

#### **DESCRIPTION:** AC-DC DIN RAIL POWER SUPPLY SERIES: PDRB-30

#### **FEATURES**

- universal input range (85 ~ 264 Vac)
- IEC/EN/UL 62368 certified
- designed to meet 61558 system requirements
- over Voltage Category (OVC) III design
- over voltage, over current, and short circuit protections
- 4kVac isolation input to output
- withstand up to 300 Vac input surge events

ROHS C FUK

• Class B emissions

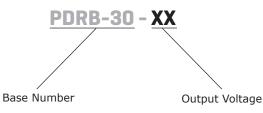


MODEL		ıtput <sup>1</sup> oltage	output current	output power	ripple and noise <sup>2</sup>	efficiency <sup>3</sup>
	(Vdc)	range (Vdc)	max (A)	max (W)	<b>max</b> (mVp-p)	typ (%)
PDRB-30-5	5	4.9 ~ 5.5	3.0	15	80	82
PDRB-30-12	12	10.8 ~ 13.8	2.0	24	120	88
PDRB-30-15	15	13.5 ~ 18.0	2.0	30	120	89
PDRB-30-24	24	21.6 ~ 29.0	1.5	36	150	88
PDRB-30-48	48	43.2 ~ 55.2	0.75	36	240	90

Notes: 1. Output adjustable via built-in trimpot. The actual adjustment range may extend beyond the values listed and care should be taken to ensure the output voltage and output power do not exceed stated limits. 2. At full load, nominal input, 20 MHz bandwidth oscilloscope.

#### 3. At 230 Vac input.

#### PART NUMBER KEY



#### INPUT

parameter	conditions/description	min	typ	max	units
input voltage	ac input	85		264	Vac
	dc input	120		370	Vdc
frequency		47		63	Hz
current	at 115 Vac			0.9	А
	at 230 Vac			0.5	A
inrush current	at 115 Vac		25		Α
	at 230 Vac		45		Α
leakage current	at 264 Vac			0.25	mA

## OUTPUT

parameter	conditions/description	min	typ	max	units
	5 Vdc output model			12,000	μF
	12 Vdc output model			6,000	μF
capacitive load	15 Vdc output model			5,000	μF
	24 Vdc output model			1,400	μF
	48 Vdc output model			600	μF
initial set point accuracy	0% ~ 100% load		±2		%
line regulation	at rated load		±0.5		%
load regulation	at 230 Vac		±1.5		%
start-up time				3	S
hold up time	at 115 Vac		12		ms
hold-up time	at 230 Vac		60		ms
switching frequency			65		kHz
temperature coefficient			±0.02		%/°C
	at 230 Vac				
	5 Vdc, 12 Vdc, 15 Vdc output models			0.3	W
no load power consumption	24 Vdc output model			0.8	W
	48 Vdc output model			0.4	W

# PROTECTIONS

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parameter	conditions/description	min	typ	max	units
over voltage protection	clamp or hiccup				
	5 Vdc output model			7.5	Vdc
	12 Vdc output model			16	Vdc
	15 Vdc output model			20	Vdc
	24 Vdc output model			36	Vdc
	48 Vdc output model			60	Vdc
over current protection	auto recovery	120			%
short circuit protection	continuous, auto recovery, hiccup				

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units

°C

°C

%

m

## **SAFETY & COMPLIANCE**

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parameter	conditions/description	min	typ	max	units
isolation voltage	input to output 5 mA for 1 minute	4,000			Vac
safety approvals	certified to 62368: IEC, EN, UL/cUL				
safety class	Class II				
conducted emissions	CISPR32/EN55032 CLASS B				
radiated emissions	CISPR32/EN55032 CLASS B				
ESD	IEC/EN61000-4-2 Contact ±6KV/Air ±8KV perf.	IEC/EN61000-4-2 Contact ±6KV/Air ±8KV perf. Criteria A			
radiated immunity	IEC/EN61000-4-3 10V/m perf. Criteria A				
EFT/burst	IEC/EN61000-4-4 ±2KV perf. Criteria A				
surge	IEC/EN61000-4-5 line to line ±2KV perf. Criteria A				
conducted immunity	IEC/EN61000-4-6 10Vr.m.s perf. Criteria A				
voltage dips and interruption	IEC/EN61000-4-11 0%, 70% perf. Criteria A				
MTBF	as per MIL-HDBK-217F at 25°C	300,000			hours
RoHS	yes				
ENVIRONMENTAL					

#### parameter conditions/description min typ max -40 70 operating temperature see derating curve -40 85 storage temperature 0 95 storage humidity non-condensing altitude 2,000

### **MECHANICAL**

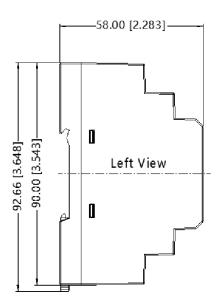
parameter	conditions/description	min	typ	max	units
dimensions	92.66 x 35.00 x 58.00				mm
material	plastic, heat-resistant (UL94V-0)				
weight			115		g
cooling	natural convection				

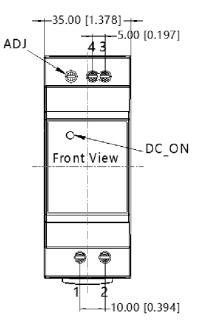
## **MECHANICAL DRAWING**

units: mm [inch] ADJ: built-in trimpot wire range: 24-12 AWG tightening torque: Max 0.4 N·m mounting rail: TS35 general tolerances: ±1.0 [±0.039]

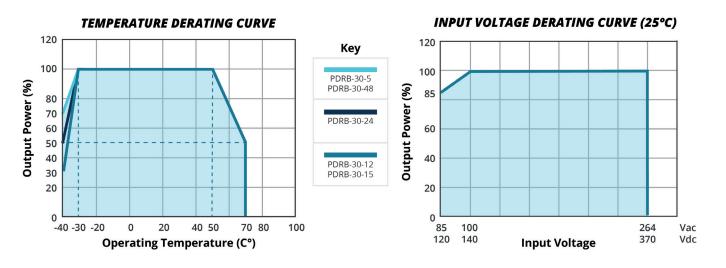
TERMINAL CONNECTIONS				
TERMINAL	Function			
1	AC (N)			
2	AC (L)			
3	-Vo			
4	+Vo			

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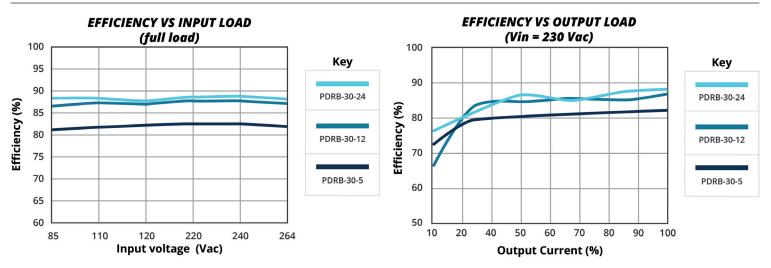


#### **DERATING CURVE**



#### **EFFICIENCY CURVES**

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#### **REVISION HISTORY**

rev.	description	date
1.0	initial release	11/25/2020
1.01	correction to 24 Vdc efficiency and no-load power consumption	06/23/2021
1.02	derating curves updated	02/22/2022
1.03	UKCA mark added	05/26/2022

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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