

Wall Industries, Inc.

PSUP200 SERIES

90~264VAC (127~370VDC) Input
Single Output
Up to 201.6 Watts
AC/DC Switching Power Supplies



FEATURES

- Active PFC
- Single Output
- RoHS Compliant
- Power OK Signal
- High Power Density 4.7w/in³
- Withstand 2G Vibration Test
- 200W with Free Air Convection
- Universal AC Input Voltage Range
- High Efficiency and High Reliability
- UL/cUL, TUV, CE, and CB approvals
- High Operating Temperature up to 70°C
- All Using 105°C Long Life Electrolytic Capacitors
- Two Different Output Connector Options Available
- Short Circuit, Over Voltage, Over Load, and Over Temperature Protection



DESCRIPTION

The PSUP200 series of AC/DC switching power supplies offers up to 201.6 Watts of power in a low-profile 7.95 x 4.0 x 1.50 inch U-chassis design. These supplies have a 90~264VAC (127~370VDC) input voltage range and provide single outputs ranging from 12VDC to 48VDC. Standard features include active power-factor-correction, high power density, power OK signal, and comprehensive over voltage, short circuit, over load, and over temperature protection. There are two different output connector options available for this series (Type C and Type T). All models are RoHS compliant and have UL/cUL, TUV, CE, and CB approvals.

SPECIFICATIONS: PSUP200 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 (<i>see note 3</i>)	90 ~ 264VAC (127 ~ 370VDC)
Input Frequency	47 ~ 63Hz
AC Current (typical)	2.88A @ 90VAC; 2.4A @ 115VAC; 1.2A @ 230VAC
Inrush Current (typical)	25A @ 115VAC; 50A @ 230VAC
Power Factor (typical)	> 0.95 @ 115VAC and full load > 0.92 @ 230VAC and full load

OUTPUT SPECIFICATIONS

Output Voltage	See Table
Output Power	See Table
Output Voltage Adjustability	±10%
Voltage Tolerance (<i>see note 2</i>)	±2%
Load Regulation	±2%
Line Regulation	±1%
Output Current	See Table
Ripple & Noise (<i>see note 1</i>)	See Table
Setup, Rise Time	< 800ms at full load, < 40ms at full load
Hold-Up Time (typical)	> 16ms @ 115VAC and full load, >32ms @ 230VAC and full load
Temperature Coefficient	±0.03% / °C (0 ~ 50°C)

PROTECTION

Short Circuit Protection	yes
Over Voltage Protection	115% ~ 150% rated output voltage Protection type: latch-off mode
Over Load Protection	> 105% rated output power Protection type: constant current limiting, recovers automatically after fault condition is removed
Over Temperature Protection	90°C ±5°C

GENERAL SPECIFICATIONS

Efficiency	See Table
Withstand Voltage	4242VDC (input to output) for 1 minute 2121VDC (input to FG) for 1 minute
Isolation Resistance	100MΩ @ 500VDC (input to output, input to FG, output to FG)
Leakage Current	< 2mA @ 230VAC
Power OK Signal	Relay contact 1A / 120VAC~230VAC

ENVIRONMENTAL SPECIFICATIONS

Working Temperature	-20°C to +70°C (see output load derating curve)
Storage Temperature	-40°C to +85°C
Working Humidity	20% to 90% RH (non-condensing)
Storage Humidity	10% to 95% RH
Vibration	10 ~ 500Hz, 2G 10 min./1cycle, period for 60 min. for each along X, Y, Z axes
Cooling	Free air convection

PHYSICAL SPECIFICATIONS

Weight, Packing	24.7oz (700g); 16pcs/12.5kg	
Dimensions (L x W x H)	7.95 x 4.0 x 1.50 inches (202 x 101.5 x 38 mm)	
Connection (<i>see note 6</i>)	C Type Models	Input: 5P / 3.96mm pitch; Output: 6P x 2 / 3.96mm pitch
	T Type Models	Input: 5P / 3.96mm pitch; Output: 4P / 9.5mm terminal block with cover

SAFETY & EMC (*see note 4*)

