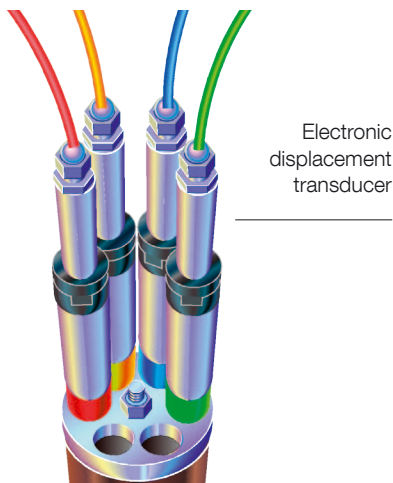


Modular Extensometer

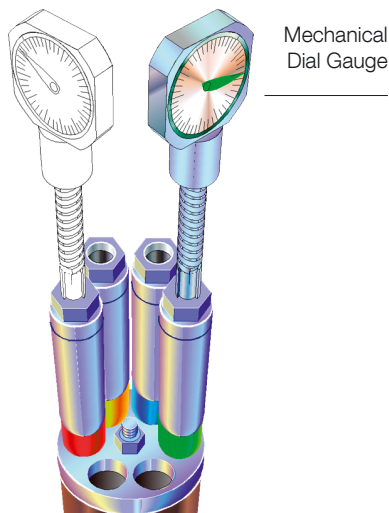
For measuring deformations and displacements in Geotechnics, a new development based on the wellproven Uni-Rod Extensometer

The Modular Extensometer consists of the following items:

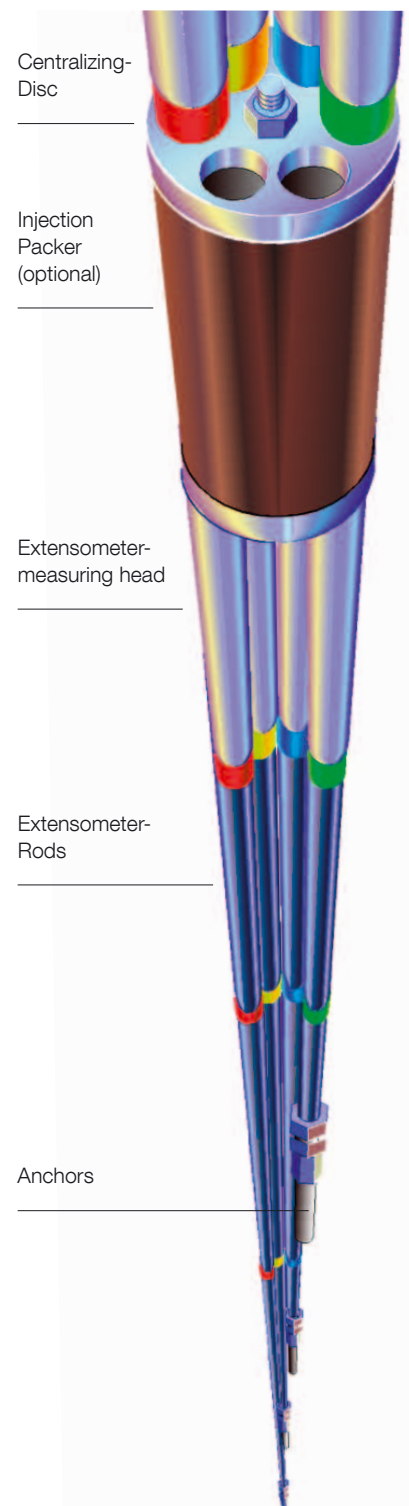
- **Extensometer Measuring Head** for a single measuring point is constructed of stainless steel and has a watertight protective cap. The contact bolt has a range of 130 mm (larger measuring range on request). A transducer can be installed in the measuring head after the removal of the contact bolt. Therefore, the transducer is almost completely submerged into the measuring head or the borehole.
- **Centralizing Disc** to bundle the single measuring heads into a multiple measuring head.
- **Extensometer Rods** are constructed of GRP Ø7 mm and connect the anchor points with the contact bolt in the measuring head. The rods are cased within a PE 16 x 2 mm. Other rod types (stainless steel, Invar steel) on request.
- **Extensometer Anchor Point** constructed of reinforcement steel or GRP with anchor-rings. Standard anchors with lengths of 250 mm or 500 mm. Custom lengths and diameters available on request.
- **Optionally**, special extensometer types can be delivered which enable the client to control the free moving space around the rods. For this purpose, the rods can be detached from the anchors and removed to rinse and clean the protective tube. This prevents sintering of the annular space between the extensometer rods and the casing.



For automatic distance measurements of the Extensometers, electronic displacement transducers are installed.



For the manual measurement of the multi-point Extensometers, a dial gauge, a digital caliper or the portable electronic displacement transducer with digital readout unit is used.



Taking Measurements:

1. **Sliding caliper** range 200 mm, comes with a 2-position calibration device. case for caliper and calibration device



- **Case** for the instrument, calibration unit and readout unit.

2. **Portable electronic displacement transducer with digital readout unit**

- **Housing of stainless steel** with watertight displacement transducer (measuring range 25, 50, 100 or 250 mm) and 2 m long connecting cable with plug.



- **Digital readout unit**, battery operated, 4 lines of 16 characters per line, USB 2.0 to PC (for data transfer), RS485 to sensors.

3. **Remote measurement unit** consists of:

- **Electronic displacement transducer** encased in watertight (to 15 bar) stainless steel housing with watertight cable connection. The displacement transducer is installed directly into the measuring head after removal of the contact bolt (type potentiometric displacement transducer with measuring range 100 or 250 mm).



- **Connection Box** made out of aluminum or plastic.

4. **Solexperts Data Logger** (see separate documentation).

Battery powered, stand-alone data logger with connections for up to 16 analogue channels

Optional: additional interface

Data transmission via USB2.0 port, optional via GPRS or radio.

5. **Solexperts GeoMonitor:** (see separate documentation).

Automatic data acquisition system

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Additional Materials

The following tools are available on request for the installation of extensometers:

- **Injection Packer** for overhead installation or in situations where extensometers are installed in boreholes with water overpressure.
- **Injection and Vent Lines** for the injection packer.
- **Geotextile Sleeve** to prevent injection loss (adjusted to borehole diameter and length).