



Size: 3.93 x 2.19 x 4.92 inches
Weight: 2.0 lbs (900g)

FEATURES

- RoHS Compliant
- 150 Watts Rated Output Power
- 150% Peak Load Capability
- Two Peak Load Mode Selector
- High Efficiency up to 87%
- 4242VDC I/O Isolation
- Built-in Remote ON/OFF Function
- Cooling by Free Air Convection
- Built-in DC OK Relay Contact
- Built-in Active PFC Function, PF > 0.95
- 24V & 48V Single Output Models
- Universal Input Voltage Range: 88~264VAC (124~373VDC)
- Protection: SCP / OLP / OVP / OTP
- Installed on DIN Rail TS-35/7.5 or TS-35/15
- UL 508 and TUV EN60950-1 Safety Approvals
- 100% Full-Load Burn-in Tested

DESCRIPTION

The PSDNDV-150 series of AC/DC DIN rail power supplies provides 150 watts of output power in a 3.93" x 2.19" x 4.92" package. This series consists of 24V and 48V single output models with a universal input range of 88-264VAC (124-373VDC). Some features include built-in remote ON/OFF function, built-in DC OK relay contact, active PFC > 0.95, and high efficiency up to 87%. This series is also protected against short circuit, over load, over voltage, and over temperature conditions. All models are RoHS compliant and have UL 508 and EN60950-1 safety approvals.

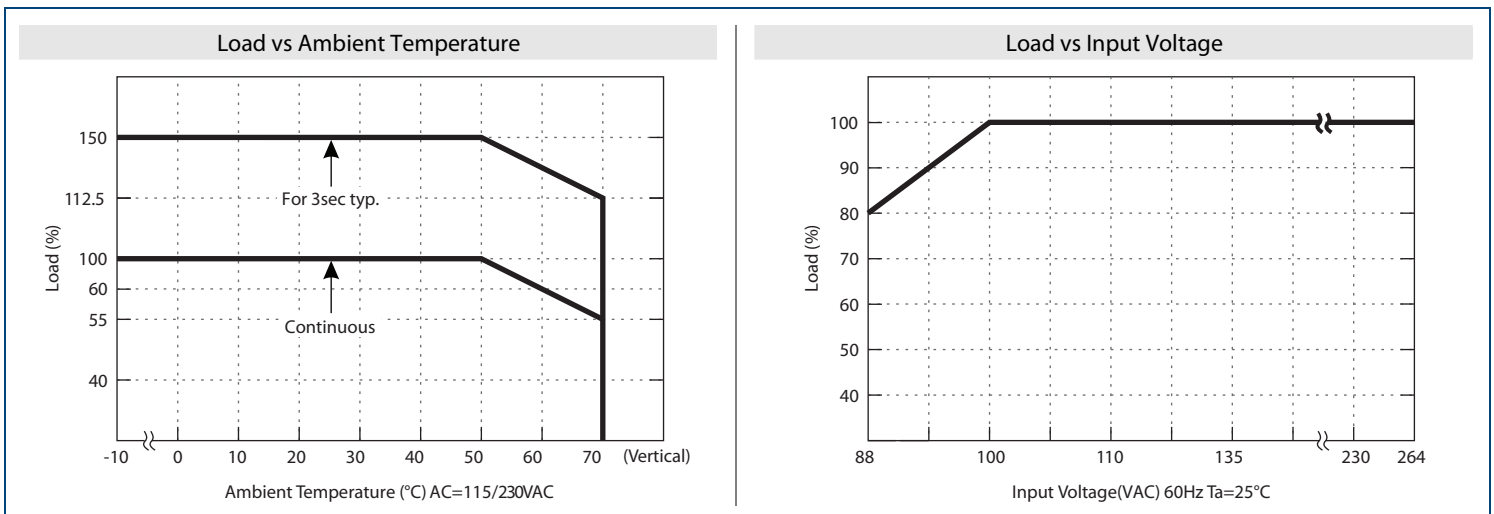
MODEL SELECTION TABLE

Model Number	Input Voltage	Output Voltage	Output Current		Output Power		Ripple & Noise ⁽¹⁾	Efficiency
			Rated	Peak ⁽⁴⁾	Rated	Peak ⁽⁴⁾		
PSDNDV-150-24	88~264 VAC (124~373 VDC)	24 VDC	6.3A	9.45A	150W	225W (3sec)	240mVp-p	87%
PSDNDV-150-48		48 VDC	3.2A	4.8A	150W	225W (3sec)	480mVp-p	87%

NOTES

1. Ripple & noise is measured at 20MHz limited bandwidth and using a 12" twisted pair-wire terminated with a 0.1µF & 47µF capacitors in parallel.
2. 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.
3. Installation clearance: 40mm from top, 20mm from bottom, 5mm from the left and right sides is recommended when permanently loaded with full power. In case the adjacent device is a heat source, 15mm clearance is recommended.
4. For 3 seconds or 20% duty cycle max. The average output power should not exceed the rated power.
5. For voltages near the low end of the input voltage range, see the derating curve for the power supply output rating.

