

DP5700 Series DC Power Supplies

High-Density Power Supplies

Introduction

The Keysight DP5700 Series DC power supplies are compact and secure, delivering the right performance in space-constrained lab and production environments. The series includes 68 single-output programmable models, with 1.5 kW units in half-rack width and 3.4 kW and 5 kW units in full-rack width, both only 1U high. They provide stable output with built-in voltage and current measurements, with operating ranges up to 600 V / 150 A (on the 1.5 kW models), 600 V / 340 A (on the 3.4 kW models) and 600 V / 500 A (on the 5 kW models).

The DP5700 Series is equipped with a removable SD memory, which supports sensitive security applications, enabling safe movement of test equipment between confidential spaces.



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Compact and Secure — High-Density DC Power Supplies

The DP5700 Series DC power supplies are equipped with many system-ready features, including multiple standard I/O interfaces, to simplify and accelerate test-system development. These high-density power supplies are compact and secure, designed to maximize space efficiency in lab and production environments. Flexible system scaling is possible by connecting up to four units in parallel to increase current or two in series to increase voltage.

The DP5700 Series DC power supplies offer the following features:

- Small high-density 1U package.
- Built-in voltage and current measurements.
- Comprehensive protection from overvoltage and overcurrent.
- Single-phase 100 – 240 VAC universal input for 1.5 kW models.
- Single- and three-phase 200 – 240 VAC, and three-phase 380 – 480 VAC universal input for 3.4 kW and 5 kW models.
- Standard LAN, USB, and GPIB interfaces.
- Full compliance with the LXI Class C specification.
- Removable SD card option for added security.

Ten 1.5 kW Models (Up to 600 V and 150 A)	Thirty 3.4 kW Models (Up to 600 V and 340 A)	Twenty-Eight 5 kW Models (Up to 600 V and 500 A)
DP5721A	DP5741AS, DP5741AL, DP5741AH,	DP5761AL, DP5761AH,
DP5722A	DP5742AS, DP5742AL, DP5742AH,	DP5762AL, DP5762AH,
DP5723A	DP5743AS, DP5743AL, DP5743AH,	DP5763AL, DP5763AH,
DP5724A	DP5744AS, DP5744AL, DP5744AH,	DP5764AL, DP5764AH,
DP5726A	DP5746AS, DP5746AL, DP5746AH,	DP5765AL, DP5765AH,
DP5728A	DP5748AS, DP5748AL, DP5748AH,	DP5766AL, DP5766AH,
DP5730A	DP5750AS, DP5750AL, DP5750AH,	DP5768AL, DP5768AH,
DP5731A	DP5751AS, DP5751AL, DP5751AH,	DP5770AL, DP5770AH,
DP5733A	DP5753AS, DP5753AL, DP5753AH,	DP5771AL, DP5771AH,
DP5736A	DP5756AS, DP5756AL, DP5756AH	DP5772AL, DP5772AH,
		DP5773AL, DP5773AH,
		DP5774AL, DP5774AH,
		DP5775AL, DP5775AH,
		DP5776AL, DP5776AH

Compact, High-Density Form Factor Saves Rack Space

The DP5700 Series delivers up to 1.5 kW in a 1U half-rack width size and 3.4 kW and 5 kW in a 1U full-rack size, with front and rear air vents. This compact design allows other instruments to be stacked directly above or below without obstructing airflow.

Intuitive Front-Panel Operation

The DP5700 Series offers quick and intuitive operation through rotary knobs and buttons. Front-panel controls support coarse and fine adjustments to voltage, current, protection settings, and power-on states (state 0). Voltage and current are displayed simultaneously, while the LED indicators show the operating status and modes. The controls can be locked to prevent accidental parameter changes.



Figure 1. Front-panel control knobs and buttons make it easy to use Keysight DP5700 power supplies (Top: 1.5 kW models, bottom: 3.4 kW and 5 kW models).

Extensive Device Protection

To safeguard devices from damage, the DP5700 Series power supplies provide Overtemperature Protection (OTP), Overcurrent Protection (OCP), and Overvoltage Protection (OVP), shutting down the output when a fault occurs. They also include Undervoltage Protection (UVP) to prevent voltage adjustment below a set limit. Combined, UVP and OVP create a protection window for sensitive load circuitry.

Simplify System Connections

The DP5700 Series power supplies include standard GPIB, LAN, and USB 2.0 interfaces, providing flexibility in I/O selection across test systems. The series is fully compliant with the LXI Class C specification.

Easy System Integration and Configuration

The DP5700 Series supports Standard Commands for Programmable Instruments (SCPI) and includes IVI.NET drivers to simplify system development.

Removable SD Card Option

All DP5700 models include a removable SD card option for secure data handling in classified environments. This option supports equipment sanitization and enables detailed record-keeping of cleaning and sanitization processes, including the methods and materials used, to maintain a clear audit trail and ensure accountability.

Flexible Configuration: Connect Multiple Units in Parallel and Series

For applications requiring higher power, the DP5700 Series delivers up to 5 kW per unit. To increase output current, up to four identical 3.4 kW units or up to twelve identical 5 kW units can be connected in parallel, while two units can be connected in series to increase output voltage (see output terminal isolation information).

Analog Programming and Monitoring

Voltage and current can be programmed from zero to full scale using either an analog voltage of 0 – 5 V / 0 – 10 V or a resistance of 0 – 5 k Ω / 0 – 10 k Ω . This capability also enables monitoring of voltage and current signals.

Universal AC Input

All DP5700 Series 1.5 kW models feature universal AC input, enabling operation worldwide from single-phase 100 – 240 VAC without switches or fuse changes. For other models, the AC inputs are 200-240 VAC for single-phase 3,4 kW models, and 200-240 VAC or 380-480 VAC for any 3-phase 3,4 kW models and above.

Optional Rack Mounting

The optional rack-mount slide kits provide the hardware required to install the DP5700 Series power supply into a test rack. For more information, see the Accessories table on page 22.