Safety Standards	UL60950-1, 2 nd Edition, TUV EN60950-1: 2006+A11 Approved
EMI Conduction & Radiation	EN55022: 2006 Class B
Harmonic Current	EN61000-3-2: 2006 Class A, EN61000-3-3: 1995+A1: 2001+A2: 2005
EMS Immunity	EN61204-3: 2000, EN55024:1998+A1: 2001+A2: 2003 light industry level, criteria A

MODEL SELECTION TABLES

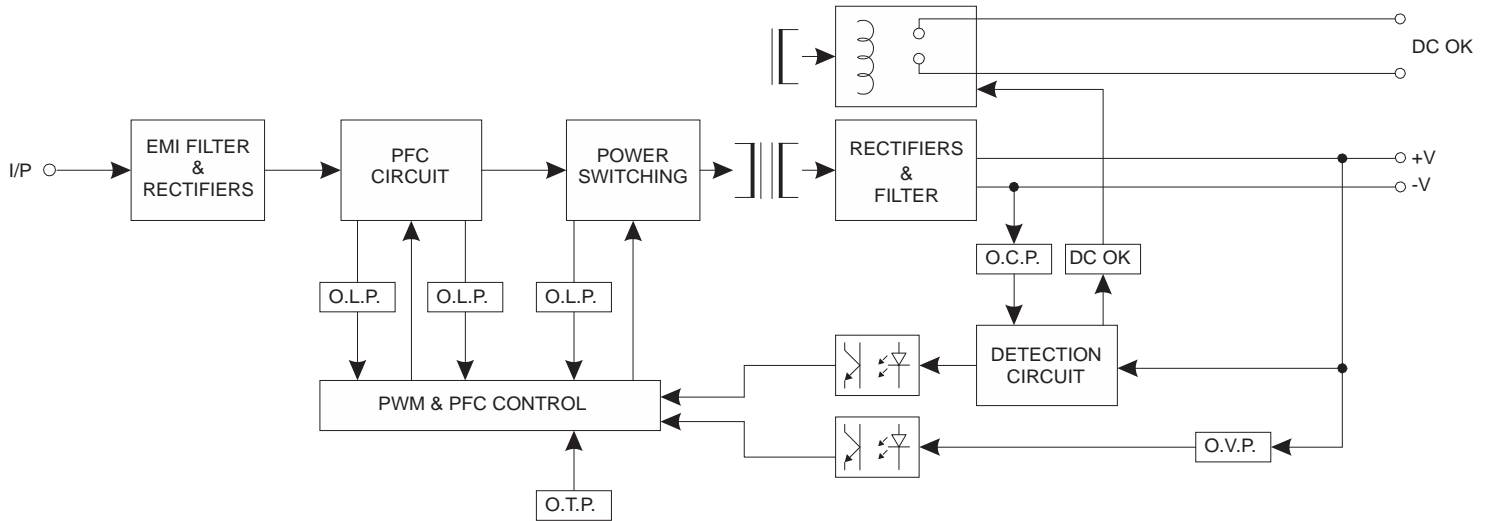
PSUP-200C MODELS						
Model Number	Input Voltage Range	Output Voltage	Output Current	Ripple & Noise ⁽¹⁾	Output Power	Efficiency
PSUP-200-12C	90 ~ 264 VAC (127 ~ 370 VDC)	12 VDC	16.7 A	120mVp-p	200.4 W	87%
PSUP-200-15C	90 ~ 264 VAC (127 ~ 370 VDC)	15 VDC	13.4 A	150mVp-p	201 W	87%
PSUP-200-24C	90 ~ 264 VAC (127 ~ 370 VDC)	24 VDC	8.4 A	180mVp-p	201.6 W	88%
PSUP-200-48C	90 ~ 264 VAC (127 ~ 370 VDC)	48 VDC	4.2 A	150mVp-p	201.6 W	88%

PSUP-200T MODELS						
Model Number	Input Voltage Range	Output Voltage	Output Current	Ripple & Noise ⁽¹⁾	Output Power	Efficiency
PSUP-200-12T	90 ~ 264 VAC (127 ~ 370 VDC)	12 VDC	16.7 A	120mVp-p	200.4 W	87%
PSUP-200-15T	90 ~ 264 VAC (127 ~ 370 VDC)	15 VDC	13.4 A	150mVp-p	201 W	87%
PSUP-200-24T	90 ~ 264 VAC (127 ~ 370 VDC)	24 VDC	8.4 A	180mVp-p	201.6 W	88%
PSUP-200-48T	90 ~ 264 VAC (127 ~ 370 VDC)	48 VDC	4.2 A	150mVp-p	201.6 W	88%

