DATA SHEET

EDU36311A

Triple Output Bench Power Supply



KEYSIGHT TECHNOLOGIES

Power Your Next Insight

For more than 50 years, Keysight DC power supplies are changing how engineers prove their design, ensure product quality. The EDU36311A triple-output bench power supply is ready for your next design. With accurate voltage / current measurement and device protection layers —you can test with confidence —and power your next insight.

Get more for less

The Keysight EDU36311A triple-output DC bench power supply comes with a robust design and usability at an affordable price. Its 90 W, electrically isolated channels supply clean and reliable power. The signature 7-inch wide video graphics array (WVGA) gives you clear view, from instrument set up to the output status. You can easily control the EDU36311A triple output DC bench power supply remotely via USB or LAN. This solution includes Keysight's PathWave BenchVue power supply software for the PC.

Features

Clean, reliable power

- low output ripple and noise
- excellent programming / readback accuracy
- exceptional line / load regulation
- superior over-voltage, over-current, and over-temperature protection

Convenient benchtop capabilities

- independent power supplies (three) in one box
- low acoustic noise

Intuitive and easy-to-use interfaces

- signature 7-inch color display
- distinctive color-coded channels
- individual knobs for voltage and current
- flexible connection using LAN (LXI) or USB



Supply your DUT with clean, reliable power

Accurate voltage / current programming and readback capability provide excellent control of the power supply and power measurement. The low, typical mode noise specifications ensure quality power for precision circuitry applications, enabling you to power your design with confidence. Besides the 0.01% load and line regulation, the EDU36311A triple output DC bench power supply also maintains a steady output when power line and load changes occur, giving you more measurement confidence.

The EDU36311A triple output DC bench power supply includes over-voltage protection (OVP), over-current protection (OCP), and over-temperature protection (OTP) to prevent damage in an education teaching lab environment where many students have access.

Compact design

You can independently turn on / off the outputs on the DU36311A triple output DC power supply to give you three power supplies in one instrument. This feature saves bench space and maintenance cost because you can power up multiple analog / digital circuitries or devices with a single instrument.

For even more voltage or current, connect Channel 2 and Channel 3 in a series or parallel mode to double the output voltage up to 60 V or current up to 2 A, respectively.

Simple set up and operation

Figure 1 shows the display with the voltage and current for all three channels with different views. Color-coded knobs along with display and binding posts help you prevent set up and connection errors so you can monitor the voltage and current value of all three channels simultaneously. Use the two knobs with rotary encoder control for voltage and current adjustments to make quick adjustments and configurations.



Figure 1. View of all three output simultaneously

Figure 2 shows the single-channel view that includes the measured power, OVP / OCP condition, and delays. You can also monitor the readback, voltage and current for the other two channels.



Figure 2. View details of a single channel including the measured power, OVP/OCP condition, and delays.

The EDU36311A triple output DC bench power supply supports operation via standard commands for programmable instruments (SCPI) programming language, interchangeable virtual instruments (IVI) driver, web browser or PathWave BenchVue software for the PC.

The EDU36311A triple output DC bench power supply ships with USB and LAN connectivity for easy remote access and control. This solution also features a built-in USB memory port so that you can use a USB flash drive to store your setup parameters. This feature makes it easy for you to restore the same setup into your lab's power supplies.

Robust quality

Keysight understands you cannot afford instrument downtime due to hardware failures and unscheduled maintenance. That is why our engineers designed reliability into the EDU36311A triple output DC bench power supply using a rugged enclosure and a rigorous testing process.

Intuitive front panel



Label	Description
1	7-inch WVGA display
2	Output selection keys
3	Voltage / current knobs
4	Function / navigation / numeric keys
5	Output on / off keys
6	Output terminals
7	Soft keys
8	Earth ground reference
9	USB port
10	Power switch

Pathwave BenchVue Software Control and Visualization

Figure 3 shows the Pathwave BenchVue software for the PC makes it simple to connect, control, and view Keysight power supplies without programming.

