

**date** 02/01/2018

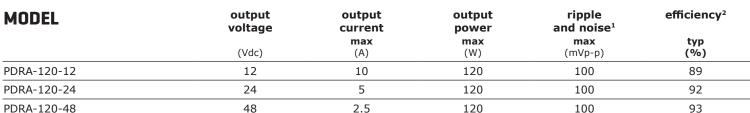
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## **SERIES:** PDRA-120 | **DESCRIPTION:** AC-DC POWER SUPPLY

#### **FEATURES**

- up to 120 W continuous power
- universal input voltage range
- over current, over voltage, input under voltage, short circuit, and over temperature protections
- active power factor correction
- remote on/off control
- output trim
- low ripple and noise
- -25 to +70°C temperature range
- UL/cUL 60950-1 safety approval
- efficiency up to 93%

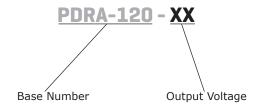




Notes:

- 1. At full load, nominal input, 20 MHz bandwidth oscilloscope, with a 1 µF ceramic and 10 µF electrolytyic capacitor on the output.
- 2. At 230 Vac input.
- 3. All specifications are measured at Ta=25°C, humidity <75%, nominal input voltage, and rated output load unless otherwise specified.

#### **PART NUMBER KEY**





### **INPUT**

parameter	conditions/description	min	typ	max	units
voltage		85		264	Vac
voitage		100		370	Vdc
frequency		47		63	Hz
under voltage protection	start-up voltage at full load	76		83	Vac
under voltage protection	shutdown voltage at full load	67		75	Vac
	at 115 Vac			1.5	Α
current	at 230 Vac			0.75	Α
in work account	at 115 Vac		35		Α
inrush current	at 230 Vac		70		Α
navious for about accuration	at 115 Vac		0.98		
power factor correction	at 230 Vac		0.96		
no load power consumption				0.75	W

### **OUTPUT**

parameter	conditions/description	min	typ	max	units
	12 Vdc output model			10,000	μF
capacitive load	24 Vdc output model			4,700	μF
	48 Vdc output model			1,700	μF
initial set point accuracy				±1	%
line regulation	at full load			±0.5	%
load regulation				±1	%
adjustability <sup>1</sup>	via built in trim pot		±10		%
start-up time				1.5	S
hold-up time	at 115/230 Vac		25		ms
switching frequency			100		kHz
temperature coefficient			±0.03		%/°C

Notes: 1. Max output power of 120 W.

### **PROTECTIONS**

parameter	conditions/description	min	typ	max	units
over voltage protection	continuous, auto recovery				
over current protection	activates after 3 seconds, auto recovery	110		150	%
short circuit protection	continuous, auto recovery				
over temperature protection	output shutdown, auto recovery				

### **SAFETY & COMPLIANCE**

innut to output for 1 minute			max	units	
input to output for 1 minute input to ground for 1 minute	3,000 1,500			Vac Vac	
output to ground for 1 minute	500			Vac	
UL 60950-1, EN 60950-1					
class I					
EN 55022, EN 55024, EN 61000-3-2, EN 61000-3-3					
CISPR22/EN55022, Class B					
CISPR22/EN55022, Class B					
IEC/EN61000-4-2, contact ±6 kV/ air ±8 kV, Class B					
IEC/EN61000-4-3, 10 V/m, Class A					
IEC/EN61000-4-4, ±4 kV, Class B					
	input to ground for 1 minute output to ground for 1 minute  UL 60950-1, EN 60950-1  class I  EN 55022, EN 55024, EN 61000-3-2, EN 61000-3-3  CISPR22/EN55022, Class B  CISPR22/EN55022, Class B  IEC/EN61000-4-2, contact ±6 kV/ air ±8 kV, Class B  IEC/EN61000-4-3, 10 V/m, Class A	input to ground for 1 minute 1,500 output to ground for 1 minute 500  UL 60950-1, EN 60950-1  class I  EN 55022, EN 55024, EN 61000-3-2, EN 61000-3-3  CISPR22/EN55022, Class B  CISPR22/EN55022, Class B  IEC/EN61000-4-2, contact ±6 kV/ air ±8 kV, Class B  IEC/EN61000-4-3, 10 V/m, Class A	input to ground for 1 minute 1,500 output to ground for 1 minute 500  UL 60950-1, EN 60950-1 class I  EN 55022, EN 55024, EN 61000-3-2, EN 61000-3-3  CISPR22/EN55022, Class B  CISPR22/EN55022, Class B  IEC/EN61000-4-2, contact ±6 kV/ air ±8 kV, Class B  IEC/EN61000-4-3, 10 V/m, Class A	input to ground for 1 minute	

