

# CTC AppNotes

A series of technical documents written by members of the CTC community

## PRO 4-20 mA Output RPM Sensor Proximity Probe Systems

Frequently in vibration analysis the operating speed of a machine can have much to do with the proper interpretation of data collected. Accurate knowledge of the speed is important in determining many things. CTC's new 4-20mA output RPM drivers can be valuable tools for any vibration analyst or vibration program.



Figure 1. New 4-20mA driver with output proportional to speed.

### Flexible configuration

The 4-20mA output drivers are available in many configurations in order to provide the widest possible range of sensitivities. The systems use standard probes and cables and can be configured for use with a single trigger point all the way up to 99 trigger points. The multiple trigger point configuration

allows the probe to be directed at a gear with many teeth and still provide accurate speed sensing.

### Different selections for different applications

Each RPM driver is designed for use in specific circumstances. All of the 4-20mA RPM drivers share the same basic parameters; available in 5 meter or

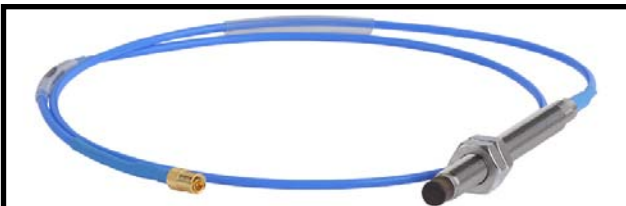


Fig. 2. RPM drivers are designed to be used with standard proximity probes and cables. 8 mm probe shown.

9 meter system versions, panel mount and DIN rail mounts are available; number of keyways is selectable between 1 and 99; minimum functional shaft speed is 5 RPM and maximum of 65,000 rpm.

### 5 mm systems

5 mm FFV systems are intended to be used on smaller shafts or in areas where there is limited clearance around the probe tip. With a linear range of 10-70 mils, the 5mm FFV version is suitable for shafts with smaller keyways.

### 8 mm systems

The 8 mm systems are the most common and have a linear range of 10-90 mils (0.25mm-2.30mm). As with all of these systems the driver power is supplied by the 4-20mA current loop.

### 11 mm systems

The 11 mm systems can be used on larger shafts or in places where a longer linear range is required. The linear range of the 11 mm probes is 20 to 180 mils (0.5 to 4.5 mm).

### Intrinsically Safe and HazLoc versions.

All of the 4-20 RPM drivers are available in versions with multiple agency approvals and certifications from ATEX, CSA, and IECEx. Paired with approved extension cables and probes allows for use in areas where hazardous gases or dusts may be present.



Fig. 4. Ideal dynamic plot of a RPM driver with a single keyway.

If you have any questions feel free to contact CTC directly. Call toll free 1-800-999-5290 in the US/Canada or +1-585-924-5900 internationally, or alternatively, email [techsupport@ctconline.com](mailto:techsupport@ctconline.com).

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If any CTC vibration analysis hardware product should ever fail, we will repair or replace it at no charge.