

Factory Automation

Human Machine Interfaces MELHMI-GOT

GT2310-VTBD Specifications

Basic specifications

Model	GT2310-VTBD
Product name	GT23 model
Series name	GOT2000
Model name	GT23

Performance specifications

Display section ^{*1 *2}	Display device	TFT color LCD
	Screen size	10.4"
	Resolution	VGA: 640 x 480 dots
	Display size	211.2 (W) x 158.4 (H) mm (8.31 (W) x 6.24 (H) inch)
	Number of displayed characters	16-dot standard font: 40 characters x 30 lines (two-byte characters) 12-dot standard font: 53 characters x 40 lines (two-byte characters)
	Display color	65536 colors
	Brightness adjustment	16 levels
	Registrable number of screen	4096
	Backlight ^{*4}	LED (not replaceable)
	Backlight life	Approx. 50000 h (operating ambient temperature: 25°C, display intensity: 50%)
	Backlight color	White
Touch panel ^{*3 *9}	Type	Analog resistive film
	Key size	Minimum 2 x 2 dots ^{*7} (per key)
	Simultaneous press	Not available ^{*5} (Only 1 point can be touched.)
	Life	1 million touches or more (operating force: 0.98 N or less)
Human sensor	Detection length	—
	Detection temperature	—
User memory		Memory for storage (ROM) ^{*10} : 9 MB Memory for operation (RAM) : 9 MB Life (number of write times) : 100000 times
Built-in clock precision		±90 seconds/month (ambient temperature: 25°C)

Battery	Type		GT11-50BAT lithium battery (option)
	Backup target		SRAM data, clock data, system status log data
	Life		Approx. 5 years (ambient temperature: 25°C)
Built-in interface	RS-232	Number of channel	1 channel
		Transmission speed	115200, 57600, 38400, 19200, 9600, 4800 bps
		Connector shape	D-sub 9-pin (male)
	RS-422/485	Number of channel	1 channel
		Transmission speed	115200, 57600, 38400, 19200, 9600, 4800 bps
		Connector shape	D-sub 9-pin (female)
	RS-422/232	Number of channel	—
		Transmission speed	—
		Connector shape	—
		Application	—
	RS-422	Number of channel	—
		Transmission speed	—
		Connector shape	—
	Ethernet	Number of channel	1 channel
		Data transfer method	100BASE-TX, 10BASE-T
		Connector shape	RJ45 (modular jack) AUTO MDI/MDI-X
	Bus interface	Type	—
		Number of channel	—
	RGB interface		—
	Printer interface		—
	USB (host)	Number of channel	1 channel (rear face)
		Maximum transfer rate	Full-Speed 12 Mbps
		Connector shape	USB-A
	USB (device)	Number of channel	1 channel (rear face)
		Maximum transfer rate	Full-Speed 12 Mbps
		Connector shape	USB Mini-B
	SD memory card ^{*10}		1 channel, SDHC compliant (maximum 32 GB)
	CF card interface		—
	PC card interface		—

	Option function board interface	—
	Memory board interface	—
Buzzer sound		Single tone (tone length adjustable)
LED specifications	POWER LED	2 colors (blue and orange)
Installation method		Standard
Panel color		Black
Protective structure*6		Front: IP67F*8 Inside control panel: IP2X
External dimensions		303 (W) x 218 (H) x 56 (D) mm (11.93 (W) x 8.58 (H) x 2.20 (D) inch)
Panel cut dimensions		289 (W) x 200 (H) mm (11.38 (W) x 7.87 (H) inch)
Weight (excluding a fitting)		1.9 kg (4.2 lb)

- (*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. Individual differences in liquid crystal display panels may cause differences in color, uneven brightness and flickering. Note that these phenomena are characteristics of liquid crystal display panels and it does not mean the products are defective or damaged.
- (*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 switch in an unintended location may operate. 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 GOT may not be used in certain environments where it is subjected to splashing oil or chemicals for a long period of time or soaked in oil mist.
- (*7)The minimum size of a key that can be arranged.To ensure safe use of the product, the following settings (Key size: 16 x 16 dots or larger/Distance between keys: 16 dots or more) are recommended.
- (*8)The suffix "F" of IP67F is a symbol that indicates protection rate against oil. It is described in the Appendix of Japanese Industrial Standard JIS C 0920.
- (*9)Repeatedly touching the outer edge of the actual display area may cause the product to fail.
- (*10)While writing data to the memory for storage (ROM) or an SD memory card, if GOT is powered off, the data may be corrupted which may cause the GOT to stop operating.

