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VDS 200Q SERIES

4-QUADRANT VOLTAGE DROP SIMULATOR - BATTERY SIMULATOR AND DC VOLTAGE SOURCE

FOR TESTS ACCORDING TO ...

› LV 124
› LV 148
› Audi (Reference vehicles)
› BMW - (Airbag ECU)
› BMW 600 13.0 (Part 1)
› BMW 600 13.0 (Part 2)
› BMW GS 95002 (2010)
› BMW GS 95003-2
› BMW GS 95024-2-1
› ISO 21848:2005
› ISO 16750-2
› ISO 7637-2:2004
› ISO 7637-2:2011
› MBN LV 124-1
› SAE J1113-11
› VW 80000

VDS 200Q - FOUR QUADRANT BATTERY SUPPLY SIMULATOR AND DC VOLTAGE SOURCE

The VDS 200Q series is used to simulate the various battery supply waveforms recommended by international standards and by car manufacturer requirements. Especially the manufacturer requirements are an important area covered by the VDS 200Q series as there is a large variety of requirements. Secondly, the VDS 200Q series serve as powerful DC voltage supplies for the DUT during the tests with automotive transients. The VDS 200Q series covers all three supply voltage categories (48 V, 24 V and 12 V). Their current capability ranges up to 100 A or more depending on the model and your application.

HIGHLIGHTS

› **Voltage up to 80 V**
› **Current up to 200 A (600 A peak)**
› **Four quadrant, bipolar amplifier**
› **Fast rise time**
› **Very Low Ri, <10 mOhm; 10 - 200 mOhm selectable**
› **High Bandwidth up to 250 kHz**
› **Temperature-controlled air cooling**

APPLICATION AREAS

AUTOMOTIVE
MILITARY
AVIONICS

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MODEL OVERVIEW

AVAILABLE VDS 200Q-MODELS	
VDS 200Q10	Voltage Drop Simulator, 60 V / 10 A
VDS 200Q25.2	Voltage Drop Simulator, 60 V / 25 A, 80 V / 20 A extended
VDS 200Q50.2	Voltage Drop Simulator, 60 V / 50 A, 80 V / 40 A extended
VDS 200Q100.2	Voltage Drop Simulator, 60 V / 100 A, 80 V / 80 A extended
VDS 200Q150.2	Voltage Drop Simulator, 60 V / 150 A, 80 V / 120 A extended
VDS 200Q200.2	Voltage Drop Simulator, 60 V / 200 A, 80 V / 160 A extended

TECHNICAL DETAILS

VDS 200Q10	
Output Range	-60 V - +60 V
Output current	0 A - 10 A, continuous
Bandwidth (-3dB)	DC - 180 kHz full signal
Supply Voltage	1-phase 100/120/230 V ±10%, L, N, PE
Dimensions	19"/6 HU
Weight	37 kg

VDS 200Q25.2	
Output Range	-20 V to +80 V
Output Current	0 A - 25 A, continuous
Peak current	75 A for 200 ms
Bandwidth	DC - 150 kHz full signal
Extended Envelope	-20 V - +80 V (20 A max.), 150 - 250 kHz (40 Vpp max.)
Supply Voltage	1-phase 100/120/230 V ±10%, L, N, PE
Dimensions	19"/25 HU*)
Weight	230 kg

VDS 200Q50.2	
Output Range	-20 V to +80 V
Output Current	0 A - 50 A, continuous
Peak current	150 A for 200 ms
Bandwidth	DC - 150 kHz full signal
Extended Envelope	-20 V - +80 V (40 A max.), 150 - 250 kHz (40 Vpp max.)
Supply Voltage	3-phase 200/400 V ±10%, L1, L2, L3, PE
Dimensions	19"/25 HU*)
Weight	275 kg

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TECHNICAL DETAILS

VDS 200Q100.2	
Output Range	-20 V to +80 V
Output Current	0 A - 100 A, continuous
Peak Current	300 A for 200 ms
Bandwidth	DC - 150 kHz full signal
Extended Envelope	-20 V - +80 V (80 A max.), 150 - 250 kHz (40 Vpp max.)
Supply Voltage	3-phase 200/400 V ±10%, L1, L2, L3, PE
Dimensions	19"/38 HU**)
Weight	450 kg

TECHNICAL DETAILS

VDS 200Q150.2	
Output Range	-20 V to +80 V
Output Current	A - 150 A, continuous
Peak Current	450 A for 200 ms
Bandwidth	DC - 150 kHz full signal
Extended Envelope	-20 V - +80 V (120 A max.), 150 - 250 kHz (40 Vpp max.)
Supply Voltage	3-phase 200/208 or 400 V ±10%, L1, L2, L3, PE
Dimensions	2 x 19"/34 HU**)
Weight	approx. 650 kg

