Programmable DC Electronic Load

150W~600W

Introduction

PPL series are high performance programmable DC electronic load. Four basic functions and nine basic operation modes provides sufficient solutions wherever power sources need to be tested. Especially unique CPV and CPC modes greatly improved the functionality of constant power operation. The strong List Mode function, with Min. step 10ms and Max. step 99999s, allows users to set numbers of cycles at free and to link to other lists, facilitating complicated tests. Equipped with RS-232 interface for PC control, SCPI commands and Labview development platform, the PPL series are designed to provide high reliability, great performance and easy operation in research and production of aerospace, ship building, auto electronics, solar battery, fuel cell, etc.

Features

- ✓ 4 basic functions: CC, CV, CR, CP
- ✓ 9 basic operation modes: CCL, CCH, CVL, CVH, CRL, CRM, CRH, CPV, CPC
- ✓ 24-bit A/D converter and 16-bit D/A converter, 40kHz D/A conversion speed, high resolution & high speed
- ✓ Hardware circuit for CR function, faster transient response and higher CR accuracy
- ✓ High speed transient test function, max. test frequency 2kHz
- ✓ Over current, over voltage, over power, over temperature and reverse voltage protections
- ✓ 4.3-inch backlit Segment LCD display
- ✓ High speed rotary dial and keypad input
- ✓ Auto ON/OFF function
- ✓ List Mode function, step 10ms-99999s, free to set numbers of cycles and to be linked to other lists
- ✓ Auxiliary functions: short circuit test, battery discharge capacity test
- ✓ Save & recall function for frequently used setups
- ✓ Intelligent cooling system, ensure high stability during long-time operation under full load
- ✓ Standard RS-232 interface, support SCPI commands, support Labview
- ✓ Optional RS-232 to USB cable

Product photo

PPL-8613C3

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Specifications

Model		PPL-8613C3	PPL-8613B2
Rated input (0℃~40℃)			
Voltage		0~150V	0~500V
Current		1mA~60A	1mA~30A
Power *1		600W	600W
MOV@FS current		0.9V	4.2V
Constant voltage mode (CV)			
Low range		0.1~30V	0.1~30V
Resolution		1mV	1mV
Accuracy		±(0.05%+0.02%FS)	±(0.05%+0.02%FS)
High range		0.10~150V	0.10~500V
Resolution		10mV	10mV
Accuracy		±(0.05%+0.025%FS)	±(0.05%+0.025%FS)
Constant current mode (CC)			
Low range		0~6A	0~3A
Resolution		1mA	1mA
Accuracy		±(0.1%+0.1%FS)	±(0.1%+0.1%FS)
High range		0~60A	0~30A
Resolution		10mA	10mA
Accuracy		±(0.1%+0.15%FS)	±(0.1%+0.15%FS)
Constant resistance mode (CR) (Input voltage /current≥10%FS)			
Low range (VH CRL)		≈0.02~3Ω	≈0.15~18Ω
Resolution		50uΩ	300uΩ
Accuracy (Impedance)		±(0.5%+0.5%FS)	±(0.5%+0.5%FS)
Middle range (VH CRM)		≈3~300Ω	≈18~1800Ω
Resolution		5.4us	0.90us
Accuracy (Conductance)		±(1%+1%FS)	±(1%+1%FS)
High range (VH CRH)		≈30~4000Ω	≈180~4000Ω
Resolution *2		0.20us	0.10us
Accuracy (Conductance)		±(1.5%+1.5%FS)	±(1.5%+1.5%FS)
Low range (VL CRL)		≈0.02~0.6Ω	≈0.15~1.2Ω
Resolution		9.6uΩ	19uΩ
Accuracy (Impedance)		±(0.5%+0.5%FS)	±(0.5%+0.5%FS)
Medium range (VL CRM)		≈0.6~60Ω	≈1.2~120Ω
Resolution		27us	14us
Accuracy (Conductance)		±(1%+1%FS)	±(1%+1%FS)
High range (VL CRH)		≈6.0~2000Ω	≈12~2000Ω
Resolution		3.0us	1.5us
Accuracy (Conductance)		±(1.5%+1.5%FS)	±(1.5%+1.5%FS)
Constant power mode (CP) (Input voltage /current≥10%FS)			
Range		0~600W	0~600W
Resolution	P<100W	1mW	1mW
	P≥100W	10mW	10mW
Accuracy		±(1%+0.1%FS)	±(1%+0.1%FS)

