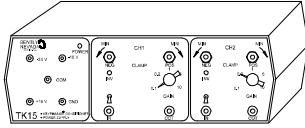


# TK15 Keyphasor<sup>®</sup> Conditioner and Power Supply

Bently Nevada<sup>™</sup> Asset Condition Monitoring

---



## Description

This two-channel instrument is used to power transducers and condition transducer signals for use with portable machinery diagnostic instruments.

Applications include:

- Obtaining a Keyphasor signal
- Pre-recorded transducer signals
- Transducer Power

---

## Specifications

### Power Requirements

#### Input Voltage:

95 to 125 Vac or 190 to 250 Vac  
(Switch selectable on rear panel).

#### Input Frequency:

47 to 63 Hz, single phase.

### Fuse Ratings

#### 115 Vac:

0.5 A, 250 V, (time-delay).

#### 230 Vac:

0.25 A, 250 V, (time-delay).

---

### Outputs

#### +15 Vdc

#### Nominal Voltage:

+16.2 Vdc  $\pm$ 1.2 Vac.

#### Maximum Current:

150 mA (100 mA if one optical pickup is used, 50 mA if two optical pickups are used).

#### Maximum Ripple:

1 mV pp.

#### -18 Vdc

#### Nominal Voltage:

-18.9 Vdc  $\pm$ 1.2 Vdc.

#### Maximum Current:

300 mA.

**Note:** The sum of -18 Vdc supply current and -24 Vdc supply current should not exceed 350 mA. A typical Proximitor® will consume 12 mA.

#### Maximum Ripple:

#### -24 Vdc

#### Nominal Voltage:

1 mV pp.

-24.2 Vdc  $\pm$ 1.5 Vdc.

#### Maximum Current:

350 mA.

**Note:** The sum of -18 Vdc supply current and -24 Vdc supply current should not exceed 350 mA. A typical Proximitor® will consume 12 mA.

#### Maximum Ripple:

1 mV pp.

---

### Signal Conditioning

#### Transducer Input

#### Input Impedance:

100 k  $\Omega$ .

#### ac Coupling:

Time Constant = 0.2 seconds.

Filter Corner Frequency = 0.8 Hz.

---

### Optical Pickup Input

#### Typical LED Current:

50 mA.

#### Maximum Photo-detector Operating Voltage:

20 Vdc.

#### Conditioned Signal Output

#### Output Impedance:

249  $\Omega$ , short circuit protected.

#### Dynamic Voltage Range:

$\pm$ 10 volts minimum.

**Clamp Range:**

±10 volts minimum.

**Input to Output****Gain Accuracy:**

±3% maximum over temperature.

**Slew Rate:**

1.5 Vdc per micro-second minimum.

**Bandwidth:**

0.8 Hz to 30 kHz minimum.

---

**Environmental Limits****Operating****Temperature:**

0°C to +50°C (+32°F to +122°F).

**Storage****Temperature:**

-40°C to +85°C (-40°F to +185°F).

**Relative****Humidity:**

To 95% noncondensing.

---

**Physical****Size****Height:**

89 mm (3.5 in)

**Width:**

221 mm (8.7 in)

**Depth:**

305 mm (12.0 in)

**Weight:**

3.1 kg (6.8 lb)

---

**Ordering Information****TK15 Keyphasor Conditioner and Power Supply  
80917-01**

Includes:

- |          |   |
|----------|---|
| <b>1</b> | TK15 Keyphasor Conditioner and Power Supply   |
| <b>1</b> | User Guide  |
| <b>1</b> | Power Cord  |
| <b>1</b> | Fuse for 230 Vac Operation (Unit is shipped with fuse for 115 Vac operation installed.) |

---

**Accessories****73783-02**

TK16 Keyphasor Multiplier/Divider

**10798-03**

Optical pickup with integral cable and manual.

**20545-XX**

Extension cable (for optical pickup) XX = cable length in 1-foot increments.

*Minimum length:*

10 ft (3 m).

*Maximum length:*

99 ft (30 m).

**81769-01**

Reflective Tape, 4.6 metres (15 feet) (used for optical pickup targets).

**20211-05**

Optical Pickup Mounting Package.

