

HV DC Short-Circuit Simulator

HDSS 150C50



■ ISO 21498-2

— Features

- > 7-inch color touchscreen front-panel operation
- > Complies with ISO 21498-2:2024 Clause 6.12 short-circuit test requirements
- > The test circuit supports DC 1 V ~ 1,500 V, 500 A continuous current, and 35 kA peak short-circuit current withstand capability
- > Built-in overvoltage and overcurrent protection; supported external emergency stop pedal
- > Real-time LCD display of EUT voltage and current
- > Open-circuit impedance $\geq 10 \text{ M}\Omega$; short-circuit impedance $\leq 5 \text{ m}\Omega$
- > Ethernet interface for PC remote control and test report printing

— Introduction

The HDSS 150C50 HV DC Short-Circuit Simulator in compliance with ISO 21498-2:2024 Clause 6.12 short-circuit test, simulates external low-impedance short-circuit conditions between the positive and negative terminals of Class B HV circuits, verifying the short-circuit withstand capability of HV connectors, cables, relays, fuses, and other components.

The controllable short-circuit switch provides open-circuit impedance $\geq 10 \text{ M}\Omega$ for electrical isolation and short-circuit impedance $\leq 5 \text{ m}\Omega$ for realistic low-impedance fault simulation. The test circuit supports DC 1 V to 1,500 V, 500 A continuous current, and 35 kA peak short-circuit current withstand capability. Built-in safety protection and remote control functions support certification and R&D testing.

— Application Areas



Technical Parameters

Standard	ISO 21498-2:2024
Test Voltage	Max. 1,500 V $\pm$ 10%
Test Current	Max. 500 A $\pm$ 10%
Short-Circuit Continuous Current	500 A
Peak Short-Circuit Current Withstand Capability	35 kA
Open-Circuit Impedance	$\geq 10 \text{ M}\Omega$
Short-Circuit Impedance	$\leq 5 \text{ m}\Omega$
Switch Open Holding Time (t_{h1})	5 s ~ 100 s
Switch Closed Holding Time (t_{h2})	5 s ~ 600 s
Counter	1 ~ 100
Trigger Mode	Auto, manual, external

General Parameters

Display Screen	7-inch TFT touchscreen
Working Power	AC 220 V $\pm$ 10%, 50/60 Hz
Fuse	6 A
Max. Power Consumption	300 W
Communication Mode	Ethernet
Working Status Indication	Front panel LED indication and LCD display
Fault Detection	Front panel LCD display and stop operation when failure occurs
Dimension	22U rack, 600 (W) *1,600 (H) *900 (H) (Incl. alarm indicator)
Weight	Approx. 150kg
Ambient Temperature	15°C ~ 35°C
Relative Humidity	45% ~ 75%
Atmospheric Pressure	86 kPa ~ 106 kPa

Standard Accessories

Power Cord, Test Cable, Coaxial Cable, Fuse, Flat Grounding Wire, Emergency Stop Pedal, User Manual