Programmable Internal Resistance

The DP5700 Series includes a programmable internal resistance function that allows users to simulate a voltage source with variable series resistance. By setting an internal resistance value, the power supply behaves as if a physical resistor were connected in series with the output terminals. This enables realistic source impedance emulation for testing devices under more representative operating conditions.

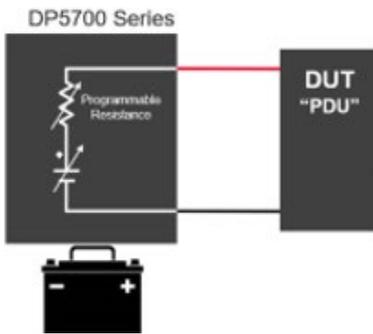


Figure 2. Programmable internal resistance emulates a source with variable series resistance, enabling realistic simulation of battery behavior and other real-world power sources.

Built-in Arbitrary Generator

The integrated arbitrary generator enables the creation of complex voltage or current waveforms that replicate real-world operating environments. Users can apply customized waveforms to simulate power fluctuations, transient events, or other dynamic scenarios, allowing comprehensive device performance characterization.

The arbitrary generator can be synchronized with other test instruments to support coordinated testing setups, making it ideal for evaluating system-level behavior. Additionally, it can reproduce dynamic load conditions often encountered in real applications, ensuring devices are tested under realistic and demanding circumstances.

Adjustable Slew Control

The DP5700 Series offers adjustable slew rate control to manage the rate of voltage change during operation. By fine-tuning the slew rate, users can minimize voltage overshoot and spikes, ensuring smooth transitions and stable power delivery.

Slew control enhances the power supply's ability to handle sudden load changes, improving load transient response and overall power delivery efficiency. This level of control is especially valuable when testing sensitive devices that require carefully managed power ramp-up or ramp-down behavior.

Specifications – 1.5 kW Models

Unless otherwise noted, specifications are warranted over the ambient temperature range of 0 to 40 °C after a 30-minute warm-up period. Specifications apply at the output terminals, with the power supply in local sensing mode.

Refer to the Keysight DP5700 Series documentation for the setup conditions for all performance specifications.

For more detailed specifications, refer to the DP5700 Series user manual at www.keysight.com/find/DP5700.

Keysight Models DP5721A – DP5726A

Model	DP5721A	DP5722A	DP5723A	DP5724A	DP5726A
DC Power Ratings					
Voltage	0 – 10 V	0 – 20 V	0 – 30 V	0 – 40 V	0 – 60 V
Current	0 – 150 A	0 – 75 A	0 – 50 A	0 – 38 A	0 – 25 A
Power	1.5 kW	1.5 kW	1.5 kW	1.52 kW	1.5 kW
Output Ripple and Noise ¹					
CV rms	6 mV	6 mV	6 mV	7 mV	7 mV
CV peak-to-peak	50 mV	50 mV	50 mV	60 mV	60 mV
Load Regulation					
Voltage	3 mV	4 mV	5 mV	6 mV	8 mV
Current	35 mA	20 mA	15 mA	12.6 mA	10 mA
Line Regulation					
Voltage	1 mV	2 mV	3 mV	4 mV	6 mV
Current	17 mA	9.5 mA	7 mA	5.8 mA	4.5 mA
Voltage Programming Accuracy ²					
Voltage	≤ 5 mV	≤ 10 mV	≤ 15 mV	≤ 20 mV	≤ 30 mV
Current Programming Accuracy ^{2, 3}					
Current 0.1%+	300 mA	150 mA	100 mA	76 mA	50 mA
Voltage Measurement Accuracy ²					
Voltage	≤ 5 mV	≤ 10 mV	≤ 15 mV	≤ 20 mV	≤ 30 mV
Current Measurement Accuracy ²					
Current	≤ 300 mA	≤ 150 mA	≤ 100 mA	≤ 76 mA	≤ 50 mA
Transient Response ⁴					
Recovery time	≤ 1 ms	≤ 1 ms	≤ 1 ms	≤ 1 ms	≤ 1 ms
Settling band	0.1 V	0.2 V	0.3 V	0.4 V	0.6 V

1. From 5 Hz to 1 MHz for rms noise; from 20 Hz to 20 MHz for peak-to-peak noise.

2. Accuracy specifications are warranted at 23 °C ± 5 °C

3. Percent of programmed value + offset.

4. Time for output voltage to recover within 1% of its rated output for a load change from 10% to 90% and 90% to 10% of its rated output current.

Keysight Models DP5728A – DP5736A

Model	DP5728A	DP5730A	DP5731A	DP5733A	DP5736A
DC Power Ratings					
Voltage	0 – 80 V	0 – 100 V	0 – 150 V	0 – 300 V	0 – 600 V
Current	0 – 19 A	0 – 15 A	0 – 10 A	0 – 5 A	0 – 2.6 A
Power	1.52 kW	1.5 kW	1.5 kW	1.5 kW	1.56 kW
Output Ripple and Noise ¹					
CV rms	8 mV	30 mV	20 mV	45 mV	100 mV
CV peak-to-peak	75 mV	130 mV	75 mV	180 mV	500 mV
Load Regulation					
Voltage	10 mV	12 mV	17 mV	32 mV	62 mV
Current	8.8 mA	8 mA	7 mA	6 mA	5.52 mA
Line Regulation					
Voltage	8 mV	10 mV	15 mV	30 mV	60 mV
Current	3.9 mA	3.5 mA	3 mA	2.5 mA	2.26 mA
Voltage Programming Accuracy ²					
Voltage	≤ 40 mV	≤ 50 mV	≤ 75 mV	≤ 150 mV	≤ 300 mV
Current Programming Accuracy ^{2,3}					
Current 0.1%+	38 mA	30 mA	20 mA	10 mA	5.2 mA
Voltage Measurement Accuracy ²					
Voltage	≤ 40 mV	≤ 50 mV	≤ 75 mV	≤ 150 mV	≤ 300 mV
Current Measurement Accuracy ²					
Current	≤ 38 mA	≤ 30 mA	≤ 20 mA	≤ 10 mA	≤ 5.2 mA
Transient Response ⁴					
Recovery time	≤ 1 ms	≤ 1 ms	≤ 2 ms	≤ 2 ms	≤ 2 ms
Setting band	0.8 V	1 V	1.5 V	3 V	6 V

1. From 5 Hz to 1 MHz for rms noise; from 20 Hz to 20 MHz for peak-to-peak noise.

2. Accuracy specifications are warranted at 23 °C ± 5 °C

3. Percent of programmed value + offset.

4. Time for output voltage to recover within 1% of its rated output for a load change from 10% to 90% and 90% to 10% of its rated output current.

