

# DPDH120 SERIES | SINGLE PHASE

120W DIN Rail AC-DC Power Supply

MODEL: DPDH120 | CATEGORY: AC-DC | RATED POWER: 120W | FORM: DIN Rail

## PRODUCT OVERVIEW



### Key Product Features

- Universal AC input with DC input capability
- Compact DIN-rail design for space-saving installation
- High efficiency up to 91%
- Class I isolation
- Peak power support up to 180W (3 sec.)
- Built-in protections: overload, overvoltage, overtemperature
- DC OK relay contact for system monitoring
- Wide operating temperature range (-25°C to +70°C)

## PRODUCT DESCRIPTION




The DPDH120 Series is a compact and reliable 120W DIN-rail power supply designed for industrial and automation applications. Featuring a wide universal input range with optional DC input capability, it delivers stable and efficient power across 12V, 24V, and 48V outputs.

## SAFETY CERTIFICATES



- Certified to UL61010-1 and UL61010-2-201 for industrial control equipment
- Complies with EN61010-1 safety standard
- High isolation protection up to 3KVAC (input-output)
- Meets EN55032 Class B emission requirements
- Fully compliant with EN61000-4 immunity standards for industrial environments
- Designed for heavy industrial EMC environments (EN61000-6-2 / EN61204-3)

## Applications

- |  |  |
|--|--|
|  Industrial automation systems |  Building automation            |
|  Control panels & PLC systems  |  Telecom & networking equipment |
|  Factory equipment             |  Process control systems        |

# ELECTRICAL SPECIFICATIONS

## Model Information

Part Number	DC Voltage	Rated Current (Max.)	Rated Power	Peak Power	Voltage Adj. Range
DPDH120-12	12V	10A	120W	180W (3 sec.)	12-14V
DPDH120-24	24V	5A	120W	180W (3 sec.)	24-28V
DPDH120-48	48V	2.5A	120W	180W (3 sec.)	48-55V

## Input Specifications

Parameter	Specification
RATED INPUT (Certified Voltage)	100 ~ 240VAC
NOMINAL INPUT VOLTAGE RANGE	90 ~ 264VAC or 124~370VDC
FREQUENCY RANGE	47 ~ 63Hz
POWER FACTOR (Typ.)	0.93 / 230VAC at full load
POWER FACTOR (Typ.)	0.96 / 115VAC at full load
EFFICIENCY (Typ.)	89% DPDH120-12
	91% DPDH120-24
	91% DPDH120-48
AC CURRENT (Typ.)	1.4A / 115VAC
	0.7A / 230VAC
INRUSH CURRENT (Typ.)	35A / 115VAC
	70A / 230VAC
LEAKAGE CURRENT	<1mA / 240VAC

## Output Specifications

Parameter	Specification
RIPPLE & NOISE (max.)	100mVp-p DPDH120-12
	100mVp-p DPDH120-24
	120mVp-p DPDH120-48
VOLTAGE TOLERANCE	±2.0%
LINE REGULATION	±0.5%
LOAD REGULATION	±1.0%
SETUP, RISE TIME	1500ms, 60ms / 230VAC at full load
	3000ms, 60ms / 115VAC at full load
HOLD UP TIME (Typ.)	20ms / 230VAC at full load
	20ms / 115VAC at full load

For quotes and customization requests, contact Digital Power sales at (877) 634-0982 or sales@digipwr.com.

# ELECTRICAL SPECIFICATIONS

## Protection

Parameter	Specification
OVER LOAD	110 ~ 150% rated output, auto-recovery
	>150% constant current limiting, may shut down after 3 sec
OVER VOLTAGE	14 ~ 17V (12V model)
	29 ~ 33V (24V model)
	56 ~ 65V (48V model)
	Shut down, re-power to recover
OVER TEMPERATURE	95°C ±5°C detection
	Shut down, auto recovery
DC OK RELAY CONTACT RATINGS (max.)	60Vdc/0.3A, 30Vdc/1A, 30Vac/0.5A resistive load

## Environment

Parameter	Specification
WORKING TEMP.	-25 ~ +70°C Refer to derating curve
WORKING HUMIDITY	20 ~ 95% RH non-condensing
STORAGE TEMP.	-40 ~ +85°C
STORAGE HUMIDITY	10 ~ 95% RH
COLD START	-40°C
MTBF	280K hrs min. MIL-HDBK-217F (25°C)
TEMP. COEFFICIENT	±0.03%/°C
VIBRATION	10~500Hz, 2G

## Safety&EMC

Parameter	Specification
SAFETY STANDARDS	UL61010-1, UL61010-2-201, BS EN/EN61010-1
WITHSTAND VOLTAGE	I/P-O/P:3KVAC I/P-FG:2KVAC O/P-FG:0.5KVAC O/P-DC OK:0.5KVAC
ISOLATION RESISTANCE	I/P-O/P, I/P-FG, O/P-FG >100M Ohms / 500VDC / 25°C / 70% RH
EMC EMISSION	Compliance to BS EN/EN55032 BS EN/EN61000-3-2,-3
EMC IMMUNITY	Compliance to BS EN/EN61000-4-2,3,4,5,6,8,11 BS EN/EN55024, BS EN/EN61000-6-2, BS EN/EN61204-3

