

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

AMETEK CTS GmbH › Sternenhofstraße 15 › 4153 Reinach › Switzerland
 Phone +41 (0)61 204 41 11 › Fax +41 (0)61 204 41 00
 Internet: www.ametek-cts.com › E-mail: sales.conducted.cts@ametek.com

Germany

AMETEK CTS Europe GmbH › Customer Care Center EMEA › Lünener Straße 211
 › 59174 Kamen › Germany
 Phone +49 (0) 2307 26070-0 › Fax +49 (0) 2307 17050
 Internet: www.ametek-cts.com › E-mail: info.cts.de@ametek.com

Poland

AMETEK CTS Europe GmbH › Biuro w Polsce › ul. Twarda 44 › 00-831 Warsaw › Poland
 Phone +48 (0) 518 643 12
 Internet: www.ametek-cts.com › E-mail: Infopolska.cts@ametek.com

USA / Canada

AMETEK CTS US › 52 Mayfield Ave › Edison › NJ 08837 › USA
 Phone +1 732 417 0501
 Internet: www.ametek-cts.com › E-mail: usasales.cts@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 › E-mail: 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 › E-mail: sales@emtest.co.kr

Singapore

AMETEK Singapore Pte. Ltd › No. 43 Changi South Avenue 2 › 04-01 Singapore
 48164
 Internet: www.ametek-cts.com › E-mail: singaporesales.cts@ametek.com

Great Britain

AMETEK GB › 5 Ashville Way › Molly Millars Lane › Wokingham › Berkshire
 RG41 2 PL › Great Britain
 Phone +44 845 074 0660
 Internet: www.ametek-cts.com

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.