

DRS80-240 Series



- Ultra Slim Cases
- 150% Peak Load for 4 seconds
- Wide Output Adjustment Range
- High Efficiency – Up to 92%
- 12 V, 24 V & 48 V Versions
- UL1604 Hazardous Locations Approval
- 3 Years Warranty

Specification

Input

Input Voltage	• 85-264 VAC
Input Frequency	• 47-63 Hz
Input Current	• 80 W: 2 A at 85 VAC 120 W: 2 A at 85 VAC 240 W: 4 A at 85 VAC
Inrush Current	• 30 A max at 230 VAC
Power Factor	• DRS80 0.6 typical DRS120 & 240 0.95 typical Conforms to EN61000-3-2 Class A.
Earth Leakage Current	• 1.5 mA maximum
Input Protection	• Internal fuse in line input, DRS80 & DRS120: T3.15 A/250 VAC DRS240: T6.3 A/250 VAC

Output

Output Voltage	• See table
Output Voltage Trim	• See table
Initial Set Accuracy	• $\pm 1\%$ at 50% load
Minimum Load	• No minimum load required
Start Up Delay	• 1 s maximum
Start Up Rise Time	• 20 ms typical
Hold Up Time	• 20 ms minimum at full load and 115 VAC
Line Regulation	• $\pm 0.5\%$
Load Regulation	• $\pm 1\%$
Transient Response	• 10% maximum deviation, recovering to less than 1% within 500 μ s for 50% step load change at 0.2 A/ μ s
Ripple & Noise	• 100 mV pk-pk maximum, measured with 20 MHz bandwidth
Overvoltage Protection	• 12 V output: 16.5-18 V, 24 V output: 29-31.2 V, 48 V output: 57.6-62.4 V
Overload Protection	• 110-150% of rated current, constant current limit
Short Circuit Protection	• Trip and restart (hiccup mode)
Temperature Coefficient	• $\pm 0.02\%/^{\circ}\text{C}$

General

Efficiency	• See table
Isolation	• 3000 VAC Input to Output 1500 VAC Input to Ground 500 VDC Output to Ground
Switching Frequency	• DRS80 60-300 kHz variable DRS120 & DRS240 100 kHz typical PFC & main converter
Signals	• DRS120 & 240: DC OK Volt free contacts
MTBF	• >200 kHrs to MIL HDBK217F at 25 $^{\circ}\text{C}$, GB

Environmental

Operating Temperature	• -20 $^{\circ}\text{C}$ to +70 $^{\circ}\text{C}$ (see derating curves)
Cooling	• Natural convection
Operating Humidity	• 5-95% RH, non-condensing
Storage Temperature	• -25 $^{\circ}\text{C}$ to +85 $^{\circ}\text{C}$
Shock	• IEC68-2-6, 30 g, 11ms half sine, 3 times in each of 6 axes
Vibration	• IEC68-2-27, 10-500 Hz, 2 g 10 mins/sweep. 60 mins for each of 3 axes

EMC & Safety

Emissions	• EN55022, class B conducted & radiated
Harmonic Currents	• EN61000-3-2, class A
Voltage Flicker	• EN61000-3-3
ESD Immunity	• EN61000-4-2, 4 KV Contact, 8 KV Air Discharge
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, Installation Class 3 Perf Criteria B
Conducted Immunity	• EN61000-4-6, 3 V Perf Criteria A
Dips & Interruptions	• EN61000-4-11, 30% 10 ms, 60% 100 ms, 100% 5000 ms Perf Criteria A, B, B
Safety Approvals	• UL508, EN60950, UL1604 Class 1, Division 2, Groups A, B, C & D hazardous locations for DRS80, others pending.

