



ACS 503N Series

Programmable AC Source

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 steadiness of the voltage.

Sinusoidal voltage for harmonics and flicker measurements

As per standard requirements a pure voltage is needed for measurements of harmonics and flicker. The output voltage of the ACS 503N is guaranteed to be sinusoidal with a very low distortion (THD) of less than 0.1% regardless of the load. Furthermore, the voltage is kept stable within 0.1% independent of the load, even if the load changes.

No matter what the condition of the mains supply might be, the ACS 503N fulfills the high standard for purity and stability of both the sinusoidal voltage signal and the frequency. With its power of 16 to 90 kVA it can be used for measurements as per EN/IEC 61000-3-2, EN/IEC 61000-3-12 and JIS C 61000-3-2 for harmonics as well as EN/IEC 61000-3-3 and EN/IEC 61000-3-11 for flicker. It is best suited to supply medium to high power DUTs like air conditioners, pumps, electric motors, heaters etc. The ACS 503N AC voltage sources are electronically protected against overtemperature, overcurrent, overvoltage and undervoltage.

Used with EM TEST DPA 503N series harmonics and flicker analyzers and AIF 503N flicker impedances, the ACS 503N are fully remote controlled by net.control software via RS232 interface.

MAIN FEATURES

- 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
- Remote control by the DPA 503N via RS232

Technical Specifications

	ACS 503N16	ACS 503N30	ACS 503N60	ACS 503N90
Output Power AC	16 kVA	30 kVA	60 kVA	9 kVA
Output Voltage AC	300 V			
Output Current AC	inductive load: 23 A (24 A), resistive: 18 A (16 A), capacitive: 14 A (12 A) cont., 60 A (61 A) for 3 s, 300 A repetitive peak	inductive load: 41 A (43 A), resistive: 34 A (33 A), capacitive: 27 A (26 A) cont., 78 A (79 A) for 3 s, 300 A repetitive peak	inductive load: 75 A (78 A), resistive: 60 A (59 A), capacitive: 47 A (44 A) cont., 400 A repetitive peak	inductive load: 112 A (115 A), resistive: 91 A (90 A), capacitive: 74 A (70 A) cont., 550 A repetitive peak
Frequency range	10 to 80 Hz			
THD @ 50/60Hz, max.	0.1 %			
Voltage Accuracy	better than 0.5% full scale			
Frequency Accuracy	100 ppm			

General Specifications

	ACS 503N16	ACS 503N30	ACS 503N60	ACS 503N90
Compensation / Sense	internal / external sense, max. compensation 5%			
Signal Generator	integrated, sine wave			
Protection	Over current, over voltage, over temperature, under voltage			
Com. Interface	Ethernet as option			
Output Connectors	safety laboratory connectors, CEE 3ph connector			
AC Supply	3 x 400 V (3P, N, PE) 63 A per phase	3 x 400 V (3P, N, PE) 80 A per phase	3 x 400 V (3P, N, PE) 160 A per phase	3 x 400 V (3P, N, PE) 250 A per phase
Supply Frequency	45 Hz – 65 Hz			
Supply Connector	Screw terminals			
Dimensions	1670 x 920 x 625 mm		1800 x 1200 x 800 mm	
Net Weight	400 kg	550 kg	1000 kg	1200 kg
Operating Environment	5°C - 35°C, 10% - 90% non-condensing, 86 kPa (860 mbar) to 106 kPa (1 060 mbar)			