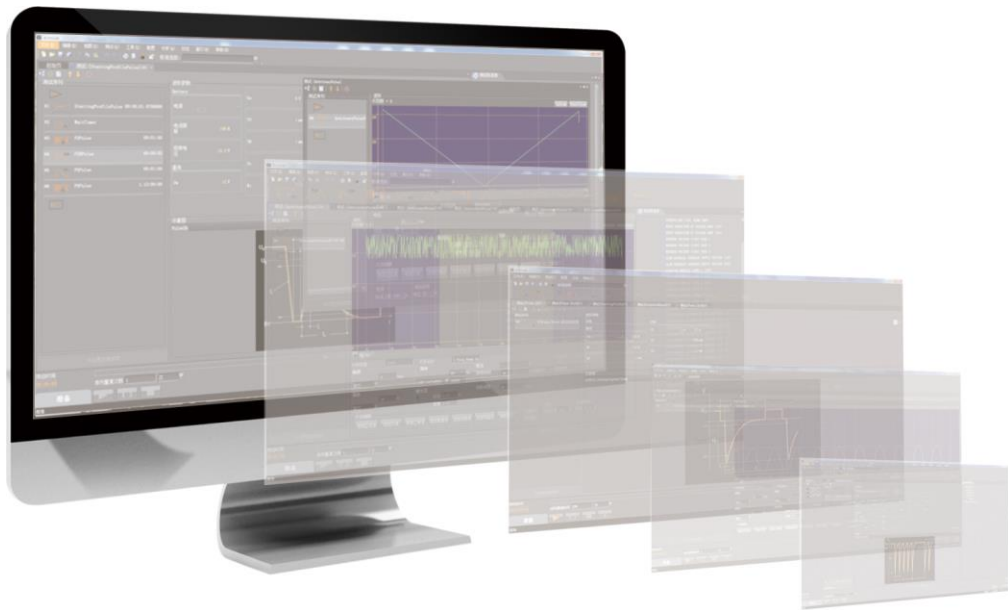# AutoLab Automotive Immunity Test Software

Introduction

AutoLab is the supporting software of the automotive electronic conducted immunity test system, and the software and hardware together constitute a complete test system, which can complete the transient conducted immunity and multi-channel power supply waveform simulation waveform test functions.

AutoLab, referencing relevant standards, provides predefined test parameters. It now offers over hundreds of test waveforms based on international and manufacturer standards, greatly facilitating user experience. Additionally, with automated test sequences, it enables remote one-click testing, making application operations more convenient.

Characteristics

> Compatible with Windows 7, Windows 8,Windows 10 and Windows 11 operating system;

> Support the Ethernet interface;

> Can control APS series, TIS series, LDS series, AWG series,RSG series,EVTS series equipment;

> Support for most international standards and manufacturer standards and previous versions of the standards;

> Support for the oscilloscope (.csv) Import and conduct the test data;

> Powerful scheduling and test sequence, one-click remote control test;

> Support single test / sequence test report export, support user-defined test report template;

> Emergency stop function, one-click control, make the test more safe.

Application Areas

>Custom programming of various standard waveform formats;

> Custom programming of a wide range of standard waveforms;

>Support parameter scheduling test, pilot project scheduling test , one-click testing, make testing easier;

>Support the export of the test report, convenient for users to record real-time data;

>Intuitive device configuration and management interface, the connection status at a glance;

>The preservation and loading function of the waveform can manage the saved waveform;
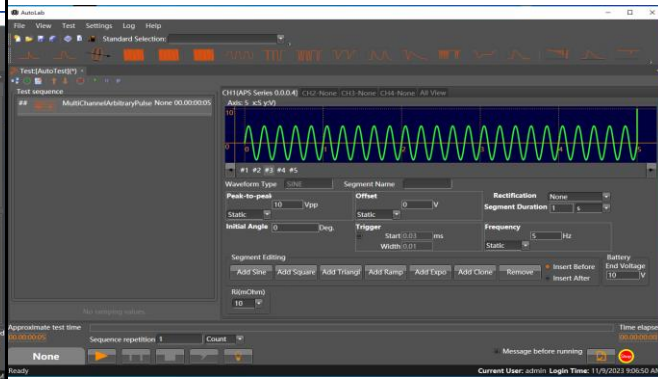
>Standard library, equipment support update.

