Programmable DC Electronic Load

300W

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-8612C2

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Specifications

Model		PPL-8612C2	PPL-8612C3	PPL-8612B1
Rated input (0℃~40℃)				
Voltage		0~150V	0~150V	0~500V
Current		1mA~30A	1mA~60A	1mA~15A
Power *1		300W	300W	300W
MOV@FS current		0.82V	1.2V	3.8V
Constant voltage mode (CV)				
Low range		0.1~30V	0.1~30V	0.1~30V
Resolution		1mV	1mV	1mV
Accuracy		±(0.05%+0.02%FS)	±(0.05%+0.02%FS)	±(0.05%+0.02%FS)
High range		0.10~150V	0.10~150V	0.10~500V
Resolution		10mV	10mV	10mV
Accuracy		±(0.05%+0.025%FS)	±(0.05%+0.025%FS)	±(0.05%+0.025%FS)
Constant current mode (CC)				
Low range		0~3A	0~6A	0~1.5A
Resolution		1mA	1mA	1mA
Accuracy		±(0.1%+0.1%FS)	±(0.1%+0.1%FS)	±(0.1%+0.1%FS)
High range		0~30A	0~60A	0~15A
Resolution		10mA	10mA	10mA
Accuracy		±(0.1%+0.15%FS)	±(0.1%+0.15%FS)	±(0.1%+0.15%FS)
Constant resistance mode (CR) (Input voltage /current≥10%FS)				
Low range (VH CRL)		≈0.04 ~ 6Ω	≈0.025 ~ 3Ω	≈0.3 ~ 36Ω
Resolution		100uΩ	50uΩ	600uΩ
Accuracy (Impedance)		±(0.5%+0.5%FS)	±(0.5%+0.5%FS)	±(0.5%+0.5%FS)
Middle range (VH CRM)		≈6 ~ 600Ω	≈3 ~ 300Ω	≈36 ~ 3600Ω
Resolution		2.7us	5.4us	0.45us
Accuracy (Conductance)		±(1%+1%FS)	±(1%+1%FS)	±(1%+1%FS)
High range (VH CRH)		≈60 ~ 4000Ω	≈30 ~ 4000Ω	≈360 ~ 4000Ω
Resolution *2		0.30us	0.20us	0.051us
Accuracy (Conductance)		±(1.5%+1.5%FS)	±(1.5%+1.5%FS)	±(1.5%+1.5%FS)
Low range (VL CRL)		≈0.04 ~ 1.12Ω	≈0.025 ~ 0.6Ω	≈0.3 ~ 2.4Ω
Resolution		18uΩ	9.6uΩ	38uΩ
Accuracy (Impedance)		±(0.5%+0.5%FS)	±(0.5%+0.5%FS)	±(0.5%+0.5%FS)
Medium range (VL CRM)		≈1.12 ~ 112Ω	≈0.6 ~ 60Ω	≈2.4 ~ 240Ω
Resolution		15us	27us	6.8us
Accuracy (Conductance)		±(1%+1%FS)	±(1%+1%FS)	±(1%+1%FS)
High range (VL CRH)		≈11.2 ~ 2000Ω	≈6.0 ~ 2000Ω	≈24 ~ 2000Ω
Resolution		1.6us	3.0us	0.78us
Accuracy (Conductance)		±(1.5%+1.5%FS)	±(1.5%+1.5%FS)	±(1.5%+1.5%FS)
Constant power mode (CP) (Input voltage /current≥10%FS)				
Range		0~300W	0~300W	0~300W
Resolution	P<100W	1mW	1mW	1mW
	P≥100W	10mW	10mW	10mW
Accuracy		±(1%+0.1%FS)	±(1%+0.1%FS)	±(1%+0.1%FS)

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Voltage measurement				
Low range		0~30V	0~30V	0~30V
Resolution		1mV	1mV	1mV
Accuracy		±(0.05%+0.02%FS)	±(0.05%+0.02%FS)	±(0.05%+0.02%FS)
High range		0~150V	0~150V	0~500V
Resolution		10mV	10mV	10mV
Accuracy		±(0.05%+0.025%FS)	±(0.05%+0.025%FS)	±(0.05%+0.025%FS)
Current measurement				
Low range		0~3A	0~6A	0~1.5A
Resolution		1mA	1mA	1mA
Accuracy		±(0.1%+0.1%FS)	±(0.1%+0.1%FS)	±(0.1%+0.1%FS)
High range		0~30A	0~60A	0~15A
Resolution		1mA	1mA	1mA
Accuracy		±(0.1%+0.15%FS)	±(0.1%+0.15%FS)	±(0.1%+0.15%FS)
Power measurement (Input voltage /current≥10%FS)				
Range		0~300W	0~300W	0~300W
Resolution	P<100W	1mW	1mW	1mW
	P≥100W	10mW	10mW	10mW
Accuracy		1%+0.1%FS	1%+0.1%FS	1%+0.1%FS
Current slew rate				
Range	CCH (/us)	0.1mA ~1.5A	0.1mA ~3A	0.1mA ~0.75A
	CCL (/us) *3	0.1mA ~0.15A	0.1mA ~0.33A	0.1mA ~0.075A
Resolution		0.1mA/us	0.1mA/us	0.1mA/us
Accuracy *4		3%+10us	3%+10us	3%+10us
Battery discharge				
Discharge time		1s~100h	1s~100h	1s~100h
Resolution		1s	1s	1s
Accuracy		0.2%+1s	0.2%+1s	0.2%+1s
Battery capacity		3000Ah	6000Ah	1500Ah
Resolution		1mAh	1mAh	1mAh
Accuracy		0.3%+0.01Ah	0.3%+0.01Ah	0.3%+0.01Ah
Discharge voltage range		0.1V~150V	0.1V~150V	0.1V~150V
Discharge current resolution		10mA	10mA	10mA
Short circuit				
CCL		3.6A	7.2A	1.8A
CCH		33A	66A	16.5A
CV		0V	0V	0V
VH CRL		0.027Ω	0.022Ω	0.24Ω
VH CRM		5.6Ω	2.8Ω	31Ω
VH CRH		58Ω	29Ω	310Ω
VL CRL		0.027Ω	0.022Ω	0.24Ω
VL CRM		1.1Ω	0.53Ω	2Ω
VL CRH		10Ω	5.3Ω	20Ω
CPV		315W	315W	315W
CPC		0W	0W	0W

Max. slew rate			
Current	1.5A /us	3A /us	0.75A /us
Voltage	0.2V /us	0.2V /us	0.02V /us
Open circuit	≥20kΩ	≥20kΩ	≥20kΩ
Max. input level			
Current	33A	66A	16.5A
Voltage	175V	175V	550V
Ripple & Noise			
Current (rms/p-p)	3mA/30mA	6mA/60mA	5mA/50mA
Voltage (rms)	5mV	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)	215x89x412mm		
Weight	5.2kg		

Specifications are subject to change without prior notice.

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