



Applications

- Turbine Differential Expansion
- Large Rotor Expansion
- Low profile mounting
- Harsh Environments

Features

- Switch selectable system cable lengths 5m, 7m and 9m.
- LED indication of selected length.
- 3.5mm socket for gap voltage monitoring.
- Double screened cable for high noise immunity.
- Snap lock and shake proof cable connection.
- Low profile driver for easy local integration to machine (Din rail mount opt).
- Excellent repeatability on replacement of probe, extension or driver.

The XPD25 proximity probe system consists of a calibrated probe, extension cable and driver. Utilising the eddy current principle, this combination forms a tuned circuit with the target material and variations in probe face to target distance are detected in this circuit by the driver. This provides a linearised voltage output proportional to target gap with a nominal sensitivity of 0.63 mV/ μ m and a range over 25.0 mm. This type of measurement system provides highly accurate (resolution typically to a few micro-meters) relative positional measurements, for harsh environments up to 180 °C.

The driver unit offers selectable system lengths of 5 m, 7 m or 9 m, with a front panel green LED indicating the selected option. The gap voltage monitoring socket assists with commissioning the probe system; a volt meter can be connected directly to the driver through the 3.5 mm standard audio socket to display the gap voltage at the point of installation and the probe mechanical gap can then be adjusted to suite the application.

The cable system incorporates snap lock connectors which require no torqueing and provide a shake proof solution important for heavy industrial applications. The double screened cable offers robustness in combination with high immunity to interference and optional stainless steel convoluted armour is available for applications or environments where cable protection is paramount.



System Performance

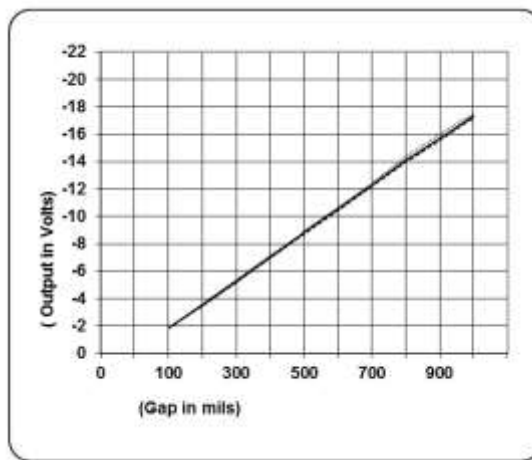
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|----------------------------|--|
| Measurement Range: | 25.0 mm |
| Linear Range: | 1.26 mm (50 mil) to 26.7 mm (1050 mil) from electrical null position. |
| Electrical null position: | Approximately 0.50 mm from target (Driver at 0 V). |
| Linearity: (% of FS) | ± 1%, -2.0 V to -18.0 V ± 2%, -1.0V to -18.0 V ± 2%, 0 °C to +150 °C @ -10.0V |
| Std Sensitivity: | 0.63 V/mm (16 mV/mil) ± 1 % |
| Resolution: | <0.003 mm |
| Interchangability: | Maximum interchangability error replacing either probe, extension cable or driver in calibrated system is ± 5 %. |
| Available system lengths: | 5 m, 7 m and 9 m |
| Cable length tolerance | |
| Probe (1 metre): | 1.0 m to 1.5 m |
| Cable Extension (4 metre): | 4.0 m to 4.4 m |
| Cable Extension (6 metre): | 6.0 m to 6.6 m |
| Cable Extension (8 metre): | 8.0 m to 8.8 m |
| Frequency Response: | DC to 5 kHz |
| Maximum Cable Length: | 330 m based on 120 pF/m at <10 kHz and 500 um pk-pk. 3000 m based on 120 pF/m at <1 kHz and 500 um pk-pk. |
| Reference Target Material: | ANSI 4140 |

