

**SERIES:** VOF-280B | **DESCRIPTION:** AC-DC POWER SUPPLY

**FEATURES**

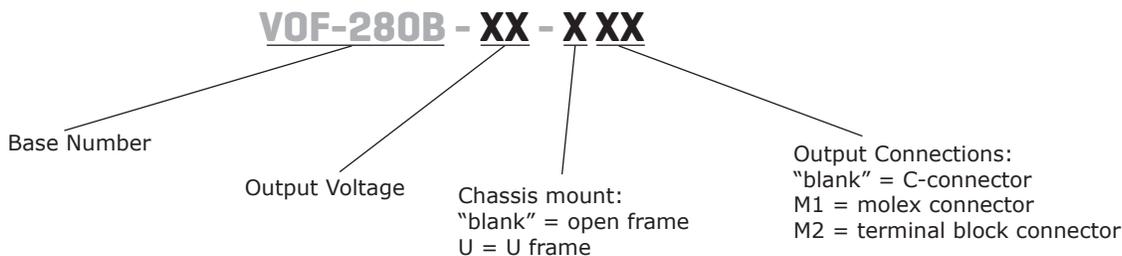
- 200 W with natural convection, 280 W with forced air cooling
- certified to EN/UL 62368-1
- EN 55011/EN 55032
- universal input range 90 ~ 264 Vac
- 5 V standby and 12 V fan outputs
- output short circuit, over current, over voltage, and over temperature protection
- operating altitude 5,000 m
- operating temperature range -20 ~ 70 °C with derating
- remote ON/OFF control



MODEL	output voltage	output current <sup>1</sup>	output power <sup>1,2</sup>	ripple and noise <sup>3</sup>	efficiency <sup>4</sup>
	(Vdc)	max (A)	max (W)	max (mVp-p)	typ (%)
VOF-280B-12	12	23.33	280	150	91
VOF-280B-24	24	11.66	280	240	91
VOF-280B-28	28	10.0	280	280	91
VOF-280B-36	36	7.77	280	300	91
VOF-280B-48	48	5.83	280	300	91
VOF-280B-54	54	5.18	280	400	91

- Notes:
1. Maximum output power is 280 W with 18 CFM forced air cooling. For open frame models, the maximum output power is 210 W with natural convection, for U-frame models 200 W with natural convection.
  2. With forced air (18 CFM).
  3. Ripple is measured with 20 MHz bandwidth and 47 µF tantalum capacitor in parallel with a 0.1 µF capacitor at output connector.
  4. At 230 Vac, full load.
  5. 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	115~230	264	Vac
frequency		47	50~60	63	Hz
current	at 115 Vac, 50 Hz			3.5	A
inrush current	at 230 Vac, cold start			60	A
power factor	at full load		0.9		
touch current	at 264 Vac			94	μA
no load power consumption				0.5	W

## OUTPUT

parameter	conditions/description	min	typ	max	units
load regulation	12 & 24 Vdc output model all other outputs		±3 ±2		% %
hold-up time			10		ms
transient response	10% to full load deviation recovery time < 20mS 10% max				
temperature coefficient			±0.01		%/°C
fan output	12 Vdc / 0.3 A				
switching frequency		80		100	kHz
remote on/off <sup>6</sup>	logic high (3.5~5.15 Vdc) logic low (<1 Vdc)				

Notes: 6. Position in CN4 pin 3 & pin 4 (pin 3 is INHIBIT, pin 4 is GND).

## PROTECTIONS

parameter	conditions/description	min	typ	max	units
over voltage protection	12 Vdc output model	13.0		16.8	Vdc
	24 Vdc output model	25.2		31.2	Vdc
	28 Vdc output model	29.4		36.4	Vdc
	36 Vdc output model	37.5		48.0	Vdc
	48 Vdc output model	50.4		62.0	Vdc
	54 Vdc output model	56.0		68.0	Vdc
over current protection	auto recovery	105		150	%
short circuit protection	auto recovery				
over temperature protection	recovery requires ac power cycle or INHIBIT pin reset				