DERATING CURVES



SPECIFICATIONS: PSDNDV-150 SERIES

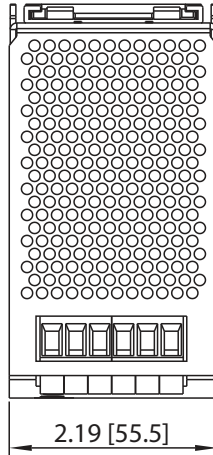
All specifications are based on 25°C, Nominal Input Voltage, and Maximum Output Current unless otherwise noted.
We reserve the right to change specifications based on technological advances.

SPECIFICATION		TEST CONDITIONS	Min	Typ	Max	Unit
INPUT SPECIFICATIONS						
Input Voltage	AC input voltage range		88		264	VAC
	DC input voltage range		124		373	VDC
Input Frequency			47		63	Hz
AC Current	At 115VAC and full load			2.6		A
	At 230VAC and full load			1.3		
Inrush Current	At 115VAC and cold start			33		A
	At 230VAC and cold start			65		
Power Factor	At 115VAC and full load			0.98		
	At 230VAC and full load			0.9		
Remote ON/OFF Control			See page 5			
OUTPUT SPECIFICATIONS						
Output Voltage			See Table			
Voltage Tolerance	Includes set-up tolerance, line regulation, and load regulation		-1.0		+1.0	%
Voltage Adjustability			-2.0		+8.0	%
Line Regulation	Low Line to High Line		-0.5		+0.5	%
Load Regulation	0% to 100% full load		-1.0		+1.0	%
Output Power	Rated	For 3 seconds or 20% duty cycle max. Two peak load mode selector			150	W
	Peak				225	
Output Current	Rated		See Table			
	Peak		See Table			
Ripple & Noise (20MHz BW)	Measured with 0.1µF and 47µF capacitors in parallel across the output		-1.0		+1.0	%
Hold-up Time	At 115/230VAC and full load			16		ms
Setup Time	At 115/230VAC and full load			700		ms
Rise Time	At 115/230VAC and full load			30		ms
Temperature Coefficient	0~50°C		-0.03		+0.03	%/°C
PROTECTION						
Over Voltage Protection	latch-off mode, restart to recover from fault	PSDNDV-150-24 Model	29		33	VDC
		PSDNDV-150-48 Model	56		65	
Over Temperature Protection	Output shutdown and auto restart upon reduction of temperature		90	95	100	°C
Over Load Protection	kicks in between 105~150% rated output power when the fault persist for about 3 sec, then clamps output voltage down, automatic recovery. >150% rated power or short circuit would cause the power supply to go in to constant current limiting; if fault condition is not removed after 5 times, then the converter will shutdown and need to be restarted to recover from fault		105		150	%
DC OK Relay Contact Ratings	At 0.3A				60	VDC
	At 1A and 0.5A				30	
GENERAL SPECIFICATIONS						
Efficiency			See Table			
Isolation Voltage	Input to Output		4242			VDC
	Input to FG		2121			
	Output to FG		707			
	Output to DC OK		707			
Isolation Resistance	Input to output, input to FG, output to FG; 500VDC, 25°C, 70% RH		100			MΩ
Leakage Current	At 240VAC				1	mA
ENVIRONMENTAL SPECIFICATIONS						
Operating Temperature	See derating curve		-10		+70	°C
Storage Temperature			-40		+85	°C
Operating Humidity	Non-condensing		20		95	% RH
Storage Humidity			10		95	% RH
Cooling			Free air convection			
Vibration			Component: 10~500Hz, 2G 10 min./1 cycle, 60 min. each along X, Y, Z axes Mounting: Compliance to IEC 60068-2-6			
PHYSICAL SPECIFICATIONS						
Weight			2.0 lbs (900g)			
Dimensions (W x H x D)			2.19 x 4.92 x 3.93 inches (55.5 x 125.0 x 99.8 mm)			
SAFETY & EMC (See Note 2)						
Safety Approvals			UL 508 / TUV EN60950-1			
EMI (Conduction & Radiation)			EN55022 (CISPR22) Class B			
Harmonic Current			EN61000-3-2, -3			
EMS Immunity			EN61000-4-2,3,4,5,6,8,11; ENV50204; EN55024; EN 61000-6-2 (EN50082-2); EN61204-3, heavy industry level, criteria A, meet SEMI F47			

