Minebea

SPECIFICATIONS

P.C. Board Type Digital Indicator

1. General

This instrument is the built–in P.C. Board type digital indicator with RS–232C interface, and it is suitable for the application inside of control pannel, such as batcher scale, platform scale, and so on.

2. Specifications

2-1. Specifications for analog

- Bridge power supply
  DC10 V ± 0.5 V within 120 mA (DC2.5 V is changeable) with remote sensing applied.

- Applicable transducer
  Up to 4 pieces of strain gage applied transducers(350 Ω) can be connectable.

- Input range
  F.S. setting can be made with the input range from 0.2 mV/V to 3.1 mV/V (Bridge power supply is at DC10 V.)

- Zero adjustment range
  −0.1 mV/V to 2.4 mV/V

- Non–linearity
  0.01 %F.S.
  (F.S. setting with the input range from 3 mV/V to 3.1 mV/V.)

- Temperature coefficient
  Zero point $\pm 0.4\ \mu$V/℃
  (Input conversion, at F.S. setting with the input range from 0.3 mV/V to 3.1 mV/V.)
  Sensitivity ± 0.003 %F.S./℃
  (At F.S. setting with the input range from 0.3 mV/V to 3.1 mV/V.)

- Input noise
  ± 0.3 μVp–p or less.
  (at the default setting for digital filter and stabilized filter)

- A/D sampling
  100 times/s

- CHECK
  Approx.0.3 mV/V
  (Setting can be provided at the intervals of 0.1 mV/V with the range from 0.1 mV/V to .5 mV/V.)

2-2. Specifications for digital

- Load display
  Load display or setting display
  Display range   −1 000 to 11 000 (×2, ×5 and ×10 can be available.)
  Display   Red 7 segment LED, character's height 8 mm, 5 digits
  Over display   "−OL" display when minus over and "OL" display when plus over.

- Status display
  RUN, A/Z, LOCK, HOLD, CHECK

- Display rate
  4 times/s (20 times/s or 50 times/s changeable)

- Decimal point display
  No display, $10^1, 10^2, 10^3$ or 10^4 changeable

2-3. Key switch function

A/Z /◀   Tare weight cancellation／Setting value carry

A/Z OFF/▲   Tare weight cancellation clear／Setting value increment

ZERO   Zero set

FUNC   Changeover of Function mode

CHECK   ON/OFF of check value

ENTER   Enter key

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2-4. External control function

ZERO	Same as ZERO key
A/Z	Same as A/Z key
A/Z OFF	Same as A/Z OFF key

　※ Above are pulse inputs, and they are effective once when the pulse width is 100 ms or more.

HOLD	Display, or hold of RS-232C interface
LOCK	Prohibiting key operation

　※ Above are level inputs, and they are effective when input is applied with the short for 100 ms or more.

2-5. Open collector output signal

- RUN　　　　　　　　ON during the measurement mode in the instrument
- ERROR　　　　　　　ON during the various kinds of errors occurred
　　　　　　　　　　V_{CE}＝DC30 V, I_C＝DC30 mA MAX

2-6. RS-232C interface

- Specifications

Baud rate	・Selection from 600,1 200,2 400,4 800,9 600,19 200 and 38 400 bps
Data bit length	・Selection from 7 bit and 8 bit
Parity bit	・Selection from None, Even and Odd
Stop bit	・Selection from 1 bit and 2 bit
Terminator	・CR+LF
Communication method	
	・Half duplex
Synchronous method	・Start-stop synchronous method
Communication data	・ASCII code
Input/output monitor with LED	

　※ Other than the Measurement mode, communication will be down.

・Layout of RS-232C connector pin　　　　Suitable plug：DE-9S-NR by JAE or equivalent.

Pin No.	Signal Name
1	CD
2	TXD
3	RXD
4	N.C.
5	S.G.
6	N.C.
7	RTS
8	CTS
9	N.C.

