

## Load Cell Amplifier Module with 4-20mA 0-5V 10V Output

### BRT RW-ST01A

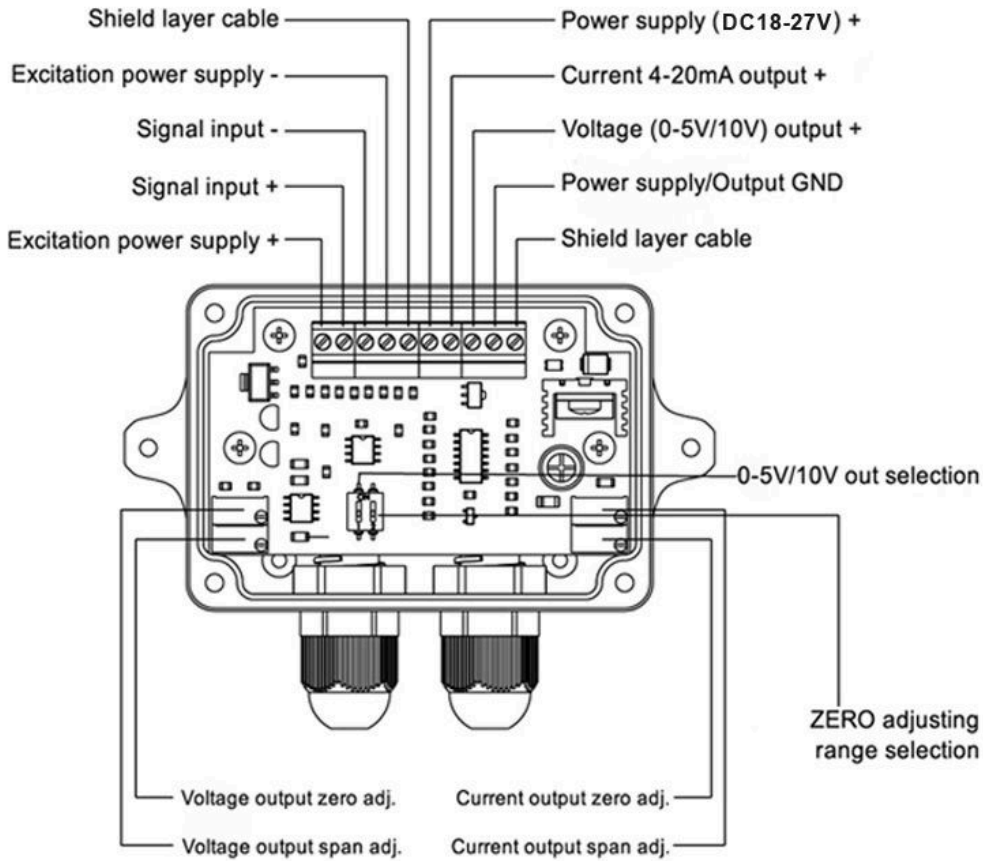
#### Main Features & Benefits

- Waterproof design, good sealing of enclosure and cable joint
- High accuracy conversion and amplification circuit embedded.
- 4-20mA current and 0-5V/10V voltage output at the same time.
- Zero and span are easy to be adjusted through potentiometer terminals.
- Compatible with all kinds of strain gauge bridge-type load cell, such as weighing, tension, compression torque, etc.

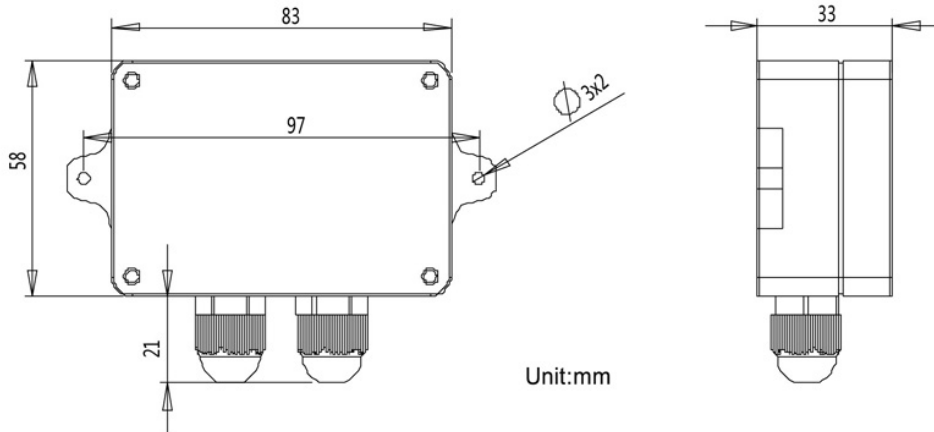
#### Technical Parameters

Parameters	TYP Value
Accuracy	Better than 0.3% F.S.
Loading Capacity	Parallel Connection 4 load cells of 350Ω at most
Sensitivity	2.0mV/V±10%
Input Signal	mV Signal
Output Signal	Default 4-20mAoutput, 0-5(10)V (settable)
Voltage output impedance	>5kΩ
Current output impedance	<500Ω
Voltage Zero adjustment	Fine: 10% F.S. Rough: 40% F.S.
Voltage Span adjustment	10% F.S.
Current Zero adjustment	10% F.S.
Current Span adjustment	10% F.S.
Power Supply	DC24V (18-27VDC range)
Max. power consumption	4W(4 x 350Ω sensor, output 20mA.)
Load Cell Excitation Voltage	5V+ ±5%(Suitable for 5-12V excitation volt. sensor)
Load Cell Excitation Current	<60mA
Temperature Coefficient	better than 100ppm
Enclosure Material	ABS
Net Weight	100g
Installation Hole Size	2×Φ3
Enclosure Protective Class	IP65
Installation Mode	Enclosure Fixed Installation
Wiring type	Wiring terminal blocks.
Dimension	115x58x33mm (LxWxH)
Working Temperature	0-50℃/85%RH, non condensation.
Storage Temperature	-20- +80℃/85%RH, non condensation.

