#### DATA SHEET

# E36100B Series Programmable DC Power Supplies

## **Power Forward**

Designs change—and so should your DC power supply. Meet the E36100B, engineered by Keysight to power your designs safely and quietly during manual tests or automated sequences. From every angle — size, display, and I/O — the E36100B will impress you. Add one to your bench and power forward.

- Choose the best model for your needs: five models offer up to 5 A or 100 V
- Save space on your bench, 2U 1/4-form factor
- Connect for computer control with standard LAN (LXI Core) and USB connectivity
- Perform manual tasks quickly with the intuitive on-screen menu system
- Easily view the high-contrast OLED display from anywhere on your bench, even from a sharp angle
- Protect your device under test (DUT) with overvoltage and over-current detection
- Power your DUT with confidence through excellent accuracy in programming and readback
- Quiet operation





## Accurate, Reliable Power

The E36100B Series is the latest addition to Keysight's industry standard family of bench power supplies.

Power your DUT with excellent voltage and current programming and readback accuracy. Use the power supply's highly accurate low-current measurement feature for demanding measurements. Protect your DUT with built-in overvoltage and overcurrent protection, and count on the built-in overtemperature protection to keep your power supply safe.

#### **Excellent Front-Panel Usability**

The clean design of the E36100B Series front-panel lets you become productive with the unit very quickly. The easy-to-use rotary knob and keypad interface allows you to set the output at your desired resolution quickly and easily, with digit-by-digit control. You can store and recall up to 10 complete power supply setups from non-volatile memory to quickly change instrument states. The output on/off key quickly turns the output on and off.



- A. Tough carrying handle
- B. Information-packed, high-contrast OLED display; easily viewable even from sharp angles
- C. Rotary knob for quick and easy configuration
- D. Fast voltage/current setting and front-panel electronic calibration
- E. Menu key opens intuitive user interface
- F. Front-panel lock prevents accidental changes during tests
- G. Output enable/disable switch to protect your DUT quickly
- H. Dual-position power switch
- I. Sense terminals
- J. Output terminals
- K. Earth ground reference point

## Fast, Industry-Standard Programming

Every E36100B Series model ships standard with both LAN (LXI Core) and USB (TMC488). The easyto-use SCPI (Standard Commands for Programmable Instruments) programming language lets you create fast and simple programs with transient response faster than 50 µs and fast command processing time–less than 10 ms. You can also program the instrument with the power supply's Interchangeable Virtual Instruments (IVI) driver.

Use the Keysight IO Libraries Suite (www.keysight.com/find/iosuite) to accelerate your programming. The IO Libraries' instrument-centric view and auto-discovery of instruments get you connected to your instrument quickly.

## Simple, Powerful Soft Front Panel

When you cannot be near your DUT, open your browser and control the instrument via the power supply's built-in Web interface, with a look and feel that replicates the front-panel experience.

Control Instrument > Sof ×		
← → C ① 10.116.11.98/#p=control-instrument		☆ :
	KEYSIGHT E36102B DC Power Supply 6V, 5A, 30W Log out Serial number: MY57086423	
	Home Control Instrument Configure LAN O	
	Control Instrument > Soft Front Panel	
	Warning: Should network communication issues occur, the reported readings and instrument configuration settings shown in the Soft Front Panel may not represent the actual readings or instrument state. Do not rely on the reported readings from the Soft Front Panel to determine if a circuit that may have hazardous voltages present is safely de-energized.	
	Image: Second	
	Keysight Technologies 2015 Support   Product   Keysight	

## BenchVue Control and Visualization

BenchVue software for the PC makes it simple to connect, control, and view Keysight power supplies simultaneously with other Keysight bench instruments without programming.

- Visualize the outputs of multiple power supplies simultaneously
- Log data, capture screen shots, and save a system state
- Recall a past state of your bench to replicate results
- Export measurement data in desired format fast
- Quickly access manuals, drivers, FAQs and videos
- Monitor and control bench from mobile devices

The power supply app within BenchVue lets you control power supplies, visualize voltage and current output, log data and annotate captured data. Use the companion BenchVue Mobile app to monitor and respond to long-running tests from anywhere.

