



SERIES: VGS-150B | DESCRIPTION: AC-DC POWER SUPPLY

FEATURES

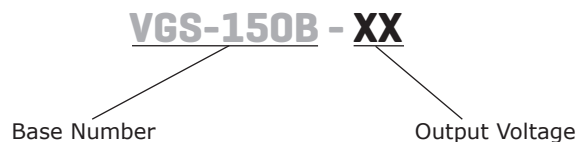
- +70°C operation
- output trim
- current/voltage/temperature protections
- screw terminal interface
- switch-selectable AC input range
- low standby power consumption
- 30 mm height



MODEL	output voltage	output current	output power	ripple and noise ¹	efficiency ²
	(Vdc)	max (A)	max (W)	max (mVp-p)	typ (%)
VGS-150B-12	12	12.5	150	100	86
VGS-150B-24	24	6.5	156	100	88
VGS-150B-48	48	3.2	153.6	200	88

Notes: 1. 20 MHz bandwidth oscilloscope, 12" of twisted load cables paralleled with 0.1 μ F ceramic and 47 μ F electrolytic capacitors placed across the terminals at the load.
 2. At 230 Vac, 50 Hz, full load.
 3. All specifications are measured at $T_a=25^\circ\text{C}$, nominal input voltage, and rated output load unless otherwise specified.

PART NUMBER KEY



INPUT

parameter	conditions/description	min	typ	max	units
voltage	via input selector switch ¹	88	115	132	Vac
		176	230	264	Vac
frequency		47		63	Hz
current	at 115 Vac, full load			3.0	A
	at 230 Vac, full load			1.7	A
inrush current	at 230 Vac, cold start, full load			40	A
leakage current				3.5	mA
no load power consumption	at 230 Vac			0.5	W

Notes: 1. Input selector must be set to match input voltage or damage could occur.

OUTPUT

parameter	conditions/description	min	typ	max	units
line regulation	48 Vdc output model			±0.5	%
	all other models			±1	%
load regulation	12 Vdc output model			±2	%
	24 Vdc output model			±1	%
	48 Vdc output model			±0.5	%
adjustability	built in trim pot		±10		%
start-up time	at 115/230 Vac, full load			0.5	s
rise time	at 115/230 Vac, full load			80	ms
hold-up time	at 115/230 Vac, full load	20			ms
switching frequency			65		kHz

PROTECTIONS

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

SAFETY & COMPLIANCE

parameter	conditions/description	min	typ	max	units
isolation voltage	input to output for 1 minute, 10 mA		1,500		Vac
	input to ground for 1 minute, 10 mA		1,500		Vac
	output to ground for 1 minute, 10 mA		500		Vac
isolation resistance	input to output at 500 Vdc	100			MΩ
	input to ground at 500 Vdc	100			MΩ
	output to ground 500 Vdc	100			MΩ
safety approvals	IEC/EN 60950-1, UL 60950-1				
safety class	class I				
conducted emissions	EN 55032:2015, Class B				
radiated emissions	EN 55032:2015, Class B				
input current harmonics	EN 61000-3-2:2014, Class A				
voltage fluctuation and flicker	EN 61000-3-3:2013, Class A				
ESD immunity	IEC 61000-4-2, air: ±8 kV; contact: ±4 kV, Class A				
radiated field immunity	IEC 61000-4-3, 3 V/m, Class A				
electrical fast transient immunity	IEC 61000-4-4, Ac power port: 1 kV; signal & telecommunication ports: 0.5 kV, Class B				

Notes: 2. 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.

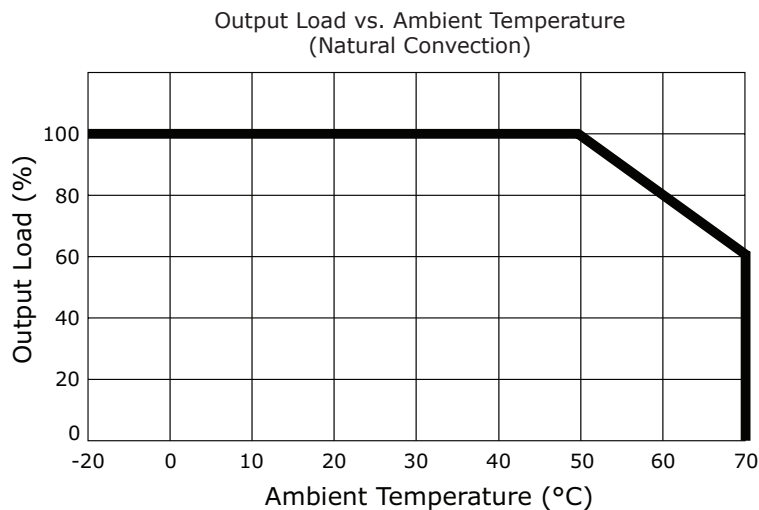
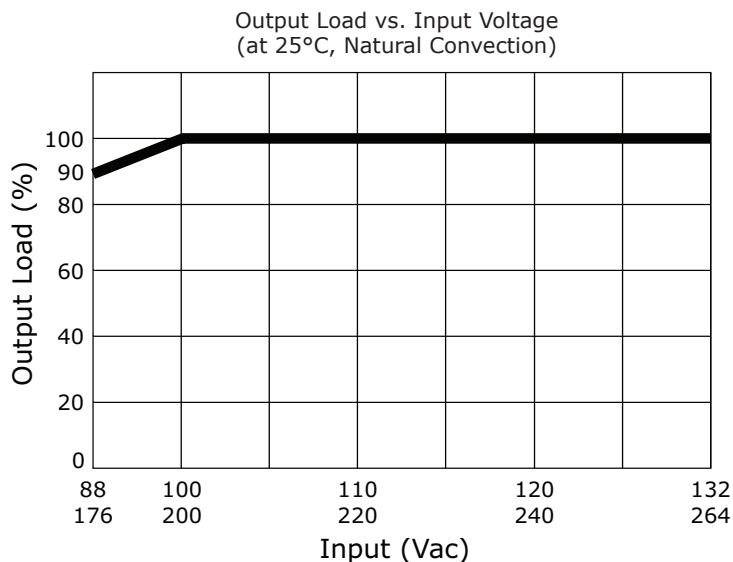
SAFETY & COMPLIANCE (CONTINUED)

