Industrial Power Supplies

www.powersolve.co.uk

PDN10, 20, 40, 60, 100 Series
10 - 96W DIN Rail Power Supply
Single Output

Features

- Installed on DIN rail TS35/7.5 or 15
- Universal AC Input 88 - 264Vac
- Short Circuit / Overvoltage / Overload Protections
- Cooling by Free Air Convection
- High Efficiency, Long Life and High Reliability
- Operating Temperature range -20°C to +70°C
- True DC OK Signal Output
- UL508 listed, UL1310 Class 2 Power Unit / LPS pass

Electrical Specification	
Input Voltage	88-264VAC full range, 47-63Hz / 124-370VDC
Power Factor	>0.98 @ 115VAC / >0.92 @ 230VAC at full load (PDN100 only)
AC Input Current (typ.)	PDN10: 0.23A @ 115VAC / 0.17A @ 230VAC PDN20: 0.45A @ 115VAC / 0.32A @ 230VAC PDN40: 0.80A @ 115VAC / 0.40A @ 230VAC PDN60: 1.3A @ 115VAC / 0.60A @ 230VAC PDN100: 1.1A @ 115VAC / 0.55A @ 230VAC
Inrush Current	PDN10: 15A @ 115VAC / 30A @ 230VAC cold start PDN20: 20A @ 115VAC / 40A @ 230VAC cold start PDN40, PDN60, PDN100: 30A @ 115VAC / 60A @ 230VAC cold start
Leakage Current	<1mA @ 230VAC
Output Voltage	See Table
Output Current	See Table
Overload Protection	>102% of rated output power. Constant current limiting, recovers automatically when fault removed
Overvoltage Protection	115-150% rated output voltage. Output latches off
Operating Temperature Range	-20°C to +70°C (with derating)
Operating Humidity	20-90% RH non-condensing
Storage Temperature Range	-40°C to +85°C
Temperature Coefficient	±0.03%/°C (0-50°C)
Vibration	10-500Hz, 2G 0.5oct/min, period for 60 mins, along X,Y & Z axis
Safety Standards	UL508, TUV EN60950-1, UL1310 NEC class 2 compliant
Withstand Voltage	I/P-O/P: 4242VDC, I/P-FG: 2121VDC for 1 min.
Isolation Resistance	I/P-O/P, I/P-FG, O/P-FG: 100MΩ / 500VDC
EMI Conduction & Radiation	EN55022: 2006 Class B, EN61204-3: 2000, EN61000-6-3: 2007
Harmonic Current	EN61000-3-2, 3: 2006
EMS Immunity	EN55024, EN61204-3: 2000, EN61000-6-1: 2007 (EN61000-4-2, 3, 4, 5, 6, 8, 11)
DC OK Signal	PDN10 & PDN20: Open Collector max. 40mA PDN40, PDN60, PDN100: Relay Contact (24VDC/1A, 120VAC/1A)
Cooling	Free Air Convection
Dimensions	PDN10, PDN20: 23(W) x 90(H) x 99(D) mm PDN40, PDN60: 40(W) x 90(H) x 99(D)mm PDN100: 55(W) x 90(H) x 99(D)mm
Weight	PDN10: 0.13Kg PDN20: 0.14Kg PDN40: 0.28Kg PDN60: 0.30Kg PDN100: 0.40Kg

Powersolve Electronics Ltd. 8A Arnhem Road, Newbury, RG14 5RU. England
Tel: 01635 521858 Fax: 01635 523771 Email: sales@powersolve.co.uk

