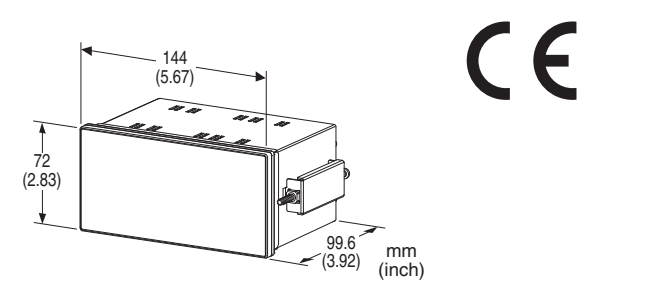


## WEIGHING INDICATOR W100 SERIES

### WEIGHING INDICATOR

#### Functions & Features

- Highly visible LCD with white characters
- Function for automatic quantitative feeding control
- A maximum of 32 codes to be registered
- 12-point discrete outputs and 12-point discrete inputs
- IP65 front panel



### MODEL: W100-001-M2[1]

#### ORDERING INFORMATION

- Code number: W100-001-M2[1]
- Specify a code from below for [1].  
(e.g. W100-001-M2/Q)
- Specify the specification for option code /Q  
(e.g. /C01)

#### SD CARD

0: Without

#### ANALOG OUTPUT

0: None

#### COMMUNICATION MODE

1: Modbus-RTU

#### POWER INPUT

AC Power

M2: 100 - 240 V AC (Operational voltage range 85 - 264 V, 47 - 66 Hz)

#### [1] OPTIONS

blank: none

/Q: With options (specify the specification)

#### SPECIFICATIONS OF OPTION: Q

COATING (For the detail, refer to our web site.)

Moving parts and indicators are not coated.

/C01: Silicone coating

/C02: Polyurethane coating

/C03: Rubber coating

#### GENERAL SPECIFICATIONS

**Construction:** Panel flush mounting

**Degree of protection:** IP65; applied to the front of weighing indicator unit when the unit is mounted to a panel surface with the specified panel cutout.

#### Connection

- **Power supply:** Euro type connector terminal

**Applicable wire size:** 0.2 - 2.5 mm<sup>2</sup>

**Stripped length:** 10 mm

- **Discrete I/O:** Spring clamp terminal

**Applicable wire size:** 0.2 - 1.5 mm<sup>2</sup>

**Stripped length:** 10 mm

- **RS-485:** Spring clamp terminal

**Applicable wire size:** 0.2 - 1.5 mm<sup>2</sup>

**Stripped length:** 10 mm

- **Load cell input:** Spring clamp terminal

**Applicable wire size:** 0.2 - 1.5 mm<sup>2</sup>

**Stripped length:** 10 mm

**Housing material:** Flame-resistant resin (black), steel

**Isolation:** Load cell input or excitation to discrete output or discrete input to RS-485 to power to FE to housing

**Tare adjustment:** Via the front button control or by the external contact input

**Setting:** Below items are programmable with front buttons

- Scaling
- Discrete output setting value
- Hysteresis (deadband)
- No. of samples for moving average
- Others

(Refer to the Users Manual (EM-9551-B) for details.)

**Averaging:** None or moving average

**Lockout setting:** Prohibiting certain operations; protecting settings

**Digital lowpass filter:** Cutoff frequency (0.1 to 300.0 Hz)

#### MODBUS COMMUNICATION

**Protocol:** Modbus-RTU

**Configuration:** Bus type multi-drop

**Communication:** Half-duplex, asynchronous, no procedure

**Standard:** Conforms to TIA/EIA-485-A

**Transmission distance:** 500 meters max.

**Transmission media:** Shielded twisted-pair cable (CPEV-S 0.9 dia.)

**Setting:** Programmable with front buttons

**Baud rate:** 2400, 4800, 9600, 19.2k, 38.4 k (\*), 57.6 k, 115.2 k bps  
**Parity:** None, Odd (\*), Even  
**Stop bit:** 1 (\*) or 2  
**Internal terminating resistor:** 110 Ω; Turned ON (\*) or OFF with DIP SW  
(\* Ex-factory setting)

## DISPLAY

**Display:** LCD with 7-segment characters in white

- **Main display:** 8 digits; 14.4 mm character height
- **Sub display:** 20 digits; 4.3 mm character height

**Display range:** -99999 to 99999  
**Decimal point position:**  $10^{-1}$ ,  $10^{-2}$ ,  $10^{-3}$  or none  
**Zero indication:** Higher-digit zeros are suppressed.  
**Over-range indication:** "Load (or -Load)" is displayed when an input voltage is out of range.

