24W/12V Industrial DIN Rail Power Supply

(GWS-DP24-12)

24W Industrial Power Supply

- Power Input: AC 90~264V
- Support production for short circuit/over current/over voltage
- Wide operation temperature range: -40℃~70℃
- 100% full load aging test
- High efficiency, long life time and high reliability
- Meet EMC Standard

Application

- Industrial Control System
- Semiconductor fabrication equipment
- Factory automation
- Electro-mechanical apparatus

Description

GWS-DP24-12 is one economical slim 24W industrial DIN Rail power supply series, adapting to be installed on TS-35/7.5 or TS-35/15 mounting rails. The entire series adopts the full range AC input from 90VAC to 264VAC and conforms to EN61000-3-2, the norm the European Union regulates for harmonic current.

GWS-DP24-12 is designed with metal housing that enhances the unit's power dissipation. With working efficiency up to 85%, the entire series can operate at the ambient temperature between -40℃ to 70℃ under air convection. It is equipped with constant current mode for over load protection, fitting various inductive or capacitive applications. The complete protection functions and relevant certificates for industrial control apparatus make GWS-DP24-12 a very competitive power supply solution for industrial applications.

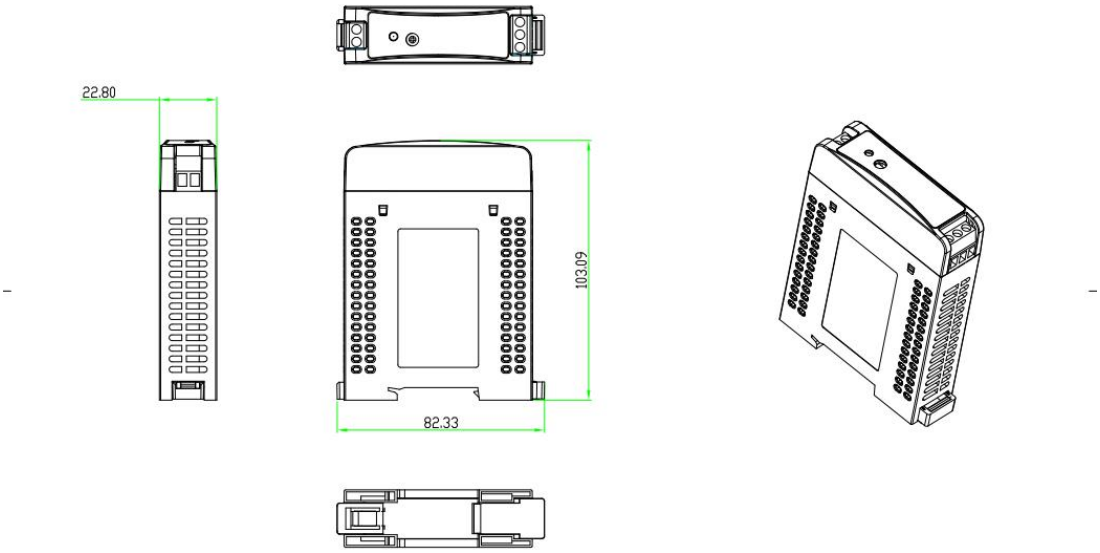
Technical Specification

Model	GWS-DP24-12	
Output	Group of Output	1
	DC Voltage	12VDC
	Default Output Voltage	12.00-12.2V （VIN: 220VAC / LOAD: 0A）
	Output Rated Current	2A
	Output Current Range	0-2A
	Output Rated Power	24W
	Total Peak Output Power	Up to 36W(Sustainable time 10S/220VAC)
	Peak Output Current	3A(Sustainable time 10S/220VAC)
	Ripple noise	Peak - Peak ≤100mV (Test Method: The terminal shall be in parallel with capacitance of 0.1uF and 47uF, testing at 20MHz)
	Output Regulation Range	10.V~15.0V
	Stabilized Voltage Precision	±1% (@ 90-264Vac input, 100% load)
	Line Regulation	±0.5% (@ 90-264Vac input, 100% load)
	Load Regulation	±1% (@ 90-264Vac input, 100% load)
	Temperature Coefficient	±0.03%/℃
	Output Start Time	< 3S @ 115Vac < 1.6S @ 230Vac (100% load)
	Output Hold Time	> 20ms @ 115Vac (100% load)
	Voltage Overshoot	≤5%
Input	Input Voltage Range	90~264VAC
	Input Rated Voltage Range	100~240VAC
	Frequency Range	47Hz~63Hz
	Rated Frequency	50/60Hz
	Starting Voltage	90Vac
	Efficiency	> 85.0% @ 115Vac, > 84.0% @ 230Vac
	Input Current	< 0.60A @ 115Vac, < 0.30A @ 230Vac

