CUI INC
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SERIES: PDRB-75 | **DESCRIPTION:** AC-DC DIN RAIL POWER SUPPLY

FEATURES

- universal AC input
- over current, over voltage, short circuit protection
- EN55032 Class B
- certified to IEC/EN 62368

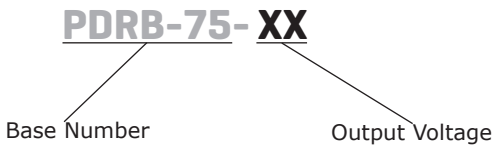


RoHS CBCE

MODEL	output voltage (Vdc)	output current max (A)	output power max (W)	ripple and noise[1] max (mVp-p)	efficiency[2] typ (%)
PDRB-75-12	12	6.3	75.6	100	87.5
PDRB-75-24	24	3.13	75	100	88
PDRB-75-48	48	1.6	76.8	150	89

Notes:
1. At full load, nominal input, 20 MHz bandwidth oscilloscope, with 0.1 µF ceramic and 47 µF electrolytic capacitors on the output,
2. At 230 Vac, 50 Hz, full load.
3. All specifications are measured at Ta=25°C, nominal input voltage, and rated output load unless otherwise specified.

PART NUMBER KEY



INPUT

parameter	conditions/description	min	typ	max	units
voltage		90 127		264 370	Vac Vdc
frequency		47		63	Hz
current	at 115 Vac, full load at 230 Vac, full load			1.4 0.9	A A
inrush current	at 110 Vac, full load, cold start at 220 Vac, full load, cold start			20 35	A A
leakage current	input to output input to FG			3.5 3.5	mA mA
input fuse	3.15A/250 Vac				

OUTPUT

parameter	conditions/description	min	typ	max	units
capacitive load				5,000	µF
initial set point accuracy				±1	%
line regulation	at full load, 100~264 Vac			±1	%
load regulation	at 230 Vac, 100~0% load			±1	%
adjustability	via built in trim pot 12 Vdc output model 24 Vdc output model 48 Vdc output model	 12 24 48		 14 28 55	 Vdc Vdc Vdc
start-up time	at 115/230 Vac, full load			2.0	s
rise time	output voltage rise from 10~90% of output voltage			60	ms
hold-up time	at 115 Vac, full load at 230 Vac, full load	10 20			ms ms
switching frequency	at Vi nom, full load		65		kHz
LED indicator	when LED is on, the power supply is operating and DC output is good				

PROTECTIONS

parameter	conditions/description	min	typ	max	units
over voltage protection	output shutdown, must recycle power to recover	120		150	%
over current protection	hiccup, auto recovery	110		150	%
short circuit protection	hiccup, auto recovery				

SAFETY & COMPLIANCE

parameter	conditions/description	min	typ	max	units
isolation voltage	input to output for 1 minute at 10 mA	3,000			Vac
	input to FG for 1 minute at 10 mA	1,500			Vac
	output to FG for 1 minute at 10 mA	500			Vac
isolation resistance	input to output at 500 Vdc	5			MΩ
safety approvals	certified to 62368: IEC/EN				
safety class	class I				
conducted emissions	EN55032, Class B				
radiated emissions	EN55032, Class B				
ESD	EN61000-4-2, Level 4, Criteria B, Air Discharge: ±8 kV; Contact Discharge: ± 4 kV				
radiated immunity	EN61000-4-3, Level 3, Criteria A, 80-1000 MHz, 3 V/M, 80% modulation (1 kHz)				
EFT/burst	EN61000-4-4, Level 4, Criteria B, ±1 kV				
surge	EN61000-4-5, Level 4, Criteria B, Common Mode: 2 kV; Differential Mode: 1 kV				
pollution degree	2				
degree of protection	IP20				
MTBF	as per MIL-HDBK-217F, at 220 Vac, full load, 25°C	500,000			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

