

## NETWAVE SERIES (1-PHASE)

### SINGLE PHASE MULTIFUNCTIONAL AC/DC POWER SOURCES



#### FOR TESTS ACCORDING TO ...

- > AIRBUS
- > BOEING
- > DO 160 Section 16
- > EN 61000-3-11
- > EN 61000-3-12
- > EN 61000-3-2
- > EN 61000-3-3
- > EN 61000-4-11
- > EN 61000-4-13
- > EN 61000-4-14
- > EN 61000-4-17
- > EN 61000-4-28
- > EN 61000-4-29
- > IEC 61000-3-11
- > IEC 61000-3-12 Ed.2:2011
- > IEC 61000-3-2
- > IEC 61000-3-3
- > IEC 61000-4-11
- > IEC 61000-4-13
- > IEC 61000-4-14
- > IEC 61000-4-17
- > ...

#### NETWAVE - SIMULATION OF THE MOST REQUIRED POWER SUPPLY PHENOMENON

The NetWave series (1-phase) are single phase AC/DC power sources, specifically designed to meet the requirements as per the standards IEC/EN 61000-4-13, -4-14 and -4-28. Used as a DC power source it covers the requirements as per the standards IEC/EN 61000-4-17 (Ripple on DC) and IEC/EN 61000-4-29 for voltage dips and interruptions on DC supplies. With its low distortion and high stability, even if supplying dynamic loads, the NetWave series guarantees full compliant measurements for harmonics and flicker testing as per IEC/EN 61000-3-2, -3-3, -3-11 and -3-12 as well as JIS C 61000-3-2. The NetWave series is well suited for testing inverters (e.g. solar power, wind power) and e-vehicles. Additionally, the NetWave series (1-phase) offers the necessary capabilities for avionics testing as per DO-160, Airbus ABD0100 and Boeing as well as per MIL-STD-704.

#### HIGHLIGHTS

- > **Wide Power Bandwidth; DC - 5kHz**
- > **Output Power up to 7,500VA AC and 9,000W DC**
- > **Output Voltage max. 360V AC and +/- 500V DC**
- > **High Inrush Current Capability up to 200A**
- > **Extended trigger and control capabilities (NetWave 7.3)**

#### APPLICATION AREAS

- |   |  |
|---|--|
|  INDUSTRY    |  AVIONICS         |
|  MEDICAL     |  MILITARY         |
|  RESIDENTIAL |  RENEWABLE ENERGY |

**TECHNICAL DETAILS**

**MODEL OVERVIEW**

1-PHASE NETWAVE-MODELS	
NetWave 3	Multifunctional AC/DC source, 3,500VA AC / 4,500W DC
NetWave 7	Multifunctional AC/DC source, 7,500VA AC / 9,000W DC
NetWave 7.x	Multifunctional AC/DC source, 7,500VA AC / 9,000W DC, with built-in isolation transformer required to perform tests as per aircraft (DO-160, Airbus and Boeing) and military (MIL-STD-704) standards

**TECHNICAL DETAILS**

NETWAVE 3	
Output voltage	0V - 300V AC (RMS) 0V - +/-425V DC
Output current	12A (RMS) continuous 21A (RMS) short-term (max. 3s) 100A repetitive peak

NETWAVE 7	
Output voltage	0V - 300V AC (RMS) 0V - +/-425V DC
Output current	26A (RMS) continuous 47A (RMS) short-term (max. 3s) 200A repetitive peak

NETWAVE 7.2 / NETWAVE 7.3*	
Output voltage	0V - 360V AC (RMS) 0V - +/-500V DC
Output current (@max. 300V AC)	26A (RMS) continuous 47A (RMS) short-term (max. 3s) 200A repetitive peak

* EXTENDED CAPABILITIES FOR NETWAVE 7.3	
SourceAC mode	PLL synchronization with other voltage sources
Trigger channel	Extended trigger functions
Segment "Step"	Ramping of voltage and/or frequency in constant time windows
Extern mode	Control of the NetWave by an external control signal
Simple Mode	Optimized control for integration of the Netwave into existing automation environments (for example Matlab)

## TECHNICAL DETAILS

## GENERAL SPECIFICATIONS

SPECIFICATIONS	
Output frequency	DC - 5,000Hz
Frequency accuracy, stability	100ppm
DC offset with AC signal	<20mV with linear load
Slew rate	8V/us

