Size:
3.40 x 4.86 x 4.92 inches
86.3 x 124.8 x 123.35 mm

FEATURES

- RoHS Compliant
- 480 Watts Output Power
- 150% Peak Load Capability
- Two Selectable Peak Load Modes
- High Efficiency up to 94%
- 4242VDC I/O Isolation
- Built-in Remote ON/OFF Function
- Built-in DC OK (Open Collector Signal)
- 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, and OTP
- Installed on DIN Rail TS-35/7.5 or TS-35/15
- UL 508 and EN60950-1 Safety Approvals

DESCRIPTION

The PSDN-480 series of AC/DC DIN rail power supplies provides 480 watts of output power in a 3.40” x 4.86” x 4.92” package. This series consists of single output models with a universal input range of 88-264VAC (124-373VDC). Some features include built-in remote ON/OFF function, DC OK signal, active PFC > 0.95, and high efficiency up to 94%. 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)		
PSDN-480-24	88~264 VAC (124~373 VDC)	24 VDC	20A	30A	480W	720W (3sec)	240mVp-p	93%
PSDN-480-48		48 VDC	10A	15A	480W	720W (3sec)	480mVp-p	94%

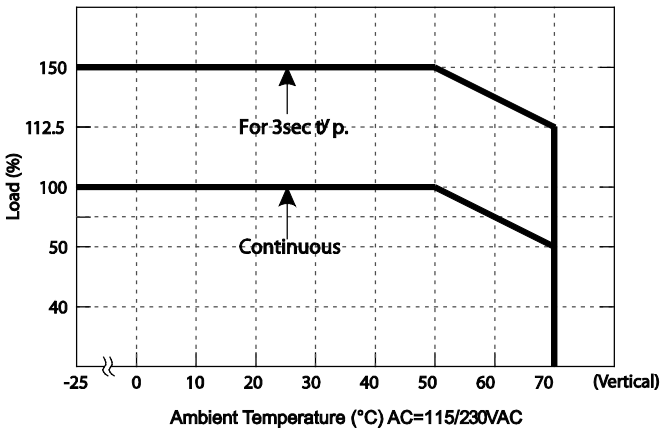
NOTES

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.
6. This product is Listed to applicable standards and requirements by UL.

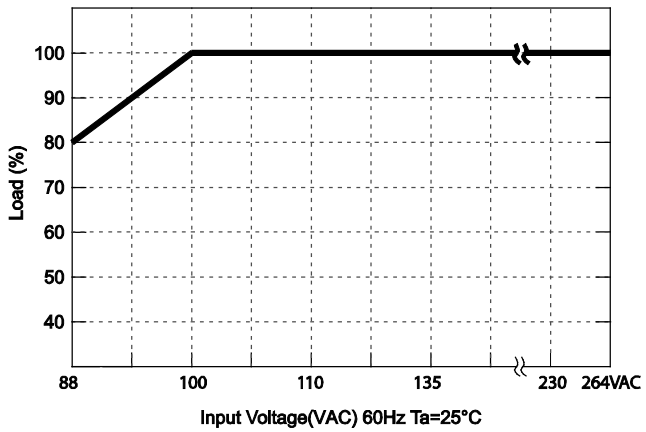
**Due to advances in technology, specifications subject to change without notice.*

DERATING CURVES

Load vs Ambient Temperature



Load vs Input Voltage

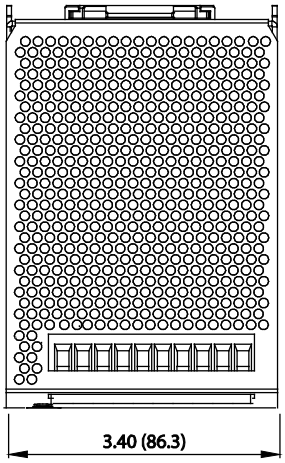


SPECIFICATIONS: PSDN-480 SERIES

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.