Supplemental Characteristics – 1.5 kW Models

Supplemental characteristics are not warranted but are descriptions of performance determined by design or type testing. All supplemental characteristics are typical unless otherwise noted.

Keysight Models DP5721A – DP5726A

Model	DP5721A	DP5722A	DP5723A	DP5724A	DP5726A
Output Response Time					
Up, full load	20 ms	20 ms	20 ms	20 ms	20 ms
Down, full load	20 ms	20 ms	20 ms	30 ms	30 ms
Down, no load	300 ms	500 ms	600 ms	900 ms	1,200 ms
Remote Sense Compensation/Wire * (V)¹					
	2	2	5	5	5
Overvoltage Protective Accuracy					
	0.1 V	0.2 V	0.3 V	0.4 V	0.6 V
Overvoltage Protection Range					
	0.5 – 12 V	1 – 24 V	2 – 36 V	2 – 44.1 V	5 – 66.15 V
Output Ripple and Noise²					
(1-phase)	<= 250 mA	<= 130 mA	<= 100 mA	<= 60 mA	<= 50 mA
Programming Resolution					
Voltage	0.2 mV	0.4 mV	0.6 mV	0.8 mV	1.2 mV
Current	3.75 mA	1.875 mA	1.25 mA	0.95 mA	0.625 mA
Measurement Resolution					
Voltage	1.1 mV	1.2 mV	1.2 mV	1.2 mV	1.2 mV
Current	15 mA	1.5 mA	1.5 mA	1.14 mA	1.25 mA
Front Panel Display Accuracy (4 Digits +/- 1 Count)					
Voltage	5 mV	10 mV	15 mV	20 mV	30 mV
Current	300 A	150 mA	100 mA	76 mA	50 mA
Temperature Stability³					
Voltage	1 mV	2 mV	3 mV	4 mV	6 mV
Current	15 mA	7.5 mA	5 mA	3.8 mA	2.5 mA
Temperature Coefficient (ppm/C)⁴					
Voltage	50	50	50	50	50
Current	100	100	100	100	100

1. The maximum voltage on the power supply terminals must not exceed the rated voltage.
2. From 5 Hz to 1 MHz for rms noise.
3. Temperature stability applies over 8 hrs interval following 30 minutes of warm-up. Constant line, load, and temperature.
4. Temperature coefficient applies following 30-minute warm-up period.

Keysight Models DP5728A – DP5736A

Model	DP5728A	DP5730A	DP5731A	DP5733A	DP5736A
Output Response Time					
Up, full load	20 ms	20 ms	30 ms	30 ms	40 ms
Down, full load	50 ms	50 ms	60 ms	70 ms	80 ms
Down, no load	1,300 ms	1,700 ms	2,200 ms	2,700 ms	3,000 ms
Remote Sense Compensation/Wire * (V) ¹					
	5	5	5	5	5
Overvoltage Protective Accuracy					
	0.8 V	1 V	1.5 V	3 V	6 V
Overvoltage Protection Range					
	5 – 88.2 V	5 – 110.25 V	5 – 165.37 V	5 – 330.75 V	5 – 661.5 V
Output Ripple and Noise ²					
(1-phase)	<= 30 mA	<= 40 mA	<= 10 mA	<= 8 mA	<= 5 mA
Programming Resolution					
Voltage	1.6 mV	2 mV	3 mV	6 mV	12 mV
Current	0.475 mA	0.375 mA	0.25 mA	0.125 mA	0.065 mA
Measurement Resolution					
Voltage	1.6 mV	11 mV	10.5 mV	12 mV	12 mV
Current	1.14 mA	1.05 mA	1.5 mA	0.15 mA	0.104 mA
Front Panel Display Accuracy (4 Digits +/- 1 Count)					
Voltage	40 mV	50 mV	75 mV	150 mV	300 mV
Current	38 mA	30 mA	20 mA	10 mA	5.2 mA
Temperature Stability ³					
Voltage	8 mV	10 mV	15 mV	30 mV	60 mV
Current	1.9 mA	1.5 mA	1 mA	0.5 mA	0.26 mA
Temperature Coefficient (ppm/C) ⁴					
Voltage	50	50	50	50	50
Current	100	100	70	70	70

1. The maximum voltage on the power supply terminals must not exceed the rated voltage.
2. From 5 Hz to 1 MHz for rms noise.
3. Temperature stability applies over an 8-hour interval following 30 minutes of warm-up. Constant line, load & temperature.
4. Temperature coefficient applies following 30-minute warm-up period.

Specifications for 3.4 kW Models

Unless otherwise noted, specifications are warranted over the ambient temperature range of 0 to 40 °C after a 30-minute warm-up period. Specifications apply at the output terminals, with the sense terminals connected to the output (local sensing) terminals.

Refer to the Keysight DP5700 Series documentation for the setup conditions for all performance specifications.

For more detailed specifications, refer to the DP5700 Series user manual at www.keysight.com/find/DP5700.

