
Strain Gauge Anchor Load Cells SGLC-7000 Series

The SGLC 7000 series load cell consists of a cylinder of high strength steel with electrical resistance strain gauges connected around the periphery as a Wheatstone Bridge that provides a single mV/V signal output



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Overview



The Geosense® SGLC 7000 series load cell consists of a cylinder of high strength steel with a series of electrical resistance strain gauges connected around the periphery as a Wheatstone Bridge that compensates for unevenly distributed loads and provides a single mV/V signal output.

They are manufactured with a centre hole to accommodate anchors, rock bolts and tendons.

When the load cell is subjected to load the resistance of the strain gauges will change and the output signal is directly proportional to the applied load. The load cells are compensated for temperature variations often found during normal operating environments and have in-built lightning protection.

Connection to the load cell is via a heavy duty multi-core sheathed cable which can be connected to a direct portable readout, switched terminal units or a data logging system. Mounting surfaces should be flat and parallel for optimum performance and the use of abutment plates and load distribution plates is recommended.

The bearing plate (provided locally) is normally made to suit specific site requirements and the load distribution plate (supplied by Geosense) should be inserted between the load cell and the anchor head.

APPLICATIONS

Measurement of load acting on:

Ground anchors

Rock Bolts

Tie-backs

Struts

Arch Supports

Props

FEATURES

Robust stainless steel construction

Load distribution plates available

Dynamic testing possible

Accommodates eccentric loading

Multiple gauge system

Data logger compatible

Available with plug connector or cable



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Specifications

GENERAL

Nominal range* ¹	300 to 2000kN * ²
Bridge resistance	700 Ω FS/300 to 750 kN - 8 strain gauges; 1400 Ω FS/1000 to 2000 kN -16 strain gauges
Over range	150%
Repeatability	< 0.2% FS
Accuracy	< ±0.5% FS
Temperature deviation	0.002% FS/°C
Thermal compensation	-10°C to +40°C
Operating temperature	-20°C to +70°C
Output signal	2mV/V
Power input	5 to 15 V DC
Material	Stainless steel
Rating	IP68

LOAD CELLS

Nominal Range (kN)	Internal Diameter(mm)	Overall Diameter(mm)	Height(mm)
300	36	70	40
750	61	160	40
1000	79	140	40
1000	120	200	40
1500	98	170	40
1500	165	250	40
2000	190	300	40

*¹ The range over which the load cell is calibrated. Outside of the nominal range, the load cell is not calibrated and therefore the measurements are not reliable.

*² Other ranges available on request.

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Specifications

LOAD DISTRIBUTION PLATES

Inside Diam (mm)	Outside Diam (mm)	Height(mm)
36	70	30
61	160	30
79	140	30
98	170	30
120	200	30
165	250	30
190	300	30

ANCILLARY EQUIPMENT

Manual readouts

Data loggers

Load distribution plates

Cable Type - 800 - Multi-core with braid

Centraliser bushings if required

Fly Connector

Cable End Protector

Jump Cables

ORDERING INFORMATION

Capacity

Cable length

Readout

Load distribution plate

Connectors



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