

## Wall Industries, Inc.

### DTSPU31 SERIES

90~264VAC Input Voltage Range  
Up to 30 Watts  
Class I LPS, Single Outputs  
AC/DC Desktop Power Supplies



#### FEATURES

- Class I Limited Power Source (LPS)
- RoHS Compliant
- Single Output
- Up to 30W Output Power
- IEC-320-C14 Input Inlet
- Optional Output Connectors
- Over Current Protection
- Output Voltages Available from 5VDC to 50VDC
- Wide Input Voltage Range: 90~264VAC, 47~63Hz
- Energy Star 2.0, Efficiency Level V Compliant (For Outputs 8V and Over)
- UL 60950-1, CSA C22.2 No. 60950-1, and TUV/GS EN 60950-1 Safety Approvals



#### DESCRIPTION

The DTSPU31 series of AC/DC desktop power supplies provides up to 30 Watts of continuous output power. All models have a single output, a 90~264VAC input voltage range, and an IEC-320-C14 AC inlet connector for worldwide applications. All supplies are RoHS and UL 94V-1 compliant. Supplies with an 8VDC output and over are Energy Star 2.0 Level V compliant. The DTSPU31 series meets FCC Part-15 class B and CISPR-22 class B emission limits and has UL/cUL 60950-1: 2<sup>nd</sup> Edition, CSA C22.2 No. 60950-1-07: 2<sup>nd</sup> Edition, and TUV/GS EN 60950-1: 2<sup>nd</sup> Edition safety approvals. These supplies also meet new CE requirements and are 100% burn-in tested. This series of AC/DC power supplies are a Class I Limited Power Source (LPS).



SPECIFICATIONS: DTSPU31 Series						
<p>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.</p>						
SPECIFICATION	TEST CONDITIONS		Min	Nom	Max	Unit
<b>INPUT SPECIFICATIONS</b>						
Operating Voltage Range			90		264	VAC
Input Frequency			47		63	Hz
Input Current	Low Line	Io = Full Load, Vin = 115VAC			0.8	A
	High Line	Io = Full Load, Vin = 230VAC			0.5	A
Inrush Current	Low Line	Io = Full Load, 25°C, Cool Start, Vin = 115VAC		26	30	A
	High Line	Io = Full Load, 25°C, Cool Start, Vin = 230VAC		38	45	A
No Load Power Consumption	No Load, Vin=240VAC		0	0.3	0.5	W
<b>OUTPUT SPECIFICATIONS</b>						
Output Voltage Range			See Table			
Load Regulation	Vin = 230VAC			3	7	%
Line Regulation	Io = Full Load			0.5	1	%
Output Power Range	Vin = 90 to 264VAC		0		30	W
Output Current Range			See Table			
Ripple & Noise (peak to peak)	Full Load, Vin = 90VAC			0.5	1	%
Transient Response Time	Io = Full Load to Half Load, Vin = 100VAC				4	ms
Hold-Up Time	Io = Full Load, Vin = 110VAC		12			ms
Start-Up Time	Io = Full Load, Vin = 100VAC		0.3	1	2	s
Temperature Coefficient			-0.04		+0.04	%/°C
<b>PROTECTION</b>						
Over Current Protection			110		150	%
<b>GENERAL SPECIFICATIONS</b>						
Efficiency	Io = Full Load, Vin = 230VAC		73	81	90	%
Dielectric Withstanding Voltage For Primary to Secondary	Primary to Secondary		4242			VDC
Dielectric Withstanding Voltage For Primary to Ground	Primary to Ground		2121			VDC
Isolation Resistance	Test Voltage = 500VDC		50			MΩ
Safety Ground Leakage Current	Io = Full Load, Vin = 240VAC			0.5	0.75	mA
<b>ENVIRONMENTAL SPECIFICATIONS</b>						
Operating Temperature	Derates linearly from 100% Load at 40°C to 50% load at 70°C		0		70	°C
Storage Temperature			-40		85	°C
Relative Humidity			5		95	%
MTBF	Operating Temperature at 25°C, calculated per MIL-HDBK-217F		100,000 hours			
<b>PHYSICAL SPECIFICATIONS</b>						
Weight			Approx. 9.35~9.88oz (265~280g)			
Dimensions (L x W x H)			4.21 x 1.85 x 1.17 inches (107.0 x 47.0 x 29.6 mm)			
AC Inlet			IEC-320-C14			
<b>SAFETY</b>						
Safety Approvals	UL 60950-1: 2 <sup>nd</sup> Edition <sup>(5)</sup> , CSA C22.2 No. 60950-1-07: 2 <sup>nd</sup> Edition, TUV/GS EN60950-1: 2 <sup>nd</sup> Edition, CE					
EMI Requirements for CISPR-22	Vin = 220VAC		B			Class
EMI Requirements for FCC PART-15	Vin = 110VAC		B			Class
<i>These supplies are a Class I Limited Power Source (LPS)</i>						

