SERIES: PDRB-100 | DESCRIPTION: AC-DC DIN RAIL POWER SUPPLY

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
- Class B emissions

MODEL	output[1] voltage (Vdc)	range (Vdc)	output current max (A)	output power max (W)	ripple and noise[2] max (mVp-p)	efficiency[3] typ (%)
PDRB-100-12	12	12.0 ~ 13.8	7.5	90.0	120	88
PDRB-100-15	15	13.5 ~ 18.0	6.5	97.5	120	89
PDRB-100-24	24	21.6 ~ 29.0	4.2	100.8	150	90
PDRB-100-48	48	43.2 ~ 55.2	2.1	100.8	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

PDRB-100 - XX

Base Number — Output Voltage

Please read our datasheet & drawing disclaimer here.

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INPUT

parameter	conditions/description	min	typ	max	units
input voltage	ac input dc input	85 120		264 370	Vac Vdc
frequency		47		63	Hz
current	at 115 Vac at 230 Vac			3.0 1.6	A A
inrush current	at 115 Vac at 230 Vac		35 70		A A
leakage current	at 240 Vac			0.5	mA

OUTPUT

parameter	conditions/description	min	typ	max	units
capacitive load	12 Vdc output models 15 Vdc output models 24 Vdc output models 48 Vdc output models			10,000 6,400 2,500 1,100	µF µF µF 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 230 Vac		30		ms
switching frequency			65		kHz
temperature coefficient			±0.03		%/°C
no load power consumption	at 230 Vac 12 Vdc, 15 Vdc output models 24 Vdc output models 48 Vdc output models			 0.3 0.35 0.4	 W W

PROTECTIONS

parameter	conditions/description	min	typ	max	units
over voltage protection	12 Vdc output models 15 Vdc output models 24 Vdc output models 48 Vdc output models			20 25 35 60	Vdc Vdc Vdc Vdc
over current protection	auto recovery	110		200	%
short circuit protection	continuous, auto recovery, hiccup				

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SAFETY & COMPLIANCE

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. Criteria A				
radiated immunity	IEC/EN61000-4-3 10V/m perf. Criteria A				
EFT/burst	IEC/EN61000-4-4 ±4KV 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	units
operating temperature	see derating curve	-40		70	°C
storage temperature		-40		85	°C
storage humidity	non-condensing	0		95	%
altitude				2,000	m

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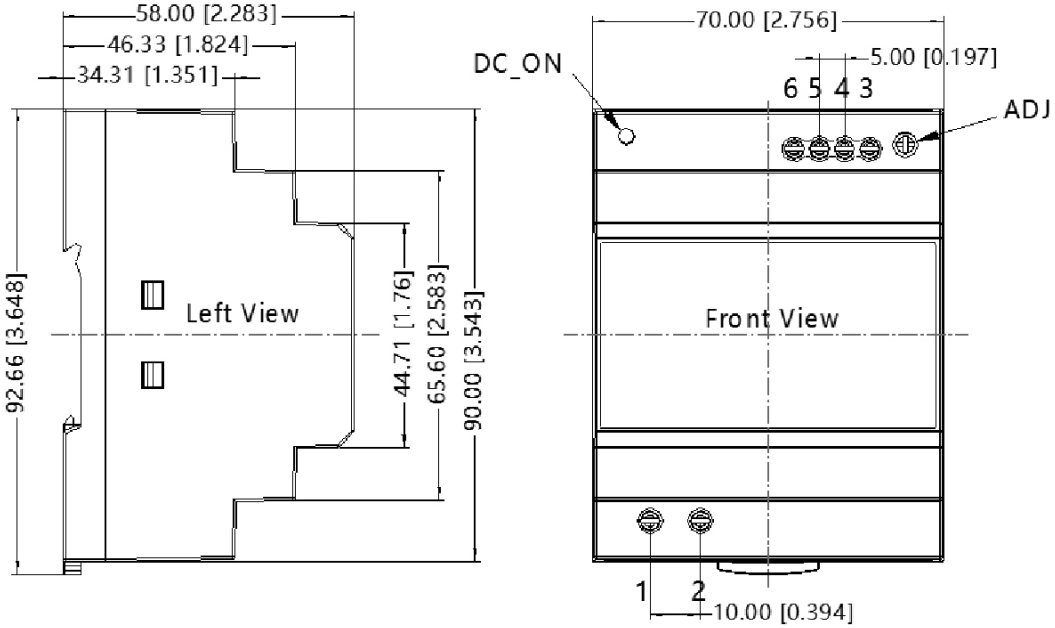
MECHANICAL

parameter	conditions/description	min	typ	max	units
dimensions	70.00 x 92.66 x 58.00				mm
material	plastic, heat-resistant (UL94V-0)				
weight			235		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 (L)
2	AC (N)
3	+Vo
4	+Vo
5	-Vo
6	-Vo



