

**SERIES: VDRS-20 | DESCRIPTION: AC-DC DIN RAIL**
**FEATURES**

- up to 24 W continuous power
- DIN Rail power supplies
- universal input (88-264 Vac / 124-370 Vdc)
- single output from 12 to 24 V
- over voltage, over load, over temperature, and short circuit protections
- UL1310, UL 508, and TUV safety approvals
- long life electrolytic capacitors
- efficiency up to 86%



MODEL	output voltage (Vdc)	output current max (A)	output power max (W)	ripple and noise <sup>1</sup> max (mVp-p)	efficiency (%)
VDRS-20-12	12	1.7	20.4	100	83
VDRS-20-15	15	1.4	21	100	85
VDRS-20-24	24	1	24	120	86

Note:

1. at full load, 230 Vac input, measured at 20MHz bandwidth with a 47  $\mu$ F and 0.1  $\mu$ F parallel cap on the output

**PART NUMBER KEY**
**VDRS - 20 - XX**

Base Number

Output Voltage

**INPUT**

parameter	conditions/description	min	typ	max	units
voltage		88		264	Vac
		124		370	Vdc
frequency		47		63	Hz
current	115 Vac			0.45	A
	230 Vac			0.32	A
inrush current	115 Vac			20	A
	230 Vac			40	A

**OUTPUT**

parameter	conditions/description	min	typ	max	units
line regulation				±1	%
load regulation				±1	%
temperature coefficient	(0 ~ 50°C)		±0.03		%/°C
hold-up time	at 115 Vac, cold start	16			ms
	at 230 Vac, cold start	32			ms
adjustability	adjustable with built-in trim pot			±10	%

**PROTECTIONS**

parameter	conditions/description	min	typ	max	units
over voltage protection	latch-off mode	115		150	%
over load protection	constant current limiting, automatically recovers after fault condition is removed	102			%
short circuit protection	output shut down and auto restart				

