



ENCARDIO RITE



COMPRESSION LOAD CELL

MODEL ELC-210S

INTRODUCTION

The Encardio-rite model ELC-210S is a heavy duty, high capacity, precision load cell. The load cell is being increasingly used in several application due to following features:

- ◆ Specially designed to suit stringent harsh industrial environments.
- ◆ Ideally suited for use with data acquisition systems.
- ◆ Having no moving parts and mechanical linkages the system is stable.
- ◆ Load cells are temperature compensated within very low limits, reducing the effect of temperature variation.

Model ELC-210S series load cell has been specially designed to meet the increasing demand in load measurement with a high degree of accuracy and reliability. The load cell is ideally suited for measurement of compressive load or forces.

Model ELC-210S series load cell finds extensive use in thermal power projects, atomic power plants, hydro-electric power plants, steel plants, cement plants, chemical plants, fertilizer plants, experimental research, pile testing and measurement of thrust of rockets, jets or other engines in space programs.



FEATURES

- ◆ Outstanding reliability
- ◆ Long term stability
- ◆ Very low deflection
- ◆ Side and eccentric load effect negligible
- ◆ Electron beam welded sensor
- ◆ Bridge resistance 770 ohms
- ◆ IP-68 protection
- ◆ Stainless steel body
- ◆ Hermetically sealed under a vacuum of 1/1000 Torr.

APPLICATIONS

- ◆ Measurement of axial forces in struts.
- ◆ Load testing in piles.
- ◆ Other such load measurement applications.

CONSTRUCTION

The internal construction of the load cell is columnar. The element of the load cell is made of stainless steel AISI 420. The element is hardened to give better linearity and hysteresis. The strain gage used are of foil type and are bonded to the elements using special epoxy cements which are very reliable.

EXCELLENCE IN DESIGN

Encardio-rite load cells have great resistance to extraneous forces. This increases the fatigue life, permits less stringent mounting alignment and reduces the possibility of reading error. The load cell is protected against dust, moisture and adverse environmental conditions.

QUALITY ASSURANCE

Encardio-rite load cells pass rigorous tests before being duly certified by our independent Quality Assurance Division.

OPERATING PRINCIPLE

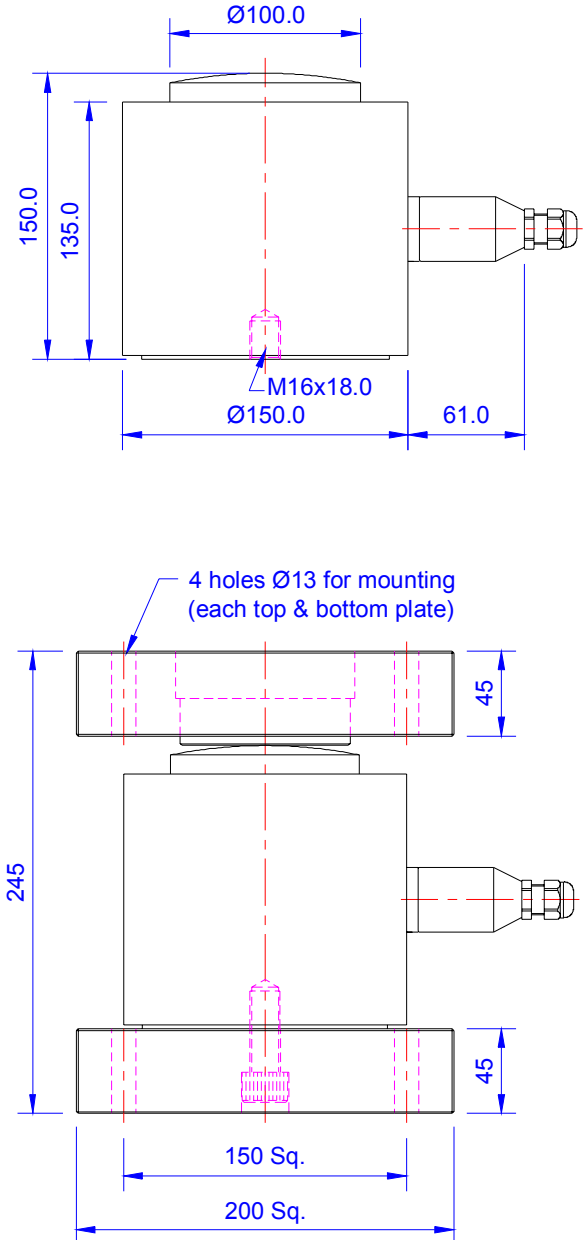
The electron beam welded sensor utilizes precision bonded foil strain gages connected in a simple Wheatstone bridge circuit. The output is derived from imbalances in the bridge circuit as load is sensed by the sensor. Typically the bridge circuit is excited by 10 V DC to give a full scale output of around 1.5 mV/V.

SPECIFICATIONS

Capacity	tf	100, 150, 200, 300, 350.
Safe overload		150 % fs
Ultimate overload		200 % fs
Rated output		1.5 mV/V \pm 1%
Zero balance		< \pm 0.1 mV/V
Excitation		
Nominal		10 VDC
Maximum		20 VDC
Terminal resistance		
Input		770 Ohm \pm 5 %
Output		700 Ohm \pm 1 %
Insulation resistance		>1000 M Ohm at 12 V
Temperature range		-10°C to 70°C
Total error		1.0 % fs. 0.5 % fs available on request
Creep 30 min.		0.03 % fs
Temperature effect		
Zero		0.003 % fs /°C
Span		0.003 % Load/°C
Enclosure		IP-68 Sealed under a vacuum of 1/1000 Torr

WIRING SCHEMATIC

DIMENSIONAL DETAILS



Note: Model ELC-210A of capacities 100 tf to 350 tf are now designated as model ELC-30S.

* Specifications are subject to change without notice

ENCARDIO-RITE ELECTRONICS PVT. LTD.

A-7 Industrial Estate, Talkatora Road, Lucknow, UP 226011, India

Tel +91 (522) 2661039, 2661040 Fax +91 (522) 2661043 E-mail sales@encardio.com

Visit us at: www.encardio.com

DATA SHEET 1150-03 P