## SAFETY & COMPLIANCE

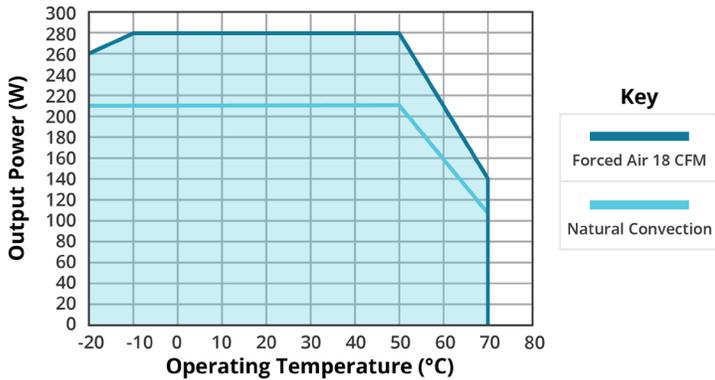
parameter	conditions/description	min	typ	max	units
isolation voltage	input to output		3,000		Vac
			4,242		Vdc
	input to earth ground		1,500		Vac
		2,121		Vdc	
output to earth ground		1,500		Vac	
		2,121		Vdc	
safety approvals	certified to 62368-1: UL, EN				
EMI/EMC	IEC 60601-1-2 Ed4:2014, EN 60601-1-2 Ed4:2015, EN 55024, EN 55011 Class B, EN 55032 Class B, FCC Part 15 Class B, FCC Part 18 Class B				
MTBF	as per Telcordia SR-332 (Bellcore) at 25°C		250,000		hours
RoHS	yes				

## ENVIRONMENTAL

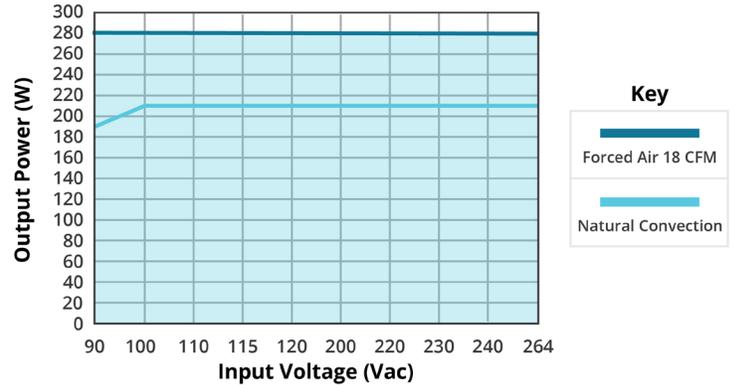
parameter	conditions/description	min	typ	max	units
operating temperature	see derating curves	-20		70	°C
storage temperature		-20		85	°C
operating humidity	non-condensing	0		90	%
storage humidity	non-condensing	0		90	%
operating altitude				5,000	m

## DERATING CURVES

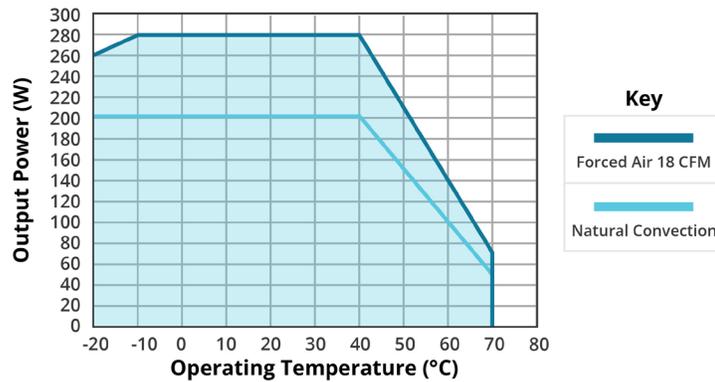
**INPUT VOLTAGE DERATING CURVE**  
*Open frame*



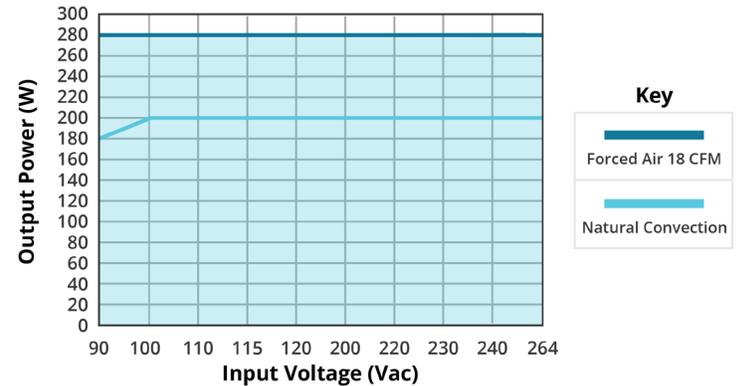
**INPUT VOLTAGE DERATING CURVE**  
*Open frame*



**INPUT VOLTAGE DERATING CURVE**  
*U-frame*



**INPUT VOLTAGE DERATING CURVE**  
*U-frame*



## MECHANICAL

parameter	conditions/description	min	typ	max	units
dimensions	open frame: 127.00 x 76.20 x 30.00				mm
	U-frame: 127.00 x 83.20 x 38.0				mm
weight	open frame		350		g
	U-frame		475		g
cooling	forced air cooling				

