3CTEST

Power Supply Voltage Change Simulator

APS xxxxDSR Series

- ISO 7637-2
- ISO 16750-2
- BMW 600 13.0(T1)
- BMW 600 13.0(T2)
- BMW GS 95002(2010)
- BMW GS 95003-2
- BWM GS 95024-2-1 2010
- GB 28046.2
- GMW 3172 July 2010
- GMW 3172 June 2015
- VW TL82066 2006-11
- VW 80000 2013-06
- Peugeot B21 7110 July 2008
- Peugeot B21 7110 July 2005
- Volvo STD 515-0003 2008
- SMTC 3800001 2014
- MBN 10284-4 2011
- MBN 10284-2 2008
- Mazda MES PW 67600
- JEELY J7110982A 2016
- QFPT2800001 2011
- FIAT 7-Z0441
- FIAT 7-Z0444 April 2008
- Ford EMC-CS-2009rev1
- Ford ES-XW7T-1A278-AC Oct 2003

Features

> Four quadrant bipolar power supply;

> Adjustable output impedance;

> The maximum test voltage can reach 80 V;

> The maximum test current can reach 100 A;

> Automatic compensation function for voltage drop;

> High bandwidth output frequency up to 300 kHz;

> Built in signal source can edit any wave;

> Support AC voltage and current closed-loop testing;

> Can simulate various power supply waveforms, such as superimposed noise, etc;

> Ethernet and RJ45 interfaces, used for PC remote control and printing test reports;

> Output voltage and current monitoring/protection function.

Introduction

The APS xxxxDSR series is equipped with a four quadrant bipolar amplifier, which simulates various voltage changes on the wiring harness and can generate voltage drops, short-term interruptions, and other voltage changes. The output internal resistance can be adjusted. Built in signal source, users can edit and output any wave through PC software. It can also be used as a battery powered analog and DC voltage source. During laboratory testing, APS xxxxDSR replaced the vehicle battery, generating Pulse 2b, Pulse 4, sine wave noise, and other complex voltage variation waveforms. Very suitable for ISO 7637/16750 conduction transient testing. At the same time, the APS xxxxDSR series complies with numerous international/national standards and automotive manufacturer standards. As a powerful DC power supply, it supports 12V, 24V, 42V, 24V, and 48V system automotive testing.

Application Areas

Communication	Military	Avioncis	Vehicles

Technical Parameters

APS 40G30DSR			
Output Voltage	-40 V - +40 V		
Output Current	Max 30 A，continuity		
Peak Current	60 A, duration greater than 200 ms		
Frequency Range	DC-300 kHz full frequency signal, resolution: 0.01Hz, accuracy: ± 5%		
Vpp	Max 32 V（DC - 300 kHz）	accuracy	＜ 3V ± 0.1 V ≥ 3V ± 0.2 V
Ipp	Max 60 A		

APS 80I100DSR			
Output Voltage	-80 V - +80 V		
Output Current	Max 100 A，continuity		
Peak Current	200 A, duration greater than 200 ms		
Frequency Range	DC-300 kHz full frequency signal, resolution: 0.01Hz, accuracy: ± 5%		
Vpp	Max 32 V（DC - 300 kHz）	accuracy	＜ 3V ± 0.1 V ≥ 3V ± 0.2 V
Ipp	Max 200 A		

Internal Signal Source	
Frequency Range	DC - 500 kHz
Waveform Type	DC waveform, oblique wave, triangular wave, sine wave, square wave, sweep wave, exponential wave, oscilloscope stored data waveform, user-defined waveform editing, irregular and irregular arbitrary wave
Can Set Waveform Parameters	Amplitude, duration, frequency, DC offset, rectification, cycle duty cycle, phase angle, trigger
Amplitude and Bias Changes	Static, linear, logarithmic
Frequency Variation	Static, linear, logarithmic Linear stepping range: 10Hz to 10kHz
Start and End Phase Control	0-359 °, 1 ° step setting
Rectification	None, positive, negative, bridge rectifier
Introduce File Types	CSV
Introduce The Number of Waveform Points In The File	8k
Segments That Make Up The Waveform	Each waveform can have up to 1000 segments, and each segment can be composed of several types of waveforms
Duration of The Segment	DC waveform: 10 μs -299 h Triangular wave, sine wave, square wave, sweep wave: 1 ms-299 h Exponential wave, oscilloscope stored data waveform: 0.001 - 20 s
Number of Times	1-9999 times

