

MODEL 4500

The Geotechnical Systems Australia Pty Ltd [Tape Extensometer](#) is a portable device, designed to measure the relative distance between reference anchors fixed to the excavation or structure.

FEATURES:

Rugged simple design
Applicable in any orientation
Rapid one man operation
High accuracy and reliability

APPLICATIONS:

- Measurement of tunnel convergence
- Mine roof sag
- Deformation of excavations
- Monitoring and control of NATM (New Austrian Tunneling Method) construction
- Surface measurements for slope stability



PRINCIPLE OF OPERATION

The instrument consists of a precision punched steel tape incorporating a repeatable tensioning system and dial gauge readout. To obtain a reading, the swivel hook on the fixed end of the extensometer is connected to the stainless steel eye on the anchor. The tape is unwound, allowing the tape swivel hook to be attached to the opposing anchor eye.

Coarse tension adjustment is accomplished by positioning the pin of the extensometer in one of the precision punched tape holes. Fine tension adjustment is obtained by rotating a knurled sleeve until two index marks align.

A precision dial gauge measures this fine adjustment, while the tape is held under a constant repeatable spring force. The instrument is then read by noting the tape position then subtracting the dial gauge reading.

For maximum accuracy, we recommend that one instrument be dedicated to each project, a calibration frame can be regularly used to check stability and determine a temperature correlation, new base readings are established if the tape is changed, and the instrument temperature be allowed to stabilize prior to use.

Tape Extensometer

SPECIFICATION

TAPE EXTENSOMETER

Model 4500

Range:	15, 20, 30m
Repeatability:	+/-0.025mm
Dial indicator resolution:	0.025mm
Weight with 20m tape:	2.2kg



ORDERING INFORMATION

Specify:

- Tape Length
- Anchor type
- Calibration frame

OPTIONS

- Invar tape for temperature stability
- Calibration Frame
- All steel version for use in coal mines
- Spare tape assemblies

ANCILLARY EQUIPMENT

- Replacement tapes
- Zero stability reference frame
- Groutable anchors
- Expansion shell anchors
- Eyebolt for mechanical connection to steel structures