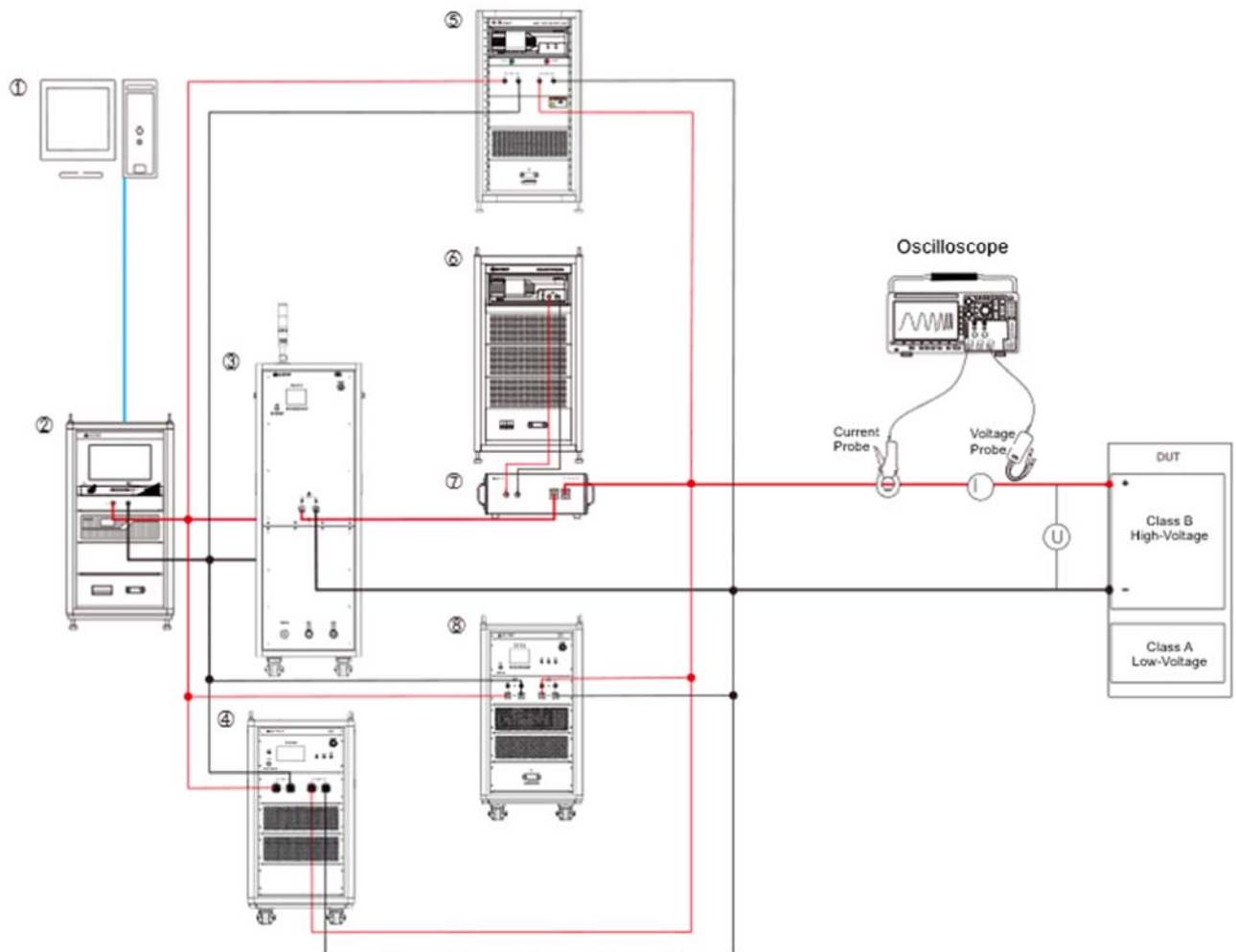
Optional Accessories

1	Immunity Test Software	Model: AutoLab > Compatible with Windows 7/8/10/11 > User-friendly operation with an intuitive UI > Supports customized test procedures with built-in standard test libraries > Comply with ISO 21498-2, VW 80300	
2	HV Artificial Network	Model: AN Series Standard: ISO 21498, VW 80300 Input voltage: 0 ~ 1,500 V DC DC current capacity: Max. 800 A (higher ratings can be customized)	
	HV Test Device	Model: HTS Series Standard: VW 80300 Input voltage: 0 ~ 1,500 V DC DC current capacity: 0 mΩ/50 mΩ 300 A/100 mΩ 200 A/200 mΩ 100 A	
3	Electric Vehicle HV Electrical Performance Comprehensive Tester	Model: EVTS Series Standard: ISO 21498, VW 80300 Input voltage: 0 ~ 1,500 V DC DC current capacity: Max. 600 A (higher ratings can be customized)	
4	Wide-range Adjustable Pre-charging Test Device	Model: RC Series Standard: VW 80300 EHV-04 Input voltage: 0 ~ 1,500 V DC Capacitor: 10 μF ~ 1,200 μF DC current capacity: Max. 300 A (higher ratings can be customized)	
5	Ripple Signal Generator	Model: RSG Series Standard: ISO 21498, VW 80300 Max. open-circuit output voltage: 160 V_{pp} Max. output current: 200 A_{pp} Frequency: 10 Hz ~ 300 kHz	
6	Coupling Transformer	Model: TPT Series Standard: ISO 21498, VW 80300 Max. coupling voltage: 160 V_{pp} Max. coupling current: 400 A_{pp} DC current capacity: Max. 1,000 A (higher ratings can be customized)	

