

SERIES: VGSM-280B | DESCRIPTION: AC-DC POWER SUPPLY

FEATURES

- 200 W with natural convection, 280 W with forced air cooling
- certified to EN/UL 60601-1, 2xMOPP
- designed to meet EN 60601-1-2
- designed to meet 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 3,000 m
- operating temperature range -20 ~ 70 °C with derating
- remote ON/OFF control

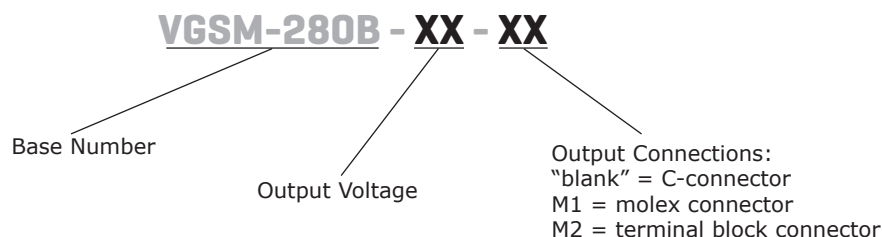


MODEL	output voltage	output current ¹	output power ^{1,2}	ripple and noise ³	efficiency ⁴
	(Vdc)	max (A)	max (W)	max (mVp-p)	typ (%)
VGSM-280B-12	12	23.33	280	150	91
VGSM-280B-24	24	11.66	280	240	91
VGSM-280B-28	28	10.0	280	280	91
VGSM-280B-36	36	7.77	280	300	91
VGSM-280B-48	48	5.83	280	300	91
VGSM-280B-54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

Notes:

1. Maximum output power of 280 W with 18 CFM forced air cooling, and 200 W with natural convection cooling.
2. With forced air (18 CFM).
3. Ripple is measured with 20 MHz bandwidth and 47 μ F tantalum capacitor in parallel with a 0.1 μ F 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		±3		%
	all other outputs		±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 ⁶	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 , 2 MOPP		4,000		Vac
			5,656		Vdc
	input to earth ground, 1 MOPP		1,500		Vac
			2,121		Vdc
	output to earth ground, 1 MOPP		1,500		Vac
			2,121		Vdc
safety approvals ⁷	certified to 60601-1: 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				

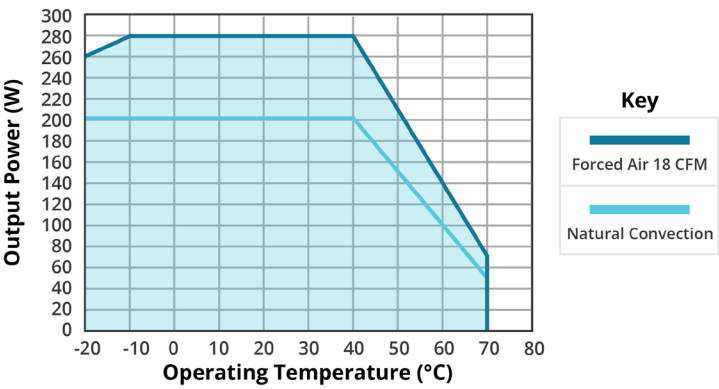
Notes: 7. 2xMOPP

ENVIRONMENTAL

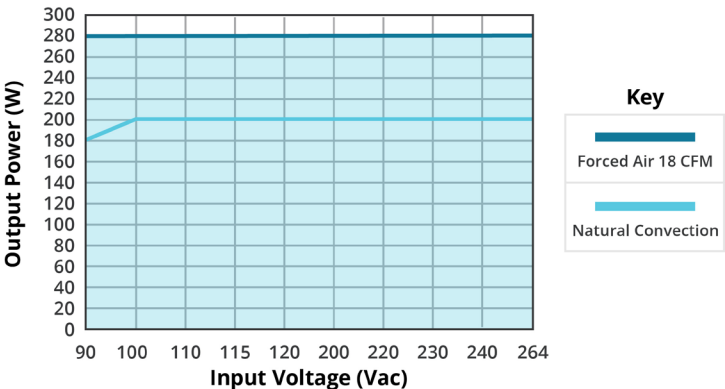
parameter	conditions/description	min	typ	max	units
operating temperature	see derating curves	-20		70	°C
storage temperature		-20		85	°C
operating humidity	non-condensing	0		90	%
storage humidity	non-condensing	0		90	%
operating altitude				3,000	m