Keysight Models DP5741AS/L/H – DP5746AS/L/H

Model	DP5741AS DP5741AL DP5741AH	DP5742AS DP5742AL DP5742AH	DP5743AS DP5743AL DP5743AH	DP5744AS DP5744AL DP5744AH	DP5746AS DP5746AL DP5746AH
DC Power Ratings					
Voltage	0 to 10 V	0 to 20 V	0 to 30 V	0 to 40 V	0 to 60 V
Current	0 to 340 A	0 to 170 A	0 to 112 A	0 to 85 A	0 to 56 A
Power	3,400 W	3,400 W	3,360 W	3,400 W	3,360 W
Output Ripple and Noise ¹					
CV rms	8 mV	10 mV	10 mV	12 mV	15 mV
CV peak-to-peak	75 mV	75 mV	75 mV	75 mV	80 mV
Load Regulation					
Voltage	6 mV	7 mV	8 mV	9 mV	11 mV
Current	272 mA	136 mA	89.6 mA	68 mA	44.8 mA
Line Regulation					
Voltage	1 mV	2 mV	3 mV	4 mV	6 mV
Current	170 mA	85 mA	56 mA	42.5 mA	28 mA
Voltage Programming Accuracy ²					
Voltage	5 mV	10 mV	15 mV	20 mV	30 mV
Current Programming Accuracy ^{2,3}					
Current 0.1% +	680 mA	340 mA	224 mA	170 mA	112 mA
Voltage Measurement Accuracy ²					
Voltage	5 mV	10 mV	15 mV	20 mV	30 mV
Current Measurement Accuracy ²					
Current	680 mA	340 mA	224 mA	170 mA	112 mA
Transient Response ⁴					
Recovery time	1 ms				
Setting band	0.05 V	0.1 V	0.15 V	0.2 V	0.3 V

1. From 5 Hz to 1 MHz for rms noise; from 20 Hz to 20 MHz for peak-to-peak noise.

2. Accuracy specifications are warranted at 23 °C ± 5 °C

3. Percent of programmed value + offset.

4. Time for output voltage to recover within 0.5% of its rated output for a load change from 10% to 90% and 90% to 10% of its rated output current.

Keysight Models DP5748AS/L/H – DP5756AS/L/H

Model	DP5748AS DP5748AL DP5748AH	DP5750AS DP5750AL DP5750AH	DP5751AS DP5751AL DP5751AH	DP5753AS DP5753AL DP5753AH	DP5756AS DP5756AL DP5756AH
DC Power Ratings					
Voltage	0 to 80 V	0 to 100 V	0 to 150 V	0 to 300 V	0 to 600 V
Current	0 to 42 A	0 to 34 A	0 to 22.5 A	0 to 11.5 A	0 to 5.6 A
Power	3,360 W	3,400 W	3,375 W	3,450 W	3,360 W
Output Ripple and Noise ¹					
CV rms	15 mV	15 mV	20 mV	60 mV	100 mV
CV peak-to-peak	80 mV	100 mV	120 mV	200 mV	480 mV
Load Regulation					
Voltage	13 mV	15 mV	20 mV	35 mV	65 mV
Current	33.6 mA	27.2 mA	18 mA	9.2 mA	4.48 mA
Line Regulation					
Voltage	8 mV	10 mV	15 mV	30 mV	60 mV
Current	21 mA	17 mA	11.25 mA	5.75 mA	2.8 mA
Voltage Programming Accuracy ²					
Voltage	40 mV	50 mV	75 mV	150 mV	300 mV
Current Programming Accuracy ^{2,3}					
Current 0.1% +	84 mA	68 mA	45 mA	23 mA	11.2 mA
Voltage Measurement Accuracy ²					
Voltage	40 mV	50 mV	75 mV	150 mV	300 mV
Current Measurement Accuracy ²					
Current	84 mA	68 mA	45 mA	23 mA	11.2 mA
Transient Response ⁴					
Recovery time	1 ms	1 ms	2 ms	2 ms	2 ms
Setting band	0.4 V	0.5 V	0.75 V	1.5 V	3 V

1. From 5 Hz to 1 MHz for rms noise; from 20 Hz to 20 MHz for peak-to-peak noise.

2. Accuracy specifications are warranted at 23 °C ± 5 °C

3. Percent of programmed value + offset.

4. Time for output voltage to recover within 0.5% of its rated output for a load change from 10% to 90% and 90% to 10% of its rated output current.

Supplemental Characteristics for 3.4 kW Models

Supplemental characteristics are not warranted but are descriptions of performance determined by design or type testing. All supplemental characteristics are typical unless otherwise noted.

Keysight Models DP5741AS/L/H – DP5746AS/L/H

Model	DP5741AS DP5741AL DP5741AH	DP5742AS DP5742AL DP5742AH	DP5743AS DP5743AL DP5743AH	DP5744AS DP5744AL DP5744AH	DP5746AS DP5746AL DP5746AH
Output Response Time					
Up, full load	30 ms	30 ms	30 ms	30 ms	50 ms
Down, full load	50 ms	50 ms	80 ms	80 ms	80 ms
Down, no load	450 ms	600 ms	800 ms	900 ms	1,100 ms
Remote Sense Compensation/Wire * (V) ¹					
	2	2	5	5	5
Overvoltage Protective Accuracy					
	0.1 V	0.2 V	0.3 V	0.4 V	0.6 V
Overvoltage Protection Range					
	0.5 – 12 V	1 – 24 V	2 – 36 V	2 – 44.1 V	5 – 66.15 V
Output Ripple and Noise ²					
(1-phase)	<= 800 mA	<= 450 mA	<= 300 mA	<= 150 mA	<= 100 mA
(3-phase)	<= 1,200 mA	<= 600 mA	<= 300 mA	<= 300 mA	<= 200 mA
Programming Resolution					
Voltage	0.2 mV	0.4 mV	0.6 mV	0.8 mV	1.2 mV
Current	6.8 mA	3.4 mA	2.24 mA	1.7 mA	1.12 mA
Measurement Resolution					
Voltage	1.1 mV	1.2 mV	1.2 mV	1.2 mV	1.2 mV
Current	1.36 mA	1.19 mA	1.12 mA	1.7 mA	1.68 mA
Front Panel Display Accuracy (4 Digits +/- 1 Count)					
Voltage	5 mV	10 mV	15 mV	20 mV	30 mV
Current	680 mA	340 mA	224 mA	170 mA	112 mA
Temperature Stability ³					
Voltage	1 mV	2 mV	3 mV	4 mV	6 mV
Current	3.4 mA	17 mA	11.2 mA	8.5 mA	5.6 mA
Temperature Coefficient (ppm/C) ⁴					
Voltage	50	50	50	50	50
Current	100	100	100	100	100

1. The maximum voltage on the power supply terminals must not exceed the rated voltage.

2. From 5 Hz to 1 MHz for rms noise.

3. Temperature stability applies over an 8-hour interval following 30 minutes of warm-up. Constant line, load & temperature.