Probe

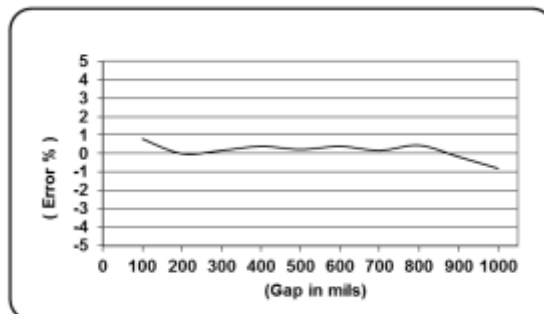
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| Probe tip diameter: | 25.0 mm |
| Probe tip material: | PPS 40 % Glass Filled |
| Probe body material: | 303 stainless steel |
| Probe body format: | Disk Type |
| Cable type: | Triaxial 75 Ohm Coaxial FEP outer jacket 3.2 mm outer diameter |
| Armoured option: | Convuluted Stainless Steel 6.4 mm outer diameter |
| Probe Resistance: | 1.1 Ohms ± 0.2 Ohm With 1.0 m cable |
| Operating Temp Range: | -30 °C to +180 °C |
| Storage Temp Range: | -40 °C to +180 °C |
| Minimum target size: | 2 x probe tip diameter |
| Magnetic field effect: | <1 % at 110 mT |
| Connector | Female Miniature Coaxial |

Driver

| | |
|---------------------------------------|---|
| Linear voltage range: Standard Option | -1.0 V to -18.0 V for 1.26 mm (50 mil) to 26.7 mm (1050 mil) |
| System length selection: | Internal switch 5 m, 7 m or 9 m |
| System length indication: | Green LED lamp |
| Power supply range: | -16.0 Vdc to -28.0 Vdc Note: Output voltage is limited to 1.2 V below supply voltage when supply is < -21.5 V. |
| Power supply: sensitivity | < 0.3 mVout / Vsupply |
| Power consumption: | 3 mA typ, 7 mA max |
| Output impedance: | 75 Ohms |
| Monitor Output Impedance: | 10 KOhm |
| Sensor Connector type: | Self Locking Miniature Male Coaxial |
| Monitor Connector type: | 3.5 mm audio jack |
| Mounting: | Din Rail or Plate |
| Mass: | 250 grams |
| Operating Temp Range: | -30 °C to +90 °C |
| Storage Temp Range: | -40 °C to +90 °C |

