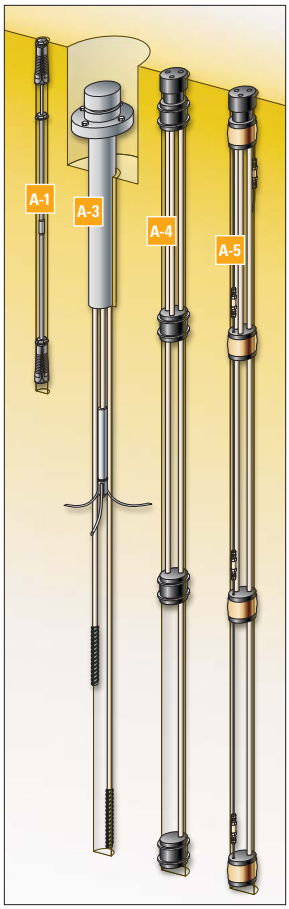


Model 1050 (A-1) Single Point Mechanical Extensometer

The Model A-1 Single Position Rod Extensometer is a very simple, rugged and reliable instrument, easily installed and completely recessed within the borehole for optimum protection. The Model A-1 is a natural first choice for monitoring the safety in and around tunnels and mine openings.

Specifications	
Range	up to 100 mm
Least Reading	0.025 mm
Borehole Diameter	35, 44, 51, 64 mm
Dimensions (L)	3 m *(maximum)*

Model 1150 (A-3) Multiple Point Groutable Anchor Extensometer

The Model A-3 Multiple Point Rod Extensometer is the preferred design for installation in downward directed boreholes which are easily filled with cement grout. Up to six anchors can be installed at various depths in a 76 mm diameter borehole, providing the capability to locate multiple failure plains and zones of movement.

Specifications	
Range	up to 300 mm nominal
Least Reading	0.025 mm
Borehole Diameter	76 mm or over
Dimensions (L)	100 m *(maximum)*

Model 1200 (A-4) Multiple Point Snap-Ring Anchor Extensometer

The Model A-4 Multiple Point Rod Extensometer with Snap-Ring Anchors is quickly and easily installed in boreholes in hard or competent rock. Anchors are pushed to the required depth on the end of setting rods and then a cord is pulled to remove the locking pin which allows two retaining rings on each anchor to snap outward and grip the borehole. Up to six anchors can be installed, at various depths, in a 76 mm diameter borehole. Particularly useful in upward directed boreholes.

Specifications	
Range	up to 300 mm nominal
Least Reading	0.025 mm
Borehole Diameter[1]	38 to 76 mm
Dimensions (L)	50 m *(maximum)*

[1]Any borehole diameter up to 76 mm may be specified. Note that the size of the borehole required increases with the addition of more measuring points.

Model 1250 (A-5) Multiple Point Hydraulic Anchor Extensometer

The Model A-5 Multiple Point Rod Extensometer with Hydraulic Anchors is recommended for use in soft ground and soils, or in rock, where the borehole may deteriorate. This anchor is very versatile and can be used in boreholes of varying diameter and roughness oriented in any direction.

Specifications	
Range	up to 300 mm nominal
Least Reading	0.025 mm
Borehole Diameter[1]	38 to 102 mm
Dimensions (L)	100 m *(maximum)*

[1]Note that the size of the borehole required increases with the addition of more measuring points.

Model 1280 (A-6) Flexible Rod Extensometer

The Model A-6 Flexible Rod Extensometer uses continuous lengths of fiberglass rods inside protective tubing. The rods are cut to customer-specified lengths, coiled at the factory and shipped ready for installation. The extensometer is lightweight, making it easier to handle for installation and less costly to ship. On-site assembly time is minimal and the installation procedure is simplified.

Specifications	
Range	up to 300 mm nominal
Least Reading	0.025 mm
Borehole Diameter[1]	50 mm *(minimum for single point)*
Dimensions (L)	100 m *(maximum)*

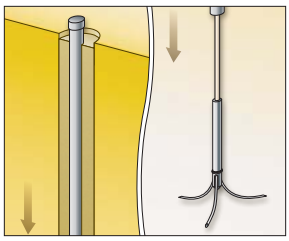
[1]Note that the size of the borehole required increases with the addition of more measuring points.

Model 1300 (A-9) Retrievable Extensometer

The Model A-9 Retrievable Extensometer (Patent No. 5,585,555) is designed to measure deformations in boreholes in rock and concrete. The device can be used in pile load test studies, plate jacking tests and virtually any application where a hole can be drilled or a pipe can be cast into the structure being studied. The system features adjustable gauge lengths, rapid and simple installation/removal and high accuracy.