4. Temperature coefficient applies following 30-minute warm-up period.

Keysight Models DP5748AS/L/H – DP5756AS/L/H

Model	DP5748AS DP5748AL DP5748AH	DP5750AS DP5750AL DP5750AH	DP5751AS DP5751AL DP5751AH	DP5753AS DP5753AL DP5753AH	DP5756AS DP5756AL DP5756AH
Output Response Time					
Up, full load	50 ms	50 ms	50 ms	50 ms	100 ms
Down, full load	100 ms	100 ms	100 ms	100 ms	200 ms
Down, no load	1,300 ms	2,100 ms	2,000 ms	3,200 ms	3,100 ms
Remote Sense Compensation/Wire * (V) ¹					
	5	5	5	5	5
Overvoltage Protective Accuracy					
	0.8 V	1 V	1.5 V	3 V	6 V
Overvoltage Protection Range					
	5 – 88.2 V	5 – 110.25 V	5 – 165.37 V	5 – 330.75 V	5 – 661.5 V
Output Ripple and Noise ²					
(1-phase)	<= 70 mA	<= 45 mA	<= 30 mA	<= 12 mA	<= 5 mA
(3-phase)	<= 100 mA	<= 60 mA	<= 40 mA	<= 12 mA	<= 8 mA
Programming Resolution					
Voltage	1.6 mV	2 mV	3 mV	6 mV	12 mV
Current	0.85 mA	0.68 mA	0.45 mA	0.23 mA	0.112 mA
Measurement Resolution					
Voltage	1.6 mV	11 mV	10.5 mV	12 mV	12 mV
Current	1.68 mA	1.36 mA	1.35 mA	1.15 mA	0.168 mA
Front Panel Display Accuracy (4 Digits +/- 1 Count)					
Voltage	40 mV	50 mV	75 mA	150 mV	300 mV
Current	84 mA	68 mA	45 mA	23 mA	11.2 mA
Temperature Stability ³					
Voltage	8 mV	10 mV	15 mV	30 mV	60 mV
Current	4.2 mA	3.4 mA	2.25 mA	1.15 mA	0.56 mA
Temperature Coefficient (ppm/C) ⁴					
Voltage	50	50	50	50	50
Current	100	100	70	70	70

1. The maximum voltage on the power supply terminals must not exceed the rated voltage.
2. From 5 Hz to 1 MHz for rms noise.
3. Temperature stability applies over an 8-hour interval following 30 minutes of warm-up. Constant line, load, and temperature.
4. Temperature coefficient applies following 30-minute warm-up period.

Specifications for 5 kW Models

Unless otherwise noted, specifications are warranted over the ambient temperature range of 0 to 40 °C after a 30-minute warm-up period. Specifications apply at the output terminals, with the sense terminals connected to the output (local sensing) terminals.

Refer to the Keysight DP5700 series documentation for the setup conditions for all performance specifications.

For more detailed specifications, refer to the DP5700 series user's manual at www.keysight.com/find/DP5700.

Keysight Models DP5761 AL/H – DP5768AL/H

Model	DP5761AL DP5761AH	DP5762AL DP5762AH	DP5763AL DP5763AH	DP5764AL DP5764AH	DP5765AL DP5765AH	DP5766AL DP5766AH	DP5768AL DP5768AH
DC Power Ratings							
Voltage	0 to 10 V	0 to 20 V	0 to 30 V	0 to 40 V	0 to 50 V	0 to 60 V	0 to 80 V
Current	0 to 500 A	0 to 250 A	0 to 170 A	0 to 125 A	0 to 100 A	0 to 85 A	0 to 65 A
Power	5,000 W	5,000 W	5,100 W	5,000 W	5,000 W	5,100 W	5,200 W
Output Ripple and Noise¹							
CV rms	8 mV	10 mV	12 mV	12 mV	12 mV	12 mV	15 mV
CV peak-to-peak	75 mV	80 mV					
Load Regulation							
Voltage	6 mV	7 mV	8 mV	9 mV	10 mV	11 mV	13 mV
Current	400 mA	200 mA	136 mA	100 mA	80 mA	68 mA	52 mA
Line Regulation							
Voltage	1 mV	2 mV	3 mV	4 mV	5 mV	6 mV	8 mV
Current	250 mA	125 mA	85 mA	62.5 mA	50 mA	42.5 mA	32.5 mA
Voltage Programming Accuracy²							
Voltage	5 mV	10 mV	15 mV	20 mV	25 mV	30 mV	40 mV
Current Programming Accuracy^{2, 3}							
Current	0.1% + 1000 mA	0.1% + 500 mA	0.1% + 340 mA	0.1% + 250 mA	0.1% + 200 mA	0.1% + 170 mA	0.1% + 130 mA
Voltage Measurement Accuracy²							
Voltage	5 mV	10 mV	15 mV	20 mV	25 mV	30 mV	40 mV
Current Measurement Accuracy²							
Current	1000 mA	500 mA	340 mA	250 mA	200 mA	170 mA	130 mA
Transient Response⁴							
Recovery time	1 ms						
Setting band	0.05 V	0.1 V	0.15 V	0.2 V	0.25 V	0.3 V	0.4 V