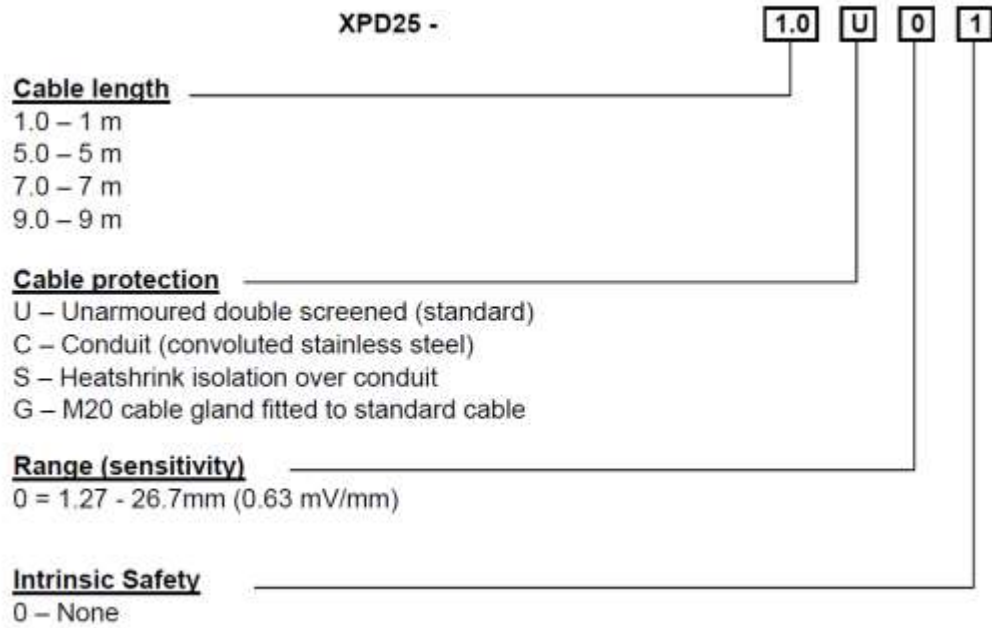


Typical 5m system performance
 ————— 25 °C
 150 °C
 - - - - - 0 °C

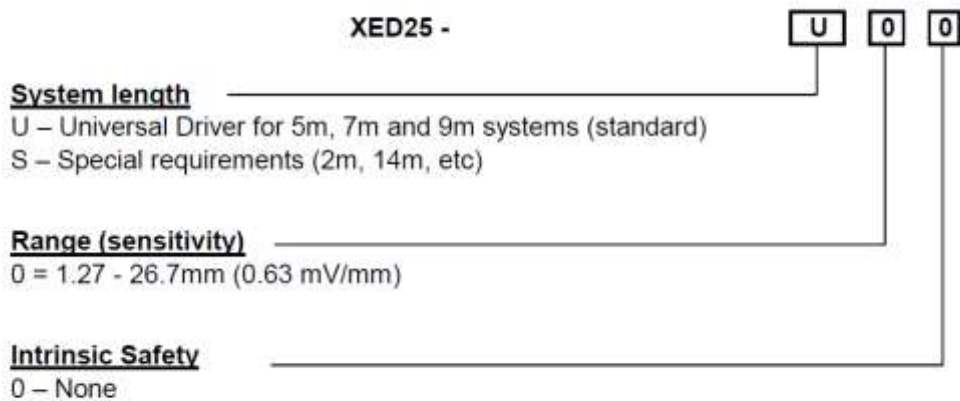


Typical 9m system performance

