



Wall Industries, Inc.

Rev. A

PSDN-100 Series
Active PFC
96 Watt, Single output
AC/DC DIN Rail Power Supply

FEATURES

- Single Output
- RoHS Compliant
- True DC OK Relay Contact
- Withstand 5G Vibration Test
- Universal AC Input 88~264VAC
- Installed on DIN Rail TS35 / 7.5 or 15
- UL1310 Class 2 Power Unit / LPS Pass
- High Operating Temperature up to 70°C
- UL508 (Industrial Control Equipment) Listed
- Built-in Active PFC and Over Temp Protection
- High Efficiency, Long Life, and High Reliability
- All Using 105°C Long Life Electrolytic Capacitors
- Short Circuit, Over Load, and Over Voltage Protection



DESCRIPTION

The PSDN-100 series of AC/DC DIN Rail power supplies provides 96 Watts of continuous output power. All models have a single output, active PFC, and a universal input range. All models are over load, over voltage, over temp, and short circuit protected.

SPECIFICATIONS: PSDN-100 Series

All specifications are based on 25°C, Nominal Input Voltage, and Maximum Output Current unless otherwise noted.
We reserve the right to change specifications based on technological advances.

INPUT SPECIFICATIONS

Input Voltage Range (See Note 3)	88 ~ 264VAC or 124 ~ 370VDC
Input Frequency	47 to 63Hz
AC Current (typical)	1.1A at 115VAC, 0.55A at 230VAC
Inrush Current (typical)	Cold Start 30A at 115VAC, 60A at 230VAC
Leakage Current	< 1mA at 230VAC
Power Factor (typical)	>0.98 at 115VAC and full load, >0.92 at 230VAC and full load

OUTPUT SPECIFICATIONS

Output Voltage	See Table
Output Power	See Table
Output Voltage Adjustability	±10%
Voltage Tolerance (See Note 2)	±1.0%
Line Regulation	±1.0%
Load Regulation	±2.0%
Output Current	See Table
Ripple & Noise (See Note 1)	See Table
Setup, Rise Time	< 800ms, <40ms @ 230VAC and full load
Hold Up Time (typical)	> 16ms at 115VAC and full load, > 32ms at 230VAC and full load

PROTECTION

Over Voltage Protection	115% ~ 150% rated output voltage Protection Type: Latch-off mode
Over Load Protection	> 105°C rated output power Protection type: constant current limiting, automatically after fault condition is removed.
Over Temperature Protection	90°C with N2 sense by inside Air Temp.

GENERAL SPECIFICATIONS

Efficiency	See Table
Withstand Voltage	I/P - O/P: 4242VDC, I/P - FG: 2121VDC for 1 minute
Isolation Resistance	I/P - O/P, I/P - FG, O/P - FG: 100MΩ / 500VDC
DC OK Signal	Relay contact (30VDC / 1A, 120VAC / 1A)

ENVIRONMENTAL SPECIFICATIONS

Working Temperature	-20°C ~ +70°C (refer to output load derating curve)
Storage Temperature	-40°C ~ +85°C
Working Humidity	20% ~ 90% RH, non-condensing
Storage Humidity	10% ~ 95% RH
Vibration	10 ~ 500Hz, 5G 0.5Oct/min, period for 60 min., Each along X,Y,Z axes.
Cooling	Free Air Convection
Temperature Coefficient	±0.03% / °C (0 ~ 50°C)

PHYSICAL SPECIFICATIONS

Packing	14.11oz (400g)
Dimensions (W x H x D)	2.17 x 3.54 x 3.90 inches (55 x 90 x 99 mm)
Connection	I/P: 3 poles, O/P: 6 poles screw DIN terminal

SAFETY & EMC (See Note 4)

Safety Standards	UL 508, TUV EN60950-1, UL1310 NEC class 2 compliant (only for 24V and 48V models)
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)

