FRANKONIA

Immunity test to

- conducted, common mode disturbances acc. to IEC/EN 61000-4-16

and

- conducted differential mode disturbances acc. to IEC/EN 61000-4-19

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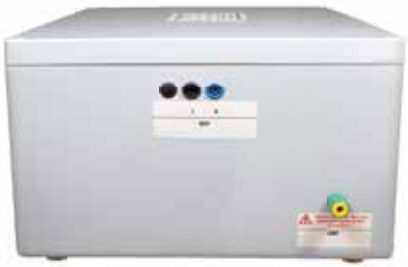
ACCESSORIES

- PSG-300 Power Signal Generator
- Isolation Transformers
- Coupling Networks
- Universal Coupling Network



POWER SIGNAL GENERATOR – PSG-300

ACC. TO IEC/EN 61000-4-16, IEC/EN 61000-4-19 AND IEC/EN 61543

Description

The PSG-300 contains a linear precision power amplifier with a wide bandwidth (DC-300 kHz), suitable for all applications concerning fast alternating signals at high output power. The built in generator provides sine, square and triangle waves. Communication between PSG-300 and PC is via USB connection. The application software is suited for general power generator applications and for immunity tests according to IEC/EN 61000-4-16 as well as to IEC/EN 61543. Short term tests are enabled by phase controlled switching of an external power source (optional). The PSG-300 is equipped with a silent, temperature-controlled fan. Internal safeguards protect the amplifier from overheating and high power dissipation. They also assure protection against short-circuits and overload.

Features:

- Short circuit and overload protection
- Completely linear and low noise design
- Outstanding DC stability
- Over temperature switch off
- Protection / Ready LED
- EUT-fail input
- EUT-monitor input

The number one choice for all applications with the need for fast and powerful signals, e.g.:

- Simulation of DC / AC supply lines
- Generation of magnetic fields with Helmholtz or similar coils
- Control of piezo actors
- Immunity testing according to IEC/EN 61000-4-16, IEC/EN 61000-4-19 AND IEC/EN 61543
- Calibration devices etc.

POWER SIGNAL GENERATOR – PSG-300

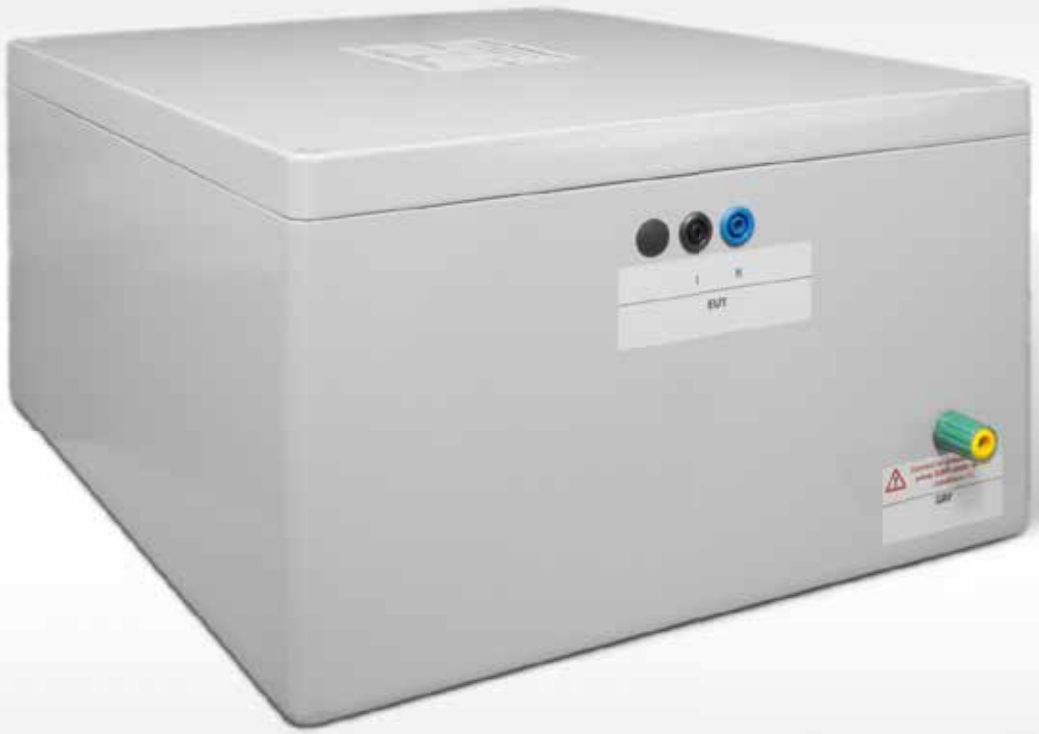
ACC. TO IEC/EN 61000-4-16, IEC/EN 61000-4-19 AND IEC/EN 61543