　※ Connector plug is not attached.
　※ The screw for fixing to the connector is inch type screw.
　※ Don't connect with the N.C. pin

- Function　　　　　　①Read out the load data (Gross weight, Net weight, Tare weight)
　　　　　　　　　　　②Read out the status (on/off the A/Z, ERROR)
　　　　　　　　　　　③Change of status(on/off the A/Z, ZERO)
　　　　　　　　　　　④Communication error code (Error code related to Communication)
　　　　　　　　　　　⑤Calibration

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2-7. Various kinds of function

- Zero tracking — Stabilizes the variation of zero within the constant condition.
- Digital filter — Stabilizes the data through the processor inside of CPU.
- Stabilized filter — Makes the digital filter strengthened/stabilized only when variable width of load is within the constant value.
- Change target of load display
  - Selects the target of display from Gross weight and Net weight.
- Change target of HOLD — By the combination with "Display" and "RS−232C interface", target for HOLD can be made.
- Key lock — Prohibiting key operation
  - ※Different operation from the LOCK function.

3. General specification

- Operating temperature/humidity range
  - Temperature — −10 ℃ to 50 ℃
  - Humidity — Less than 85 %RH (Non condensing.)
- Power supply
  - Power supply voltage — DC24 V (DC18 V to 36 V)
  - Power consumption — Approx. 9 W at maximum (At DC24 V)
- Insulation resistance — 100 MΩor more, at DC500 V (DC power supply ↔ GND)
- Withstand voltage — AC500 V for 1 min. (DC power supply ↔ GND)
- Outline dimensions(W × H × D)
  - : 220 mm × 130 mm × 25 mm
  - (Excludes protruding parts except on the surface.)
- Weight — Approx. 250 g

4. Standard specifications at the shipment

- Bridge power supply — DC10 V
- Span adjustment — 2 000 display at the input of 0.3 mV/V
- Tare weight — 0 mV/V
- The minimum scale — 1
- Decimal point — Non

