emtest / AMETEK

UCS 200Nx.3 Series

Ultra Compact Simulator

The UCS 200Nx.3 Ultra-Compact-Simulator series for automotive transients unifies the capabilites of an EFT/Burst simualtor, a Micropulse simulator and the required coupling / decoupling network into one box.
The UCS 200Nx.3 series is equiped to meet international and most car manufacturer specifications from around the globe. The built-in coupling network ranges up to 200 A depending on the model and can be used and controlled by the LD 200N.
For tests beyond standard requirements the waveform parameters of the Micropulse generator can be varied in a wide range by using the so called FreeStyle mode.

MAIN FEATURES

- **Built-in EFT / Burst generator module**
- **Built-in Micropulse generator module (ISO 7637, SAE and many more)**
- **Built-in Special Micropulse module for VW TL 82066 (4 ohms requirement)**
- **Built-in coupling network 80 VDC, up to 200A**
- **Built-in battery switch**
- **Overcurrent protection**
- **Front panel operation and remote control possible**

Models

UCS 200N50.3	Built-in coupler + 80 VDC / 50 A
UCS 200N100.3	Built-in coupler + 80 VDC / 100 A
UCS 200N150.3	Built-in coupler + 80 VDC / 150 A
UCS 200N200.3	Built-in coupler + 80 VDC / 200 A

Technical specification

Micropulse	**Value**
Amplitude	20 V ... 600 V +/- 10 % (depending on pulse)
Rise time	1 ... 10 µs +0/-50 % (depending on pulse)
Pulse width	50 ... 10'0000 µs + /- 10 % (depending on pulse)
Internal Resistance Ri	2 Ω, 4 Ω, 5 ... 100 Ω in 5 Ω steps , 200 Ω, 400 Ω, 450 Ω +/-20 % (depending on pulse)
Polarity	pos / neg
Repetition rate	0.2 ... 999 s +/- 20 %
Battery switch off t2	40 µs ... 500 ms +/-20 % (depending on pulse)
Battery off t3	< 100 us
Burstpulse	
Amplitude	25 ... 1000 V +/- 10 %
Rise time	5 ns +/- 30 %
Pulse width	150 ns +/- 30 %
Internal Restistance Ri	50 Ω +/- 20 %
Polarity	pos / neg
Burst duration (t4)	0.1 ... 999.9 ms
Repetition rate (t5)	10 ... 9'999 ms
Frequency (f)	0.1 ... 200 kHz
Test duration	1 s ... 9'900 h

General Specifications

Model / Parameter	UCS 200N50.3	UCS 200N100.3	UCS 200N150.3	UCS 200N200.3
DUT supply voltage	+ 80 VDC			
DUT supply current	50 A continuous	100 A continuous	150 A continuous	200 A continuous
Inrush current	100 A @ 500 ms	150 A @ 500 ms	No	
Overcurrent protection	Yes			
Inputs	+/- VDS-IN			
	+/- AUX-IN			
Outputs	+/- Test supply OUT			
	Coaxial output for ISO 7637-3 testing			
Remote interfaces	GPIB / USB			
Other interfaces	D-sub conector, control for LD 200N			
Triggers	1 x Trigger OUT, 1 x Trigger IN			
Ext Impedance	YES, 10 Ω minimum setting at the generator + external impedance value (only for micro pulses)			
Safety	Safety circuit, Warning lamp			
Dimension	19" / 3 HU 449 x 154 x 557 mm	19" / 6 HU 449 x 287 x 557 mm	19" / 9 HU 449 x 420 x 557 mm	
Weigth	25 kg	29.2 kg	35.4 kg	
Power main supply	115 / 230 VAC +10/- 15 % ; 50 - 60 Hz			
Fusage	2 x 2 AT (230 VAC) / 2 x 4 AT (115 VAC)			
Temperature	10 ... 35 °C			
Humidity	30 ... 75 %, non condensing			
Athmospheric pressure	860 ... 1060 mbar			

Accessories

iso.control	Remote control software tool
ACC	Capacitive Coupling Clamp, for CCC testing acc. to ISO 7637-3
CA EFT kit	Calibration Adapter for Burst, consisting of 1 x 50 Ω / 1 x 1000 Ω matching resistor, 1 x adapter AD-CA EFT
CA ISO	Calibration Adapter, resistiors for micro pulses acc. to ISO 7637-2 and load dump pulses acc to ISO 16750-2
AD-CA ISO	Adapter for CA ISO (only 150 A / 200 A unit)
MSA 250-32	Adapter 150 A / 200 A to 4 mm banana for AD-CA ISO and for pulse verification
AD-ISO-100A	Adapter 100 A to 32 A (4 mm banana)
CIP 9136A	Inductive Coupling Clamp, for ICC testing acc. to ISO 7637-3
MN-9136A	Matching network for CIP 9136A
PCJ 9201B	Calibration jig for CIP 9136A

More automotive emc test generators

AMP 200N2	Audio Amplifier Module for magnetic field and AC ripple testing
AutoWave	ArbWave generator
LD 200N series	Load dump transient generator
PFM 200N series	Power Fail Module for fast drop-out testing, rise time < 200 ns
PFS 200N series	Power Fail Simulator for dip and drop testing, rise time < 1 µs
VDS 200Qx.2 series	4-quadrant amplifier, -20 V ... + 80 VDC, up to 200 A, up to 250 kHz

Pulses (extract)

ISO 7637-2	Pulse 1 (12 V)	Pulse 1 (24 V)	Pulse 2a (12 V / 24 V)
Amplitude	-75 ... -150 V +/- 10 %	-300 ... -600 V +/- 10%	+37 ... 112 V +/- 10%
Rise time	1 µs +0/- 50 %	3 µs +0/- 50 %	1 µs +0/- 50 %
Pulse width	2 ms +/- 10 %	1 ms +/- 10 %	50 µs +/- 10 %
Int. resistor	10 Ω +/- 20 %	50 Ω +/- 20 %	2 Ω +/- 20 %

SAE J1455	Mutual	Inductive
Amplitude	+/- 300 V +/- 10 %	+/- 600 V +/- 10 %
Rise time	1 µs	1 µs
Pulse width	15 µs	1000 µs
Int. resistor	50 Ω	20 Ω

ISO 7637-1 (1990)	Pulse 6
Amplitude	- 300 V +/-10 %
Rise time	< 60 µs
Pulse width	300 µs +/- 10 %
Int. resistor	30 Ω +/-20 %

VW TL 82066	Pulse 1 (12 V / 24 V)	Pulse 2 (12 V / 24 V)
Amplitude	- 100 V +/- 10 %	+ 75V +/- 10 %
Rise time	1 µs +0/- 50 %	1 µs +0/- 50 %
Pulse width	2000 µs +/-20 %	50 µs µs +/-20 %
Pulse width loaded	1500 µs +/-20 %	12 µs µs +/-20 %
Int. resistor	4 Ω +/- 20 %	4 Ω +/- 20 %

ISO 7637-2	Pulse 3a (12V / 24 V)	Pulse 3b (12 / 24 V)
Amplitude	- 112 ... -300 V +/- 10 %	75 ... 300 V +/-10 %
Rise time	5 ns +/- 30 %	5 ns +/- 30 %
Pulse width	150 ns +/- 30 %	150 ns +/- 30 %
Int. resistor	50 Ω +/- 10 %	50 Ω +/- 10 %