

Automotive power supply waveform simulation test power supply



FTP032-C series
automotive power supply waveform analog test power supply

Summary

Automotive power supply system due to the complexity of the electrical environment, such as motors, solenoid valves and other components start, shutdown and other reasons lead to large fluctuations in the supply voltage and other abnormal phenomena. In order to improve the reliability of automotive electrical and electronic equipment, automotive electronics manufacturers and OEMs often use traditional programmable DC power supplies to conduct electrical reliability testing, due to the diversity of test standards, the complexity of the programming function, and the traditional power supply rate slower for the reasons of this work to add difficulty and cost.

The automotive electronic waveform testing capabilities of Faith's FTP032-C Series, FTG-C Series and FTB9000-C power supplies address these issues.

The FTP032-C series, FTG-C series and FTB9000-C series power supplies are capable of realizing the waveform test function of ISO16 750-2 (Environmental Conditions and Tests for Electrical and Electronic Equipment for Road Vehicles, Part 2: Electrical Loads), LV124, LV148, SAEJ1113-11, ISO21848, and Volkswagen's VW80000 for testing electrical and electronic equipment function.

FTG-C series and FTB9000-C series high-voltage power supplies are also suitable for testing electrical and electronic equipment of new energy vehicles, and their test waveforms meet the requirements of VW80300 test.

Characteristic

- Voltage level: 40V, 80V, 600V, 1000V;
- Power level: 3.2kW ~ 90kW (higher power can be customized);
- High accuracy: 16-bit high-speed ADC/DAC, precision measurement and control;
- Channel power range: low linear adjustment rate, low load adjustment rate, low ripple, low noise;
- Slope control: fast and precise control of voltage (or current slope) rise and fall;
- Fast response: 2ms typical value transient response;
- Protection function: over-voltage, over-current, over-power, over-temperature and other all-round intelligent protection;
- External control: ON/OFF control, analog programming, monitoring and other isolated interfaces (optional);
- Support standards: ISO16750-2, VW80000, VW80300, SAEJ1113-11, LV124, ISO21848, Lv148;
- Upper computer function: waveform display, standard test waveform import, power control, sampling data save/readback, etc., sampling rate up to 100 points/second;
- Provide LAN, RS232 remote communication interface;
- Intelligent fan control, noise reduction, improve service life;
- TFT color LCD display, support Simplified Chinese and English display.



FTG-C series
automotive power supply waveform simulation test power supply



FTB9000-C series
automotive power supply waveform simulation test power supply

Waveform realization

FTP032-40-120C, FTP032-80-60C, FTG-C 40V, 80V models can be realized:

ISO16750-2 standard waveforms:

Slow rise and fall of supply voltage, start-up characteristics, instantaneous drop of supply voltage, voltage dip reset performance.

VW80000 standard waveforms:

E-01, E-02, E-03, E-04, E-05, E-07, E-08, E-09, E-11a, E-11b, E-12.

ISO21848 standard waveforms:

Overvoltage, slow drop and rise of supply voltage, interruption of supply voltage.

SAEJ1113-11 standard waveforms:

Test_2B, Test_4, Test_5.

LV124 standard waveforms:

E-01, E-02, E-03, E-04, E-05, E-07, E-08, E-09, E-11, E-12.

LV148 standard waveforms:

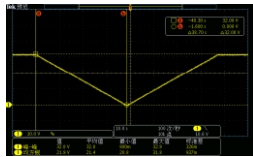
E48-01a, E48-01b, E48-02, E48-03, E48-04, E48-06, E48-08, E48-10, E48-15, E48-16, E48-17, E48-18, E48-19.

FTH-C 600V, 1000V, FTB9000-C 500V, 1000V models are available:

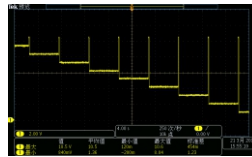
VW80300 standard waveforms:

HVPT-1, EHV-01, EHV-02, EHV-03, EHV-05, EHV-06.

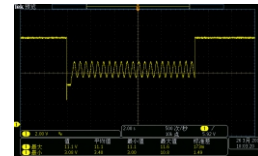
Partial waveform realizations are shown to the below:



ISO16750
supply voltage jog up and jog down



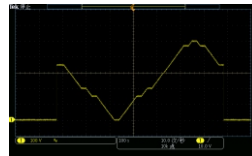
ISO16750
voltage dip reset characteristics



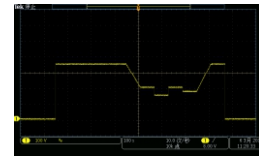
VW80000 E-11
cold start pulse (enhanced)



