	Etherne
3)	POWER LED	Lit in orange: Screen soving Blinking in orange/green: Blown backlight bulb Not lit: Power is not supplied	17)	Hole for installat
4)	Logo label	Removable	For the	v
5)	USB interface	USB interface for connecting a personal computer (Device) OS installation, project data download, FA transparent	RFID, et	
6)	USB environmental protection cover	Opens/Closes when the USB interface is used.		

')	SD card access LED	Lit: SD card accessed Not lit: SD card not accessed	
3)	SD card access switch	Switch for prohibiting access to SD card before removing the SD card from the GOT ON: SD card being accessed (SD card removal prohibited) OFF: No access to SD card (SD card removal possible)	
9)	Battery	GT11-50BAT battery for storing clock data, alarm history and recipe data	
0)	Battery cover	Open or close when replacing the battery. Opened and closed when the terminating resistor is changed over	Displa sectio
1)	Power terminal	Power terminal and FG terminal (for power supply (24VDC) to GOT and grounding)	
2)	Power terminal cover	Open or close when connecting a power terminal. (Color: transparent)	
3)	Reset switch	Hardware reset switch (Use an isolated rod to operate.)	
4)	Terminating resistor selector switch	Terminating resistor selector switch of RS-422/485 (330 Ω /OPEN/110 Ω)	Backl
5)	Ethernet communication status LED	SD RD: Turns on in green during data communication, 100M:Turns on in green during 100Mbps transmission.	Touc panel
6)	Ethernet interface	For connecting the equipment through Ethernet (RJ-45 connector)	
7)	Hole for unit installation fitting	Hole for the inserting installation fittings (accessory) during the GOT installation to the panel (4 holes at top and bottom)	Memo
	connection to the c) or PC, refer to	e controller (PLC, microcomputer board, bar code reader, the following. → GT14 User's Manual	Batte

	GT1455-QTBD(E)	GT1450-QMBD(E)	GT1450-QLBD(E)				
Туре	TFT color liquid crystal	TFT monochrome (white/black) liquid crystal	STN monochrome (white/black) liquid crystal				
Screen size	5.7"	•	· · · · · · · · · · · · · · · · · · ·				
Resolution	$320 \times 240 \text{ dots}$						
Display size	W115(4.53) \times H86(3.39)[mm](inch) (Hor	izontal format)					
Display character	16-dot standard font: 20 characters \times 15	lines, 12-dot standard font: 26 characters	s × 20 lines				
Display color	65536 colors	Monochrome (white/black), 16 scales					
Display angle ^{*2}	Left/Right: 80 degrees, Top: 80 degrees,	Bottom: 60 degrees (Horizontal format)	Left/Right: 45 degrees, Top: 20 degrees, Bottom: 40 degrees (Horizontal format)				
Contrast adjustment		-	32-level adjustmen				
Intensity of LCD only	400[cd/m ²]	00[cd/m ²] 300[cd/m ²]					
Intensity adjustment	8-level adjustment						
Life	Approx. 50,000h. (Time for display inten	rox. 50,000h. (Time for display intensity to become 1/5 at operating ambient temperature of 25°C)					
	LED (irreplaceable by a user) Backlight off/screen saving time can be set.*3						
Life	Approx. 70,000h or longer (Time for disp	play intensity reaches 50% at the operating	g ambient temperature of 25°C)				
Туре	Analog resistive film touch panel						
Key size	Minimum 2 × 2 dots (per key)						
Number of points touched simultaneously	Simultaneous presses not allowed. (Only 1 point can be touched.)						
Life	1 million times or more (operating force 0.98N max.)						
C drive ^{*5}	Flash memory (Internal), for storing project data (9Mbytes) and OS						
Life (Number of write times)	100,000 times						
D drive	SRAM (Internal), 512kbytes (battery backup)						
	GT11-50BAT lithium battery						
Туре	Magnesium maganese dioxide lithium primary battery						
Backup target	Clock data, alarm history, recipe data, time action setting value, advanced alarm/advanced recipe, logging, hardcopy and SRAM user area						
Life	Approx. 5 years (Operating ambient tem	perature of 25°C)					
	Screen size Screen size Resolution Display size Display color Display angle ^{*2} Contrast adjustment Intensity of LCD only Intensity adjustment Life Life Life Key size Number of points touched simultaneously Life C drive ^{*5} Life (Number of write times) D drive Type Backup target	Type TFT color liquid crystal Screen size 5.7" Resolution 320 × 240 dots Display size W115(4.53) × H86(3.39)[mm](inch) (Hor Display character 16-dot standard font: 20 characters × 15 Display color 65536 colors Display angle*2 Left/Right: 80 degrees, Top: 80 degrees, Contrast adjustment Intensity of LCD only Intensity of LCD only 400[cd/m²] Intensity adjustment 8-level adjustment Life Approx. 50,000h, (Time for display inten Life Approx. 70,000h or longer (Time for display inten Life Approx. 70,000h or longer (Time for display inten Life Approx. 70,000h or longer (Time for display inten Life Approx. 70,000h or longer (Time for display inten Life Approx. 70,000h or longer (Time for display inten Key size Minimum 2 × 2 dots (per key) Number of points Simultaneous presses not allowed. (Oni' simultaneously Life 1 million times or more (operating force to dismultaneously Life 1 million times or more (operating force to dismultaneously Life (Number of writ	Type TFT color liquid crystal TFT monochrome (white/black) liquid crystal Screen size 5.7" Resolution 320 × 240 dots Display size W115(4.53) × H86(3.39)[mm](inch) (Horizontal format) Display color 65536 colors Display color 65536 colors Display angle ¹² Left/Right: 80 degrees, Top: 80 degrees, Bottom: 60 degrees (Horizontal format) Contrast adjustment Intensity of LCD only 400[cd/m ²] Intensity adjustment 8-level adjustment Life Approx. 50,000h. (Time for display intensity to become 1/5 at operating ambient to Life Approx. 70,000h or longer (Time for display intensity reaches 50% at the operating ambient to Life Approx. 70,000h or longer (Time for display intensity reaches 50% at the operating ambient to user of points to uched Simultaneously Simultaneous presses not allowed. (Only 1 point can be touched.) Life 1 million times or more (operating force 0.98N max.) C drive ^{*5} Flash memory (Internal), for storing project data (9Mbytes) and OS Life (Number of write times) 100,000 times D drive SRAM (Internal), 512kbytes (battery backup) <				

