CWG 2500

Surge / Combined Wave Generator

IEC / EN 61000-4-5, VDE 0847-4-5

- Operation via capacitive color touch display
- Combined wave surge voltage 1.2 / 50 µs and current 8 / 20 µs
- Amplitude 0.2 – 4.4 kV and 0.1 – 2.2 kA
- USB, optional optic interface with fiber optic cable

Simple and intuitive operation
without nested menus via capacitive color touch display

Overview

The test generator CWG 2500 simulates high-energy interference pulses and is suitable for performing EMC tests on systems in accordance with the standards IEC / EN 61000-4-5, 2014 and VDE 0847-4-5.

The simple operation takes place via a capacitive color touch display. All parameters are clearly displayed without nested menus and can be changed quickly by tapping and using a digital rotary encoder. The normative test levels 1, 2, 3 and 4 are preprogrammed, additional test sequences can be stored via the memory function.

With the built-in single-phase coupling network, the interference pulses of the hybrid generator can be coupled to the supply lines of the devices to be tested. The coupling takes place by means of discrete coupling capacitors. According to IEC 61000-4-5, 18 µF capacitors (balanced coupling) or 9 µF / 10 Ω (unbalanced coupling) are installed with sufficient dielectric strength. External coupling networks can also be operated via the HV socket or used for component testing.

Key Facts

- Combined surge current / surge voltage generator
- It generates a standard open circuit surge voltage of 1.2 / 50 µs and a standard short-circuit surge current of 8/20 µs.
- BNC outputs for current and voltage measurement via oscilloscope
- Extensive range of accessories available
- Remote control via EMV-soft possible
- Long living due to high quality components
- Display of discharge voltage and current

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Technical data

Surge / Combined wave generator

Pulse parameters acc. to IEC/EN 61000-4-5	
Charging voltage	0.2 – 4.4 kV
Short circuit current	0.1 – 2.2 kA
Charging time	≤ 10 sec
Time functions	
Number of pulses	1 – 999
Repetition rate	10 – 990 sec
Phase angle	φ = 0° - 359°, 1° steps, mains-synchronized for 50 + 60 Hz
Polarity	positive, negative, alternating
Functions	
Trigger	manually externally via BNC socket by charge button
Memory function	select test levels 1 – 4 (standard), 32 memory positions
Discharge parameters	display of discharge surge voltage / surge current after discharge
General functions	
Operating temperature	0 - 40 °C
Dimensions	19" housing, 3 U
Weight	approx. 18 kg
Supply voltage	100 - 240 V / 47-63 Hz / 100 VA

Coupling network

1-phase, inside generator for coupling on the power supply lines of the EUT

Nominal voltage AC	max. 230 V / 16 A 50 / 60 Hz
Nominal voltage DC	max. 270 V / 16 A
Phase indication	LED red LED green
Balanced coupling	L – N: 18 µF
Unbalanced coupling	L – PE, N – PE: 9 µF + 10 Ω
Connections / Outputs	
EUT connection	Safety socket + laboratory sockets
Ground connection	ground jack at front and rear panel
Interface	USB (virtual COM Port) optional: optical with fiber optics
HV output	ungrounded and ground referred

Technical data – definition of the parameters IEC / EN 61000-4-5

	Front time T_f [µs]	**Duration T_d [µs]**
Open-circuit voltage	$T_f = 1.67 \times T = 1.2 \pm 30\ \%$	$T_d = T_w = 50 \pm 20\ \%$
Short-circuit current	$T_f = 1.25 \times T_r = 8 \pm 20\ \%$	$T_d = 1.18 \times T_w = 20 \pm 20\ \%$

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Options	
CWG 520	3-phase coupling network 4 x 16 A
CWG 52x – 550	HV option up to 550 VAC L-L
CWG 1525	CDN for 2 unscreened, balanced lines, 1 A
CWG 1526-4	CDN for 2 unscreened, balanced lines, 4 A
CWG 1526-10	CDN for 2 unscreened, unbalanced lines, 10 A
CWG 1528	CDN for 4 unscreened, unbalanced lines, 6 A with RS232 interface
CWG 550	18 µF capacitor in a housing
CWG 553	0.5 µF capacitor + 40 Ω resistor in a housing
CWG 554	9 µF capacitor + 10 Ω resistor in a housing
CWG 540	HV - Connection cable for external device, 1 m long, with 4 mm safety MC plug (banana plug) to Fischer plug
CWG 531	HV-cable surge, 70 cm, both sides with Fischer connector S105A039
SESD 270	HCP – Horizontal coupling plane, reference ground plane
ZUB LWL OPTO-MOD	Optic interface with 2 connectors for optic fiber cables (retrofit)
ZUB LWL OPTO-MOD-N	Optic interface with 2 connectors for optic fiber cables (upon ordering a new equipment)
ZUB LWL USB-ADAPTER	Optic fiber cable, 5 m, USB to optic interface connector
ZUB LWL-100	Optic fiber cable, 1 m, optic interface connector on both sides
ZUB LWL_30	Optic fiber cable, 30 cm, optic interface connector on both sides
EMV-SOFT	Control software for surge, burst and voltage dips generators

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