

Vibration monitoring field equipment

25.0 mm range eddy probe system

Key features

- Disk type eddy probe for low-profile mounting
- Measurement range 25.0 mm
- Nominal sensitivity 0.63 V/mm
- Selectable system lengths (5 m, 7 m, and 9 m)
- DIN rail or plate mounted driver
- Armoured and unarmoured double screened snap lock cables
- Compliant with API 670 standard



Measurement principle

The eddy current measurement system utilizes eddy current principle, being able to measure the distance to the target material as well as dynamic vibration. Measurement is non-contact and reference target material is ANSI 4140.

Eddy probes are widely used with journal bearings machines in shaft vibration, shaft position and casing expansion measurements.

System description

The eddy probe system consists of calibrated eddy probe, possible extension cable and universal driver.

System total cable length can be 5, 7 or 9 meters. Selected cable length is indicated with a LED on the driver. Gap voltage measurement is possible from a connector on top of the driver for an easy sensor adjustment.

Measurement range is 25 mm. Sensitivity is 0.63 V/mm. 25 mm range eddy probes are typically used in rotor position and differential expansion measurements in large turbines.

Cables are available as armoured and unarmoured versions.

Probe body has two holes for M6 mounting screws.

Technical specifications

System performance

| | |
|---------------------------|---|
| Measurement range | 25.0 mm |
| Linear range | 1.26 mm (50 mil) to 26.7 mm (1050 mil) |
| Electrical null position | Approximately 0.50 mm from target (Driver at 0 V) |
| Linearity | ±1%, -2.0 V to -18.0 V ±2%, -1.0 V to -18.0 V ±2%, 0 °C to +150°C @ -10 V |
| Standard sensitivity | 0.63 V/mm (16 mV/mil) ±1% |
| Resolution | < 0.003 mm |
| Interchangeability | Maximum interchangeability error replacing either probe, extension cable or driver in calibrated system is ±5 % |
| Frequency response | DC to 5 kHz |
| Reference target material | ANSI 4140 |

