



DP800 series

Programmable Linear DC Power Supply

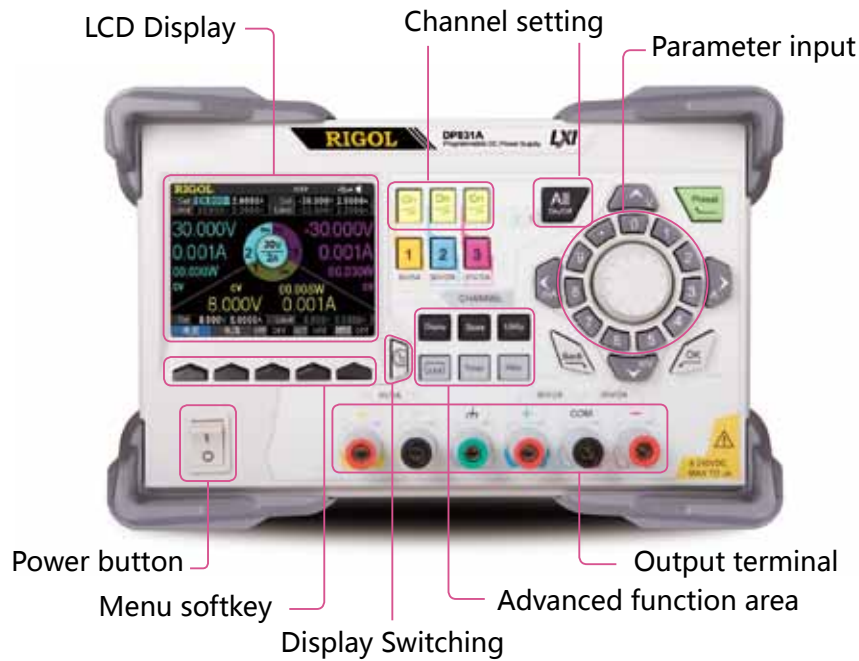
- DP832A/832:3 Outputs, CH1 || CH2,CH3, Total Power up to 195W
- DP831A:3 Outputs, CH1 || CH2,CH3, Total Power up to 160W
- DP811A:1 Output, 40V/5A or 20V/10A, with Remote Sense, Total Power up to 200W
- DP821A:2 Outputs, 60V/1A || 8V/10A, with Remote Sense, Total Power up to 140W
- Low Ripple Noise: <350 uVrms/2mVpp
- Excellent Linear Regulation Rate and Load Regulation Rate
- Fast Transient Response Time: <50us
- Standard OVP/OCP/OTP protection functions
- Standard Timing function
- Built in V,A,W measurements and waveform display
- Support Output Delay, Analysis, Monitor, Preset functions
- Independent control for each channel
- 3.5 Inch TFT Display
- Connectivity: USB Host& Device, LAN, RS232, Digital IO, USB-GPIB(Opt.)



DP800 Series Programmable DC Power Supply

► Larger LCD Display Intuitive User Interface

Observable Clean Stable Reliable Affordable



► Complete Connectivity



Product Dimension: Width×Height×Depth=239mm x 157mm x 418mm Weight: 9.75 kg

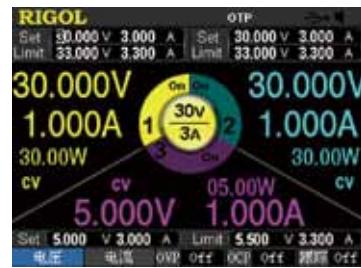
► Typical Applications

- R&D lab General purpose testing
- Quality Assessment inspection
- Bias power for RF/MW circuits
- Automotive electronic test
- Production testing
- Device or circuit characterization and troubleshooting

► Intuitive User Interface



DP831A GUI



DP832A GUI



DP832 GUI



Timing Output



V/A/W Display



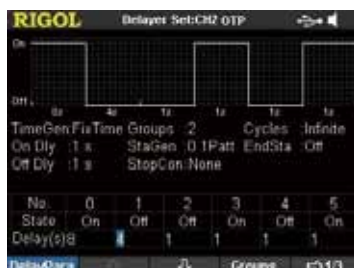
Output Analysis Function



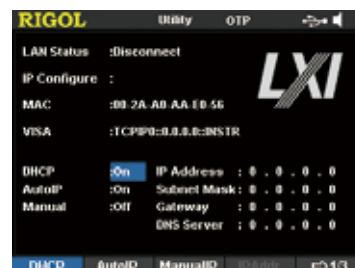
Monitor Setup



Trigger In/Out



Output Delay



LAN Setup

► Specifications

All the specifications are guaranteed when the instrument has been working for more than 30 minutes under the specified operation temperature. Unless otherwise noted, the specifications are applicable to all the channels of the specified model.

