# Keysight Technologies

## E36100 Series

# Programmable DC Power Supplies

Data Sheet





#### Power forward

Designs change—and so should your DC power supply. Meet the E36100, 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 E36100 will impress you. Add one to your bench and power forward.

- Choose the best model for your needs: five models offer up to  $5\,\text{A}$  or  $100\,\text{V}$
- Save space on your bench or in the rack with the compact,
   2U ¼-rack 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 overcurrent detection
- Power your DUT with confidence through excellent accuracy in programming and readback

### Accurate, reliable power

The E36100 Series is the latest addition to Keysight's industry standard family of bench power supplies, backed with Keysight's standard 3-year warranty.

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 E36100 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 in order 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 E36100 Series model ships standard with both LAN (LXI Core) and USB (TMC488). The easy-to-use SCPI (Standard Commands for Programmable Instruments) programming language lets you create fast and simple programs with transient response faster than 50  $\mu s$  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 bullt-in Web interface, with a look and feel that replicates the front-panel experience.

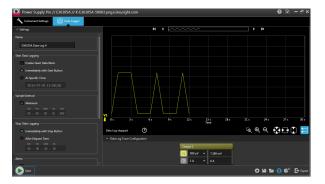


### BenchVue control and visualization

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 (included in BV0000A, available as a free download at www.keysight.com/find/BenchVue). Upgrade to the Pro version (BV0003A) for unrestricted data logging with limit checking and status alerts. Use the companion BenchVue Mobile app to monitor and respond to long-running tests from anywhere.



## 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.



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.



## Keysight E36100 series programmable DC power supply specifications

	Tolerance %	E36102A	E36103A	E36104A	E36105A	E36106A
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 μΑ	100 μΑ	50 μΑ	30 μΑ	20 μΑ
Line regulation ± (% of output + offset)						
Voltage	<0.01% +	1 mV	2 mV	4 mV	7 mV	12 mV
Current	<0.02% +	250 μΑ	100 μΑ	50 μΑ	30 μΑ	20 μΑ
Ripple and Noise (20 Hz to 20 MHz)						
Voltage	RMS	350 μV	1 mV	4 mV	5 mV	8 mV
	Pk-Pk	10 mV	30 mV	60 mV	100 mV	150 mV
Current	RMS	2 mA	1 mA	400 μΑ	200 μΑ	160 μΑ
Accuracy 12 Months (23 °C ± 5 °C)						
Programming Accuracy ± (% of output + offset)						
Voltage	0.05% +	3 mV	7 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 output + 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
Small Current	0.25% +	40 μΑ				
Max Small Current		20 mA	8 mA	4 mA	3 mA	2 mA
Transient Response				<50 μs		

## Keysight E36100 series programmable DC power supply specifications

		E36102A	E36103A	E36104A	E36105A	E36106A
Resolution						
Program	Voltage	360 μV	1.2 mV	2.1 mV	3.6 mV	6.0 mV
	Current	300 μΑ	120 μΑ	60 μΑ	36 μΑ	24 μΑ
Readback	Voltage	240 μV	800 μV	1.4 mV	2.4 mV	4 mV
	Current	200 μΑ	80 μΑ	40 μΑ	24 μΑ	16 μΑ
	Small Current	5 μΑ	960 nA	280 nA	180 nA	120 nA
Program (Meter)	Voltage	1 mV	1 mV	2 mV	3 mV	6 mV
	Current	1 mA	1 mA	1 mA	1 mA	1 mA
Readback (Meter)	Voltage	1 mV	1 mV	1 mV	3 mV	6 mV
	Current	1 mA	1 mA	1 mA	1 mA	1 mA
	Small Current	1 μΑ	1 μΑ	1 μΑ	1 μΑ	1 μΑ
Overvoltage Protection (OVP) ± (% of o	output + offset)					
Accuracy	0.20%	0.5 V	1.5 V	3 V	5 V	8 V
Activation Time (average time for the	output to start to drop after	OVP or OCP condi	tion occurs)			
Overvoltage (OVP)	< 1.5 ms when the tr	ip voltage is greate	er than or equal t	to 3 V		
Overcurrent (OCP)	< 1.5 ms					
Command Processing Time	< 10 ms					
Programming Temperature Coefficien	per °C (% of output + offse	t)				
Voltage	0.005%	180 μV	600 μV	1.05 mV	1.8 mV	3.0 mV
Current	0.01%	250 μΑ	100 μΑ	50 μΑ	60 μΑ	40 μΑ
Readback Temperature Coefficient pe	°C (% of output + offset)					
Voltage	0.005%	12 μV	40 μV	70 μV	120 μV	200 μV
Current	0.01%	250 μΑ	100 μΑ	50 μΑ	30 μΑ	20 μΑ
Remote Sense (max. voltage in load le	ad)					
Output can function as described with u	o to a 1-V drop per load lead					
Up/down programming settling time t	o within 1% of total excursion	n				
Up, full load		25 ms	50 ms	50 ms	50 ms	75 ms
Up, no load		25 ms	50 ms	50 ms	50 ms	75 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 Core) and	USB 2.0 FS (TMC4	88)			