Detailed Introduction

■ Multi-window graphical UI:
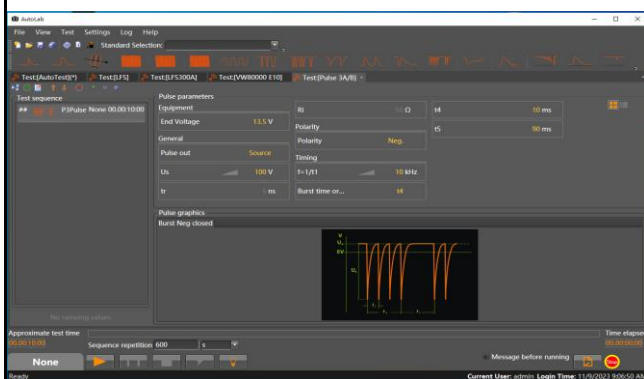
Support to open multiple test editing Windows at the same time, each window is set independently, with the waveform legend, the meaning of parameters is clear at a glance.

### ■ Custom programming of a variety of standard waveforms:

Support DC waveform, Harmonic, Sine wave, Sweep wave, Triangular wave, Square wave, Index wave, Frequency modulation / Amplitude modulation (FM/AM) sine wave standard waveforms, the above standard waveforms can be customized and edited into irregular waves and irregular arbitrary waves for testing, which fully explores the performance of the instrument and provides great scalability.

■ Multi-channel waveform arbitrary editing:

At present, the waveforms of automobile testing are becoming more and more complex. Although the single phenomenon simulation in the standard is still being tested, the whole vehicle or parts in the real environment is more valued. Ordinary waveform generator cannot meet these requirements, especially when multiple tests are required to add in one test, Autolab is a very good choice, Autolab can control the four-channel signal generator to stack four different voltage waveforms on one test article for testing.

■ Support parameter scheduling test, pilot project scheduling test , one-click testing, make testing easier:
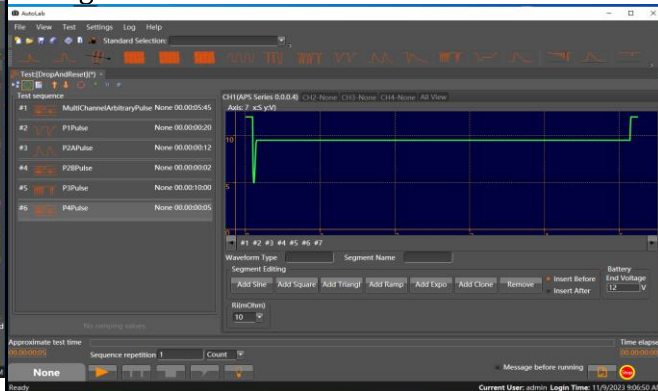
Multiple test step sequences and multiple test items can be added to a test, which is convenient for users to test a test sample, realize one-click testing, and test conveniently. For test parameters, Autolab also supports scheduling and setting multiple parameters to achieve iterative testing of parameters and avoid frequent parameter setting.

3CTEST

■ Intuitive device configuration and management interface, the connection status at a glance：

All the equipment information is displayed in the separate configuration interface, and the connection status is clear at a glance. After the configuration, there is no need to select the equipment for each test, and the system will complete the test according to the configured equipment information.