**Status indications**

- **SP1:** Turns ON when SP(Setpoint)1 output signal is ON.
- **SP2:** Turns ON when SP(Setpoint)2 output signal is ON.
- **SP3:** Turns ON when SP(Setpoint)3 output signal is ON.
- **COMPL:** Turns ON when COMPL(completion) signal is ON.
- **TARE:** Turns ON when TARE signal is ON.
- **NET:** Turns ON when NET signal is ON.
- **OUT1:** Turns ON when the assigned output signal is ON.
- **OUT2:** Turns ON when the assigned output signal is ON.

**Sub display indication**

- **Engineering unit:** t, g, kg, none
- **STAB:** Turns ON when the weight value is stable.

## INPUT SPECIFICATIONS

■ **Load cell input**

- **Input voltage:** -2.5 - +5.1 mV/V
- **Zero adjustment:** -2.5 - +2.0 mV/V
- **Span adjustment:** 0.02 - 3.0 mV/V
- **Excitation voltage:** 5 V±5%
- **Maximum current:** 90 mA  
(A max. of 6 350 Ω load cells can be connected in parallel.)
- **Load resistance:** 55 Ω min.

■ **Discrete input (12-point):** open collector; dry contact

## OUTPUT SPECIFICATIONS

■ **Discrete output x 12 points**

- **Open collector output**  
Rating: 30 V @ 80 mA (resistive load)

## INSTALLATION

• **AC:**  
Approx. 8 VA at 100 V

Approx. 9 VA at 200 V  
Approx. 10 VA at 264 V  
**Operating temperature:** -10 to +55°C (14 to 131°F)  
**Operating humidity:** 10 to 90 %RH (non-condensing)  
**Mounting:** Panel flush mounting  
**Weight:** 700 g (1.5 lb)

## PERFORMANCE in percentage of max. span

**Accuracy**

- **Display:** ±0.01% FS ±1 digit
- **Temp. coefficient:** ±0.002%FS/°C (±0.001%FS/°F)
- **Input resolution:** Max. 24 bits
- **Sampling rate:** 100/sec.
- **Line voltage effect:** ±0.1 % over voltage range
- **Insulation resistance:** ≥ 100 MΩ with 500 V DC
- **Dielectric strength:** 2000 V AC @ 1 minute (load cell input or excitation to discrete output or discrete input to RS-485 to power to FE to housing)