5. Accessories

- Instruction manual — 1 piece
- Midget fuse (5 A) — 1 piece
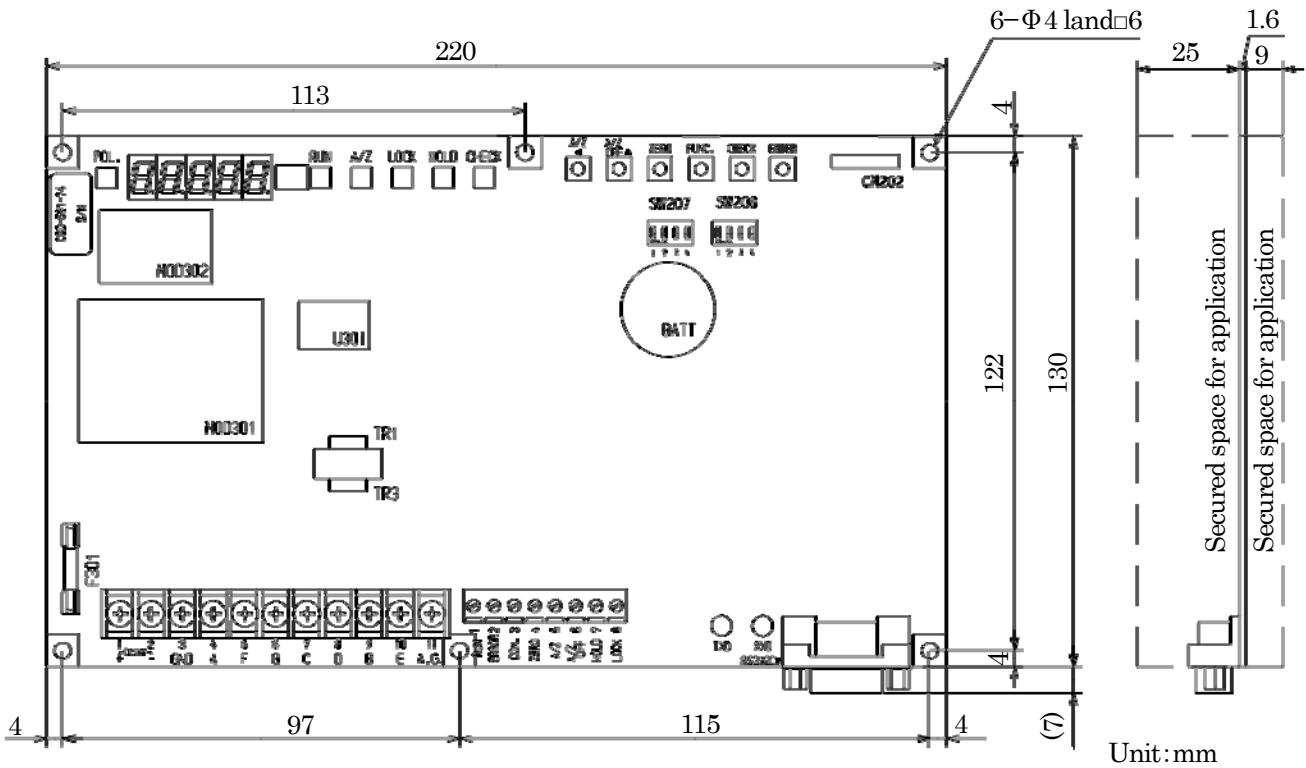- Short bars for A−F, C−G — 2 pieces
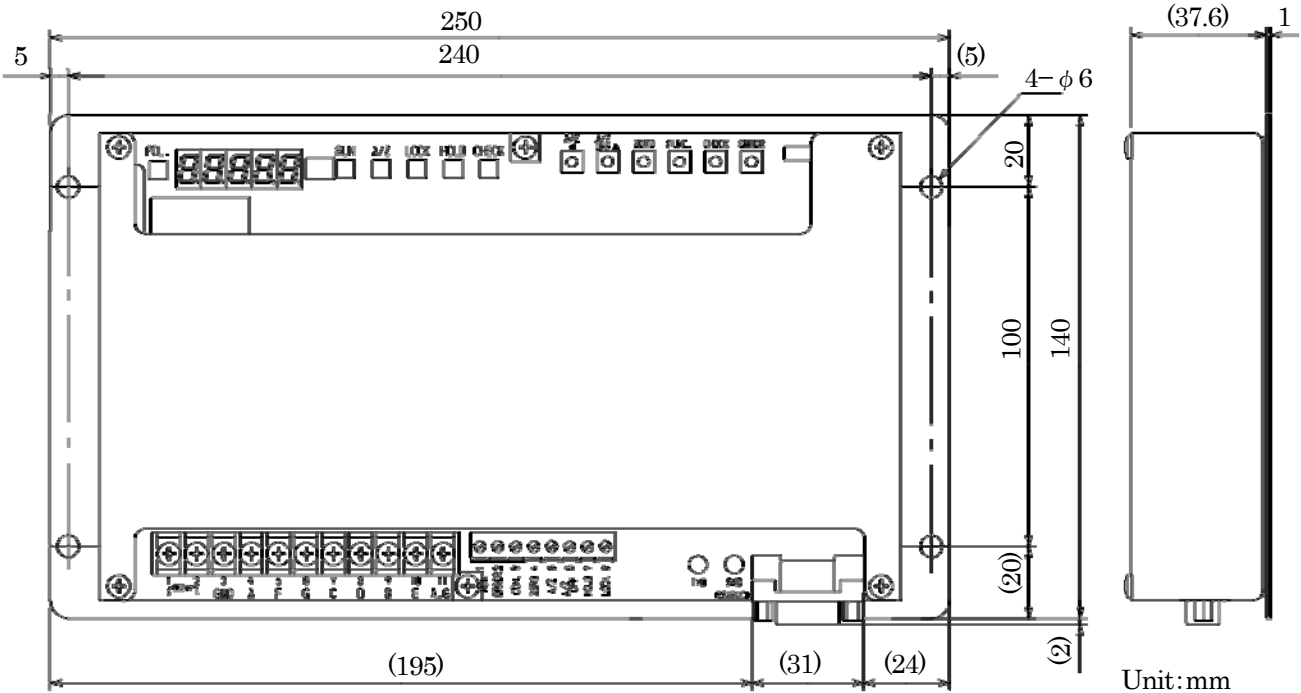- Seal for unit — 1 piece

6. Options

6-1. Metal cover

- P/N — CSD581−P80
- Specifications
  - Outline dimensions(W × H × D)
    - : 250 mm × 140 mm × 38.6 mm (Excludes protrusion.)
  - Weight — Approx. 550 g

7. Outline dimensions

Unit:mm

Dimensions when the optional metal cover(CSD581-P80) is installed.

Unit:mm

※ Specifications and outline dimensions and so on which have printed may subject to change for the purpose of improvement without notice.