■ The preservation and loading function of the waveform can manage the saved waveform：
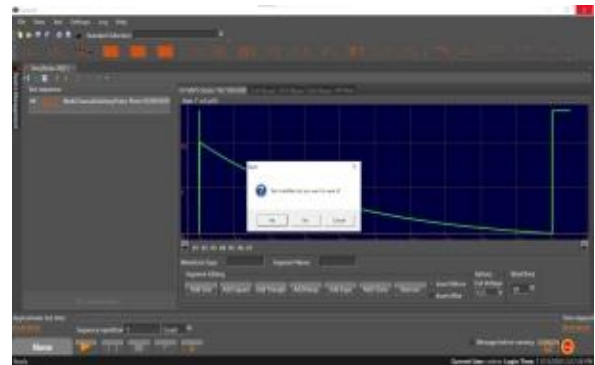

Autolab Standard libraries or custom programmed waveforms can be saved, and these saved files can also be loaded; Autolab, the user can customize the specified folder name and save the file name for management and testing again.

■ Oscilloscope format (. CSV) data for import and testing：
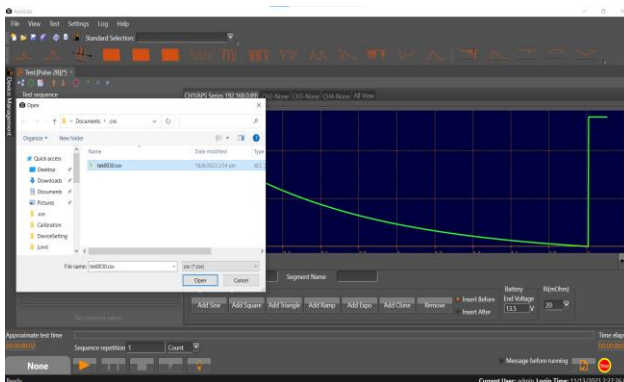
Supports reading the oscilloscope export format (. csv) file, users can also establish the waveform data file in Excel, after the system read (.csv) file, the corresponding waveform diagram is displayed on the interface, and the user can set the parameters and run the test.

■ Supports the export of test reports for users to record real-time data：
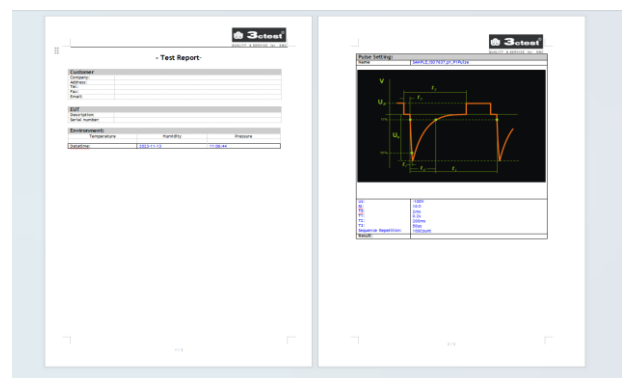
The default report header information can be set or the user can edit the test report template according to their actual business needs and the operation instructions and examples. After the test, the report with experimental data is automatically generated. And the user can also generate the report at any time to record some information during the test.

■ Closed-loop related standard testing is supported：
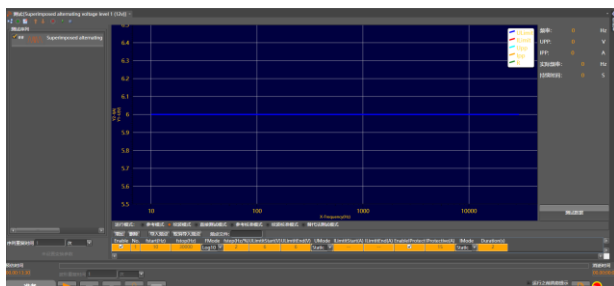
Supports a variety of test modes: Direct test mode、Calibration mode、Alternative method testing、Reference closed-loop mode and
Ripple closed-loop mode.
Support parameter custom format (.csv) file: Users can also create waveform data files in Excel, and after importing (.csv) files, the corresponding waveform schematic diagram will be displayed on the interface, and users can set the test mode and run the test.
It supports real-time information display of monitoring data for easy viewing, and supports custom saving of test data.

