100W Single Output Power Supply

Industrial Hardened Power Supply

OVERVIEW

Engineered for optimal performance in harsh environmental conditions, the IFS® MDR-100 Series DIN-rail Power Supply is designed to perform under full-load in industrial environments where dust and condensation can be a problem and when operating temperatures range from -10°C to 60°C (refer to Derating Curve).

Reliability and safety are enhanced by free-air cooling, eliminating potential mechanical breakdowns and wear from moving parts. Short circuit/overload protection, as well as over voltage and temperature recovery features, protect against damage with an automatic recovery function that does not require user intervention.

The advanced switching power supply technology reduces power consumption, meeting Level V (5) International Efficiency in compliance with California Energy Commission, Energy Star and the EU Code of Conduct for external power supplies.

This power supply is ideal for use with industrial network equipment, such as switches with full PoE power per port, in harsh environments.

STANDARD FEATURES

- High efficiency 88% and low power dissipation
- 150% peak load capability
- Built-in active PFC function, PF>0.93
- Protections: Short circuit / Overload / Over voltage / Over temperature
- Cooling by free air convection
- Can be installed on DIN rail TS-35/7.5 or 15
- UL 508 (industrial control equipment) approved
- EN61000-6-2 (EN50082-2) industrial immunity level
- Built-in DC OK relay contact
- 100% full load burn-in test
- Two-year warranty

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Industrial Hardened Power Supply

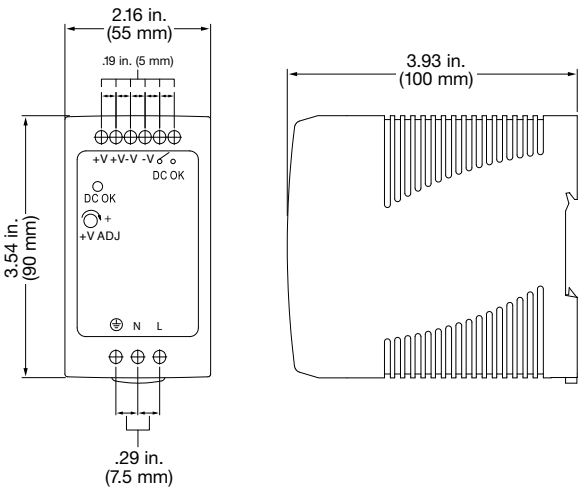
North America T 855-286-8889
Asia T 852-2907-8108
Australia T 61-3-9239-1200
Europe T 32-2-725-11-20
Latin America T 561-998-6114

Specifications

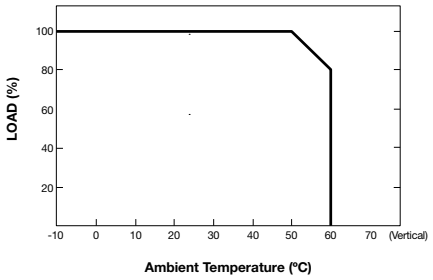
MDR-100-48	
Output	
DC Voltage	48V
Rated Current	2A
Current Range	0~2A
Rated Power	96W
Ripple & Noise (max.)[2]	200mVp-p
Voltage Adj. Range	48~56V
Voltage Tolerance[3]	±1.0%
Line Regulation	±1.0%
Load Regulation	±1.0%
Setup, Rise Time[5]	3000ms, 50ms/230VAC 3000ms, 50ms/115VAC at full load
Hold up Time (typ.)	50ms/230VAC, 20ms/115VAC at full load
Input	
Voltage Range[6]	85 ~ 264VAC / 120 ~ 370VDC
Frequency Range	47 ~ 63Hz
Power Factor (typ.)	PF≥0.5/230VAC, PF≥.095/115VAC at full load
Efficiency (typ.)	88%
AC Current (typ.)	1.3A/115VAC / 0.8A/230VAC
Inrush Current (typ.)	Cold Start 30A/115VAC / 60A/230VAC
Leakage Current	<1mA/240VAC
Protection	
Overload	105 - 150% rated output power
	Protection type: Constant current limiting, recovers automatically after fault condition is removed
Over Voltage	57.6 ~ 64.8V
	Protection type: Shut down O/P voltage, re-power on to recover
Over Temperature	90ºC ±10ºC (RTH2: detect on heatsink of power transistor
	Protection type: Shut down O/P voltage, repower on to recover
Function	
DC OK Signal	Relay contact rating (max.): 30V/1A resistive
Environment	
Working Temperature	-10 ~ +60ºC (Refer to Derating Curve)
Working Humidity	20 ~ 90% RH non-condensing
Storage Temp., Humidity	-40 ~ +85ºC, 10 ~ 95% RH
Temp. Coefficient	±0.03%/ºC (0 ~ 50ºC)
Vibration	Component: 10 ~ 500Hz, 2G 10min./1cycle, 60min. each along X, Y, Z axes: Mounting: Compliance to IEC60068-2-6
Safety & EMC[4]	
Safety Standards	UL508, TUV EN60950-1 approved
Withstand Voltage	I/P-OP:3KVAC, I/P-FG:1.5KVAC, O/P-FG:0.5KVAC,
Isolation Resistance	I/P-O/P, I/P-FG, O/P-FG:>100M Ohms / 500VDC / 25ºC/70% RH
EMC Emission	Compliance to EN55011, EN55022 (CISPR22), EN61204-3 Class B, EN61000-3-2,-3
EMC Immunity	Compliance to EN61000-4-2,3,4,5,6,8,11, EN55024, EN61000-6-2, EN61204-3, Heavy industry level, Criteria A
Others	
MTBF	346Khrs min. MIL-HDBK-217º F (25ºC)
Dimensions (W x H x D)	55 x 90 x 100mm
Packing	0.42Kg; 30pcs/13.6Kg/0.82 cu. ft.

1. All parameters NOT specially mentioned are measured at 230VAC input, rated load and 25°C of ambient temperature.
2. Ripple & noise are measured at 20MHz of bandwidth by using a 12" twisted pair-wire terminated with a 0.1uf & 47uf parallel capacitor.
3. Tolerance : includes set up tolerance, line regulation and load regulation.
4. The power supply is considered as a component which will be installed into a final equipment. The final equipment must be re-confirmed that it still meets EMC directives.
5. Length of set up time is measured at first cold start. Turning ON/OFF the power supply may lead to increase of the set up time.
6. Derating may be needed under low input voltage. Please check the derating curve for more details.

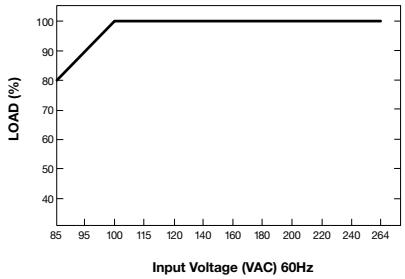
Dimensional Diagrams



Derating Curve



Output Derating vs. Input Voltage



Ordering Information

Part Number	Description
PS48VDC100W-DIN	48VDC (100W) Single Output, Environmentally Hardened Switching Power Supply

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Specifications subject to change without notice.

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