

2. Specifications

2.1 General Specifications

Item	Specifications								
Operating ambient temperature	0°C to 40°C								
Storage ambient temperature	-20°C to 60°C								
Operating ambient humidity	10% RH to 90% RH, non-condensing								
Storage ambient humidity	10% RH to 90% RH, non-condensing								
Vibration resistance	Conforms to JIS B3502 and IEC61131-2	Under intermittent vibration	Frequency	5 to 8.4Hz	Acceleration	--	Half-amplitude	3.5mm	10 times each in X, Y and Z directions
			8.4 to 150Hz	9.8m/s ²	--	--			
		Under continuous vibration	Frequency	5 to 8.4Hz	Acceleration	--	Half-amplitude	1.75mm	--
			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 electroconductive dust particles and must be no direct sunlight. (Same as for saving)								
Operating altitude ^{*1}	2000 m (6562 ft) max.								
Overvoltage category ^{*2}	II or less								
Pollution degree ^{*3}	2 or less								
Cooling method	Self-cooling								
Grounding	Grounding with a ground resistance of 100 Ω or less by using a ground cable that has a cross-sectional area of 2 mm ² or more. If impossible, connect the ground cable to the control panel.								

*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.

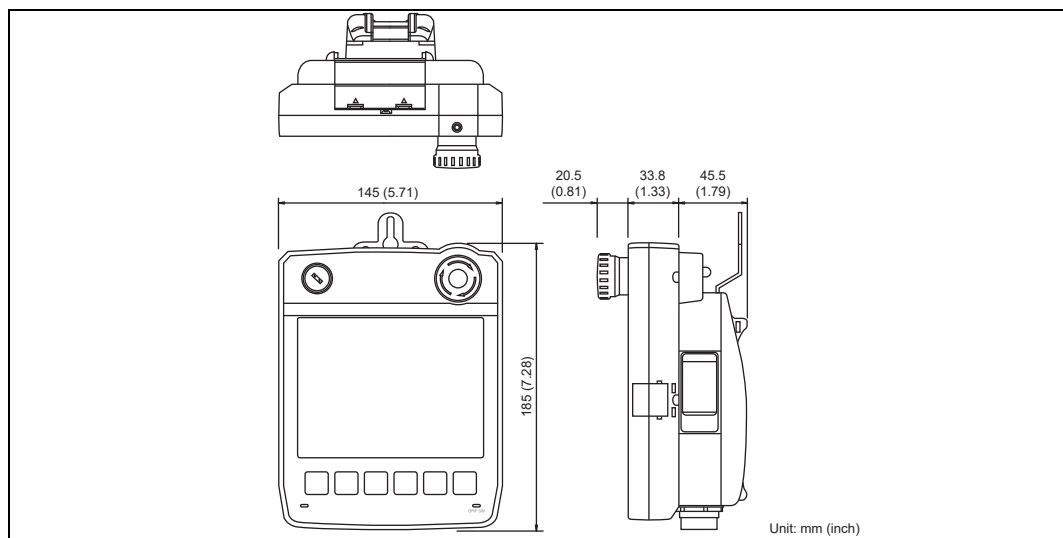
*2 This indicates the section of the power supply to which the equipment is assumed to be connected between the public electrical power distribution network and the machinery within the premises. Category II applies to equipment for which electrical power is supplied from fixed facilities. The surge voltage withstand level for up to the rated 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.