- Get auto-detection of connected power supplies.
- See measurement value in voltage, current, power and output status.
- Use the intuitive output limit-setting and control.
- Log data, capture screenshots, and save a system's current state.
- Export measurement data in the desired format quickly.



Figure 3. Data-logging with PathWave Benchvue software for the PC

Specifications

Performance specifications	EDU36311A		
Power output	**90 W**		
DC output rating (0 to 40ºC)	1	2	3
	0 to 6 V	0 to 30 V	0 to 30 V
	0 to 5 A	0 to 1 A	0 to 1 A
Load regulation ± (% of output + offset)			
Voltage	< 0.01% + 2 mV		
Current	< 0.2% + 10 mA		
Line regulation ± (% of output + offset)			
Voltage	< 0.01% + 2 mV		
Current	< 0.2% + 10 mA		
Accuracy 12 months (23 ºC ± 5 ºC)			
Programming accuracy ± (% of output + offset)			
Voltage	0.1% + 5 mV	0.05% + 10 mV	
Current	0.1% + 10 mA	0.2% + 5 mA	
Readback accuracy ± (% of output + offset)			
Voltage	0.1% +5 mV	0.05% + 10 mV	
Current	0.1% +10 mA	0.2% + 5 mA	
Load transient recovery time (Time to recover within the settling band following a load change from 50% to 100% and from 100% to 50% of full load)			
Voltage settling band	15 mV		
Time	< 50 uS		



Specifications continued

Typical characteristics	EDU36311A		
Readback remote			
Voltage	0.5 mV	1.5 mV	1.5 mV
Current	1 mA	0.5 mA	0.5 mA
Programming front panel			
Voltage	1 mV		
Current	1 mA		
Readback front panel			
Voltage	1 mV		
Current	1 mA		
Output ripple and noise (20 Hz to 20 MHz)			
Normal mode voltage	<1mVrms/5mVpp		
Output ripple and noise (20 Hz to 20 MHz)			
Normal mode current	< 4 mArms		
Overvoltage protection (OVP) ± (% of output + offset)			
Programming accuracy	0.2% + 0.4V		
Activation time (average time for the output to start to drop after OVP or OCP condition occurs)			
Overvoltage (OVP)	< 5 ms		
Overcurrent (OCP)	< 5 ms		
Command processing time			
	< 10 ms		
Programming temperature coefficient per ºC (% of output + offset)			
Voltage	0.0005% +0.1 mV	0.002% +0.5 mV	
Current	0.0002% +0.05 mV	0.0001% +0.02 mV	
Readback temperature coefficient per ºC (% of output + offset)			
Voltage	0.0005% +0.1 mV	0.002% +0.5 mV	
Current	0.0002% +0.05 mV	0.0001% +0.02 mV	
Up/down programming settling time to within 1% of the total excursion			
Up full load	80 ms		
Up no load	80 ms		
Down full load	60 ms		
Down no load	500 ms		
Connectivity			
	USB or LAN		

Ordering information

Power supplies

EDU36311A	90W DC power supply, triple output, 6 V, 5 A, 2x 30 V, 1 A, LAN, USB
Option 0E3	230 VAC ±10%
Option 0EM	115 VAC ±10%
Option 0E9	100 VAC ±10%

Standard shipped accessory

AC power cord (based on destination country)

Optional Accessory

EDU190A	Instrument stacking kit (to use with other education series instruments)

Other education series products

EDU34450A	Digital multimeter, 5.5 digit
EDU33211A	Waveform generator, 20 MHz, 1-channel
EDU33212A	Waveform generator, 20 MHz, 2-channel
EDUX1052A	Keysight InfiniiVision 1000 X-Series oscilloscope, 50 MHz, analog channels
EDUX1052G	InfiniiVision 1000 X-Series oscilloscope, 50 MHz, 2 analog channels, with a built-in waveform generator

To learn more, please visit:

www.keysight.com/find/EDU36311A

Learn more at: www.keysight.com

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