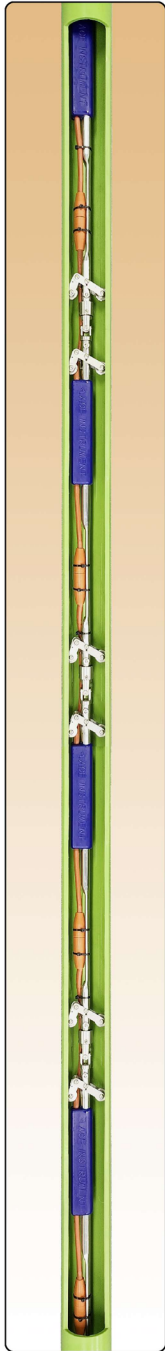
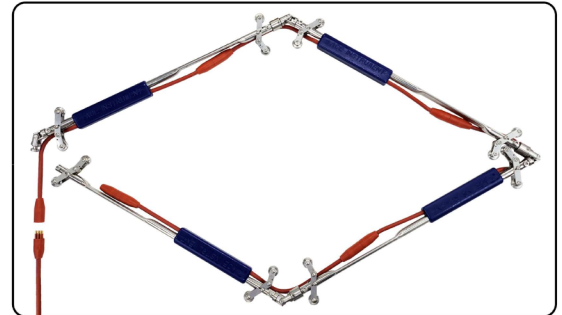


Smart multi-point inclinometer



[Sensor 1 Kit]



[Folded sensor node]

Description

Model 4491 smart multi-point inclinometer is designed with a digital MEMS sensor kit mounted on a small stainless steel tube and a plastic molded structure. It is manufactured in a simple and lightweight structure by extending multiple sensor kits through one signal cable with a waterproof connector and transmitting them sequentially. Smart multi-point inclinometers can be installed on a variety of casing diameters. The standard measuring distances are 1m, 2m, and 3m, and up to 200 sensor kits can be connected depending on the signal cable. It is simple to install and operate and is very accurate.

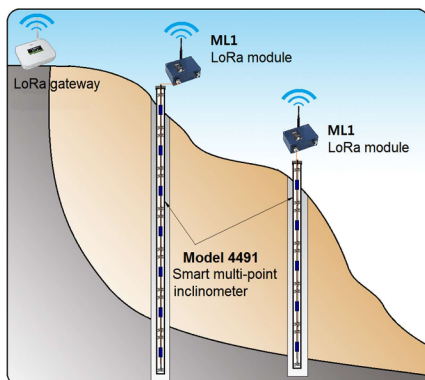
Applications

The Model 4491 smart multi-point inclinometer is useful for measuring horizontal displacements at road construction sites such as embankment, slope, tunnel, etc., or for measuring vertical displacements such as settlement or uplift by installing it horizontally.

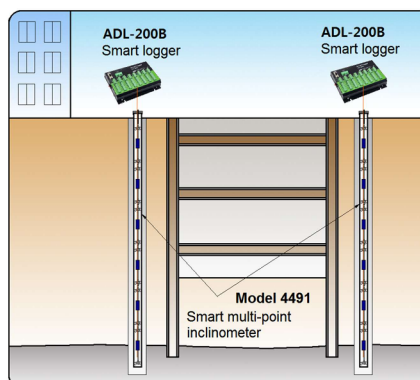
- Displacement measurement of embankment and retaining wall
- Measurement of horizontal displacement of slope areas of dam, road, and railway
- Measurement of real-time danger sign area

Features

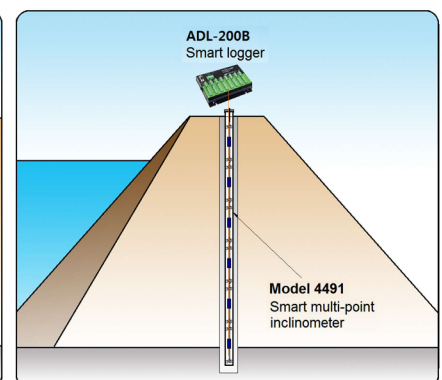
- It has an ultra-light structure, 1m x 10 sets and weighing only 5kg.
- It is a high-precision, high-reliability product that connects multiple inclinometers with connectors through a single-wire connection system and receives data sequentially from the data logger.
- Real-time measurement is possible.
- It is useful for measuring slopes or determining real-time danger signs using an automated data logger or roller communication module ML1.
- After individual calibration, it is assembled and shipped as a finished product, and can be installed by one person.
- It can be installed in either vertical or horizontal direction.
- All parts are made of stainless steel and can be used repeatedly over a long period of time.
- It can be installed in various inclinometer casings of inner diameter from $\varnothing 40 \sim \varnothing 73$ mm.



[Slope measurement]



[Urban excavation measurement]



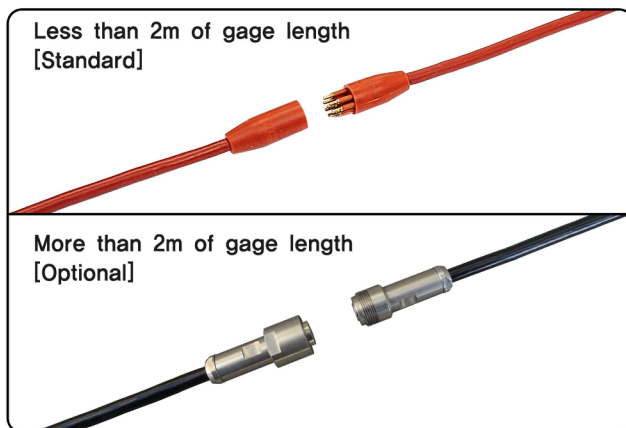
[Dam measurement]

Smart multi-point inclinometer

Specification

| Model | 4491 (Vertical) | 4491H (Horizontal) |
|-------------------------|---|--------------------|
| Sensor element | 2-MEMS digital sensor | |
| Range | $\pm 30^\circ$ | |
| Resolution | 4 arc seconds (0.001°) | |
| Accuracy | $\pm 0.1\%$ FSR | |
| Nonlinearity | $\pm 0.5\%$ FSR | |
| Supply voltage | 12V DC | |
| Insulation resistance | More than 100 M Ω / 500 V | |
| Operating temperature | -30~80°C | |
| Communication method | RS-485 communication | |
| Gage length | Selection of standard length 1, 2, 3 m | |
| Communication connector | 100 bar waterproof (Rubber molded product) | |
| Waterproof | 400m H ₂ O | |
| Built-in quantity | Depend on installation depth (Sensor kits of Max. 200nos using the ADL-200B, Max. 60nos using the ML1) | |
| Materials | Special stainless steel, high grade epoxy potting | |
| Weight | 0.5kg / 1m sensor kit | |
| Signal cable | $\varnothing 7.0\text{mm}$, 0.3mm ² × 6C shielded twist pair silicon sheath cable | |
| Accessories | ① Wheel Ass'y ② Connection part | |

[Waterproof communication connector]



Ordering information

- Place to install
- Component of system
- Specification of system
/ controlled standard
- Depth of installation
- Keeping readout unit
- Length of signal cable

The readout

The 4491 smart multi-point inclinometer can connect to our model ADL-200B smart logger and model ML1 LoRa system module and There can be remotely controlled and measured.



[Smart logger]

[ML1 LoRa module & gateway]

Recommendation

- In setting of standard inclinometer casing, if the horizontal /vertical displacement is expected, please us telescopic section for extension so that is make displacement to be absorbed in extension and prevent form damage of casing and sensor.