NETWAVE SERIES (3-PHASE)

THREE-PHASE MULTIFUNCTIONAL AC/DC POWER SOURCES

SELON LES NORMES SUIVANTES ...

› AIRBUS
› BOEING
› DO 160 Section 16
› EN 61000-3-11
› EN 61000-3-12
› EN 61000-3-2
› EN 61000-3-3
› EN 61000-4-13
› EN 61000-4-14
› EN 61000-4-17
› EN 61000-4-27
› 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 61000-4-13
› IEC 61000-4-14
› IEC 61000-4-17
› IEC 61000-4-27
› ...

NETWAVE - SIMULATION OF THE MOST REQUIRED POWER SUPPLY PHENOMENON

The NetWave Series (3-phase) are three-phase AC/DC power source, specifically designed to meet the requirements as per the standards IEC/EN 61000-4-13, -4-14, -4-27(*) and -4-28. It is also used as a DC power source to cover 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. The NetWave series is well suited for testing inverters (e.g. solar power, wind power) and e-vehicles. Additionally, the NetWave series (3-phase) offers the necessary capabilities for avionics testing as per DO-160, Airbus ABD0100 and Boeing as well as per MIL-STD-704.
Optionally the NetWave 3-phase series can be equipped with a power-recovery module to absorb fed-back power (AC/DC) up to nominal power of the NetWave. (*) pre-compliant

HIGHLIGHTS

- **Wide Power Bandwidth; DC - 5kHz**
- **Output Power up to 60,000VA AC / 72,000W DC**
- **Output Voltage up to 3*360V AC (p-n), +/-500V DC**
- **High Inrush Current Capability**
- **Power-recovery up to nominal power (optional)**

DOMAINES D'APPLICATION

INDUSTRIE
AÉRONAUTIQUE
MÉDICAL
MILITAIRE
RÉSIDENTIEL
ENERGIES RENOUVELABLES

DÉTAILS TECHNIQUES

MODEL OVERVIEW

3-PHASE NETWAVE-MODELS	
NetWave 20.x	3-phase Multifunction AC/DC source, 22,500VA AC / 27,000W DC
NetWave 30.x	3-phase Multifunction AC/DC source, 30,000VA AC / 36,000W DC
NetWave 60.x	3-phase Multifunction AC/DC source, 60,000VA AC / 72,000W DC

TECHNICAL DETAILS

NETWAVE 20	
Output voltage	0V - 3*300V AC (p-n) 0V - +/- 425V DC
Output current	26A (RMS) continuous 47A (RMS) short-term (max. 3s) 200A repetitive peak

NETWAVE 20.2*	
Output voltage	0V - 3*360V AC (p-n) 0V - +/- 500V DC
Output current (@ max. 300V AC)	26A (RMS) continuous 47A (RMS) short-term (max. 3s) 200A repetitive peak

NETWAVE 30	
Output voltage	0V - 3*300V AC (p-n) 0V - +/- 425V DC
Output current	33A (RMS) continuous 66A (RMS) short-term (max. 3s) 250A repetitive peak

NETWAVE 30.2*	
Output voltage	0V - 3*360V AC (p-n) 0V - +/- 500V DC
Output current (@ max. 300V AC)	33A (RMS) continuous 66A (RMS) short-term (max. 3s) 250A repetitive peak

TECHNICAL DETAILS

NETWAVE 60	
Output voltage	0V - 3*300V AC (p-n) 0V - +/- 425V DC
Output current	66A (RMS) continuous 100A (RMS) short-term (max. 3s) 400A repetitive peak

NETWAVE 60.2*	
Output voltage	0V - 3*360V AC (p-n) 0V - +/- 500V DC
Output current (@ max. 300V AC)	66A (RMS) continuous 100A (RMS) short-term (max. 3s) 400A repetitive peak

* EXTENDED CAPABILITIES FOR NETWAVE 20.2 / 30.2 / 60.2 MODELS	
Simple mode	Control via MatLab to integrate the NetWave into existing automation environments
SourceAC mode	PLL synchronization with other voltage sources
Trigger	Extended trigger functions
Ramp Up/Down	Increase/decrease of the main line voltage in fixed steps
Segment "Step"	Ramping of voltage and/or frequency in constant time windows
Extern mode	Control of the NetWave by an external control signal

