

# ACS 503N SERIES

## 3-PHASE AC VOLTAGE SOURCES, 16 KVA UP TO 90 KVA



### FOR TESTS ACCORDING TO ...

- > EN 61000-3-11
- > EN 61000-3-12
- > EN 61000-3-2
- > EN 61000-3-3
- > IEC 61000-3-11
- > IEC 61000-3-12 Ed.2:2011
- > IEC 61000-3-2
- > IEC 61000-3-3
- > JIS C 61000-3-2

### SOPHISTICATED 3-PHASE AC SOURCES FOR HARMONICS & FLICKER APPLICATIONS







The ACS 503N-series are three-phase AC sources, specifically designed for harmonics and flicker testing. They meet the corresponding specifications as per IEC/EN 61000-3-2, IEC/EN 61000-3-3 and JIS C 61000-3-2 as well as per IEC/EN 61000-3-11 and IEC/EN 61000-3-12 for measuring DUTs having a nominal current of more than 16A per phase.

The ACS 503N-series provides the perfect sinusoidal and stable voltage signal specified to perform fully compliant harmonics and flicker analysis despite of the mains supply frequency and steadyness of the voltage.

### HIGHLIGHTS

- > Frequency (fund.) 40Hz .. 80Hz
- > Very low distortion (THD)
- > Very high voltage stability
- > Output power 16kVA .. 90kVA (depending on model)
- > Output voltage max. 300V(p-n)
- > Inrush current capability

### APPLICATION AREAS

- |   |  |
|---|--|
|  INDUSTRY    |  RENEWABLE ENERGY |
|  MEDICAL     |  TELECOM          |
|  BROADCAST   |  |
|  RESIDENTIAL |  |

## TECHNICAL DETAILS

## MODEL OVERVIEW

ACS 503N MODELS	
ACS 503N16	3-Phase AC voltage source, 16kVA
ACS 503N30	3-Phase AC voltage source, 30kVA
ACS 503N60	3-Phase AC voltage source, 60kVA
ACS 503N90	3-Phase AC voltage source, 90kVA

## TECHNICAL DETAILS

ACS 503N16	
Output Power	16,000VA
Output current, 50Hz (60Hz)	Inductive load: 23A (24A) Resistive load: 18A (16A) Capacitive load: 14A (12A) max. 60A (61A) RMS for 3 sec. Repetitive peak: 300A
Input current	Max. 72A
Fuse	3 x 63A
Weight	400kg
Size	1670mm x 920mm x 625mm

ACS 503N30	
Output Power	30,000VA
Output current, 50Hz (60Hz)	Inductive load: 41A (43A) Resistive load: 34A (33A) Capacitive load: 27A (26A) max. 78A (79A) RMS for 3 sec. Repetitive peak: 300A
Input current	Max. 100A
Fuse	3 x 80A
Weight	550kg
Size	1670mm x 920mm x 625mm

## TECHNICAL DETAILS

ACS 503N60	
Output Power	60,000VA
Output current, 50Hz (60Hz)	Inductive load: 75A (78A) Resistive load: 60A (59A) Capacitive load: 47A (44A) Repetitive peak: 400A
Input current	Max. 160A (max. 81kW)
Fuse	3 x 160A
Weight	1,000kg
Size	1800mm x 1200mm x 800mm

ACS 503N90	
Output Power	90,000VA
Output current, 50Hz (60Hz)	Inductive load: 112A (115A) Resistive load: 91A (90A) Capacitive load: 74A (70A) Repetitive peak: 550A
Input current	Max. 250A (max. 103kW)
Fuse	3 x 250A
Weight	1,200kg
Size	1800mm x 1200mm x 1000mm

## TECHNICAL DETAILS

## COMMON DATA (ALL MODELS)

OUTPUT	
Voltage range	0V to 300V (p-n)
Voltage resolution	0.025% (12 bit)
Output frequency	40Hz to 80Hz
Frequency resolution	0.02Hz
Frequency accuracy, stability	100ppm
Output connector	Safety laboratory connectors 3ph CEE connector

REGULATION	
Voltage sense	Internal or external 4 wires
Total harmonic distortion	Less than 0.1%
Output voltage stability	Better than 0.1%
Output voltage accuracy	Better than 0.5%
Max. compensatable drop on wires	5% f.s.
Protection	Overcurrent Overtemperature Overvoltage Undervoltage