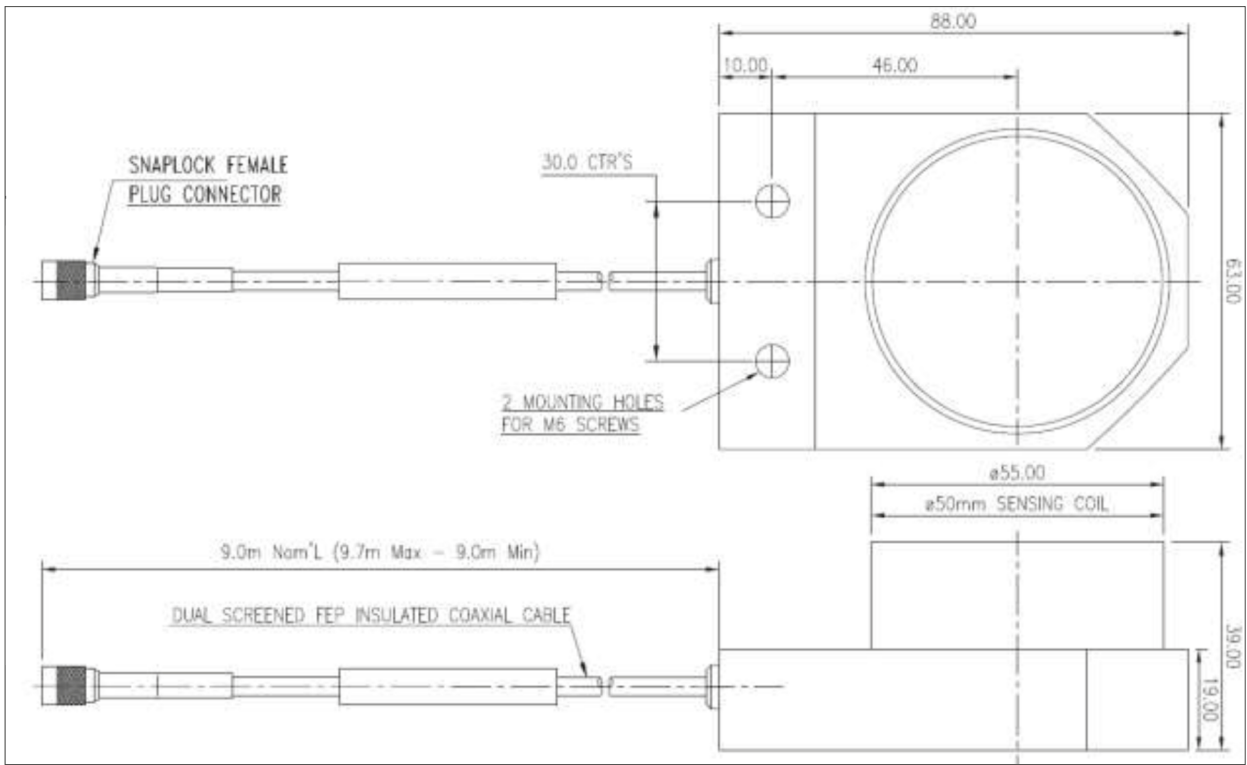
Probe

| | |
|-------------------------|--|
| Probe diameter | 55.0 mm |
| Probe tip material | PPS 40% Glass filled |
| Probe body material | 303 Stainless steel |
| Probe type | Disk type |
| Cable type | Triaxial 75 Ω Coaxial FEP outer jacket 3.2 mm outer diameter |
| Armoured option | Convuluted stainless steel 6.4 mm outer diameter |
| Probe resistance | 1.1 Ω ± 0.2 Ω with 1.0 m cable |
| Operating temperature | -30 °C – +180 °C |
| Storage temperature | -40 °C – +180 °C |
| Minimum target diameter | 110 mm |
| Magnetic field effect | <1 % at 110 mT |
| Connector | Female miniature coaxial |