1. From 20 Hz to 300 kHz for rms noise; from 20 Hz to 20 MHz for peak-to-peak noise

2. Accuracy specifications are warranted at 23° C ±5° C

3. Current programming accuracy requires 1% of the actual programmed current to be added to the stated value.

4. Time to recover to within the settling band following a load change from 10% to 90% of full load

Keysight Models DP5770AL/H – DP5776AL/H

Model	DP5770AL DP5770AH	DP5771AL DP5771AH	DP5772AL DP5772AH	DP5773AL DP5773AH	DP5774AL DP5774AH	DP5775AL DP5775AH	DP5776AL DP5776AH
DC Power Ratings							
Voltage	0 to 100 V	0 to 150 V	0 to 200 V	0 to 300 V	0 to 400 V	0 to 500 V	0 to 600 V
Current	0 to 50 A	0 to 34 A	0 to 25 A	0 to 17 A	0 to 13 A	0 to 10 A	0 to 8.5 A
Power	5,000 W	5,100 W	5,000 W	5,100 W	5,200 W	5,000 W	5,100 W
Output Ripple and Noise¹							
CV rms	15 mV	20 mV	45 mV	60 mV	80 mV	80 mV	100 mV
CV peak-to-peak	90 mV	120 mV	200 mV	200 mV	400 mV	450 mV	480 mV
Load Regulation							
Voltage	15 mV	20 mV	25 mV	35 mV	45 mV	55 mV	65 mV
Current	40 mA	27.2 mA	20 mA	13.6 mA	10.4 mA	8 mA	6.8 mA
Line Regulation							
Voltage	10 mV	15 mV	20 mV	30 mV	40 mV	50 mV	60 mV
Current	25 mA	17 mA	12.5 mA	8.5 mA	6.5 mA	5 mA	4.25 mA
Voltage Programming Accuracy²							
Voltage	50 mV	75 mV	100 mV	150 mV	200 mV	250 mV	300 mV
Current Programming Accuracy^{2, 3}							
Current	0.1% + 100 mA	0.1% + 68 mA	0.1% + 50 mA	0.1% + 34 mA	0.1% + 26 mA	0.1% + 20 mA	0.1% + 17 mA
Voltage Measurement Accuracy²							
Voltage	50 mV	75 mV	100 mV	150 mV	200 mV	250 mV	300 mV
Current Measurement Accuracy²							
Current	100 mA	68 mA	50 mA	34 mA	26 mA	20 mA	17 mA
Transient Response⁴							
Recovery time	1 ms	2 ms					
Setting band	0.5 V	0.75 V	1 V	1.5 V	2 V	2.5 V	3 V

1. From 5 Hz to 1 MHz for rms noise; from 20 Hz to 20 MHz for peak-to-peak noise

2. Accuracy specifications are warranted at 23° C ±5° C

3. Percent of programmed value + offset.

4. Time for output voltage to recover within 0.5% of its rated output for a load change from 10% to 90% and 90% to 10% of its rated output current.

Supplemental Characteristics for 5 kW Models

Supplemental characteristics are not warranted but are descriptions of performance determined by design or type testing. All supplemental characteristics are typical unless otherwise noted.

Keysight Models DP5761AL/H – DP5768AL/H

Model	DP5761AL DP5761AH	DP5762AL DP5762AH	DP5763AL DP5763AH	DP5764AL DP5764AH	DP5765AL DP5765AH	DP5766AL DP5766AH	DP5768AL DP5768AH
Output Response Time							
Up, full load	30 mS	30 mS	30 mS	30 mS	50 mS	50 mS	50 mS
Down, full load	50 mS	50 mS	80 mS	80 mS	80 mS	80 mS	100 mS
Down, no load	300 mS	600 mS	800 mS	900 mS	950 mS	1,000 mS	1,200 mS
Remote Sense Compensation/Wire * (V)¹							
	2	2	5	5	5	5	5
Over-Voltage Protective Accuracy							
	0.1 V	0.2 V	0.3 V	0.4 V	0.5 V	0.6 V	0.8 V
Over-Voltage Protection Range							
	0.5 – 12 V	1 – 24 V	2 – 36 V	2 – 44.1 V	5 – 55.125 V	5 – 66.15 V	5 – 88.2 V
Output Ripple and Noise²							
(3-phase)	<= 1,200 mA	<= 600 mA	<= 300 mA	<= 150 mA	<= 130 mA	<= 100 mA	<= 70 mA
Programming Resolution							
Voltage	0.2 mV	0.4 mV	0.6 mV	0.8 mV	1 mV	1.2 mV	1.6 mV
Current	10 mA	5 mA	3.4 mA	2.5 mA	2 mA	1.7 mA	1.3 mA
Measurement Resolution							
Voltage	1.1 mV	1.2 mV	1.2 mV	1.2 mV	1.5 mV	1.2 mV	1.6 mV
Current	15 mA	12.5 mA	10.2 mA	11.25 mA	11 mA	1.7 mA	1.3 mA
Front Panel Display Accuracy (4 Digits +/- 1 Count)							
Voltage	5 mV	10 mV	15 mV	20 mV	25 mV	30 mV	40 mV
Current	1,000 mA	500 mA	340 mA	250 mA	200 mA	170 mA	130 mA
Temperature Stability³							
Voltage	1 mV	2 mV	3 mV	4 mV	5 mV	6 mV	8 mV
Current	50 mA	25 mA	17 mA	12.5 mA	10 mA	8.5 mA	6.5 mA
Temperature Coefficient (ppm/C)⁴							
Voltage	50	50	50	50	50	50	50
Current	100	100	100	100	100	100	100

1 The maximum voltage on the power supply terminals must not exceed the rated voltage.

2 From 5 Hz to 1 MHz for rms noise.

3 Temperature stability applies over an 8-hour interval following 30 30-minute warm-up. Constant line, load & temperature.