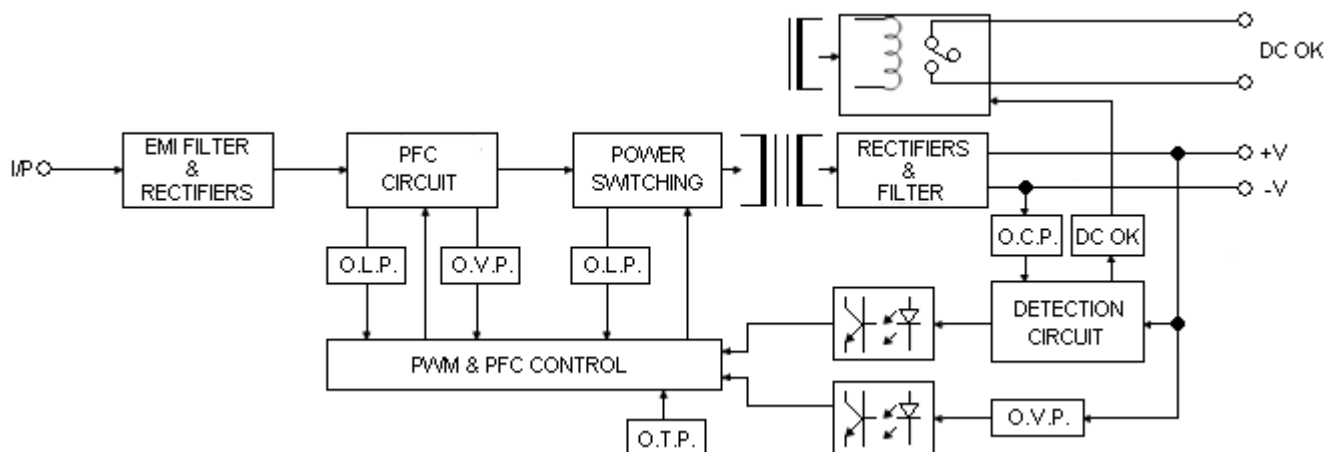
MODEL SELECTION TABLE

Model Number	Input Voltage	Output Voltage	Output Current	Rated Output Power	Ripple & Noise ⁽¹⁾	Efficiency
PSDN-100-12	88 ~ 264VAC (124 ~ 370VDC)	12 VDC	7.5A	90W	180mVp-p	87%
PSDN-100-15	88 ~ 264VAC (124 ~ 370VDC)	15 VDC	6.4A	96W	180mVp-p	87%
PSDN-100-24	88 ~ 264VAC (124 ~ 370VDC)	24 VDC	4A	96W	180mVp-p	88%
PSDN-100-48	88 ~ 264VAC (124 ~ 370VDC)	48 VDC	2A	96W	250mVp-p	87%

NOTES

1. Ripple & noise is measured at 20MHz bandwidth by using a 12" twisted pair-wire terminated with a 0.1 μ F & 47 μ F capacitors in parallel.
2. Tolerance includes set up tolerance, line regulation, and load regulation.
3. Derating may be needed under low input voltages. Please check the derating curve for more details.
4. The power supply is considered a component, which will be installed into final equipment. The final equipment must be re-confirmed that it still meets EMC directives.
5. In parallel connection only one unit may operate if the total output load is less than 5% of the rated load.

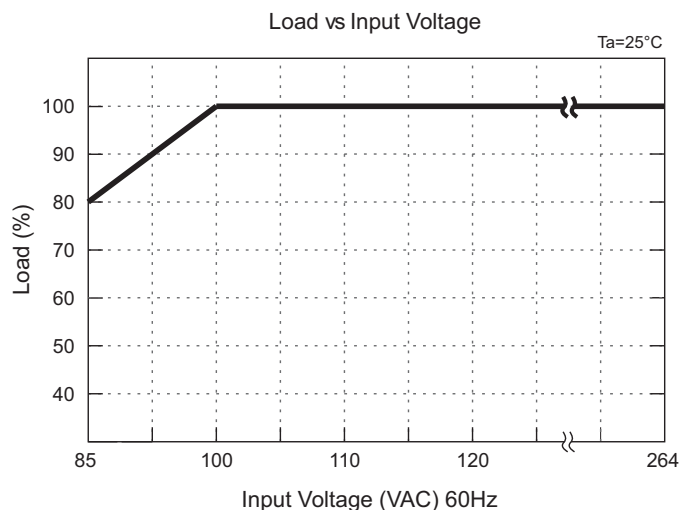
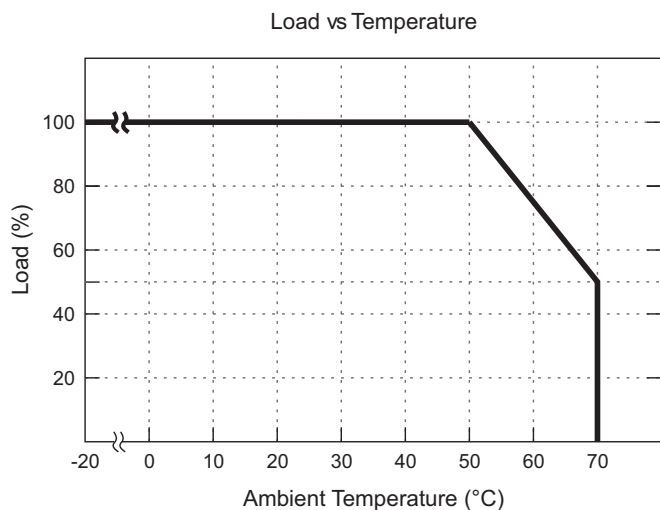
BLOCK DIAGRAM



DC OK RELAY CONTACT

Contact Close	When the output voltage reaches the adjusted output voltage
Contact Open	When the output voltage drops below 90% output voltage
Contact Ratings (max.)	30V / 1A resistive load

DERATING CURVES



MECHANICAL DRAWING

Unit: inches (mm)

