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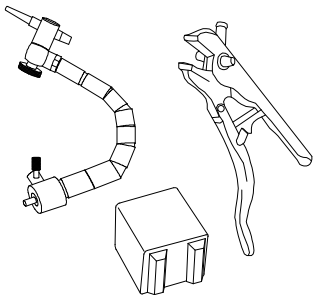
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10798 Optical Pickup Sensor

Bently Nevada™ Asset Condition Monitoring



Description

When a machine develops problems that require use of diagnostic and analytical equipment, a Keyphasor® signal becomes necessary. For those machines that do not have permanent Keyphasor transducers installed, a temporary Keyphasor or optical pickup is the next best choice. It enables you to obtain timing and phase reference data to perform balancing and diagnostics on rotating machinery.

The optical pickup observes a once-per-turn event marker on the shaft. It generates a voltage pulse that becomes the timing and phase reference signal for speed, phase angle and frequency measurements. These measurements enable you to correlate the instantaneous dynamic motion of the shaft at various points on a machine train and obtain the following balancing and diagnostic information:

- Once-per-turn event marker for RPM measurement.
- Vibration waveforms and orbits.
- Phase angle measurements for balancing. The optical pickup, used in conjunction with our Digital Vector Filter 3 (DVF 3) or ADRE® System, can give a direct shaft reference for phase angle measurements. The ability to obtain direct shaft reference eliminates the need for a trial run.
- Polar plots using the Keyphasor reference pulse for phase angle measurements on a DVF 3 and ADRE® System.
- Bode plots, using a DVF 3 or ADRE System, for showing rpm versus phase and amplitude of shaft vibration.

The optical pickup consists of an LED optical sensor mounted in a stainless steel case. A 3 metre (10 feet) integral cable is attached to the case. If more cable is required, an extension cable can be ordered.

An optical pickup mounting package, which may include a magnetic base, lock grip pliers and flexible gooseneck with holder, is also available.

The optical pickup should be used with our TK15 Keyphasor Conditioner and Power Supply or the DVF 3 (see individual product data sheets). These two instruments provide power and condition the optical pickup signal for use with diagnostic instruments.

Specifications

Electrical

Rise Time:

1 µs typical.

Fall Time:

15 µs maximum.

Recommended Gap:

25 to 100 mm (1.0 to 4.0 in) observing a 25 mm (1.0 in) wide reflective tape.

Environmental Limits

Operating Temperature:

0°C to +75°C (+32°F to +167°F).

Humidity:

To 95%, noncondensing.

Ordering Information

10798-03 Optical Pickup

Extension Cable
20545-AXX

A: Cable Length Option

Order in increments of 1.0 foot (0.30 metres)

Minimum Length: 10 feet (3.0 metres)

Maximum Length: 99 feet (30 metres)

Example: 3 0 = 30 ft (9.1 m).

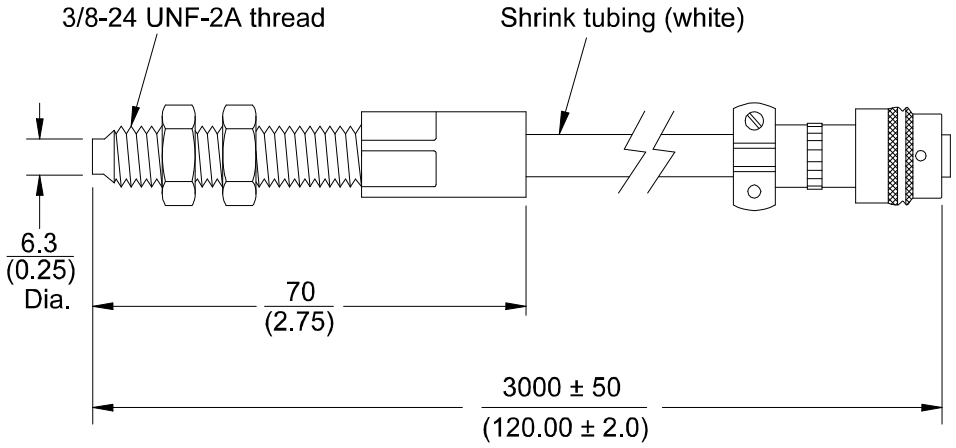
Accessories

Optical Pickup Mounting Package
20211-AXX

A: Accessory Options

- **0 1** ¼-20 UNC magnetic base and flexible gooseneck and holder.
- **0 2** Lock grip pliers with ¼-20 UNC mounting hole and flexible gooseneck and holder.
- **0 5** ¼-20 UNC magnetic base and lock grip pliers with ¼-20 UNC mounting hole and flexible gooseneck and holder.

Dimensional drawing



Dimensions are in millimetres (inches)

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