DBPY Series

Constant Voltage Power Supply Specifications

Project _____

Date _____ Type _____

DBPY-45W-12V-B

Available Models[1]

- ☐ DBPY-45W-12V-B
- ☐ DBPY-45W-24V-B

Part Number Breakdown

Example: DBPY-45W-12V-B

Series	Output Power	Output Voltage	Connection Type
DBPY [DiodeDrive, Board Mount, Enclosed, Plastic]	**45W** [45W]	**12V** [12 VDC] or **24V** [24 VDC]	**B** [Terminal Block]

Overview

The DiodeDrive AC to DC encapsulated power supply features terminal blocks for solder-free connections, ensuring reliable and efficient power distribution. Each unit supports a universal 100-240 VAC input with a constant DC output. Its sealed polycarbonate housing protects internal components, while built-in mounting holes enable secure chassis mount installation. It is designed to withstand 5G vibration and includes integrated safeguards against surges, short circuits, overload, and overvoltage. This 45W power supply is ideal for powering industrial automation and equipment.

Features

- Screw terminal block connections for solder-free wiring
- Sealed polycarbonate housing with chassis mounting tabs
- Class II double insulated for improved safety
- Protections: short circuits, overload, overvoltage, and 5G vibration

Product Details

- Durable black polycarbonate housing
- Suitable for dry locations
- Dual output
- 100-240 VAC input

Certifications and Compliances

- UL Recognized - UL 8750, UL 879
- CE compliant

Applications

- Industrial Automation
- Industrial Equipment
- Industrial Facilities
- OEM Components

Warranty

- 3-year warranty

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[1]Contact customer service if interested in other options.

Rev V1.3 Date: 06/26/2025

Specifications are subject to change without notice.

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SPECIFICATIONS	DBPY-45W-12V-B	DBPY-45W-24V-B
OUTPUT		
Output Power	45.6W	
Output Voltage (±2.5%)	12 VDC	24 VDC
Output Current	3.8A	1.9A
Ripple and Noise (max)	120mVp-p	150mVp-p
Line Regulation	±0.5%	
Load Regulation	±1.0%	±0.5%
Setup, Rise Time (full load)	300ms, 35ms @ 115 VAC; 200ms, 35ms @ 230 VAC	
Hold Up Time	5ms @ 115 VAC; 50ms @ 230 VAC	
INPUT		
Input Voltage (rated)	100–240 VAC	
Input Voltage (NOM)	90–264 VAC	
Input Frequency	50/60Hz	
No Load Power Consumption	0.15W max.	
Input Current (TYP)	1500mA @ 115 VAC; 900mA @230 VAC	
Inrush Current (cold start)	30A @ 115 VAC; 60A @ 230 VAC	
Leakage Current	< 0.25mA/264 VAC, 50Hz	
Efficiency (TYP)	87.5%	89.5%
Capacitive Load (max)	4400uF	1500uF
ENVIRONMENTAL		
IP Rating	IP20	
Environmental Rating	Non-weatherproof, Suitable for Dry Locations	
Operating Temp., Humidity	-30 to 85°C (-22 to 185°F); 20–90% RH, non-condensing	
Storage Temp., Humidity	-40 to 85°C (-40 to 185°F); 10–95% RH, non-condensing	
Temp. Coefficient	± 0.03%/°C (0 to 50°C)	
Vibration	10–500Hz, 5G 10min. /1 cycle, period for 60min. each along X, Y, Z axes	
SAFETY		
Withstand Voltage	I/P-O/P: 4k VAC	
Isolation Resistance	I/P-O/P: 100M Ohms/500VDC/25°C 70% RH	
PROTECTIONS		
Short Circuit	Hiccup mode, recovers automatically after fault condition is removed	
Overload	115%-160% Rated Output current | Hiccup mode, recovers automatically after current goes down	
Overvoltage	12.6–16.2V	25.2–32.4V
	Shut off o/p voltage, clamping by zener diode	
MECHANICAL		
Material	Black flame retardant and heat resistant plastic	
Cooling Method	Natural air convection	
Connection Type	Screw Terminal Block	
MTBF	>800K hours min. 25°C [MIL-HDBK-217F]	

