

Specifications

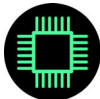


UCS 500M/4

The ultra-compact simulator
and its system modules

UCS500M/4 - designed as a modular system - is the most intelligent solution offering exactly what you need for full-compliant immunity tests against transient and power fail phenomena. The distinct operation features, convenient DUT connection facilities, a clearly arranged menu structure and display philosophy as well as the pre-programmed standard test routines make testing easy, reliable and safe. Extendable by a variety of test accessories the UCS500M/4 is a universal equipment for a broad range of recommendations even for three-phase applications up to 100A.

- EN/IEC 61000-4-4
- IEC 61000-4-4 Ed.2
- EN/IEC 61000-4-5 Ed.2
- EN/IEC 61000-4-8
- EN/IEC 61000-4-11
- EN/IEC 61000-4-11 Ed.2
- EN/IEC 61000-4-29
- EN 61000-6-1
- EN 61000-6-2
- IEC 61000-4-9



Burst module, EFT/4

Electrical Fast Transient Simulator

Surge module, VCS/4

Combination Wave Simulator

Test Level Output

acc. to EN/IEC 61000-4-4 and EN 61000-6-1, -6-2

Test voltage	200V - 4,400V \pm 10%
Wave shape	5ns \pm 30%, 50ns \pm 30% into 50 Ω
	5ns \pm 30%, 50ns -15/+100ns into 1,000 Ω
	5ns \pm 30%, 50ns \pm 30% into 50 Ω at the EUT output port with all couplings set
Source impedance	Z _q = 50 Ω
Polarity	Positive/negative

Trigger Circuit

Trigger of bursts	Automatic, manual, external
Synchronization	0° - 360°, resolution 1° (16 - 500Hz)
Burst duration	td = 0.10ms - 999.9ms
Burst repetition rate	tr = 10ms - 9,999ms
Spike frequency	f = 0.1kHz - 1,000kHz
Test duration	T = 0:01min - 99:59min or endless

Outputs

Direct	Via 50 Ω -coaxial connector
Coupling mode	L, N, PE; all combinations
EUT supply	AC: 250V/16A; 50/60Hz DC: 250V/10A
CRO trigger	5V trigger signal for oscilloscope

Test Routines

Quick Start	On-line adjustable parameters, easy to use
Standard Test Routines	acc. to EN/IEC 61000-4-4, level 1 - 4 acc. to EN 61000-6-1, -6-2 Manual Standard Test Routine
User Test Routines	Synchronous burst release Random burst release Change voltage after T by ΔT Frequency sweep within one single burst Frequency sweep with constant number of pulses Frequency sweep with constant burst duration Change polarity after T

Options

HFK	Capacitive coupling clamp acc. to IEC 61000-4-4
KW50	100:1 divider, 50 Ω
KW1000	500:1 divider, 1000 Ω
CA EFT kit	Kit for burst pulse verification consisting of KW50, KW1000 and adapter for EUT port in a plastic case for storage
A6dB	6dB attenuator, 50 Ω
ITP	Immunity test probes (electrical field generation)
ITP/H	Immunity test probes (magnetic field generation)

Test Level Output

acc. to EN/IEC 61000-4-5 and EN 61000-6-1; -6-2

Voltage (open circuit)	160V - 4,000V \pm 10%
Pulse front time	1.2 μ s \pm 30%
Pulse time to half value	50 μ s \pm 20%
Current (short-circuit)	max. 2,000A \pm 10%
Pulse front time	8 μ s \pm 20%
Pulse time to half value	20 μ s \pm 20%
Polarity	Positive/negative/alternating
Event counter select	1 - 30,000 or endless
Pulse counter	1 - 1,000,000

Trigger Circuit

Release of pulses	Automatic, manual, external
Synchronization	0° - 360°, resolution 1°
Pulse repetition rate	max. 1Hz (1s - 999s)

Outputs

Direct	Via HV-coaxial connector, Z _i = 2 Ω
Coupling mode	Line to line Line(s) to ground (PE)
EUT supply	AC: 250V/16A; 50/60Hz DC: 250V/10A
CRO trigger	5V trigger signal for oscilloscope

Measurements

CRO \dot{U} -monitor	10Vp at 4,000V
CRO \dot{I} -monitor	10Vp at 2,000A
Peak voltage	4,000V in the LCD display
Peak current	2,000A in the LCD display