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Instrument Settings Data Logger		
4 Settings	+ + + + + + + + + + + + + + + + + + +	
Name E36105A Data Log 4		
Start Data Logging Enable Giant Data Block		
Immediately with Start Button		
At Specific Time: 2015-07-01 15:58:58		
Sample Interval		
DD HH MM SS MS 00 : 00 : 00 : 01 . 000	<b>VI</b> 0, 3, 6, 9, 1/2, 15, 18, 21, 24,	
Stop Data Logging	Time	27 s 30 s
Immediately with Stop Button	Data Log stopped	× Z Ĥ 🔛
After Elapsed Time:	Data Log Trace Configuration	
DD HH MM SS 00 : 00 : 00 : 30	Cutpot 1 V1 500 µV - 7,389 mV	
Alerts	II IA • 0A	
Start	025	🛚 🕕 🗗 Export

## Easy Power and I/O Connection

Connect for computer control with standard LAN (LXI Core) and USB connectivity. Use the security slot to keep the supply on your bench.





Option J01 recessed binding posts

Do you need to convert the power supply for different mains power? The two switches on the bottom of the instrument make it straightforward. See the product manual for details.



## Performance Specifications

	Tolerance %	E36102B	E36103B	E36104B	E36105B	E36106B
DC output rating (0 to 40°C)						
Max. voltage		6 V	20 V	35 V	60 V	100 V
Max. current		5 A	2 A	1 A	0.6 A	0.4 A
Load regulation ± (% of output	+ offset)					
Voltage	< 0.01%+	2 mV	3 mV	6 mV	10 mV	20 mV
Current	< 0.02% +	250 µA	100 µA	50 µA	30 µA	20 µA
Line regulation ± (% of output +	offset)					
Voltage	< 0.01%+	1 mV	2 mV	4 mV	7 mV	12 mV
Current	< 0.02% +	250 µA	100 µA	50 µA	30 µA	20 µA
Output ripple and noise (20 Hz t	o 20 MHz)					
Valtara	RMS	350 µV	0.8 mV	1.2 mV	1.55 mV	2.5 mV
Voltage	Pk-Pk	8 mV	15 mV	20 mV	30 mV	40 mV
	Accuracy 12 months (23°C ± 5°C) Programming accuracy ± (% of output + offset)					
Voltage	0.05% +	3 mV	8 mV	12 mV	20 mV	40 mV
Current	0.05% +	5 mA	1 mA	0.6 mA	0.4 mA	0.3 mA
Readback accuracy ± (% of out	put + offset)					
Voltage	0.05% +	3 mV	5 mV	8 mV	12 mV	20 mV
Current	0.05% +	4 mA	1 mA	0.5 mA	0.3 mA	0.2 mA
Low range current <sup>1</sup>	0.25% +	40 µA (0-20 mA)	40 µA (0-8 mA)	40 μA (0-4 mA)	40 µA (0-3 mA)	40 μA (0-2 mA)
Load transient recovery time (Time to recover to 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	50 mV	87.5 mV	150 mV	250 mV
Time		< 50 µs	< 50 µs			

