

IPX - In-Place Extensometer

Description

The Osprey Measurement Systems In-Place Extensometer (IPX) offers automated monitoring of standard magnetic extensometer installations. The system is designed for a simple, adaptable installation with a single cable connection at the top of the borehole. Its large measurement range accommodates large levels of settlement or heave, and ease of adjustment means they can be reconfigured for changed site conditions such as embankment filling or cutting.

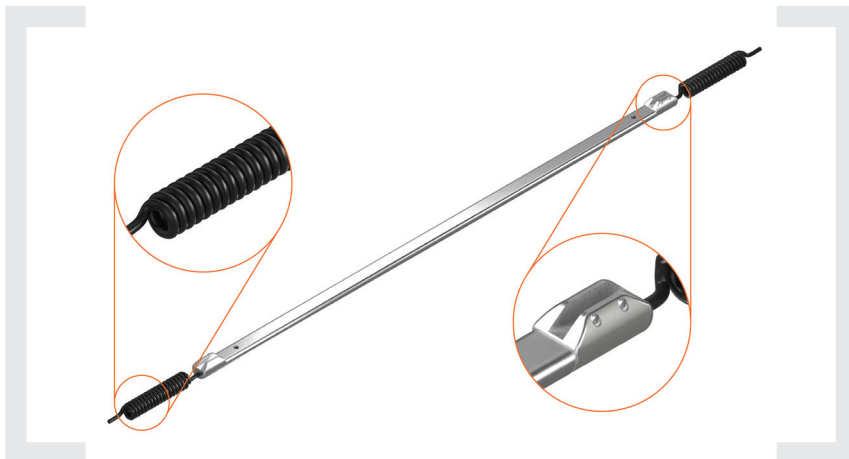
Features

- Single cable bus system allows easy, low-cost data logging and telemetry
- Fibreglass rod side mounting system for top or bottom supported installation to suit your application
- Small diameter sensor is compatible with most standard magnetic extensometer systems
- Retrofittable on existing magnetic extensometers
- Designed specifically for ease of extension with fill raises or shortening with excavation
- Output in engineering units – no data conversion necessary

Applications

Typical applications include:

- Monitoring consolidation of soft ground during filling
- Identifying consolidation zones
- Heave following excavation
- Subsidence above a tunnel or cavern
- Lateral displacement beneath an embankment or in a slope



Compatible

The IPX can be installed in most standard magnetic extensometer installations. It is compatible with most leading digital geotechnical data loggers and its low power consumption allows over 50 sensors to be connected to a single battery powered logger.

Adaptable

Easily raised through fill or reduced with cutting - the IPX's distinct bottom supported configuration allows easy extension or reduction without interfering with the existing sensors.

Adjustable

Our unique coiled cable system allows you to adjust sensor spacing according to site conditions. Offering a 4:1 extension, the IPX can easily accommodate unexpected ground conditions.

The In-Place Extensometer was developed in collaboration with University College London's Department of Civil, Environmental and Geomatic Engineering.

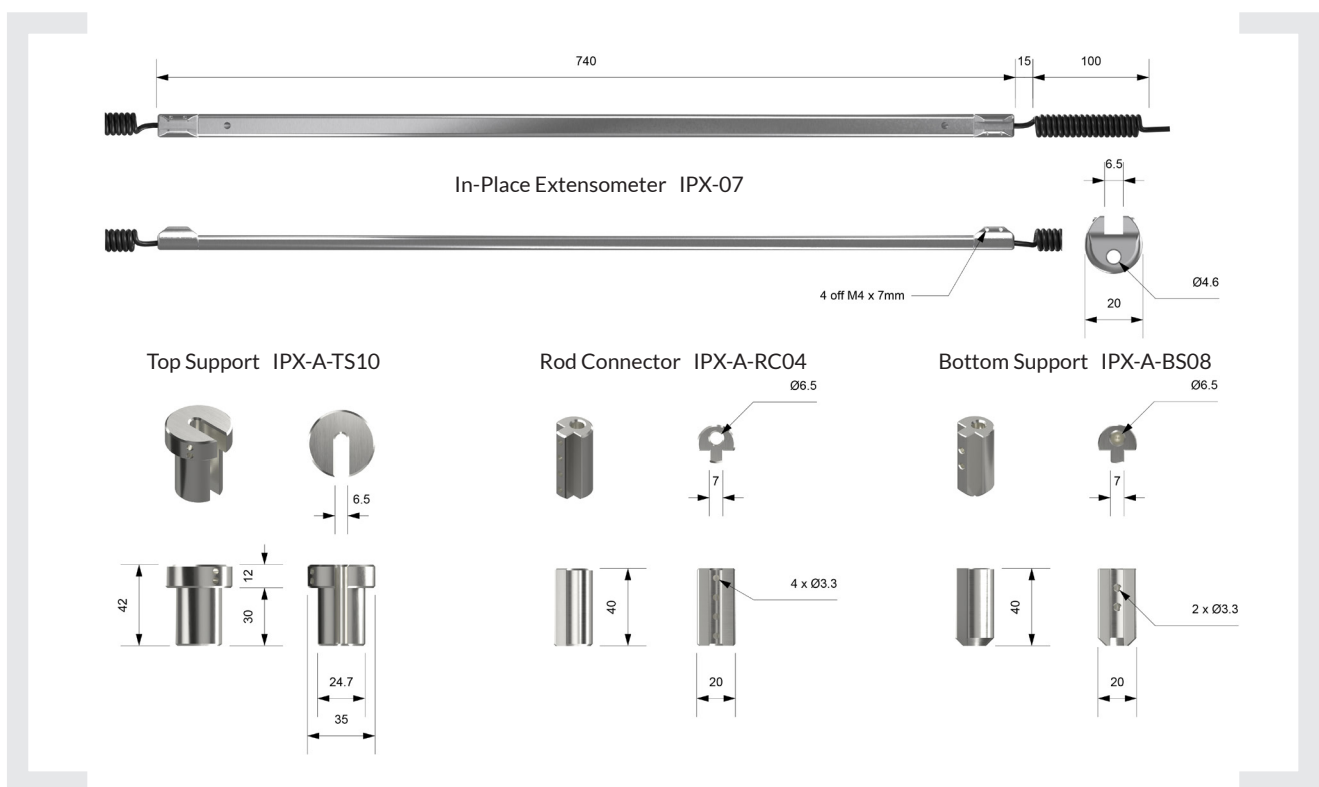
Osprey Measurement Systems products are manufactured in the United Kingdom in accordance with our UKAS accredited ISO 9001:2015 quality management system.

