# DP5700 Series DC 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 40 single-output programmable models, with 1.5 kW units in half-rack width and 3.4 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) and 600 V / 340 A (on the 3.4 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 models.
- Standard LAN, USB, and GPIB interfaces.
- Full compliance with the LXI Class C specification.
- Removable SD card option for added security.

| 10 Models of 1.5 kW Models (Up to 600 V and 150 A) | 30 Models of 3.4 kW Models (Up to 600 V and 340 A) |
|---|---|
| DP5721A | DP5741AS, DP5741AL, DP5741AH, |
| DP5722A | DP5742AS, DP5742AL, DP5742AH, |
| DP5723A | DP5743AS, DP5743AL, DP5743AH, |
| DP5724A | DP5744AS, DP5744AL, DP5744AH, |
| DP5726A | DP5746AS, DP5746AL, DP5746AH, |
| DP5728A | DP5748AS, DP5748AL, DP5748AH, |
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| DP5731A | DP5751AS, DP5751AL, DP5751AH, |
| DP5733A | DP5753AS, DP5753AL, DP5753AH, |
| DP5736A | DP5756AS, DP5756AL, DP5756AH |

## 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 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.

## 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 3.4 kW per unit. Up to four units of the same rating 3.4 kW units can be connected in parallel for greater current, or two in series for greater 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 kΩ / 0 – 10 kΩ. 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 3.4 kW models, the AC input is 200 – 240 VAC (single-phase) or 200–240 VAC / 380–480 VAC (three-phase).

## 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 16.

## 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.

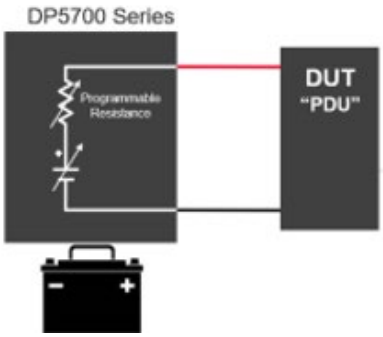



**Figure 2**. Programmable internal resistance emulates a source with variable series resistance, enabling realistic simulation of battery behavior and other real-world power sources.

## 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 | 0.05 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 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 | 0.4 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 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 Noise** [2] | | | | | |
| (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 Stability** [3] | | | | | |
| 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<br>DP5741AL<br>DP5741AH | DP5742AS<br>DP5742AL<br>DP5742AH | DP5743AS<br>DP5743AL<br>DP5743AH | DP5744AS<br>DP5744AL<br>DP5744AH | DP5746AS<br>DP5746AL<br>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 | 1 ms | 1 ms | 1 ms | 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<br>DP5748AL<br>DP5748AH | DP5750AS<br>DP5750AL<br>DP5750AH | DP5751AS<br>DP5751AL<br>DP5751AH | DP5753AS<br>DP5753AL<br>DP5753AH | DP5756AS<br>DP5756AL<br>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<br>DP5741AL<br>DP5741AH | DP5742AS<br>DP5742AL<br>DP5742AH | DP5743AS<br>DP5743AL<br>DP5743AH | DP5744AS<br>DP5744AL<br>DP5744AH | DP5746AS<br>DP5746AL<br>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<br>DP5748AL<br>DP5748AH | DP5750AS<br>DP5750AL<br>DP5750AH | DP5751AS<br>DP5751AL<br>DP5751AH | DP5753AS<br>DP5753AL<br>DP5753AH | DP5756AS<br>DP5756AL<br>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.

# 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 ±0.2% of rating |
| Input impedance | 150 kΩ (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<br>Complies with Australian standards and carries the C-Tick mark<br>This ISM device complies with Canadian ICES-001<br>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.<br>Conforms to US and Canadian safety regulations.<br>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<br>maximum ambient temperature by 1 °C per every 100's above 2000 m |
| Non-operating altitude | Up to 12,000 m |
| Storage temperature | –30 °C to 85 °C |

