ENDEVCO
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Accelerometer Simulator

Model 4830B

Key features

- Battery operated, portable accelerometer simulator
- Simulates the electrical output signals generated by common measurement transducers
- Simplifies troubleshooting, verification, and calibration processes for test systems
- Ability to create, store, and recall up to 40 pre-set simulation profiles
- Adjustable, TTL based Tachometer output
- Two versions available: 4830B standard unit, 4830B-CAL- includes NIST calibration report

Description

The 4830B accelerometer simulator is a hand held battery operated signal generator designed specifically to simulate the electrical output of common types of accelerometers. The instrument contains a highly accurate oscillator with an adjustable output level and is ideal for setting up, testing and the diagnosis of faults within data acquisition systems, environmental test systems, or simply as a flexible signal generator

4830B provides AC output signals which mimic those of either voltage mode accelerometers (IEPE) or charge mode accelerometers (both single ended and differential configurations). The simulation outputs are conveniently scaled in units of acceleration, i.e. “g”, as mV/g (millivolt) or pC/g (pico-coulomb) signals as appropriate, although the outputs can be configured to be proportional to units of velocity or displacement. An auto-calculating on screen “vibration calculator” provides the user with corresponding values in respect of m/s², ips, mils, mm and m/s based units.

4830B features a TTL compatible tachometer output which allows operators of condition monitoring systems to set signal conditioning tracking filter center frequencies without the need to generate an external, real time tachometer signal. The tachometer frequency is adjustable as a ratio of the respective output signal frequency.

Simulation parameters can be selected, adjusted, and saved as a “profile” either by the front panel keypad or using the supplied utility program. Use of the utility program allows profiles to be created and saved, as well as organized into specific

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Specifications

Input/Output Characteristics	
Outputs	Single-ended Charge (pC) Differential Charge (pC) Single ended Voltage (mV) Tachometer (TTL) IEPE - current sinking, 2-20mA, at a compliance voltage of 24VDC
Frequency Range (hz) Signal Ouputs Tachometer Output	 1Hz to 20kHz, resolution 0.5Hz 1 Hz to 25kHz
Amplitude	Up to 10,000pC or mV pk Acceleration and Velocity are in pk units. Displacement is in pk-pk.
Transfer Characteristics	
Amplitude (for levels >=100 mV or pC)	Accuracy of setting at ref freq (100 Hz)
Singled-ended voltage	±1%
IEPE	±1%
Single ended charge	±1%
Differential charge	±1%
Frequency Response	1Hz to 10kHz: +/-1.0% (referred to 100Hz) 10kHz to 20kHz: +/-2% (referred to 100Hz)
Harmonic Distortion	< 1.0%, 10Hz to 20KHz, 100-10K mV or pC pK
Noise	< 2mV or 2 pc rms
Environmental Characteristics	
Operating Temperature	+14°F to +140°F (-10°C to +60°C)
Power	
Battery Battery Life Charger type Charger connector	Rechargeable, high capacity Lithium Ion battery pack 8 hours minimum from full charge (dependent on use of the display/backlight) Switched mode, 12VDC, 2 Amp. 2.5mm male jack plug
Physical Characteristics	
Case	Molded plastic
Connections (Outputs)	Twinax BNC (Differential charge), Standard BNC (Single ended charge, mV, IEPE and Tacho)
Connections (Inputs)	2.1mm female barrel jack (Power supply) USB Mini (PC Interface)
Overall dimensions	8.6 in L x 4 in W x 1.6 in H (225mm L x 102mm W x 41mm H)
Weight	Approximately 15.9 ounces (450 grams), excludes interface cables / connectors / charger
Battery status indicator	Green LED, base of unit
Calibration	Performed via front panel key pad Access to Calibration manager mode is password protected

Additional Features

- Plug and play operation when utilizing "Simulation profiles" stored in memory - no additional programming necessary
- Firmware download upgrade utility
- Battery charge status indicators
- Calibration adjustments through the front panel keypad. Access to the calibration manager mode is password protected
- Backlit LCD display
- Ability to configure the device from a PC or the unit's front panel keypad
- USB Interface

Accessories		
Product	**Description**	**4418**
QSG4830B	Quick Start Guide	Included
IM4830B	Instruction Manual	Included on CD
EP316	Twinax BNC Plug	Included on CD
EP695	10-32 to BNC Adaptor	Included
EHM2107	Universal power supply, supplied with adaptors for USA, UK, EURO, JAPAN, and Australia	Included
EHM2108	Soft carrying case with cable pouch and shoulder strap	Included
EW1400	USB interface cable (mini B to USB)	Included
43664-XXX	Differential Cable Assembly Adaptor (2 Pin 7/16-27 UNS-2A to Twinax BNC)	Optional
43655-XXX	Triaxial Cable Assembly Adaptor (4 Pin receptacle to 3xBNC)	Optional

Notes

1. Maintain high levels of precision and accuracy using Endevco's factory calibration services. Call Endevco's inside sales force at 866-363-3826 for recommended intervals, pricing and turn-around time for these service as well as quotations for other products.

