

MA800 Load Cell Amplifier

(0-10V / 0-5V/ 4-20mA)



Product description

Weight conversion using 24 bit Σ - Δ ADC integrated chip;

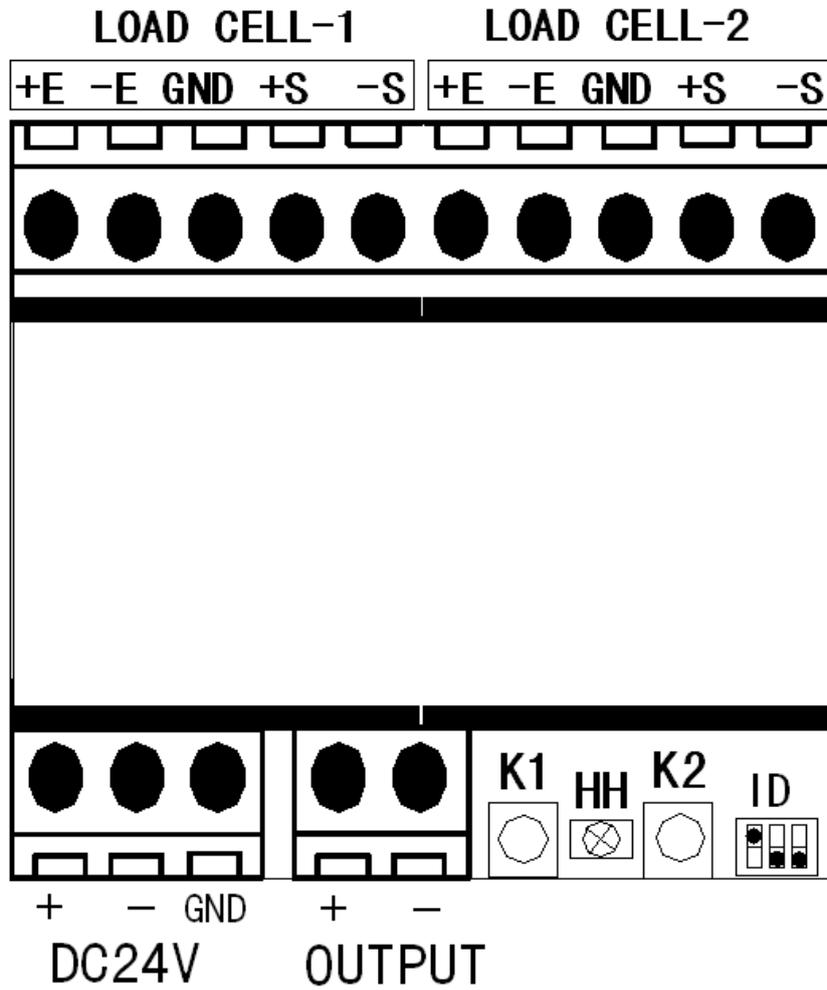
All digital conversion, no potentiometer and other analog adjustment components;

Analog output two button adjustment.

Zero and Span (full) value only need one time adjustment

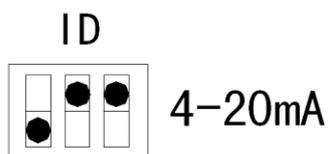
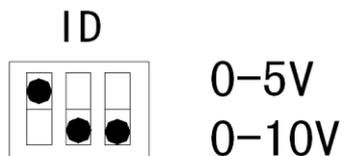
1 Accuracy	: 0.02%
2 Nonlinearity	: $\leq 0.008\%$ F.S
3 Zero temperature drift	: $\leq 0.4\mu\text{V}/^\circ\text{C}$
4 Range temperature coefficient	: $\leq 10\text{ppm}/^\circ\text{C}$
5 Span (Full) range input signal range	: -30 mV ~ +30mV
6 Analog input signal sensitivity	: 0.5uV/d (Minimum) 1.5uV/d (Recommended)
7 Adjusting range	: +/- 50%FS
8 Display	: No display
9 Working environment temperature	: -20 $^\circ\text{C}$ ~ 60 $^\circ\text{C}$
10 Relative humidity	: $\leq 90\%$ (Non Condensing)
11 Power supply	: +18 ~ +26VDC, >0.5A
12 Load cell supply voltage	: DC 5V-1.5A, can connect to maximum 4 load cells (4*350 / 8* 700 ohm load cells through a Junction Box)
13 Output	: 0~5V, 0~10V, 4~20mA

