

Bonded Strain Gage Load Cell



Operating Principle

The bonded strain gage load cell comprises a set of up to eight strain gage rosettes mounted parallel and perpendicular to the cell axis and equally spaced in a ring around the steel alloy cylindrical housing. This method of construction results in a very robust instrument suitable for use where high performance, longevity and mechanical strength are important.

All cells are manufactured with a center hole to accommodate rock-bolts, tendons or anchor cables. For use as a solid center cell the instrument can be supplied with top and bottom bearing a heavy gauge multi-core, PVC sheathed cable connects the load cell to the

read-out unit.

Bonded SG load cells are used on support of excavation applications, and provide an excellent choice when an intrinsically temperature corrected, robust waterproof load measurement in harsh environments is needed

For details on datalogging systems or WiSe Modules, please go to the appropriate data sheet.

Advantages/ Limits:

- Accurate, robust and very good long term stability.
- Negligible temperature effects as the bonded gages are provide an intrinsic temperature correc-

tion with, thanks to the biaxial gages and wheatstone bridge measurement.

- One output, as opposed to VW load cells that require one logger channel per gage element.
- Fast response time.
- Available with Thermistor.
- Suitable for remote reading and data-logging.
- Connecting cable is strong, screened and flexible.
- The Bonded Strain gage load cell is not susceptible to partial collapse due to fluid leakage which can be experienced with hydraulic load cells.
- Suitable for dynamic measurements of load.
- Includes Thermistor.

Applications:

- Loads in rock bolts
- Tension in cable anchors and Tendons
- Loads on structural beams
- Loads in piles
- Loads between tunnel supports
- Proof Testing of anchors

Main Office

24 Celestial Drive, Suite B
Narragansett RI, 02882
Phone 800.477.2506
Fax 401.633.6021

Northwest Office

2100 196th Street SW, Suite 109
Lynnwood WA, 98036
Phone 800.477.2506
Fax 401.633.6021

We make it easy to
get the data you need.

www.Geo-Instruments.com

sales@Geo-Instruments.com

Specifications:

Standard range US Ton	100 to 300
Accuracy	0.05%F.S change in load Established under laboratory conditions. System accuracy depends on insitu conditions.
Sensitivity	.025% F.S.
Temperature range	-40 to +65°C
Over-loading range	150%F.S
Water pressure resistance (PSI)	Rated to 70 Psi

Ordering Information (Custom Sizes and Loads Available on Request)

Vibrating Wire Load Cells	Range Ton	No. of bonded Strain Gages	ID (inches)	OD (Inches)	H (Inches)
GEO-BOND- L2-100	100	4	1.67	3.5	3.25
GEO-BOND- L2-150	150	4	2.25	4.25	3.5
GEO-BOND- L2-150L	150	4	3	5	4
GEO-BOND- L2-200	200	4	4.00	6	6
GEO-BOND- L2-300	300	4	4	6.63	6

Cable/Accessories

GEO-BOND-CA-10-SC	5 pair cable. 24 AWG tinned copper, PE, PVC or polypropylene insulation, PVC jacket. overall OD.0.38 inches
WiSe_Module	WiSe module for wireless integration to Wise and CSI hybrid networks (see WiSe datasheet for details)
CSI Logger	Campbell based Datalogger system (see datalogging datasheet for details)
GI-3500	Portable readout
GEO-BOND-central	Load Cell Centralizer. PVC specify element size and load cell from above
GEO-BOND_Seats	Spherical Seats for accommodate up to 5 degrees alignment, specify load cell above for sizing
GEO-BOND-Bearingplate	Flat and parallel (+/- 0.002 inches) Bearing Plates for load distribution specify load cell for sizing