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

FEATURES

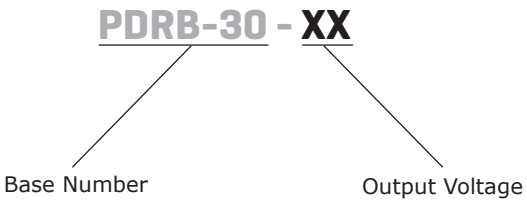
- universal input range (85 ~ 264 Vac)
- IEC/EN/UL 62368 certified
- designed to meet 61558 system requirements
- over Voltage Category (OVC) III design
- over voltage, over current, and short circuit protections
- 4kVac isolation input to output
- withstand up to 300 Vac input surge events
- Class B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

MODEL

MODEL	output[1] voltage (Vdc)	output[1] voltage range (Vdc)	output current max (A)	output power max (W)	ripple and noise[2] max (mVp-p)	efficiency[3] 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



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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			0.9 0.5	A A
inrush current	at 115 Vac at 230 Vac		25 45		A A
leakage current	at 264 Vac			0.25	mA

OUTPUT

parameter	conditions/description	min	typ	max	units
capacitive load	5 Vdc output model 12 Vdc output model 15 Vdc output model 24 Vdc output model 48 Vdc output model			12,000 6,000 5,000 1,400 600	µF 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 115 Vac at 230 Vac		12 60		ms ms
switching frequency			65		kHz
temperature coefficient			±0.02		%/°C
no load power consumption	at 230 Vac 5 Vdc, 12 Vdc, 15 Vdc output models 24 Vdc output model 48 Vdc output model			 0.3 0.8 0.4	 W W W

PROTECTIONS

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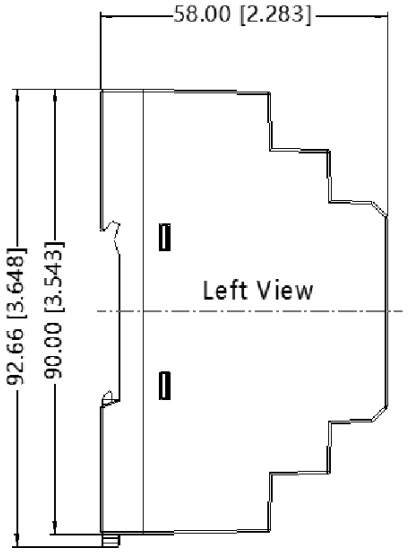
MECHANICAL

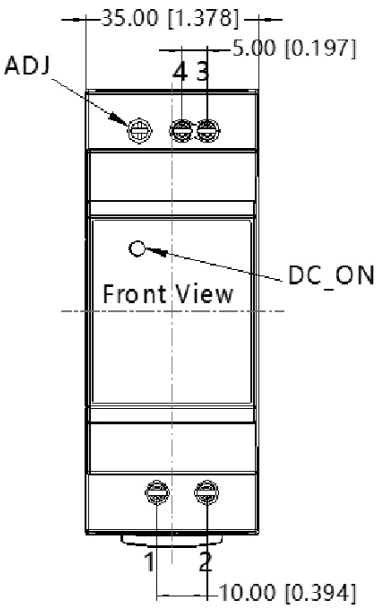
parameter	conditions/description	min	typ	max	units
dimensions	92.66 x 35.00 x 58.00				mm
material	plastic, heat-resistant (UL94V-0)				
weight			115		g
cooling	natural convection				

