

PRODUCT OVERVIEW

The European Union's EMC directive requires many electronic and electrical products to be tested for immunity and emissions on AC public mains. The SmartWave AE models SW 1750AE, SW 3700AE and SW 5250AE, are an enhancement to the SmartWave Series designed to meet the strict requirements of low frequency AC test sources.

HARMONICS & FLICKER TESTING

The SWAE is especially designed to meet the requirements for testing to EN 61000-3-2/-3-3/-4-13/4-14/4-17/4-28 and pre-compliance only for 4-11. This version provides selectable output impedance in addition to the many standard features of the SW series. The SWAE also features an embedded interharmonics waveform generator.

The SWAE AC Power Source Series is designed to meet the strict requirements for equipment used in susceptibility and emissions testing. In addition to pure sine wave generation, the SW family of power sources can simulate a wide range of line conditions such as sub-cycle and multi-cycle drop-outs, spikes, distorted waveforms, noise, phase shifts and voltage and frequency changes. The SW 1750AE, SW 3700AE and SW 5250AE also feature:

- Selectable output impedance for EN 61000-3-3 testing (single phase)
- Interharmonics waveform generator suitable for EN 61000-4-13 testing
- Immunity test, suites for EN 61000-4-11, 4-13, 4-14, 4-17, 4-28

FEATURES

- Selectable output impedance for EN 61000-3-2 and EN 61000-3-3 testing (Single phase mode)
- Voltage, frequency, current limit, waveform, sequencing
- Single phase 1750 VA, 3700 VA or 5250 VA (1495 VA, 3680 VA or 4485 VA at 230 VRMS)



- Embedded interharmonic waveform generator for EN 61000-4-13 testing
- Immunity tests include Ripple on DC input power port for portable electronic devices

SPECIFICATIONS

Refer to the SmartWave Series, pages 10 through 14, for general descriptions and specifications. The following specifications highlight the differences and enhanced modes of operation.

OUTPUT

Voltage Accuracy: ±0.1% of range. Add ±0.1% of full scale for "AC plus DC" mode. Valid for 5 to 156 VRMS and 10 to 312 VRMS at 25°C, sense leads connected, no load. Temperature coefficient less than 50 ppm/°C

Low Impedance: (Ref: EN 61000-3-3, Annex A and IEC 725)

Low Impedance Mode:

1750 VA 50 Hz	3700 VA 50Hz	5250 VA 50 Hz
1 phase 312V range	1 phase 312V range	1 phase 312V range
<(0.07 + j0.05)Ω	<(0.05 + j0.04)Ω	<(0.03 + j0.03)Ω

Standard Reference Impedance Mode:
(0.40+j0.25)Ω ±3% at 50 Hz

Output Frequency: DC or 40 to 500 Hz (SINE); 40-63 Hz (Complex WaveForms)

Interharmonic WaveForm Generator:
Ref: EN 61000-4-13

Frequency Range: 15-3000 Hz

Frequency Accuracy: 0.5% (of interharmonic signal)

Frequency Resolution:

15-60 Hz: 0.001 Hz
60-120 Hz: 0.002 Hz
120-240 Hz: 0.004 Hz
240-3000 Hz: 0.008 Hz

Voltage Range: 0-40.0 VRMS

Voltage Accuracy: ±0.23 VRMS

Voltage Resolution: 0.02 VRMS

SMARTWAVE CONTROL SUITE (SWCS)

PRODUCT OVERVIEW

SmartWave Control Suite (SWCS) is a complete Windows® based GPIB control system for the Elgar SmartWave (SW) and SWAE product lines. It provides a very simple method to actively control the SW program. Write and store sequences on your PC; modify, analyze and save waveforms; control the system settings and log measurements to a file on your PC for use in spreadsheet programs.



SWCS program setting screen

The Program Settings Tab is used to control the SW output configuration.

Using the WaveForm Tab, you can edit, analyze and store waveforms in the SW waveform library. (See page 11)

The Sequence Tab, facilitates the generation of new test sequences, modification of existing sequences, and saving sequences to the SW or to the hard drive.

The System Tab provides a remote method of programming important sections of the SW System menu, including the interharmonics generator. (SWAE only)

The Measurement Tab provides strip chart recordings of any four measurements from the SW defined by the user. (SW Series only)