4 The temperature coefficient applies following 30 30-minute warm-up period.

Keysight Models DP5770AL/H – DP5776AL/H

Model	DP5770AL DP5770AH	DP5771AL DP5771AH	DP5772AL DP5772AH	DP5773AL DP5773AH	DP5774AL DP5774AH	DP5775AL DP5775AH	DP5776AL DP5776AH
Output Response Time							
Up, full load	50 mS	50 mS	50 mS	50 mS	100 mS	100 mS	100 mS
Down, full load	100 mS	100 mS	100 mS	100 mS	150 mS	200 mS	200 mS
Down, no load	1,900 mS	2,000 mS	2,000 mS	3,000 mS	4,000 mS	4,000 mS	3,000 mS
Remote Sense Compensation/Wire * (V) ¹							
	5	5	5	5	5	5	5
Over-Voltage Protective Accuracy							
	1 V	1.5 V	2 V	3 V	4 V	5 V	6 V
Over-Voltage Protection Range							
	5 – 110.25 V	5 – 163.37 V	5 – 220.5 V	5 – 330.75	5 – 441 V	5 – 551.25 V	5 – 661.5 V
Output Ripple and Noise²							
(3-phase)	<= 45 mA	<= 45 mA	<= 45 mA	<= 15 mA	<= 12 mA	<= 10 mA	<= 8 mA
Programming Resolution							
Voltage	2 mV	3 mV	4 mV	6 mV	8 mV	10 mV	12 mV
Current	1 mA	0.68 mA	0.5 mA	0.34 mA	0.26 mA	0.2 mA	0.17 mA
Measurement Resolution							
Voltage	11 mV	10.5 mV	10 mV	12 mV	12 mV	15 mV	12 mV
Current	1.5 mA	1.36 mA	1 mA	1.02 mA	1.04 mA	1.1 mA	0.17 mA
Front Panel Display Accuracy (4 Digits +/- 1 Count)							
Voltage	50 mV	75 mV	100 mV	150 mV	200 mV	250 mV	300 mV
Current	100 mA	68 mA	50 mA	34 mA	26 mA	20 mA	17 mA
Temperature Stability³							
Voltage	10 mV	15 mV	20 mV	30 mV	40 mV	50 mV	60 mV
Current	5 mA	3.4 mA	2.5 mA	1.7 mA	1.3 mA	1 mA	0.85 mA
Temperature Coefficient (ppm/C) ⁴							
Voltage	50	50	50	50	50	50	50
Current	100	70	70	70	70	70	70

1 The maximum voltage on the power supply terminals must not exceed the rated voltage.

2 From 5 Hz to 1 MHz for rms noise.

3 Temperature stability applies over an 8-hour interval following 30 30-minute warm-up. Constant line, load & temperature.

4 The temperature coefficient applies following 30 30-minute warm-up period.

Common Characteristics

Characteristic	All Models
Command response time	< 10 ms
Savable states	10
Analog Programming	
Input range	0 to 5 V or 0 to 10 V (selectable)
Accuracy	Specified instrument accuracy $\pm 0.2\%$ of rating
Input impedance	150 k Ω (referenced to ground)
Computer Interface	
LXI version	1.5 LXI Device Specification 2023
LXI extended functions	LXI IPv4, LXI HiSLIP, LXI VXI VXI-11 Discovery and Identification
LAN	10/100 Base-T Ethernet (sockets, VXI-11 protocol, web user interface)
USB	USB 2.0 (USB-TMC488 protocol)
GPIB	IEEE 488
Language	SCPI-1999, IEEE 488.2 compliant
Regulatory Compliance	
EMC	Complies with the European EMC Directive for test and measurement products Complies with Australian standards and carries the C-Tick mark This ISM device complies with Canadian ICES-001 Cet appareil ISM est conforme à la norme NMB-001 du Canada
Safety	Complies with the European Low Voltage Directive and carries the CE-marking. Conforms to US and Canadian safety regulations. Not applicable for IT mains supply systems
Environmental	
Operating environment	Indoor use, installation category II (for AC input), pollution degree 2
Temperature range	0 °C to 40 °C
Relative humidity	20 to 90% (non-condensing)
Storage humidity	10 to 90% (non-condensing)
Altitude	Up to 3000 meters, with 2% output current derating for every 100's above 2000 m, and derating maximum ambient temperature by 1 °C per every 100's above 2000 m
Non-operating altitude	Up to 1,200 m
Storage temperature	-30 °C to 85 °C

Acoustic Statement

Acoustic Statement

1.5 kW Models' Acoustic Noise Emission

At max fan speed	LpA 59.2 dB at Operator Position LpA 52.0 dB at Bystander Position
At idle	LpA 47.7 dB

3.4 kW Models Acoustic Noise Emission

At max fan speed	LpA 58.3 dB at Operator Position LpA 56.8 dB at Bystander Position
At idle	LpA 50.4 dB

AC Input

AC Input

1.5 kW Models – DP57xxA

Connections	L1, L2, PE (1-phase with protective earth)
Voltage	100 VAC -15% to 240 VAC +10%
Maximum Phase Current (A RMS)	<ul style="list-style-type: none"> • 19.7 A (100 VAC, 1-phase) • 17.9 A (110-130 VAC, 1-phase) • 10.4 A (190-240 VAC, 1-phase)
Frequency	50/60 Hz

3.4 kW Models – DP57xxAS

Connections	L1, L2, PE (1-phase with protective earth)
Voltage	200 VAC -15% to 240 VAC +10%
Maximum Phase Current (A RMS)	22.6 A
Frequency	50/60 Hz