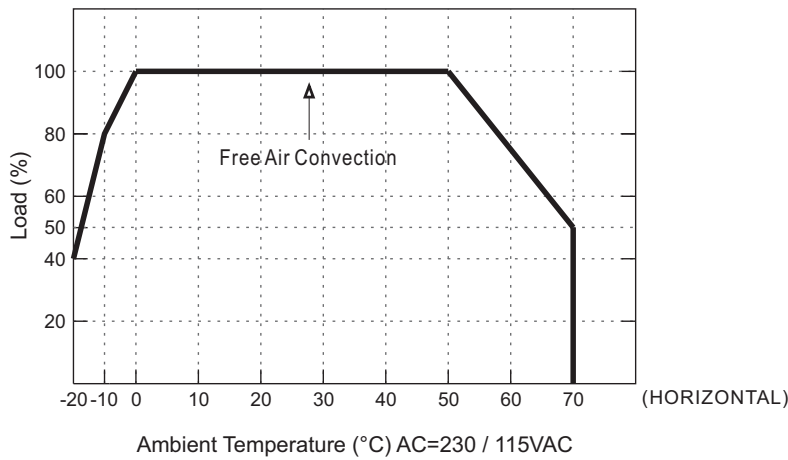
NOTES

1. Ripple & noise is measured at 20MHz bandwidth by using a 12" twisted pair-wire terminated with a 0.1µF capacitor and a 47µF capacitor 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. When in parallel operation only one unit might operate if the total output load is less than 5% of the rated load condition.
6. There are two mechanical options available (Type C or Type T). Please see mechanical drawings on pages 5 and 6 for more details.