Technical specifications	PSG-300	PSG-300A
Amplifier		
Frequency range	DC - 1 MHz (small signal -3 dB)	
Power bandwidth	DC – 200 kHz	
Slew rate	100 V/µs	
Offset	±1 mV (±0.1 mV/°C)	
Gain	10 ±0.1 % (±0.01 %/°C)	
Output voltage	50 Veff / ±75 Vpeak	
Output current	5 Aeff / ±7.5 Apeak	16 Aeff / ±23 Apeak
Power output	250 W	800 W
Distortion (DC – 100 kHz, load ≥ 4 Ω)	< 0.10%	
Input impedance	100 kΩ	
Max. input voltage	80 V (cont.), 100 V (< 1 min)	
Noise (10 Hz – 1 MHz, input: 50 Ω)	0.5 mVeff	
Output connector	4 mm MC	
Output connector 50 Ω	BNC	
Generator		
Frequency range	DC, 0.05 Hz - 300 kHz	
Frequency resolution	0.05 Hz	
Frequency accuracy	± 20 ppm	
Waveform	Sine, square, triangle	
External generator input	BNC	
General data		
Remote control	USB connector	
Dimension (LxWxD)	448,9x132.55x435.50mm	448.90 x 177 x 585.50 mm
Weight	approx. 14 kg	approx. 30 kg

Options:	
PSG-E300	External power source for short term test 300V@DC,162/3Hz,50Hz,60Hz
PSG-EXT	Input connector for phase controlled switching of external power source

ISOLATION TRANSFORMERS

ACC. TO IEC/EN 61000-4-16



Isolation Transformers IT-6/-16/-20

Disturbances shall not be coupled into any support instruments. This requires decoupling of the lines. In many cases isolation transformers are used for decoupling. We offer a wide range from 6A/1-phase to 20A/3.phase. All isolation transformers are compliant to IEC/EN 61000-4-16.

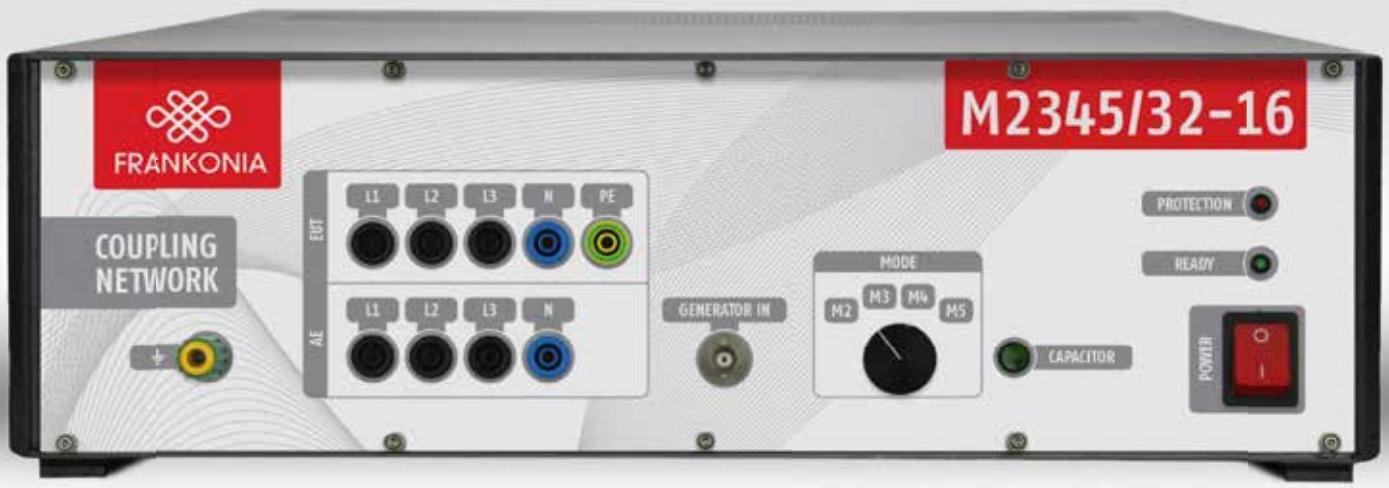
Technical specifications	IT-6	IT-16	IT-20
Voltage	230 V	230 V	230 V
Current	6 A	16 A	20 A
Phase	1-phase	1-phase	1 phase
Dimensions (W x D x H)	330x230x111 mm	400x310x181 mm	400x310x181 mm
Weight	18 kg	34 kg	45 kg

Features

- Switchable coupling network M2, M3, M4, M5 acc. IEC/EN 61000-4-16
- Current rating up to 125A
- For continuous and short term tests up to ± 300 V
- Remote control in connection with MTS-800, PSG-300 and PSG-E300
- May be used as stand-alone device
- EUT 250V AC or DC