Notes: 2. The power supply is considered a component which will be installed into final equipment. The final equipment still must be tested to meet the necessary EMC directives.

## **SAFETY & COMPLIANCE (CONTINUED)**

parameter	conditions/description	min	typ	max	units
surge	IEC/EN61000-4-5, line to line ±2 kV/ line to	ground ±4 kV, Class	В		
conducted immunity	IEC/EN61000-4-6, 10 Vr.m.s, Class A				
PFM	IEC/EN61000-4-8, 10 A/m, Class A				
voltage dips & interruptions	IEC/EN61000-4-11, 0%-70%, Class B				
MTBF	as per MIL-HDBK-217F at 25 °C	300,000			hours
RoHS	2011/65/EU				

Notes: 1. The power supply is considered a component which will be installed into final equipment. The final equipment still must be tested to meet the necessary EMC directives.

#### **ENVIRONMENTAL**

parameter	conditions/description	min	typ	max	units
operating temperature	see derating curves	-25		70	°C
storage temperature		-25		85	°C
storage humidity	non-condensing			95	%

### **MECHANICAL**

parameter	conditions/description	min	typ	max	units
dimensions	35.00 x 125.00 x 120.00 (1.38 x 4.92 x 4.724 inches)		mm		
material	heat resistant plastic (UL94V-0) and metal				
weight	12 Vdc output model all other models		580 560		g g

+CTRL

-CTRL

### **MECHANICAL DRAWING**

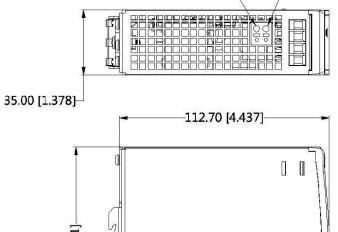
units: mm [inch]

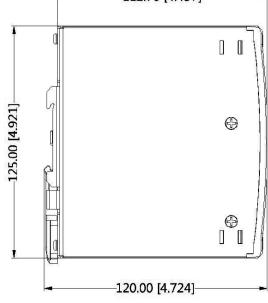
tolerance:  $\pm 1.00[\pm 0.039]$ 

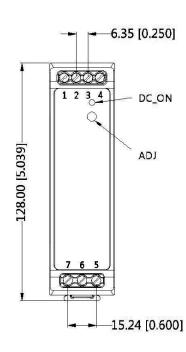
wire range: 26~10 AWG strip length: 8.0 mm mounts to DIN RAIL TS35 tightening torque: max 0.4 N\*m

TERMINAL CONNECTIONS				
TERMINAL	Function			
1	+Vout			
2	+Vout			
3	-Vout			
4	-Vout			
5	AC(N)			
6	AC(L)			
7	÷			