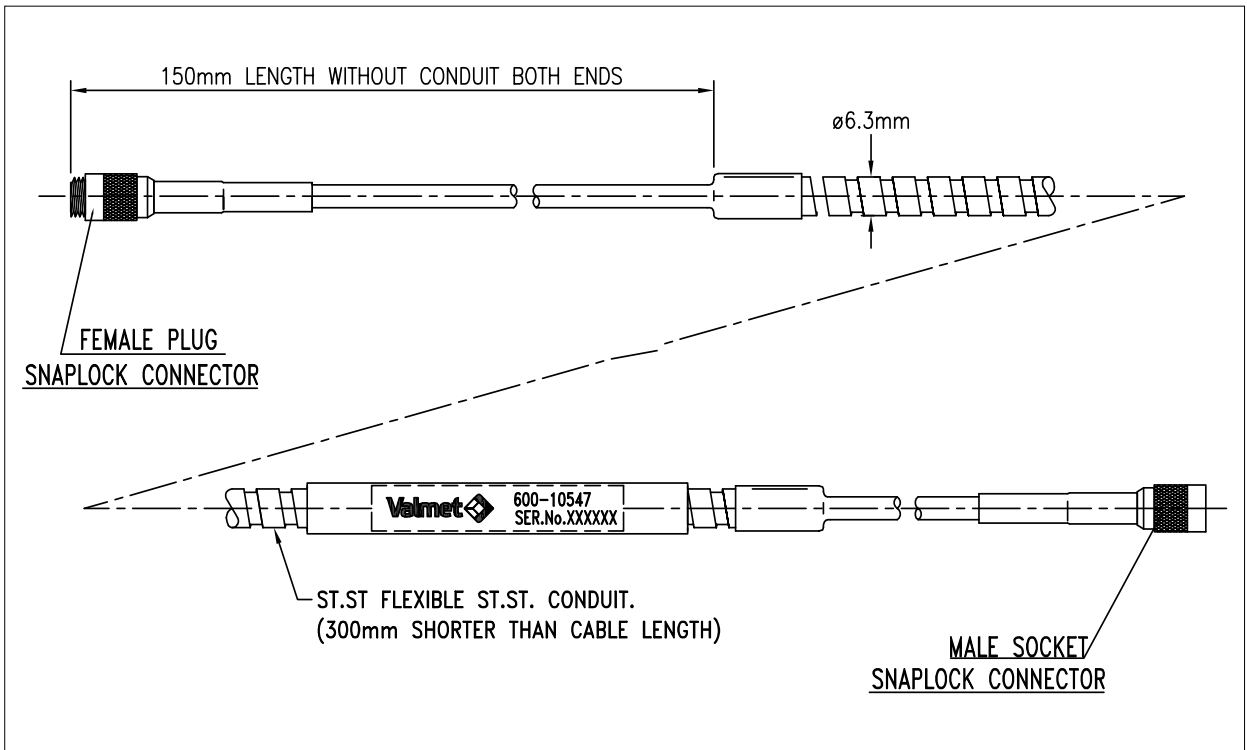
Driver

| | |
|--------------------------|--|
| Linear voltage range | -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 | LED lamp |
| Power supply | -16.0 VDC to -28.0 VDC. Output is limited to 1.2 V below power supply when power supply is < -21.5 V |
| Power supply sensitivity | < 0.3 mV _{out} / V _{supply} |
| Power consumption | 3 mA typical, 7 mA max. |
| Output impedance | 75 Ω |
| Monitor output impedance | 10 kΩ |
| Sensor Connector type | Self locking miniature male coaxial |
| Monitor Connector type | 3.5 mm audio jack |
| Mounting | DIN rail or plate with screw |
| Mass | 250 g |
| Dimensions (W x H x L) | 25.0 mm x 57.54 mm x 110.7 mm |
| Operating temperature | -30 °C – +90 °C |
| Storage temperature | -40 °C – +90 °C |

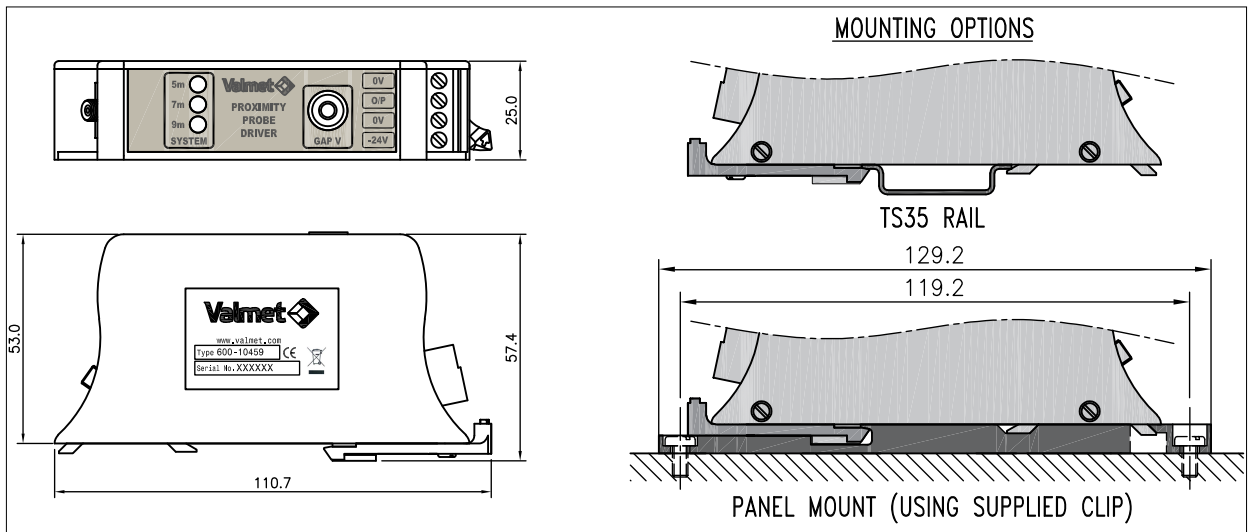
| Item code | Product |
|------------------|--|
| 600-10825 | Eddy probe: disk-type, 7 m cable unarmoured, 25 mm range |
| 600-10826 | Eddy probe: disk-type, 9 m cable unarmoured, 25 mm range |
| 600-10827 | Driver: for 25 mm range eddy probes |
| 600-10460 | Extension cable: unarmoured, 4 m |
| 600-10524 | Extension cable: armoured, 4 m |
| 600-10461 | Extension cable: unarmoured, 6 m |
| 600-10462 | Extension cable: unarmoured, 8 m |
| 600-10547 | Extension cable: armoured, 8 m |
| 600-10829 | Extension cable: unarmoured, 8.5 m |



Disk-type eddy probe, unarmoured cable



Extension cable, convoluted SST protection hose option



Driver