DERATING CURVES

INPUT VOLTAGE DERATING CURVE



INPUT VOLTAGE DERATING CURVE



MECHANICAL

parameter	conditions/description	min	typ	max	units
dimensions	127.00 x 83.20 x 39.5				mm
weight			500		g
cooling	forced air cooling				

MECHANICAL DRAWING

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)

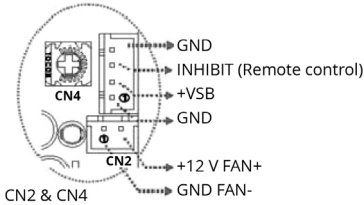
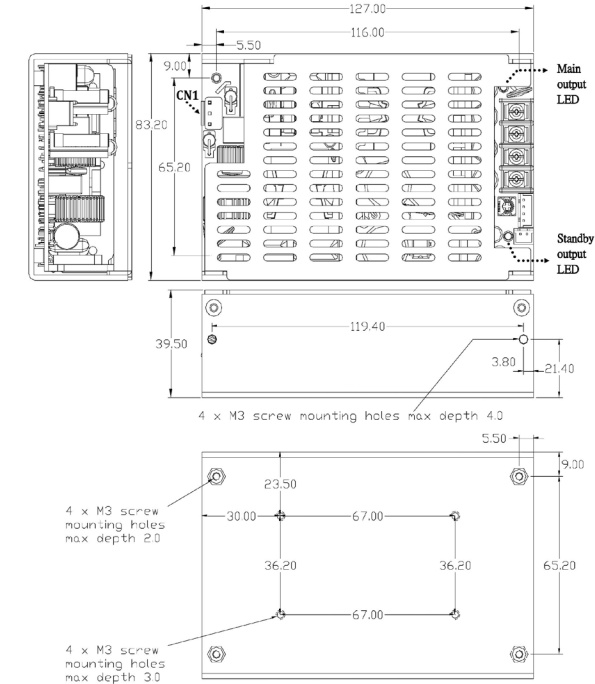
CN2: FAN Output Connector JST B2B-XH-A pitch: 2.5 mm or equivalent, mates with JST XHP-2 or equivalent	
PIN	Function
1	GND FAN-
2	+12V FAN+

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

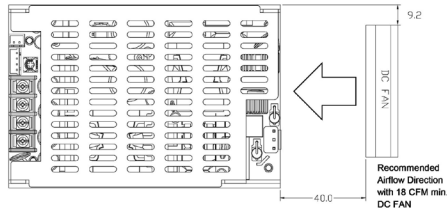
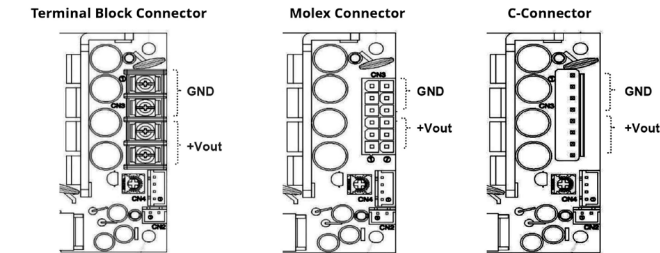
INHIBIT = Logic level HIGH (5V) or Floating: Enable,
Logic level LOW: Disable

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

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



CN3: Main Output 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

REVISION HISTORY

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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