PRODUCT OVERVIEW

The TrueWave (TW) is designed for testing today's complex electronics, including avionics and commercial applications requiring DC and sine wave testing. The TW is ideal for testing electronic equipment for compliance to new European Standards such as harmonics. Other applications include:

- Test environments that require field configurable parallel operation
- Testing for real world DC single or polyphase AC power conditions
- Automatic Test Equipment
- General AC and DC Avionics Testing
- Power Supply testing for AC-DC, DC-DC converters and UPS's
- Testing to European Standards including EN 61000-3-2
- AC Ballast testing (IES LM-41-1985)

TrueWave

SPECIFICATIONS

OUTPUT

Output Power: 1750 VA, 3500 VA or 5250 VA

Output Phase: 1750 VA, 1 phase; 3500 VA, 1 or 2 phase; 5250 VA, 1, 2 or 3 phase

AC Output Voltage: 0 to 156 VRMS L-N low range; 0 to 312 VRMS high L-N range

DC Output Voltage: 0 to 223V low range; 0 to 445V high range

Output Current Per Phase: 13A to 135V in 156V range; 6.5A to 270V in 312V range (per 1750 VA module)

Power Factor of Load: 0 lagging to 0 leading

Crest Factor: 4.0 (peak output current to RMS output current)

Output Frequency Range: 45 Hz to 500 Hz

Max Total Harmonic Distortion (Full Linear Load or No Load): 0.3% max

AC Noise Level: 60 dB RMS below full output voltage

Amplitude Stability With Remote Sense: ±0.1% of full scale over 24 hours at constant line, load and temperature

Line Regulation: 0.05% of full scale for a ±10% change in line voltages

Load Regulation: 0.15% of full scale

Voltage Accuracy: ±0.1% of full scale

Voltage Resolution: 0.03% of full scale

Frequency Resolution: 0.1 Hz

Phase Accuracy, Phase-to-Phase Balanced Linear Resistive Load: ±1°

Phase Angle Resolution: 0.1°

Remote Output Voltage Sense: 5 VRMS total lead drop, max

MEASUREMENTS

- Peak Inrush Current
- Phase to Neutral RMS Output Voltages
- Phase to Phase RMS Output Voltages
- RMS Output Currents
- Peak Current
- Output Frequency
- 1ø to 3ø Power
- 1ø to 3ø VA
- Power Factor
- Output Phase Angles Relative to Phase A

Measurement Accuracy: All at 25° ± 5°C

Power: 2.5% of full scale

Voltage: 0.3% of full scale + 0.2% of reading

Current: 0.3% of full scale + 0.5% of reading

Apparent Power: 2.5% for output > 200 VA

Frequency: 0.25%

Phase: 0.5°

INPUT

Input Voltage Ranges: Factory configured 187 to 264 VRMS, 3ø L-L (3 wire), or 342 to 457 VRMS, 3ø L-L (4 wire). A chassis ground is also required.

Input Power Factor: 0.6 (0.99 with input PFC option, 0.35 for European rectifier input)

Input Frequency Range: 47 to 63 Hz

Efficiency: 70% min, at full load

Ride Through: 3 ms, min for rectifier input; 10 ms, min, with PFC option

PROTECTION AND SAFETY

Overvoltage Shutdown: Programmable for 20V to 255V peak, 156V range; 40V to 510V peak, 312V range

Programmable Current Limit Shutdown: Settable to 1% of range (0.5A to 13A for 156V range; 0.5A to 6.5A for 312V range)

Programmable Current Limit with Timed Shutdown: Settable to 1% for range; the timeout is settable from 10 ms to 10s

Programmable Constant Current: Settable to 1% of range (0.5A to 13A for 156V range; 0.5A to 6.5A for 312V range). For all current accuracies, add ±1.5%/kHz above 500 Hz. For paralleled amplifiers, add ±1%.

Overtemperature Shutdown: automatic, not programmable

PHYSICAL SPECIFICATIONS

Height: 8.75 in (222 mm)

Width: 19 in (483 mm)

Depth: 24.1 in (613 mm)

CE

Elgar ▪ 1.800.733.5427 ▪ 858.450.0085 ▪ Fax 858.458.0267 ▪ 9250 Brown Deer Road, San Diego, CA 92121 ▪ www.elgar.com ▪ email: sales@elgar.com

WEIGHT:
- TW 1750 - 60 lbs. (27.3 kg)
- TW 3500 - 83 lbs. (37.7 kg)
- TW 5250 - 108 lbs. (49 kg)

SHIPPING WEIGHT: US
- TW 1750 - 130 lbs. (59 kg)
- TW 3500 -153 lbs. (69.5 kg)
- TW 5250 - 178 lbs. (80.9 kg)

GENERAL

Cooling: Air is drawn in primarily from the front, but also from the top, bottom, and sides and exhausted through the rear.

Operating Temperature: 0°C to 45°C (32°F to 113°F)

Storage Temperature: -40°C to 70°C (-40°F to 158°F)

Humidity (Non-condensing): 0 to 85%, 31°C (88°F); derate to 50% at 40°C (104°F)

Altitude: Operating 6,500 ft. Non-operating 40,000 ft.

Certifications: CE marked and FCC compliant

Calibration Interval: 1 year

OTHER STANDARD FEATURES

- 1ø to 3ø programmable (TW 5250 only)
- IEEE-488.2 interface and RS 232 SCPI protocol
- WaveForm trigger output (1M Load Drive)
- SYNC OUT
- Analog remote control

FOR PROGRAMMED SETTINGS:
- Sync out selections are: Even Cycle A phase (on)
- None (off)
- When change in programmed parameters occur (event)
- External Summing Node 0 to 5 VRMS provides 0 to 100% output

OPTIONS

- Input power factor correction to 0.99 (-3 or -4 model numbers only)

Ordering Information

Model Number	Output Power Rating	AC Input	Power Factor Correction
TW 1750-1	1750 VA[1]	187-264 VRMS (L-L), 3-wire	no
TW 1750-2	1750 VA[1]	342-457 VRMS (L-L), 4-wire	no
TW 1750-3	1750 VA[1]	187-264 VRMS (L-L), 3-wire	yes
TW 1750-4	1750 VA[1]	342-457 VRMS (L-L), 4-wire	yes
TW 3500-1	3500 VA[2]	187-264 VRMS (L-L), 3-wire	no
TW 3500-2	3500 VA[2]	342-457 VRMS (L-L), 4-wire	no
TW 3500-3	3500 VA[2]	187-264 VRMS (L-L), 3-wire	yes
TW 3500-4	3500 VA[2]	342-457 VRMS (L-L), 4-wire	yes
TW 5250-1	5250 VA[3]	187-264 VRMS (L-L), 3-wire	no
TW 5250-2	5250 VA[3]	342-457 VRMS (L-L), 4-wire	no
TW 5250-3	5250 VA[3]	187-264 VRMS (L-L), 3-wire	yes
TW 5250-4	5250 VA[3]	342-457 VRMS (L-L), 4-wire	yes

[1] 1495 VA at 230V output
[2] 2990 VA at 230V output
[3] 4485 VA at 230V output