Test Routines

Quick Start	On-line adjustable parameters, easy to use
Standard Test Routines	acc. to IEC 61000-4-5, level 1 - 4 acc. to EN 61000-6-1, -6-2 Manual Standard Test Routine
User Test Routines	Change polarity after n pulses Change coupling after n pulses Change voltage after n pulses by ΔV Change phase angle after n pulses by ΔA
Pulsed Magnetic Field	acc. to IEC 61000-4-9 Test levels 100, 300 and 1,000A/m Test level steplessly adjustable under Quick Start

Options

CNV504A	Coupling network for 4 signal/data lines acc. to IEC 61000-4-5
CNV508A	Coupling network for 8 signal/data lines acc. to IEC 61000-4-5

Power Fail module, PFS/4

Power Fail Simulator, Dips & Interruptions, Voltage variations

Voltage Dips & Interruptions and Variations

acc. to EN/IEC 61000-4-11 and EN 61000-6-1, -6-2

Channel PF1 and PF2	AC voltage: max. 250V AC current: max. 16A
Frequency	16 - 500Hz DC voltage: max. 250V DC current: max. 10A
Switching Off time	<5 μ s on a 100 Ω resistive load
Inrush current	> 500A

Electronic overload protection. Both channels are protected against short-circuit conditions.

Trigger Circuit

Trigger of events	Automatic, manual, external
Synchronization	0° - 360°, resolution 1° (16 - 500Hz)
Repetition rate	10ms - 99s
Event duration	100 μ s - 9,900ms

Outputs

EUT terminals	L, N and PE
CRO trigger	5V trigger signal for oscilloscope

Measurements

EUT voltage	In the LCD display
EUT current	In the LCD display
MON V	Measurement of the EUT voltage; built-in 100:1 divider
MON I	Measurement of the EUT current; 10mV/A; max. 1,000A

Test Routines

Quick Start	On-line adjustable parameters, easy to use
Standard Test Routines	acc. to EN/IEC 61000-4-11, AC supplies acc. to EN/IEC 61000-4-29, DC supplies acc. to EN 61000-6-1, -6-2 Manual Standard Test Routine
User Test Routines	Voltage variation, external variac control Change phase angle after n events by ΔA Change event duration after n events by ΔT Inverse mode
50/60Hz magnetic field	acc. to EN/IEC 61000-4-8 Test levels 1, 3, 10 and 30A/m with external current transformer MC2630 Test levels 100, 300 and 1,000A/m with external current transformer MC26100

Options

V4780	Tapped autotransformer as per IEC 61000-4-11 Ed.2
V4780 S2	Tapped autotransformer as per IEC 61000-4-11 Ed.2 with automatic change of tap
MV2616	Motorised variac (0 - 250V, 16A)
MS100	Magnetic field coil, 1m x 1m
MC2630	Current transformer for magnetic fields up to 30A/m
MC26100	Current transformer for magnetic fields up to 1,000A/m

General data

Interfaces

Serial interface	Serial RS232 interface with baud rate of 1,200 - 19,200 baud
Parallel interface	IEEE bus parallel interface, selectable de- vice addresses 1 - 30
Analog output	Analogue control output with 0 - 10VDC to control an external transformer
CN interface	CNI interface with 15pin SubD to control an external coupling network
Fail inputs	EUT monitoring via Fail1 and Fail2 input (one each)

Dimensions

Housing	19", 3HU, L = 532mm
Weight	approx. 25kg

Mains

Supply voltage	115 / 230VAC +10% / -15%
Power consumption	approx. 75W
Frequency	50 / 60Hz
Fuses	2 x T2AT (230V) or 2 x T4AT (115V)

Safety

Safety standard	EN/IEC 61010
Security circuit	Control input (24VDC)
Warning lamp	Floating contact (max. 230V/max. 6A)

Accessories Included

Power cord	plug depends on the country of use
EUT supply cable	plug depends on the country of use
EUT adapter	socket depends on the country of use
Instruction manual	
Calibration certificate	
ISMIEC remote control software	

Options

CNI503	3-phase coupling/decoupling network acc. to EN/IEC 61000-4-4 and -4-5
ISMIEC1	Remote control and documentation software

Technical data is subject to change without notice.



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