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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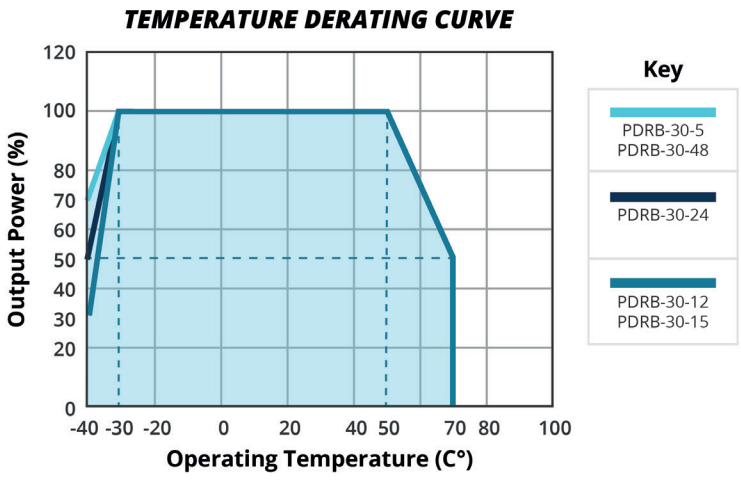
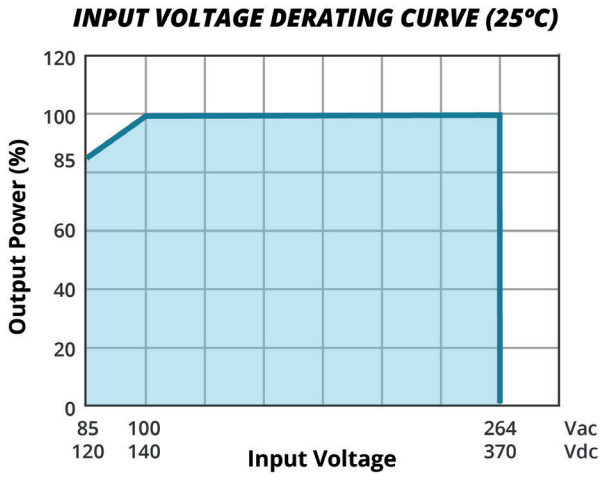
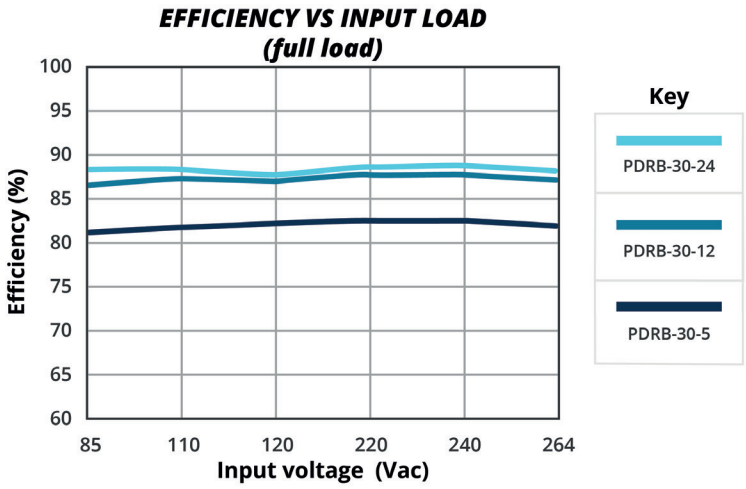
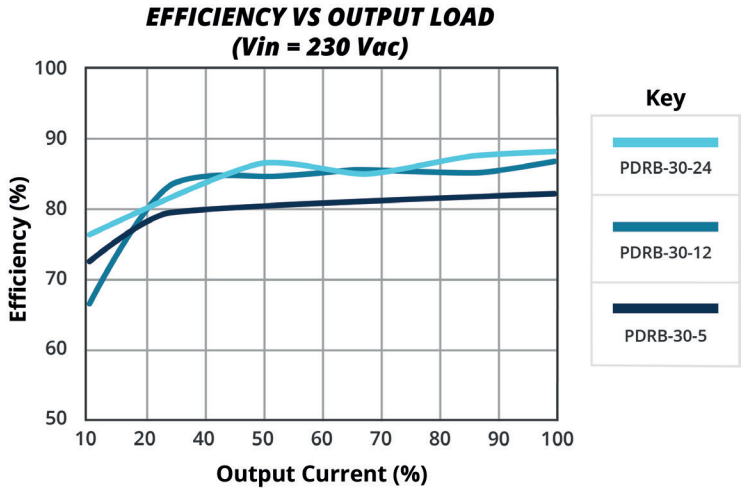
DERATING CURVE





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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