

Discovery USB Programmable Power Supply (DPS3340) Specifications

Triple-Output USB Programmable DC Power Supply

Specifications are Typical, unless otherwise noted, and valid under the following conditions:

- Ambient temperature of 25 °C
- 30 minutes of warm-up time
- Using the included auxiliary power supply

Power Supplies

All channels are independently controllable with independent current and voltage settings.

Specification		Output 1	Output 2	Output 3
DC Output Rating	Voltage	1 V to 5 V	-1 V to -15 V	1 V to 15 V
	Current	10 mA to 3 A	-10 mA to -500 mA	10 mA to 500 mA
Maximum Power		30 W (all channels, shared)		
		15 W	7.5 W	7.5 W
Programming Resolution	Voltage	0.36 mV	0.97 mV	0.97 mV
	Current	0.19 mA	0.03 mA	0.03 mA
Programming Accuracy	Voltage	±15 mV	±15 mV	±15 mV
	Current	15 mA	8 mA	5 mA
Readback Resolution	Voltage	7.8 mV	7.8 mV	7.8 mV
	Current	0.81 mA	0.15 mA	0.15 mA

Specification		Output 1	Output 2	Output 3
Readback Accuracy	Voltage	± 30 mV	± 20 mV	± 20 mV
	Current	± 10 mA	± 5 mA	± 5 mA
Load Regulation	Voltage	$\pm I_{out} \cdot 0.06$ V/A	$\pm I_{out} \cdot 0.15$ V/A	$\pm I_{out} \cdot 0.15$ V/A
Ripple and Noise	Voltage (20 MHz Δ Bandwidth):	< 30 mV p-p	< 10 mV p-p	< 25 mV p-p
	Current (20 MHz Δ Bandwidth):	< 7 mA p-p	< 5 mA p-p	< 3 mA p-p

Isolation Voltage

Device isolated from network through external supply. Outputs share a common GND between them and with the host PCB USB connector.

Protection Circuitry

All three supplies feature overcurrent protection through software-settable current limits that can be applied individually to each channel. Same-polarity aggressor protection and reverse voltage protection work up to ± 15 V.

Tracking Mode

When the software-implemented tracking mode is active, Outputs 2 and 3 will track each other in absolute value by applying any voltage change made to one channel's setting to the other channel. E.g. if Output 1 is set to 12 V, then Output 2 will be automatically set to -12 V.

Connectivity

The DPS3340 requires a host computer running the WaveForms software connected via USB to operate.

Device to Computer Interface	USB 2.0 Hi-Speed, Type B.
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Power Requirements

The DPS3340 requires an auxiliary power supply. A compatible power supply is included with the purchase of the DPS3340.

Power Supply Voltage	19 V +/- 5%
Power Supply Current	3.2 A maximum
Power Consumption	60 W maximum
Barrel Connector Size	5.5 mm x 1.65 mm

Physical Characteristics

Dimensions	23.40 cm x 19.40 cm x 3.81 cm (9.2 in x 7.6 in x 1.5 in)
Weight	0.704 kg (1.55 lbs)

Environmental

Operating Temperature	0 °C to 40 °C (32 °F to 104 °F)
Storage Temperature	-20 °C to 60 °C (-4 °F to 140 °F)
Operating Humidity	10% to 80% RH non-condensing
Storage Humidity	5% to 95% RH non-condensing
Cooling	Convection-cooled. Ensure the ventilation holes are not obstructed. ¹⁾ ²⁾
Pollution Degree	2
Maximum Altitude	2,000 m

Indoor use only

- 1) The side vents are sufficient cooling for normal operation.
- 2) The device's fold-out feet can be used to allow for circulation through ventilation holes located on the bottom of the device.

Certifications

Please see the [Declaration of Conformity \(https://digilent.com/reference/lib/exe/fetch.php?tok=c5be72&media=https%3A%2F%2Ffiles.digilent.com%2Fresources%2Ftest-and-measurement%2Fdiscovery-power-supply-3340%2FDeclaration%20of%20Conformity_DPS3340.pdf\)](https://digilent.com/reference/lib/exe/fetch.php?tok=c5be72&media=https%3A%2F%2Ffiles.digilent.com%2Fresources%2Ftest-and-measurement%2Fdiscovery-power-supply-3340%2FDeclaration%20of%20Conformity_DPS3340.pdf) for a list of certifications.

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