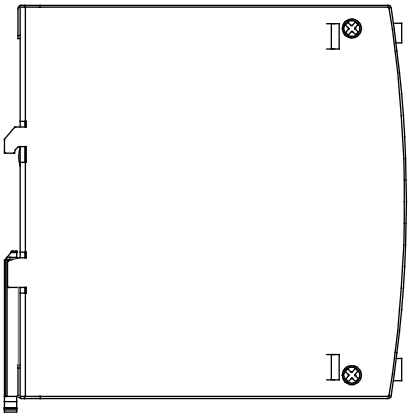
SPECIFICATION		TEST CONDITIONS		Min	Typ	Max	Unit
INPUT SPECIFICATIONS							
Input Voltage		AC input voltage range		88		264	VAC
		DC input voltage range		124		373	VDC
Input Frequency				47		63	Hz
Input Current		At 115VAC and full load				5.0	A
		At 230VAC and full load				2.5	
Inrush Current (<2ms)		At 115VAC and cold start				33	A
		At 230VAC and cold start				65	
Power Factor		At 115/230VAC and full load		0.95	0.96		
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				-5.0		+5.0	%
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					480	W
	Peak	For 3 seconds or 20% duty cycle max.				720	
Output Current				See Table			
Ripple & Noise (20MHz BW)		Measured with 0.1µF and 47µF capacitors in parallel		See Table			
Hold-up Time		At 115/230VAC and full load			16		ms
Setup Time		At 115/230VAC and full load			800		ms
Rise Time		At 115/230VAC and full load			100		ms
Temperature Coefficient		0~50°C		-0.03		+0.03	%/°C
PROTECTION							
Over Voltage Protection		Protection type: latch-off mode	PSDN-480-24 Model	29		33	VDC
			PSDN-480-48 Model	56		65	
Over Temperature Protection		95±5°C (TSW: detect on heatsink of power diode)					
		Protection Type: shutdown output voltage; recovers automatically after temperature goes down					
Over Load Protection		Hiccup mode: when the rated output power is within 105~150% for more than 3 sec.					
		Constant Current Limit: > 150% rated power / short circuit					
		Auto-recovery: If O/P drops to 40% of the rated output voltage the PSU will shut down and auto-recover 5 times. (If fault condition remains after 5 times recovery, PSU will shutdown and user must re-power on to recover)					
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
DC OK Signal				See page 3			
ENVIRONMENTAL SPECIFICATIONS							
Operating Temperature		See note 3		-25		+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: Certified IEC 60068-2-6					
PHYSICAL SPECIFICATIONS							
Weight				3.2 lbs (1450g)			
Dimensions (W x H x D)		3.40 x 4.86 x 4.92 inches (86.3 x 125.0 x 123.4 mm)					
SAFETY & EMC (See Note 2)							
Safety Approvals				UL 508[6] / EN60950-1			
EMI (Conducted & Radiated Emissions)				EN55022 (CISPR22); EN 61000-6-3			
Harmonic Current				EN61000-3-2, -3-3			
EMS Immunity		IEC 61000-4-2,3,4,5,6,8,11; EN 61000-6-1; EN 61204-3					

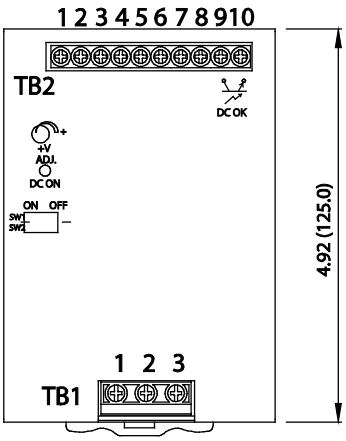
MECHANICAL DRAWING

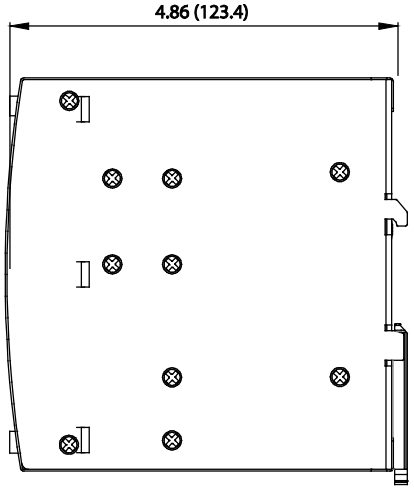


Terminal Pin Assignment (TB1)	
Pin No	Assignment
1	FG
2	AC/L
3	AC/N

Terminal Pin Assignment (TB2)	
Pin No	Assignment
1, 2, 3	DC+
4, 5, 6	DC-
7	INH+
8	INH-
9, 10	DC OK Signal