For the PC connection, refer to the following.

Panel cutting dimensions W153 (6.03) × H121(4.77)[mm] (inch) (Horizontal format) Weight Approx. 0.7kg (Excluding mounting fixtures) Compatible software package GT Designer3 Version1.37P or later GT Designer3 Version1.118Y or later GT Designer3 Version1.37P 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 symptom. as the symptom as the symptom. as the symptom as the symptom. as the symptom. as the symptom. as the symptom. as the symptom as the symptom. as the symptom as the symptom. as the symptom as the symptom as the symptom as the symptom. as the symptom as the symptom. as the symptom as the symtom as the symptom as the symptom as the sy		lan					Specifications		
Built-in interface Transmission speed: 115.200/57.600/38.400/19.2009.600/4.800bps Built-in interface RS-232 RS-232 to Transmission speed: 115.200/57.600/38.400/19.2009.600/4.800bps Built-in interface RS-232 to Transmission speed: 115.200/57.600/38.400/19.2009.600/4.800bps Ethernet interface RS-232 to Transmission speed: 115.200/57.600/38.400/19.2009.600/4.800bps Ethernet interface RS-232 to Transmission speed: 115.200/57.600/38.400/19.2009.600/4.800bps Ethernet interface Ethernet interface Ethernet interface USB (Full Speed 12Mbps), 1ch Connector shape: 1YPE-A Application : PC communication (Project data upload/download, OS installation, FA transparent function) Buzzer output USB (Full Speed 12Mbps), 1ch Connector shape: 1YPE-A Application : PC communication (Project data upload/download, OS installation, FA transparent function) Buzzer output Single tone (tone length adjustable) Environmental protective structure ⁷⁷ Equivalent to IPP7 (front section) External dimensions W153 (6.03) × H121(4.77)(mm] (inch) (Horizontal format) Paese note that these dots appear due to its characteristic and are not caused by product defect. GT Designed 3 Version1.37P or late sinutaneousy, in 2 points or more, its or fload systep on caused by product defect. • Torke is a difference is the norme man apparer due to its characteristic and are not caused by product defec		item			BD(E)	Т	GT1450-QMBD(E)	GT1450-QLBD(E)	
Built-in interface Fas-332 Transmission speed : 115.200/57,00038,40019,2009,600/4,800bps Built-in interface Exemet (Only in models equipped with Connector shape : RL-45 (Modular jack) Data transfer method: :0008ASE: T, 1ch Connector shape : RL-45 (Modular jack) Built-in interface Exemet (Only in models equipped with Connector shape : RL-45 (Modular jack) Connector shape : RL-45 (Modular jack) Built-in interface USB (Full Speed 12Mbps), 1ch Connector shape : MPE-A Application :: Data transfer, data storage Device Buzzer output USB (Full Speed 12Mbps), 1ch Connector shape :: MPE-A Application :: Data transfer, data storage Buzzer output Single tome (one length adjustable) Environmental protective structure ⁻⁷ Equivalent to IP67 (front section) External dimensions W153 (6.03) × H121(4.77)[rmm] (inch) (Excluding USB environmental protective cover) (Horizontal format) Parel cutting dimensions W153 (6.03) × H121(4.77)[rmm] (inch) (Excluding USB environmental protective cover) (Horizontal format) * 1 • Bright dots (always III) and dark dots (unil) may appear on a liquid crystal display panel. It is impossible to completely avoid this symptom, and the object position on the display optimes on the display optimes of a great due to the display elements; Pickers and partial discloarding on the display agrear on a liquid crystal display panel. His impossible to completely avoid this symptom, and casted by protidut diefed. * 10 Esigner3 Version1.37P		RS-42	22/485	Transmission speed : 115,200/57,600/38,400/19,200/9,600/4,800bps Connector shape : D-sub 9-pin (Female) Application : PLC communication Terminating resistor : Open/1102/3302 (Switched by terminating resistor selector switch)*6				r switch) ^{*6}	
Interface Connector shape :R.J-45 (Modular jack) (Inity in models equipped with Ehernet interface) Connector shape :R.J-45 (Modular jack) (Inity in models equipped with Ehernet interface) Visits (Full Speed 12Mbps), 1ch Connector shape Statumate function, PC communication (Project data upload/download, OS installation, FA transparent function) USB USB (Full Speed 12Mbps), 1ch Connector shape Connector shape Winits Application Device USB (Full Speed 12Mbps), 1ch Connector shape Connector shape Winits Application SD card Application : Project data upload/download, OS installation, FA transparent function) SD card Application : Project data upload/download, OS installation, logging data storage Environmental protective structure ⁷ Equivalent to IP67 (front section) External dimensions W153 (6.03) × H121(4.77)[rmm] (inch) (Horizontal format) Mergen 40 (contant growning fixtures) Compatible software package GT Designer3 Version1.37P or later GT Designer3 Version1.37P or later * In bright dots (always lit) and dark dots (unil) may appear on a liquid crystal display panel. It is impossible to completely avoid this symptom, as indigating vorsible to completely avoid the display conduct defect. GT Designer3 Version1.37P or later * In bright		RS-23	32	Transmission speed : 1 Connector shape : I Application : F	D-sub 9-pin (Ma PLC communica	le) tion	, bar code reader, RFID connection, PC		
