



2700

Precision Signal Source



Applications

- Vibration Monitoring Systems
- Test Cell Instrumentation
- Field Test Systems
- Test Engineering and R & D Facilities
- Control Instrumentation

Features

- Differential or single-ended charge output
- Low impedance AC or DC millivolt output
- Average, RMS, or Peak units
- Four-digit LCD readout
- Operates with AC or battery power

Description

Designed to calibrate instrumentation systems, the portable CEC 2700 Precision Signal Source provides accurate signals that simulate charge or millivolt outputs from piezoelectric accelerometers or other motional transducers. This portable instrument is easy to set-up and use.

Unlike other fixed-setting calibrators, the CEC 2700 lets you calibrate systems at specific test or operating conditions because you can adjust the frequency and output level to any value within their range. Also, you can convert between units of acceleration, velocity and displacement when calibrating vibration systems.

The heart of the CEC Precision Signal Source is a microprocessor-based quartz crystal-controlled synthesized oscillator. It is adjustable in 0.1 Hz increments from 10.0 to 9999.9 Hz using the five-digit front panel thumbwheel switch. All outputs are derived from this stable and accurate oscillator.

Output levels are set at the front panel with the COARSE and FINE OUTPUT ADJUST controls. The differential and single-ended charge outputs are developed from the oscillator, and an A/D voltage converter supplies the DC millivolt output.

Monitoring Systems



2700 Precision Signal Source

Performance Specifications

Charge Output:	Available as single-ended and differential, the output is a sinewave at the RPM rate (Hz = RPM/60)
Charge Capacitance:	1000 picofarads $\pm 3.5\%$
AC Millivolt Output:	Single-ended sinewave at the RPM rate. Impedance is 50 Ω . Maximum output current is 10 mA.
Output Units:	Selected by a front panel control as Average, RMS or Peak.
DC Millivolt Output:	Single-ended DC signal. Impedance is 50 Ω . Maximum output current is 10 mA.
Amplitude:	Adjustable in two ranges: 10.0 to 199.9 millivolts/picocoulombs or 200 to 1999 millivolts/picocoulombs
Amplitude Accuracy:	$\pm 0.05\% \pm 1$ count (Full scale is 199.9 or 1999mV)
Frequency:	Calibrated as RPM, adjustable in 1 RPM increments from 500 to 99999 RPM
Frequency Accuracy:	$\pm 0.01\%$, +32°F to +122°F (0°C to +50°C)
Noise:	1% of full scale amplitude, max.
Distortion:	3% maximum at 99999 RPM
Tachometer Outputs:	Four tachometer outputs are available. One output is fixed at 1 PPR. The remaining three outputs are a combined ratio set of various engine types. The outputs are square wave pulses with a 50% duty cycle.
Tachometer Ratio Selection:	An 8-station DIP switch selects 256 possible ratios. Default factory settings are fixed at 1 pulse per revolution; and adjustable at 40, 47 and 83 pulses per revolution.
Tachometer Amplitude:	± 5 volt square wave, typical.
Tachometer Frequency Accuracy:	Fixed setting of 1 PPR = $\pm 0.01\%$ ratio set selection = $\pm 2\%$
Power:	Rechargeable NiCad battery or 115/220 VAC, 50 to 400 Hz for battery charging and AC operation. A fully-charged battery operates more than 8 hours.
Operation Temperature	
AC:	+32°F to +122°F (0°C to +50°C)
Battery:	+40°F to +122°F (-4°C to +50°C)
Storage Temperature:	-4°F to +139°F (-20°C to +70°C)
Weight:	8 lbs (without cables)

Ordering Information

To order the CEC 2700 Precision Signal Source, contact your local CEC representative or CEC directly. The instrument includes AC powercord, NiCad batteries and operator's manual. Cables are sold separately.

Order: 2700-0105 (No Tachometer)
2700-0200 (Includes Tachometer Output)

Contact CEC for complete list of available cables.

Specifications subject to change without notice.