Industrial Power Supplies

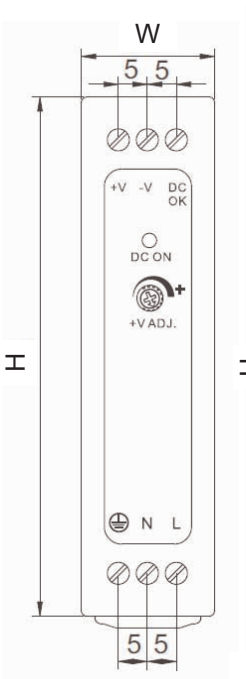
www.powersolve.co.uk

Output Voltage and Current Ratings

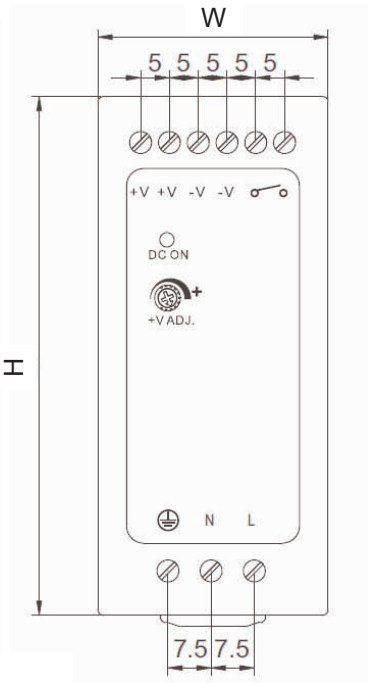
MODEL	OUTPUT VOLTAGE Preset	OUTPUT VOLTAGE Range	MAX OUTPUT CURRENT	VOLTAGE TOLERANCE	RIPPLE & NOISE	LINE REG.	LOAD REG.	POWER Max.	EFF.
PDN10-12	12V	10.8 - 13.2V	0.84A	±1%	100mV	±1.0%	±1.0%	10.08W	81%
PDN10-15	15V	13.5 - 16.5V	0.67A	±1%	100mV	±1.0%	±1.0%	10.05W	81%
PDN10-24	24V	21.6 - 26.4V	0.42A	±1%	120mV	±1.0%	±1.0%	10.08W	81%
PDN20-12	12V	10.8 - 13.2V	1.7A	±1%	100mV	±1.0%	±1.0%	20.4W	83%
PDN20-15	15V	13.5 - 16.5V	1.4A	±1%	100mV	±1.0%	±1.0%	21W	85%
PDN20-24	24V	21.6 - 26.4V	1A	±1%	120mV	±1.0%	±1.0%	24W	86%
PDN40-12	12V	10.8 - 13.2V	3.4A	±1%	100mV	±1.0%	±1.0%	40.8W	84%
PDN40-15	15V	13.5 - 16.5V	2.7A	±1%	100mV	±1.0%	±1.0%	40.5W	84%
PDN40-24	24V	21.6 - 26.4V	1.7A	±1%	120mV	±1.0%	±1.0%	40.8W	84%
PDN40-48	48V	43.2 - 52.8V	0.85A	±1%	180mV	±1.0%	±1.0%	40.8W	85%
PDN60-12	12V	10.8 - 13.2V	5A	±1%	100mV	±1.0%	±1.0%	60W	86%
PDN60-15	15V	13.5 - 16.5V	4A	±1%	100mV	±1.0%	±1.0%	60W	87%
PDN60-24	24V	21.6 - 26.4V	2.5A	±1%	120mV	±1.0%	±1.0%	60W	87%
PDN60-48	48V	43.2 - 52.8V	1.25A	±1%	180mV	±1.0%	±1.0%	60W	88%
PDN100-12	12V	10.8 - 13.2V	7.5A	±1%	180mV	±1.0%	±2.0%	90W	87%
PDN100-15	15V	13.5 - 16.5V	6.4A	±1%	180mV	±1.0%	±2.0%	96W	87%
PDN100-24	24V	21.6 - 26.4V	4A	±1%	180mV	±1.0%	±2.0%	96W	88%
PDN100-48	48V	43.2 - 52.8V	2A	±1%	250mV	±1.0%	±2.0%	96W	87%

Notes.
1. All parameters NOT specifically mentioned are measured at 230VAC input, rated load and 25°C of ambient temperature.
2. Ripple & noise are measured at 20MHz of bandwidth by using a 12" twisted pair-wire terminated with a 0.1μF ceramic & 47μF electrolytic parallel capacitors.
3. Tolerance includes set up tolerance, line regulation and load regulation.
4. De-rating mat be needed under low input voltages. Check the de-rating curve for more details.
5. The power supply is considered a component which will be installed into a final equipment. The final equipment must be re-confirmed that it still meets EMC directives.
6. In parallel connection, only one unit may operate if the output load is less than 5% of rated output load.