Specifications

Specifications - Performance

Range	400mm
Resolution	0.1mm
Accuracy ¹	±0.5mm
Signal output	Digital RS-485
Power supply	4-30VDC
Power consumption (idle/ active) ²	29mW/ 87mW
Time per measurement (warm-up/ reading) ²	0.3 seconds/ 2 seconds
Temperature range	-40° to 80°
Max sensors per string ³	27
Max length of string	100m

1. May vary depending on magnet used
2. All sensors are active during warm-up, and then idle as each sensor is read sequentially.
3. Assumes 200mA power supply



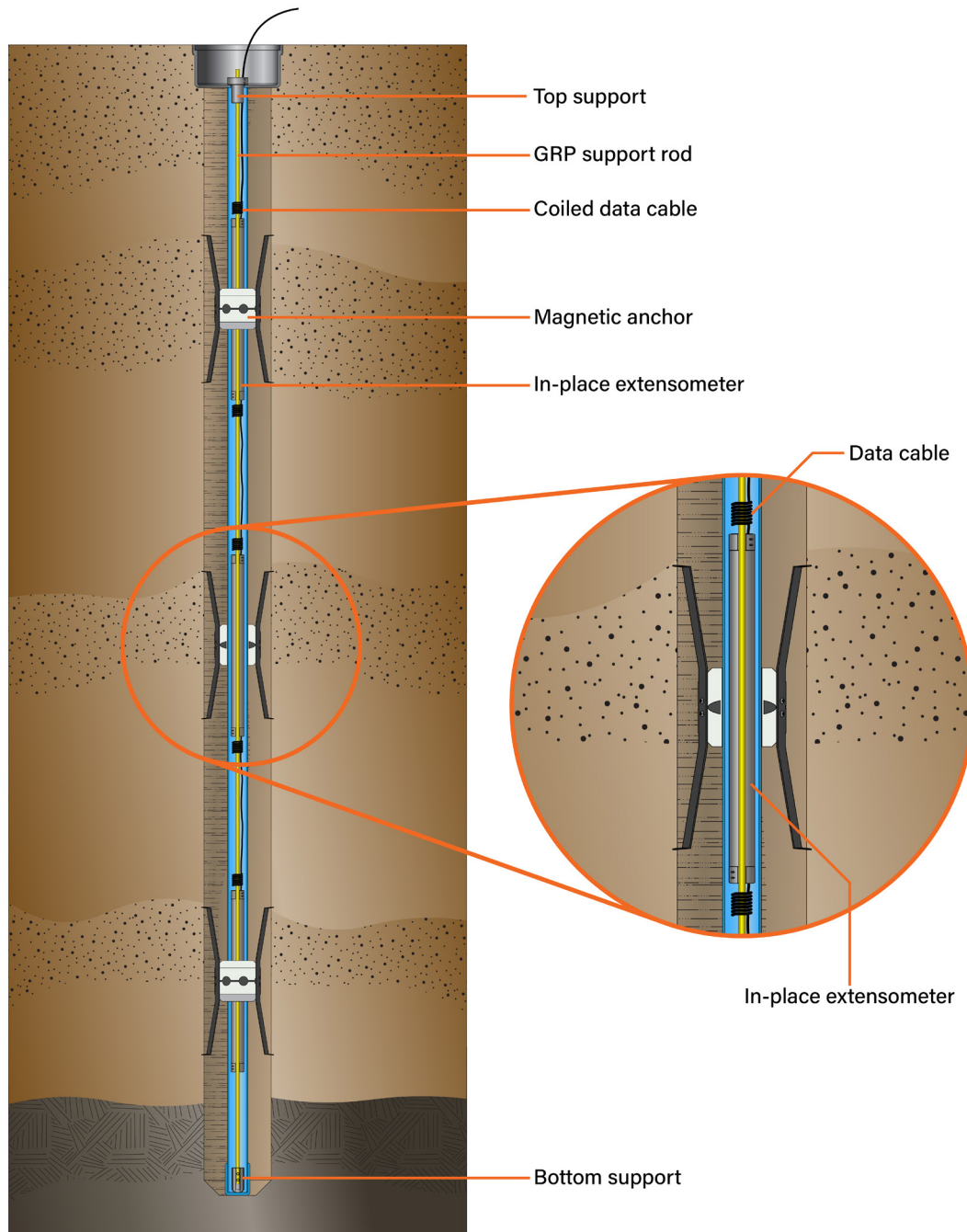
Specifications - Physical

Material	316L Stainless Steel
Dimensions	740mm x 20mm
Weight	675g



Specifications - Accessories

Cable	4 core, 22AWG, 4mm jacket
Cable weight	30g/m
Support rod	4mm GRP with 2mm plastic overwrap
Support rod weight	40g/m