Host Connector shape T/PE-A Application USB Host Application USB tat transfer, data storage Device USB (Full Speed 12Mbps), 1ch Connector shape Min-B Application USB (Full Speed 12Mbps), 1ch Connector shape SD card In conformance to SD standard, 1ch Application Noncommonitation (Project data upload/download, OS installation, logging data storage Buzzer output Single tone (tone length adjustable) Environmental protective structure ⁷⁷ Equivalent to IP67 (front section) W164(6.46) × H135(6.32) × D55(2.17)[mm](inch)(Excluding USB environmental protective cover) (Horizontal format) Panel cutting dimensions W153 (6.03) × H121(4.77)[mm] (inch) (Horizontal format) Weight Approx. 0.7kg (Excluding mounting fixtures) Compatible software package GT Designer3 Version1.37P or later 1 Bright dots (always lit) and dark dots (unit) may appear on a liquid crystal display panel. It is impossible to completely avoid this symptom, as the liquid crystal display contents or the cortrast adjustment, However, please note that these phenomena appear due to its characteristic. GT Designer3 Version1.37P or later 1 Bright dots (always action is seen from the outside of the display section. For the analog resistive film-type. If you touch the simultaneously. Do not touch the panel in 2 points or more, the witch that is loceted appears due to its		(Only	in models equipped with	Connector shape : F Application : F	RJ-45 (Modular) PLC communica	jack tion) , Gateway functions, PC communicatio		
Device USB (Full Speed 12Mbps), 1ch Connector shape :: Min-B Application :: PC communication (Project data upload/download, OS installation, FA transparent function) SD card In conformance to SD standard, 1ch Application :: Project data upload/download, OS installation, logging data storage Buzzer output Single tone (tone length adjustable) Environmental protective structure ¹⁷ Equivalent to IP67 (front section) External dimensions W153 (6.03) × H121(4.77)[mm](inch)(Excluding USB environmental protective cover) (Horizontal format) Weight Approx. 0.7kg (Excluding mounting fixtures) Compatible software package GT Designer3 Version1.37P or later *1 • Bright dots (always lit) and dark dots (unit) may appear on a liquid crystal display panel. It is impossible to completely avoid this symptox contents or the contrast dujustment. However, please note that these generated on the liquid crystal display panel to the display contents or the contrast dujustment. However, please note that these phenomena appear due to its characteristic. *2 Gradation inversion is a characteristic of liquid crystal display panel. It is induvidual difference between them. *3 Using the GOT Backlight OFF function, refer to the following. 			Host	Connector shape :	TYPE-A	ita s	torage		
SD card Applicable memory cards: SDHC memory card, SD memory card Application :: Project data uploa/d/dwmload, OS installation, logging data storage Buzzer output Single tone (tone length adjustable) Environmental protective structure ⁷⁷ Equivalent to IP67 (front section) External dimensions W153 (6.03) × H121(4.77)[mm] (inch) (Horizontal format) Panel cutting dimensions W153 (6.03) × H121(4.77)[mm] (inch) (Horizontal format) Weight Approx. 0.7kg (Excluding mounting fixtures) Compatible software package GT Designer3 Version1.37P or later 1 • Bright dots (always lit) and dark dots (unlit) may appear on a liquid crystal display panel. It is inpossible to completely avoid this symptom, as the liquid crystal display comprises of a great number of display elements. Flickers may be observed depending on the display color. The ouse papear due to its characteristic and are not caused by product defect. "3 Using the GOT Backlight OFF function, refer to the following. • Flickkers and partial discoloration may be generated on the liquid crystal display panel. It is bese phenomena appear due to its characteristic and are not caused by product defect. "3 Using the GOT Backlight OFF function, refer to the following. • There is a difference in the display brightness and the color tones between tilquid crystal display panel. Please note that it appears due to its characteristic. • GT14 User's Manual "4 to tuch panel is analog resistive film type. If		USB	Device	Connector shape : N	/lini-B	on (Project data upload/download, OS inst	allation, FA transparent function)	
Environmental protective structure ¹⁷ Equivalent to IP67 (front section) External dimensions W164(6.46) × H135(5.32) × D55(2.17)[mm](inch)(Excluding USB environmental protective cover) (Horizontal format) Panel cutting dimensions W153 (6.03) × H121(4.77)[mm] (inch) (Horizontal format) Weight Approx. 0.7kg (Excluding mounting fixtures) Compatible software package GT Designer3 Version1.37P 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 see beforewared that depending on the display evolut. GT Designer3 Version1.118Y 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 see beforewared that depending on the display evolut. GT Designer3 Version1.118Y 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 see dots appear due to its characteristic and are not caused by product defect. GT Designer3 Version1.118Y or later *2 Gradation inversion is a characteristic of liquid crystal display panel. When using multiple liquid crystal display panel. When using multiple liquid crystal display panel. When using multiple liquid crystal display panels. When using multiple liquid crystal display panel. Please note that it appears due to its characteristic. • OT14 User's Manual • There is a difference in the display of the display appare. <t< td=""><td></td><td colspan="3" rowspan="2">SD card Applicable memory cards : SDHC m Application : Project d</td><td>ds : SDHC men</td><td></td><td></td><td>data storage</td></t<>		SD card Applicable memory cards : SDHC m Application : Project d			ds : SDHC men			data storage	