INPUT	
Supply voltage	3 x 400V +10%/-15%
Line frequency	50Hz - 60Hz
Connector	Sockets

CONTROL	
Interface	RS 232 9-pin SubD
Security	Safety circuit

AMBIENT CONDITIONS	
Temperature	0°C to 35°C
Rel.Humidity	80%, non condensing

## ADDITIONAL EQUIPMENT

DPA 503N - ANALYZER FOR HARMONICS AND FLICKER	
Input channels	6 (3x current & voltage)
Current measurement	Ext. current transformer
Interface	USB for control and data transfer

AIF 503N-SERIES - FLICKER IMPEDANCES AS PER EN/IEC 61000-3-3/61000-3-11	
Phase	3-phase (L1, L2, L3 and N)
Zref at 50Hz	RA = 0.24ohm, XA = 0.15ohm RN = 0.16ohm, XN = 0.10ohm
Ztest at 50Hz	RA = 0.15ohm, XA = 0.15ohm RN = 0.10ohm, XN = 0.10ohm (except for AIF 503N16)
Line current	16A - 75A per phase (depending on model)
Bypass for harmonics	Remote controlled switch

## ALTERNATIVE SOLUTIONS

SINGLE PHASE SOLUTION	
ACS 500N6	AC source 6,000VA
ACS 500N3	AC source 3,000VA
DPA 500N	Single phase Harmonics and Flicker analyzer with built-in 1phase flicker impedance

# COMPETENCE WHEREVER YOU ARE



## CONTACT EM TEST DIRECTLY

### Switzerland

EM TEST (Switzerland) GmbH › Sternenhofstraße 15 › 4153 Reinach › Switzerland  
Phone +41 (0)61/7179191 › Fax +41 (0)61/7179199  
Internet: [www.emtest.ch](http://www.emtest.ch) › E-mail: [sales.emtest@ametek.com](mailto:sales.emtest@ametek.com)

### Germany

AMETEK CTS Germany GmbH › Lünener Straße 211 › 59174 Kamen › Deutschland  
Phone +49 (0)2307/26070-0 › Fax +49 (0)2307/17050  
Internet: [www.emtest.com](http://www.emtest.com) › E-mail: [info.cts@ametek.de](mailto:info.cts@ametek.de)

### France

EM TEST FRANCE › Le Trident - Parc des Collines › Immeuble B1 - Etage 3 › 36, rue Paul Cézanne › 68200 Mulhouse › France  
Phone +33 (0)389 31 23 50 › Fax +33 (0)389 31 23 55  
Internet: [www.emtest.fr](http://www.emtest.fr) › E-mail: [info@emtest.fr](mailto:info@emtest.fr)

### Poland

EM TEST Polska › ul. Ogrodowa 31/35, 00-893 Warszawa › Polska  
Phone +48 (0)518 64 35 12  
Internet: [www.emtest.com/pl](http://www.emtest.com/pl) › E-mail: [infopolska.emtest@ametek.com](mailto:infopolska.emtest@ametek.com)

### USA / Canada

AMETEK Compliance Test Solutions › 52 Mayfield Ave. › Edison › NJ 08837  
Phone +1 (732) 417-0501  
Internet: [www.emtest.com](http://www.emtest.com) › E-mail: [sales.emtest@ametek.com](mailto:sales.emtest@ametek.com)

### P.R. China

E & S Test Technology Limited › Rm 913, Leftbank › No. 68 Bei Si Huan Xi Lu › Haidian District › Beijing 100080 › P.R. China  
Phone +86 (0)10 82 67 60 27 › Fax +86 (0)10 82 67 62 38  
Internet: [www.emtest.com](http://www.emtest.com) › E-mail: [info@emtest.com.cn](mailto:info@emtest.com.cn)

### Republic of Korea

EM TEST Korea Limited › #405 › WooYeon Plaza › #986-8 › YoungDeok-dong › Giheung-gu › Yongin-si › Gyeonggi-do › Korea  
Phone +82 (31) 216 8616 › Fax +82 (31) 216 8616  
Internet: [www.emtest.co.kr](http://www.emtest.co.kr) › E-mail: [sales@emtest.co.kr](mailto:sales@emtest.co.kr)



Information about scope of delivery, visual design and technical data correspond with the state of development at time of release. Subject to change without further notice.