

SERIES: VHK150W | **DESCRIPTION:** DC-DC CONVERTER

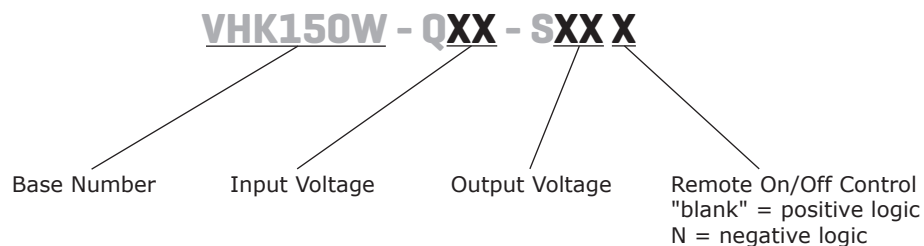
FEATURES

- up to 150 W isolated output
- rugged metal enclosure with integrated heat sink
- 4:1 input range (9~36 V, 18~75 V)
- single output from 5~48 V
- 1,500 V isolation
- over current, over temperature, over voltage, and short circuit protections
- remote on/off
- efficiency up to 88%



MODEL	input voltage	output voltage	output current	output power	ripple and noise ¹	efficiency
	range (Vdc)	(Vdc)	max (A)	max (W)	max (mVp-p)	typ (%)
VHK150W-Q24-S5	9 ~ 36	5	25	125	100	87
VHK150W-Q24-S12	9 ~ 36	12	12.5	150	100	86
VHK150W-Q24-S15	9 ~ 36	15	10	150	100	86
VHK150W-Q24-S24	9 ~ 36	24	6.5	156	150	86.5
VHK150W-Q24-S28	9 ~ 36	28	5.35	150	240	87
VHK150W-Q24-S48	9 ~ 36	48	3.12	150	480	84
VHK150W-Q48-S5	18 ~ 75	5	25	125	100	90
VHK150W-Q48-S12	18 ~ 75	12	12.5	150	150	88
VHK150W-Q48-S15	18 ~ 75	15	10	150	240	88
VHK150W-Q48-S24	18 ~ 75	24	6.5	156	240	87.5
VHK150W-Q24-S28	18 ~ 75	28	5.35	150	240	89
VHK150W-Q48-S48	18 ~ 75	48	3.12	150	480	87

Notes: 1. ripple and noise are measured at 20 MHz BW with 10µF tantalum capacitor and 1µF ceramic capacitor across output

PART NUMBER KEY


INPUT

parameter	conditions/description		min	typ	max	units
operating input voltage			9	24	36	Vdc
			18	48	75	Vdc
under voltage lockout	power up	24 V input		8.8		Vdc
		48 V input		17		Vdc
	power down	24 V input		8		Vdc
		48 V input		16		Vdc

remote on/off^{1,2}

filter PI type

- Notes:
- All other models, logic compatibility, open collector ref to -input
Module ON, >3.5 Vdc or open circuit
Module OFF, <1.2 Vdc
 - 5 V models, logic compatibility, open collector ref to -input
Module ON, >3.5 Vdc or open circuit
Module OFF, <1.8 Vdc

OUTPUT

parameter	conditions/description		min	typ	max	units
line regulation	measured from high line to low line				±0.2	%
load regulation	measured from full load to zero load	5 V model			±0.5	%
		all other models			±1	%
voltage accuracy					±1.5	%
transient response	25% step load change				500	µs
adjustability ³				±10		%
switching frequency	100% load, input voltage range			250		kHz
temperature coefficient				±0.03		%/°C

- Notes:
- trim-up: connect a resistor between the trim pin and +Sense
trim-down: connect a resistor between the trim pin and -Sense
 - all specifications are typical at nominal line, full load, and 25°C unless otherwise noted

PROTECTIONS

parameter	conditions/description	min	typ	max	units
over voltage protection	%Vo	115		140	%
over current protection	% nominal output current	110		140	%
short circuit protection	continuous				