General Parameters

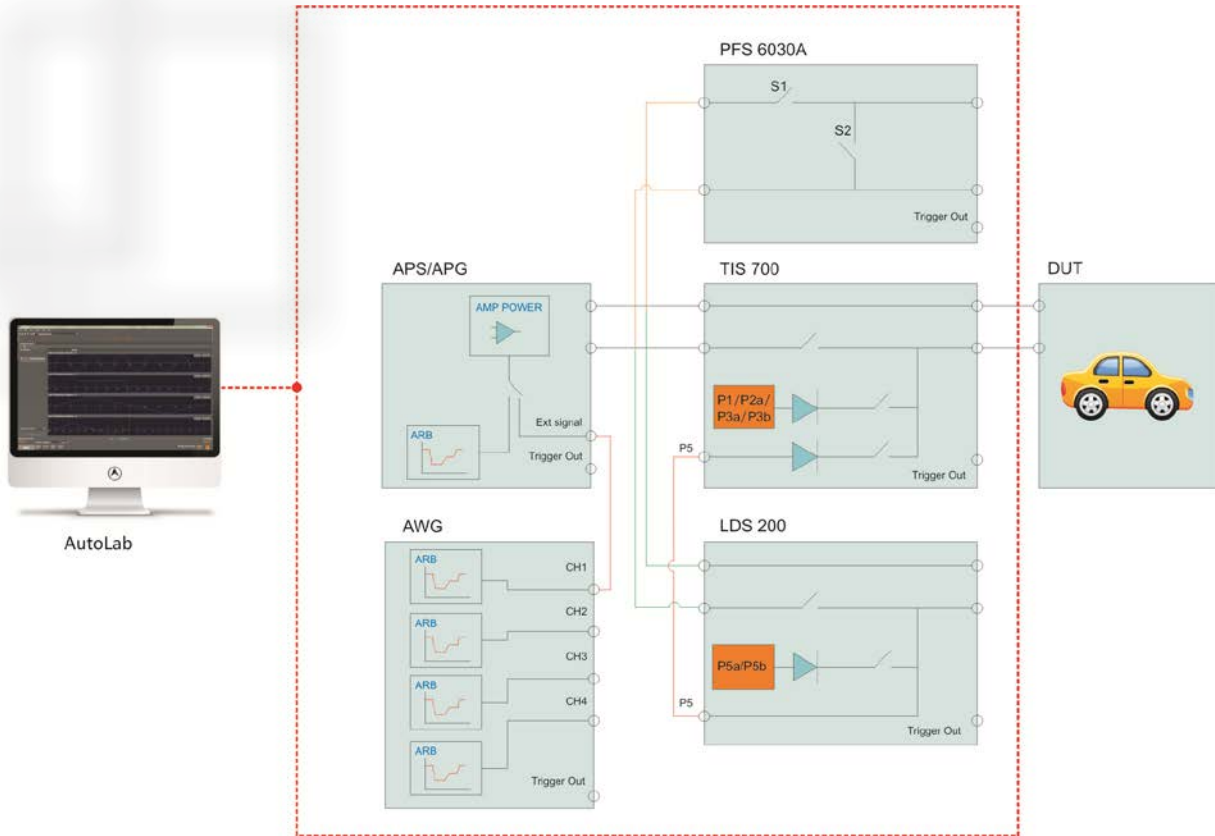|	
Analog Signal Input	BNC, 0 to ± 10 V (maximum 0 to ± 10 V depending on actual instrument configuration)
Sense Signal Input	BNC
Source Impedance	10 mΩ~200 mΩ (10 mΩ step)/No internal resistance
Voltage Compensation Accuracy	± 0.1 V
Maximum Voltage Compensation Value	4 V
Voltage Offset	＞ 90%, recovery time ＜ 10 μs
Voltage Fluctuation	Ur＜0.2 Vpp
Boosting Time	＜3 μs/10 μs (12 V DC to 13 V DC; 0 V to Vmax DC)
Serial Interface	LAN Ethernet and RJ45
External Signal Amplification Ratio	1:10
Ambient Temperature	15 ～ 35 ℃

	APS 40xxDSR	APS 80xxDSR
Supply Voltage	AC 220 V，±10%，45-65 Hz	AC 380 V，±10%，45-65 Hz
Size	19 inches/8U	35U
Weight	About 37 kg	About 150 kg

