

**SERIES:** PDRC-10 | **DESCRIPTION:** AC-DC DIN RAIL POWER SUPPLY
**FEATURES**

- low profile for building automation
- universal input (90~264 Vac)
- integrated fuse and surge protection
- 3,000 Vac input/output isolation voltage
- DC On/Low LED indicators
- over-voltage/current protection
- UL/cUL, TUV, CE certified



MODEL	output voltage	output current max	output power max	ripple and noise <sup>1</sup> max	efficiency <sup>2</sup> typ
	(Vdc)	(A)	(W)	(mVp-p)	(%)
PDRC-10-5	5	1.5	7.5	50	75
PDRC-10-12	12	0.83	10	50	79
PDRC-10-15	15	0.67	10	50	80
PDRC-10-24	24	0.42	10	50	80

Notes: 1. At full load, nominal input, 20 MHz bandwidth oscilloscope.  
 2. At nominal input.  
 3. All specifications are measured at Ta=25°C, nominal input voltage, and rated output load unless otherwise specified.

**PART NUMBER KEY**

**PDRC-10 - XX**

Base Number

Output Voltage

**INPUT**

parameter	conditions/description	min	typ	max	units
voltage		90		264	Vac
		120		375	Vdc
frequency		47		63	Hz
current	at 90 Vac, full load			300	mA
inrush current	at 115 Vac, full load			16	A
	at 230 Vac, full load			32	A
leakage current	input to output			0.25	mA

**OUTPUT**

parameter	conditions/description	min	typ	max	units
capacitive load	5 Vdc output model			3,500	μF
	12 Vdc output model			1,800	μF
	15 Vdc output model			1,500	μF
	24 Vdc output model			560	μF
initial set point accuracy				±1	%
line regulation	at full load, V in min to V in max			±1	%
load regulation	at Vi nom, 0~100% load			±1	%
start-up time	at Vi nom, full load			1.0	s
	at Vi nom, full load with max capacitive load			1.5	s
rise time	at Vi nom, full load			150	ms
	at Vi nom, full load with max capacitive load			500	ms
hold-up time	at 115 Vac, full load	10			ms
	at 230 Vac, full load	30			ms
fall time	at Vi nom, full load			150	ms
transient recovery time	at Vi nom, 100~50% load			2	ms
switching frequency	at Vi nom, full load		132		kHz
temperature coefficient				±0.03	%/°C
power back immunity	at Vi nom, full load, for 1 second				
	5 Vdc output model	7.5			Vdc
	12 Vdc output model	18			Vdc
	15 Vdc output model	22			Vdc
DC ON indicator threshold at start-up (GREEN)	24 Vdc output model	35			Vdc
	5 Vdc output model	3.5		4.5	Vdc
	12 Vdc output model	9.0		10.8	Vdc
	15 Vdc output model	11.0		13.5	Vdc
DC LOW indicator threshold after start-up (RED)	24 Vdc output model	19.2		21.6	Vdc
	5 Vdc output model	3.5		4.5	Vdc
	12 Vdc output model	9.0		10.8	Vdc
	15 Vdc output model	11.0		13.5	Vdc
24 Vdc output model		19.2		21.6	Vdc

**PROTECTIONS**

parameter	conditions/description	min	typ	max	units
over voltage protection	at Vi nom, full load, auto recovery				
	5 Vdc output model	5.75		6.5	Vdc
	12 Vdc output model	15		16.5	Vdc
	15 Vdc output model	18		20	Vdc
24 Vdc output model		30		33	Vdc
	hiccup, auto recovery (see curve)	125		185	%
short circuit protection	hiccup, auto recovery				