# Graphs and Figures

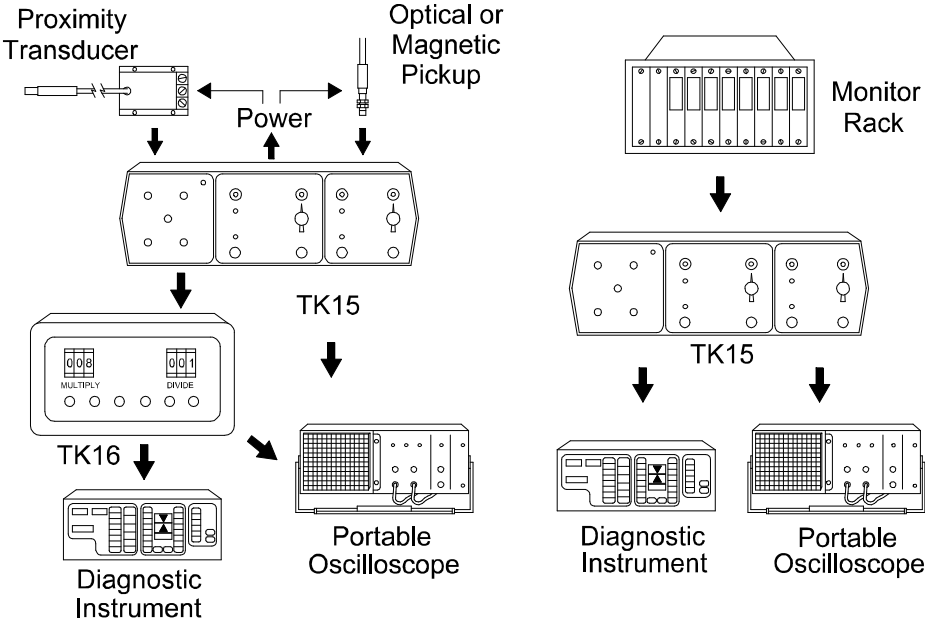


Figure 1: Typical Uses

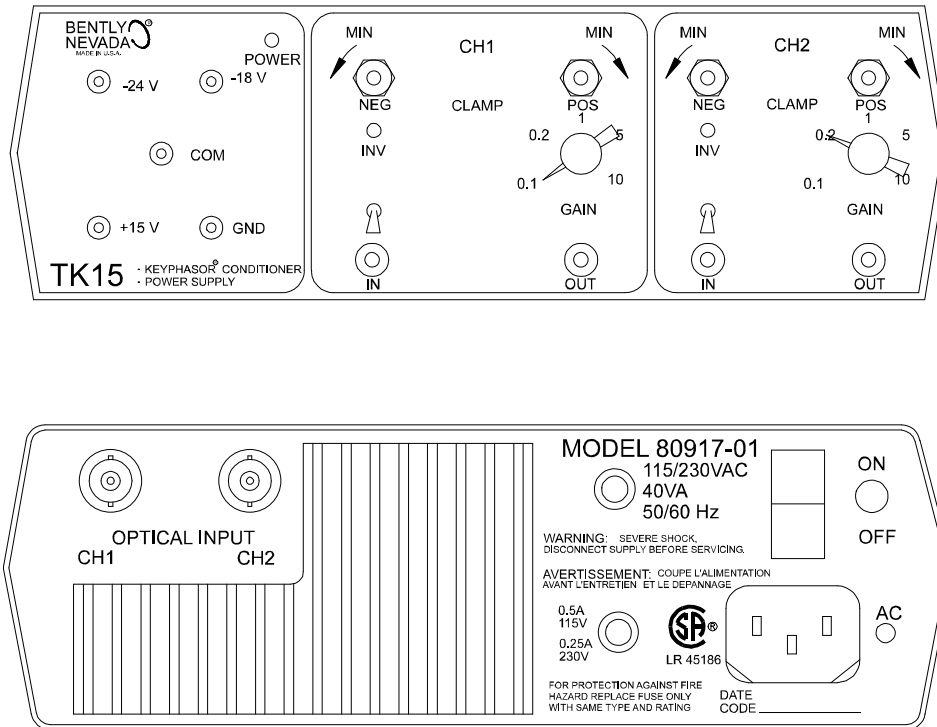


Figure 2: Front and Rear Connections

Copyright 2000. Bently Nevada LLC.  
 1631 Bently Parkway South, Minden, Nevada USA 89423  
 Phone: 775.782.3611 Fax: 775.215.2873  
[www.ge-energy.com/bently](http://www.ge-energy.com/bently)  
 All rights reserved.

Bently Nevada, Keyphasor, and Proximitor are trademarks of General Electric Company.