**Wiring Terminals**

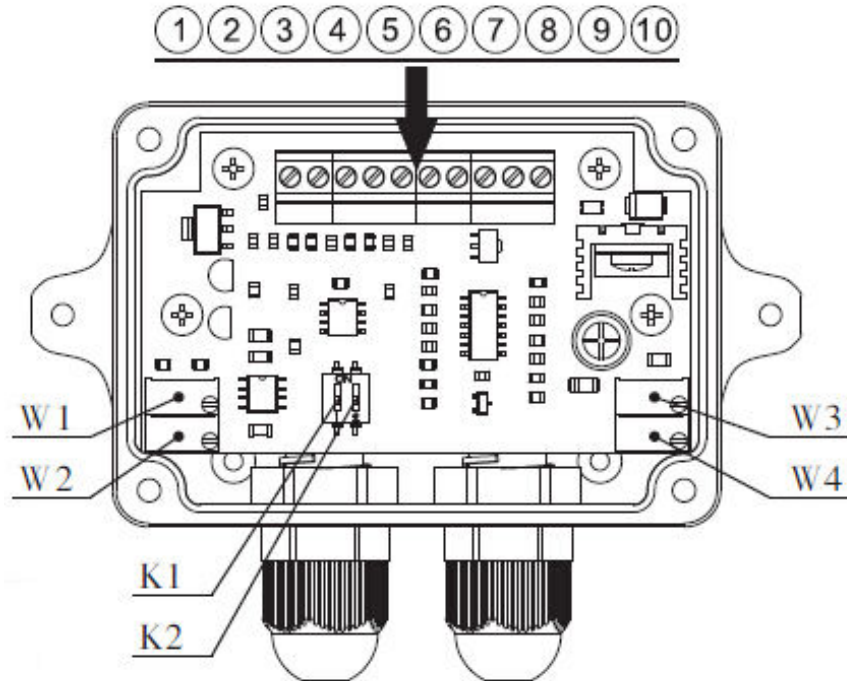


**Dimension**



**Adjustment methods (Based on rate weighing range 10kg as an example)**

1. A well calibrated high precision multi-meter is required.
2. Correctly connect the wire between sensor and the load cell amplifier.
3. Check all the connection to ensure no wrong wiring connection.
4. Connect power supply to the load cell amplifier.
5. Let the load cell amplifier power on, and calibrate it after 15 minutes.

**PIN No Definition****Voltage Output Calibration Steps**

1. Snap switch K1 to select the output range 0-5V or 0-10V, K1 button is up, the output is 0-10V, K1 button is down, output is 0-5V.
2. Adjust the multi-meter to dc voltage scale and ensure the measuring range and sensing probe are in voltage measurement status.
3. Connect the RED sensing probe to pin#8 voltage output +, black to pin#9 output -.
4. Remove the load in the weighing sensor, then adjust zero adjustment potentiometer W1 to get the output 0V (Do not make it output lower than 0V).
5. Add 10kg poise/weight to the weighing sensor, then adjust span adjustment potentiometer W2 to get output 5V or 10V.
6. Remove the load in the weighing sensor again to check the output accuracy. If it cannot meet requirements, repeat the steps above.

**Current Output Calibration Steps**

1. Adjust the multi-meter to dc current scale and ensure the measuring range and sensing probe are in current measurement status.
2. Connect the RED sensing probe to pin#7 current output +, black to pin#9 output -.
3. Remove the load in the weighing sensor, then records the current value displayed in the multimeter, e.g.:4.152mA.
4. Add 10kg poise/weight to the weighing sensor, then records the current value displayed in the multimeter, e.g.:19.850mA.
5. Calculation:  $(20-4)/(19.850-4.152)=1.0192$      $1.0192 \times 19.850=20.232$
6. Adjust current span potentiometer W4 to get output 20.232mA in the multimeter.
7. Adjust current zero potentiometer W3 to get output 20.000mA in the multimeter.
8. Remove the load in the weighing sensor again to check the output accuracy. If it cannot meet requirements, repeat the steps above.

**Note:**

1. Adjusting voltage Zero adjustment potentiometer has influence on the zero point of current output. Recommend calibrate voltage output first, then calibrate current output.
2. If the load is increased, the output signal becomes lower, please check the weighing sensor force directions, otherwise, exchange wire connection between pin#2 and pin#3.
3. Snap switch K2 to upper direction can expand voltage or current output ZERO adjusting range, but it may have influence on its output stability.

\*The specification is subject to change without notice.