MECHANICAL DRAWING

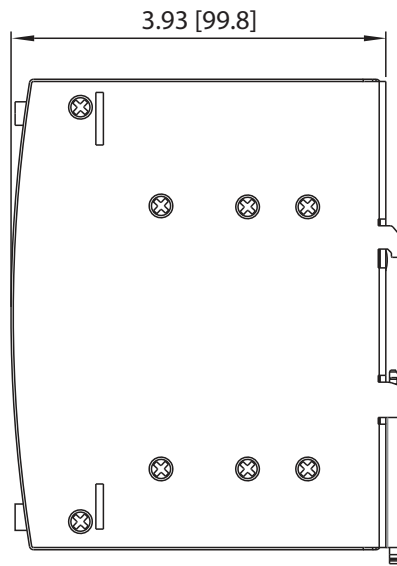
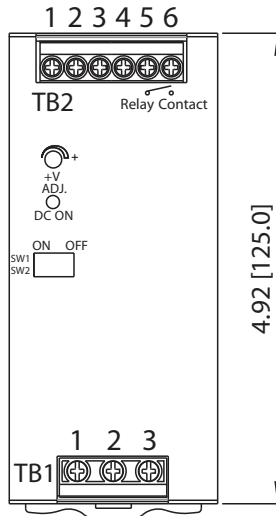
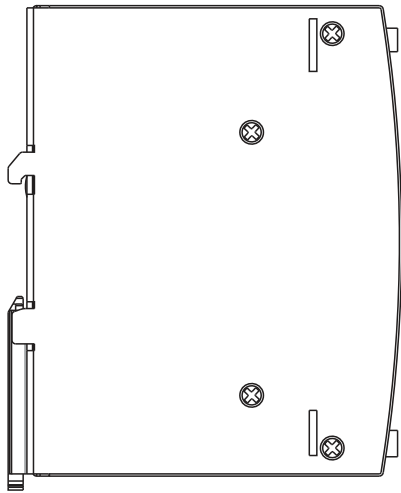
Terminal Pin Assignment (TB1)	
Pin No	Assignment
1	FG ⊕
2	AC/L
3	AC/N

Terminal Pin Assignment (TB2)	
Pin No	Assignment
1	DC+
2	DC-
3	INH+
4	INH-
5,6	Relay Contact

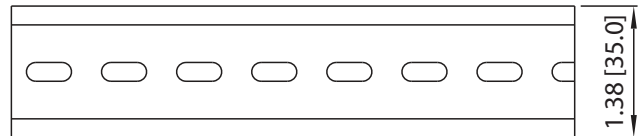
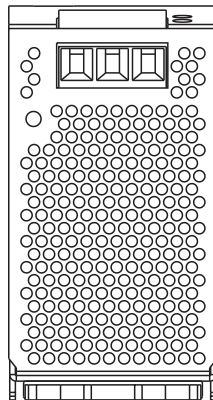


NOTES

1. Unit: inches [mm]
2. Weight: 2.0 lbs (900g)
3. Can be installed on DIN-Rail TS-35/7.5 or TS-35/15



Switch No. Assignment	
SW No	Assignment
SW1	Peak Load Setting
SW2	Remote ON/OFF Setting



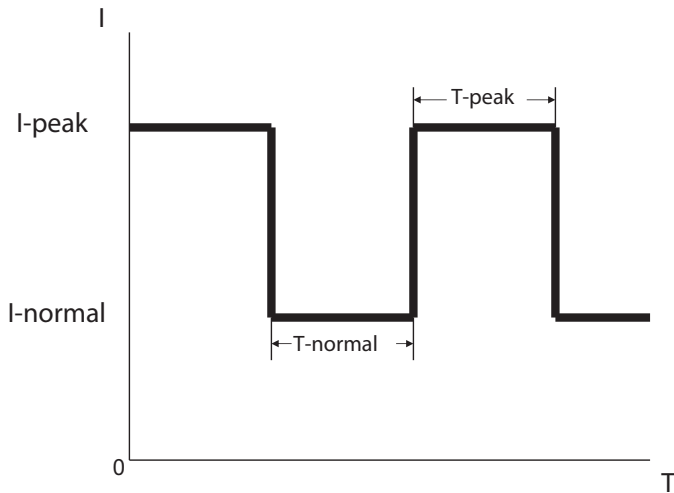
Admissable DIN-RAIL: TS-35/7.5 or TS-35/15