3.4 kW and 5 kW Models – DP57xxAL

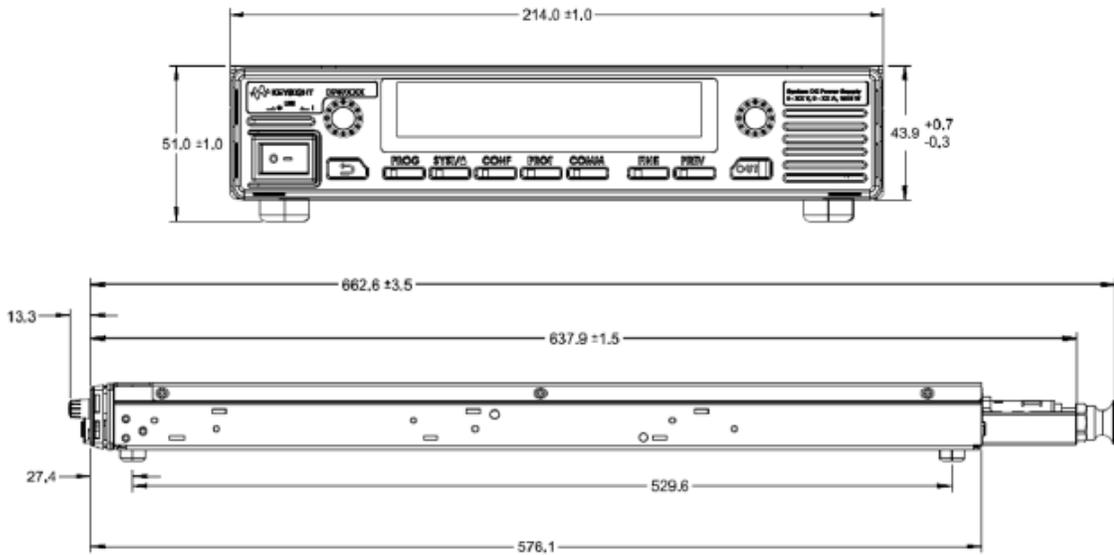
Connections	L1, L2, L3, PE (3-phase with protective earth; no neutral)
Voltage	200 VAC -15% to 240 VAC +10%, line-to-line
Maximum Phase Current (A RMS)	13.1 A
Frequency	50/60 Hz

3.4 kW and 5 kW Models – DP57xxAH

Connections	L1, L2, L3, PE (3-phase with protective earth; no neutral)
Voltage	380 VAC -10% to 480 VAC +10%, line-to-line
Maximum Phase Current (A RMS)	6.5 A
Frequency	50/60 Hz

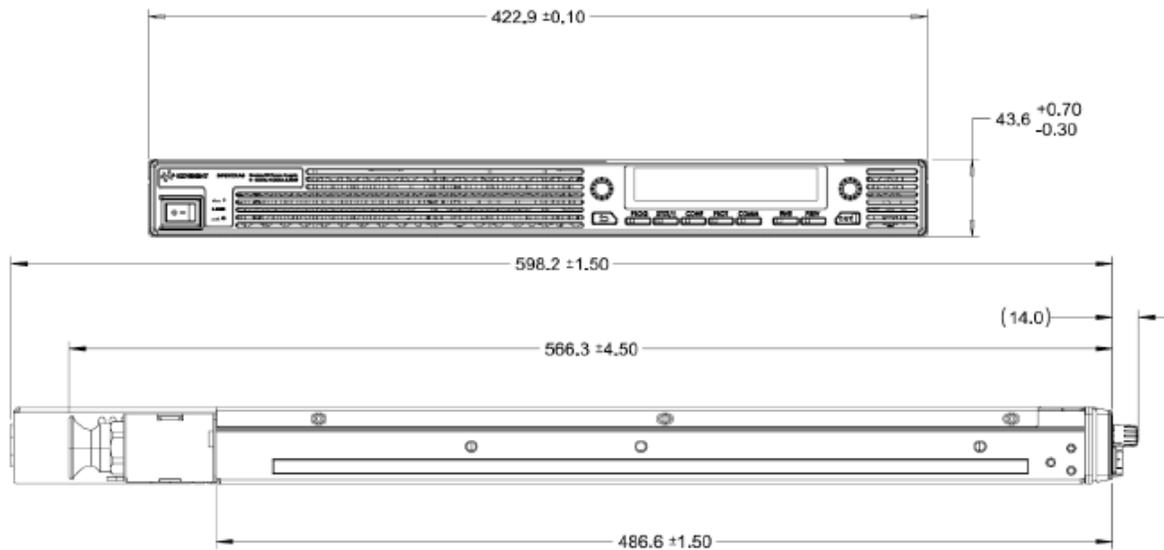
Dimension Diagram

For 1.5 kW Units



All units are in millimeters (mm).

For 3.4 kW and 5 kW Units



All units are in millimeters (mm).

Output Terminal Isolation

When power supplies are connected in series, and the load or one of the output terminals is grounded, or the load and the output terminals are floating, no point may be at a greater potential according to the following:

- For 10 ~ 100 VDC rated output, no point may be at a greater potential of ± 200 VDC from ground.
- For 150 ~ 600 VDC rated output, no point may be at a greater potential of ± 600 VDC from ground.

Line cords and terminations (plugs)

Due to the number of different line cords and terminations around the world, the DP5700 power supplies do not come with line cords or terminations. Users will need to supply their own depending on the local laws and codes of the country/region where the power supply will be used.

Accessories

Part Number	Size	Description
DP5701A	1U half rack	Rack-mount slide kit for 1.5 kW models
N5740A	1U full rack	Rack-mount slide kit for 3.4 kW and 5 kW models
DP5705A		Removable SD memory option

Keysight's IO Libraries Suite

The Keysight IO Libraries Suite ships with the DP5700 to help you quickly establish an error-free connection between your PC and instruments, regardless of the vendor. It provides robust instrument control and works with your chosen software development environment.

Keysight Services

The DP5700 Series products include three years of extended warranty and three years of KeysightCare technical support, which provides unlimited access to technical experts with committed response times. Receive personalized, proactive, and priority support. Find answers in the Knowledge Center, manage service requests, and interact with Keysight experts.

Upgrading to KeysightCare Enhanced can extend your peace of mind and eliminate budgetary surprises for up to five years, and includes a calibration service of choice with prioritized turnaround times. Trust your test results with calibrated in-tolerance instruments and accurate measurements.



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