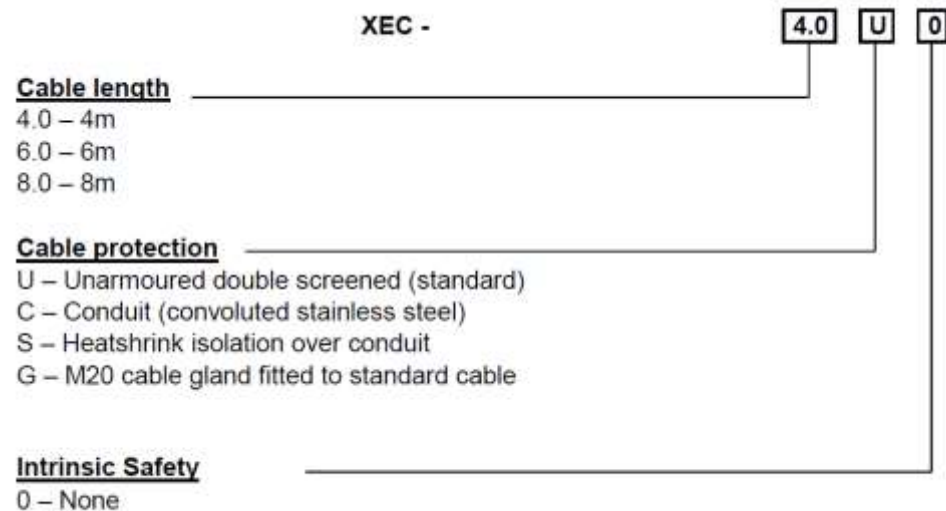
Probe Ordering Information



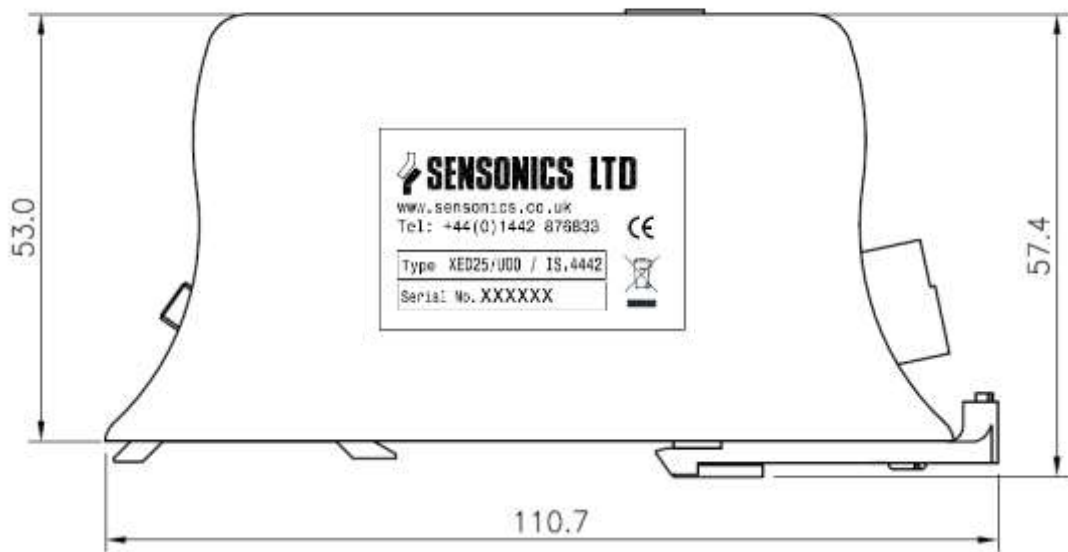
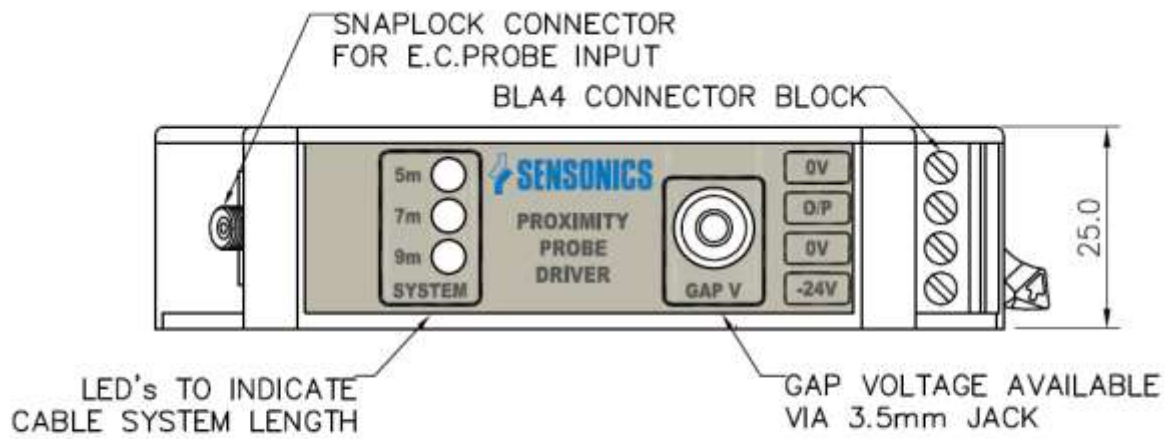
Driver Ordering Information