DC OK RELAY CONTACT

Contact Close	When the output voltage raches the adjusted output voltage
Contact Open	When the output voltage drops below 45% output voltage
Contact Ratings (max.)	30V/1A resistive load

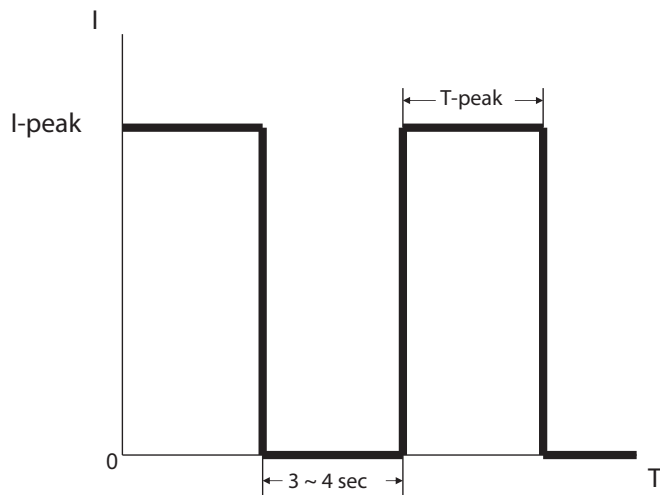
PEAK LOADING

Peak Loading SW1 ON (Mode 1) Default Setting



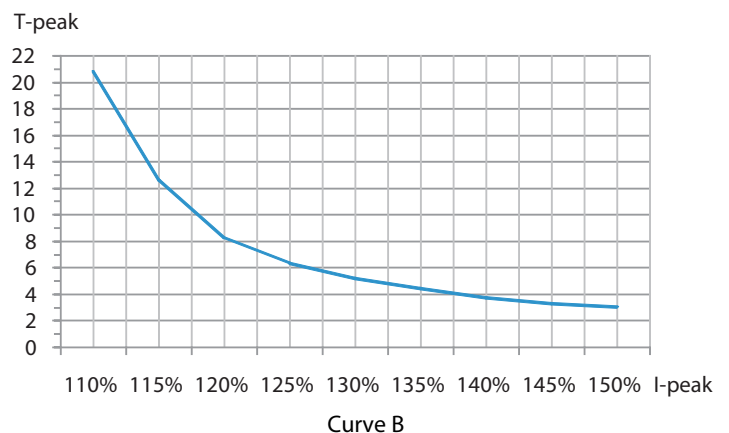
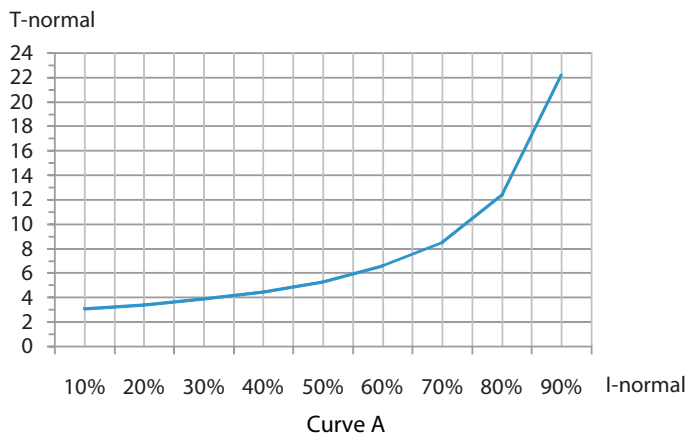
T-peak presents while the unit is working within 110%~150% rated output power. See Curve "B" for the variation in T-Peak between output current and hold-up time. If T-peak is more than the time setting in Curve "B", the output current will drop to the constant limit (I-normal) that is 105% of the rated power. Meanwhile, I-normal and T-normal will be presenting. See Curve "A" for the timing back to I-Peak of T-normal and this mode can be used for easy 2-stage battery chargers.

Peak Loading SW1 OFF (Mode 2) Default Setting



T-peak presents while the unit is working within 110%~150% rated output power. See Curve "B" for the variation of T-peak between output current and hold-up time. If T-peak is more than the time setting in Curve "B", the output voltage will be shut down for 3~4 seconds and then auto-recover.

