

SPECIFICATIONS

Weight Conversion Module

CSD-892B-07-25

Spec.No.EN382892B-07-25A

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1. General

This instrument is the digital conversion module for strain gage applied transducers which adopt the DIN mounting type and in suitable with built-in control panel.

This instrument is equipped with an analog output interface as standard equipment.

2. Specifications

2-1.Specifications for analog

- Bridge power supply DC5 V \pm 0.25 V within 60 mA, with sensing
- Applicable transducers Up to 4 pieces of strain gage applied transducers(350 ohm) can be connectable.
- Input sensitivity 0.15 μ V/d or more (d = minimum scale)
* 0.2 μ V/d (In case of applying CE conformity standard.)
- Input range -3.1 mV/V \sim 3.1 mV/V
- Zero adjustment range ± 2.5 mV/V
- Non-Linearity 0.01 %F.S.
- Temperature coefficient
Zero point ± 0.2 μ V/ $^{\circ}$ C
Sensitivity ± 0.001 5 %F.S./ $^{\circ}$ C
(When the calibration is made at 0.15 μ V/d or more of the input sensitivity.)
(When the calibration is made at 0.15 μ V/d or more of the input sensitivity.)
- Input noise ± 0.2 μ Vp-p or less
(At the default setting of analog filter, digital filter and stabilization filter.)
- Analog filter Approx. 4.0 Hz (2.0Hz \sim 10.0 Hz, it can be switched at intervals of 0.1 Hz.)
- A/D sampling 500 times/s (Changeable to 250 times/s, 100 times/s, 50 times/s.)
- A/D internal resolution 24 bits

2-2.Specification for digital

- Main display (Load display)
 - Display range $-99\ 999 \sim 99\ 999$
 - Display increment 1 (Changeable to 2, 5, 10, 20, 50)
 - Display unit FSTN liquid crystal (With amber color LED back light.)
 - Over display “-OL” display at minus over, “OL” display at plus over
 - AD value over display “-OVF” display at minus over, “OVF” display at plus over
- Condition display ZERO, SPAN, mV/V, STABLE, TARE, GROSS, NET, CZ, LOCK, HOLD, ERROR
- Display rate 4 times/s
- Judgement display OUT 1, 2, 3, 4, 5
- Decimal point display No display, 10^1 , 10^2 , 10^3 and 10^4 changeable.
- Unit display No display, g, kg, t, N, kN, lb, Pa, kPa or MPa changeable.

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2-3.Specifications for setting

- Internal setting value
EEPROM

SRAM

Calibration data, the data that relates to calibration and comparator set value

Zero set data, Zero tracking data, and Tare data.

(The backup function is not provided in SRAM. You can change the stored place of Zero set data, Zero tracking data and Tare data to EEPROM by the function setting.)

2-4.Function of front panel key switch

FUNC

Shifts to Function mode.

/Shifts to calibration mode of a simple calibration.

(By pushing 2 seconds or more)

CAL-Z/◀

Shifts to ZERO calibration mode of a simple calibration.

(By pushing 2 seconds or more)

/Shifts to calibration lock mode of a simple calibration.

(By pushing 2 seconds or more CAL-Z/◀ and CAL-S/▲)

CAL-S/▲

/ Carry up the setting value.

Shifts to SPAN calibration mode of a simple calibration.

(By pushing 2 seconds or more)

F / ENTER

/ Set value increment.

Register the setting value. Execute function set in F/ENTER key.

Selectable from None, Hold, Zero set, Zero clear, Tare weight cancellation, Tare weight clear, changeover of gross value/net value.

Shift to the setting mode of comparator, Check the setting of the analog output target.

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2-5.External control function

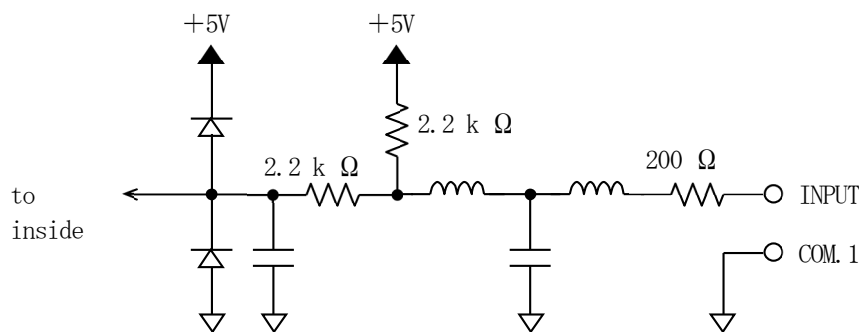
- External control input signals

3 functions in the following can be arbitrarily selected.