List of Supported Standard Library

> Asea   EP455 2003.02
> BMW   BMW N 600 13.0 T1
> BMW   BMW N 600 13.0 T2
> BMW   GS 95002
> BMW   GS 95002 2004.10
> BMW   GS 95002 2010.06
> BMW   GS 95003-2
> BMW   GS 95003-2 2007.03
> BMW   GS 95003-2 2010.01
> BMW   GS 95024-2-1 2010
> BMW   GS 95024-2 2020
> BYD   QBYDQ-A1901.707.2
> BYD   Q_BYD_A1901.706.3-2020
> Case New Holland
> CHANGAN VS-00.00-T-11019-A1-2015
> CHANGAN VS-00.34-L-10002
> CHANGAN VS-00.34-L-10002 2020
> CHANGAN VS-00.34-L-10002 2024
> CHANGAN VS-00.35-L-10008 2018(V2)
> CHANGAN VS-00.35-L-10008 2018-12-25(V3)
> CHERY QSQR E8-4-2019
> China Motor Company ES-X82010 Rev. O, 2005.10
> CNH   ENS0310 03-09
> CNH   ENS0310 Rev. G, 2010.01
> Daimler Chrysler   CS-11809   2009.05
> Daimler Chrysler   CS-11979 2010.07
> Daimler Chrysler   DC-10614 2004-01 A
> Daimler Chrysler   DC-10614 Rev. B, 2005.03
> Daimler Chrysler   DC-10615 2003-05 A
> Daimler Chrysler   DC-10615 2004-08 B
> Daimler Chrysler   DC-10615 Rev. D, 2007.05
> Daimler Chrysler   DC-11224 2007-05
> Daimler Chrysler   PF-10540 2001-12
> Daimler Chrysler   PF-10540 Rev. A, 2003.10
> Daimler Chrysler   PF-10541 Rev. A, 2003.12
> Daimler Chrysler   PF-9326 Change C 1999.12
> DongFeng EQCS-1204-2017
> DongFeng QDFXK 323-2016
> DongFeng Q LQB C-208-2019

> DongFeng QDH-YA07-01-2019
> Dongfeng QDH-YA07-01A-2022
> ECE R10 Rev4, 2012-04
> ECE R10 Rev 5, 2014.10
> ECE/R10.6 Nov. 2019
> FIAT   7-Z0441 2008.04
> FIAT   7-Z0444 2008.04
> FIAT 9.9011 Rev. 13, 2007.03
> FIAT   9.90110
> Ford   EMC-CS-2009 rev1
> Ford   EMC-CS-2009 rev1   CI 220 G1, CI 220 G2
> Ford   ES-XW7T-1A278-AB 1999.04
> Ford   ES-XW7T-1A278-AB 1999.04 CI 240 Load Dump
> Ford   ES-XW7T-1A278-AC OCT 2003
> Ford   ES-XW7T-1A278-AC Oct 2003 CI 220G
> Ford   ES-W7T-1A278-AB (Update 2006.06) (2003.10)
> Ford   FMC 1278
> Ford FMC 1278 2015-07
> Ford FMC 1278 2016
> FOTON   QFPT2800001 2011
> GAC QJGAC 1523_029
> GBT 21437.2 2008
> GBT 21437.2 2021
> GBT 21437.3 2012
> GBT 21437.3 2021
> GBT 28046.2-2011
> GBT 28046.2 2019
> GEELY J7110982A 2016
> GEELY J7111029B 2017
> GEELY J7110779C 2017
> GEELY J7111029C 2020
> GEELY CEVT 8888621495-2 2018
> GEELY   Q-JLY J7111029B
> GEELY   Q-JLY J7110779D
> GEELY   QJLY J7111029D 2022
> GEELY   Q-JLY J7111974A-2024
> GEELY   Q-JLY-J7110779B 2014

