

Before you start

- Reed switch probe
- Cable ties
- 2mm hex driver
- Snips
- Permanent marker pen
- Top and bottom support

- Confirm your magnetic extensometer access tube is free of damage or debris and is not excessively deformed.
Note: Your magnetic extensometer access tube should be installed as straight as possible to ensure best measurement performance and ease of installation of the IPX.
To avoid damaging the IPX cable during installation, we recommend deburring the ends of the access tube, which can develop sharp edges and burrs during the manufacturing process.

- Conduct a manual survey of the borehole using a reed switch probe.

Note: Many magnets will exhibit hysteresis, activating the reed switch probe over a distance of up to 25mm. To locate the centre of the magnetic peak, note the depth at which the reed switch is activated, and then again when it is deactivated. Halfway between these positions is the centre of the magnetic peak.

- Take a note of the serial numbers of all IPX sensors, and their position in the string.

The Installation

- 1 Mark the magnet depths on the GRP rod
- 2 Using the gauge on the back of the IPX, align the sensor with the corresponding depth marking.
Note: You should position the IPX such that the majority of sensing range is in the direction of expected movement. See section 3.3.3 of the user guide for further information.
- 3 Tighten the grub screws using the 2mm hex driver until the support rod appears white – approx. 0.5Nm. Tighten both screws on one end first and then the other, ensuring the rod is taught between the two ends.
- 4 Ensure the cable is safely fixed to the rod between sensors. This should be done using cable ties. Excess cable is folded into itself and secured in at least two positions using cable ties as shown. Trim the cable ties using sharp snips.
- 5 Insert the end of the GRP rod into the bottom support and tighten the grub screws.
- 6 Carefully lower the string into the access tube. The IPX is guided into the tube being careful to avoid snagging of the cable or sensors on entry. Make the angle as large as possible so the IPXs enter vertically with minimum stress on the GRP rod at the grub screw locations.
- 7 Once the string has reached its final position, place the top support in the access tube.

Note: the top support should not be carrying any weight in a bottom supported installation. In a top suspended installation, the IPX string should be raised off the bottom of the access tube sufficiently that the string shall not come into contact with it for the duration of the monitoring period. For more details, see section 3.3.2 of the user guide.

Connect the string to a data logger, laptop or smartphone to confirm the measurements given by the instruments match the intended position of the sensors relative to the magnets. See data logger specific guides for reference.



1 Mark the magnet depths.



2 Align the sensor with the corresponding depth marking.



3 Tighten the grub screws using the 2mm hex driver.



4 Ensure the cable is safely fixed to the rod between sensors.



5 Insert the end of the GRP rod into the bottom support and tighten the grub screws.



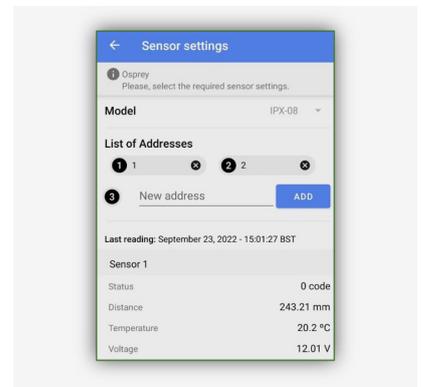
6 Carefully lower the string into the access tube.



7 Once the string has reached its final position, place the top support in the access tube and secure.



8 Wire to your data logger as follows: Brown: 12V; Black: G; Blue: A; White: B



9 Use your data logger interface to confirm sensor readings correspond to intended positions. Adjust as necessary.