

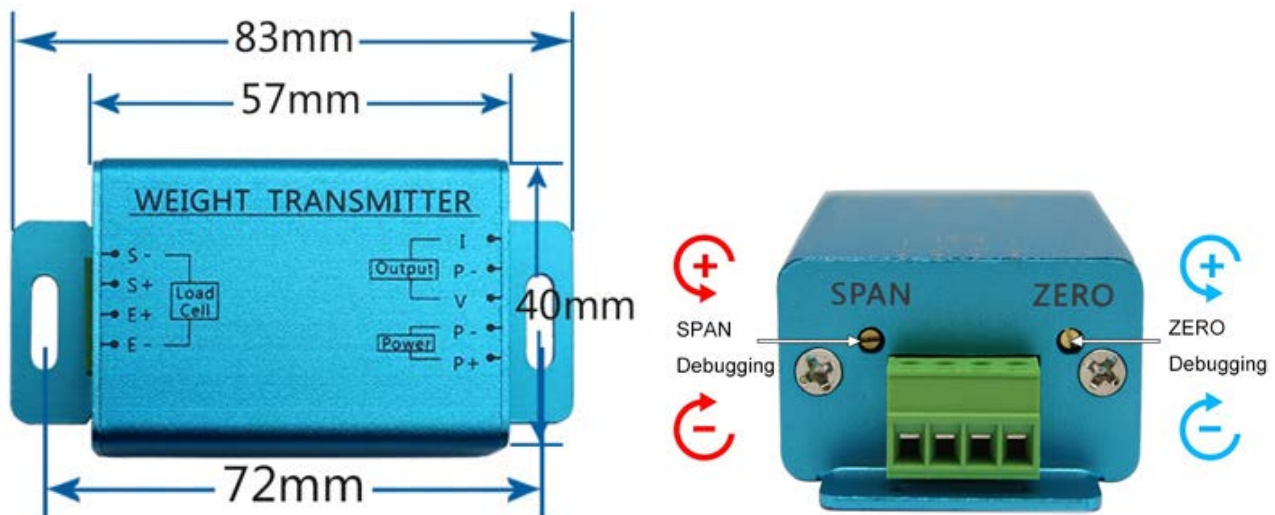
Load Cell Transmitter User Manual

Load cell transmitter ATO-LCTR-OA is made of aluminum alloy, output standard signal 0-5V/ 0-10V/ 4-20mA/ 0-20mA, has linear compensation, humidity compensation, external zero debugging, external span debugging, input overload protection and output short circuit protection functions.

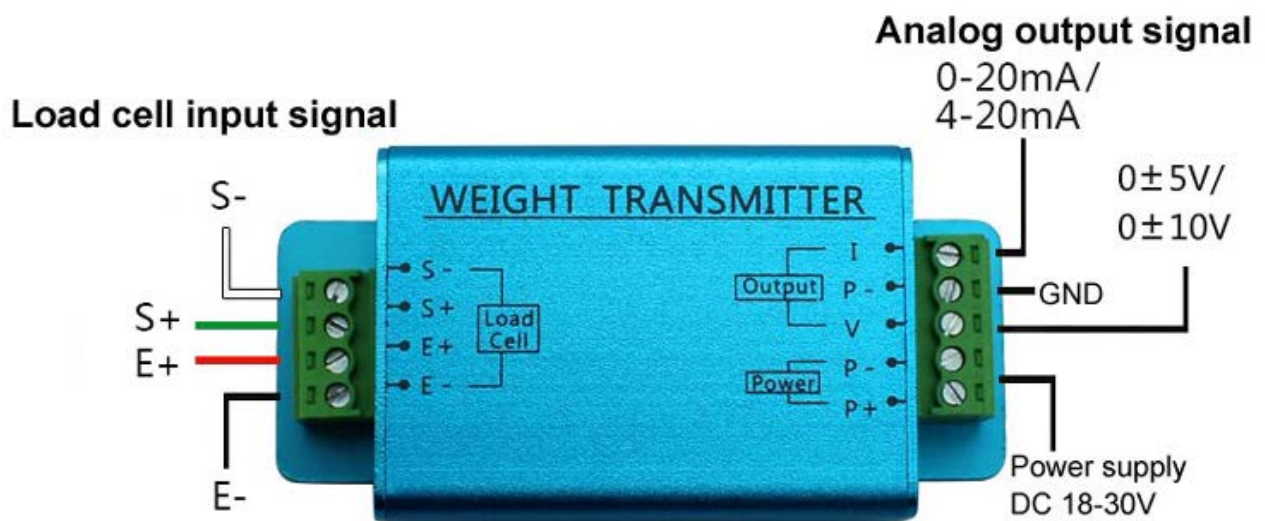
I. Specification:

Model	ATO-LCTR-DY510
Accuracy	$\pm 0.05\%FS$
Input signal	0.5-4mV
Excitation voltage for load cell	DC 5V
Output signal (DC) *	0- $\pm 5V$ /0- $\pm 10V$ /4-20mA/0-20mA
Power supply	DC 18-30V
Sampling frequency	$\geq 100KHZ$

II. Dimensional drawing:



III. Wiring diagram:



IV. Calibration example for output current signal

It is known that the object weight is 100kg, the load cell capacity is 500kg, and the output current signal is 4-20mA.

Operation steps:

- No-load, debug zero to 0.3 mA
- Load, debug span to 3.5 mA ($100\text{kg} / 500\text{kg} * 16\text{mA} + 0.3\text{mA}$)
- Up-load, debug zero to 4.00mA
- 1. After the load cell is installed, debug zero to 0.3mA in no-load state, measure I and P- current values with the multimeter current (DC), and debug Zero to 0.30mA.
- 2. After loading a 100kg object and keep it stable, debug Span to 3.2mA, measure I and P- current values with a multimeter, and debug Span to 3.2mA.
- 3. After removing the object, I and P- current values should be 0.30mA, and then debug Zero to 4.00mA.
- 4. Loading the 100kg object again and keep it stable, I and P- current values should be 7.2mA.

Note: If the output current value of the first debugging is not 7.2mA, follow the above steps to restart the calibration.

Calculation formula:

4-20mA	Span current = object weight / load cell capacity * net current output + zero current
Net current output: 16mA	$7.2\text{mA} = 100\text{kg} / 500\text{kg} * 16\text{mA} + 4\text{mA}$
0-20mA	Span current = object weight / load cell capacity * net current output + zero current
Net current output: 20mA	$4.0\text{mA} = 100\text{kg} / 500\text{kg} * 20\text{mA} + 0\text{mA}$
4-12-20mA	Span current = object weight / load cell capacity * net current output + zero current
Net current output: 8mA	$13.6\text{mA} = 100\text{kg} / 500\text{kg} * 8\text{mA} + 12\text{mA}$

Note: The load cell transmitter does not output a negative current value. When the load cell is used for tension and compression (positive and negative torque), load cell transmitter should be calibrated for third mode, a net current output of 8mA and a current output signal of 4-12-20mA.

V. Calibration example for output voltage signal

It is known that the object weight is 200kg, the load cell capacity is 1000kg, and the output voltage signal is 0±10V.

Operation steps:

- No-load, debug zero to 0V
- Load, debug span to 2.0V
- 1. After the load cell is installed, use tare to subtract tare in no-load state. Debug zero to 0V, measure I and P- voltage values with the multimeter voltage (DC), and debug Zero to 0V.
- 2. After loading a 200kg object and keep it stable, debug Span to 2.0V, measure the I and P- voltage values with a multimeter, and debug Span to 2.0V.

Calculation formula:

0±10V	Span voltage = object weight / load cell capacity * 10V
	$2.0\text{V} = 200\text{kg} / 1000\text{kg} * 10\text{V}$
0 ±5V	Span voltage = object weight / load cell capacity * 5V
	$1.0\text{V} = 200\text{kg} / 1000\text{kg} * 5\text{V}$