External dimensions W164(6.46) × H135(5.32) × D55(2.17)[mm](inch)(Excluding USB environmental protective cover) (Horizontal format) Panel cutting dimensions W153 (6.03) × H121(4.77)[mm] (inch) (Horizontal format) Weight Approx. 0.7kg (Excluding mounting fixtures) Compatible software package GT Designer3 Version1.37P or later *1 • Bright dots (always ilt) and dark dots (unlit) may appear on a liquid crystal display panel. It is impossible to completely avoid this symptom, as the served depending on the display councer of display elements. Flickers may be observed depending on the display counce that these observed depending on the display councers or the councer and the depending on the display councers or the councer and the depending on the display councers or the councer and the depending on the display councers or the councers and partial discoloration may be generated on the liquid crystal display panel due to the display councers or the councers and the depending on the display councers or the councers and the depending on the display councers. These are note that these phenomena appear due to its characteristic and are not caused by product defect. 3U tign the GOT Backlight OFF function, refer to the following> GT14 User's Manual *There is a difference in the display panel. We now any multiple liquid crystal display panel. It has changed. Please note that it appears due to its characteristic. The dust panel due to the display appare. Please note that it appears due to its characteristic. The dust panel due to the display mappear on the display panel. Please note that the response time, brightness and color of the liquid crystal display panel. Please note that it appears due to its characteristic. <td>Buzzer outp</td> <td colspan="4">Single tone (tone length adjustable)</td>	Buzzer outp				Single tone (tone length adjustable)				
Panel cutting dimensions W153 (6.03) × H121(4.77)[mm] (inch) (Horizontal format) Weight Approx. 0.7kg (Excluding mounting fixtures) Compatible software package GT Designer3 Version1.37P 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 set of the optimized word this symptom, as the set of the optimized depending on the display color. GT Designer3 Version1.118Y or later '2 Gradation inversion is a characteristic of liquid crystal display. Please note that these dots appear due to its characteristic and are not caused by product defect. '3 Using the GOT Backlight OFF function, refer to the following. • Flickers and partial discoloration may be generated on the liquid crystal display panel. When using multiple liquid crystal display panels. When using multiple liquid crystal display panels. When using multiple liquid crystal display panels. When using multiple liquid crystal display panel. When using multiple liquid crystal display panel. Please note that there is an individual difference between them. • GT14 User's Manual * A crosstalk (shadow as an extension of the display appears due to its characteristic. When the display section is seen from the outside of the display angle, the display panel. Please note that it appears due to its characteristic. * The display section is seen from the outside of the display angle, the display panel. Please note that it appears and to correct out characteristic. • When the display panel. Nees the period or use desplays. Please note that the response t	Environmer	ntal prot	ective structure*7	Equivalent to IP67 (front section)					
Weight Approx. 0.7kg (Excluding mounting fixtures) Compatible software package GT Designer3 Version1.37P or later GT Designer3 Version1.118Y or later Cardation inversion is a characteristic of liquid crystal display comprises of a great number of display enders. Whene soft appear due to its characteristic and are not caused by product defect. Using the GOT Backlight OFF function, refer to the following. -> GT14 User's Manual ** Using the GOT Backlight OFF function, refer to the following. -> GT14 User's Manual ** * The res is a difference in the display brightness and the color tones between i guid crystal display panel. When using multiple liquid crystal display panel. Whene using multiple liquid crystal display park weasion of	External dir	nensior	IS	$W164(6.46) \times H135(5.32) \times D55(2.17) [mm] (inch) (Excluding USB environmental protective cover) (Horizontal format) \\$					
 Compatible software package GT Designer3 Version1.37P or later GT Designer3 Version1.118Y or later GT Designer3 Version1	Panel cuttin	ıg dime	nsions	W153 (6.03) × H121(4.77)[mm] (inch) (Horizontal format)					
 *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 may be observed depending on the display color. Please note that these dots appear due to its characteristic and are not caused by product defect. There is a difference in the display brightness and the color tones between liquid crystal display panels. When using multiple liquid crystal display appear on the liquid crystal display panels. When using multiple liquid crystal display appears due to its characteristic. There is a difference in the display brightness and the color tones between liquid crystal display panel. Please note that it appears due to its characteristic. When the display section is seen from the outside of the display angle, the display section setime, brightness and color of the liquid crystal display panel. Please note that it is prears due to its characteristic. When the display section is seen from the outside of the display angle, the display section is seen from the outside of the display angle, the display color seems like it has changed. Please note that it is due to its characteristic. Please note that the response time, brightness and color of the liquid crystal display panel may vary depending on the usage environment to environment the display reader section. Set the terminating resistor selector switch of the GOT in accordance w connection type when adopting GOT multiforp connection. 	Weight			Approx. 0.7kg (Excludin	ng mounting fixtu	ures)		