List of Supported Standard Library

> GEELY　J7111029E 2024	> ISO 7637-2 2011
> General Motors　　GM9105P 1996.11	> ISO 7637-2 2016.11
> General Motors　　GM9117P 1993.05	> ISO 7637-2 20
> General Motors　　GM9123P 1997.01	> ISO 7637-3 2007.07
> General Motors　　GMW 3097 2004.02	> ISO 7637-3 2016
> General Motors　　GMW 3097 2006.07	> ISO 7637-4 2017
> General Motors　GMW 3097 (Rev. 6, 2012.04)	> ISO 7637-4 2019
> General Motors　　GMW 3097 2015.06	> ISO 7637-4 2020
> General Motors　　GMW3097 Dec 2022	> ISO 21780 2019
> General Motors　　GMW 3100 2000.02	> ISO 21780 2020
> General Motors　　GMW 3172 2001.12	> ISO/FDIS 21780 2020 E
> General Motors　　GMW 3172 2008.08	> ISO/DIS 11452-8 2015-06
> General Motors　　GMW 3172 2010.07	>ISO 14708-3
> General Motors　　GMW 3172 2012 9.2.18	> IVECO 16-2101 2006.4
> General Motors　　GMW 3172 2014.10	> JA 3700-93C-1
> General Motors　　GMW 3172 2015.06	> Jaguar / Land Rover JLR-EMC-CS Version 1.0, Am 4 2015-02
> General Motors　　GMW 3172 2018	
> General Motors　GMW 3172 2022-11	> JA　3700-MH-3 2021
> General Motors　BT-SGMWJ 08244.9-2018	> JA　3700-MH-4 2021
> GOST 28751-90 1990	> JASO D001　A-2, B-2, D-2
> GOST 33991-2016	> JASO D001 1994　A-1, B-1, D-1，E
> GreatWall GWT A D01-01 2020-09	> JASO D014-2 2014.03
> GreatWall　GWT A D05-02	> JIDU　QJIDU 0019-2022
> GreatWall	> John Deere　JDQ 53.3 2005.10
> HARMAN	> KARMA　C1800STA0131 Rev2
>HeZhong　QTHZ E8-4	> Mazda MES PW 67600
> Hyundai Kia ES-95400-10 Rev. A, 2003.10	> Mazda MES PW 67602 D
> Hyundai Kia ES 96200-00 REV K 2011-11 P5b	> Mazda MES PW 67602 Nov.2015
> ISO 16750-2 2000.11	> Mazda MES PW 67602 2019
> ISO 16750-2 2006	> Mercedes　　LV 123
> ISO 16750-2 2010	> Mercedes　　MBN 11123　2019-10
> ISO 16750-2 2012	> Mercedes　　MBN 10284-2 2002
> ISO 16750-2 2023	> Mercedes　　MBN 10284-2 2008
> ISO 21498-2 2021	> Mercedes　　MBN 10284-2 2011
> ISO 21498-2 2024	> Mercedes　　MBN 10284-4 2011
> ISO 21848 2005	> Mercedes　　MBN 10615 2009.09
> ISO 7637-1 1990-06	> Mercedes MBN 22100-2 1999
> ISO 7627-2 1990	> Mercedes MBN LV 124-1 2011.03
> ISO 7637-2 1999.02	> Mercedes MBN LV 124-1 2013.03
> ISO 7637-2 2004	> Mercedes MBN LV 148 2013-11