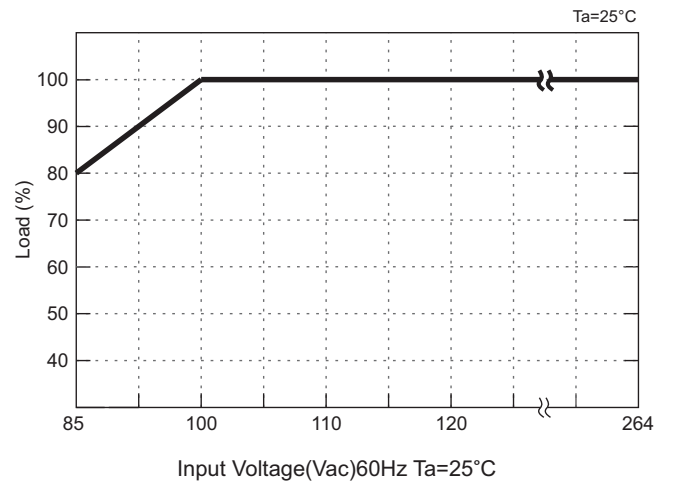
BLOCK DIAGRAM



DERATING CURVE



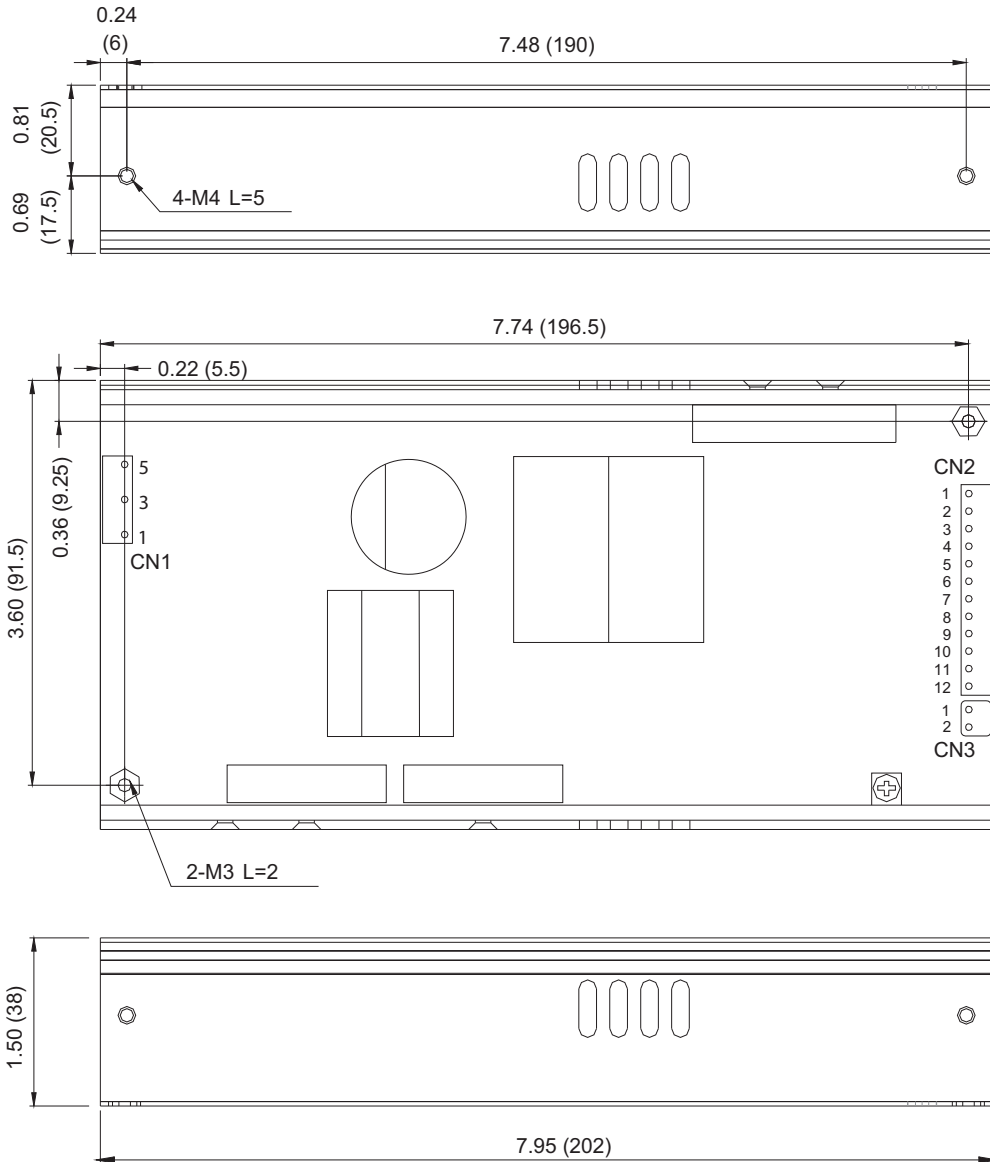
STATIC CHARACTERISTICS



MECHANICAL DRAWINGS

PSUP-200C MODELS

Unit: inches (mm)