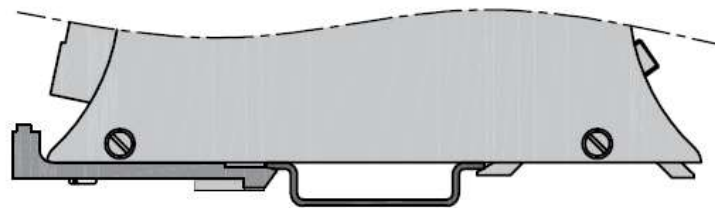
Extension Cable Ordering Information



Driver Mechanical Configuration



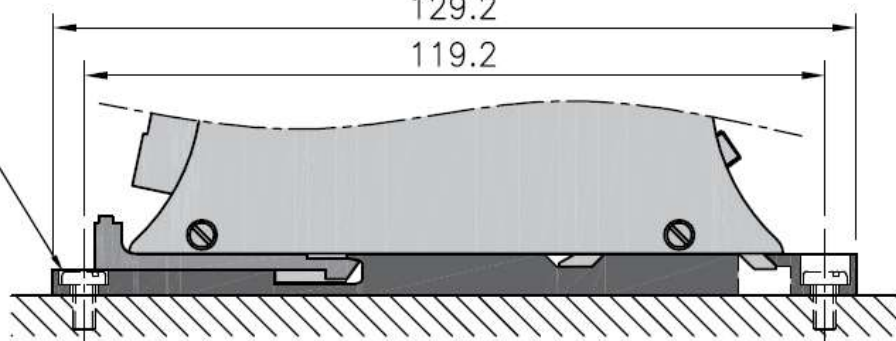
MOUNTING OPTIONS



TS35 RAIL

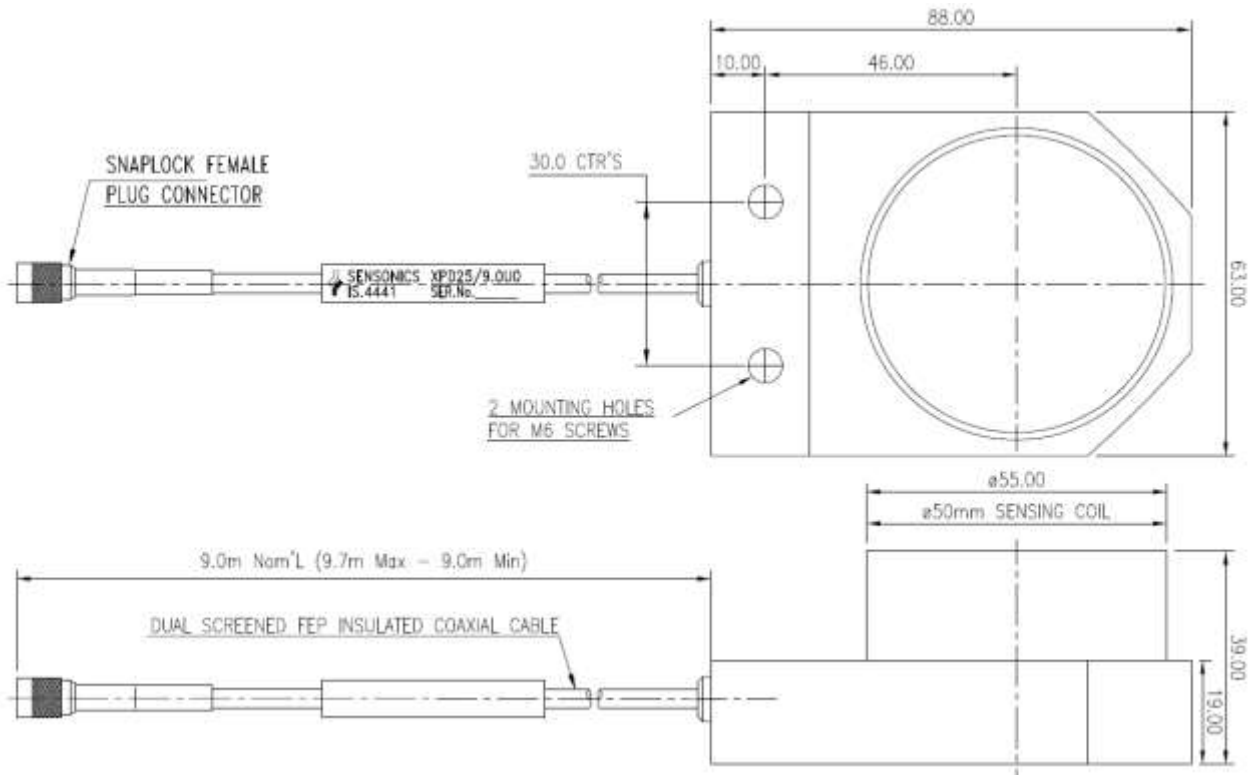
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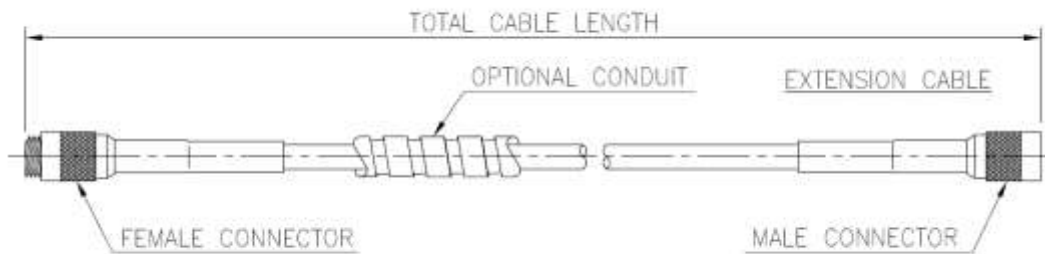


PANEL MOUNT (USING SUPPLIED CLIP)

Probe Mechanical Configuration



Extension Cable Mechanical Drawing



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