DP832A/DP832/DP831A Specifications

Model		DP832A		DP832		DP831A	
Channels				3			
DC Output (0°C to 40°C)							
Voltage/current		CH1: 0 ~ 30V/0 ~ 3A CH2: 0 ~ 30V/0 ~ 3A CH3: 0 ~ 5V/0 ~ 3A			CH1: 0 ~ 8V/0 ~ 5A CH2: 0 ~ +30V/0 ~ 2A CH3: 0 ~ -30V/0 ~ 2A		
OVP/OCP		CH1: 1mV ~ 33V/1mA ~ 3.3A CH2: 1mV ~ 33V/1mA ~ 3.3A CH3: 1mV ~ 5.5V/1mA ~ 3.3A			CH1: 10mV ~ 33V/1mA ~ 3.3A CH2: 10mV ~ 33V/1mA ~ 3.3A CH3: 10mV ~ 5.5V/1mA ~ 3.3A		CH1: 1mV ~ 8.8V/0.1mA ~ 5.5A CH2: 1mV ~ 33V/0.1mA ~ 2.2A CH3: -1mV ~ -33V/0.1mA ~ 2.2A
Load Regulation Rate ± (Output Percentage + Offset)							
Voltage		<0.01%+2mV					
Current		<0.01%+250 μ A					
Linear Regulation Rate ± (Output Percentage + Offset)							
Voltage		<0.01%+2mV					
Current		<0.01%+250 μ A					
Ripples and Noise (20Hz to 20MHz)							
Normal Mode Voltage		<350 μ Vrms/2mVpp					
Normal Mode Current		<2mArms					
Annual Accuracy ^[1] (25°C ± 5°C) ± (Output Percentage + Offset)							
Programming	Voltage	CH1: 0.05% + 20mV			CH1: 0.1%+5mV		
		CH2: 0.05% + 20mV			CH2: 0.05%+20mV		
		CH3: 0.1% + 5mV			CH3: 0.05%+20mV		
	Current	CH1: 0.2% + 5mA			CH1: 0.2%+10mA		
		CH2: 0.2% + 5mA			CH2: 0.2%+5mA		
		CH3: 0.2% + 5mA			CH3: 0.2%+5mA		
Readback	Voltage	CH1: 0.05% + 10mV			CH1: 0.1%+5mV		
		CH2: 0.05% + 10mV			CH2: 0.05%+10mV		
		CH3: 0.1% + 5mV			CH3: 0.05%+10mV		
	Current	CH1: 0.15%+ 5mA			CH1: 0.2%+10mA		
		CH2: 0.15%+ 5mA			CH2: 0.1%+5mA		
		CH3: 0.15%+ 5mA			CH3: 0.1%+5mA		
Resolution							
Programming	Voltage	1mV		10mV		1mV	
				With high-resolution option: 1mV			
	Current	1mA		1mA		CH1: 0.3mA	
				10mV		CH2/CH3: 0.1mA	
Readback	Voltage	0.1mV		With high-resolution option:0.1mV		0.1mV	
				1mA			
	Current	0.1mA		With high-resolution option:0.1mA		0.1mA	
				10mV			
Display	Voltage	1mV		With high-resolution option:1mV		1mV	
				10mA			
	Current	1mA		With high-resolution option:1mA		1mA	
Transient Response Time							
Less than 50 μ s for output to recover to within 15mV following a change in output current from full load to half load or vice versa.							
Command Processing Time ^[2]							
<118ms							
Temperature Coefficient per°C (Output Percentage + Offset)							
Voltage		CH1/CH2: 0.01%+5mV CH3: 0.01%+2mV			0.01%+2mV		
Current		0.01%+2mA			0.02%+3mA		
Stability ^[3] ± (Output Percentage + Offset)							
Voltage		CH1/CH2: 0.02%+2mV CH3: 0.01%+1mV			CH1: 0.03%+1mV CH2/CH3: 0.02% + 2mV		
Current		0.05%+2mA			CH1: 0.1%+3mA CH2/CH3: 0.05% + 1mA		
Voltage Programming Control Speed (1% within the total variation range)							
Rise	Full Load	CH1/CH2: <50ms CH3: <15ms			CH1: <18ms CH2: <33ms CH3: <35ms		
	No Load	CH1: <33ms CH2: <38ms CH3: <14ms			CH1: <17ms CH2: <36ms CH3: <42ms		

