

Electrical high sensitivity settlement system



Description

Model 4660 electrical high sensitivity settlement system is composed of 4 main function parts of reference water tank, monitoring vessel built with displacement sensor, circulating and providing device of auto liquid, and liquid supply line. It's a high sensitivity instrument that can detect minute vertical displacement. The reference water tank and circulating and providing device should be established in stable ground or structure.

The reference water tank can be connected with numbers of monitoring vessels and they should be established after decision of expecting support of displacement. reference water tank and monitoring vessels should be established in same altitude, and after charging liquid system operates by power impression.

The height of head of monitoring vessels and reference water tank is same, and by settlement or heaving, it is transmitted to displacement sensor connected with nonloaded buoy in monitoring vessel, it brings about change of current and then converted into meter unit by adjusted recorder.

To secure the confidence of our product, it is used with 0.1% FSR of high precision of length displacement, potentiometer or LVDT that is adjusted individually by exclusive adjuster and fixed with no friction factor within monitoring vessels, it perceive the change of head 100%.

Vessels have no leakage by accurate process of engineering plastic and mechanically combined. And it secures endurance by adopting high precision of fittings that precise and semi permanent measurement is possible.

Applications

Electrical high sensitivity settlement system whose sensor element is used with LVDT or potentiometer is designed to measure minute settlement or heaving of 0.1mm in structure that precise displacement section, speed, and minute displacement is possible to measure by connecting with automated logger.

- Measurement of declination of pier or abutment for maintenance and management of bridge.
- Measurement of declination from adjacent construction for management of subway
- Measurements of declination for maintenance and management of structure

Features

- Stability and confidence in extreme environment
- Optimal design by uses
- High stability and high sense of design
- High precision of measurement (0.01mm unit of precision)
- Automated measurement is possible

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Specification

| Model | | 4660 |
|-----------------------------|-----------------------|---|
| Sensor part | Sensor element | LVDT or potentiometer |
| | Range | Standard : 100mm Optional : 50mm |
| | Resolution | 0.01mm (Ininitely) |
| | Accuracy | ±0.1% FSR |
| | Nonlinearity | ±0.5% FSR |
| | Output | 0~5,000mV |
| | Insulation resistance | More than 100M Ω /500V |
| Liquid circulator | Power | 220 VAC motor pump |
| | Supply of water | 10 l / min |
| Built-in temperature device | | Thermistor (3k Ω) |
| System compositions | | ① Water tank and liquid distributor ② Monitoring vessel of built-in displacement sensor ③ Automatic liquid circulation supply ④ Water line |
| Weight | | ① Water tank and liquid distributor about 2.5kg ② Monitoring vessel about 1.5kg ③ Mounting bracket about 2kg |
| Materials | | Engineering plastic, alloy steel plate, urethane hose |
| Signal cable | | ∅6.4mm, 0.37mm ² × 4C shielded PVC cable |

(Note) The accuracy and reliability depends on compensating for temperature variations, atmospheric pressure variations, de-airing in liquid installation method.

The readout

It is connected to the system such as the voltage readout units, or data logger as it is the electrical sensor that output mV.

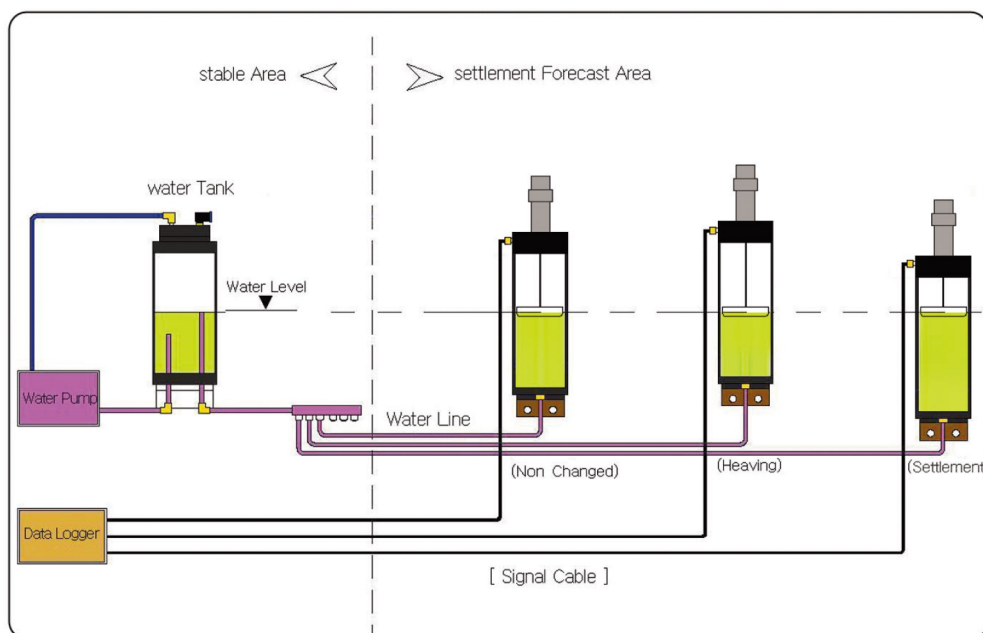
- ACE-1500 (MEMS readout)
- ACE-900 series (MEMS mini logger)
- ADL-200A (Smart logger)

Ordering information

- Volumes of sensor & water tank
- Place to set and use
- Range of measurement (expected change of design)
- Keeping readout unit

Ancillary equipments

- Universal terminal box (model 7012/7024)



[Installation of electrical high sensitivity settlement system]