



EMC STANDARDS CE COMPLIANCE

IEC/EN 61000-3-2/3/11/12
IEC/EN 61000-4-4/5/8/11/13/14/17/27/28/29/34 · Semi F47
IEC/EN 60146-1-1 · IEC/EN 61000-2-2 · IEC/EN 61131-2
IEC/EN 61496-1 · IEC/EN 61800-3 · Germanischer Lloyd

EMC Reference test system 2.0 for fully compliant emission and immunity testing

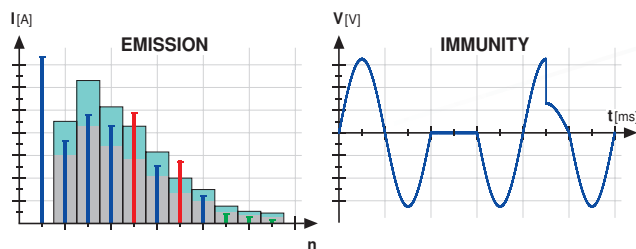
APS – 4-Quadrant voltage amplifier
Reference supply source for reproducible test results

AIS – Analyser impedance System
Harmonic analyser (IEC/EN 61000-4-7)
Flicker meter (IEC/EN 61000-4-15)
Line impedance simulation network up to
750A per phase incl. Japanese and Korean standards

CE-Tester – Burst and surge pulse generator

Magnetic field simulators
with testing coils and probes

SPS TestManager – Test and measurement software
platform for fully compliant EMC testing



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PRODUCT RANGE

AC/DC VOLTAGE AND CURRENT AMPLIFIER

4-Quadrant source and sink mode
Single-, three- and multiphase PHIL simulators
V:0...1000V / I:0...10000A / P:0...300kW / f:DC...300kHz

HIGH SPEED PHOTOVOLTAIC SIMULATORS

Testing of solar inverters up to 1MW
according to EN 50530 · IEC/EN 61683 · IEC/EN 61727
Transient time: <100µs / V:0...1500V / I:0...1250A / P:0...400kW

RESONANT CIRCUIT AND RESISTOR LOAD

Anti-islanding tests according to IEC/EN 62116 and VDE V 0126-1-1

AUTOMOTIVE ONBOARD POWER SUPPLY SIMULATORS

Testing and simulation of ground vehicle components and supply systems
according to ISO 7637 · ISO 16750-2 · ISO 21848 · LV 124 · LV 148 ·
SAE J 1113-11, MIL-STD-461 and various manufacturer specifications
V:0...800V / I:0...1000A / P:0...30kW / f:DC...300kHz

AVIONIC ONBOARD POWER SUPPLY SIMULATORS

Testing and simulation of air vehicle components and supply systems
according to RTCA DO-160 · MIL-STD-704
and various manufacturer specifications
V:0...800V / I:0...1000A / P:0...30kW / f:DC...300kHz

EMC TEST EQUIPMENT

Basic EMC System for fully compliant emission and immunity tests
according to IEC/EN 61000 -3-2 / -3-3 / -3-11 / -3-12 and -4-xx

ANALYSER REFERENCE SYSTEM

Harmonic analyser and flicker meter
according to IEC/EN 61000-4-7 and IEC/EN 61000-4-15

LINE IMPEDANCE SIMULATION NETWORK

Impedance: 0.00625Ω ... 0.68Ω (j0.0039Ω ... j0.393Ω)
according to IEC/EN 61000 -3-3 / -3-11 · JIS C 61000-3-2
and Korean Standard

MAGNETIC FIELD SIMULATORS

Testing according to IEC/EN 61000-4-8 · EN 55103-2
and various manufacturer specifications
H:0...1000A/m / f:50...100kHz

FULLY AUTOMATIC TEST EQUIPMENT

Testing of capacitors, circuit breakers, coils, fuses,
lighting equipment, relays and transformers
V:0...10000V / I:0...10000A / P:0...300kW / f:DC...300kHz



PRODUCTS & APPLICATIONS

WE GET VOLTAGE INTO SHAPE



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SOLAR SIMULATION

EN 50530 · IEC/EN 61683 · IEC/EN 61727 · CEI021
IEC/EN 62116 · VDE V 0126-1-1

Test system for fully compliant standard testing of the overall efficiency of solar inverters up to 1MW