Specifications	
Range[1]	12.5, 25, 50 mm
Resolution	0.02% F.S.
Accuracy[2]	±0.1% F.S.
Temperature Range[1]	–20 °C to +80 °C
Dimensions (L × ø)	495 mm × 45 mm *(anchor);* 25 mm *(transducer[2])*

[1]Other ranges available on request. | [2]Transducer accuracy established under laboratory conditions.



Model 1950 Settlement Points (Borros Type)

The purpose of the heave/settlement points is to measure vertical movements in foundation soils during, and subsequent to, construction. The heave/settlement point consists of a three-prong anchor, a ¼" standard inner pipe, and a 1" standard outer pipe. The pipes are assembled in sections and fastened together with standard couplings to the required anchor depths.

Specifications	
Range	150 mm *(without resetting)*
Materials	steel *(inner/outer pipes)* stainless steel *(Borros Anchor)*
Dimensions (OD)	33 mm *(outer pipe);* 14 mm *(inner pipe)*

Extensometer Anchor Types

1 Borros Type Hydraulic Anchor › For use in soft soils and clays, especially in augered boreholes. Can also be driven directly through soft ground without a borehole being required.

2 Groutable Anchor › The preferred anchor for use in downward-directed boreholes. The pre-assembled extensometer is installed in the borehole, which is then filled with cement grout. These anchors can also be used in upward-directed boreholes with a more complicated grouting procedure.

3 Hydraulic Anchor › For use in rough boreholes in rock and soft ground, especially if dilations and contractions of the borehole are anticipated. Also useful in upward directed boreholes with or without grouting.

4 Snap-Ring Anchor › For use in hard or competent rock where smooth uniform boreholes can be drilled. The simplicity of its design allows for quick and easy installation.

Readout Instruments 〉 Sensors

1 Model 1400-4 Depth Micrometer › Readout of borehole extensometers is made on a digital counter after manual adjustment of the thimble. Accuracy is ±0.01 mm, Range is 25 mm extensible to 150 mm using the extension rods supplied.

2 Model 1400-1 Dial Indicator › Used for quick and easy readout of borehole extensometers. Accuracy is ±0.01 mm, Range is 50 mm.

3 Model 1450 DC-DC LVDT › DC-DC LVDT's are for dynamic and/or high-temperature applications. Ranges are 50 mm, 100 mm and 150 mm. Other ranges available on request.

4 Model 1500 Linear Potentiometer › Utilizes a sturdy 6.5 mm diameter rod which protrudes from both ends as the actuating shaft. This facilitates connection of the linear potentiometer to extensometer rods and also permits a mechanical check of the readings.

5 Model 4450 VW Displacement Transducer › Vibrating Wire Displacement Transducers provide remote readout for GEOKON Extensometers. They are particularly useful where other types of VW sensors are used and where long cable runs are required. Ranges are 12.5, 25, 50, 100, 150, 200, 230 and 300 mm. Other ranges available on request.

Model 1610 Tape Extensometer

The Model 1610 Tape Extensometer is designed to measure small changes in the distance between opposite walls or between the roof and floor of excavations, tunnels or mine openings. It can also be used to monitor deformation in structures and supports and to measure movements of unstable slopes. Readout is provided electronically via a front panel LCD.

Specifications

Tape Lengths	20, 30, 50 m
Tape Tension	10 kg
Accuracy	±0.1 mm
Dimensions (L)	520 mm

Model 1900 Magnetic Extensometer

The Model 1900 Magnetic Extensometer is designed to measure settlement or heave of soft ground under the influence of loading or unloading due to the construction of embankments, fills, buildings, foundations, and structures. A probe is lowered inside a guide tube to detect and measure the position of magnetic anchors located around the guide tube at various depths along the borehole or within the fill. Plate anchors are used in fill and "spider" anchors in boreholes.

Specifications

Cable Lengths	30, 50, 100, 150, 200 m; 100, 125, 200, 300 ft
Resolution	1 mm
Repeatability	±3 mm
Temperature Range[1]	–30 °C to +80 °C
Borehole Size	102 to 152 mm
Dimensions (L × ø)	178 × 19 mm *(probe)*

[1]Other ranges available on request.

Model 4427 Long Range Displacement Meter

The Model 4427 Long Range Displacement Meter is ideally suited for the measurement of the large displacements typically associated with landslides. The Model 4427 can also be used for monitoring the movement of boulders, snow, etc., on unstable slopes.

Specifications

Ranges	1, 2 m *(without resetting)*
Resolution	0.025% F.S. *(0.25 mm for 1 m range)*
Accuracy[1]	±1.0% F.S.
Temperature Range[2]	–30 °C to +60 °C
Dimensions (L × W × H)	610 × 152 × 152 mm *(enclosure)*

[1]Transducer accuracy established under laboratory conditions. | [2]Other ranges available on request.