CONTROL TERMINAL				
TERMINAL Function				
1	+CTRL			
2	-CTRI			

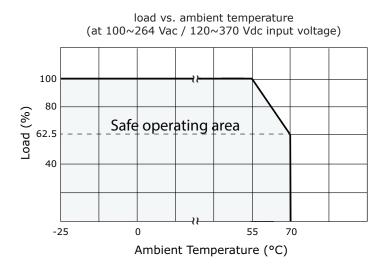


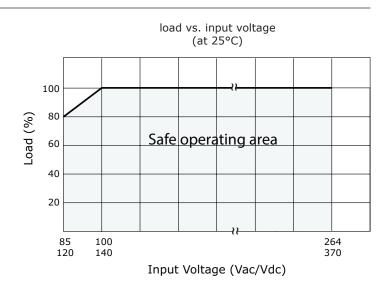




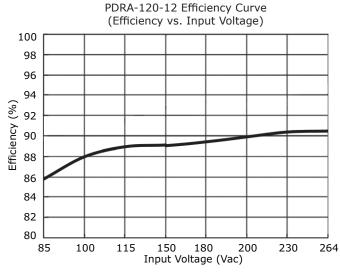
Note: 2. Rail needs to connect to safety ground.

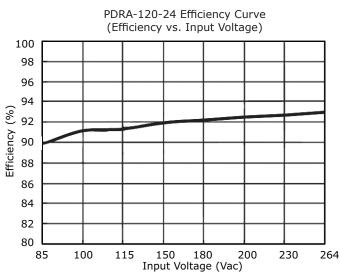
#### **DERATING CURVES**

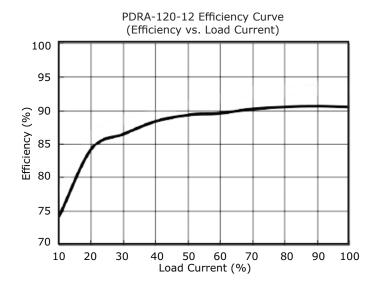


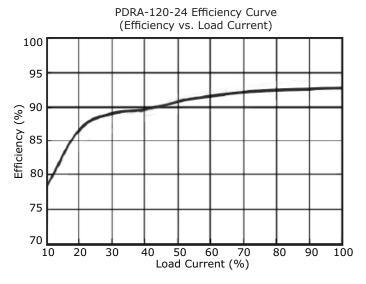


### **EFFICIENCY CURVES**

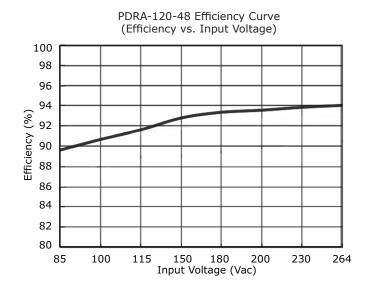


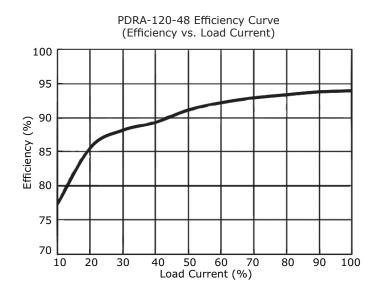






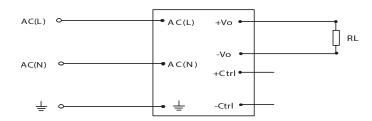
# **EFFICIENCY CURVES (CONTINUED)**



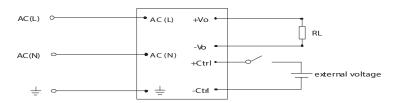


### **APPLICATION CIRCUIT**

Figure 1 Typical Application Circuit



**Figure 2 Remote Control Applications Circuit** 



The power supply can be turned on/off by using the "CTRL" terminals.

Enable output: open Disable output: 4.5~12.5 Vdc

Additional Resources: Product Page | 3D Model

CUI Inc | SERIES: PDRA-120 | DESCRIPTION: AC-DC POWER SUPPLY date 02/01/2018 | page 7 of 7

#### **REVISION HISTORY**

rev.	description	date
1.0	initial release	10/17/2016
1.01	added 12 Vdc & 48 Vdc output models	02/01/2018

The revision history provided is for informational purposes only and is believed to be accurate.



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CUI offers a two (2) year limited warranty. Complete warranty information is listed on our website.

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