Top/ bottom support material	316L Stainless Steel



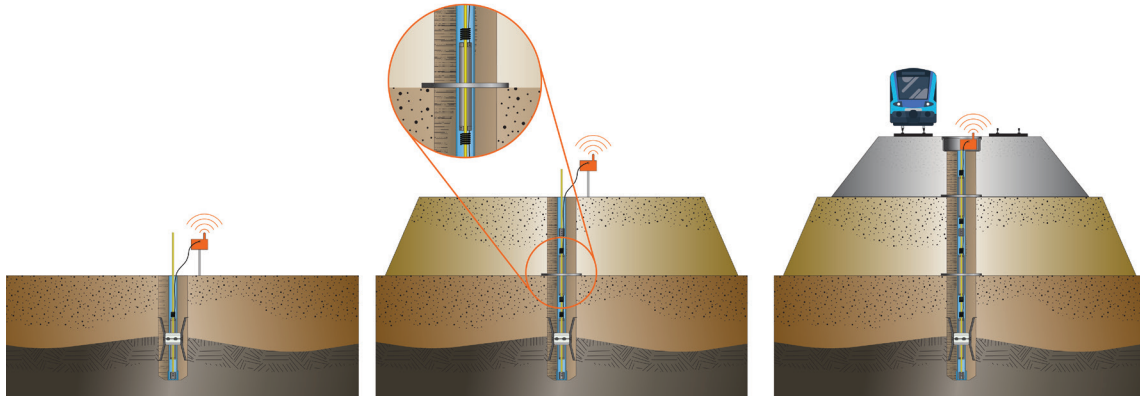
Applications

Settlement

Road and rail embankments - Earthfill embankment dams - Upstream tailings dam raises - Pre-load and surcharging

Easily extend through fill to accommodate embankment raises.

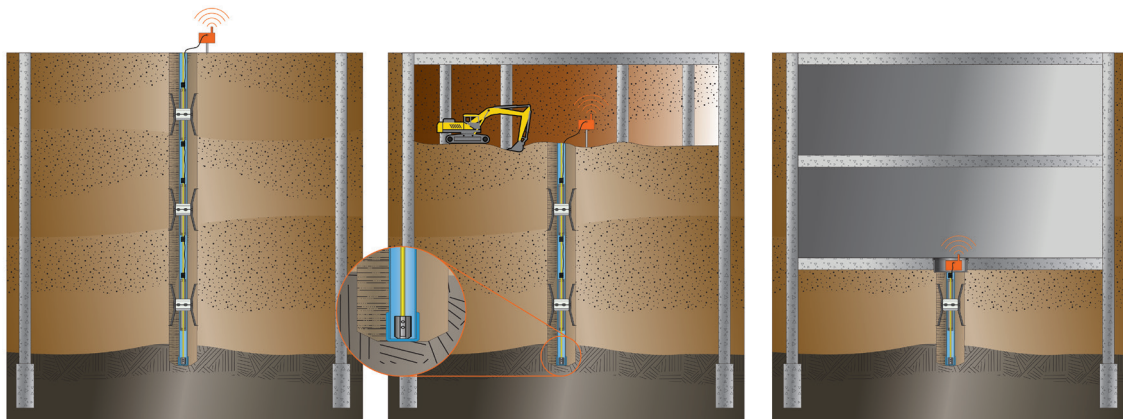
The low drift sensor design makes the IPX ideal for long term monitoring.



Heave

Top down construction - Road and rail cuttings - Cut and cover tunnels - Surcharge removal

The bottom support allows reduction of system height without interrupting monitoring.



Subsidence

Tunnels - Mines - Caverns - Underground structures

Top suspended systems allow surface referenced monitoring.

The compact headworks fit easily within a monitoring well cover.