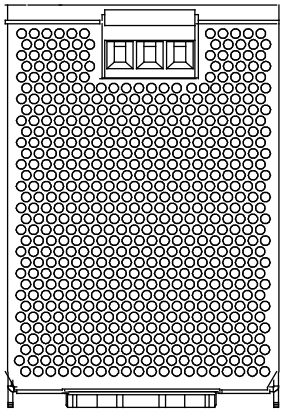


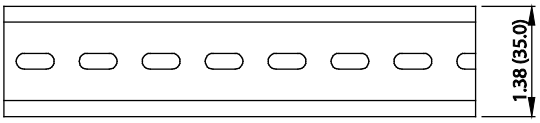




Switch No. Assignment	
SW No	Assignment
SW1	Peak Load Setting
SW2	Remote ON/OFF Setting

NOTES
1. Unit: inches (mm)
2. Weight: 3.2 lbs (1450g)
3. Can be installed on DIN-Rail TS-35/7.5 or TS-35/15





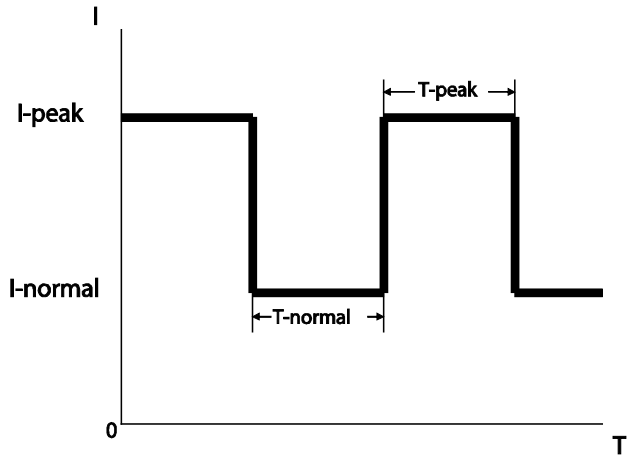
Admissable DIN-RAIL: TS-35/7.5 or TS-35/15

DC OK SIGNAL CONTACT

Contact Ratings (max.)	CTR: MIN. 50% at I_F = 5mA, V_{CE} = 5V
Isolation Voltage	Between input and output Viso = 3750Vrms

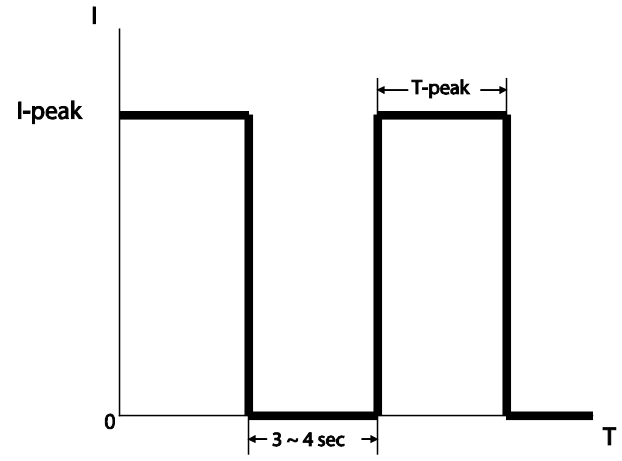
PEAK LOADING

Peak Loading SW1 ON (Mode 1) Default Setting



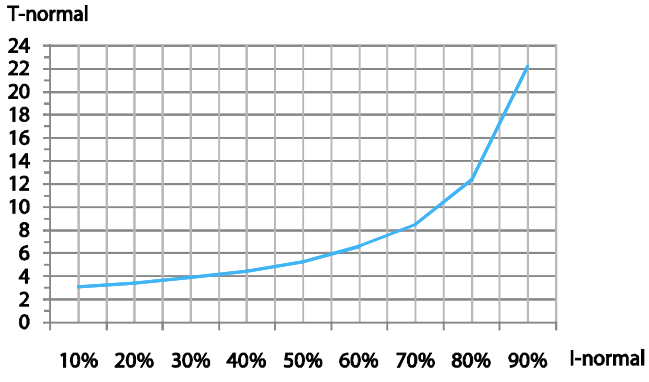
T-peak presents while the unit is working within 110%~150% rated output power. See Curve “B” for the variation in T-Peak between output current and hold-up time. If T-peak is more than the time setting in Curve “B”, the output current will drop to the constant limit (I-normal) that is 105% of the rated 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