	Full Load	CH1/CH2: <46ms CH3: <24ms	CH1: <20ms CH2: <44ms CH3: <45ms
	No Load	CH1/CH2: <400ms CH3: <100ms	CH1: <200ms CH2/CH3: <400ms
OVP/OCP			
Accuracy ± (Output Percentage + Offset)		0.5%+0.5V/0.5%+0.5A	
Activation Time		1.5ms (OVP≥3V) <10ms (OVP<3V和OCP)	
Mechanical			
Dimensions		239mm(W) x 157mm(H) x 418mm(D)	
Weight		10.5kg (DP832A/DP832) 9.75kg (DP831A)	
Power			
AC Input (50Hz to 60Hz)		100Vac+10%, 115Vac+10%, 230Vac+10% (maximum 250VAC)	
I/O			
USB Device		1	1
USB Host		1	1
LAN		Option	1
RS232		Option	1
Digital IO		Option	1
USB–GPIB		Option	Option
Environment			
Working Temperature		Full Rated Value Output: 0℃ to 40℃ Under Relatively Higher Temperature: the linearity of the output current reducesdecreases linearly to 50% at the highest temperature 55℃	
Cooling Method		Fan Cooling	

Note:

[1] The accuracy parameters are acquired via calibration under 25°C after 1–hour warm–up.

[2] The maximum time required for the output to change accordingly after receiving the APPLY and SOURce commands.

[3] The variation of the output within 8 hours after 30–minute warm–up when the load circuit and environment temperature are constant.

DP811A Specifications

Model		DP811A	
Channels		1 (2 output scales)	
Output Scale		20V/10A (Low Range)	40V/5A (High Range)
DC Output (0°C to 40°C)			
Voltage		0 ~ +20V	0 ~ +40V
Current		0 ~ 10A	0 ~ 5A
OVP		0.1V ~ 22V	0.1V ~ 44V
OCP		0.1A ~ 11A	0.1V ~ 5.5A
Load Regulation Rate ± (Output Percentage + Offset)			
Voltage		<0.01%+2mV	
Current		<0.01%+250 μ A	
Linear Regulation Rate ± (Output Percentage + Offset)			
Voltage		<0.01%+2mV	
Current		<0.01%+250 μ A	
Ripples and Noise (20Hz to 20MHz)			
Normal Mode Voltage		<350 μ Vrms/2mVpp	
Normal Mode Current		<2mA _{rms}	
Annual Accuracy ^[1] (25°C ± 5°C) ± (Output Percentage + Offset)			
Programming	Voltage	0.05%+10mV	
	Current	0.1 %+10mA	
Readback	Voltage	0.05% + 10mV	
	Current	0.1% + 10mA	
Resolution			
Programming	Voltage	1mV	
	Current	0.5mA	
Readback	Voltage	0.1mV	
	Current	0.1mA	
Display	Voltage	1mV	
	Current	1mA	

Transient Response Time		
Less than 50 μ s for output to recover to within 15mV following a change in output current from full load to half load or vice versa.		
Command Processing Time ^[2]		
<100ms		
Temperature Coefficient per°C (Output Percentage + Offset)		
Voltage		0.01%+3mV
Current		0.02%+3mA
Stability ^[3] ± (Output Percentage + Offset)		
Voltage		0.02% + 1mV
Current		0.1% + 1mA
Voltage Programming Control Speed (1% within the total variation range)		
Rise	Full Load	< 45 ms
	No Load	< 42 ms
Fall	Full Load	<51ms
	No Load	<1089ms
OVP/OCP		
Accuracy ± (Output Percentage + Offset)		0.5%+0.5V/0.5%+0.5A
Activation Time		1.5ms (OVP≥ 3V)
Mechanical		<10ms (OVP<3V和OCP)
Dimensions		
Weight		239mm(W) x 157mm(H) x 418mm(D)
Power		10.3kg
AC Input		
(50Hz to 60Hz)		100Vac+10% , 115Vac+10% , 230Vac+10% (maximum 250VAC)
I/O		
USB Device		1
USB Host		1
LAN		1
RS232		1
Digital IO		1
USB–GPIB		Option
Environment		
Working Temperature		Full Rated Value Output: 0°C to 40°C
		Under Relatively Higher Temperature: the output current decreases linearly to 50% at the highest temperature 55°C
Cooling Method		Fan Cooling

Note:

[1] The accuracy parameters are acquired via calibration under 25°C after 1-hour warm-up.

[2] The maximum time required for the output to change accordingly after receiving the APPLY and SOURce commands.

[3] The variation of the output within 8 hours after 30-minute warm-up when the load circuit and environment temperature are constant.