**MODEL SELECTION TABLE**

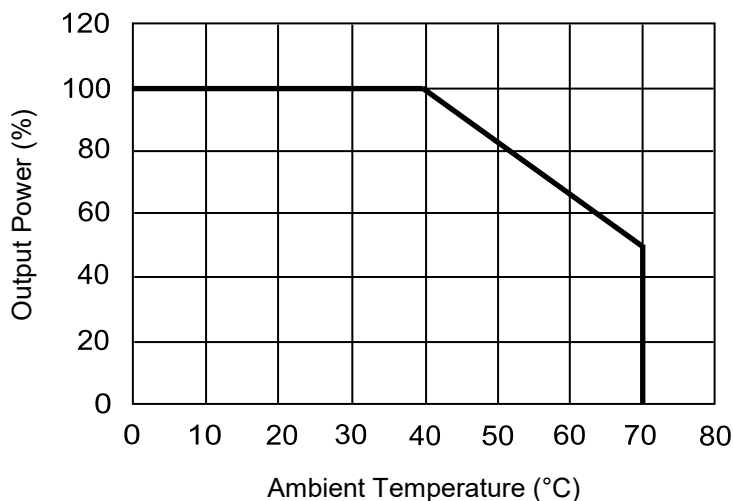
Model Number	Input Voltage Range	Output Voltage Range	Max. Output Current	Total Regulation <sup>(3)</sup>	Max. Output Power
DTSPU31-102	90 ~ 264 VAC	5 ~ 6 VDC	4.00 ~ 3.33 A	5%	20W
DTSPU31-103	90 ~ 264 VAC	6 ~ 8 VDC	4.16 ~ 3.12 A	5%	25W
DTSPU31-104	90 ~ 264 VAC	8 ~ 11 VDC	3.75 ~ 2.72 A	5%	30W
DTSPU31-105	90 ~ 264 VAC	11 ~ 13 VDC	2.72 ~ 2.30 A	5%	30W
DTSPU31-106	90 ~ 264 VAC	13 ~ 16 VDC	2.30 ~ 1.87 A	5%	30W
DTSPU31-107	90 ~ 264 VAC	16 ~ 21 VDC	1.87 ~ 1.42 A	5%	30W
DTSPU31-108	90 ~ 264 VAC	21 ~ 27 VDC	1.42 ~ 1.11 A	3%	30W
DTSPU31-109	90 ~ 264 VAC	27 ~ 33 VDC	1.11 ~ 0.90 A	3%	30W
DTSPU31-110	90 ~ 264 VAC	33 ~ 40 VDC	0.90 ~ 0.75 A	3%	30W
DTSPU31-111	90 ~ 264 VAC	40 ~ 50 VDC	0.75 ~ 0.60 A	3%	30W

