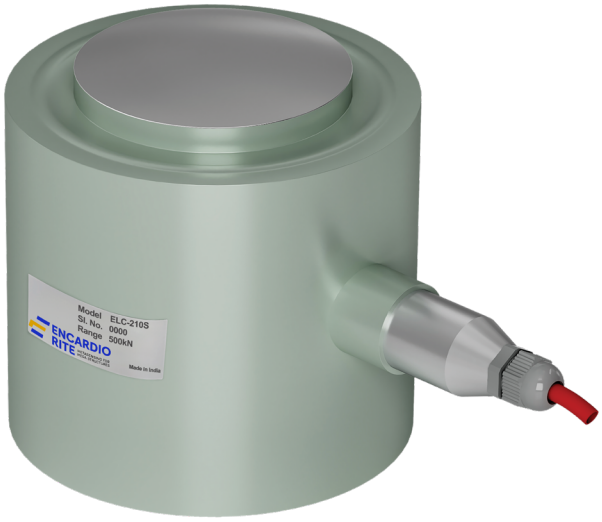
ENCARDIO RITE
METASENSING FOR MEGA STRUCTURES

COMPRESSION LOAD CELL

DATASHEET

MODEL ELC-210S



OVERVIEW

The Encardio Rite model ELC-210S is a heavy-duty precision load cell designed to measure compressive loads or forces with high accuracy and reliability. It utilizes high-quality foil strain gauges arranged in a Wheatstone bridge configuration, ensuring precise and stable measurements.

The load-bearing element is constructed from high-strength martensitic stainless steel, engineered to withstand high compressive loads while maintaining structural integrity. This material is chosen for its excellent mechanical properties, including high strength, toughness, and resistance to wear and corrosion. To further enhance its longevity and performance, the load cell is hermetically sealed using electron beam welding, making it ideal for use in demanding industrial and civil engineering applications.

Model ELC-210S compression load cell is temperature compensated to minimize errors and has no moving parts to reduce mechanical failure. It is ideally suited for measuring compressive loads, axial forces in struts, and pile load testing.

FEATURES

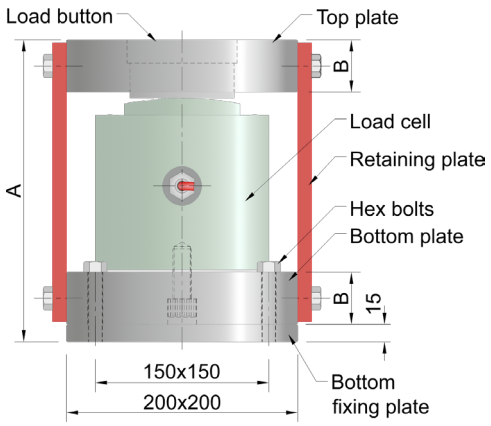
- **High precision:** Foil-type strain gauges and Wheatstone bridge configuration deliver exceptional accuracy and repeatability in force measurement.
- **Robust construction:** The load cell's columnar design and martensitic stainless steel load-bearing element ensure enhanced linearity, reduced hysteresis, and long-term durability.
- **Durable design:** Resistant to extraneous forces, enhancing fatigue life and allowing for less stringent mounting alignment, reducing the likelihood of reading errors.
- **Hermetically sealed sensor**: Hermetically sealed under a vacuum of 0.001 Torr to protect against dust, moisture, and severe environmental condition, ensuring long-term reliable performance.
- **Temperature compensated:** Each load cell is individually temperature compensated to minimize temperature-induced measurement errors.
- **Stable system:** No moving parts or linkages, reducing the potential for mechanical failure.
- **Negligible side and eccentric load effect**: Strain gauges are equally spaced along the circumference to minimize the effects of uneven and eccentric loading, providing consistent millivolt output.
- **Versatile datalogging:** Compatible with various readout units for manual data collection. For continuous monitoring, it can be connected to a suitable datalogger, allowing for data acquisition at desired frequencies.

  Encardio Rite offers a range of NexaWave dataloggers equipped with GSM/GPRS or RF communication capabilities, ensuring reliable and efficient data transmission.
- **Infrastructure data intelligence platform**: Integrates with Proqio software to facilitate data processing, analysis, and real-time visualization, and generates instant alarms for critical events to keep all stakeholders informed.
- **Cross-Compatibility:** The load cell can work with any manufacturer's Dataloggers and Data Management Systems.

DESCRIPTION

The model ELC-210S compression load cell converts applied compressive force into a measurable electrical output. The core component is the martensitic stainless steel load-bearing element onto which eight foil strain gauges are bonded using high-quality epoxy cements. These foil strain gauges are configured in a 1400 Ohm Wheatstone bridge circuit for optimal sensitivity and linearity.

As compressive force is applied, the output is generated from imbalances within the bridge circuit, with the resulting electrical signal directly proportional to the applied force. The load cell provides a full-scale output of approximately 1.5 mV/V when subjected to an excitation voltage of 10 VDC.



Capacity kN	A mm	B mm
1000/1500	234	32
2000/2500/3500	260	45

SPECIFICATIONS

Type	Resistive strain gage
Range (kN)	1000, 1500, 2000, 3000, 3500
Over range capacity	150 %
Non linearity	± 1 % fs
Output	1.5 mV/V ± 10 %
Excitation	10 V DC (maximum 20 VDC)
Terminal resistance Input Output	 770 Ohm ± 5 % 700 Ohm ± 1 %
Temperature limit	-20 to 80°C
Cable connection	Four core shielded 2 m long/or as specified

ORDERING INFORMATION

Model ELC-210S- **X**

Capacity kN

*All specifications are subject to change without prior notice

DATASHEET | 1150-12 R4

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