1. Applicable in constant voltage mode and at  $\geq$ 1% of rated voltage only.

# **Typical Characteristics**

		E36102B	E36103B	E36104B	E36105B	E36106B
Resolution						
	Voltage	360 µV	1.2 mV	2.1 mV	3.6 mV	6.0 mV
Program (Average)	Current	300 µA	120 µA	60 µA	36 µA	24 µA
	Voltage	240 µV	800 µV	1.4 mV	2.4 mV	4 mV
Readback	Current	200 µA	80 µA	40 µA	24 µA	16 µA
	Low range current	5 μΑ	960 nA	280 nA	180 nA	120 nA
Program (Meter)	Voltage	1 mV	1 mV	2 mV	3 mV	6 mV
Minimum perceivable change	Current	1 mA	1 mA	1 mA	1 mA	1 mA
	Voltage	1 mV	1 mV	1 mV	3 mV	6 mV
Readback (Meter)	Current	1 mA	1 mA	1 mA	1 mA	1 mA
	Low range current	5 μΑ	1 µA	1 µA	1 µA	1 µA
Output ripple and noise	(20 Hz to 20 MHz)					
Current	RMS	2 mA	1 mA	400 µA	200 µA	160 µA
Overvoltage protection	(OVP) ± (% of output + o	offset)				
Accuracy	0.20%	0.1 V	0.35 V	0.6 V	1 V	2 V
Activation time (average	e time for the output to s	start to drop aft	er OVP or OCF	condition oc	curs)	
Overvoltage (OVP)		< 1.5 ms wh	en the trip vo	oltage is grea	ater than or e	equal to 3 V
Overcurrent (OCP)		< 1.5 ms				
Command processing t	ime					
		< 10 ms				
Programming temperate	ure coefficient per °C (%	of output + off	set)			
Voltage	0.01%	180 µV	600 µV	1.05 mV	1.8 mV	3.0 mV
Current	0.01%	250 µA	100 µA	50 µA	60 µA	40 µA
Readback temperature	coefficient per °C (% of	output + offset)				
Voltage	0.01%	12 µV	40 µV	70 µV	120 µV	200 µV
Current	0.01%	250 µA	100 µA	50 µA	30 µA	20 µA
Low range current	0.03%	3 µA	1.2 µA	0.6 µA	0.45 µA	0.3 µA
Remote sense (max. vo	ltage in load lead)					
Output can function a	as described with up	to a 1-V drop	per load lead	b		
Up/down programming	settling time to within 1	% of total excu	rsion			
Up, full load		25 ms	50 ms	50 ms	50 ms	100 ms
Up, no load		25 ms	50 ms	50 ms	50 ms	100 ms
Down, full load		25 ms	25 ms	25 ms	30 ms	35 ms
Down, no load		100 ms	150 ms	150 ms	250 ms	300 ms
I/O interfaces						
		LAN (LXI Co	ore) and USE	2.0 FS (TM	C488)	

## **Typical Characteristics**

Environmental conditions	E36102B	E36103B	E36104B	E36105B	E36106B	
Operating environment	Indoor use, installation category II (for AC input), pollution degree 2					
Operating temperature range	0 to 40°C	0 to 40°C				
Storage temperature	–20 to 70°C	–20 to 70°C				
Relative humidity	Up to 95%					
Altitude	Up to 2000 m	Up to 2000 meters				
	Compliant wit	h EMC Directiv	ve (2004/108	/EC)		
	IEC 61326-1:2012/EN 61326-1:2013 Group 1 Class A					
Electromagnetic compatibility	Canada: ICES-001:2004					
	Australia/New Zealand: AS/NZS					
	South Korea KC mark					
Safety	UL 61010-1 3rd edition, CAN/CSA-C22.2 No. 61010-1-12, IEC 61010-1:2010 3rd edition					
AC input	100, 115, or 230 V input (± 10%), 47 to 63 Hz, 200 VA					
Net weight	3.7 kg or 8.1 l	bs. (approx.)	3.6 kg or 7.9	9 lbs. (approx.)		
Overall dimension (H x W x D)	2U, 1/4 rack (102 x 106 x 365 mm)					
Net dimension (without feet, strap handle and binding posts) (H x W x D)	2U, 1/4 rack (89 x 106 x 339 mm)					

## Ordering Information

## E36100B Series Power Supplies

Product model	Description
E36102B	DC power supply, single-output, 6 V, 5 A, 30 W
E36103B	DC power supply, single-output, 20 V, 2 A, 40 W
E36104B	DC power supply, single-output, 35 V, 1 A, 35 W
E36105B	DC power supply, single-output, 60 V, 0.6 A, 36 W
E36106B	DC power supply, single-output, 100 V, 0.4 A, 40 W

## Standard Shipped Accessory

AC power cord (based on destination country)

## **Ordering Options**

Options	Description
Option 0E3	230 VAC ± 10%
Option 0EM	115 VAC ± 10%
Option 0E9	100 VAC ± 10%
Option UK6	Commercial calibration with test result data
Option J01	Recessed binding posts
J1520AC	Universal shelf rack
J1526AC	Metal sliding shelf
E36110A	Rack mount kit solutions for the E36100B series DC power supplies

https://www.keysight.com/my/en/products/dc-power-supplies/bench-power-supplies/e36100-series-bench-power-supply-30-40w.html



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