 display panel. It is impossible to completely avoid this symptom, as the liquid crystal display comprises of a great number of display elements. Flickers may be observed depending on the display color. Please note that these dots appear due to its characteristic and are not caused by product defect. There is a difference in the display brightness and the color tones between liquid crystal display panel. Please note that the reis an individual difference between then. I quid crystal display panel. Please note that it appears due to its characteristic. A crosstalk (shadow as an extension of the display appear on the display section is seen from the outside of the display appear. Please note that it appears due to its characteristic. When the display section is seen from the outside of the display angle, the display section is seen from the outside of the display angle, the display section seems like it has changed. Please note that it is due to its characteristic. Please note that the response time, brightness and color of the liquid crystal display panel may vary depending on the usage environment the display concents. Please note that the response time, brightness and color of the liquid crystal display panel may vary depending on the usage environment the display reader the liguid crystal display panel may vary depending on the usage environment the display concents. Set the terminating resistor selector suit on the locating the written atta. Set the terminating resistor selector solution. Set the terminating resistor selectors. 	Compatible	softwa	re package	GT Designer3 Version1	.37P or later	G	T Designer3 Version1.118Y or later	GT Designer3 Version1.37P or later	
becomes slow due to the characteristics of the STN liquid crystal. Please check the display response in advance for using this product. • When the same screen is displayed for a long time, an incidental color or partial discoloration is generated on the screen due to heat damage, and it may not disappear. To prevent heat damage, the screen saver function is effective. For details of GOT multidrop connection, refer to the following. → GOT1000 Series Connection Manual * Compliant with IP67 when the USB environmental protection core is removed. * When the interface environment protection cover is removed.	disp liquiu Flick Plee caus Flick disp How char How char Thee char Plee crys tem Flee crys tem Esp becc Plea Plea Whe disp char a char S the char the char t	lay part d cryst errs nan see notive by pers errs and lay part ever, a caterist lay part ever, a caterist lay part ever, a d cryst lay part ever,	iel. It is impossible to compl al display comprises of a gr y be observed depending on is that these dots appear due roduct defect. d partial discoloration may be rel due to the display conte please note that these p ic and are not caused by proc difference in the display bright al display panels. When usi see note that there is an indivi (shadow as an extension of tal display panel. Please ic. ic seems like it has changed in seems like it has changed in the low temperature envo ow due to the characteristics changes cause in signal way depend as service that characteristics changes cause is displayed for loaration is generated on the s appear.	etely avoid this sympton eat number of display e the display color. Is to its characteristic an egenerated on the liquents on the contrast adju- tuct defect. ness and the color tones ng multiple liquid crysts dual difference between f the display) may appe- note that it appears d e outside of the display a . Please note that it is rightness and color of f ing on the usage envir irronment, the display rodu a long time, an incidents creen due to heat dama	m, as the elements. d are not id crystal ustment. ue to its between al display them. ar on the ue to its angle, the due to its the liquid onmental response uct. al color or	*3 *4 *5 *6	Please be forewarmed that depending may be difficult even within the descril Using the GOT Backlight OFF function - GT14 User's Manual The touch panel is analog resisti simultaneously in 2 points or more, the of the touched point, if any, may oper- more simultaneously. Do not press t material as a pen or driver. Doing so display section. For the analog-resist adjustment is not required. Howev position and the object position may o any difference between a touched p execute the touch panel calibration. V. position and the object position navor malfunction. ROM in which new data can be writter Set the terminating resistor selectors connection type when adopting GOT i For details of GOT multidrop connecti- - GOT1000 Series Connection Mar Compliant with IP67 when the Us attached. Not compliant when a USB not guarantee all users' operation en	on the displayed color, the visualizatio bed view angle. I can prolong the life of the backlight. ion, refer to the following. We film-type. If you touch the pane s witch that is located around the cente its. Do not touch the panel in 2 points or the GOT display section with a pointe can result in a damage or failure of th ive film type touch panels, normally the r, the difference between a touche cour as the period of use elapses. When any difference between a touche s, other object may be activated. I peration due to incorrect output of h without deleting the written data. witch of the GOT in accordance with the multidrop connection. on, refer to the following. I usal SB environmental protection cover if cable is connected. Note that this doe ironment. The protection is not applie	