Universal Coupling Network M2345/32-16

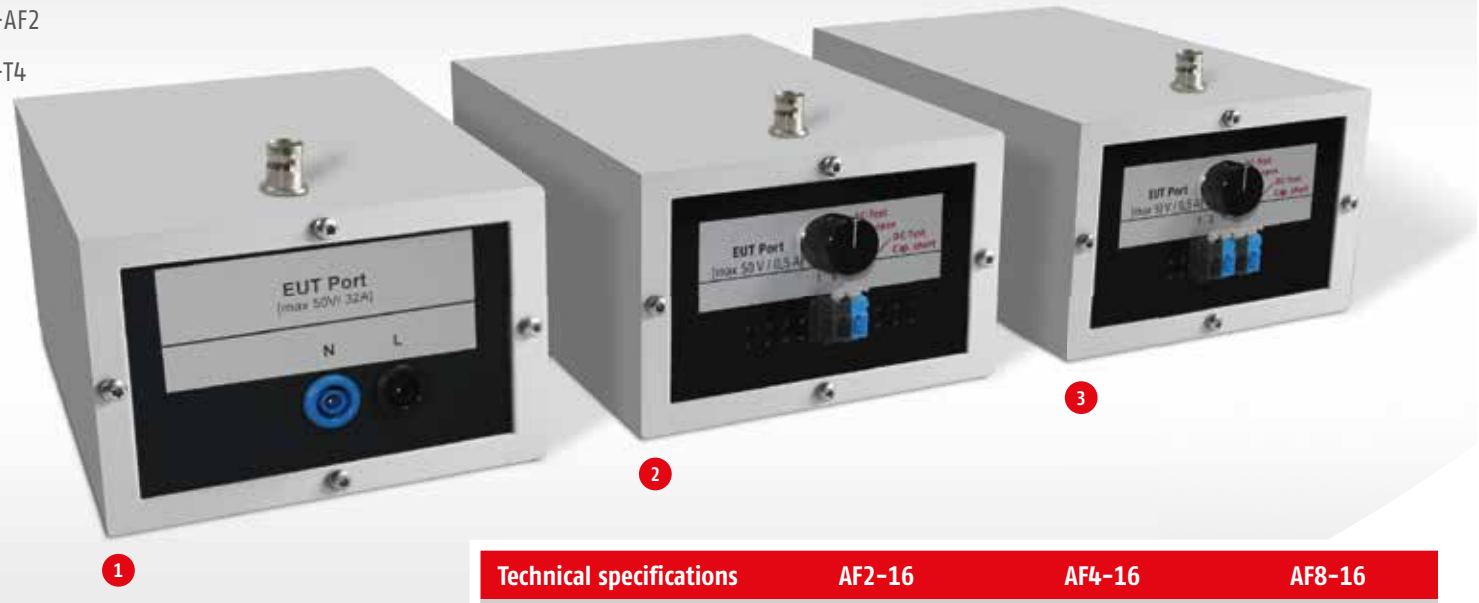
As described in IEC/EN 61000-4-16 at the frequency of the electrical power supply (either DC, 16 2/3 Hz, 50 Hz or 60 Hz) the test stimuli are applied as both continuous and short-duration disturbances. Otherwise, over the frequency range 15 Hz to 150 kHz, the test stimuli are applied as continuous disturbances only. The normal duration for short duration disturbances at the electricity supply frequency is one second. The M2345/32-16 is a multifunctional coupling network for test levels up to ±300 V in connection with test generators MTS-800, PSG-300 and PSG-E300. In this case the M2345/32-16 is remote controlled via the application software of the test generators. Otherwise the coupling network may be front panel operated as a stand-alone device. The M2345/32-16 operates as a M2, M3, M4 or M5 coupling network. The selection can be made by a rotary switch. The coupling capacitor is shorted out for the DC tests by a push-button. For automated test you may toggle between AC and DC tests via the USB-port.



UNIVERSAL COUPLING NETWORK

ACC. TO IEC/EN 61000-4-16

1. CN-M2/DC
2. CN-AF2
3. CN-T4



Description

Immunity test for coupling conducted, common mode disturbances in a frequency range from 0 Hz to 150 kHz onto cables of EUT is described in IEC/EN 61000-4-16. It requires a CN (coupling network) depending on the type of line. Following CNs are available: AF-, M- and T-type. The test setup requires a separate decoupling of the AE (additional equipment) which shall be done by means of isolation transformers, fibre optical transmitters etc. You can find an overview that helps to select the appropriate CN in the given tables.

Technical specifications	AF2-16	AF4-16	AF8-16
for unscreened, non-balanced lines			
Frequency range	DC/15 Hz - 150 kHz		
Test level	50 V cont.		
Number of lines	2	4	8
Max. current	0.5 A		
Max. voltage	40 VAC / 50 VDC		

Technical specifications	T2-16
for unscreened, non-balanced lines	
Frequency range	DC/15 Hz - 150 kHz
Test level	50 V cont.
Number of lines	2
Max. current	0.5 A
Max. voltage	150 VAC / 200 VDC

Technical specifications	M2/AC-16	M3/AC-16	M4/AC-16	M5/AC-16	M2/DC-16	M3/DC-16
for power supply lines						
Frequency range	15Hz-150kHz				DC	
Test level	50 V cont., 300 V (1s) at energetically used frequencies				50 V cont.	
Number of lines	2	3	4	5	2	3
Max. current	32A					
Max. voltage	250 VAC / 400 VDC				50V AC or DC	

Notes

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