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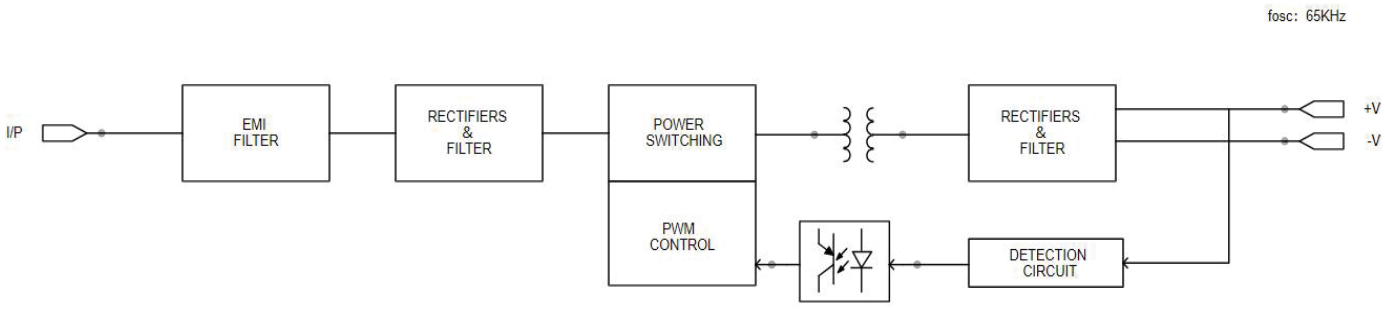
EMC			
EMC EMISSION	**Parameter**	**Standard**	**Test Level/Note**
	Conducted	BS EN/EN55032 (CISPR32)	CLASS B
	Radiated	BS EN/EN55032 (CISPR32)	CLASS B
	Harmonic Current (Note 7)	BS EN/EN61000-3-2	CLASS A
	Voltage Flicker	BS EN/EN61000-3-3	–
EMC IMMUNITY	BS EN/EN55035, BS EN/EN61000-6-2		
	Parameter	**Standard**	**Test Level/Note**
	ESD	BS EN/EN61000-4-2	Level 3, 8KV air; Level 2, 4KV contact, criteria A
	Radiated Susceptibility	BS EN/EN61000-4-3	Level 3, criteria A
	EFT/Burest	BS EN/EN61000-4-4	Level 3, criteria A
	Surge	BS EN/EN61000-4-5	Level 4, 2KV/L-N, criteria A
	Conducted	BS EN/EN61000-4-6	Level 3, criteria A
	Magnetic Field	BS EN/EN61000-4-8	Level 4, criteria A
	Voltage Dips and interruptions	BS EN/EN61000-4-11	>95% dip 0.5 periods, 30% dip 25 periods, >95% interruptions 250 periods

SPECIFICATION NOTES:

1. All parameters NOT specially mentioned are measured at 230 VAC input, rated load, and 25°C of ambient temperature.
2. Ripple and noise are measured at 20MHz using a 12" twisted wire-pair terminated with a 0.1µF and 47µF parallel capacitor.
3. Tolerance: includes set up tolerance, line regulation, and load regulation.
4. Application Altitude: 2000m
5. Full load can be operated at -30°C to 50°C. Load should be reduced at 50°C to 85°C. Refer to "Output Derating Curves."
6. Ambient temperature derating of 3.5°C /1000m with fanless models for operating altitudes higher than 2000m (6500ft).
7. The power supply is considered as an independent unit. Systems with the power supply as a component require re-confirming that the system complies with the EMC directives.