 \rightarrow GT14 User's Manual Just after the GOT is powered off, sometimes an image lag or partial discoloration is generated temporary. However they are caused by the characteristic of the liquid crystal. (After powering off, they disappear within a function of the second second

Appearance

White stripe patterns may appear on the surface of the resin molded part of the product. Please note that these phenomena appear due to the characteristics of the material

used in the product and are not caused by product defect. 3.3 Power Supply Specifications

Item	Specifi	cations
item	GT1455-QTBD, GT1450-QMBD, GT1450-QLBD	GT1455-QTBDE, GT1450-QMBDE, GT1450-QLBDE

5. Wiring

5.1 Power Supply Wiring

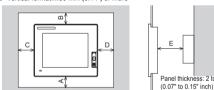
24VDC (+10% -15%), ripple voltage 200mV or less Input power supply voltage Fuse (built-in, not exchangeable) 1.6A

4.3 Mounting Position

When mounting the Go	OT, the clearances show	n on the right must be le	eft from a

structure or the other dev	vice.			
Installation Environment	A,D	В	С	Е
In the presence of radiated-noise or heat-generating equipment nearby	50 mm (1.97") or more	80 mm (3.14") or more*1	50 mm (1.97") or more ^{*2}	100 mm (3.93") or more
In the absence of radiated-noise or heat-generating equipment nearby	20 mm (0.79") or more	20 mm (0.79") or more	20 mm (0.79") or more	20 mm (0.79") or more

*1 Vertical format....50 mm (1.97") or more *2 Vertical format....80 mm (3.14") or more



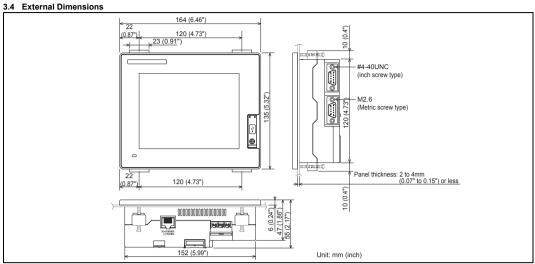
4.4 Control Panel Inside Temperature and Mounting Angle

4.4 Control Panel Inside temperature and Mounting Angle When mounting the main unit to a control panel or similar, set the display section as shown below. When the temperature inside the control panel is 40 to 55°C (Horizontal mount), 40 to 50°C (Vertical mount), the mounting angle should be in the range 60° to 105° degrees.
The GOT will be deteriorated earlier if it is used at the mounting angle the mounting angle should be within 40°C. Therefore, the temperature inside the control panel should be within 40°C. Control panel, etc.