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Voltage measurement			
Low range		0~30V	0~30V
Resolution		1mV	1mV
Accuracy		±(0.05%+0.02%FS)	±(0.05%+0.02%FS)
High range		0~150V	0~500V
Resolution		10mV	10mV
Accuracy		±(0.05%+0.025%FS)	±(0.05%+0.025%FS)
Current measurement			
Low range		0~6A	0~3A
Resolution		1mA	1mA
Accuracy		±(0.1%+0.1%FS)	±(0.1%+0.1%FS)
High range		0~60A	0~30A
Resolution		1mA	1mA
Accuracy		±(0.1%+0.15%FS)	±(0.1%+0.15%FS)
Power measurement (Input voltage /current≥10%FS)			
Range		0~600W	0~600W
Resolution	P<100W	1mW	1mW
	P≥100W	100mW	100mW
Accuracy		1%+0.1%FS	1%+0.1%FS
Current slew rate			
Range	CCH (/us)	0.1mA ~3A	0.1mA ~1.5A
	CCL (/us) *3	0.1mA ~0.33A	0.1mA ~0.15A
Resolution		0.1mA/us	0.1mA/us
Accuracy *4		3%+10us	3%+10us
Battery discharge			
Discharge time		1s~100h	1s~100h
Resolution		1s	1s
Accuracy		0.2%+1s	0.2%+1s
Battery capacity		6000Ah	3000Ah
Resolution		1mAh	1mAh
Accuracy		0.3%+0.01Ah	0.3%+0.01Ah
Discharge voltage range		0.1V~150V	0.1V~150V
Discharge current resolution		10mA	10mA
Short circuit			
CCL		7.2A	3.6A
CCH		66A	33A
CV		0V	0V
VH CRL		0.015Ω	0.13Ω
VH CRM		2.8Ω	16Ω
VH CRH		29Ω	160Ω
VL CRL		0.015Ω	0.13Ω
VL CRM		0.53Ω	1.0Ω
VL CRH		5.3Ω	10Ω
CPV		630W	630W
CPC		0W	0W

Max. slew rate		
Current	3A /us	1.5A /us
Voltage	0.2V /us	0.02V /us
Open circuit	≥20kΩ	≥20kΩ
Max. input level		
Current	66A	33A
Voltage	175V	550V
Ripple & Noise		
Current (rms/p-p)	6mA/60mA	5mA/50mA
Voltage (rms)	5mV	5mV
Transient operation		
Transient mode	Continuous, Pulse, Toggled	
Frequency range *5	0.01Hz~2kHz	
High/Low time	0~99999ms	
Resolution	250us	
Accuracy	0.2%+10us	
Rising/Falling time	250us~99999ms	
Resolution	250us	
Accuracy	0.2%+10us	
List Mode		
Step time	10ms~99999s	
Resolution	10ms	
Accuracy	0.2%+10us	
No. of steps	1~50	
No. of cycles	0~65535	
Storage	8 Lists	
Expanded function	Chain	
Trigger input		
Trigger level	TTL falling edge	
Trigger pulse width	≥20us	
General		
Protection	Over current, over voltage, over power, over temperature and reverse voltage protections	
Interface	RS-232 interface, support SCPI commands, support Labview	
	Optional RS-232 to USB cable	
Operating environment	0℃~40℃, ≤85%RH	
Storage environment	-10℃~70℃, ≤70%RH	
Power source	AC110V/220V±10% selectable, 50/60Hz	
Accessories	Power cord x1, Operation manual x1, RS-232 cable x1	
Dimension (WxHxD)	215x89x507mm	
Weight	9kg	

Specifications are subject to change without prior notice.

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