

Factory Automation

Human Machine Interfaces MELHMI-GOT

GT2308-VTBD Specifications

Basic specifications

|              |             |
|--------------|-------------|
| Model        | GT2308-VTBD |
| Product name | GT23 model  |
| Series name  | GOT2000     |
| Model name   | GT23        |

Performance specifications

|                                  |                                |                                                                                                                                              |
|----------------------------------|--------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------|
| Display section <sup>*1 *2</sup> | Display device                 | TFT color LCD                                                                                                                                |
|                                  | Screen size                    | 8.4"                                                                                                                                         |
|                                  | Resolution                     | VGA: 640 x 480 dots                                                                                                                          |
|                                  | Display size                   | 170.9 (W) x 128.2 (H) mm<br>(6.73 (W) x 5.05 (H) inch)                                                                                       |
|                                  | Number of displayed characters | 16-dot standard font: 40 characters x 30 lines (two-byte characters)<br>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 <sup>*4</sup>        | LED (not replaceable)                                                                                                                        |
|                                  | Backlight life                 | Approx. 50000 h (operating ambient temperature: 25°C, display intensity: 50%)                                                                |
|                                  | Backlight color                | White                                                                                                                                        |
| Touch panel <sup>*3 *9</sup>     | Type                           | Analog resistive film                                                                                                                        |
|                                  | Key size                       | Minimum 2 x 2 dots <sup>*7</sup> (per key)                                                                                                   |
|                                  | Simultaneous press             | Not available <sup>*5</sup> (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) <sup>*10</sup> : 9 MB<br>Memory for operation (RAM) : 9 MB<br>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 <sup>*10</sup> |                       | 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<br>Inside control panel: IP2X                           |
| External dimensions          |                                 | 241 (W) x 194 (H) x 56 (D) mm<br>(9.49 (W) x 7.64 (H) x 2.20 (D) inch) |
| Panel cut dimensions         |                                 | 227 (W) x 176 (H) mm<br>(8.94 (W) x 6.93 (H) inch)                     |
| Weight (excluding a fitting) |                                 | 1.5 kg<br>(3.3 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 ]<br>Half amplitude: 3.5 mm<br>Sweep count: 10 times in each X, Y, or Z direction<br>[ Frequency: 8.4 to 150 Hz ]<br>Acceleration: 9.8 m/s <sup>2</sup><br>Sweep count: 10 times in each X, Y, or Z direction |
|                               | Under continuous vibration   | [ Frequency: 5 to 8.4 Hz ]<br>Half amplitude: 1.75 mm<br>[ Frequency: 8.4 to 150 Hz ]<br>Acceleration: 4.9 m/s <sup>2</sup>                                                                                                            |
| Shock resistance              |                              | Compliant with JIS B 3502 and IEC 61131-2 (147 m/s <sup>2</sup> (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 <sup>2</sup> 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.<br>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.<br>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.<br>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/s<sup>2</sup> to 10 m/s<sup>2</sup> 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/s<sup>2</sup>.

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    | 11 W or less                                                                                                                  |
|                                                                      | Main unit                 | 8 W                                                                                                                           |
|                                                                      | Main unit (backlight OFF) | 6 W                                                                                                                           |
| Inrush current                                                       |                           | 40 A or less<br>(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,<br>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 <sup>2</sup> to 2 mm <sup>2</sup>                                                                                     |
| Applicable solderless terminal                                       |                           | Solderless terminal for M3 screw RAV1.25-3, V2-S3.3, V2-N3A, FV2-N3A                                                          |
| Applicable tightening torque<br>(for terminal block terminal screws) |                           | 0.5 N · m to 0.8 N · m                                                                                                        |