2.2 Performance Specifications

Item	Specifications	
	GT2505HS-VTBD	
Display section ^{*1,2}	Type	TFT color liquid crystal display
	Screen size	5.7"
	Resolution	VGA: 640 × 480 dots
	Display size	115.2(4.54) (W) × 86.4(3.40) (H) mm (inch)
	Display character	16-dot standard font: 40 characters × 30 lines, 12-dot standard font: 53 characters × 40 lines
	Display color	65536 colors
	Brightness adjustment	32 levels
	Backlight	LED (Not replaceable)
	Backlight life ^{*4}	Approximately 60000 hours (Operating ambient temperature: 25°C, display intensity: 50%)
	Touch panel ^{*3}	Type
Key size		Minimum 2 × 2 dots ^{*7} (per key)
The number of simultaneous press		Not available ^{*5} (Only 1 point can be touched.)
Life		1 million touches or more (Operating force: 0.98 N or less)
Buzzer output	Single tone (tone length adjustable)	
Protective structure ^{*6}	IP65F ^{*6,8} (valid when the external cable is connected, except for the connector conversion box side)	
External dimensions	145(5.70)(W)×185(7.27) (H)×79.3(3.12)(D)mm(inch) (Excluding projections such as the emergency stop switch)	
Weight	0.79kg (GT25 Handy main unit only)	
Compatible software package	GT Works3 Version1.195D or later	
Switch	Operation switch	6 switches (6 contacts/common), N/O contact, Maximum rating 10mA/24VDC, Life: 1,000,000 times
	Grip switch	1 switch (single wiring) (IDEC HE3B-M2PB) Enable switch (deadman switch) 3-position system of OFF ↔ ON ↔ OFF 2 N/O contacts Maximum rating 1A/24VDC (resistance load), Maximum rating 0.3A/24VDC (induction load), Life: 100,000 times
	Emergency stop switch	1 switch (single wiring) (IDEC XA1E-BV303R) 3 N/C contacts Maximum rating 1A/24VDC (resistance load), Maximum rating 0.3A/24VDC (induction load), Life: 100,000 times

2.4 External Dimensions



3. Maintenance and Inspection

The GOT does not include consumable components that will cause the shorten life. However, the battery, liquid crystal display screen and backlight have each life length. It is recommended to replace the battery periodically. (For the replacement of the liquid crystal screen, please consult your nearest sales office or FA Center.)

3.1 Daily Inspection

No.	Inspection Item	Inspection Method	Criterion	Action	
1	Installation status of GOT	Check for loose mounting screws.	Securely mounted	Retighten screws within the specified torque range.	
2	Connection status	Loose terminal screws	Retighten screws with screwdriver.	Not loose	Retighten terminal screws.
		Proximate solderless terminals	Visual check	Proper intervals	Correct.
		Loose connectors	Visual check	Not loose	Retighten connector fixing screws.
3	Usage status	Dirt on protection sheet	Visual check	Not outstanding	Replace with new one
		Foreign material attachment	Visual check	No foreign matter sticking	Remove clean

Refer to the following for the model names of the protection sheet or the replacement procedure.

→ GOT2000 Series User's Manual (Hardware)

3.2 Periodic Inspection

Yearly or half-yearly inspection items

The following inspection should also be performed when equipment has been moved or modified or the wiring changed.

No.	Inspection Item	Inspection Method	Criterion	Action	
1	Surrounding environment	Ambient temperature Ambient humidity Atmosphere	Make measurement with thermometer or hygrometer Measure corrosive gas	0 to 40°C 10 to 90%RH No corrosive gas	For use in control panel, temperature inside control panel is ambient temperature
2	Power supply voltage check	24V DC Measure voltage across terminals.	20.4 to 26.4V DC	Change supply power	
3	Mounting status	Looseness Foreign material attachment	Move module. Visual check	Should be mounted firmly. No foreign matter sticking	Retighten screws. Remove, clean
4	Connection status	Loose terminal screws	Retighten screws with screwdriver.	Not loose	Retighten terminal screws.
		Proximate solderless terminals	Visual check	Proper intervals	Correct.
		Loose connectors	Visual check	Not loose	Retighten connector fixing screws.
5	Battery	Check GOT internal battery voltage status in [Time Setting & Display] of the Utility.	No alarm displayed	Replace with new battery when the current battery has reached the specified life span, even if battery voltage is not displayed.	