Connections

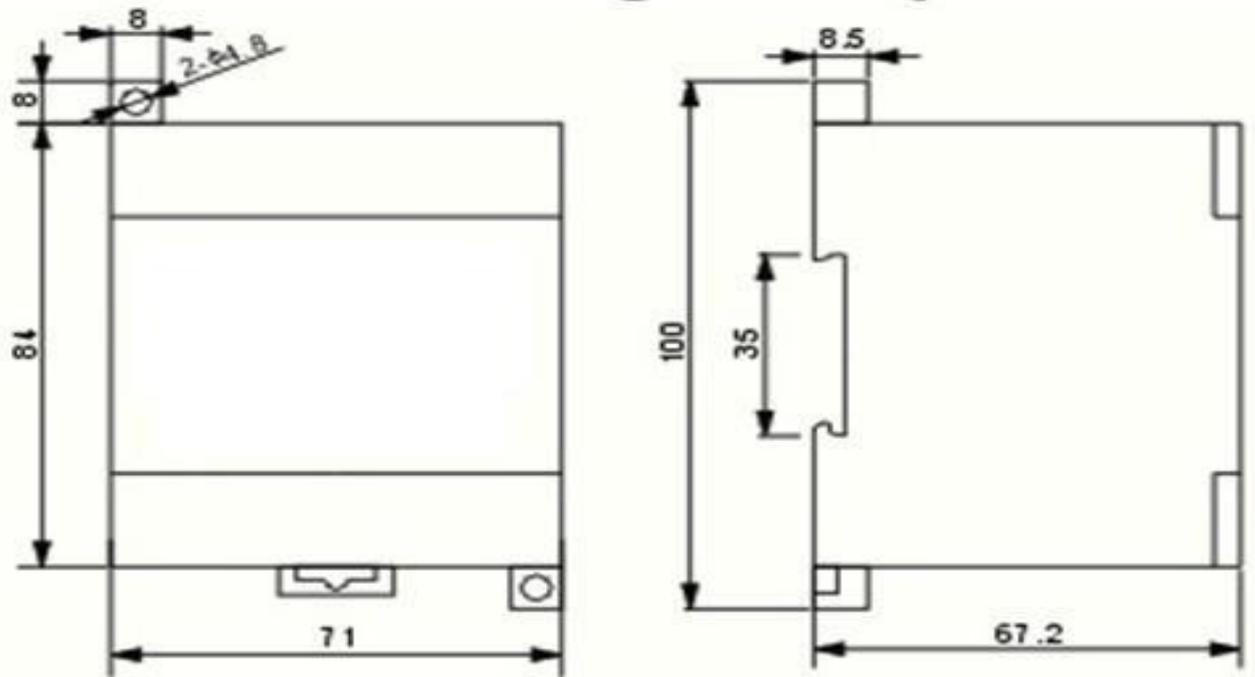


- +E: load cell power supply +
- E: load cell power supply -
- GND: Shield
- +S: Load cell signal +
- S: Load cell signal -

Dip switch selector (ID):



Dimensions (mm)



Calibration

Zero Calibration

To enter Zero calibration mode, Hold down [K1] (do not release) for 5 seconds until HH light turns ON.

Release [K1] and the amplifier is in Zero Calibration Mode (with HH light ON)

Slow (Fine) Zero adjustment

Press [K1] to reduce the output current, press [K2] to increase the output current.

Pressing [K1] , [K2], make the output of the current =4mA.

Medium (Coarse) Zero Adjustment

Continuous hold down of [K1] gives a fast reduction of signal.

Continuous hold down of [K2] gives a fast increase of signal.

Fast Zero Adjustment

Hold down [K1] for 4 seconds , and then press [K2] to get a faster reduction of signal .

Hold down [K2] for 4 seconds, and then press [K1] to get a faster increase of signal .

Note: If there is no activity (adjustment) for 8 seconds, the amplifier auto exits from Zero Calibration Mode (HH light turns off) after saving the zero calibration data in the chip.

Span Calibration

Apply load.

To enter span calibration mode, press and hold [K2] for 5 seconds & HH light will be ON and flashing.

Release [K2] and amplifier is in the Span adjustment mode (with HH lights Flashing).

Slow (Fine) Span adjustment

Press [K1] to reduce the output current, press [K2] to increase the output.

Pressing [K1], [K2], make the current output = 20mA or the corresponding xx mA.

(Refer to Note 1 , for calculation method , if full load is not applied).

Medium (Coarse) Span Adjustment

Continuous hold down of [K1] for more than 5 seconds, can give fast reduction of output signal.

Continuous hold down of [K2] for more than 5 seconds, can give fast increase of output signal.

Fast Span Adjustment

Hold down [K1] for 4 seconds and then pressing [K2] will result in a faster reduction of signal .

Hold down [K2] for 4 seconds and then pressing [K1] will result in a faster increase of signal .

Note: If there is no activity (adjustment) for 8 seconds , the amplifier auto exits from span calibration mode (HH light turns off) after saving the span calibration data in the chip.

Follow same procedure of Zero and Span calibration for 0-5V / 0-10V output (with the DIP switches in positions, as shown in Page2).

NOTES

Note 1- Calculation method:

Example: Scale capacity is 100kg, the calibration load is 25kg , analogue output is set to 4 ~ 20mA

Analogue output = Analogue minimum value (4 mA)+ (analogue maximum value(20mA) - Analogue minimum value (4mA))x Calibration Load (25kg)/Scale Capacity (100kg)

$$= 4 + (20-4) \times 25 / 100 = 8mA$$

Note 2- Overload protection

1. *When the output current exceeds 21mA, the output is protected , bringing output back to the starting point (4mA)*
2. *When the output voltage is exceeds 10.5V, the output is protected bringing output back to the starting point (0V)*

Ma800R1 200816DP3