Models and Ratings

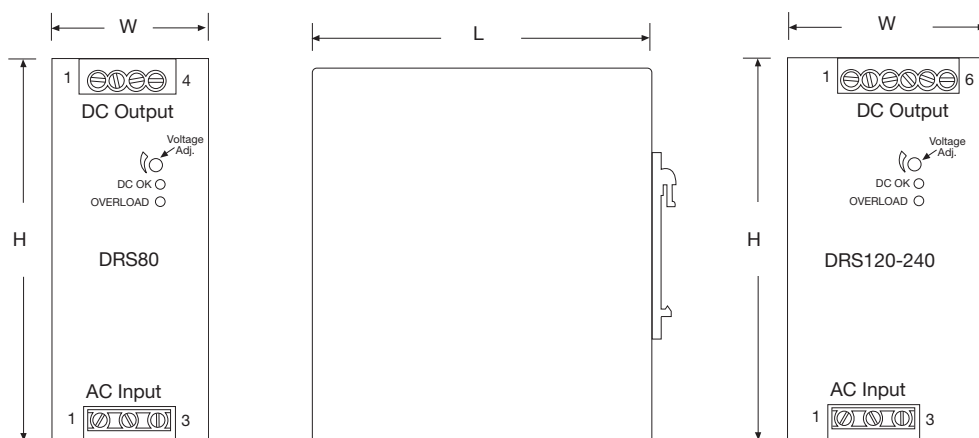
DRS80-240 **XP**

Output Voltage	Output Power	Output Voltage Trim	Output Current ⁽¹⁾	Typical Efficiency ⁽²⁾	Model Number
12 V	72 W	12-15 V	6.0 A	89%	DRS80US12
24 V	80 W	24-28 V	3.4 A	90%	DRS80US24
48 V	80 W	48-56 V	1.7 A	91%	DRS80US48
12 V	96 W	12-15 V	8.0 A	89%	DRS120PS12
24 V	120 W	24-28 V	5.0 A	91%	DRS120PS24
48 V	120 W	48-56 V	2.5 A	91%	DRS120PS48
12 V	180 W	12-15 V	15.0 A	89%	DRS240PS12
24 V	240 W	24-28 V	10.0 A	92%	DRS240PS24
48 V	240 W	48-56 V	5.0 A	92%	DRS240PS48

Notes

1. At nominal output voltage. Derate as output voltage increases.
2. At 230 VAC input, 100% load

Mechanical Details



Pin Connections		
Conn	Pin	Designation
AC Input	1	Neutral
	2	Line
	3	Ground
DC Output	6	DC OK*
	5	DC OK*
	4	Negative
	3	Negative
	2	Positive
	1	Positive

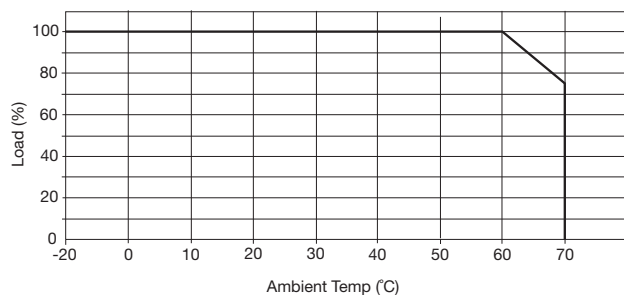
* Available on DRS120 and 240, DRS80 has a 4 way output connector

Model	Sizes (inches/mm)		
	W	L	H
DRS80	1.26 (32)	4.00 (102)	4.88 (124)
DRS120	1.57 (40)	4.60 (113.3)	4.88 (124)
DRS240	2.36 (60)	4.60 (113.3)	4.88 (124)

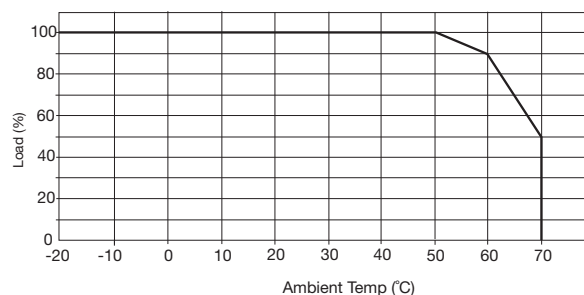
Weight: DRS80: 0.92 (420)
 DRS120: 1.37 (620)
 DRS240: 1.98 (900)
 Tolerance: ± 0.05 in (± 0.2 mm)
 Screw terminal torque: 4.5-6.2 lbs-in (0.5-0.7 Nm)
 Wire sizes:
 DRS80/120/240: AWG24-10 (0.2-5.3 mm²)

Derating Curves

DRS80 & DRS120

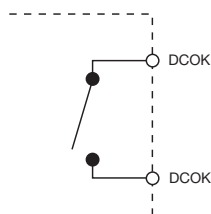


DRS240



DC OK

Available on DRS120 & DRS240 models.



Open = Output fail
 Closed = Output good

Contact Rating: 0.3 A at 60 VDC
 500 VDC isolation