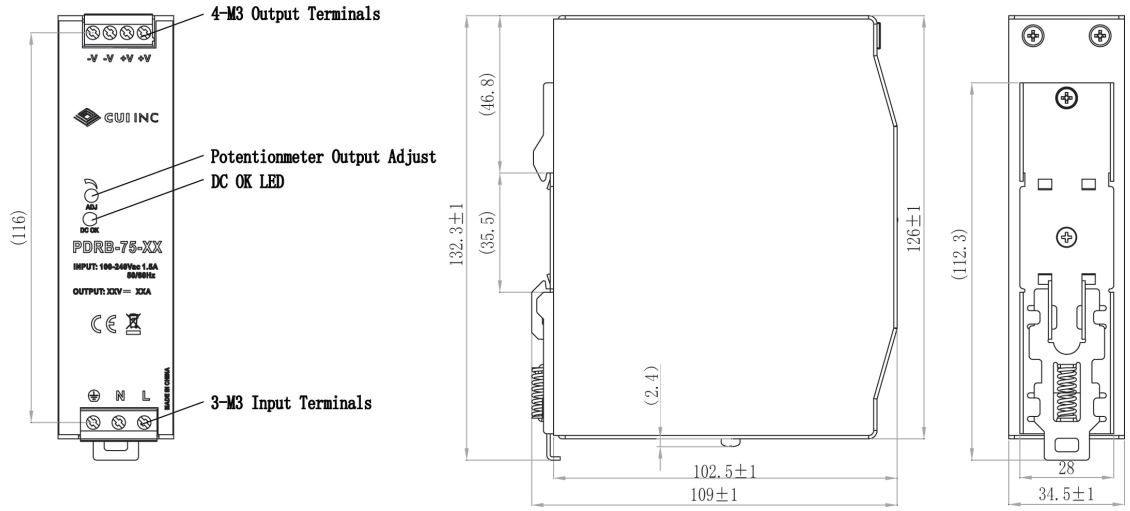
parameter	conditions/description	min	typ	max	units
operating temperature	see derating curves	-25		70	°C
storage temperature		-40		85	°C
operating humidity	non-condensing	5		90	%
storage humidity	non-condensing	5		95	%
altitude				2,000	m

MECHANICAL

parameter	conditions/description	min	typ	max	units
dimensions	126.00 x 102.50 x 34.50 (4.960 x 4.035 x 1.35 inches)				mm
weight			0.36		kg
cooling	natural convection				
input/output connector	accepts 24~12 AWG wire				

MECHANICAL DRAWING

units: mm
tolerance: ±0.3
unless otherwise noted



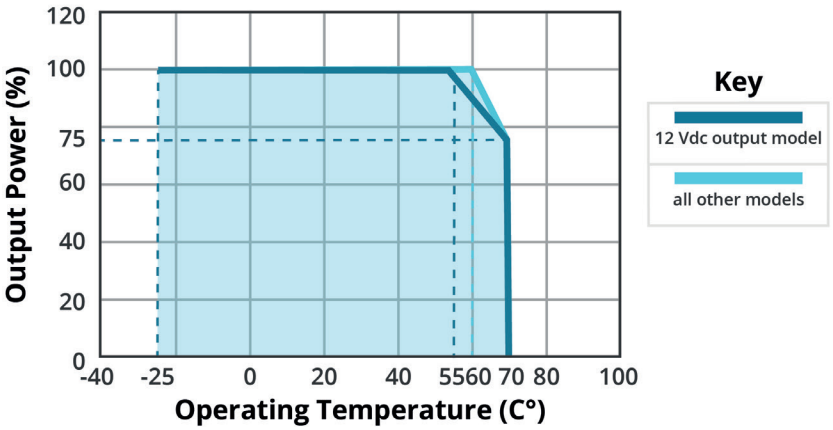
TERMINAL 1 CONNECTIONS	
TERMINAL	Function
1	L
2	N
3	⏚

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

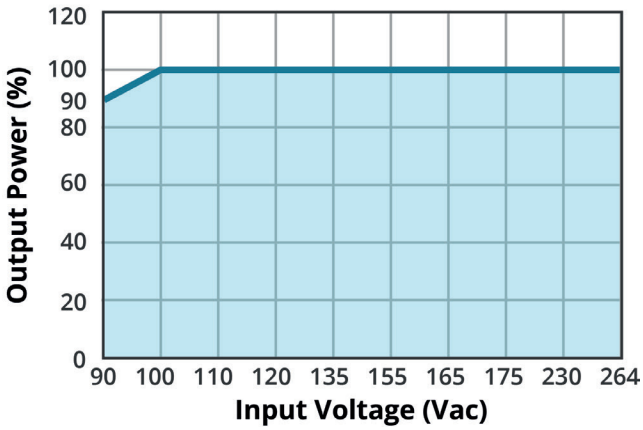
INSTALLATION	
DIN RAIL	TS35/7.5 or TS35/15
Wire Range	24~12 AWG (4.0 mm^2)
Strip Length	7 mm
Screw Torque	0.5 N·m

DERATING CURVES

TEMPERATURE DERATING CURVE



INPUT VOLTAGE DERATING CURVE



REVISION HISTORY

rev.	description	date
1.0	initial release	05/08/2019
1.01	product image & safety approvals line updated	11/23/2020
1.02	derating and efficiency curve updated	02/21/2022
1.03	derating curve updated	04/26/2022

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.

CUI reserves the right to make changes to the product at any time without notice. Information provided by CUI is believed to be accurate and reliable. However, no responsibility is assumed by CUI for its use, nor for any infringements of patents or other rights of third parties which may result from its use.

CUI products are not authorized or warranted for use as critical components in equipment that requires an extremely high level of reliability. A critical component is any component of a life support device or system whose failure to perform can be reasonably expected to cause the failure of the life support device or system, or to affect its safety or effectiveness.