## MECHANICAL DRAWING

### Open frame

units: mm

**CN1: Input Connector**  
JST B2P3-VH pitch: 3.96 mm or equivalent, mates with JST VAR-2 or equivalent

PIN	Function
1	AC (L)
2	AC (N)

**CN2: FAN Output Connector**  
JST B2B-XH-A pitch: 2.5 mm or equivalent, mates with JST XHP-2 or equivalent

PIN	Function
1	GND FAN-
2	+12V FAN+

**CN4: Remote control and Standby supply**  
JST B2B-XH-A pitch: 2.5 mm or equivalent, mates with JST XHP-4 or equivalent

PIN	Function
1	GND
2	+5 VSB
3	INHIBIT (Remote control)
4	GND

INHIBIT = Logic level HIGH (5V) or

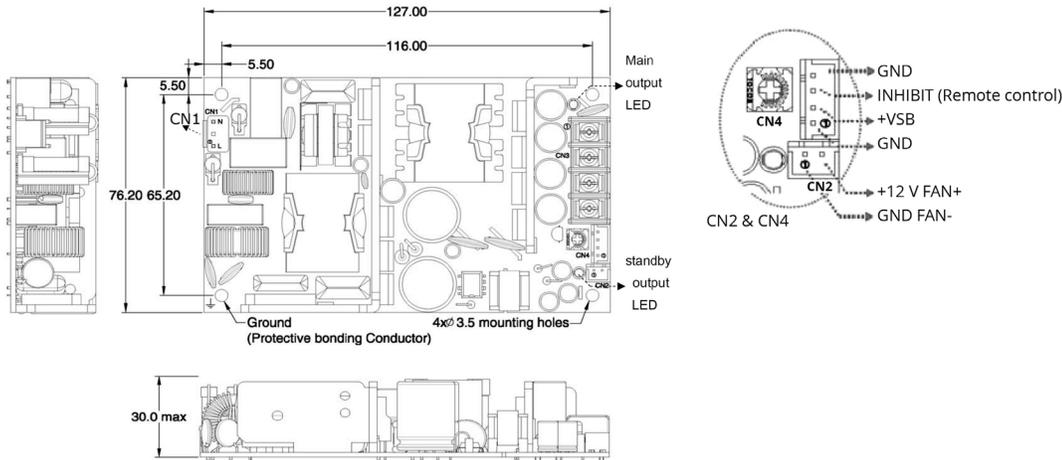
Floating: Enable, Logic level LOW: Disable

**C-Connector**  
JST B8P-VH-B pitch: 3.96 mm or equivalent, mates with JST FHR-8N or equivalent

PIN	Function
1	GND
2	GND
3	GND
4	GND
5	+Vout
6	+Vout
7	+Vout
8	+Vout

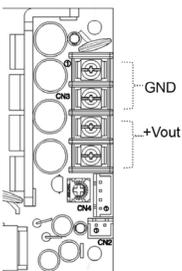
**Molex Connector**  
12 pin min fit pitch: 4.2 mm Molex PN 39-28-1123 or equivalent

PIN	Function
1	+Vout
2	+Vout
3	+Vout
4	GND
5	GND
6	GND
7	+Vout
8	+Vout
9	+Vout
10	GND
11	GND
12	GND

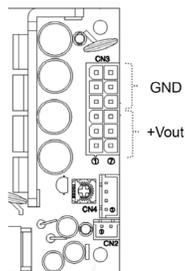


### CN3: Main Output Connector

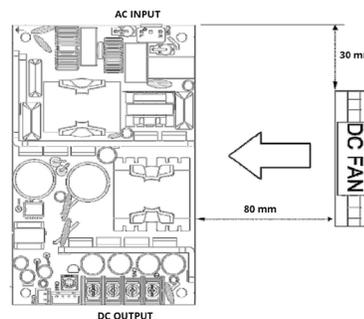
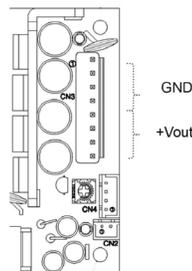
#### Terminal Block Connector



#### Molex Connector



#### C-Connector



### Terminal Block Connector

4-Pole Terminal block pitch: 8.25 mm, rate 20A/300V or equivalent

PIN	Function
1	GND
2	GND
3	+Vout
4	+Vout

## MECHANICAL DRAWING (CONTINUED)

### U-frame

units: mm

CN1: Input Connector JST B2P3-VH pitch: 3.96 mm or equivalent, mates with JST VAR-2 or equivalent	
PIN	Function
1	AC (L)
2	AC (N)