DP821A Specifications

Model	DP821A	
Channels	2	
	8V/10A	60V/1A
DC Output (0°C to 40°C)		
Voltage	0 ~ +8V	0 ~ +60V
Current	0 ~ 10A	0 ~ 1A
OVP	0.1V ~ 8.8V	0.1V ~ 66V
OCP	0.1A ~ 10.5A	0.1A ~ 1.1A
Load Regulation Rate ± (Output Percentage + Offset)		
Voltage	<0.01%+2mV	
Current	<0.01%+250 μ A	
Linear Regulation Rate ± (Output Percentage + Offset)		
Voltage	<0.01%+2mV	
Current	<0.01%+250 μ A	
Ripples and Noise (20Hz to 20MHz)		
Normal Mode Voltage	<350 μ Vrms/2mVpp	
Normal Mode Current	<2mArms	

Annual Accuracy ^[1] (25℃ ± 5℃) ± (Output Percentage + Offset)			
Programming	Voltage	8V/10A: <0.05%+10mV	
		60V/1A: <0.1%+25mV	
Readback	Current	0.2%+10mA	
	Voltage	8V/10A: 0.05%+5mV	
		60V/1A: <0.1%+25mV	
	Current	0.15%+10mA	
Resolution			
Programming	Voltage	8V/10A: 1mV	
		60V/1A: 10mV	
	Current	8V/10A: 1mA	
		60V/1A: 0.1mA	
Readback	Voltage	60V/1A: 1mV	
		8V/10A: 1mV	
	Current	60V/1A: 0.1mA	
		8V/10A: 1mA	
Display	Voltage	60V/1A: 10mV	
		8V/10A: 1mV	
	Current	60V/1A: 0.1mA	
		8V/10A: 1mA	
Transient Response Time			
Less than 50 μ s for output to recover to within 15mV following a change in output current from full load to half load or vice versa.			
Command Processing Time ^[2]			
<100ms			
Temperature Coefficient per℃ (Output Percentage + Offset)			
Voltage		0.01%+3mV	
Current		0.02%+3mA	
Stability ^[3] ± (Output Percentage + Offset)			
Voltage		0.02% + 1mV	
Current		0.1% + 1mA	
Voltage Programming Control Speed (1% within the total variation range)			
Rise	Full Load	CH1:<92ms	CH2:<11ms
	No Load	CH1:<30ms	CH2:<15ms
Fall	Full Load	CH1:<90ms	CH2:<17ms
	No Load	CH1:<486ms	CH2:<154ms
OVP/OCP			
Accuracy ± (Output Percentage + Offset)		0.5%+0.5V/0.5%+0.5A	
Activation Time		1.5ms (OVP ≥ 3V)	
		<10ms (OVP<3V和OCP)	
Mechanical			
Dimensions		239mm(W) x 157mm(H) x 418mm(D)	
Weight		10kg	
Power			
AC Input (50Hz to 60Hz)		100Vac+10%, 115Vac+10%, 230Vac+10% (maximum 250VAC)	
I/O			
USB Device		1	
USB Host		1	
LAN		1	
RS232		1	
Environment			
Working Temperature		Full Rated Value Output: 0℃ to 40℃	
		Under Relatively Higher Temperature: the output current decreases linearly to 50% at the	
Cooling Method		highest temperature 55℃ or the input fuse is broken.	
		Fan Cooling	

Note:

[1] The accuracy parameters are acquired via calibration under 25°C after 1-hour warm-up.

[2] The maximum time required for the output to change accordingly after receiving the APPLy and SOURce commands.

[3] The variation of the output within 8 hours after 30-minute warm-up when the load circuit and environment temperature are constant.

► Ordering Information

	Description	Order Number
Model	Programmable DC Power (3 Channels)	DP832A
	Programmable DC Power (3 Channels)	DP832
	Programmable DC Power (3 Channels)	DP831A
	Programmable DC Power (2 Channels)	DP821A
	Programmable DC Power (1 Channel)	DP811A
Standard Accessories	Power cord	-
	USB data cable	CB-USBA-USBB-FF-150
	One shorted device	-
	CD (including User's Guide and Programming Guide)	-
	One fuse(50T-025H 250V 2.5A)	-
Optional Accessories	Quick Guide	-
	1mV & 1mA High resolution option(DP832)	HIRES-DP800
	4 Lines Trigger In&Out(DP832)	DIGITALIO-DP800
	On-line Monitoring and analysis(DP832)	AFK-DP800
	RS232 and LAN interface(DP832)	INTERFACE-DP800
	USB to GPIB Converter	USB-GPIB
	2 Units Rack Mount Kit	RM-2-DP800

Warranty

Three –year warranty, excluding accessories.

RIGOL



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