



Global

## Factory Automation

Human Machine Interfaces MELHMI-GOT

# GS2110-WTBD-N Specifications

### Basic specifications

|              |               |
|--------------|---------------|
| Model        | GS2110-WTBD-N |
| Product name | GS21 model    |
| Series name  | GOT SIMPLE    |
| Model name   | GS21          |

### Performance specifications

|                               |                                |   |                                 |
|-------------------------------|--------------------------------|---|---------------------------------|
| Display section* <sup>1</sup> | Display device                 | TFT color LCD   |                                 |
|                               | Screen size                    | 10" Wide  |                                 |
|                               | Resolution                     | WVGA: 800 x 480 dots  |                                 |
|                               | Display size                   | 222 (W) x 132.5 (H) mm<br>(8.74 (W) x 5.22 (H) inch)<br>(Horizontal format)   |                                 |
|                               | Number of displayed characters | 16-dot standard font: 50 characters x 30 lines (two-byte characters)<br>12-dot standard font: 66 characters x 40 lines (two-byte characters)<br>(Horizontal format) |                                 |
|                               | Display color                  | 65536 colors  |                                 |
|                               | Brightness adjustment          | 32 levels   |                                 |
|                               | Backlight                      | LED (not replaceable)   |                                 |
|                               | Backlight color                | White   |                                 |
| Touch panel* <sup>2</sup>     | Type                           | Analog resistive film   |                                 |
|                               | Key size                       | Minimum 2 x 2 dots (per key)  |                                 |
|                               | Simultaneous press             | Not available (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                   | Flash memory                   | Capacity  | Flash memory (Internal) : 15 MB |
|                               |                                | Life (number of write times)  | 100000 times                    |
|                               | Application                    | for storing project data, OS  |                                 |

|                      |                       |   |   |
|----------------------|-----------------------|---|---|
| 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)  |
|                      |                       | Terminating resistor                      | 330 Ω, 110 Ω, OPEN (Selectable by the terminating resistor setting switch.) |
|                      | RS-422/232            | Number of channel                         | —   |
|                      |                       | Transmission speed                        | —   |
|                      |                       | Connector shape                           | —   |
|                      | RS-422                | Number of channel                         | —   |
|                      |                       | Transmission speed                        | —   |
| Connector shape      |                       | —   |   |
| Terminating resistor |                       | —   |   |
| 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     | —   |   |
|                      | Maximum transfer rate | —   |   |
|                      | Connector shape       | —   |   |
| USB (device)         | Number of channel     | 1 channel (rear face)                     |   |
|                      | Maximum transfer rate | Full-Speed 12 Mbps                        |   |
|                      | Connector shape       | USB Mini-B                                |   |
| SD memory card       |                       | 1 channel, SDHC compliant (maximum 32 GB) |   |
| CF card interface    |                       | —   |   |
| PC card interface    |                       | —   |   |
|                      |                       | —   |   |

|                              |                                 |   |
|------------------------------|---------------------------------|---|
|                              | Option function board interface | -   |
|                              | Memory board interface          | Single tone (LONG/SHORT/OFF adjustable)                                 |
| Buzzer sound                 |                                 | -   |
| LED specifications           | POWER LED                       | Standard  |
|                              |                                 | Black   |
| Installation method          |                                 | Front: IP65F  |
| Panel color                  |                                 | 272 (W) x 214 (H) x 56 (D) mm<br>(10.71 (W) x 8.43 (H) x 2.21 (D) inch) |
| Protective structure *3      |                                 | 258 (W) x 200 (H) mm<br>(10.16 (W) x 7.88 (H) inch)                     |
| External dimensions          |                                 | 1.3 kg  |
| Panel cut dimensions         |                                 |   |
| Weight (excluding a fitting) |                                 |   |

(\*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 and partial discoloration may be generated on the liquid crystal display panel due to individual differences of panels. Please note that these phenomena appear due to its characteristic and are not caused by product defect.

(\*2)The touch panel is an analog-resistive type. Simultaneous pressing of two or more areas on the touch panel may activate the switch between those areas. Do not press two or more areas simultaneously on the touch panel.

(\*3)Note that this does not guarantee all users' operation environment. In addition, the product may not be used in environments under exposition of oil or chemicals for a long period of time, or in environments filled with oil-mist.

## General specifications

|                               |                              |  |
|-------------------------------|------------------------------|--|
| Ambient operating temperature |                              | 0°C to 50 °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           | Conforms to IEC 61131-2*4  |
|                               | 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              |                              | Conforms to IEC 61131-2 (147 m/s <sup>2</sup> (15 G), 3 times in each X, Y, or Z direction)*4  |
| 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 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.   |

(\*4)The definition of 1 G has been changed from 9.8 m/s<sup>2</sup> to 10 m/s<sup>2</sup> in 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 (+10%, -15%), ripple voltage 200 mV or less   |                               |
| Power supply frequency   | —   |                               |
| Maximum apparent power   | —   |                               |
| Power consumption  | Main unit   | 7.6 W (317 mA / 24 V) or less |
|  | Main unit (backlight OFF)   | 3.8 W (158 mA / 24 V) or less |
| Inrush current   | 17 A or less<br>(6 ms, 25 °C, at the maximum load)  |                               |
| Permissible instantaneous power failure time                         | Within 5 ms   |                               |
| Noise immunity   | Conforms to IEC61000-4-4, 2kV (power supply line)   |                               |
| Withstand voltage  | 350 V AC for 1 minute (across power supply 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  |                               |