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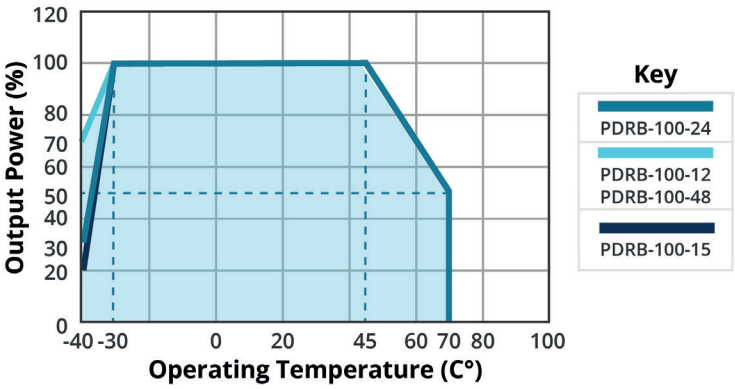
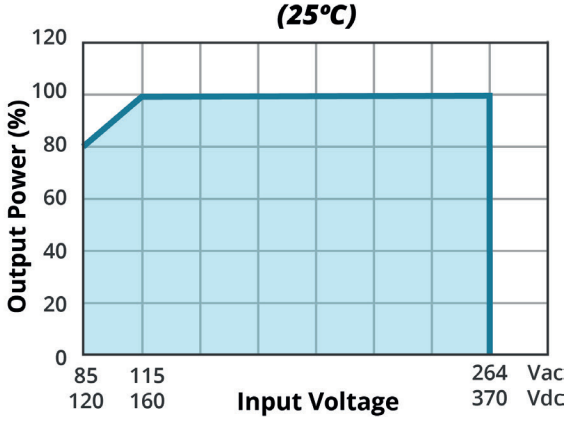
DERATING CURVE

TEMPERATURE DERATING CURVE

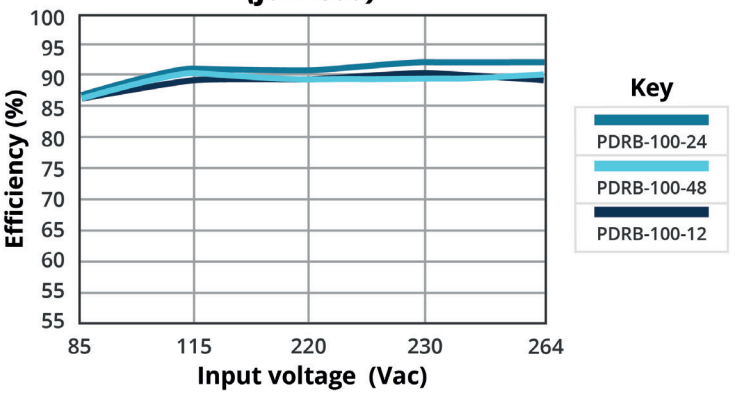


INPUT VOLTAGE DERATING CURVE (25°C)

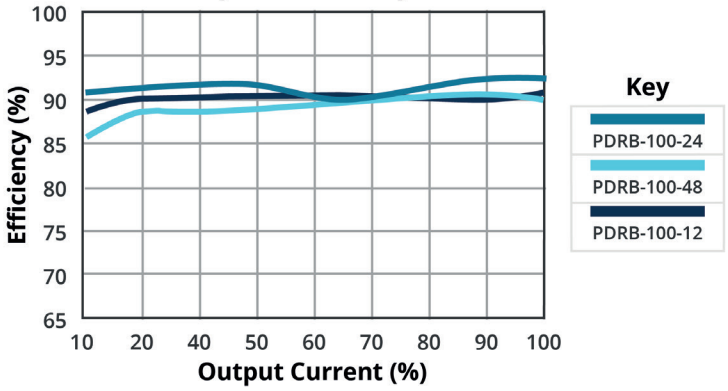


EFFICIENCY CURVES

EFFICIENCY VS INPUT LOAD (full load)



EFFICIENCY VS OUTPUT LOAD (Vin = 230 Vac)



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REVISION HISTORY

rev.	description	date
1.0	initial release	11/25/2020
1.01	derating and efficiency curves updated	02/17/2022
1.02	UKCA mark added	04/11/2023

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

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