



CMCP-TKSG Field Signal Generator

Signal Simulator for Accelerometer, Velocity and Proximity Probe Systems



Features:

- Lithium-Ion Battery Powered with Smart Charger
- >80 Hours of Runtime
- Acceleration, Velocity and Displacement Outputs
- Peak or RMS Selectable
- \pm AC and \pm DC Bias/Gap Selectable
- 318 Hz Fixed Signal Frequency
- 10 Selectable AC and DC Voltage Outputs
- Variable 0 to 2.50 VAC Voltage Range
- Variable 0 to 20.0 DC Voltage Range
- \pm 10.0 VDC Sensor Bias (AC Signals)
- \pm 0-20.0 VDC Gap Voltage

Typical Applications:

Verification of Calibration, End to End Wiring Testing, Vibration Signal Simulation, Verification of OK Circuits, Alarms and Relays, Thrust Position Setup and Calibration

Product Overview:

The CMCP-TKSG Field Signal Generator is a must have for engineers and technicians who perform installation, maintenance, troubleshooting, and verification of calibration on vibration monitoring systems. The battery powered CMCP-TKSG simulates a fixed frequency acceleration, velocity, or displacement signal as well as DC voltages for gap/position monitors. The amplitude of the signal can be adjusted in 10 pre-defined increments or manually adjusted using the variable output setting. The CMCP-TKSG produces a \pm 10VDC bias/gap voltage to satisfy OK circuits and offers over 80 hours of runtime on its internal rechargeable lithium-ion battery pack.

Technical Performance:

AC Voltage Presets:	0.05, 0.10, 0.15, 0.20, 0.25, 0.50, 1.0, 1.5, 2.0 & 2.5
AC Variable Range:	0.0 to 2.50 VAC
Frequency:	318 Hz \pm 0.5% Fixed
Units:	RMS or Peak (Selectable)
Bias/Gap Voltage:	+10VDC or -10VDC (Selectable)
DC Voltage Presets:	0.0, 2.0, 4.0, 6.0, 8.0, 10.0, 12.0, 14.0, 16.0, 18.0 & 20.0
DC Variable Range:	0.0 to 20.0 VDC
RMS Accuracy:	2% @ 22°C After 5 Minute Warmup
Peak-Peak Accuracy:	3% @ 22°C After 5 Minute Warmup
DC Output Accuracy:	1% @ 22°C
Battery:	Lithium Ion (25.9VDC, 3200mAh)
Battery Life:	>80 Hours @ 35 mA
Dimensions:	5.9"x3.1"x2.5" (150x80x64 mm)
Weight:	2.5 lbs. (1.13kg)

Ordering Information:

CMCP-TKSG Field Signal Generator Kit
 Includes Signal Generator, Carrying Case, Charger,
 BNC to Test Lead Cable, BNC "T" Adapter and Magnetic Strap



Condition Monitoring Custom Products

Verification of Calibration of Condition Monitoring Systems:

Condition monitoring systems should have all their various input types periodically calibrated and verified to maintain proper process control and safe operation of the equipment. Many systems must be calibrated after installation to account for losses due to cabling and other environmental factors.

Testing Alarm Conditions:

An essential function of Condition Monitoring systems is often to trigger an alarm or trip a safety switch when unwanted or dangerous conditions are detected. These alarms must be routinely checked for proper operation.

Sensor Simulation and Verification:

All the conditions that a system is expected to operate under can often not be created on demand and instead must be simulated. The simulation is not only necessary to test for the proper connection of wiring and electronics, but also to test the overall system end to end functionality.

User Guide:

The CMCP-TKSG Field Signal Generator Kit produces a calibrated 318 Hz sinewave signal with various selectable amplitudes. In addition, it generates a ±10.0 VDC Bias/Gap voltage on the signal output to satisfy devices with OK Circuits. The signal is available on the front BNC Output and serves as the input to the devices under test, for example a vibration monitor.

When the Generator is set to "AC Signal" vibration signals can be simulated. The amplitudes, in either Peak or RMS, are controlled by the Selector Switch on the left with 10 pre-set amplitudes or the Variable rotary knob for seamless adjustments.

Selecting "DC Gap" provides the means to calibrate Proximity Systems (Eddy Current Probe Systems). The selector switch on the right side is then activated and features 10 preset DC Voltages for quickly and accurately charting input versus output of the device under test. The DC Gap output can also be used to simulate position measurements and verify all types of sensor's OK Circuits.

The chart below details the outputs which have been optimized for standard sensor calibrations of 100 mV/g, 100 mV/in/sec (3.94 mV/mm/sec) and 200 mV/mil (7.87 mV/mm).

Engineering Units @ 318 Hz Standard Sensors											
Switch Position	0.00	0.05	0.10	0.15	0.20	0.25	0.50	1.00	1.50	2.00	2.50
Mils P-P @ 200 mv/mil (Peak Mode)	0.0	0.5	1.0	1.5	2.0	2.5	5.0	10.0	15.0	20.0	25.0
um P-P @ 7.87 mv/um (Peak Mode)	0.0	12.7	25.4	38.1	50.8	63.5	127.0	254.0	381.0	508.0	635.0
g's @ 100 mv/g (Per Mode)	0.0	0.5	1.0	1.5	2.0	2.5	5.0	10.0	15.0	20.0	25.0
in/sec @ 100 mv/g (Per Mode)	0.0	0.1	0.2	0.3	0.4	0.5	1.0	2.0	3.0	4.0	5.0
mm/sec @ 100 mv/g (Per Mode)	0.0	2.5	5.1	7.6	10.2	12.7	25.4	50.8	76.2	101.6	127.0
in/sec @ 100 mv/in/sec (Per Mode)	0.0	0.5	1.0	1.5	2.0	2.5	5.0	10.0	15.0	20.0	25.0
mm/sec @ 4 mv/mm/sec (Per Mode)	0.0	12.7	25.4	38.1	50.8	63.5	127.0	254.0	381.0	508.0	635.0

CMCP-TKSG Millivolt Output @ 318 Hz											
Peak Mode Position	0.00	0.05	0.10	0.15	0.20	0.25	0.50	1.00	1.50	2.00	2.50
mV P-P	0.00	100.0	200.0	300.0	400.0	500.0	1,000	2,000	3,000	4,000	5,000
mV Peak	0.00	50.0	100.0	150.0	200.0	250.0	500	1,000	1,500	2,000	2,500
mV RMS	0.00	35.4	70.7	106.1	141.4	176.8	354	707	1,061	1,414	1,768
RMS Mode Position	0.00	0.05	0.10	0.15	0.20	0.25	0.50	1.00	1.50	2.00	2.50
mV P-P	0.00	141.4	282.8	424.2	565.6	707.0	1,414	2,828	4,242	5,656	7,070
mV Peak	0.00	70.7	141.4	212.1	282.8	353.5	707	1,414	2,121	2,828	3,535
mV RMS	0.00	50.0	100.0	150.0	200.0	250.0	500	1,000	1,500	2,000	2,500

Charts Above are Provided on the Side of the CMCP-TKSG