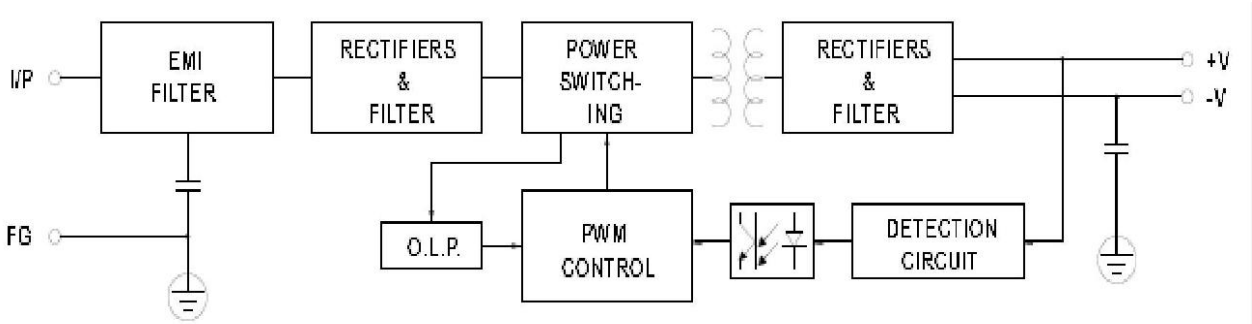
	Inrush Starting Current	< 60A @ 230Vac	
	Power Factor	>0.6 (at full load)	
Protection	Output	Over power	28.8~36W Swing machine (Testing method: Increase the output current until enabling the protection. Protection mode:Swing machine, Self-recovery after over-power released.)
		Over voltage	15~16V Swing machine (Short circuit the Pin1-2 of U8, swing machine. Output recovery to normal after removing the short circuit) Note: Do not use external voltage.
		Over current	2.4~3.0A Swing machine (Testing method: Increase the output current until enabling the protection. Protection mode:Swing machine, Self-recovery after over-current released.)
		Short circuit	It achieves the long-term short circuit by connecting a sufficient cross-sectional area copper cable (Length at 15cm±5cm) with power output port. Self-recovery to normal after removing the short circuit.
Operation Environment	Operation Temperature and Humidity		-30~70℃; 20%~95%RH
	Storage Temperature and Humidity		-40℃~85℃; 10%~95%RH non-condensing
	Libration		Frequency range: 10 ~ 500Hz, Acceleration: 2G, Each sweep cycle 10min. Six sweeps along the X, Y, and Z axis
	Surge		Acceleration: 20G, Duration time: 11mS, Three shocks along X, Y and Z axis
	Altitude		2000m
Safety and EMC Standard @25℃	Security Standard		GB4943/EN60950 ■Reference □Certification
	Dielectric Strength		Input—Output:3KVac/10mA; Input--Case:1.5KVac/10mA; Output---Case:0.5KVDC/10mA Time for each testing is 1min.
	Grounding Test		Test Condition: 32A/2min; Ground bond: ＜ 0.1 ohms.
	Leakage Current		Input to GND ≤3.5mA; Input to output ≤0.25mA (Input 264Vac, 63Hz)

	Insulation Resistance		Input—Output: 10M ohms;
	EMI	Conducted Interference	EN55022, EN55024, FCC PART 15 CLASS B
		Radiated Interference	EN55022, EN55024, FCC PART 15 CLASS B
	Harmaonic current		EN61000-3-2 CLASS D
	EMS	Conducted Emission	EN61000-4-6 Level3
		Radiated Emission	EN61000-4-3 Leve3 criterion B
		Power Frequency Emission	EN61000-4-8 Level3
		Electrostatic Emission	EN61000-4-2 Level4 criterion B
		EFT	EN61000-4-4 Level4 criterion B
		Surge	EN61000-4-5 Level4 criterion B
		Dip and Interruption	EN61000-4-11
Dimensions (W*H*D)			23*103*85mm

Dimension

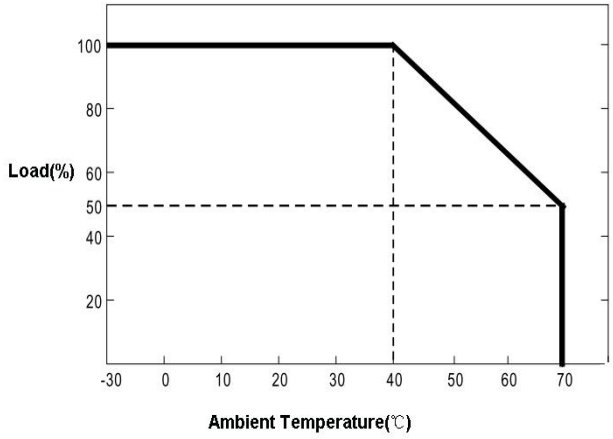


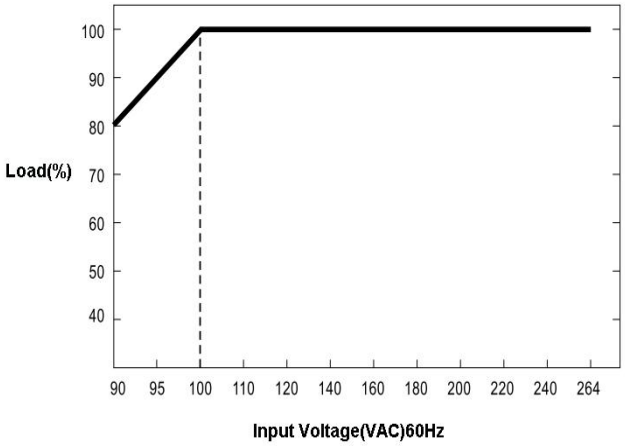
Block Diagram



Derating Curve

Static Characteristic Curve





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