## Keysight E36100 series programmable DC power supply specifications

	E36102A	E36103A	E36104A	E36105A	E36106A
Indoor use, installation category II (for AC input), pollution degree 2					
0 °C to 40 °C					
–20 to 70 °C					
Up to 95%					
Up to 2000 meters		,			
Compliant with EMC Directive (2004/108/EC)					
IEC 61326-1:2012/EN 61326-1:2013 Group 1 Class A					
Canada: ICES-001:2004					
Australia/New Zealand: A	S/NZS				
South Korea KC mark					
UL 61010-1 3rd edition, C	AN/CSA-C22.	2 No. 61010-1-	12, IEC 61010-1:	2010 3rd edition	)
100, 115, or 230 V input (:	± 10%), 47 to 6	3 Hz, 200 VA po	ower consumption	on	
3.7 kg or 8.1 lbs.					
(approx.)					
2U, ¼ rack (98.5 mm (H),	106.4 mm (W)	, 367.7 mm (D))			
	0 °C to 40 °C  -20 to 70 °C  Up to 95%  Up to 2000 meters  Compliant with EMC Direct IEC 61326-1:2012/EN 613  Canada: ICES-001:2004  Australia/New Zealand: A  South Korea KC mark  UL 61010-1 3rd edition, C  100, 115, or 230 V input (s)  3.7 kg or 8.1 lbs. (approx.)	Indoor use, installation category II (for A 0 °C to 40 °C —20 to 70 °C  Up to 95%  Up to 2000 meters  Compliant with EMC Directive (2004/10 IEC 61326-1:2012/EN 61326-1:2013 Grace Canada: ICES-001:2004  Australia/New Zealand: AS/NZS  South Korea KC mark  UL 61010-1 3rd edition, CAN/CSA-C22. 100, 115, or 230 V input (± 10%), 47 to 6 3.7 kg or 8.1 lbs. (approx.)	Indoor use, installation category II (for AC input), pollution on the following of the foll	Indoor use, installation category II (for AC input), pollution degree 2  0 °C to 40 °C  -20 to 70 °C  Up to 95%  Up to 2000 meters  Compliant with EMC Directive (2004/108/EC)  IEC 61326-1:2012/EN 61326-1:2013 Group 1 Class A  Canada: ICES-001:2004  Australia/New Zealand: AS/NZS  South Korea KC mark  UL 61010-1 3rd edition, CAN/CSA-C22.2 No. 61010-1-12, IEC 61010-1: 100, 115, or 230 V input (± 10%), 47 to 63 Hz, 200 VA power consumptions. (approx.)	Indoor use, installation category II (for AC input), pollution degree 2  0 °C to 40 °C  -20 to 70 °C  Up to 95%  Up to 2000 meters  Compliant with EMC Directive (2004/108/EC)  IEC 61326-1:2012/EN 61326-1:2013 Group 1 Class A  Canada: ICES-001:2004  Australia/New Zealand: AS/NZS  South Korea KC mark  UL 61010-1 3rd edition, CAN/CSA-C22.2 No. 61010-1-12, IEC 61010-1:2010 3rd edition 100, 115, or 230 V input (± 10%), 47 to 63 Hz, 200 VA power consumption 3.7 kg or 8.1 lbs. (approx.)

## Ordering Information

Keysight E36100 Series Power Supplies
E36102A DC power supply, single-output, 6 V, 5 A, 30 W
E36103A DC power supply, single-output, 20 V, 2 A, 40 W
E36104A DC power supply, single-output, 35 V, 1 A, 35 W
E36105A DC power supply, single-output, 60 V, 0.6 A, 36 W
E36106A DC power supply, single-output, 100 V, 0.4 A, 40 W

## Standard Shipped Accessory

AC power cord (based on destination country)

## **Ordering Options**

Opt. 0E3 230 VAC ± 10%
Opt. 0EM 115 VAC ± 10%
Opt. 0E9 100 VAC ± 10%
Opt. UK6 Commercial calibration with test result data
E3600A-100 Test lead kit

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#### www.keysight.com/find/mykeysight

A personalized view into the information most relevant to you.

#### www.lxistandard.org



LAN eXtensions for Instruments puts the power of Ethernet and the Web inside your test systems. Keysight is a founding member of the LXI consortium.

#### Three-Year Warranty



#### www.key sight.com/find/Three Year Warranty

Keysight's commitment to superior product quality and lower total cost of ownership. The only test and measurement company with three-year warranty standard on all instruments, worldwide.

#### Keysight Assurance Plans



#### www.keysight.com/find/AssurancePlans

Up to five years of protection and no budgetary surprises to ensure your instruments are operating to specification so you can rely on accurate measurements.

#### www.keysight.com/go/quality



Keysight Technologies, Inc. DEKRA Certified ISO 9001:2008 Quality Management System

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#### Keysight Infoline

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Keysight's insight to best in class information management. Free access to your Keysight equipment company reports and e-library.

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Get the best of both worlds: Keysight's measurement expertise and product breadth, combined with channel partner convenience.

www.keysight.com/find/e36100

For more information on Keysight Technologies' products, applications or services, please contact your local Keysight office. The complete list is available at: www.keysight.com/find/contactus

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