

 **emtest**
the benchmark for emc



TEST SOLUTIONS FOR E-VEHICLES

TEST EQUIPMENT FOR HV COMPONENTS AND CHARGING STATIONS

**AMETEK**[®]
COMPLIANCE TEST SOLUTIONS

TEST SOLUTIONS FOR HV-COMPONENTS.

With the EM TEST NetWave solutions it is possible to test HV components up to 1120 VDC according to LV 123. Additionally, the LF amplifier AMP 200Nx uses the CN 200Nx to couple voltage ripples up to 450 kHz to the supply lines for standards like LV 123, I aSO 7637-4, and more.

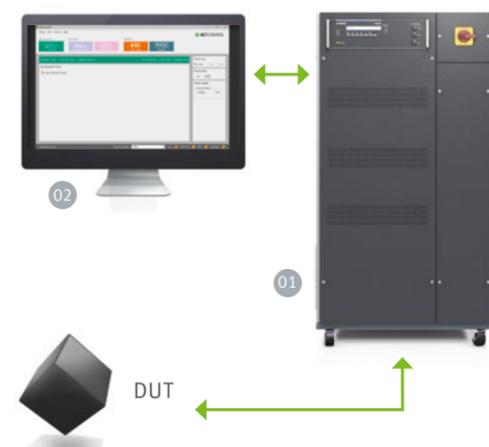
HV component testing is supported by net.control software, which enables easy, fast and reproducible testing.



STANDARDS:

LV 123, VW 80300, MBN LV 123.
PSA 821 7110, VW 80303, GS 95023

SOLUTION 1



SOLUTION 2



AND FOR CHARGING STATIONS.

With the addition of a charger, an EV no longer only needs to be tested as a vehicle. As part of the type approval process, ECE Reg. 10.5 now defines that these vehicles, or their associated charging stations must now be tested for Flicker and Harmonics, Burst, Surge and more – just as any other device that is connected to the public electricity grid. With the EM TEST new NX-series, couplers and accessories it is possible to test charging stations up to 3 * 690 V AC, 200 A AC, 1500 V DC, 400 A DC.

The powerful, programmable NetWave solutions act both as an AC/DC source, and are ideally suited to perform Harmonics and Flicker measurements according to IEC 61000-3-2/-12, IEC 61000-3-3 /-11 up to 75 A/phase.

STANDARDS:

ECE R-10, IEC 61851, IEC 61000-3-2, -3, IEC 61000-3-11, -12, IEC 61000-4-4, IEC 61000-4-5



SOLUTION 3



01

NETWAVE 3-PHASE

- Multifunctional AC/DC power source
- > Wide Power Bandwidth, DC-5 kHz
- > Output power up to 270 kVA, 324 kW DC
- > Output voltage up to 3 * 690 V AC (p-p), ± 1120 V DC
- > Power recovery up to nominal power
- > Parallel mode (triples nominal current)

02

NET.CONTROL

- > More than 30,000 pre-programmed standard voltage profiles
- > Customized profiles
- > Easily create test sequences with flowchart editor and test link
- > Import and Export of voltage waveforms
- > Fast configuration of customized test reports

03

AMP 200NX-SERIES

- LF Signal & Amplifier DC (0 Hz) to 250 kHz/500 kHz
- > Automatic closed loop test procedures
- > Built-in DDS sinus signal generator up to 250 kHz
- > High frequency option up to 500 kHz
- > Output voltage max. 140 V p-p, 50 V rms
- > Output current max. 16 A

04

CN 200NX-SERIES

- Audio Transformer for LF conducted immunity testing
- > Coupling sinusoidal disturbance from 10 Hz to 500 kHz on AC and DC lines
- > Rated current up to 300 A
- > For applications up to 1500 V DC

05

DPA-SERIES

- Full compliance Harmonics & Flicker analyzer
- > Real time data acquisition
- Internal hard disk for data storage
- > 16-bit A/D converter
- > Wide range current input up to 140 rms
- > Wide range voltage input up to 530 V rms
- > Highly -sophisticated analyzing

06

PFS 503NX.2-SERIES

- Power Fail Simulator
- > Synchronization with 3-phase Netwave
- > Sync output to lock the Netwave with the mainline phase
- > Full-compliant 3-phase system as per IEC 61000-4-11 and IEC 61000-4-34 for testing star and delta systems
- > Rated voltage up to 3*690 V AC, 600 V DC

07

COMPACT NX-SERIES

- Transient Generator
- up to 5.5 kV for EFT/Burst, Surge and Powerfail
- > Built-in single phase CDN 400V / 32 A
- > Self-recognition of connected EUT power configuration
- > Manual front panel operation with setup pictures
- > Monitor outputs for peak voltage and current

08

COUPLING NX-SERIES

- Combined 3-phase coupling/decoupling networks for burst and surge testing up to 5.5 kV
- > Continuous operation 0-200 A
- > CDN with additional current ranges < 32 A, 63 A, 125 A and 200 A
- > Automatic coupler available for 3 * 690 V AC, 1000 V DC
- > Manual coupler for burst and surge available for 1500 V DC and 400 A DC

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