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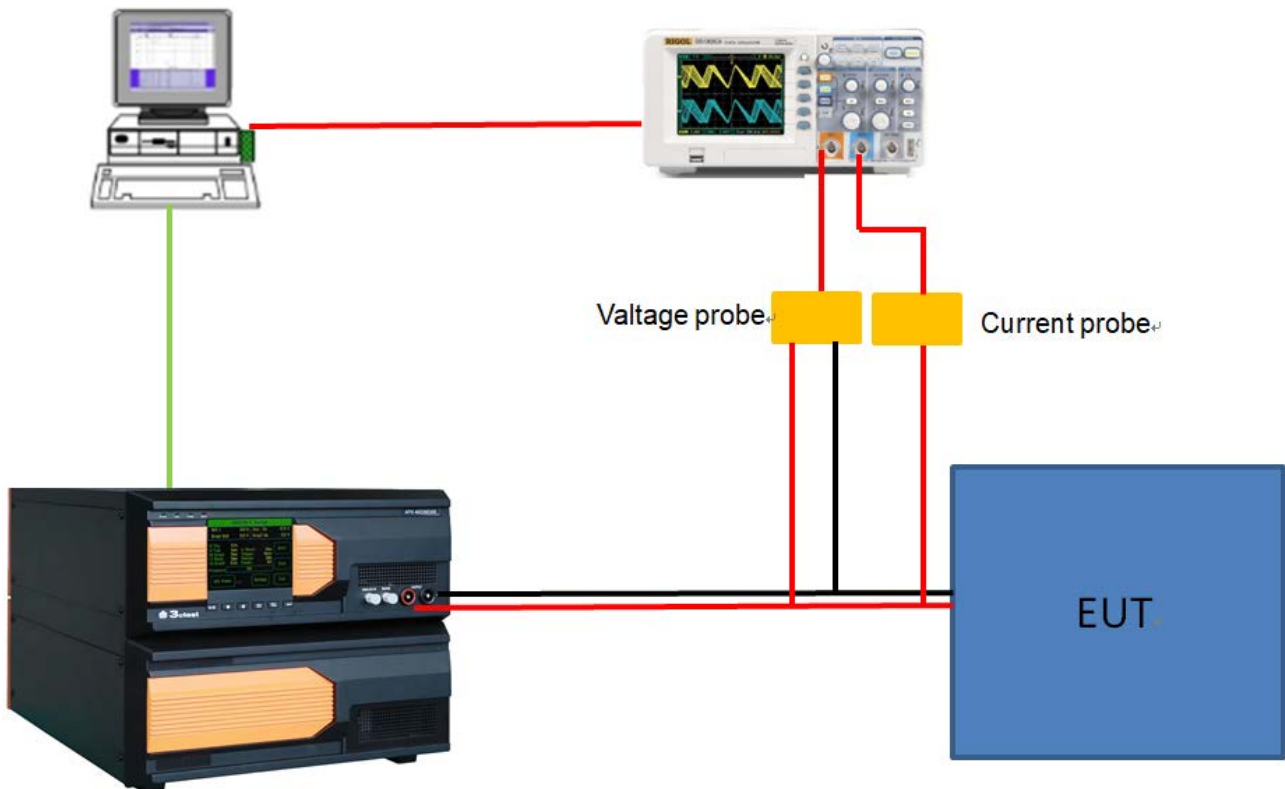|	
Standard Accessories	Test wires, Power lines, Grounding Wires, Fuses (spare parts), Instructions, and Factory Reports.

Optional Accessories

1. PC control software AutoLab Computer online control software AutoLab Supporting Windows 7/Windows 8/Windows 10/Windows 11, it is easy to use, with a beautiful and intuitive user interface. Various operational functions and standard testing libraries enable users to easily complete custom testing programs; Users can customize any waveform (outside of the standard library); It can automatically/manually identify the connected AutoLab testing equipment and perform automatic configuration; The template based reporting feature can help users generate test reports flexibly.
2. Negative voltage levels can be customized except for D, E, F, G, H, and I.
3. Oscilloscope TEK MDO 3000 series/TEK MDO 30 series

System overall connection diagram

ISO 16750-2 2023 Sweep Frequency Closed Loop Layout

The naming convention for instruments is as follows, using APS 80I100DSR as an example:

APS: Power supply voltage change simulator;

80: Maximum voltage 80V; 40:40V, 60:60V;

I: The level representing negative voltage, D：0V、E：-15V、F：-20V、G：-40V、H：-60V、I：-80V；

100: Output current level, can be divided into 10A, 30A, 50A, 100A;

D: Four-quadrant, bipolar power supply (if D is not included in the model, it is a unipolar power supply);

S: Built in AWG signal generator (without S in the model, there is no built-in signal generator);

R: The output impedance is adjustable (if there is no R in the model, the output impedance is not adjustable).

SUZHOU3CTEST ELECTRONIC CO., LTD

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

Sales Email: globalsales@3ctest.cn Service Email: service@3ctest.cn

 Tel: + 86 - 512 - 68077192 Web: www.3c-test.com