REGULATION	
Voltage sense	Internal or external, 4 wires
Distortion (THD)	Less than 0.5%, @50/60Hz
Output voltage stability	Better than 0.1%
Output voltage accuracy	Better than 0.5%
Max. compensable drop on wire	5% f.s.
Current limiter	2A to I <sub>max</sub> for f < 75Hz (NetWave 3) 5A to I <sub>max</sub> for f < 75Hz (NetWave 7.x)
Protection	Over current, over voltage, over temperature, low voltage

OUTPUTS	
DUT connection	4mm safety lab connectors DUT adapter with connector (depends on country of use)

DISPLAY AND CONTROLS	
Display	2-Line LCD, 40 characters
LED indicators	Power On Active output channel Trigger Functional status hard disk
Operation	6 function keys, Test On key: ON/OFF key for the power source

TRIGGER AND DUT MONITORING	
Trigger	2 inputs, 2 outputs
DUT monitors	2 inputs, configurable

## GENERAL SPECIFICATIONS

WAVEFORM GENERATOR	
Segment types DC	DC, Ramp, Square, Triangle, Sawtooth, Step, Sine, Sine sweep, Sine ramp, Damped sinewave, Sine ripple, Profile, Square sweep, Noise, Sine Dwell, Sinc, Harmonic, Exponent ...
Segment types AC	Sine, Modulation, Sine sweep, Sweep on Sine, Sine up/down, Overswing, Sine offset, Sine Dip, Sine switching, Harmonic, Interharmonic, Interharmonic step, Harmonic distortion ...
Segment duration	Unlimited

## GENERAL DATA

INTERFACES	
	GPIB, Ethernet USB (for memory stick) RS 232 (input from DPA analyser) Frame bus (internal system bus)

AMBIENT CONDITIONS	
Temperature	0°C - 40°C
Rel. humidity	10% - 90%, non condensing

MAINS	
Supply voltage	3 x 400V (3P, N, PE); 3 x 208V (3P, N, PE) with option MT-Netwave (NetWave 7) or NetWave 7.x
Input current	32A (Phase 16A, Neutral 27A)
Line frequency	45Hz - 65Hz
Connector	CEE type 32A

DIMENSIONS	
NetWave 3 / NetWave 7	19", 9HU, 417mm x 449mm x 500mm, 45kg
NetWave 7.2/7.3	Minirack, 25HU, 600mm x 800mm x 1250mm, 120kg

**TECHNICAL DETAILS**

**OPTIONS**

OPTIONAL ACCESSORIES (FOR NETWAVE 7 ONLY)	
MT-NetWave	Three-phase matching transformer, input voltage 3x200V, output voltage 3x400V, in separate cubicle
IT-NetWave	Three-phase isolation transformer, input voltage 3x200 or 3x400V, output voltage 3x400V, with 25HU rack (with space to also house a DPA 500N). This option is required to use the NetWave 7 for aircraft and MIL standard testing.

OPTIONAL SOFTWARE FOR MODELS NETWAVE 7.X	
NWLlicense 1	Software license for DO-160 standard (only for models NetWave 7.2/7.3)
NWLlicense 2	Software license for MIL-STD-704 standard (only for models NetWave 7.2/7.3)
NWLlicense 3	Software license for AIRBUS standards (only for models NetWave 7.2/7.3)
NWLlicense 4	Software license for analysis functions as min., max., average and ..., power and harmonic measurement, (requires the option "NWBoard")
NWLlicense 5	Software license for BOEING standards (only for models NetWave 7.2/7.3)

**OPTIONS (ALL MODELS)**

NW-BOARD MEASURING MODULE	
Voltage	25V, 50V, 100V, 250V and 500V, unipolar or bipolar
Current	7A, 15A, 30A, 70A and 150A, unipolar or bipolar
Resolution	16 Bit
Accuracy	Voltage: better than 0.2% Current: better than 0.5%
Frequency range	DC - 50kHz
Sample rate	5Hz - 100kHz, selectable
Memory	Min. 40GB on hard disk, File size max. 1GB

**OTHER SOLUTIONS**

OTHER MODELS	
NetWave Series (3-phase)	Three-phase Multifunction AC/DC power sources, up to 60,000VA AC and 72,000W DC

OTHER EQUIPMENT	
DPA 500N	1-phase Harmonics and Flicker analyzer with built-in Flicker impedance

# COMPETENCE WHEREVER YOU ARE



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