3CTEST

List of Supported Standard Library	
> MFA2 PACK EMC TestSpec V1.0	> Renault 36-00-808--N Mar. 2016
> Mitsubishi ES-X82010 Rev. O, 2001.12	> SAE J1113-2 1996
> Mitsubishi ES-X82114 2009.03	> SAE J1113-11 1995.06
> Mitsubishi ES-X82115 2009.03	> SAE J1113-11 2000.03
> NEXTEV Voltage Specification Ver1.0 2015	> SAE J1113–11 Rev.5, 2007.06
> NEXTEV NIO-TP.20.007	> SAE J1113-11 Dec 2018
> NEXTEV E10 E13	> SAE J1113-12 2006.08
> Nissan 28400 NDS03 [3] 2005.08	> SAE J1113-12 1994.12
> Nissan 28400 NDS02 [3] 1999.07	> SAE J1113-22 2003.11
> Nissan 28400 NDS 03 B-2	> SAE J1455 for trucks 1994-07
> Nissan 28400 NDS 03_2A 1997-01 A-1, A-2, B-1	> SAE J1113-11 2012.01
> Nissan 28400 NDS 07 C300	> SAE J1455 2006.06 P5
> Nissan 28400 NDS 07 C50	> SAE J1455 2017-03
> Nissan 28400 NDS 07 C8	> SAE J 2139 2005.09
> Nissan 28401 NDS02 [4] 2008.08	> SAE J2628 2007.07
> Nissan 28401 NDS 02 [5] 2010	> Ssangyong SES E 922 2008.05
> Nissan 28401 NDS 02 [6] 2013-01	> SCANIA TB1400 P5
> Nissan 28401 NDS 02 [8] 2016-07	> SCANIA TB1700 P5
> Nissan EMC1_RNDS-C-00517_4	> SCANIA TB1901 P5
> Nokia Proprietary	> SMTC 3800001 2014
> NIO TP.20.003-2019(Version2.1)	> SMTC 3800001 2017
> Peugeot B21 7090 Nov 1993	> SMTC 3800006-2020
> Peugeot B21 7090 1998.01	> TianJi QDK TE 4601-2019
> Peugeot B21 7110 2001	> Toyota TSC0502G 2016
> Peugeot B21 7110 2005	> Toyota TSC0506G 2019
> Peugeot B21 7110 2008.07	> Toyota TSC7001G Rev. 7, 2009.01
> Peugeot B21 7110 F Apr. 2019	> Toyota TSC7034G 2010.09 P5
> Peugeot B21 7110 Step 2015	> Toyota TSC7034G 2019
> PSA B21 7110 Rev. D 2012-10	>TS_TG1
> Porsche EMV Lastenheft 2005.04 P5	> UN ECE TSC7034G 2019
> QCT 727 2007	> VDA 320 2015.01
> QDH-YA07-01-2019	> VG 96916-5 2013.08
> Q/DK TE 4601 2019	> VG 96916-5 2013.08
> Renault 36-00-400 1998	> VM Motor QWM J073013A-2019
> Renault 36-00-808 2004	> Volkswagen TL 82066 2001.09
> Renault 36-00-808--K 2009.03	> Volkswagen TL 82066 2004.10
> Renault 36-00-808--L 2010.12	> Volkswagen TL 82066 2006.11
> Renault 36-00-808--M 2012.07	

3CTEST

List of Supported Standard Library	
> Volkswagen　　TL 82366 1994.03 > Volkswagen　　VW 80000 2009.10 > Volkswagen　　VW 80000 2013 E15 > Volkswagen　　VW 80000 2013.06 > Volkswagen　　VW 80000 2017 > Volkswagen　　VW 80101 2006.10 > Volkswagen　　VW 80101 2009.03 > Volkswagen　　VW80300 Oct 2016 > Volkswagen　　VW80300 2021 > Volkswagen　　VW TL 81000 2018 > Volkswagen　　VW 80000 2021-01 > Volkswagen　　OBD+Funktionsprüfung+V8 > Volvo STD 515-0003 Ver.4 2009.10　　P5b > Volvo STD 515-0003　Feb. 2017 > XIAOMI　QMAT5502 2023 > XIAOMI　QMAT550x-2024 > YAMAHA > Empty high-pressure arbitrary pulse > Pulse 2c	