- OFF
- Zero set
- Zero clear
- Tare
- Tare clear
- Changeover the display for net value or gross value.
- Hold(Pulse)
- Error release
 - * Above are pulse input, and effective only once at the pulse width of 50 ms or more.
- Hold(Level)
- Display of NET (With ON, the net weight is displayed when the Gross weight is shown.)
- Batch key lock

* Above are level input, and effective during the input of short for 50 ms or more.

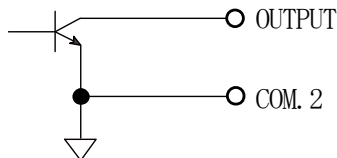
- Equivalent circuit of the external control input section



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- External control output signals
5 functions in the following can be arbitrarily selected.
 - OFF
 - Stable
 - During canceling the Tare weight
 - Display of gross
 - Display of net
 - Center zero
 - During the hold
 - Error,
 - Abnormal weight
 - Z-Band
 - OK (S0),
 - Big flow (S1)
 - Middle flow (S2)
 - Small flow (S3)
 - Over (S4)
 - Under
 - Full
 - RUN

- Equivalent circuit of external control output



Rated open collector $V_{CE} = DC35 V_{max}$, $I_C = DC50 mA_{max}$

* COM.1 and COM.2 are connected in the instrument.

2-6.Comparator function

- | | |
|--------------------------------------|--|
| • Set value | — 99 999 ~ 99 999 |
| • Numbers of setting | 5 points of S0, S1, S2, S3 and S4 |
| • Set value of hysteresis data width | 0 ~ 99 digits |
| • Direction of hysteresis | Whichever changeable to “On delay” or “Off delay” |
| • Conversion times of comparator | Changeable to synchronous with the A/D sampling times or display late. |

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2-7.Analog output interface

- Current output

Output	DC4 mA ~ 20 mA
Load resistance	510 ohm or less
Resolution	1 / 12 000 or more
Non-linearity	0.02 %F.S.
Output times	Synchronous with A/D sampling
Over range	Approx.DC2.4 mA at "-OL" display and Approx.DC21.6 mA at "OL" display

Effect due to temperature

Zero point	± 0.005 %F.S./ °C
Sensitivity	± 0.01 %F.S./ °C

- Voltage output

Output	DC ± 10 V
Load resistance	5 k-ohm or more
Resolution	1 / 12 000 or more
Non-linearity	0.02 %F.S.
Output times	Synchronous with A/D sampling
Over range	Approx.DC -11 V at "-OL" display and approx.DC11 V at "OL" display

Effect due to temperature

Zero point	± 0.015 %F.S./ °C
Sensitivity	± 0.015 %F.S./ °C

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2-8.USB interface

- Standard Comfirms to USB2.0 (Can also use with the standard of USB1.1)
- Connector mini USB B type (female)
- * Please use the USB interface after installing a special driver in the host side.

2-9.Various functions

- Zero tracking Stabilize the fluctuation of the zero point in a constant condition.
- Digital filter Data is stabilized through the calculation process with the software in CPU.
- Stabilized filter The digital filter is reinforced and stabilized only when the width of the change of the load is constant.
- Digital linearize Executes the compensation of the non-linearity by the max. 3 points or less.

3. General specifications

- Operating temperature/humidity range
 - Temperature $-10\text{ }^{\circ}\text{C} \sim 50\text{ }^{\circ}\text{C}$
 - Humidity 85 %RH or less (Non condensing.)
- Stored temperatre range $-20\text{ }^{\circ}\text{C} \sim 60\text{ }^{\circ}\text{C}$
- Power supply
 - Power supply voltage DC24 V (Permissible variable range DC20.4 V ~ DC27.6 V)
 - Power consumption Approx. 2.7 W or less (at DC24 V)
- Outline dimensions 72 mm(W)× 96 mm(H)× 67.4 mm(D)
(excludes protruding parts)
- Weight Approx.260 g

4. Specifications at the time of shipment

- Bridge power supply DC5 V
- Span adjustment 10 000 display at the input of 0.5 mV/V
- The minimum scale 1

5. Accessories

- Start guide (in Japanese) 1 piece
- Start guide (in English) 1 piece
- Short bar 2 pieces
- An analog output connector 1 piece

6. Options

6-1.EzCTS (Ez Communication Tool Software)

The PC that installs EzCTS and connects with CSD-892B-07-25, can read and write the parameter set with CSD-892B-07-25.

* For details, EzCTS please refer to specifications.

