



DP800 series

Programmable Linear DC Power Supply

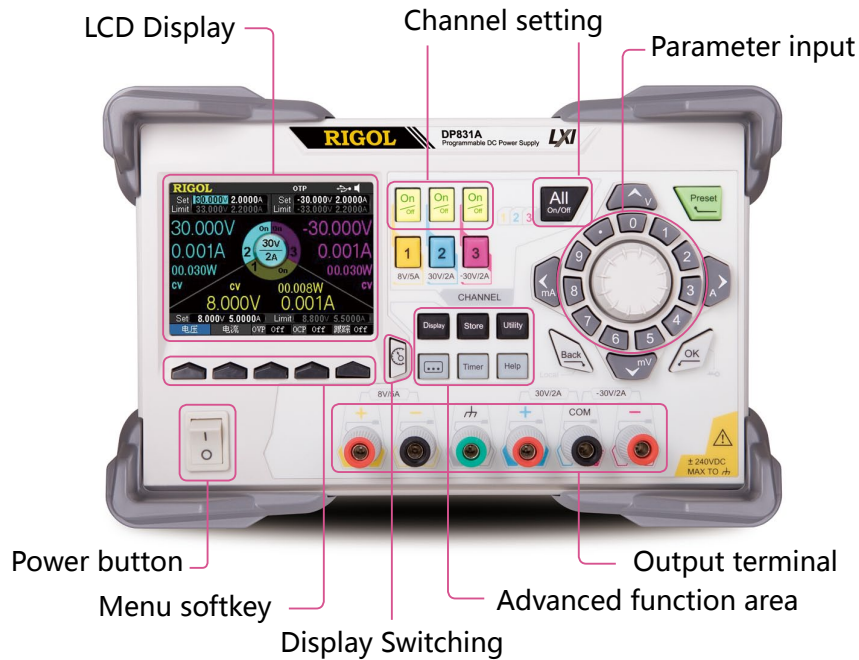
- DP832A/832/831A: 3 Outputs, CH1 || CH2, CH3, Total Power up to 195W
- DP811A: 40V/5A or 20V/10A, Single Channel, Dual Range with Remote Sense
- DP821A: 60V/1A || 8V/10A, Dual Channel with Remote Sense
- Low Ripple Noise: <350 uVrms/2mVpp
- Excellent Linear Regulation Rate and Load Regulation Rate
- 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