VDS 200Q200.2	
Output Range	-20 V to +80 V
Output Current	0 A - 200 A, continuous
Peak Current	600 A for 200 ms
Bandwidth	DC - 150 kHz full signal
Extended Envelope	-20 V - +80 V (160 A max.), 150 - 250 kHz (40 Vpp max.)
Supply Voltage	3-phase 200/208 or 400 V ±10%, L1, L2, L3, PE connector: CEE 63 A
Dimensions	2 x 19"/34 HU**)
Weight	approx. 900 kg
	**)Rack mounted, prepared to also include AutoWave

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TECHNICAL DETAILS

COMMON DATA (ALL MODELS)

GENERAL	
Source impedance	Zi = Programmable ‹10 mOhm, 10 - 200 mOhm selectable.
Operation	4 - quadrant, bipolar operation
Current limiter	3x Imax: allows an inrush current of three times nominal current for 200 ms before the current limiter starts 3x ictrl: allows an inrush current of three times the programmed current for 200 ms before the current limiter starts Peak OFF: no inrush current above the set current value (not available for VDS 200Q10)
Compensation	STD: DC - 40 kHz HF: DC - ›=150 kHz CAP: DC - 3kHz
Recovery	›90% of excursion within 25 us
Output rise time	typ. ‹10 us, ‹3 us (high freq.)
Ripple voltage	Ur ‹10 mVp-p, frequency min. 400 Hz
Control	Analog In
Cooling	temperature-controlled air cooling
Protection	Thermal-Magnetic Circuit Breakers Depending on VDS 200Q model

TRIGGER	
Automatic	Automatic release of the events
Manual	Manual release of a single pulse
External	External release of a single pulse

OUTPUT	
DUT Supply +/-	Safety laboratory or high current connectors
Ext. trigger	5-15 V TTL, BNC connector
CRO Trigger	5 V TTL-signal for oscilloscope

INTERFACE	
Interfaces	USB Ethernet (for optional AutoWave) IEEE 488, addresses 1 - 30
Remote control	To connect an external signal generator (10 kohm): -10 V - +10 V / 0 - 150 kHz (180 kHz for VDS 200Q10)

OPERATION

TEST ROUTINES FOR ARBITRARY WAVES	
DC source	Depending on VDS 200Q model
Functions	Sine Wave Sweep Sine Wave (Cranking) Clipped Load Dump Jump Start GM 9105P Pulse 4 Drop and Jump pulse External
Standard test routines	ISO 7637, Pulses 2b and 4 ISO 16750-2
Service	Service, Setup, Self test

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TECHNICAL DETAILS

GENERAL DATA

OPERATING ENVIRONMENT	
Temperature	10 - 40 °C
Rel. humidity	10 - 90 %, non-condensing
Atmospheric pressure	86 kPa (860 mbar) to 106 kPa (1,060 mbar)

OPTIONS	
AutoWave	2 or 4-channel arbitrary generator for automotive test applications
PFM 200N100.1	100A PowerFail simulator for test requirements as per LV 124: E-10 and E-13 and LV 148: E48-09. Controlled by AutoWave via Framebus interface.
PFM 200N200	200A PowerFail simulator for test requirements as per LV 124: E-10 and E-13 and LV 148: E48-09. Controlled by AutoWave via Framebus interface.
iso.control	Software to control the test, including standard library, test report facility and data conversion generator