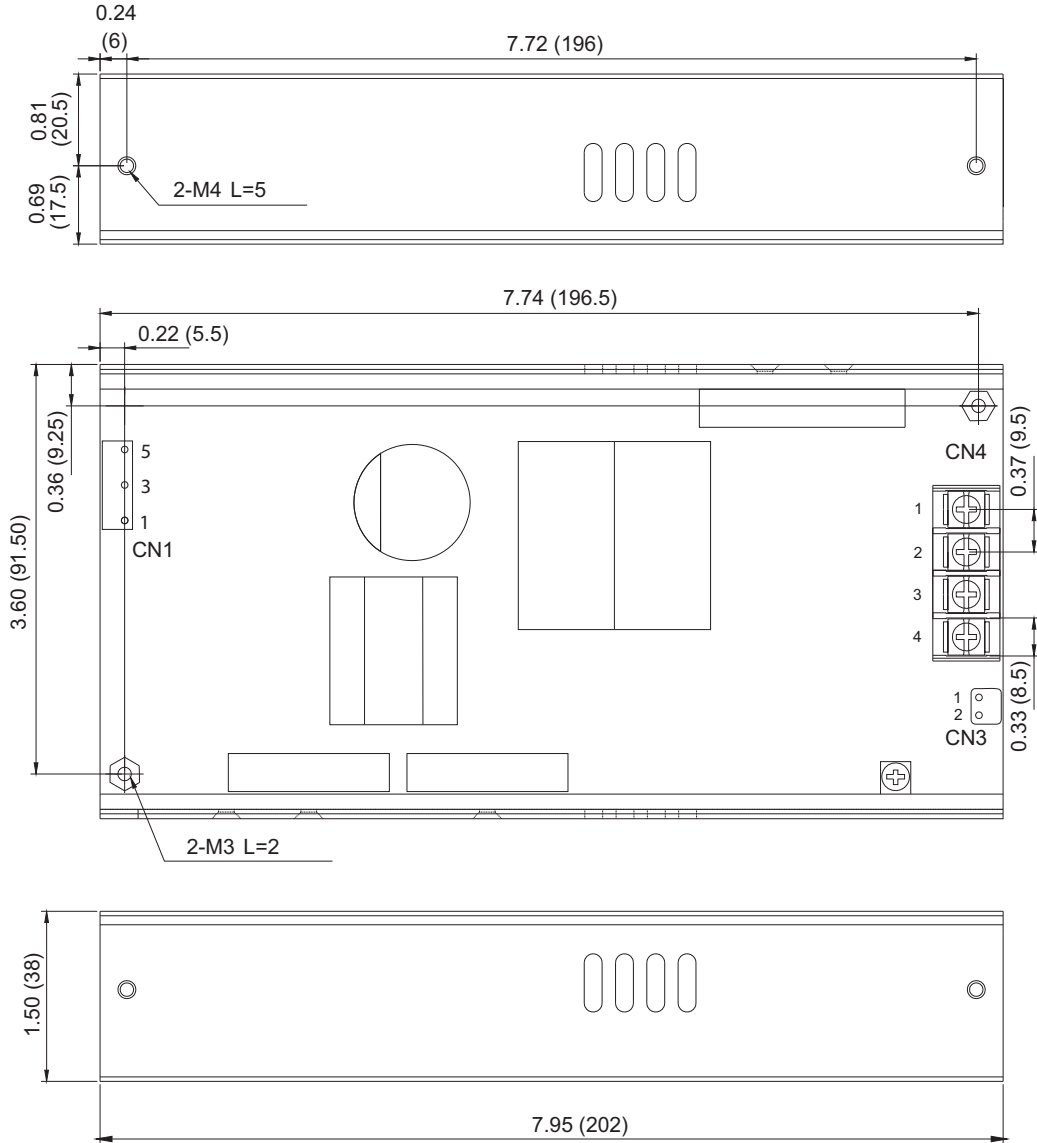
AC Input Connector (CN1) JST B5P-VH or Equivalent		
Pin No	Assignment	
1	Ground/Earth	FG
2	NC	NC
3	Neutral	AC/N
4	NC	NC
5	Live	AC/L

DC Output Connector (CN2) JST B6P-VH or Equivalent		
Pin No.	Assignment	
1-6	VO-	Return
7-12	VO+	+Main Output

DC Output Connector (CN3) JST B2P-VH or Equivalent	
Pin No.	Assignment
1	COM
2	NC

PSUP-200T MODELS

Unit: inches (mm)



AC Input Connector (CN1) JST B5P-VH or Equivalent		
Pin No	Assignment	
1	Ground/Earth	FG
2	NC	NC
3	Neutral	AC/N
4	NC	NC
5	Live	AC/L

DC Output Connector (CN4) Pitch 9.5mm			
Pin No.	Assignment		
1	VO-	Return	
2	VO-	Return	
3	VO+	+Main Output	
4	VO+	+Main Output	

DC Output Connector (CN3) JST B2P-VH or Equivalent	
Pin No.	Assignment
1	COM
2	NC

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.

Contact **Wall Industries** for further information:

<u>Phone:</u>	☎ (603)778-2300
<u>Toll Free:</u>	☎ (888)587-9255
<u>Fax:</u>	☎ (603)778-9797
<u>E-mail:</u>	sales@wallindustries.com
<u>Web:</u>	www.wallindustries.com
<u>Address:</u>	5 Watson Brook Rd. Exeter, NH 03833