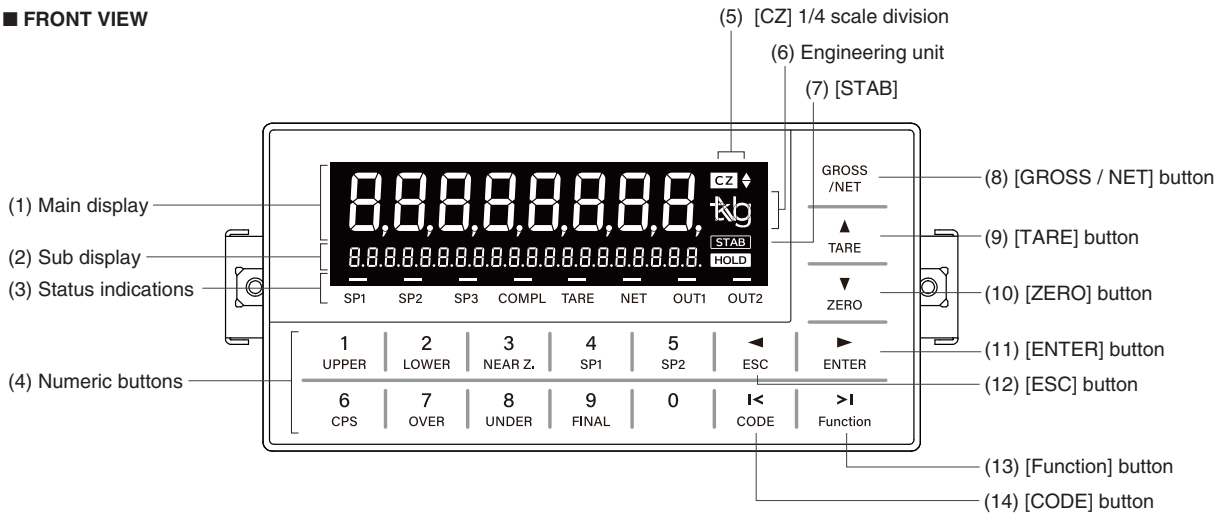
## STANDARDS & APPROVALS

**CE conformity:**

- EMC Directive  
EN 61326-1
- Low Voltage Directive  
EN 61010-1  
Installation Category II (power input)  
Pollution Degree 2
- Load cell input or discrete input/output or Modbus to power:  
Reinforced insulation (300 V)
- RoHS Directive

## EXTERNAL VIEW

### FRONT VIEW

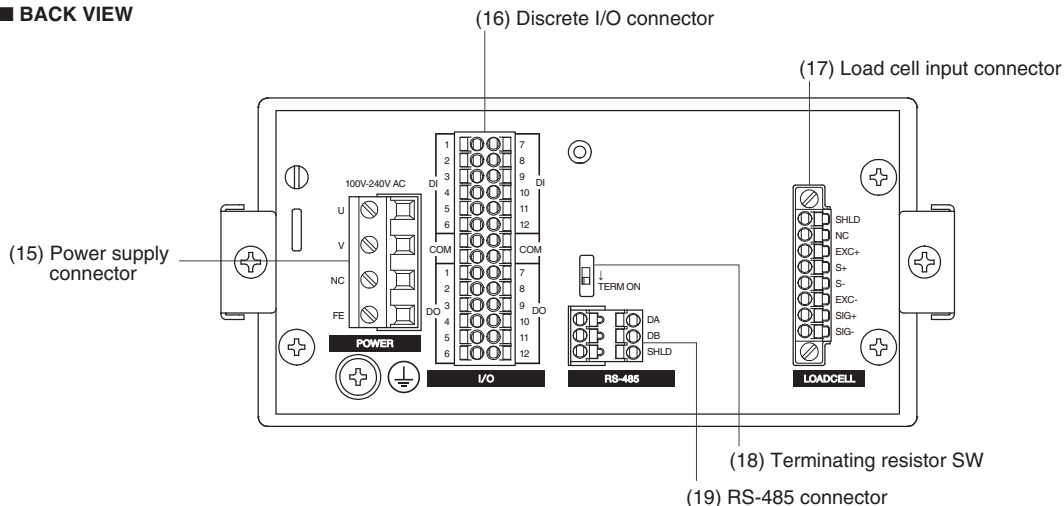


### COMPONENT IDENTIFICATION

NAME	FUNCTION
(1) Main display	Shows the current value, set value, and status of equipment.
(2) Sub display	Shows measurement data, various setting value, etc.
(3) Status indications	Shows ON/OFF status of output signals such as TARE, NET weight, etc.
(4) Numeric buttons	Used to enter setting values.
(5) [CZ] 1/4 scale division	Turns ON when the value is close to zero ( $0 \pm 1/4$ scale division).
(6) Engineering unit	Shows the set engineering unit (g / kg / t / none).
(7) [STAB]	Turns ON when the measurement value is stable.
(8) [GROSS / NET] button	Switches between Gross weight and Net weight.
(9) [TARE] button	Enables the tare function.
(10) [ZERO] button	Executes the digital zero function to zero the gross weight.
(11) [ENTER] button	Determines the set value at the cursor.
(12) [ESC] button	Shifts to the previous setting menu or preceding digit.
(13) [Function] button	Switches to SETTING mode.
(14) [CODE] button	Shows the CODE information.

Note) Refer also to Users Manual (EM-9551-B) for details.