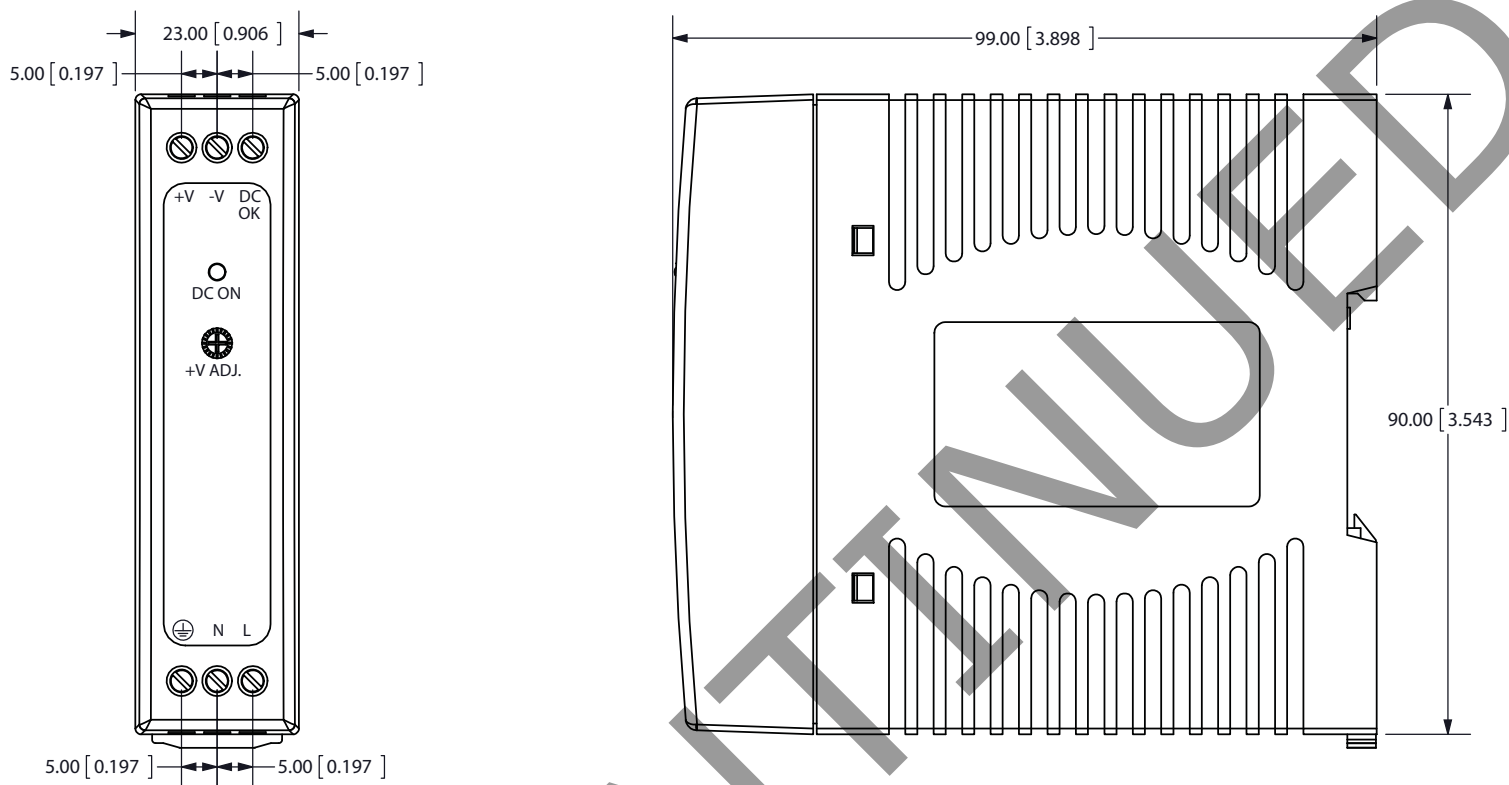
**SAFETY & COMPLIANCE**

parameter	conditions/description	min	typ	max	units
isolation voltage	input to output for 1 minute			3,000	Vac
	input to case for 1 minute			1,500	Vac
isolation resistance	input to output, input to case, output to case, 500 Vdc	100			MΩ
safety approvals	UL 508, TUV EN60950-1, UL1310 NEC class 2 compliant				
EMI/EMC	EN55022 : 2006(Class B), EN61204-3: 2000, EN61000-6-3: 2007, EN61000-3-2,3 :2006, EN55024, EN61204-3: 2000, EN61000-6-1: 2007 (EN61000-4-2,3,4,5,6,8,11)				
leakage current				1	mA
RoHS compliant	yes				
MTBF		120,400			hours

**ENVIRONMENTAL**

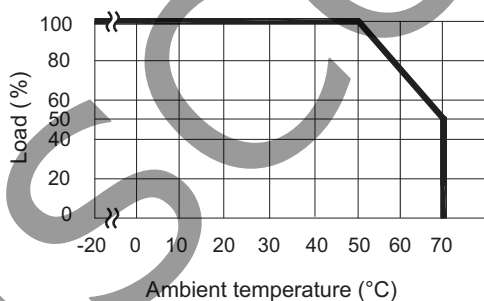
parameter	conditions/description	min	typ	max	units
operating temperature		-20		70	°C
storage temperature		-40		85	°C
operating humidity	non-condensing	20		90	%
storage humidity		10		95	%
vibration	(10 ~ 500 Hz, 1 hour per axis, 3 hours total)		5		Grms

## MECHANICAL DRAWING

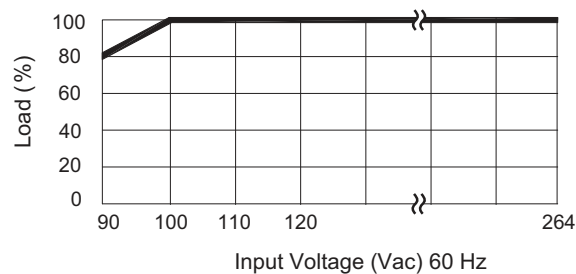


## DERATING CURVE

Output power vs. Ambient temperature

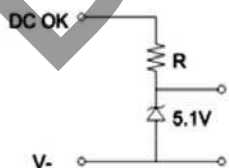


Output power vs. Input Voltage



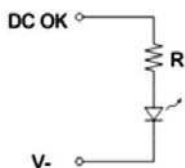
## ACTIVE DC SIGNAL

(a) 5V signal



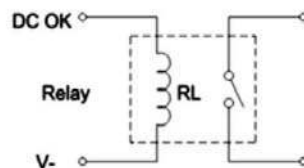
Model	R
12 V	$\geq 1.5 \text{ K}\Omega$
15 V	$\geq 2.0 \text{ K}\Omega$
24 V	$\geq 3.9 \text{ K}\Omega$

(b) LED



Model	R
12 V	$\geq 2.4 \text{ K}\Omega$
15 V	$\geq 3.0 \text{ K}\Omega$
24 V	$\geq 4.7 \text{ K}\Omega$

(c) Relay



Model	R
12 V	$\geq 0.7 \text{ K}\Omega$
15 V	$\geq 0.7 \text{ K}\Omega$
24 V	$\geq 1.2 \text{ K}\Omega$

## REVISION HISTORY

rev.	description	date
1.0	initial release	06/03/2010
1.01	new template applied	08/18/2011
1.02	V-Infinity branding removed	08/23/2012

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



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