

FieldCal

Acoustic Emission Hand-held, Battery Powered Signal Generator

MISTRAS Products & Systems newest addition to our line of Acoustic Emission (AE) products is the FieldCAL, a low cost, small hand held battery powered AE signal generator. This unit can produce all the AE signals necessary to verify the correct operation of AE sensors, preamplifiers and AE systems. Five different waveforms are pre-programmed into the unit including Standard AE Waveforms, 3 Tone Bursts and continuous sine waves. Output amplitude can be set in 10dB increments from 30dB to 90dB, with a choice of four different frequencies covering the AE range. The output level of the FieldCAL is adjustable to the signal level of an AE sensor, a 26dB or a 40dB preamplifier.

The FieldCAL unit operates for approximately one month of daily use on two standard AA batteries. The membrane switch overlay protects the system from dirt and grime in the field and LEDs allow for easy use in low light environments.

Features:

- Easy to use, easy to set-up
- Maintains previous settings on power-up.
- Small Handheld battery powered system
- Compatible with standard AE sensors, preamplifiers and systems.
- Can be used for the verification of AE sensors, preamplifiers and systems.
- Can also be used as a pulse or waveform generator for Acousto-Ultrasonics or guided wave applications.
- Uses two standard AA batteries providing approximately one month of daily use.
- Generates five types of AE calibration signals, i.e. a standard AE signal with calibrated rise and fall time; three tone burst sine wave with length in 100 μ s, 1 ms and 10 ms respectively; a continuous sine wave.
- Outputs AE waveforms at four frequencies: 30 kHz, 60 kHz, 150 kHz and 300 kHz.
- Outputs AE waveforms at seven different amplitudes. Peak waveform amplitude can be set for 30dB, 40dB, 50dB, 60dB 70dB, 80dB or 90dB.
- Outputs AE waveforms at four different repetition rates: 1 pps, 10 pps, 100 pps and manual trigger.
- Three user selectable test ranges including a range for a sensor, a 26dB preamplifier and a 40dB preamplifier.



FieldCal AE Signal Generator

FieldCAL Specifications

Size:	(L x W x H) 4.75" x 3" x 1.25" (120 x 75 x 32) mm
Weight:	0.42 lbs (190 g)
Power Requirements:	2 - AA Batteries
Battery Life:	One month typical daily use
Waveform Types:	Sine wave Burst, Continuous Sine, AE Signal
Sine Wave Burst Duration:	100 μ s, 1ms, 10ms
AE Waveform:	100 μ s rise time, 100 μ s fall time with threshold -20dB at a frequency of 150 kHz
Amplitude range:	30dB to 90dB in 10 dB steps
Repetition Rate:	1, 10, 100 signals per second or Manual Trigger
Signal to Noise Ratio:	> 60dB
Operating Temperature:	-15° - 158°F (-20° - 55°C)
Storage Temperature:	-40° - 185°F (-40° - 85°C)

Approvals

Certified to the following standards:

CE Mark
EN 1000-4-2 ESD, EN 1000-4-3 RFI, EN 1000-4-4 EFT,
EN 55011 Emissions, EN 61010 Safety



FieldCal with Pocket AE Portable Acoustic Emission System

MISTRAS is a team of skilled researchers, engineers, technicians and manufacturing personnel dedicated to the development of practical and cost saving solutions for your challenging inspection and monitoring needs.

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