Graphs

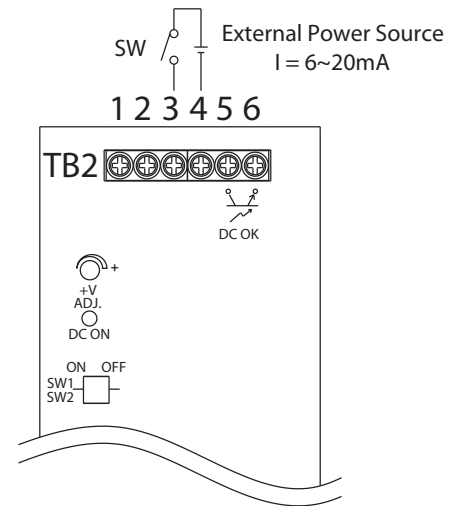


REMOTE ON/OFF

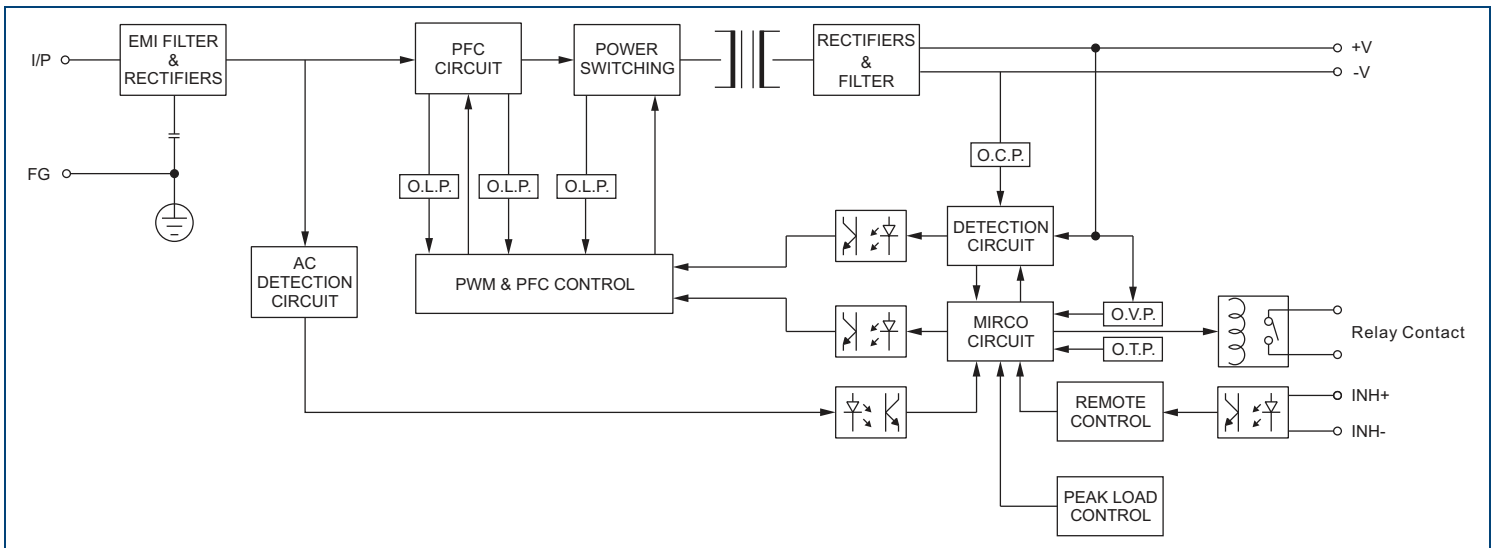
The power supply can be turned ON/OFF by using the "Remote Control" function.

SW2	INH+(3 PIN) / INH-(4 PIN)	Output Status
OFF	SW ON (>2.5V)	ENABLE
OFF	SW OFF (<0.8V)	DISABLE
ON	SW ON (>2.5V)	DISABLE
ON	SW OFF (<0.8V)	ENABLE

(Default Setting)



BLOCK DIAGRAM



COMPANY INFORMATION

Wall Industries, Inc. has created custom and modified units for over 50 years. Our in-house research and development engineers will provide a solution that exceeds your performance requirements on-time and on budget. Our ISO9001-2008 certification is just one example of our commitment to producing a high quality, well-documented product for our customers.

Our past projects demonstrate our commitment to you, our customer. Wall Industries, Inc. has a reputation for working closely with its customers to ensure each solution meets or exceeds form, fit and function requirements. We will continue to provide ongoing support for your project above and beyond the design and production phases. Give us a call today to discuss your future projects.

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