SCHLÖDER
EMV-Systeme & Komponenten

CDG 6000
CDG 6000-75

Conducted disturbance test generator 150 kHz – 230 MHz

Option
Integrated directional coupler
acc. IEC 61000-4-6, 2014

- **Integrated amplifier with 25W or 75W**
- **Test level on CDN or coupling clamp**
  CDG 6000 amplifier 25 W, max. 15 V with 80% AM, (max. 10V with 6 dB attenuator)
  CDG 6000-75 amplifier 75 W, max. 40 V with 80% AM, (max. 30V with 6 dB attenuator)
- **Computer-based system (controlled by USB).**
- **Self calibration of the test system (generator and CDN)**
- **RF-generator, amplifier and RF-voltmeter may as well be used as stand-alone devices**
- **Connections: EUT "Fail", EUT monitoring by external multimeter, e.g. DUT signal**
- **Calibration of coupling / decoupling devices and EM clamp is performed automatically**
- **Extensive additions like attenuators, calibration kits, etc. deliverable.**
- **Directional Coupler (DC)**
  A directional coupler is used to measure and control the forward power of the amplifier – see the standard IEC / EN 61000-4-6, 2014. The quality of the built-in amplifier allows control of the level data through the system - see chapter 6.4 in the standard with respect of two methods. That means a built-in directional coupler is in our test system not (necessarily) required. It can also be retrofitted. Or an external directional coupler can connect - see also following selection table.
  However, the control on the forward power during a test is the preferred method.
  This means a generator with built-in directional couplers meets the requirements of the standard and the auditors. There are no discussions on the procedure.

Selection Test-Generator

Model / Type	Maximum test level with 6 dB	without 6 dB	Directional Coupler (DC) - integrated	Connection for external Directional Coupler
CDG 6000	10 V	15 V	no	yes
CDG 6000-75	30 V	40 V	no	yes
CDG 6000-DC	10 V	15 V	yes	no
CDG 6000-75-DC	30 V	40 V	yes	no

technical data may be changed without notice

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Introduction

The test generator generates interferences as defined in IEC / EN 61000-4-6 - Immunity to conducted disturbances, induced by radio-frequency fields. The standard described a test setup, in which can influence these high-frequency interferences without a complicated structure with antennas, field instrumentation and shielded rooms on a EUT. Via coupling networks and coupling clamp's sine waves are induced directly into power and signal lines. The EUT keeps its usual place in the installation; the complete unit can be tested in its function.

Technical data

RF Voltmeter (external input)	
Frequency range	10 kHz to 400 MHz
Measuring range	+30 dBm to – 40 dBm
Input	BNC, 50 Ohm

RF Generator	
Output	BNC, 50 Ohm
Frequency range	10 kHz to 400 MHz
Frequency resolution	1 Hz
Output level range	0 to -63 dBm (level resolution 0.1 dB)
Amplitude modulation	0 to 100%; resolution 1% (internal AF-Generator)
Amplitude modulation (ext.)	BNC jack 1 Hz to 100 kHz, 0 to 100% Input impedance > 100 kΩ
Pulse modulation	1 Hz to 100 kHz, Resolution 0,1 Hz variable duty cycle 5 - 95 %; resolution 1% (internal AF-Generator)

AF Generator	
Output jack	BNC
Frequency range	1 Hz to 100 kHz, resolution 0.1 Hz
Output voltage	0 to 1 V amplitude
Signal	Sine wave / rectangular / triangle

Power amplifier	**CDG 6000-75**	**CDG 6000-75_10**	**CDG 6000/25**
Frequency range	100 kHz to 250 MHz	10 kHz to 250 MHz	100 kHz to 250 MHz
Gain	51 dB ±1.5 dB	51 dB ±1.5 dB	46 dB ±1.5 dB
Output power	75 W nom.	75 W nom.	25 W nom.
Distortion	< 20 dBc at 50 W	< 20 dBc at 50 W	< 20 dBc at 20 W
Input impedance Output impedance	50 Ohm, VSWR < 1.5 : 1 50 Ohm nom.		
EUT-fail input	BNC,		

EUT-Monitor input	
Input voltage	0 - 10 V (resolution 2.5 mV), impedance 100 kΩ

Amplifier Monitor	
Output	BNC, 50 Ω / -40 dB (amplifier output), ±3 dB

Interfaces	
USB-A	Multimeter (for EUT control) and Relays switching unit
USB-B	Connection to Computer

General data	
Temperature range	0 to 40 °C
Housing / weight	19“ desktop case (84 TE; 3 HE) / aprox. 11 kg
Width / height / depth	app. 450 / 150 / 480 mm
AC Input	100 - 240 VAC; 50/60 Hz

Additions

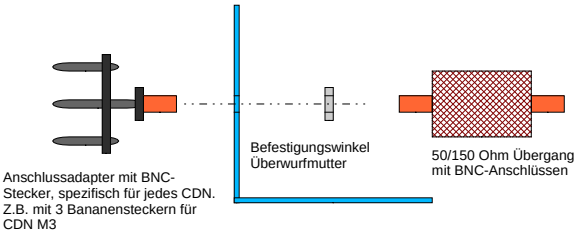
Coupling / decoupling networks
Standard 150 kHz – 80/230/300 MHz

Special CDN’s (10 kHz – 230 MHz) available
Further CDN’s on demand

CDN M1	Ground cable
CDN L1-16	Unscrenned power lines
CDN M2-16/32	
CDN M2-32/63/100-HV	
CDN M2+3-16/32	
CDN M3-16/32	
CDN M3-32/63/100-HV	
CDN M4-16/32	
CDN M4-32/63/100-HV	
CDN M5-16/32	
CDN M5-32/63/100-HV	
CDN CAN-BUS	Bus lines
CDN AF2/AF3	Unscreened, non balanced lines
CDN AF4/AF5/AF8	
CDN T2/T4/T8	Unscreened, balanced lines.
CDN RJ11/RJ45	
CDN S1/S2/S4/S8/S9	Screened lines
CDN S15/S25	
CDN RJ45S	
CDN USB 3.0	
CDN USB-C / USB-P	
CDN HDMI	
CDN Firewire	

CDN calibration set

- Mounting-set:**CDG A 3100**
  (Mounting plate include 50 / 150 Ohm passage)
- Calibration adaptor - **CDG A 31xx**



It is advisable to use a calibration set.

CDN-EMCL - EM-coupling clamp -

- for cable up to 20 mm diameter
- include calibration kid
- include factory calibration
- With matching network (option) useful from 10 kHz – 150 kHz
  (type CDN-EMCL-NW_10)

CDG 6050

- 6dB Attenuator, 20W, for test level max. 20V

CDN D 100

- 100 Ohm connector for RF disturbances, with alligator clip