Optional Accessories

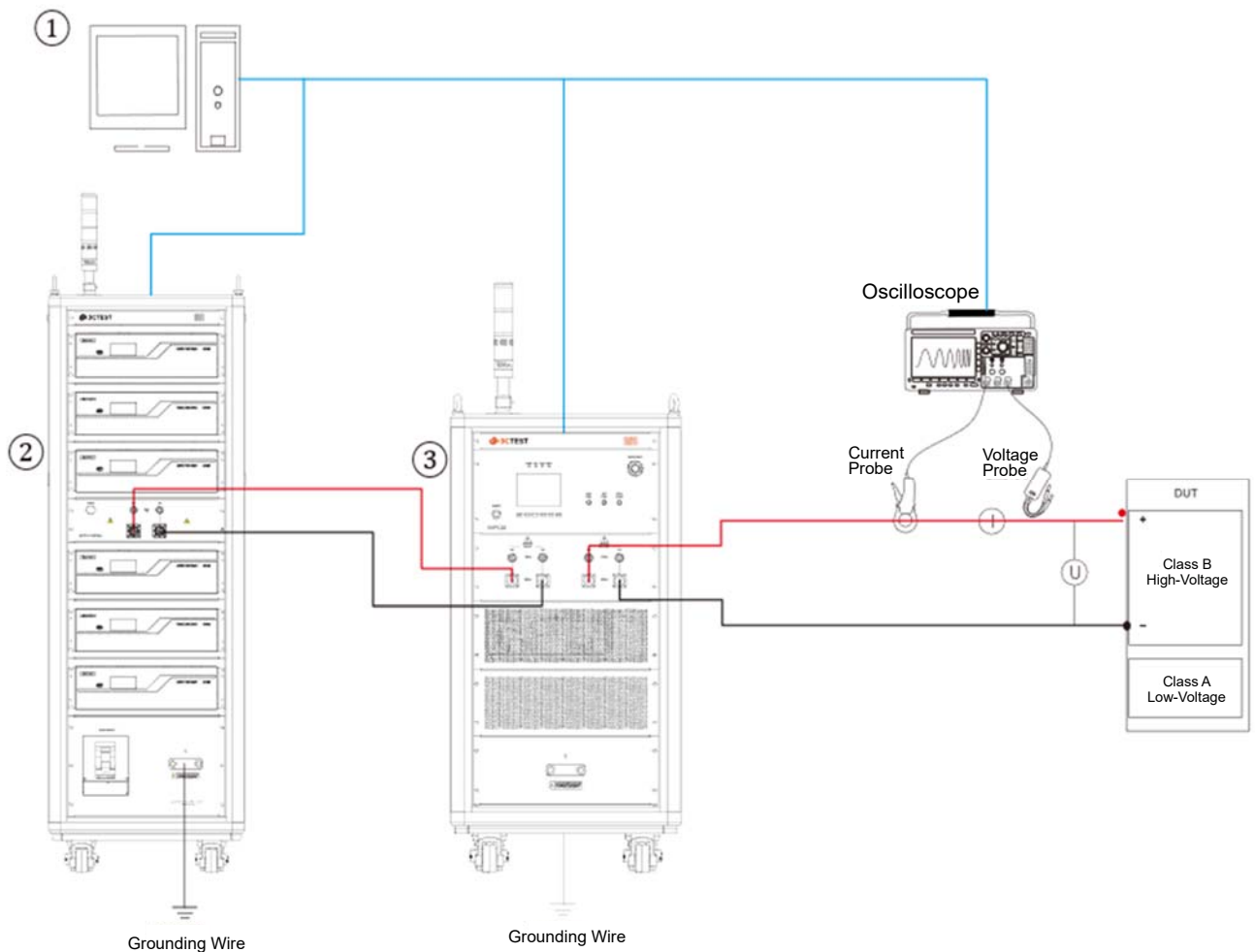
7	Automotive Load Dump Simulator	Model: EVDG 20 Standard: VW 80300 EHV-10 Pulse voltage amplitude: 20 V ~ 200 V DC current capacity: Max. 100 A (higher ratings can be customized)	
	Electro-mobile Vehicles Pulse Disturbance Generator	Model: EVPG 20 Standard: VW 80300 EHV-16 Pulse voltage amplitude: 20 V ~ 200 V DC current capacity: Max. 100 A (higher ratings can be customized)	
	Electric Vehicle Pulse Disturbance Generator	Model: EVPS Series Standard: VW 80300 EHV-10 & EHV-16 Pulse voltage amplitude: 20 V ~ 200 V DC current capacity: Max. 300 A (higher ratings can be customized)	

Test Setup



- ① PC software AutoLab
- ② Electric Vehicle HV Electrical Performance Comprehensive Tester EVTS Series
- ③ HV Artificial Network AN Series/ HV Test Device HTS Series
- ④ HV DC Short-Circuit Simulator HDSS Series
- ⑤ Wide-range Adjustable Pre-charging Test Device RC Series
- ⑥ Ripple Signal Generator RSG Series
- ⑦ Coupling Transformer TPT Series
- ⑧ Automotive Load Dump Simulator EVDG 20/ Electro-mobile Vehicles Pulse Disturbance Generator EVPG 20/
Electro-mobile Vehicles Pulse Disturbance Simulator EVPS Series

Equipment Connection



- ① PC software AutoLab
- ② Electric Vehicle HV Electrical Performance Comprehensive Tester EVTS 150C36
- ③ Electro-mobile Vehicles Pulse Disturbance Generator EVPG 20



Peak short-circuit current may damage high-precision power supplies. A dedicated test power supply is recommended.

SUZHOU 3CTEST ELECTRONIC CO., LTD.

Address: No. 99 E'meishan Road, SND, Suzhou, Jiangsu Province, China

E-mail: globalsales@3ctest.cn

Service: service@3ctest.cn

Tel: +86 - 512 - 68077192

Web: www.3ctest.com



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