General specifications

Ambient operating temperature		0°C to 55°C
Ambient storage temperature		-20°C to 60°C
Ambient operating humidity		10% RH to 90% RH, non-condensing
Ambient storage humidity		10% RH to 90% RH, non-condensing
Vibration resistance	Approval standards	Compliant with JIS B 3502 and IEC 61131-2*11
	Under intermittent vibration	[Frequency: 5 to 8.4 Hz] Half amplitude: 3.5 mm Sweep count: 10 times in each X, Y, or Z direction [Frequency: 8.4 to 150 Hz] Acceleration: 9.8 m/s ² Sweep count: 10 times in each X, Y, or Z direction
	Under continuous vibration	[Frequency: 5 to 8.4 Hz] Half amplitude: 1.75 mm [Frequency: 8.4 to 150 Hz] Acceleration: 4.9 m/s ²
Shock resistance		Compliant with JIS B 3502 and IEC 61131-2 (147 m/s ² (15 G), 3 times in each X, Y, or Z direction)*11

Operating atmosphere		No greasy fumes, corrosive gas, flammable gas, excessive conductive dust, and direct sunlight (as well as at storage)
Operating altitude		2000 m or less
Installation location		Inside control panel
Overvoltage category		II or less
Pollution degree		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.
Remarks	Ambient operating temperature	Includes the temperature inside the enclosure of the control panel to which the GOT is installed.
	Ambient operating humidity	If the ambient temperature exceeds 40°C, the absolute humidity must not exceed 90% RH at 40°C.
	Ambient storage humidity	If the ambient temperature exceeds 40°C, the absolute humidity must not exceed 90% RH at 40°C.
	Operating altitude	Do not use or store the GOT under a pressure higher than the atmospheric pressure at altitude 0 m. Doing so may cause a malfunction. Air purging by applying pressure to the control panel may create clearance between the surface sheet and the touch panel. This may cause the touch panel to be not sensitive enough or the sheet to come off.
	Overvoltage category	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 that is supplied with power from fixed facilities. The withstand surge voltage for the equipment with the rated voltage up to 300 V is 2500 V.
	Pollution degree	This indicates the occurrence rate of conductive material in an environment where a device is used. Pollution degree 2 indicates an environment where only non-conductive pollution occurs normally and a temporary conductivity caused by condensation shall be expected depending on the conditions.

(*11)The definition of 1 G has been changed from 9.8 m/s² to 10 m/s² in JIS B 3502:2021 and IEC 61131-2 ED.3. The product was tested by using the former definition, 1 G = 9.8 m/s².

Specifications of the power supply section

Power supply voltage		24 V DC (+25%, -20%)
Power supply frequency		—
Maximum apparent power		—
Power consumption	Under the maximum load	16 W or less
	Main unit	13 W
	Main unit (backlight OFF)	7 W
Inrush current		40 A or less (2 ms, ambient temperature: 25°C, under the maximum load)
Permissible instantaneous power failure time		10 ms or less
Noise immunity		Noise voltage: 500 Vp-p, noise width: 1 μs, measured by a noise simulator with noise frequency ranging from 25 Hz to 60 Hz
Withstand voltage		350 V AC for 1 minute across power terminals and earth
Insulation resistance		500 V DC across power terminals and earth, 10 MΩ or more by an insulation resistance tester
Applicable wire		0.75 mm ² to 2 mm ²
Applicable solderless terminal		Solderless terminal for M3 screw RAV1.25-3, V2-S3.3, V2-N3A, FV2-N3A
Applicable tightening torque (for terminal block terminal screws)		0.5 N · m to 0.8 N · m