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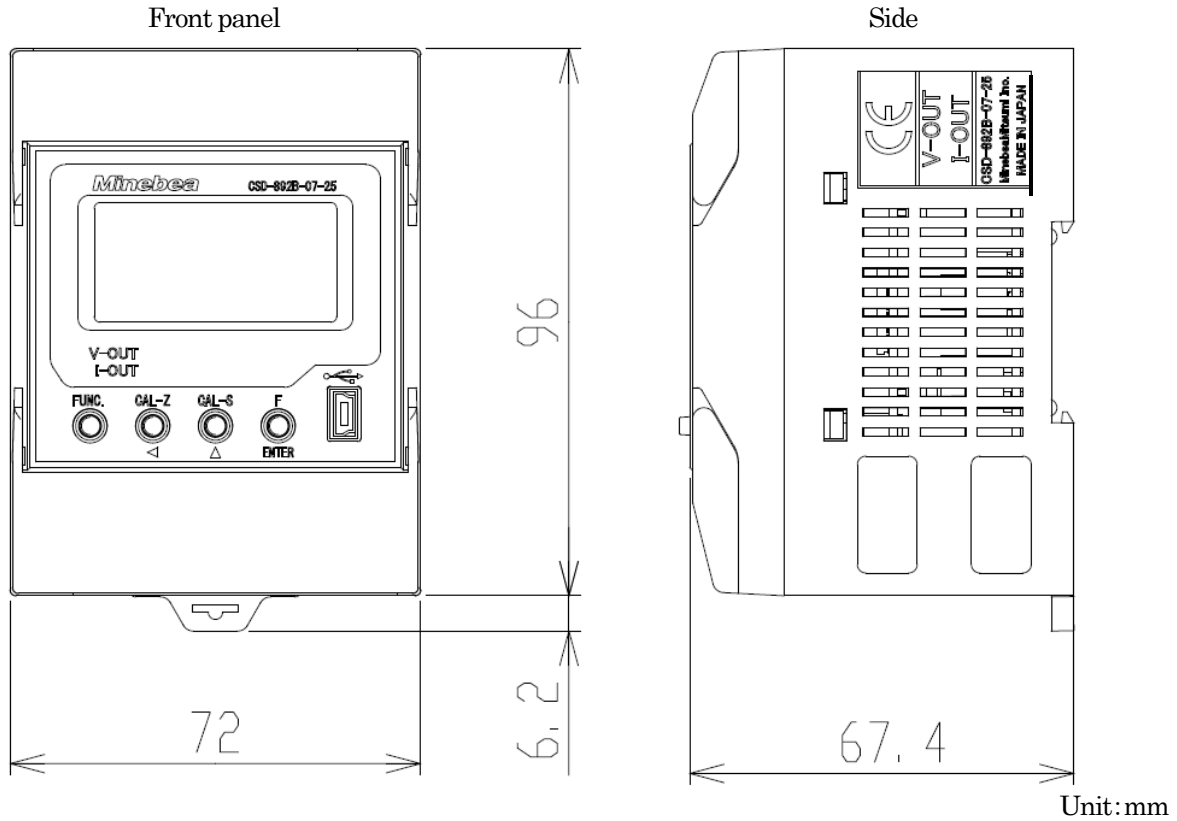
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7. Outline dimensions

①



* It corresponds to the rail of 35 mm of DIN standard width.

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8. Conformity standard

- This instrument has suited the following standard.

EN61326-1 : 2013

“Electrical equipment for measurement, control and laboratory use – EMC requirements”

“Immunity test requirements for equipment intended for use in industrial locations”

JIS B 7611-2 : 2015

"Non-automatic weighing instruments - Metrological and technical requirements and test - Part2: Measuring instruments used in transaction or certification."

According to Annex C (Environmental Level H), (Environmental Level L).

RoHS compliant

* CE conformity standard is not effective in case of using USB interface.

Please observe the following conditions strictly when this instrument suits the below,

it may not conform to the above standard when these are neglected.

8-1. Wiring

① About cable

- Use the shielded cable other than the power cable.

② Shield processing

- Please connect the shield cable of load cell with E terminal in upper terminal block.
- Please connect the shield of an analog output cable with the SLD terminal in the connector.
- Please make sure to do the shield processing on the cable for analog output and the external control I/O.

③ Grounding

- The ground shall apply the individual ground by using the F.G. terminal in lower terminal block.

④ Surge countermeasure parts

- When applying to EN61326-1:2013, connect an external surge absorber (Model:RSP-DC24Q-4 Made by Okaya Electric Industries Co., Ltd.) or equivalent products (breakdown voltage of 33V or more) in parallel to the terminal block (F.G., 24V, 0V) .
- When applying to JIS B 7611-2:2015 level H, connect an external surge absorber (Model:RSP-DC24Q-4 Made by Okaya Electric Industries Co., Ltd.) in parallel to the terminal block (F.G., 24V, 0V) .
When applying to JIS B 7611-2:2015 level L, no surge absorbers are required.

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