### BACK VIEW



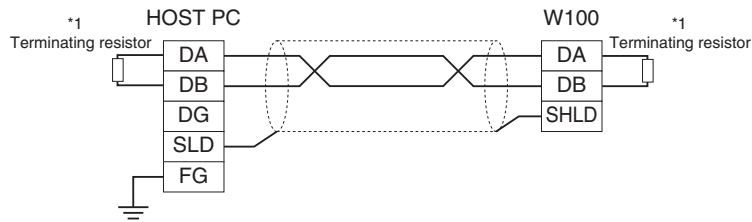
### Terminating resistor SW

TERM	Terminating resistor
OFF	Inactive
ON (*)	Active

(\*) Ex-factory setting

## COMMUNICATION CABLE CONNECTIONS

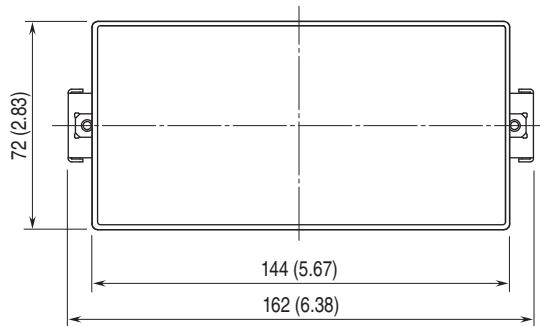
### ■ CONNECTION WITH HOST PC



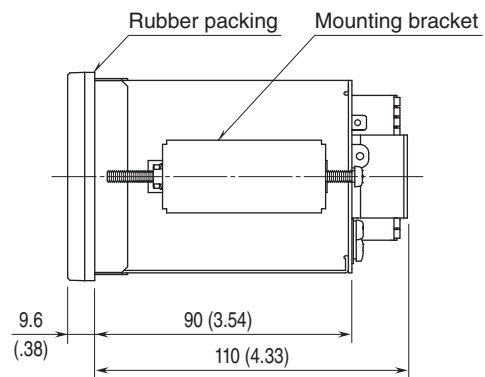
\*1. Turn on Terminating resistor SW to activate the internal terminating resistor.