VW80000 E-09
reset characteristic pulse

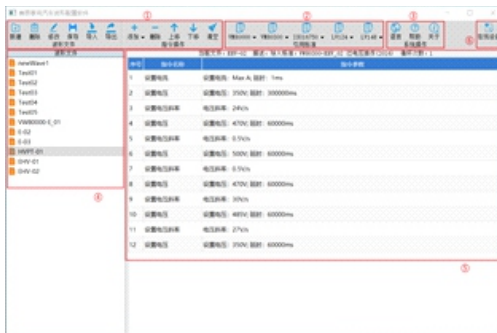


VW80300 HVPT-1
high voltage cycle

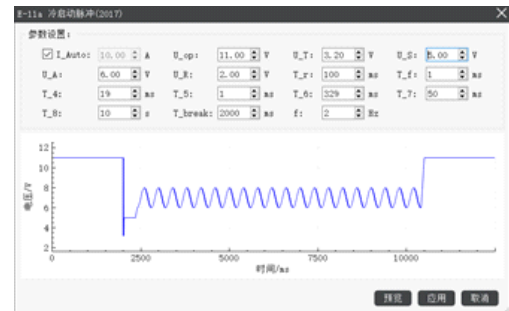


VW80300 EHV-03
undervoltage operation

Upper computer software interface



Main interface



Standard waveform operation interface

Ordering information

Model	Specification	Adaptation standard
FTP020-40-120C	2kW/40V/120A	ISO16750-2, VW80000, SAEJ1113-11, LV124
FTP032-40-120C	3. 2kW/40V/120A	
FTP065-40-240C	6. 5kW/40V/240A	
FTG050-40C	5kW/40V/125A	
FTG100-40C	10kW/40V/250A	
FTG150-40C	15kW/40V/375A	
FTG300-40C	30kW/40V/750A	
FTP020-80-60C	2kW/80V/60A	ISO16750-2, VW80000, SAEJ1113-11, LV124, ISO21848, LV148
FTP032-80-60C	3. 2kW/80V/60A	
FTP065-80-120C	6. 5kW/80V/120A	
FTG050-80C	5kW/80V/62. 5A	
FTG100-80C	10kW/80V/125A	
FTG150-80C	15kW/80V/187. 5A	
FTG300-80C	30kW/80V/375A	
FTB9050-80-150C	5kW/80V/150A	
FTB9100-80-300C	10kW/80V/300A	
FTB9150-80-450C	15kW/80V/450A	
FTB9300-80-900C	30kW/80V/900A	
FTB9060-500-40C	6kW/500V/40A	VW80300
FTB9120-500-80C	12kW/500V/80A	
FTB9180-500-120C	18kW/500V/120A	
FTG050-600C	5kW/600V/8. 5A	
FTG100-600C	10kW/600V/17A	
FTG150-600C	15kW/600V/25A	
FTG300-600C	30kW/600V/50A	
FTB9120-1000C	12kW/1000V/40A	
FTB9240-1000C	24kW/1000V/80A	
FTG050-1000C	5kW/1000V/5A	
FTG100-1000C	10kW/1000V/10A	
FTG150-1000C	15kW/1000V/15A	
FTG300-1000C	30kW/1000V/30A	

Specification table

There are many models in the series, only some of them are listed for reference.

Model	FTP032-40-120C	FTP032-80-60C	FTB9050-80-150C	FTG150-600C	FTG150-1000C	FTG300-600C	FTG300-1000C
Voltage	0~40V	0~80V	0~80V	0~600V	0~1000V	0~600V	0~1000V
Current	0~120A	0~60A	0~150A	0~25A	0~15A	0~50A	0~30A
Power	3. 2kW		5kW	15kW		30kW	
Voltage programming							
Resolution	16Bits						
Precision	0. 05%F. S.		0. 02%+0. 02%F. S.	0. 05%F. S.			
Current programming							
Resolution	16Bits						
Precision	0. 1%+0. 1%F. S.						
Voltage measurement							
Resolution	16Bits						
Precision	0. 05%F. S.		0. 02%+0. 02%F. S.	0. 05%F. S.			
Current measurement							
Resolution	16Bits						
Precision	0.1% + 0.1% F.S.						
Output noise&ripple							
Ripple voltage (p - p)	60mV	80mV	160mV	350mV	650mV	350mV	650mV
Ripple voltage (rms)	20mV	20mV	16mV	60mV	100mV	60mV	100mV
Slope							
Voltage	Max: 10V/ms			Max: 40V/ms (load current less than 50% of rated current)			
Current	Max: 2A/ms			Max: 2A/ms			
OVP settings							
Range	0~110%F.						
Precision	1%F. S.						
Transient response	Typical 2mS, 50% change in load, time required for voltage to return to within accuracy range						
Efficiency	0.9 (Typical)			0.87 (Typical)			
Standard adaptability	ISO16750-2; VW80000; LV124; SAEJ1113-11	ISO16750-2; VW80000; LV124; SAEJ1113-11; ISO21848; LV148		VW80300			
Communication interface	RS232 and LAN, optionally RS485, CAN or GPIB						
Inputs	190VAC~265VAC, Frequency: 47HZ~63HZ, PF: 0.98(typical)		340VAC~480VAC, Frequency: 45HZ~63HZ, PF: 0.99(typical)	340VAC~420VAC, Frequency47HZ~63HZ			
Dimension WXHXD(mm)	430x88x453mm	482x132. 5x702mm		482x265x694mm		482x656x710mm(with wheels)	
Weight	Approx. 15kg	Approx. 40kg		Approx. 60kg		Approx. 120kg	