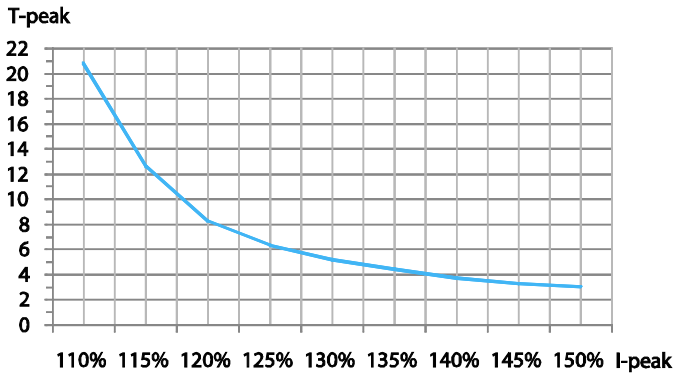


T-peak presents while the unit is working within 110%~150% rated output power. See Curve “B” for the variation of T-peak between output current and hold-up time. If T-peak is more than the time setting in Curve “B”, the output voltage will be shut down for 3~4 seconds and then auto-recover.

Graphs



Curve A



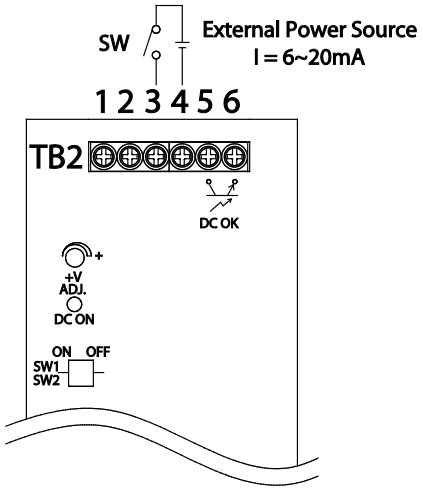
Curve B

REMOTE ON/OFF

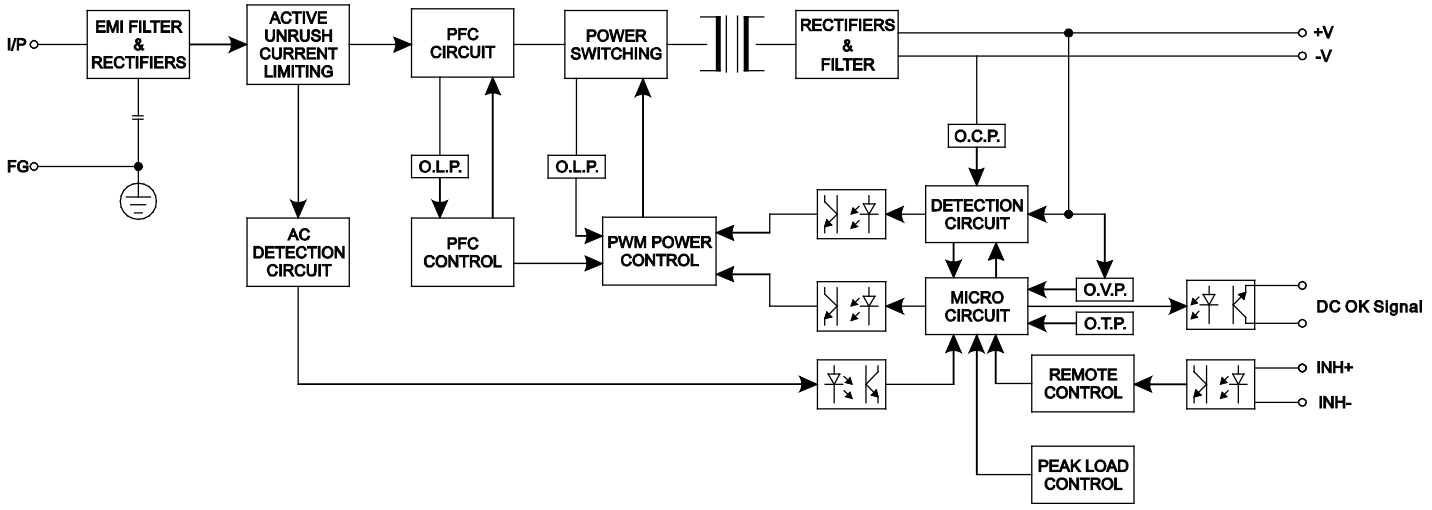
The PSU can be turned ON/OFF by using the "Remote Control" function.

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: 2015 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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