PVS – Highspeed PV simulator

Reproduction of the characteristic of any solar cells and simulation of weather conditions and courses of the day

PVS/BS – Battery simulator

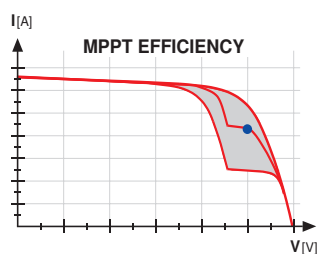
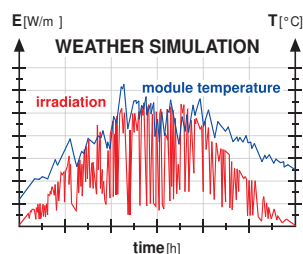
Simulation of charge and discharge characteristics of energy storage systems

RLC – Adjustable resonant circuit and resistor load for compliant anti-islanding testing

Grid Simulator – Basic EMC System 2.0

Reproduction and compliance testing of the grid interconnection of a solar inverter · High precision power analyser and oscilloscope

DRU – Power recuperation unit



ONBOARD POWER SUPPLY SIMULATION

LV 124 · LV 148 · ISO 7637 · ISO 16750-2 · ISO 21848 ·
VDA 320 · SAE J 1113-11 · ISO 11452-8 · RTCA DO-160 ·
ABD 0100.1.8 · ABD 0100.1.8.1 · Boeing 787B3-0147
and various manufacturer specifications

Onboard supply system simulation for fully compliant testing of automotive and avionic standards

LVA – 4-quadrant amplifier

Reference supply source with high bandwidth and very fast rise time for compliance tests

LDS / TDG – Load dump / pulse generators

CAR-TEST-SYSTEM 14 – Burst / surge pulse generator

EMS – Electronic switch for micro interruptions on power, signal and data lines

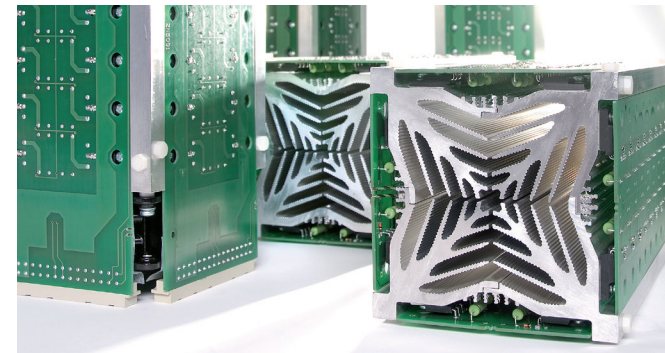
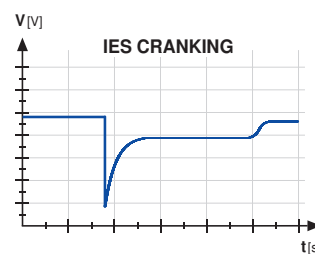
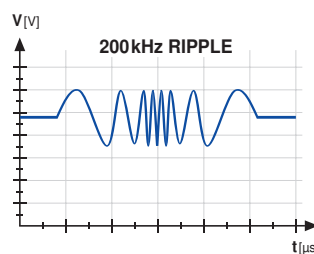
HA1800 – High voltage tester

SPS TestManager Automotive –

Test and measurement software for automotive standards for automotive onboard power supply systems

SPS TestManager Avionic –

Test and measurement software avionic standards for avionic onboard power supply systems



VOLTAGE AND CURRENT SUPPLY SIMULATION

Reference supply sources for simulation of AC/DC voltage and current variations

Realistic grid simulators - PHIL power sources with arbitrary wave forms as well as high short-time and pulse overload capability

APS – 4-quadrant voltage amplifier

Very low THD even with non-linear loads, very low internal resistance, very fast rise time for fully compliant testing

LVA – 4-quadrant amplifier

Reference supply source with high bandwidth and very fast rise time for fully compliant testing

ACS – 4-quadrant current amplifier

Circuit breaker testing source

DCS – AC switch-mode current amplifier

for industrial component and life-cycle testing

DRU – Digital Power Recuperation Unit

Power recuperation capability for APS
Source/sink power enhancement for APS

