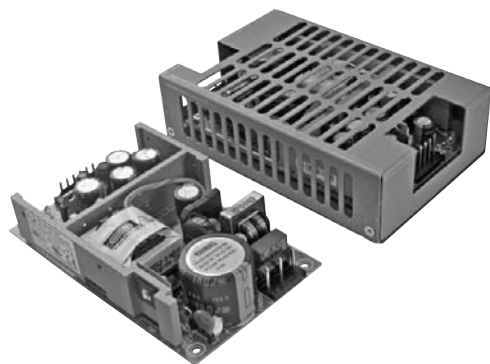


## SDS60 Series



- Single, Dual, Triple & Quad Outputs
- Output Voltages from 3.3 V to 48 V
- Non-standard Outputs Available
- Universal AC Input
- Low Profile - 1.2" (30.5 mm)
- Fits 1U Applications
- Up to 88% Efficiency

## Specification

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### Input

Input Voltage	• 90-264 VAC (120-370 VDC)
Input Frequency	• 47-63 Hz
Input Current	• 1.6 A at 115 VAC • 1.0 A at 230 VAC
Inrush Current	• <15 A at 115 VAC • <30 A at 230 VAC
Earth Leakage Current	• <0.30 mA at 115 VAC • <0.75 mA at 230 VAC
Input Protection	• 2 A/250 VAC internal fuse

### Output

Output Voltage	• See table
Output Voltage Trim	• $\pm 10\%$ on V1 only (see note 4)
Initial Set Accuracy	• Single output models: $\pm 1\%$ • Multi-output models: $\pm 5\%$
Minimum Load	• 10% required on V1 & V2 of multi-output models to maintain regulation, unit will start up with no load
Start Up Delay	• 1 s typical
Hold Up Time	• 12 ms min at 110 VAC, 100% load
Line Regulation	• 1% from low line to high line
Load Regulation	• 5% max all models, $\pm 10\%$ with no load on V1 - see table
Transient Response	• 4% max deviation, recovery to within 1% in 4 ms for a 50% load change
Ripple & Noise	• 1% pk-pk typical, 20 MHz BW
Overvoltage Protection	• 112-132%, recycle input to reset
Overload Protection	• All outputs 110-150% with auto recovery
Short Circuit Protection	• Trip & restart (Hiccup mode), auto recovery
Temperature Coefficient	• 0.04%/°C

### General

Efficiency	• 80% typ, 88% max, 230 VAC 100% load
Isolation	• 3000 VAC Input to Output • 1500 VAC Input to Ground • 500 VAC Output to Ground
Switching Frequency	• 60 kHz typical
Power Density	• 3.5 W/In <sup>3</sup>
Signals	• Green DC OK LED
MTBF	• >100 kHrs per MIL-HDBK-217F

### Environmental

Operating Temperature	• 0 °C to +70 °C, derate linearly from 100% load at +40 °C to 50% load at +70 °C
Cooling	• Convection-cooled
Operating Humidity	• 5-95% RH, non-condensing
Storage Temperature	• -40 °C to +85 °C

### EMC & Safety

Emissions	• EN55022, FCC Part 15, level B conducted
Harmonic Currents	• EN61000-3-2
Voltage Flicker	• EN61000-3-3
ESD Immunity	• EN61000-4-2, level 2 Perf Criteria A
Radiated Immunity	• EN61000-4-3, 3 V/m Perf Criteria A
EFT/Burst	• EN61000-4-4, level 2 Perf Criteria A
Surge	• EN61000-4-5, level 3 Perf Criteria A
Conducted Immunity	• EN61000-4-6, 3 V Perf Criteria A
Magnetic Field	• EN61000-4-8, 1 A/m Perf Criteria A
Dips & Interruptions	• EN61000-4-11, 30% 10 ms, 60% 100 ms, 100% 5000 ms Perf Criteria A, B, B
Safety Approvals	• EN60950-1, UL60950-1, CSA60950-1 per cUL, CE Mark LVD

**Models and Ratings**

Maximum Output Power	Output Voltage	Output Current	Factory-Set Voltage Range <sup>(1)</sup>	Current Range	Total Regulation	Model Number <sup>(5,6)</sup>
50 W	3.3 V	15.1 A	3.0-5.0 VDC	16.6-10.0 A	5%	SDS60US03†
55 W	5.0 V	11.0 A	5.0-6.0 VDC	11.0-9.1 A	5%	SDS60US05†
60 W	7.0 V	8.6 A	6.0-8.0 VDC	10.0-7.5 A	4%	SDS60US07
63 W	9.0 V	7.0 A	8.0-11.0 VDC	7.8-5.7 A	3%	SDS60US09†
63 W	12.0 V	5.2 A	11.0-13.0 VDC	5.7-4.8 A	3%	SDS60US12†
63 W	15.0 V	4.2 A	13.0-16.0 VDC	4.8-3.9 A	3%	SDS60US15†
63 W	19.0 V	3.3 A	16.0-21.0 VDC	3.9-3.0 A	3%	SDS60US19
63 W	24.0 V	2.6 A	21.0-27.0 VDC	3.0-2.3 A	2%	SDS60US24†
63 W	30.0 V	2.1 A	27.0-33.0 VDC	2.3-1.9 A	2%	SDS60US30
63 W	36.0 V	1.7 A	33.0-40.0 VDC	1.9-1.5 A	2%	SDS60US36
63 W	48.0 V	1.3 A	40.0-50.0 VDC	1.5-1.2 A	2%	SDS60US48†