**NOTES**

1. The output voltage is specified as a range (ex: 40~50VDC); the customer must specify what they would like the output voltage set at. Please call factory for more details.
2. Models DTSPU31-104~111 have been approved by CEC Level V  
 Model DTSPU31-106 has been approved by KC.
3. Models DTSPU31-102~105 need to use AWG#16/4FT output cable in order to meet the total regulation specified.  
 Models DTSPU31-106~108 need to use AWG#18/4FT output cable in order to meet the total regulation specified.  
 Models DTSPU31-109~111 need to use AWG#18/6FT output cable in order to meet the total regulation specified.  
 The regulation and efficiency will change if a different output cable is used.
4. Optional output connectors are available. Please call factory for ordering details.
5. This product is Listed to applicable standards and requirements by UL.

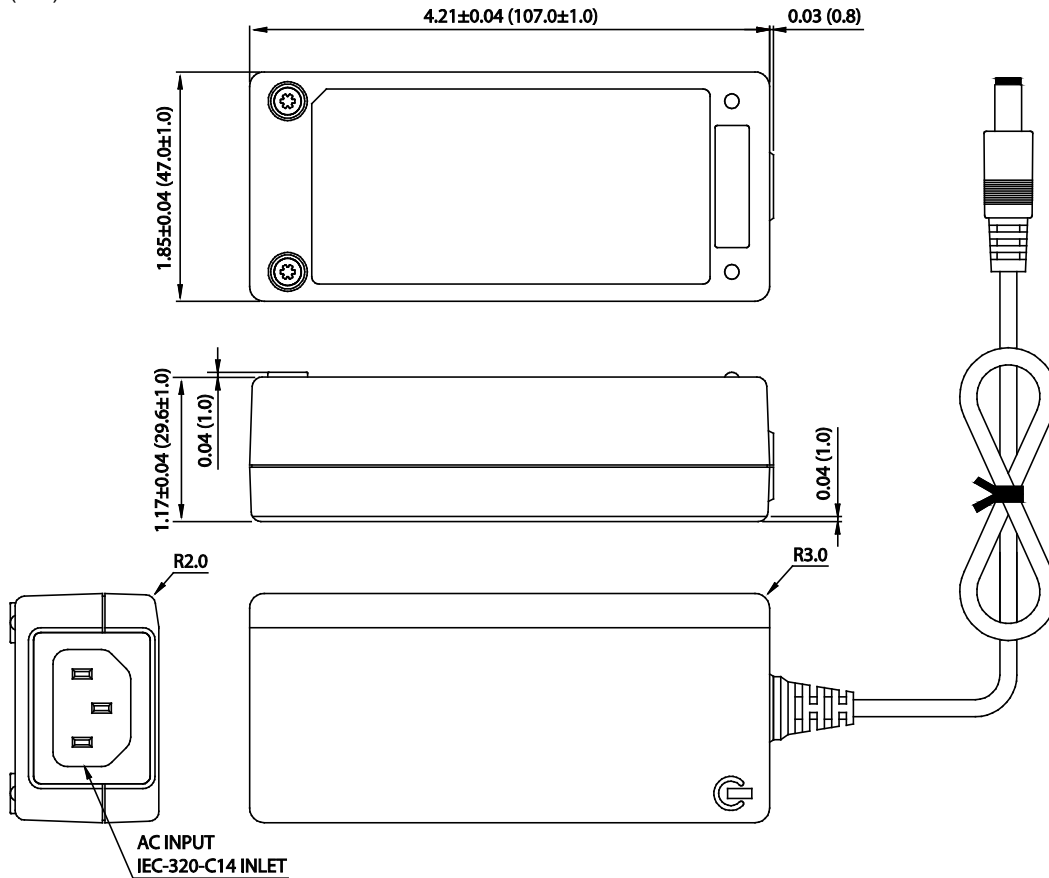
*\*Due to advances in technology, specifications subject to change without notice.*

**DERATING CURVE**



**MECHANICAL DRAWING**

Unit: inches (mm)



**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.

Contact **Wall Industries** for further information:

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