POWER RECOVERY (OPTIONAL HARDWARE MODULE)	
	Available for all 3-phase NetWave models
Mains voltage	400V +/- 10% (45Hz - 65Hz)
Recoverable power	up to nominal AC/DC power of the individual NetWave model
NetWave 20.x	Max. 22.5kVA AC / 27kW DC
NetWave 30.x	Max. 30kVA AC / 36kW DC
NetWave 60.x	Max. 60kVA AC / 72kW DC
Power factor	› 0.92 (cos phi)

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GENERAL DATA (ALL MODELS)

SPECIFICATIONS	
Output frequency	DC - 5,000Hz
Frequency accuracy, stability	100ppm
Output connectors	Safety lab connectors CEE type 32A (only for NetWave 20.x and NetWave 30.x)
Interfaces	GPIB Ethernet RS 232 (input from DPA analyser) Frame bus (internal system bus)

REGULATION	
Voltage sense	Internal or external, 4 wires
Distortion (THD)	Less than 0.5%
Output voltage	Better than 0.1%
Stability	Better than 0.1%
Accuracy	Better than 0.5%
Max. compensatable drop on wires	5% f.s.
Current limiter	5A to Imax for f ‹ 75Hz
Protection	Over current Over voltage Over temperature Low voltage

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, Sine unbalance, Overswing, Sine offset, Sine Dip, Harmonic, Interharmonic, Interharmonic step, Harmonic distortion ...
Segment duration	Unlimited

GENERAL DATA (ALL MODELS)

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

DIMENSIONS	
Housing	Frame
Weight	approx. 650kg (NetWave 20.x) approx. 650kg (NetWave 30.x) approx. 1,000kg (NetWave 60.x)
Size	approx. 1670 x 920 x 750mm (NetWave 20.x) approx. 1670 x 920 x 750mm (NetWave 30.x) approx. 1800 x 1200 x 1000mm (NetWave 60.x)

MAINS	
Supply voltage	3 x 400V (3P,N,PE); optional 3 x 208V (3P,N,PE)
Input current	32A/63A (NetWave 20.x)* 48A/75A (NetWave 30.x)* 96A/160A (NetWave 60.x)* * the higher figure represents the 3s short-term current
Line frequency	45Hz - 65Hz
Connectors	CEE type 63A (NetWave 20.x) Screwed terminals (NetWave 30.x and NetWave 60.x)

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

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OPTIONS

OPTIONAL SOFTWARE	
NW3 License 1	Software license for DO-160 standard for NetWave-series (3-phase)
NW3 License 2	Software license for MIL-STD-704 standard for NetWave-series (3-phase)
NW3 License 3	Software license for Airbus standards for NetWave-series (3-phase)

OTHER SOLUTIONS

OTHER MODELS	
NetWave Series (1-phase)	Single phase Multifunction AC/DC Power sources, up to 7,500VA AC and 9,000W DC

OTHER EQUIPMENT	
DPA 503N	3-phase Harmonics and Flicker analyzer
AIF 503N16	3-phase flicker impedance, 3x400V, 16A 0.24ohm + j0.15ohm (Lines) 0.16ohm + j0.10ohm (Neutral)
AIF 503N32	3-phase dual-impedance, 3x400V, 32A Zref: 0.24ohm + j0.15ohm (Lines) 0.16ohm + j0.10ohm (Neutral) Ztest: 0.15ohm + j0.15ohm (Lines) 0.10ohm + j0.10ohm (Neutral)
AIF 503N63	3-phase dual-impedance, 3x400V, 63A Zref: 0.24ohm + j0.15ohm (Lines) 0.16ohm + j0.10ohm (Neutral) Ztest: 0.15ohm + j0.15ohm (Lines) 0.10ohm + j0.10ohm (Neutral)
AIF 503N75	3-phase dual-impedance, 3x400V, 75A Zref: 0.24ohm + j0.15ohm (Lines) 0.16ohm + j0.10ohm (Neutral) Ztest: 0.15ohm + j0.15ohm (Lines) 0.10ohm + j0.10ohm (Neutral)

COMPÉTENCE DANS TOUS LES DOMAINES

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