4.5 Installation Procedure

The GOT is designed to be embedded into a panel. Mount the GOT by following the procedure below. For panel cutting dimensions, refer to Section 4.2. Note that the panel thickness should be within 2 to 4mm.

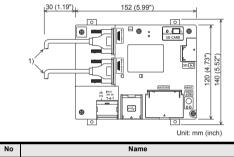
Item	Specifications				
item	GT1455-QTBD, GT1450-QMBD, GT1450-QLBD	GT1455-QTBDE, GT1450-QMBDE, GT1450-QLBDE			
Power consumption	7.68W (320mA/24VDC) or less	8.40W (350mA/24VDC) or less			
At backlight off	6.72W (280mA/24VDC) or less	7.44W (310mA/24VDC) or less			
Inrush current	30A or less (26.4V) 2ms	•			
Permissible instantaneous power failure time*1	Within 5ms				
Noise immunity	Noise voltage: 1000Vp-p, Noise width: 1µs (by noise simulator of 30 to 100Hz noise frequency)				
Dielectric withstand voltage	500VAC for 1 minute (across power supply terminals and earth)				
Insulation resistance	$10M\Omega$ or larger by insulation resistance tester (across power supply terminals and earth)				
Applicable wire size	For power supply: 0.75[mm ²] or more, For grounding: 2[mm ²] or more				
Applicable solderless terminal	Solderless terminal for M3 screw RAV1.25-3, V2-N3A, FV2-N3A				
Applicable tightening torque (Terminal block terminal screw)	0.5 to 0.8[N•m]				



4. Installation

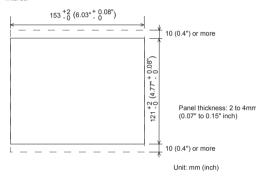
4.1 Control Panel Inside Dimensions for Mounting GOT Mount the GOT onto the control panel while considering the following control panel

nsions



4.2 Panel Cutting Dimensions

Make holes in the panel according to the dimensions list below Also, ensue 10mm spaces in upper and lower parts of the panel for mour fixtures.





1)

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.

How to confirm production year and month The production year and month of the battery built in the purchased GOT can be confirmed by the production No. (SN) marked on the GOT main unit.

Example nameplate (manufacture's serial number 1160003)

Actual product

PLC connection cable/PC connection cable

8. Certification of UL, cUL standards

- Brvironmental rating Front: Type 4X (indoor use only)
 Using GOT
 GOT is for use on a flat surface of a Type 1 or Type 4X (indoor use only)

「电器电子产品有害物质限制使用标识要求」的表示方式



Note: This symbol mark is for China only. 含有有害6物质的名称,含有量,含有部品

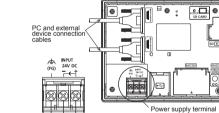
本产品中所含有的有害6物质的名称,含有量,含有部品如下表 所示。

产品中有害物质的名称及含量

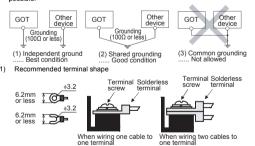
	有害物质						
部作	‡名称	铅 (Pb)	汞 (Hg)	镐 (Cd)	六价铬 (Cr (VI))	多溴联苯 (PBB)	多溴 二苯醚 (PBDE)
	外壳	0	0	0	0	0	0
显示器 GOT	印刷基板	\times	0	0	0	0	0
	背光灯 (CCFL)	0	×	0	0	0	0
	电缆	\times	0	0	0	0	0

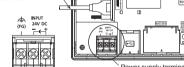
本表格依据SJ/T 11364的规定编制。

- 〇:表示该有害物质在该部件所有均质材料中的含量均在GB/T
- 26572规定的限量要求以下
- ×:表示该有害物质至少在该部件的某一均质材料中的含量超出GB/ T 26572规定的限量要求。





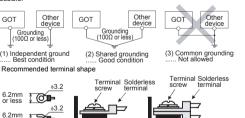




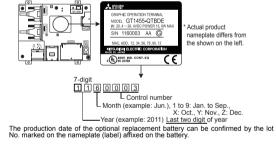
Connect the power supply to the power terminals on the back panel of the GOT. Use 0.75mm^2 or thicker cables to avoid voltage drop and tighten the terminal screw with the specified torque securely.



- · Carry out the independent grounding if possible
- If the independent grounding is provided to the shared grounding as shown in fig.2) below.
 Use the cable of 2mm² or more for grounding. Set the grounding point closer to the GOT to make the grounding cable short as possible.



one te



A MIRME

3-digit 1 1 6 Month Name Mode (example: Jun.) 1 (Jan.) to 9 (Sep.), X (Oct.), Y (Nov.), Z (Dec.) Year (example: 2011) Last two digit of year 11-50B LOT

- Battery life Approximate battery life: 5 years (ambient temperature: 25°C) Battery replacement: In 4 to 5 years

Approximate life is 5 years, but life may be shorter depending on the ambient temperature, therefore, note that the battery must be replaced in 4 to 5 years. Make sure to purchase a new battery as needed as it self-discharges.