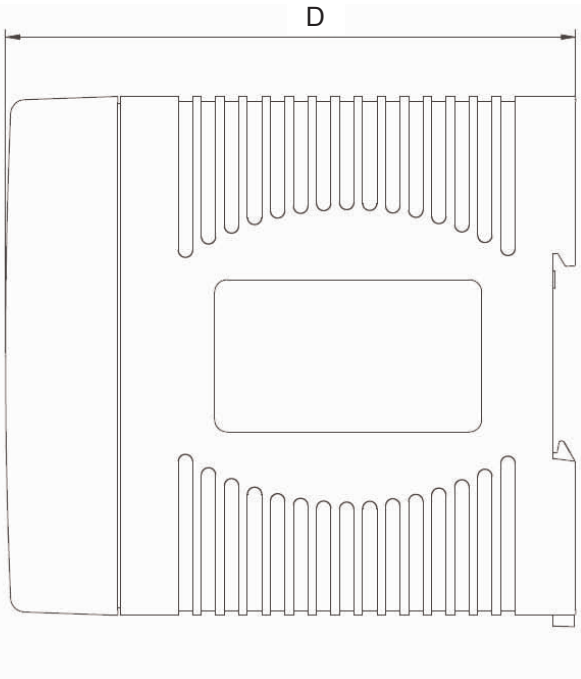
Mechanical & Connection Details



PDN10, PDN20



PDN40, PDN60, PDN100



Dimensions

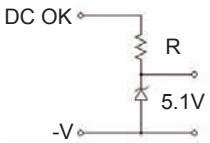
Model	Width (W)	Height (H)	Depth (D)
PDN10 & PDN20	23	90	99
PDN40 & PDN60	40	90	99
PDN100	55	90	99

All dimensions in mm

Powersolve Electronics Ltd. 8A Arnhem Road, Newbury, RG14 5RU. England
Tel: 01635 521858 Fax: 01635 523771 Email: sales@powersolve.co.uk

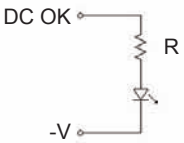
Application of DC OK Active Signal (PDN10, PDN20)

(a) 5V Signal



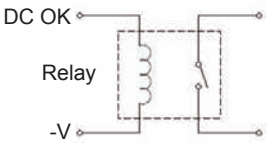
Model	R
12V	≥1.5KΩ
15V	≥2KΩ
24V	≥3.9KΩ

(b) LED



Model	R
12V	≥2.4KΩ
15V	≥3KΩ
24V	≥4.7KΩ

(c) Relay

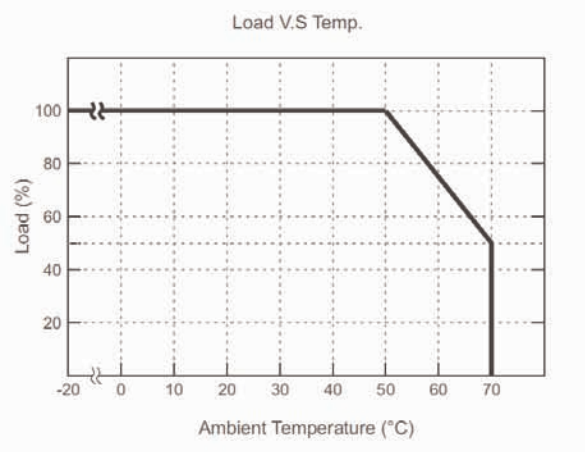


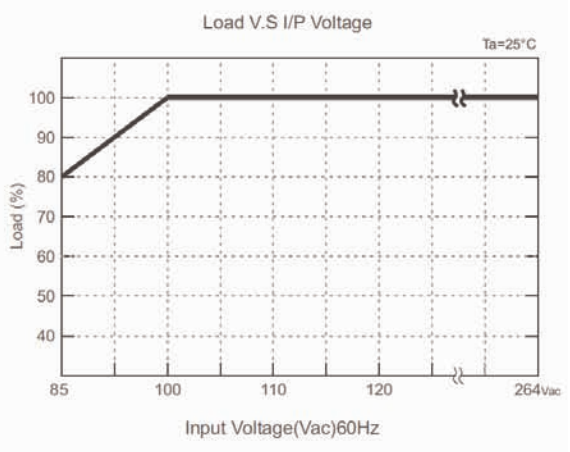
Model	Coil R
12V	≥700Ω
15V	≥700Ω
24V	≥1.2KΩ

DC OK Relay Contact (PDN40, PDN60, PDN100)

Contact Closed	When the output voltage reaches the adjusted output voltage
Contact Open	When the output voltage drops below 90% of the adjusted output voltage
Contact Rating (max.)	24V / 1A resistive load

De-rating Curves





Powersolve Electronics Ltd. 8A Arnhem Road, Newbury, RG14 5RU. England
Tel: 01635 521858 Fax: 01635 523771 Email: sales@powersolve.co.uk