

SETTLEMENT GAUGES

MAGNETIC REED SWITCH PROBE EXTENSOMETER SYSTEM

MODEL R-4

The R-4 Magnetic extensometer is a precise, multiply point settlement gauge designed to accurately measure deformation in soil and rock including:

- Heave of braced or open cut foundations
- Subsidence
- Settlement within soil or rock embankments and dams
- Foundation settlements
- Deformation around underground openings
- The stability of natural slopes, excavations and walls

The R-4 magnetic probe extensometer consists of an array of magnetic targets surrounding a common access pipe, positioned at different depths along the length of a borehole or the height of an embankment or fill. A reed switch probe, lowered down the access pipe detects the position of the magnet anchors outside the tube. The probe is suspended by a single graduated tape that incorporates the electrical leads. The tape graduation is used to determine the deformation along the pipe's axis between magnetic anchor points.

The magnetic anchors are available in two configurations: Leaf spring anchor for borehole installation and plate anchor for embankment or fill installation. The leaf spring anchor can be pushed in place or lowered with the access pipe. The leaf spring anchor pre-mounted on the access pipe is released with a cutting device lowered through the access pipe or with an external draw wire. The plate anchor consists of a plate with a central hole. The magnets are mounted in each plate. The plate anchors are installed with the access pipe as the construction of the embankment or fill proceeds. Telescoping access pipe is used where deformations exceeding 1% are expected.