Battery status can be confirmed on a GOT utility screen. For details of battery status or how to output alarm, refer to the following: → GT14 User's Manual

Notification of CE marking 7.

7. Nonincation 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 (2004/108/EC) when used as directed by the appropriate documentation. This product is designed for use in industrial applications. - Type: Graphic Operation Terminal - Models: GOT series

the panel thickness should be within 2 1) Installing the packing Install packing to the packing Installing groove on the back panel of the GOT. While referring to the cross sectional view of the packing shown right, push the thinner side into the packing groove. (Right drawing is the example of lateral format.) Magn

Inserting into the panel face Insert the GOT from the front side of the panel.

3) Fixing the GOT Engage the hook of the mounting fitting (accessory) to the unit fixing hole of the GOT and tighten the screw until the GOT is fixed with the mounting bot (accessory). The GOT will be fixed in 4 upper/ lower parts. The GOT will be fixed in 4 upper/ lower parts. Tighten the mounting screw with the specified torque. (Failure to do so may distort the panel and make a surface waviness on the protective sheet.)

4) A protection film is attached on the display section of GOT prior to shipment. Remove the film when the installation is completed.

Packing Packing Packing cross sectional view Inserting direction

Mounting hole

lounting

Magnified

The GOT does not include consumable components that will cause the shorten life. However, note that battery life is 5 years and LCD life is 50,000 hours. The life of backlight is 70,000 hours. It is recommended to replace the battery periodically. (For the replacement of the liquid crystal screen and backlight, please consult your nearest sales office or FA Center.) Refer to the following for the daily inspection and the periodic inspection. $\rightarrow \rightarrow GT14$ User's Manual

Battery cover

Battery cover

\$

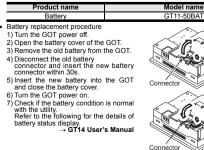
ǰ

6.1 Battery Replacement

6. Maintenance and Inspection

The battery is used for backing up the clock data, alarm history, recipe data, time action setting value, advanced alarm, advanced recipe, logging, hardcopy or SRAM user area. Screen data is stored in the flash memory and data is retained even if the battery is dead.

Battery model name $GT14\Box\Box$ is shipped with the following battery.



Standard		Remark
EN61131-2 : 2007		Compliance with all relevant aspects of the standard. (Radiated Emissions)
Programmable controllers - Equipment, requirements and tests	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.

→ GT14 User's Manual

7.1 Notes regarding the use of GOT units

7.1.1 General notes on the use of communication cables

Any device which utilizes a data communication function is susceptible to the wider effects of local EMC noise. Therefore, when installing any communication cables care should always be taken with the routing and location of those cables. Optional ferrite cores are recommended when the cable route is close to EMC noise sources like wieders, large motors, etc. All tests have been performed with original Mitsubishi cables. For customer prepared cables, please refer to the manuals.

GOT Unit	Existing Cables	User Made Cables
All units	Ex. GT01-C30R4-8P (as shown in EX.1) A complete list of appropriate cables can be found in the GOT user's manual.	3rd party cables need to be independently tested by the use to demonstrate EMC compliance
£8 [™] F=	GT01-C30R4-8P 250mm / 100mm FFFF Comes equipped Optional Ferrite core Tokin-FSD-R-17S or similar	GOT units

7.1.2 General notes on power supply All units require an additional ferrite filter to be attached to the 24V DC power supply cables. The filter should be attached in a similar manner as shown in the figure opposite, i.e. the power cables are wrapped around the filter. However, as with all EMC situations the more correctly applied precautions the better the system's electromagnetic compatibility. The ferrite recommended is a TDK ZCAT3035-1330 or similar (shown in Ex.2). The ferrite should be placed as near to the 24V DC terminals of the all units as possible (which should be within 75mm of the GOT terminal). Note: The euclemone must evaluate

Note: The customer must evaluate conformance of the final produced unit with the EMC directive.

This manual confers no industrial property rights or any rights of any other kind, nor does it confer any patent licenses. Mitsubishi Electric Corporation cannot be held responsible for any problems involving industrial property ri which may occur as a result of using the contents noted in this manual. erty rights

Warranty 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:

- compensation to:
 (1) Damages caused by any cause found not to be the responsibility of Mitsubishi.
- (2) Loss in opportunity, lost profits incurred to the user by Failures of Mitsubishi
- (3) Special damages and secondary damages whether foreseeable or not, compensation for accidents, and compensation for damages to products other than Mitsubishi products.
- (4) Replacement by the user, maintenance of on-site equipment, start-up test run and other tasks

A 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 ir 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.

MITSUBISHI ELECTRIC CORPORATION