CN2: FAN Output Connector JST B2B-XH-A pitch: 2.5 mm or equivalent, mates with JST XHP-2 or equivalent	
PIN	Function
1	GND FAN-
2	+12V FAN+

CN4: Remote control and Standby supply JST B2B-XH-A pitch: 2.5 mm or equivalent, mates with JST XHP-4 or equivalent	
PIN	Function
1	GND
2	+5 VSB
3	INHIBIT (Remote control)
4	GND

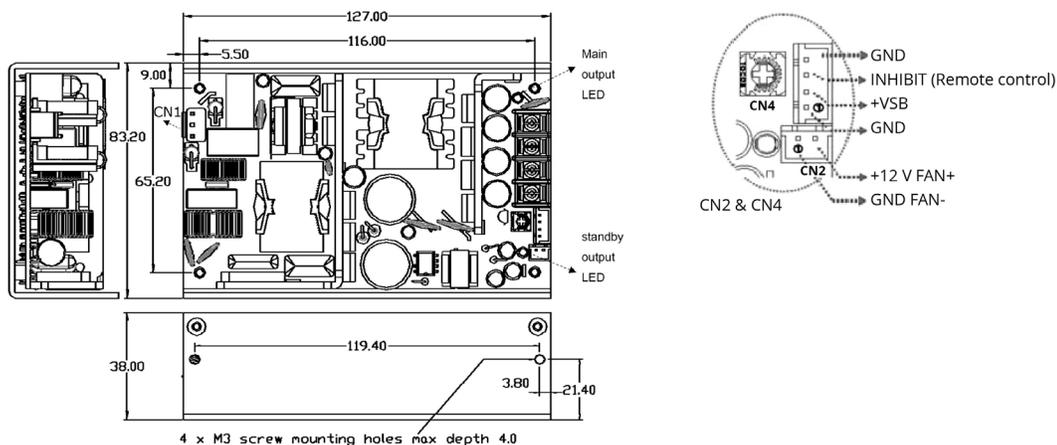
INHIBIT = Logic level HIGH (5V) or

Floating: Enable, Logic level LOW: Disable

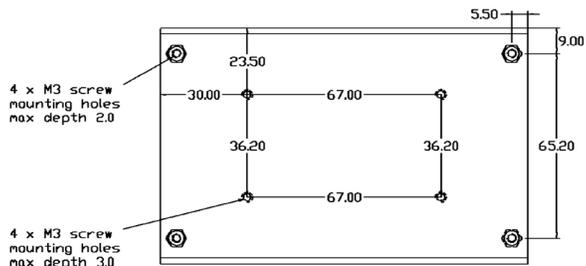
<b>C-Connector</b> JST B8P-VH-B pitch: 3.96 mm or equivalent, mates with JST FHR-8N or equivalent	
PIN	Function
1	GND
2	GND
3	GND
4	GND
5	+Vout
6	+Vout
7	+Vout
8	+Vout

<b>Terminal Block Connector</b> 4-Pole Terminal block pitch: 8.25 mm, rate 20A/300V or equivalent	
PIN	Function
1	GND
2	GND
3	+Vout
4	+Vout

<b>Molex Connector</b> 12 pin min fit pitch: 4.2 mm Molex PN 39-28-1123 or equivalent	
PIN	Function
1	+Vout
2	+Vout
3	+Vout
4	GND
5	GND
6	GND
7	+Vout
8	+Vout
9	+Vout
10	GND
11	GND
12	GND



4 x M3 screw mounting holes max depth 4.0

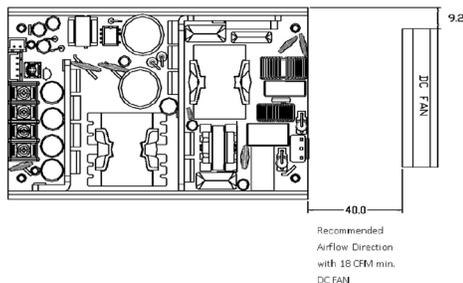
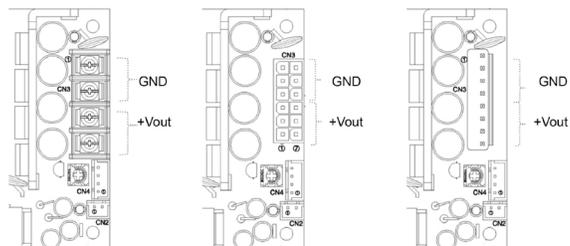


### CN3: Main Output Connector

Terminal Block Connector

Molex Connector

C-Connector



## REVISION HISTORY

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rev.	description	date
1.0	initial release	10/20/2024
1.01	features updated	11/18/2024

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



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