Button Load Cell (0-200kg) – CZL204E

Product Description

A load cell is a force sensing module – a carefully designed metal structure, with small elements called strain gauges mounted in precise locations on the structure. Load cells are designed to measure a specific force, and ignore other forces being applied. The electrical signal output by the load cell is very small and requires specialized amplification. Fortunately, the 1046 PhidgetBridge will perform all the amplification and measurement of the electrical output.

This Button Load Cell is used in applications that require a thin form factor. The bottom of the load cell is bolted, and force applied to the button on the top. By loading only the button, which is slightly rounded, the load cell is less sensitive to errors resulting from the load not pushing down exactly straight on the load cell.

Product Specifications

Sensor Properties

Sensor Type	Compression Load Cell
Weight Capacity Max	200 kg
Maximum Overload	240 kg
Creep	80 g/hr
Zero Balance	± 2 kg
Cell Repeatability Error Max	± 400 g
Cell Non-Linearity Max	400 g
Temperature Effect on Span	10 g/°C
Temperature Effect on Zero	10 g/°C

Electrical Properties

Rated Output	1 mV/V

Rated Output Error Max	40 ?V/V
Output Impedance	1 k?
Supply Voltage Max	5 V DC

Physical Properties

Compensated Temperature Min	-10 °C
Compensated Temperature Max	40 °C
Operating Temperature Min	-20 °C
Operating Temperature Max	55 °C
Cable Length	3 m
Cable Gauge	30 AWG
Material	Aluminium Alloy & Alloy Steel
Screw Thread Size	M3x0.5

Resources

The Data Sheet below has a comprehensive glossary that describes in practical terms the meaning and usefulness of the specifications.

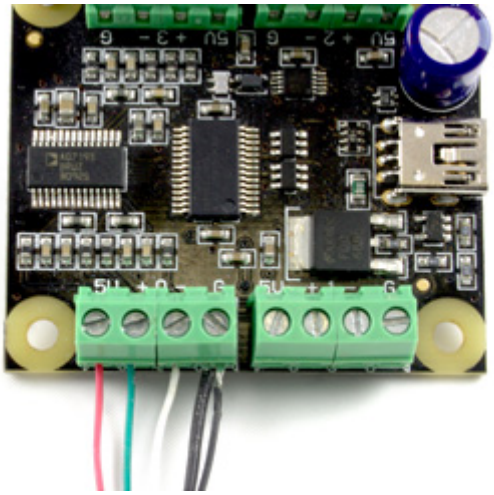
- Load Cell Primer
- Mechanical Drawing

Warning

Make sure to calibrate your load cell before using it. You can find information on how to calibrate the cell in the Load Cell Primer. You should also look at the 1046 – PhidgetBridge User Guide.

Connection

The 3137 connects to a bridge on the 1046 – PhidgetBridge 4-Input

The following table shows how to connect the Load Cell Wires to the bridge connectors.

Wire Color	Red	Green	White	Black/Yellow
Bridge Connector	5V	+	–	GND