3.3 Battery Replacement

The battery retains RAM data, clock data, and system status log data. Screen data is stored in the flash memory and data is retained even if the battery is dead.

- Battery model name
Handy GOT is shipped with the following battery.
Use it at replacement.

Product name	Model name
Battery	GT11-50BAT

Item	Specifications	
	GT2505HS-VTBD	
Switch	Keylock switch (2-position switch)	1 switch (single wiring) (IDEC AS6M-2KT1PB) 2-notch type (Manual stop at each position/A key can be inserted and removed on only the left side./On the right side, a key cannot be removed./Two keys are provided.) 2-position, Maximum rating 1A/24VDC (resistance load), Maximum rating 0.3A/24VDC (induction load), Life: 100,000 times
LED	POWER LED	1 LED Lit in blue: Power is correctly supplied. Lit in orange: Screen saving and backlight not lit. Blinks in orange/blue: Blown back light bulb. Not lit: Power is not supplied.
	LED for grip switch display	1 LED, green (lighting control from display unit part)
	SD card access LED	ON: SD card installed Blink: SD card accessed OFF: SD card not installed or SD card installed but removal possible
	Ethernet communication status LED	LED1: Turns on during data transfer/reception. LED2: Turns on during 100Mbps transmission.
User Memory	User memory capacity	Memory for storage (ROM): 32 MB Memory for operation (RAM): 80 MB
	Life (number of write times)	100000 times
Battery		GT11-50BAT lithium battery
	Life	Approx. 5 years (Operating ambient temperature of 25°C)
Built-in interface	RS-232 ^{*9}	1 channel Transmission speed: 115200/57600/38400/19200/9600/4800bps Connector shape : Round type 32pins (Male)
	RS-422 ^{*9}	1 channel Transmission speed: 115200/57600/38400/19200/9600/4800bps Connector shape : Round type 32pins (Male) Terminating resistor : 330Ω (Fixed)
	Ethernet ^{*9}	1 channel Data transfer method: 100BASE-TX, 10BASE-T Connector shape : Round type 32pins (Male)
	USB (Host)	1 channel (Top face) USB version: USB 2.0 (High-Speed 480 Mbps) Connector shape: USB-A
	USB (Device)	1 channel (Top face) USB version: USB 2.0 (High-Speed 480 Mbps) Connector shape: USB Mini-B
	SD card	1 channel, SDHC compliant (maximum 32GB)

*1 As a characteristic of liquid crystal display panels, bright dots (always lit) and dark dots (never lit) may appear on the panel. Since liquid crystal display panels comprise a great number of display elements, the appearance of bright and dark dots cannot be reduced to zero.

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

*3 When a stylus is used, the touch panel has a life of 100 thousand touches.

The stylus must satisfy the following specifications.

- Material: Polyacetal resin
- Tip radius: 0.8 mm or more

*4 To prevent the display section from burning in and lengthen the backlight life, enable the screen save function and turn off the backlight.

*5 If you touch two points or more simultaneously on the touch panel, a touch switch near the touched points may operate unexpectedly. Do not touch two points or more simultaneously on the touch panel.

*6 Note that the structure does not guarantee protection in all users' environments.

The protection is not applied when the interface environment protection cover or environment protection back cover is removed. The GOT may not be used in an environment where the GOT is exposed to oil or chemicals for a long time, or where oil mist fills the air.

*7 The minimum size of a key that can be arranged.

To ensure safe use of the product, the following settings are recommended.

- Key size: 16 × 16 dots or larger
- Distance between keys: 16 dots or more

*8 The suffix "F" of IP65F is a symbol that indicates protection rate against oil. It is described in the Appendix of Japanese Industrial Standard JIS C 0920.

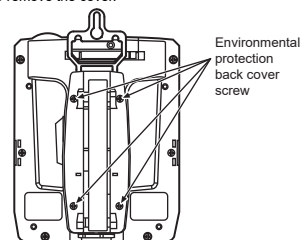
*9 Select either RS-232, RS-422 or Ethernet when used. The channel is set to Ethernet before shipping.