**SAFETY & COMPLIANCE**

parameter	conditions/description	min	typ	max	units
isolation voltage	input to output for 1 minute	3,000 4,242			Vac Vdc
isolation resistance	input to output at 500 Vdc	100			MΩ
safety approvals	UL 508, UL 1310, UL/EN 62368-1 ISA 12.12.01 (Class I, Div 2, Groups A~D)				
safety class	class I				
EMI/EMC	EN 55022 Class B, EN 55032 Class B, EN 55024, ENV 50204, EN 61204-3, EN 61000-3-2, EN 61000-3-3, EN 61000-6-2, EN 61000-6-3, EN 61000-4-2, EN 61000-4-3, EN 61000-4-4, EN 61000-4-5, EN 61000-4-6, EN 61000-4-8, EN 61000-4-11				
pollution degree	2				
degree of protection	IP20				
MTBF	as per Bellcore Issue 6 at 40 °C, GB 5 Vdc output model 12 Vdc output model 15 Vdc output model 24 Vdc output model		901,000 888,000 893,000 910,000		hours hours hours hours
RoHS	yes				

Notes: 4. 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	-40		71	°C
storage temperature		-40		85	°C
humidity	non-condensing	20		95	%
altitude	IEC 60068-2-13			4,850	m
vibration	meets IEC 60068-2-6 (Mounting on rail: 10~500 Hz, 2 G, along X,Y,Z axis, for 60 minutes on each axis)				
shock	meets IEC 60068-2-27 (15 G, 11 ms, 3 axis, 6 faces, 3 times for each face)				

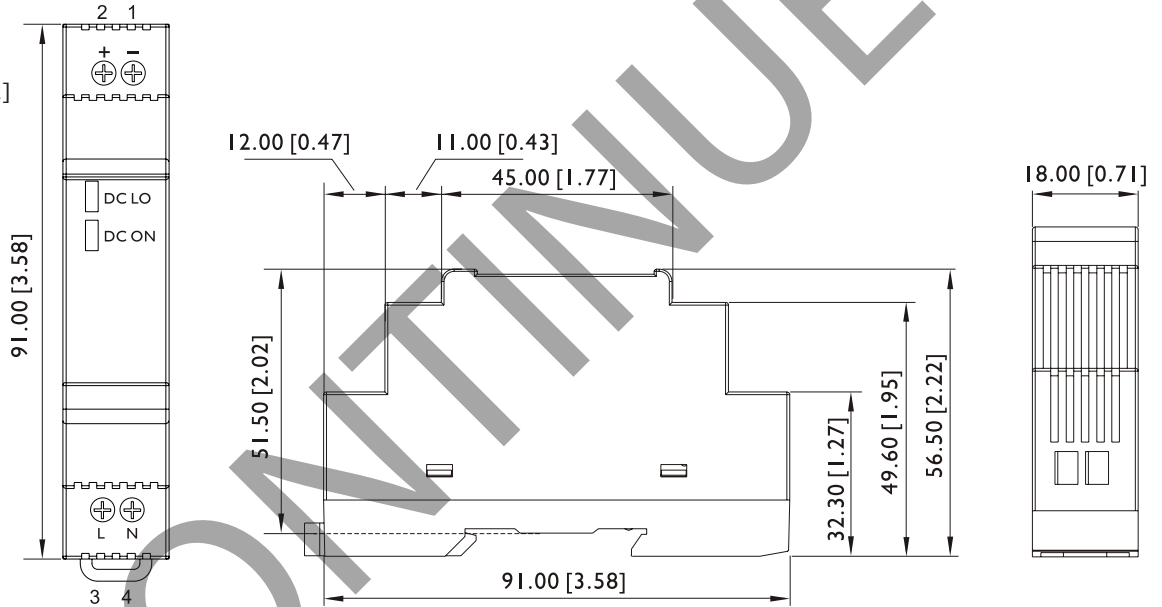
## MECHANICAL

parameter	conditions/description	min	typ	max	units
dimensions	91.00 x 18.00 x 56.50 (3.58 x 0.71 x 2.22 inches)				mm
material	plastic				
weight			65		g
cooling	natural convection				
input/output connector	accepts 26~12 AWG wire				