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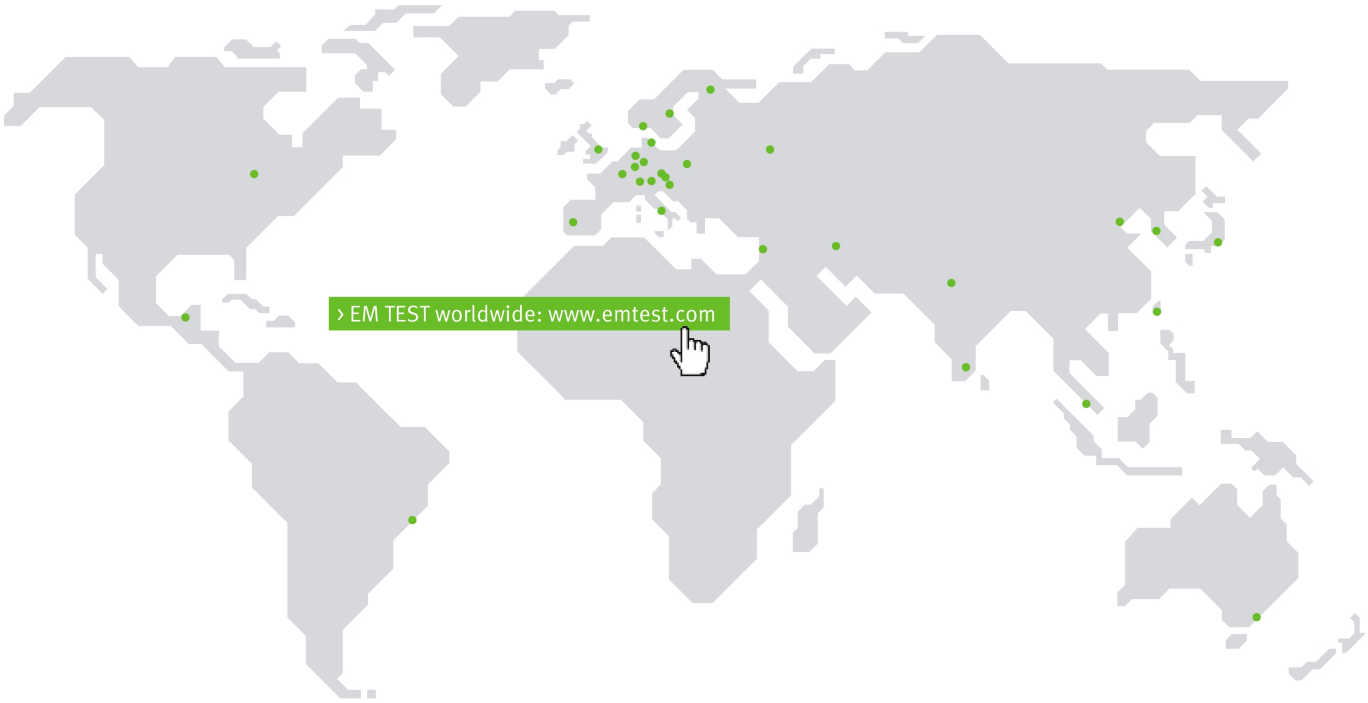
COMPETENCE WHEREVER YOU ARE



CONTACT EM TEST DIRECTLY

Switzerland
AMETEK CTS GmbH › Sternenhofstraße 15 › 4153 Reinach › Switzerland
Phone +41 (0)61 204 41 11 › Fax +41 (0)61 204 41 00
Internet: www.ametek-cts.com › E-mail: sales.conducted.cts@ametek.com

Germany
AMETEK CTS Europe GmbH › Customer Care Center EMEA › Lünener Straße 211 › 59174 Kamen › Germany
Phone +49 (0) 2307 26070-0 › Fax +49 (0) 2307 17050
Internet: www.ametek-cts.com › E-mail: info.cts.de@ametek.com

Poland
AMETEK CTS Europe GmbH › Biuro w Polsce › ul. Twarda 44 › 00-831 Warsaw › Poland
Phone +48 (0) 518 643 12
Internet: www.ametek-cts.com › E-mail: Infopolska.cts@ametek.com

USA / Canada
AMETEK CTS US › 52 Mayfield Ave › Edison › NJ 08837 › USA
Phone +1 732 417 0501
Internet: www.ametek-cts.com › E-mail: usasales.cts@ametek.com

P.R. China
AMETEK Commercial Enterprise (Shanhai) Co. Ltd.› Beijing Branch› Western Section, 2nd floor› Jing Dong Fang Building (B10)› Chaoyang District›Beijing, China, 100015
Phone +86 10 8526 2111 › Fax +86 (0)10 82 67 62 38
Internet: www.ametek-cts.com › E-mail: chinasales@ametek.com

Republic of Korea
EM TEST Korea Limited › #405 › WooYeon Plaza › #986-8 › YoungDeok-dong › Giheung-gu › Yongin-si › Gyeonggi-do › Korea
Phone +82 (31) 216 8616 › Fax +82 (31) 216 8616
Internet: www.emtest.co.kr › E-mail: sales@emtest.co.kr

Singapore
AMETEK Singapore Pte. Ltd › No. 43 Changi South Avenue 2 › 04-01 Singapore 48164
Internet: www.ametek-cts.com › E-mail: singaporesales.cts@ametek.com

Great Britain
AMETEK GB › 5 Ashville Way › Molly Millars Lane › Wokingham › Berkshire RG41 2 PL › Great Britain
Phone +44 845 074 0660
Internet: www.ametek-cts.com

Information about scope of delivery, visual design and technical data correspond with the state of development at time of release. Subject to change without further notice.