2. Ordering information:

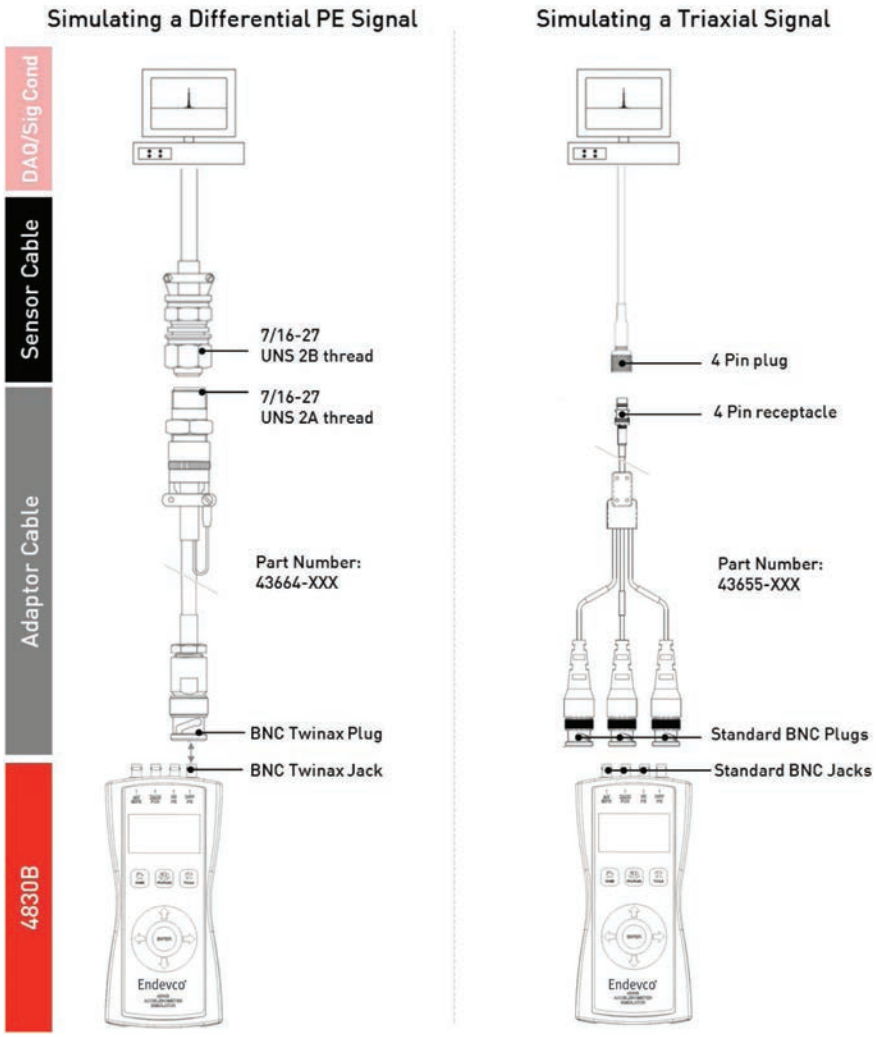
43664 – XXX

- CAL = Includes NIST calibration report
- Blank = standard unit

Basic model number

The 43664-XXX (XXX defines the cable length in inches) differential cable assembly adaptor is an optional accessory that can be used to connect the 4830B Twinax BNC connector (DIFF PE output) to a differential sensor cable assembly. It features a Twinax BNC plug and a 7/1627 UNS 2A threaded connector.

The 43655-XXX (XXX defines the cable length in inches) triaxial cable assembly adaptor is an optional accessory that can be used to connect the any of the 4830B single ended outputs (SE voltage, IEPE, SE charge) to a four pin triaxial sensor cable. One axis can be simulated at a time by connecting one of the 43655-XXX BNC connectors at a time to the appropriate BNC output on the 4830B. It features a 4 pin receptacle on ones side and 3x standard BNC plugs on the other.



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