## DIMENSIONS unit: mm (inch)

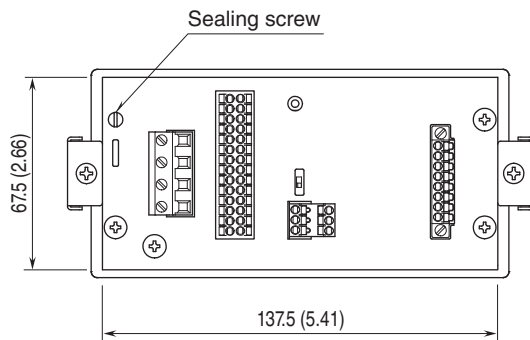
### ■ FRONT VIEW



### ■ SIDE VIEW

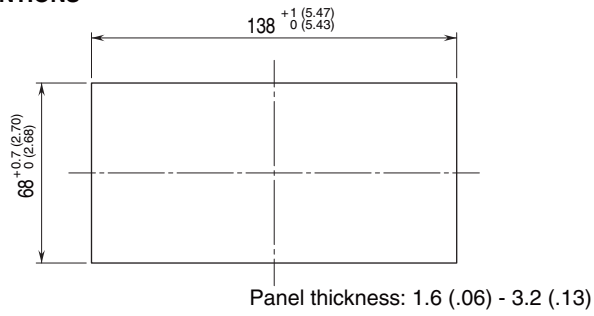


### ■ BACK VIEW

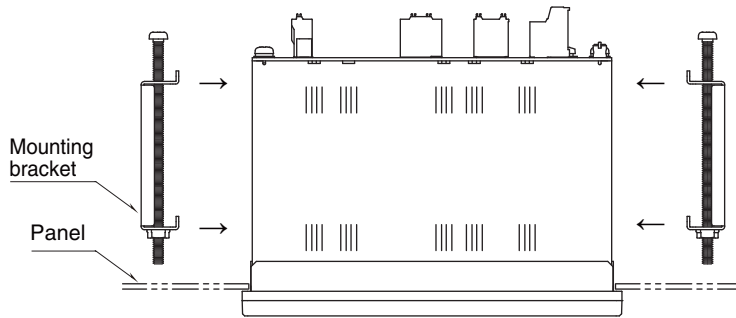


**MOUNTING REQUIREMENTS unit: mm**

■ PANEL CUTOUT DIMENTIONS



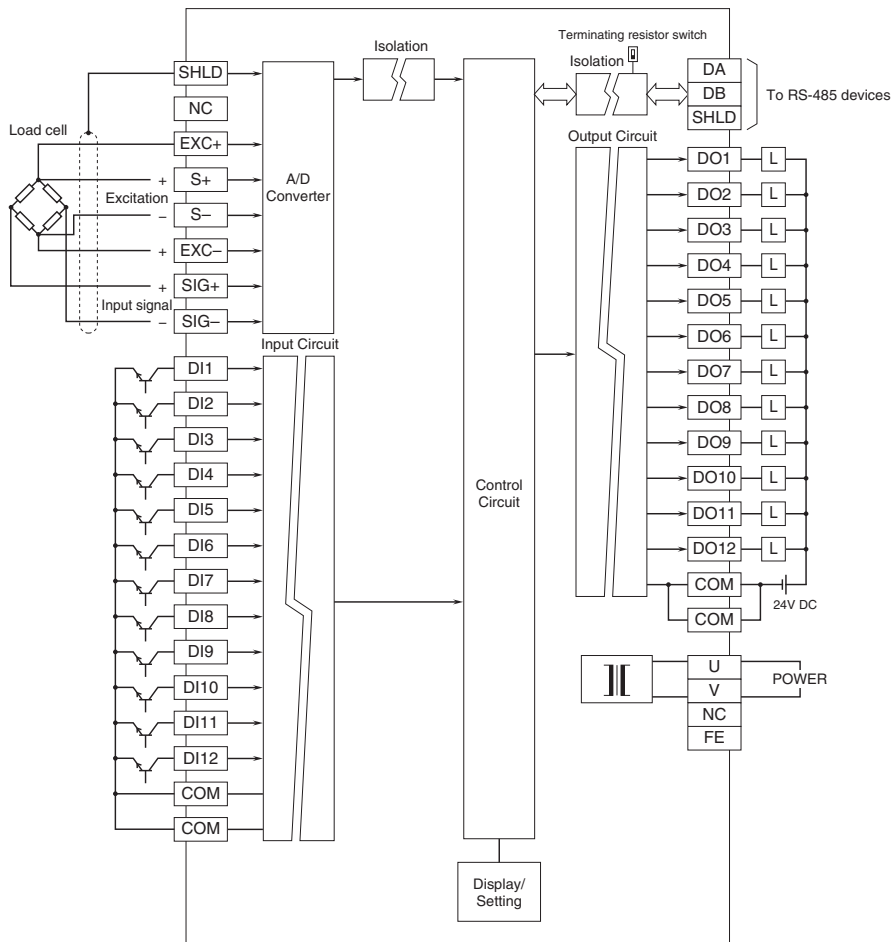
■ MOUNTING W100 UNIT TO PANEL



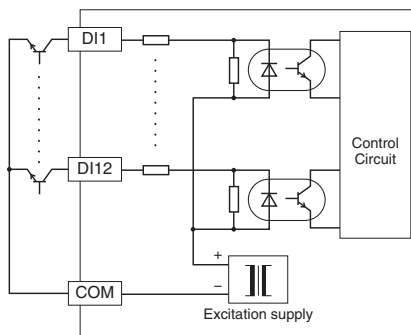
## SCHEMATIC CIRCUITRY & CONNECTION DIAGRAM

Note: In order to improve EMC performance, bond the FE terminal to ground.

Caution: FE terminal is NOT a protective conductor terminal.

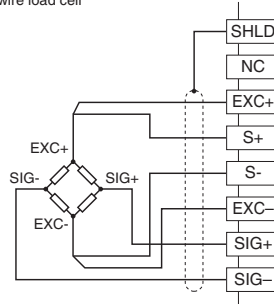


### INPUT CIRCUIT

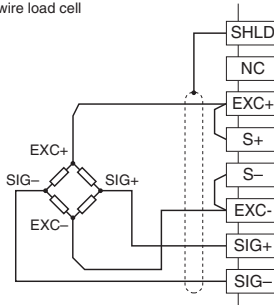


### LOAD CELL CONNECTION

- 6-wire load cell



- 4-wire load cell



Note) In case of 4-wire type, short-circuit between EXC+ and S+ and between EXC- and S-, respectively.



Specifications are subject to change without notice.