Functional Diagram



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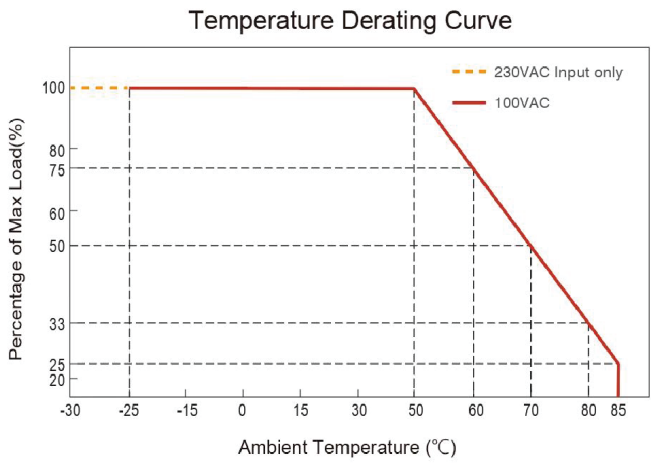
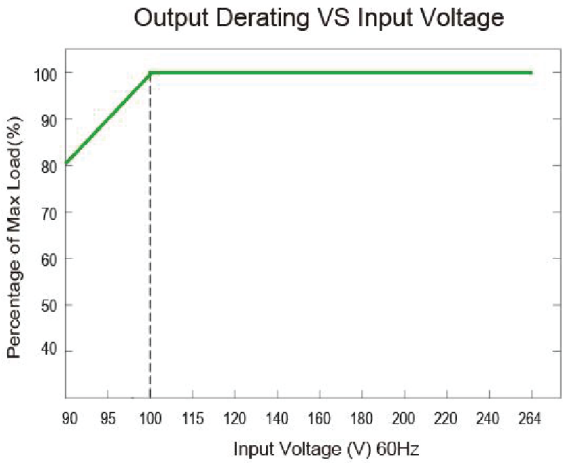
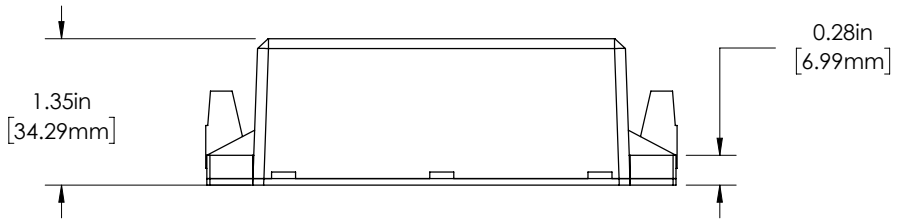
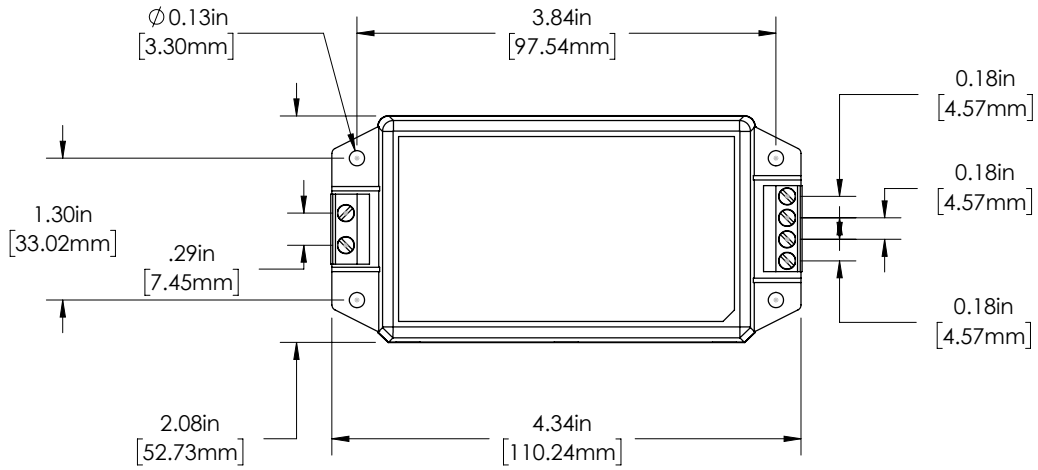
Derating Curves





Dimensional Drawings





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