

# Ultra low noise power unit/amplifier

## P31

### SPECIFICATIONS

#### INPUT CHARACTERISTICS

Voltage to transducer	18 VDC
Current to transducer, $\pm 20\%$	2.4 mA
Maximum input voltage (gain = 1)	3.5 V rms

#### OUTPUT CHARACTERISTICS

Output impedance, nominal	2.5 k $\Omega$
Recommended load impedance	>250 k $\Omega$
Maximum output voltage	3.5 V rms
Spectral noise, 1-10 Hz, referred to input	< -140 dB

#### TRANSFER CHARACTERISTICS

Gain acceleration	1, 10, 100 V/V
Output sensitivity <sup>1</sup> :	
Acceleration	10, 100, 1,000 V/g
Velocity	0.1, 1, 10 V/in/sec

Gain accuracy	$\pm 0.25$ dB
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#### Frequency response, -3 dB:

Acceleration (450 Hz filtered)	0.05 - 450 Hz
Acceleration (100 Hz filtered)	0.05 - 100 Hz
Velocity	0.8 - 150 Hz

Amplitude nonlinearity	<1%
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Total harmonic distortion	<1%
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#### POWER REQUIREMENTS

Internal batteries	(2) 9 V alkaline
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Battery life	>50 hours
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#### ENVIRONMENTAL

Temperature range	0° to +55°C
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Relative humidity, max	90%
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#### PHYSICAL CHARACTERISTICS

Weight	1.4 lb
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Dimensions, W x H x D	3 x 1 $\frac{1}{2}$ x 6"
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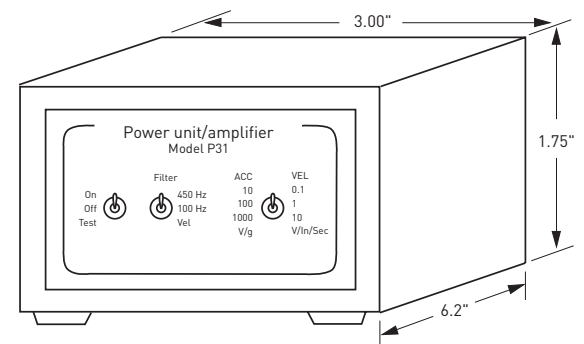
Connectors:	Signal input	Amphenol 31-225 twinax
	Signal output	BNC

**Notes:** <sup>1</sup> When used with 731A accelerometer.

**Accessories supplied:** Two 9 V alkaline batteries

#### Key features

- Amplifies signal x1, x10, x100
- Switchable output - acceleration or velocity
- Powers 731A accelerometer
- Manufactured in ISO 9001 facility



Note: Due to continuous process improvement, specifications are subject to change without notice. This document is cleared for public release.