Maximum Output Power	Output <sup>(2,3,4)</sup> V1	Output <sup>(2,3,4)</sup> V2	Output <sup>(3)</sup> V3	Output <sup>(3)</sup> V4	Model Number <sup>(5,6)</sup>
63.0 W	5.0 V/7.0 A	12.0 V/3.0 A			SDS60UD01
48.1 W	3.3 V/7.0 A	5.0 V/5.0 A			SDS60UD04
63.0 W	3.3 V/6.0 A	12.0 V/3.0 A	-12.0 V/0.8 A		SDS60UT00†
63.0 W	3.3 V/6.0 A	12.0 V/3.0 A	-5.0 V/0.8 A		SDS60UT01
63.0 W	3.3 V/6.0 A	12.0 V/3.0 A	+5.0 V/0.8 A		SDS60UT02
53.5 W	3.3 V/5.0 A	5.0 V/5.0 A	+12.0 V/1.0 A		SDS60UT03†
53.5 W	3.3 V/5.0 A	5.0 V/5.0 A	-12.0 V/1.0 A		SDS60UT04
63.0 W	5.0 V/6.0 A	12.0 V/3.0 A	-12.0 V/0.8 A		SDS60UT05†
63.0 W	5.0 V/6.0 A	12.0 V/3.0 A	-5.0 V/0.8 A		SDS60UT06†
63.0 W	5.0 V/6.0 A	15.0 V/3.0 A	-15.0 V/0.8 A		SDS60UT07†
63.0 W	5.0 V/6.0 A	24.0 V/2.0 A	-24.0 V/0.5 A		SDS60UT08
63.0 W	5.0 V/6.0 A	24.0 V/2.0 A	-12.0 V/0.8 A		SDS60UT09
63.0 W	5.0 V/6.0 A	24.0 V/2.0 A	+12.0 V/0.8 A		SDS60UT10†
63.0 W	3.3 V/6.0 A	12.0 V/3.0 A	-12.0 V/0.8 A	-5.0 V/0.8 A	SDS60UQ00
63.0 W	3.3 V/6.0 A	12.0 V/3.0 A	-12.0 V/0.8 A	+5.0 V/0.8 A	SDS60UQ01†
63.0 W	5.0 V/6.0 A	12.0 V/3.0 A	-12.0 V/0.8 A	-5.0 V/0.8 A	SDS60UQ02†
63.0 W	5.0 V/6.0 A	12.0 V/3.0 A	-12.0 V/0.8 A	+24.0 V/0.8 A	SDS60UQ03†
63.0 W	5.0 V/6.0 A	12.0 V/3.0 A	-12.0 V/0.8 A	-24.0 V/0.8 A	SDS60UQ04
63.0 W	5.0 V/6.0 A	15.0 V/3.0 A	-15.0 V/0.8 A	-5.0 V/0.8 A	SDS60UQ05†
59.3 W	5.0 V/6.0 A	24.0 V/1.8 A	-15.0 V/0.1 A	+12.0 V/0.8 A	SDS60UQ06

**Notes**

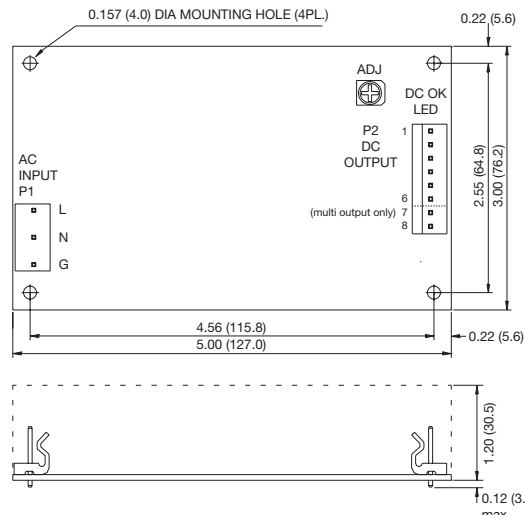
1. If an output voltage within the factory-set voltage range is required, a model number will be allocated at the time of order.
2. 10% minimum load required on V1 & V2 of multi-output units to maintain regulation of ±5%. Regulation increases to ±10% with no load.
3. Other output combinations are available - contact sales for more information.
4. On multi-output units V2 tracks V1, if V1 is adjusted by 5%, V2 changes by 5%.
5. For optional U-bracket, add suffix 'B' to model number. For optional cover, add suffix '-C' to model number (only available with 'B' version).
6. For optional 2 pin AC input use suffix 'C' (open frame) or change 'B' suffix to 'D' (U bracket)

† Available from Farnell. See pages 204-206.

**Mechanical Details**

All dimensions are in inches (mm)

Weight: 0.52 lbs (240 g) approx



Tolerance: ±0.02 (0.5)

PIN CONNECTIONS				
Pin	Single Output	Dual Output	Triple Output	Quad Output
1	Output 1	Output 2	Output 2	Output 2
2	Output 1	Output 1	Output 1	Output 1
3	Output 1	Output 1	Output 1	Output 1
4	Return	Common	Common	Common
5	Return	Common	Common	Common
6	Return	N/C	Output 3	Output 3
7				Output 4
8				Output 4

**Notes:**

1. Input connector mates with Molex housing 09-50-3051 and Molex 2878 series crimp terminal.
2. Output connector mates with Molex housing 09-50-3061 or 9-50-3081 and Molex 2878 series crimp terminal.
3. For optional cover kit order part number SDS60 COVER KIT†, to receive unit with cover fitted add suffix '-C' to model number. Cover size: 5.46 x 3.55 x 1.55 (140 x 91 x 39.7mm).
4. For mating connectors and cable harness order part numbers:  
 SDS60 CON KIT† - Single, dual and triple output models  
 SDS60Q CON KIT† - Quad output models  
 SDS60 LOOM KIT† - Single output models cable harness  
 SDS60DT LOOM KIT† - Dual and triple output models cable harness  
 SDS60Q LOOM KIT† - Quad output models cable harness