parameter	conditions/description	min	typ	max	units
surge immunity	IEC 61000-4-5, input L to input N: 1 kV; input L to FG: 2 kV; input N to FG: 2 kV, Class C				
conducted immunity	IEC 61000-4-6, frequency range: 0.15~80 MHz; field strength: 3 Vms, Class A				
magnetic field immunity	IEC 61000-4-8, 1 A/m, Class A				
voltage dips, interruptions	IEC 61000-4-11: voltage dips >95% reduction, 0.5 period, Class A voltage dips 30% reduction, 25 period, Class B voltage dips >95% reduction, 250 period, Class C				
MTBF	as per MIL-HDBK-217F, 25°C		200,000		hours
RoHS	yes				

Notes: 1. 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	-20		70	°C
storage temperature		-40		85	°C
operating humidity	non-condensing	20		90	%
storage humidity	non-condensing	10		95	%

DERATING CURVES

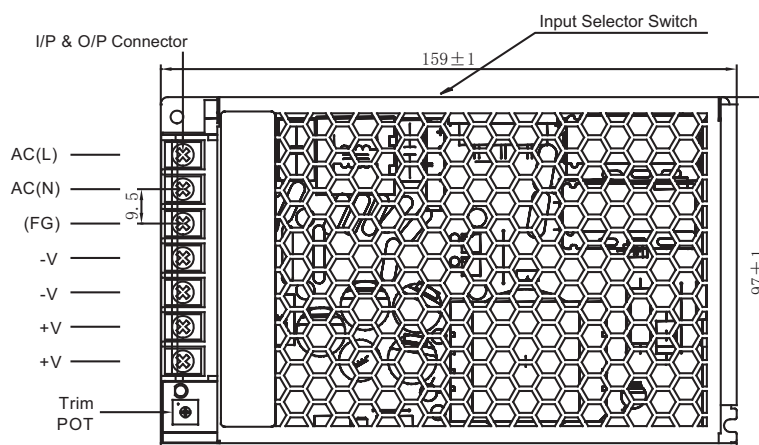
MECHANICAL

parameter	conditions/description	min	typ	max	units
dimensions	159 x 97 x 30				mm
weight			500		g
cooling	natural convection				
input/output connector	screw terminals accept 22~12 AWG wire, 1.2 N-m torque				

MECHANICAL DRAWING

units: mm
tolerance: ±0.3 mm

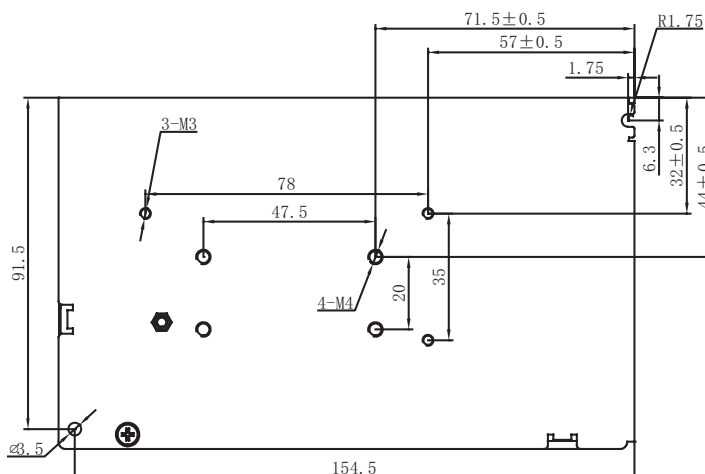
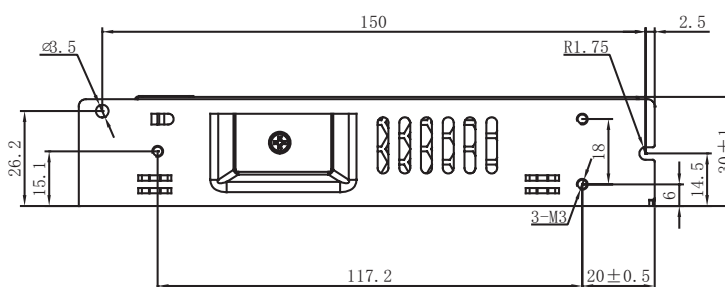
Input/Output Connector	
PIN	Function
1	AC(L)
2	AC(N)
3	FG
4	-V
5	-V
6	+V
7	+V



MOUNTING SCREWS		
Screw Size	Max Depth	Torque
M3X0.5	4 mm	<0.75 N-m
M4X0.7	4 mm	<0.8 N-m

MOUNTING ORIENTATION	

Note: 1. Parts should not be mounted in an upside down orientation.



REVISION HISTORY

rev.	description	date
1.0	initial release	06/20/2018

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



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