# Acoustic statement

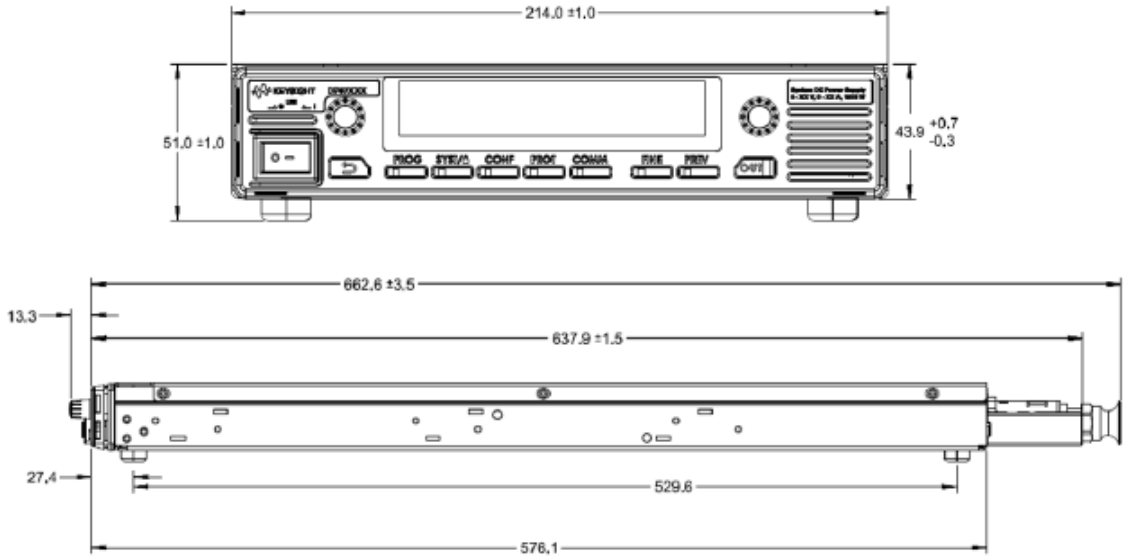
| Acoustic Statement | |
|---|---|
| **1.5 kW Models' Acoustic Noise Emission** | |
| At max fan speed | LpA 59.2 dB at Operator Position<br>LpA 52.0 dB at Bystander Position |
| At idle | LpA 47.7 dB |
| **3.4 kW Models Acoustic Noise Emission** | |
| At max fan speed | LpA 58.3 dB at Operator Position<br>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) | 19.7 A (100 VAC, 1-phase)<br>17.9 A (110-130 VAC, 1-phase)<br>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 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 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 |

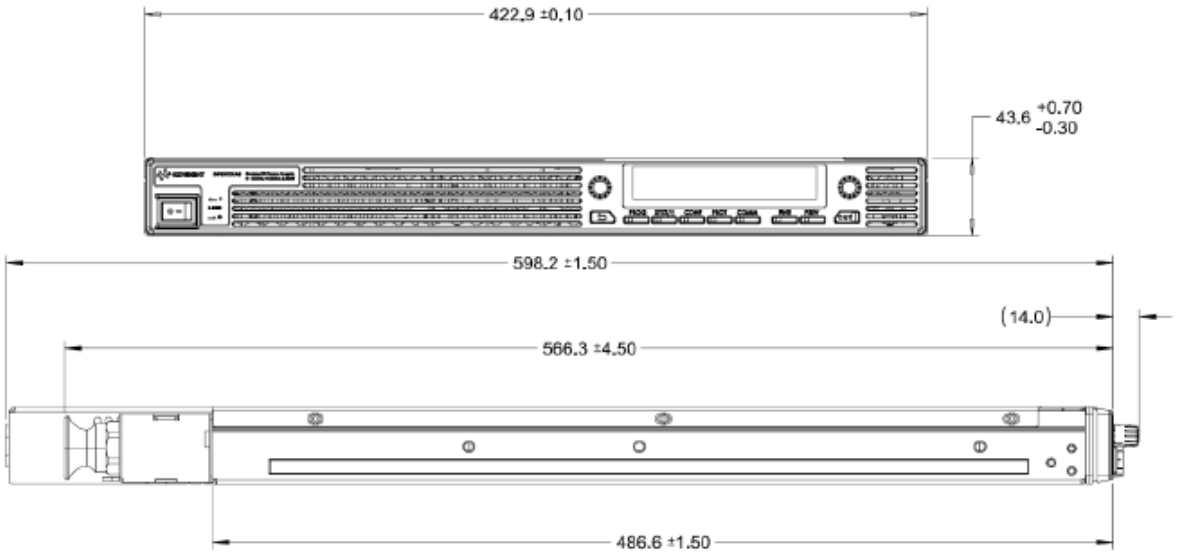
# Dimension Diagram

## For 1.5 kW Units




All units are in millimeters (mm).

## For 3.4 kW 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.

# 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 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. Available in select countries. Learn more.

## For More Information

Visit www.keysight.com/find/dp5700.