

Strain Gauge Piezometer - SGP-3400 Series

Strain gauge piezometers are designed for monitoring soil pore pressure or changes in water level. Also suitable for dynamic monitoring such as pumping tests



SGP-3400 Series

Overview



The Geosense® SGP-3400 Series of strain gauge piezometers are designed for monitoring soil pore pressure or changes in water level and are also suitable for dynamic monitoring such as pumping tests.

They are accurate, highly-reliable and suitable for use in the harsh environments often found within civil engineering including water wells, boreholes, dams, reservoirs, rivers, tanks or any other body of water.

The sensor is housed in a robust stainless steel sealed body with a porous filter tip which are available in different porosities to suit specific site conditions.

It comprises a highly sensitive stainless steel diaphragm onto which a Wheatstone bridge strain gauge is mounted and connected to a signal-conditioning board to convert to a 4-20mA output within the piezometer housing.

When liquid pressure is applied to the diaphragm it causes the Wheatstone bridge strain gauge to output a signal which is directly proportional to the applied pressure.

They are available in standard or vented versions and can be read by simple hand held readout units or integrated into a data logger for fully automated monitoring.

APPLICATIONS

- Well monitoring
- Groundwater & surface water monitoring
- Dewatering
- Percolation testing
- Slug testing
- Pore water pressure

FEATURES

- Fast response
- Suitable for dynamic measurements
- High accuracy
- Easy to read
- Can be easily automated
- Various outputs
- Temperature compensation

SGP-3400 Series

Specifications

MODEL	DESCRIPTION	PRESSURE RANGE	OVER RANGE PRESSURE ¹	RESOLUTION	ACCURACY	NON LINEARITY ²	CALIB. TEMP RANGE	THERMAL EFFECT	DIAMETER X LENGTH	WEIGHT
SGP-3400	Standard LAE	100, 200, 350, 700 kPa 2, 3.5 MPa	1.5	0.025% FS	± 0.1% FS	<0.5% FS	-20 to +80 °C	<0.05% FS/°C	25 x 182mm	240g
SGP-3401	Standard HAE	100, 200, 350, 700 kPa 2, 3.5 MPa	1.5	0.025% FS	± 0.1% FS	<0.5% FS	-20 to +80 °C	<0.05% FS/°C	25 x 182mm	240g
SGP-3450	Standard Vented LAE	100, 200, 350, 700 kPa 2, 3.5 MPa	1.5	0.025% FS	± 0.1% FS	<0.5% FS	-20 to +80 °C	<0.05% FS/°C	25 x 182mm	240g
SGP-3451	Standard Vented HAE	100, 200, 350, 700 kPa 2, 3.5 MPa	1.5	0.025% FS	± 0.1% FS	<0.5% FS	-20 to +80 °C	<0.05% FS/°C	25 x 182mm	240g
SGP-3500	Drive-in LAE CPT	100, 200, 350, 700 kPa 2, 3.5 MPa	1.5	0.025% FS	± 0.1% FS	<0.5% FS	-20 to +80 °C	<0.05% FS/°C	35 x 220mm	550g
SGP-3501	Drive-in LAE 1" BSPM	100, 200, 350, 700 kPa 2, 3.5 MPa	1.5	0.025% FS	± 0.1% FS	<0.5% FS	-20 to +80 °C	<0.05% FS/°C	35 x 238mm	560g

ALL MODELS

Output	4-20mA
Materials	316 Stainless Steel
Power supply	12-24V DC
Thermistor	3k Ohms @25°C
Thermal error	> 0.04%/°C
Long-term stability	0.1% FS/year
Insulation	>100MΩ

CABLE TYPE

Type 900 VW Sensor with Foil Screen & Drain wire

Type 920 Vented with Drain wire

FILTER OPTIONS

LAE (Low resistance to air entry) 50µ 316 sintered stainless steel, porous polyethylene

HAE (High resistance to air entry) 2µ alumo silicate ceramic - 1 bar

ORDERING INFORMATION

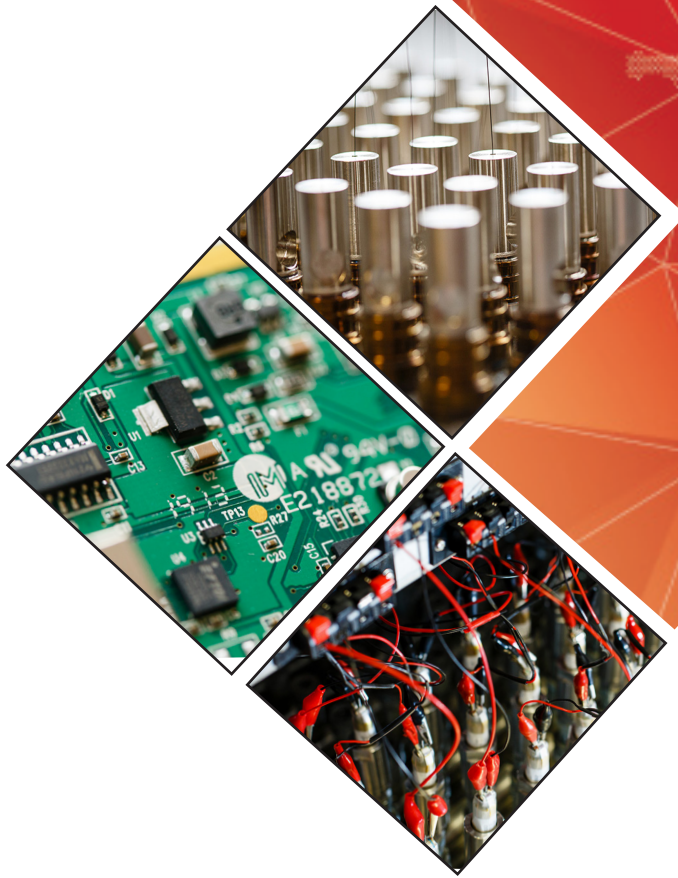
Type

Cable length

Pressure Range

¹ The maximum pressure that may be applied continuously without causing damage and maintaining set point repeatability.

² ± 0.1% FS available on request.



Geosense Ltd, Nova House, Rougham Industrial Estate, Rougham, Bury St Edmunds, Suffolk IP30 9ND, England

www.geosense.co.uk e sales@geosense.co.uk t +44(0)1359 270457

Specifications are subject to change without notice and should not be construed as a commitment by Geosense. Geosense assumes no responsibility for any errors that may appear in this document. In no event shall Geosense be liable for incidental or consequential damages arising from the use of this document or the systems described in this document. All Content published or distributed by Geosense is made available for the purposes of general information. You are not permitted to publish our content or make any commercial use of our content without our express written consent. This material or any portion of this material may not be reproduced, duplicated, copied, sold, resold, edited, or modified without our express written consent.

V1.11 06/2023