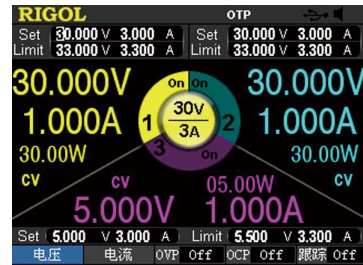
► Typical Applications

- 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

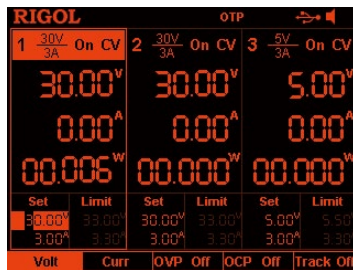
► Intuitive User Interface



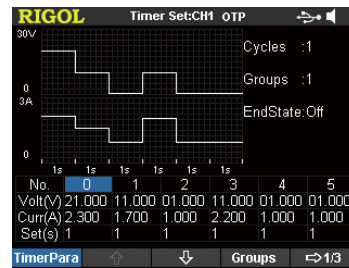
DP831A GUI



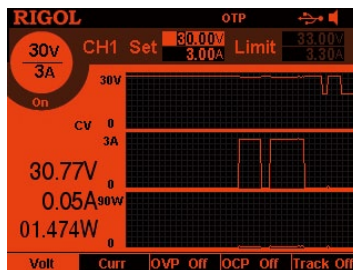
DP832A GUI



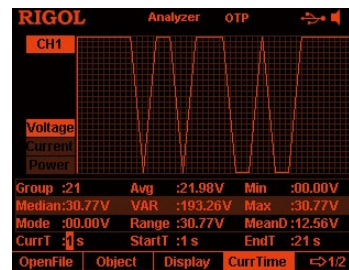
DP832 GUI



Timing Output



V/A/W Display



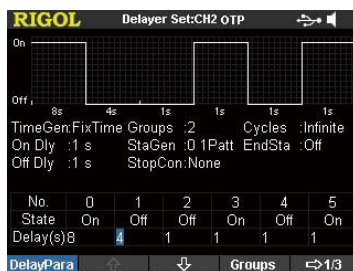
Output Analysis Function



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			
Common Mode Current	<1.5 μ Arms			
Annual Accuracy ^[1] (25°C ± 5°C) ± (Output Percentage + Offset)				
Programming	Voltage	CH1: 0.05% + 20mV CH2: 0.05% + 20mV CH3: 0.1% + 5mV		CH1: 0.1%+5mV CH2: 0.05%+20mV CH3: 0.05%+20mV
		CH1: 0.2% + 5mA CH2: 0.2% + 5mA CH3: 0.2% + 5mA		CH1: 0.2%+10mA CH2: 0.2%+5mA CH3: 0.2%+5mA
		CH1: 0.05% + 10mV CH2: 0.05% + 10mV CH3: 0.1% + 5mV		CH1: 0.1%+5mV CH2: 0.05%+10mV CH3: 0.05%+10mV
Readback	Voltage	CH1: 0.15%+ 5mA CH2: 0.15%+ 5mA CH3: 0.15%+ 5mA		CH1: 0.2%+10mA CH2: 0.1%+5mA CH3: 0.1%+5mA
				CH1: 0.2%+10mA CH2: 0.1%+5mA CH3: 0.1%+5mA
				CH1: 0.2%+10mA CH2: 0.1%+5mA CH3: 0.1%+5mA
Resolution				
Programming	Voltage	1mV	10mV With high-resolution option: 1mV	1mV
	Current	1mA	1mA 10mV	CH1: 0.3mA CH2/CH3: 0.1mA
Readback	Voltage	0.1mV	With high-resolution option:0.1mV 1mA	0.1mV
	Current	0.1mA	With high-resolution option:0.1mA 10mV	0.1mA
Display	Voltage	1mV	With high-resolution option:1mV 10mA	1mV
	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]				
<100ms				
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: <11ms		CH1: <11ms CH2/CH3: <50ms
	No Load	CH1/CH2: <25ms CH3: <10ms		CH1: <10ms CH2/CH3: <25ms

	Full Load	CH1/CH2: <30ms CH3: <13ms	CH1: <13ms CH2/CH3: <30ms
	No Load	CH1/CH2: <400ms CH3: <200ms	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	<2mArms	
Common Mode Current	<1.5 μ Arms	
Annual Accuracy ⁽¹⁾ (25°C ± 5°C) ± (Output Percentage + Offset)		
Programming	Voltage	0.05 % +10mV
	Current	0.1 % +10mA
Readback	Voltage	0.05 % +5mV
	Current	0.1 % +5mA
Resolution		
Programming	Voltage	1mV
	Current	0.5mA
Readback	Voltage	0.1mV
	Current	0.05mA
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] \pm (Output Percentage + Offset)		
Voltage		0.02% + 1mV
Current		0.1% + 1mA
Voltage Programming Control Speed (1% within the total variation range)		
Rise	Full Load	<50ms
	No Load	<30ms
Fall	Full Load	<50ms
	No Load	<400ms
OVP/OCP		
Accuracy \pm (Output Percentage + Offset)		0.5%+0.5V/0.5%+0.5A
Activation Time		1.5ms (OVP \geq 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–GPIO		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	
Common Mode Current	<1.5 μ Arms	

Annual Accuracy ^[1] (25°C ± 5°C) ± (Output Percentage + Offset)		
Programming	Voltage	8V/10A: <0.05%+10mV 60V/1A: <0.1%+25mV
	Current	0.2%+10mA
Readback	Voltage	8V/10A: 0.05%+5mV 60V/1A: <0.1%+25mV
	Current	0.15%+10mA
Resolution		
Programming	Voltage	8V/10A: 1mV 60V/1A: 1mV
	Current	8V/10A: 1mA
Readback	Voltage	60V/1A: 0.1mA
	Current	8V/10A: 1mV 60V/1A: 0.1mA
Display	Voltage	8V/10A: 1mA 60V/1A: 10mV
	Current	8V/10A: 1mV 60V/1A: 0.1mA
Transient Response Time		
Less than 50 μs 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	CH1:<800ms
	No Load	CH2:<50ms <30ms
Fall	Full Load	<50ms
	No Load	CH1:<800ms CH2:<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		10kg
Power		
AC Input		100Vac+10%, 115Vac+10%, 230Vac+10% (maximum 250VAC)
(50Hz to 60Hz)		
I/O		1
USB Device		1
USB Host		1
LAN		1
RS232		1
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 or the input fuse is broken.
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.

► 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
	Rack Mount Kit	RM-DP1000
	2 Units Rack Mount Kit	RM-2-DP800

Warranty

Three –year warranty, excluding accessories.

RIGOL



Headquarter

RIGOL TECHNOLOGIES, INC.
No.156,Cai He Village,
Sha He Town,
Chang Ping District, Beijing,
102206 P.R.China
Tel:+86-10-80706688
Fax:+86-10-80705070
Email: info@rigol.com

USA

RIGOL TECHNOLOGIES , USA INC.
7401 First Place, Suite N
Oakwood Village
OH 44146, USA
Toll free: 877-4-RIGOL-1 ×111
Tel: 440-232-4488 ×111
Fax: 440-232-4499
Email: beyondmeasure@
rigoltech.com

Europe

RIGOL TECHNOLOGIES EU, GmbH
Lindbergh str. 4
82178 Puchheim, Germany
Tel: +49(0)89-8941895-0
Email: info-europe@
rigoltech.com

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