List of support equipment

■ APG Series	APS 40G15D
APG 40C40	APS 40G20D
APG 40C50	APS 40G30D
APG 40C60	APS 40G50D
APG 60C40	APS 40G100D
APG 60C50	APS 60C10
APG 60C60	APS 60C20
APG 60C80	APS 60C30
APG 60C100	APS 60C60D
■ APS Series	APS 60C100D
APS 40C05	APS 60E05D
APS 40C05D	APS 60E10D
APS 40C10	APS 60E15D
APS 40C15	APS 60E20D
APS 40C15D	APS 60E30D
APS 40C20	APS 60E50D
APS 40C20D	APS 60E100D
APS 40C30	APS 60F05D
APS 40C30D	APS 60F10D
APS 40C30SD	APS 60F15D
APS xxDRS	APS 60F20D
APS 40E05D	APS 60F30D
APS 40E10D	APS 60F50D
APS 40E15D	APS 60F60D
APS 40E20D	APS 60F100D
APS 40E30D	APS 60G05D
APS 40E50D	APS 60G50DR
APS 40E100D	APS 60G10D
APS 40F05D	APS 60G15D
APS 40F10D	APS 60G20D
APS 40F15D	APS 60G30D
APS 40F20D	APS 60G50D
APS 40F30D	APS 60G100D
APS 40F50D	APS 60H05D
APS 40F100D	APS 60H15D
APS 40G05D	APS 60H50D
APS 40G10D	APS 60H100D
APS 60H30D	APS 80C100D
APS 60H10D	APS 80D100DR

List of support equipment

APS 80E05D	■ LDS Series
APS 80E10D	LDS 200
APS 80E15D	LDS 200N100
APS 80E20D	LDS 200N30D
APS 80E30D	LDS 200N50D
APS 80E50D	LDS 200N75D
APS 80E100D	LDS 200N100D
APS 80F05D	LDS 200N200D
APS 80F10D	LDS 300N30D
APS 80F15D	LDS 300N50D
APS 80F20D	LDS 300N75D
APS 80F30D	LDS 300N100D
APS 80F50D	LDS 500P
APS 80F100D	■ LFS Series
APS 80G05D	LFS 300A
APS 80G10D	LFS 300B
APS 80G15D	LFS 300C
APS 80G20D	LFS 800
APS 80G30D	■ PFS Series
APS 80G50D	PFS 6030A
APS 80G50DR	PFS 60xxA
APS 80G100D	PFS 60xxA1
APS 80H05D	PFS 10060D
APS 80H10D	PFS 60100A2
APS 80H15D	PFS 60200A2
APS 80H20D	■ PAWG Series
APS 80H30D	PAWG 100D
APS 80H50D	PAWG 100F
APS 80H100D	AWG 100D
APS 80I05D	AWG 100F
APS 80I10D	■ RC Series
APS 80I15D	RC 150C100
APS 80I20D	■ TIS Series
APS 80I30D	TIS 500P
APS 80I50D	TIS 700
APS 80I100D	TIS 700S
■ INR Series	TIS 700-60
INR 60	TIS 700-100

List of support equipment	
TIS 700-200 TIS 700-100S TIS 100C06 ■　VOS Series VOS 16C03 ■　RSG Series RSG xxCxx ■　EVTS Series EVTS 150C10 EVTS 150C30 EVTS 150C06 LDV 21498 PSB 11500-60 ■　EVPG Series EVPG 20 ■　EVDG Series EVDG 20 ■　HTS Series HTS 150C30 ■　AN Series AN 150C30 ■　HNS Series HNS 200	

SUZHOU 3CTEST ELECTRONIC CO., LTD.

Add.: No. 99 E'meishan Road, SND, Suzhou, Jiangsu Province, China
Tel: +86 (0)512 6807 7192   Fax: +86-512-68079795
Sales Email: globalsales@3ctest.cn   Service Email: service@3ctest.cn
www.3c-test.com