2.3 Power Supply Specifications

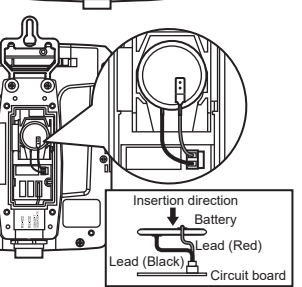
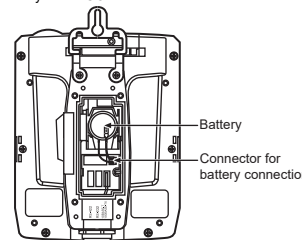
Item	Specifications	
	GT2505HS-VTBD	
Input power supply voltage	24V DC (+10% -15%)	
Power consumption	8.4W or less	
	At backlight off	7.0W or less
Inrush current	30 A or less (2 ms, ambient temperature: 25 °C, under the maximum load)	
Permissible instantaneous power failure time ^{*1}	Within 5ms	
Noise immunity	Noise voltage: 1000Vp-p, Noise width: 1μs (by noise simulator of 30 to 100Hz noise frequency)	
Dielectric withstand voltage	500 V DC for 1 minute across power supply terminals and earth	
Insulation resistance	500 V DC across power supply terminals and earth, 10 MΩ or more by an insulation resistance tester	

Battery replacement procedure

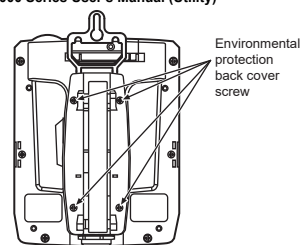
- After keeping the GOT turned ON more than 10 minutes, turn OFF the GOT. Perform steps 2) to 7) within five minutes after turning off the GOT.
- Loosen the environmental protection back cover screws at four points on GOT rear face to remove the cover.



- Remove the old battery from the holder and disconnect the connector.
- Insert the connector of the new battery.
- Install the battery to the GOT.



- Attach the environmental protection back cover and tighten the screws. Tightening torque: 0.36 to 0.48 N·m
- Turn the GOT power on.
- Check if the battery condition is normal with the utility. Refer to the following for the details of battery status display. → GOT2000 Series User's Manual (Utility)



- Battery life
Approximate battery life: 5 years (ambient temperature: 25°C)
Battery replacement: In 4 to 5 years
The battery is susceptible to natural discharge. Order one when necessary.
Battery status can be confirmed on a GOT utility screen.
For details of battery status or how to output alarm, refer to the following. → GOT2000 Series User's Manual (Hardware)

4. Precautions

4.1 Cautions on Using Emergency Stop Switch

- When using the emergency stop switch in the handy GOT, judge the validity to use the emergency stop switch in accordance with the risk assessment in your system.
- When using the parallel circuit (which disables the emergency stop status while the handy GOT is removed), the system may not conform to the safety standards. Check the safety standards required in the system, and then judge the validity to use the emergency stop switch.
- If a shock which exceeds the general specifications of the Handy GOT is applied, a chattering may occur in the emergency stop switch due to the structure of the switch. Check your usage condition and decide whether to use or not.

「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.

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部件名称	有害物质					
	铅 (Pb)	汞 (Hg)	镉 (Cd)	六价铬 (Cr(VI))	多溴联苯 (PBB)	多溴二苯醚 (PBDE)
显示器	○	○	○	○	○	○
GOT	×	○	○	○	○	○
外壳	○	○	○	○	○	○
印刷基板	×	○	○	○	○	○
电缆	×	○	○	○	○	○

本表格依据SJ/T 11364的规定编制。

○: 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。

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

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For safe use

- This product has been manufactured as a general-purpose part for general industries, and has not been designed or manufactured to be incorporated in a device or system used in purposes related to human life.
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