## MECHANICAL DRAWING

units: mm [inch]  
 tolerance:  
 $X \leq 30.00$ :  $\pm 0.30$  [ $\pm 0.01$ ]  
 $30.00 < X \leq 120.00$ :  $\pm 0.50$  [ $\pm 0.02$ ]  
 unless otherwise noted

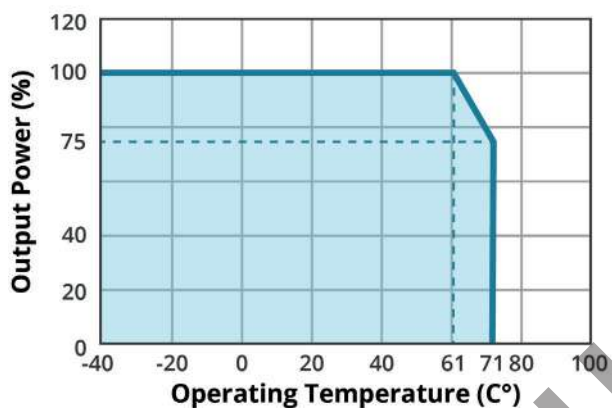
TERMINAL CONNECTIONS	
TERMINAL	Function
1	V-
2	V+
3	L
4	N



INSTALLATION	
DIN RAIL	TS35/7.5 or TS35/15
Cable	flexible/solid, copper conductors only, 60/75°C
Wire Range	26~12 AWG (0.2~2.5 mm <sup>2</sup> )
Strip Length	4~5 mm
Screw Torque	5 lb·in
Position	Vertical
Cooling	Natural convection, 25 mm clearance on all sides

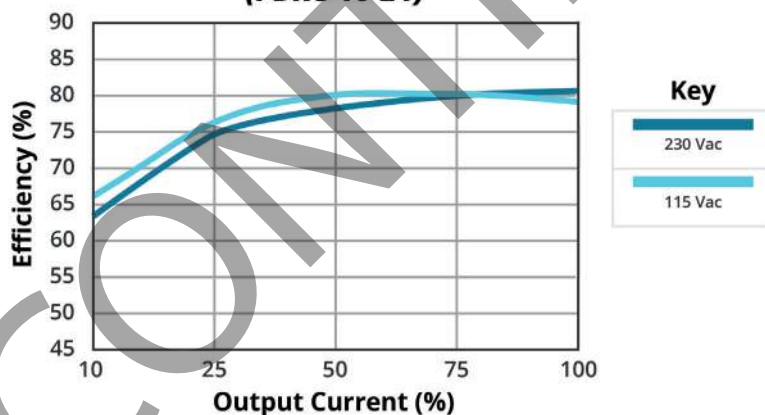
## DERATING CURVES

**TEMPERATURE DERATING CURVE**



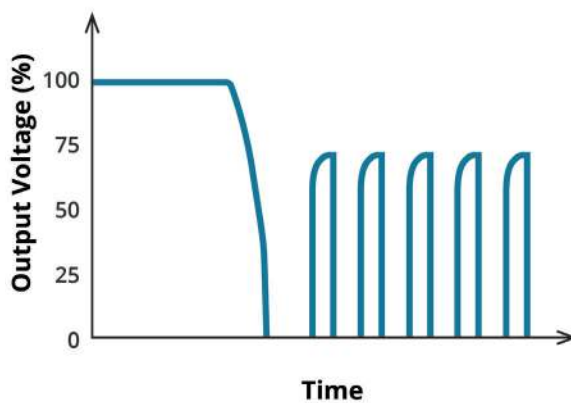
## EFFICIENCY CURVES

**EFFICIENCY VS OUTPUT LOAD (PDR-10-24)**



## CURRENT LIMITED CURVE

**OUTPUT VOLTAGE VS TIME HICCUP MODE**



## REVISION HISTORY

rev.	description	date
1.0	initial release	06/13/2019
1.01	updated safety certifications	08/04/2020
1.02	safety marks updated	04/27/2021
1.03	derating and efficiency curves updated	02/28/2022

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



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