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# ELECTRICAL SPECIFICATIONS

## Dimensions and Weight, Packing

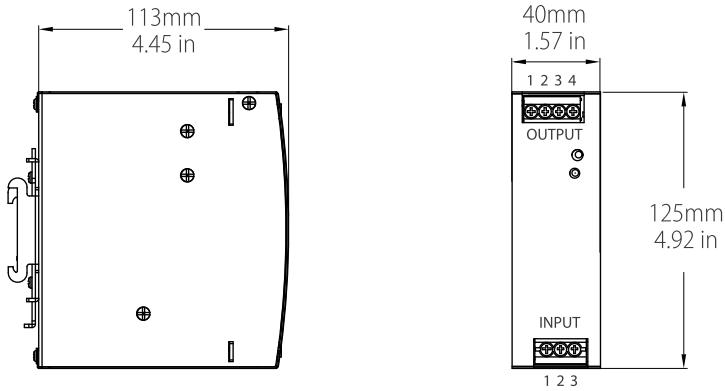
Parameter	Specification
Width	40mm / 1.57in
Height	125mm / 4.92in
Depth	113mm / 4.45in
Weight	0.67kg
Carton Size	31.5 × 30 × 30 CM
Carton Size	12.4 × 11.81 × 11.81 in
Master Carton Quantities	20pcs / Carton

### Note

1. All parameters not specifically mentioned are measured at 230VAC input, rated load, and 25°C ambient temperature.
2. Ripple & noise are measured peak-to-peak with a 20MHz bandwidth using 0.1μF and 47μF/50V parallel capacitors under full load, at nominal AC input and 25°C ambient temperature.
3. Installation clearances: top 40mm, bottom 20mm, left and right 5mm. Increase spacing to 10–15mm if adjacent devices generate heat.
4. Peak power (180W) can be sustained for up to 3 seconds. Refer to peak loading curves for details.
5. Derating may be required under low input voltage. Refer to derating curve for details.
6. Specifications are measured after 30 minutes of burn-in.
7. Ambient temperature derating of 3.5°C per 1000m applies for operating altitude above 2000m (6500ft).

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# MECHANICAL SPECIFICATIONS



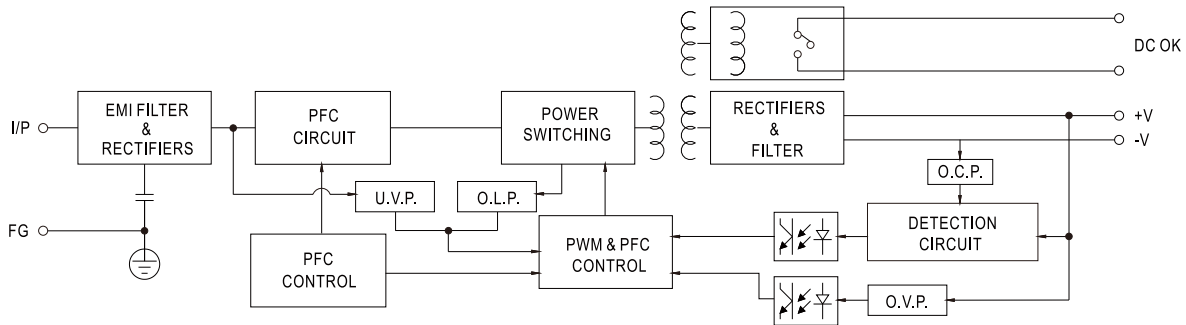
### Input

No.	Description
1	FG ⊕
2	AC/N
3	AC/L

### Output

No.	Description
1,2	Relay Contact
3	DC OUTPUT -V
4	DC OUTPUT +V

## Block Diagram



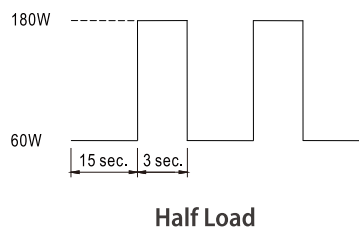
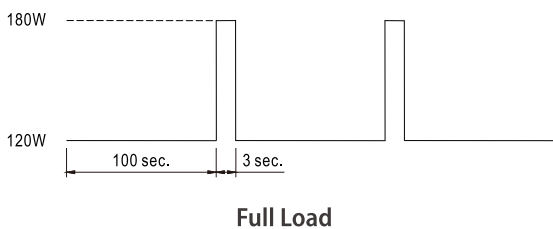
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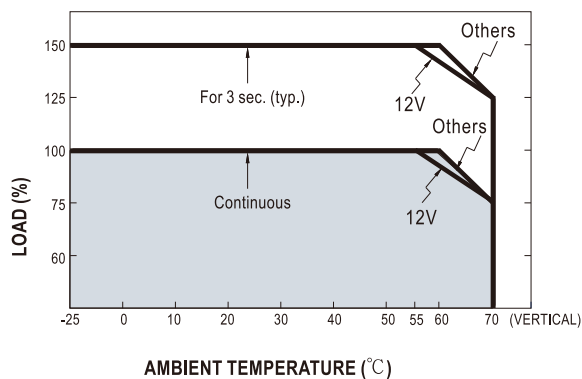
## DC OK Relay Contact

Parameter	Description
Contact Close	PSU turns on / DC OK
Contact Open	PSU turns off / DC Fail
Contact Ratings (max.)	30V / 1A resistive load

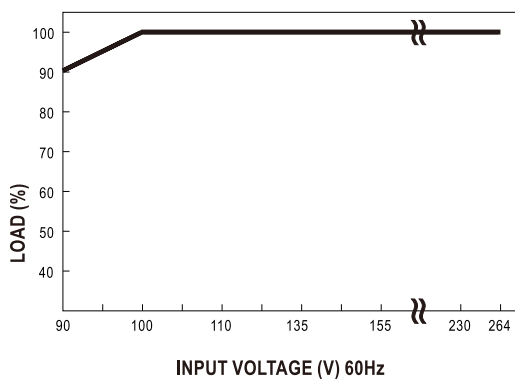
## Peak Loading



## Deduction Curve and Temperature



## Minus Output and Input Voltage Curves



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