SAFETY AND COMPLIANCE

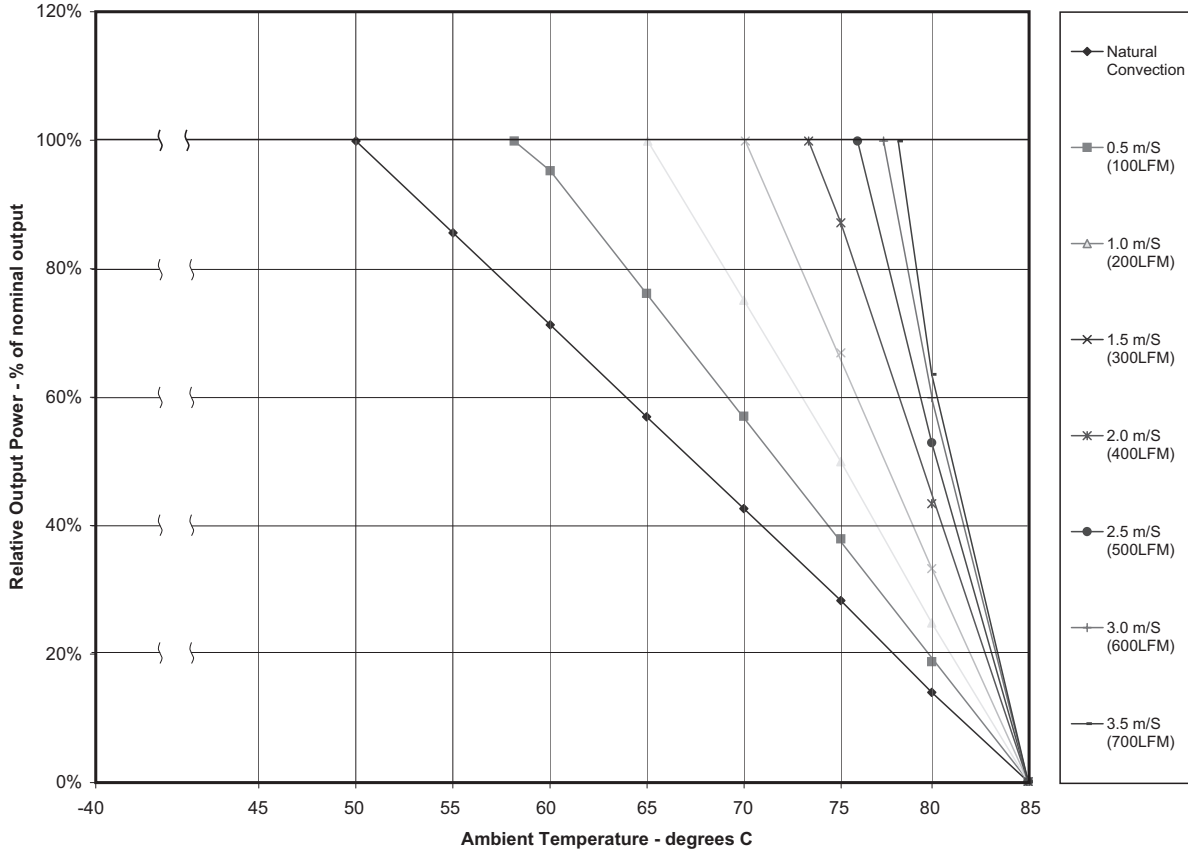
parameter	conditions/description	min	typ	max	units
isolation voltage	input to output	1,500			Vdc
	input to case	1,500			Vdc
	output to case	1,500			Vdc
isolation resistance		100			MΩ
RoHS compliant	yes				

ENVIRONMENTAL

parameter	conditions/description	min	typ	max	units	
case operating temperature	see derating curve	5 V model	-40		100	°C
		all other models	-40		85	°C
maximum case temperature	5 V model		110		°C	
	all other models		90		°C	
storage temperature		-55		105	°C	

DERATING CURVES (excludes 5 V output models)

VHK150W POWER DERATING CURVES AT NOMINAL INPUT

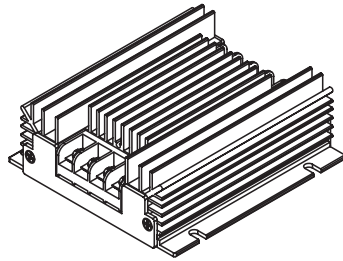


MECHANICAL

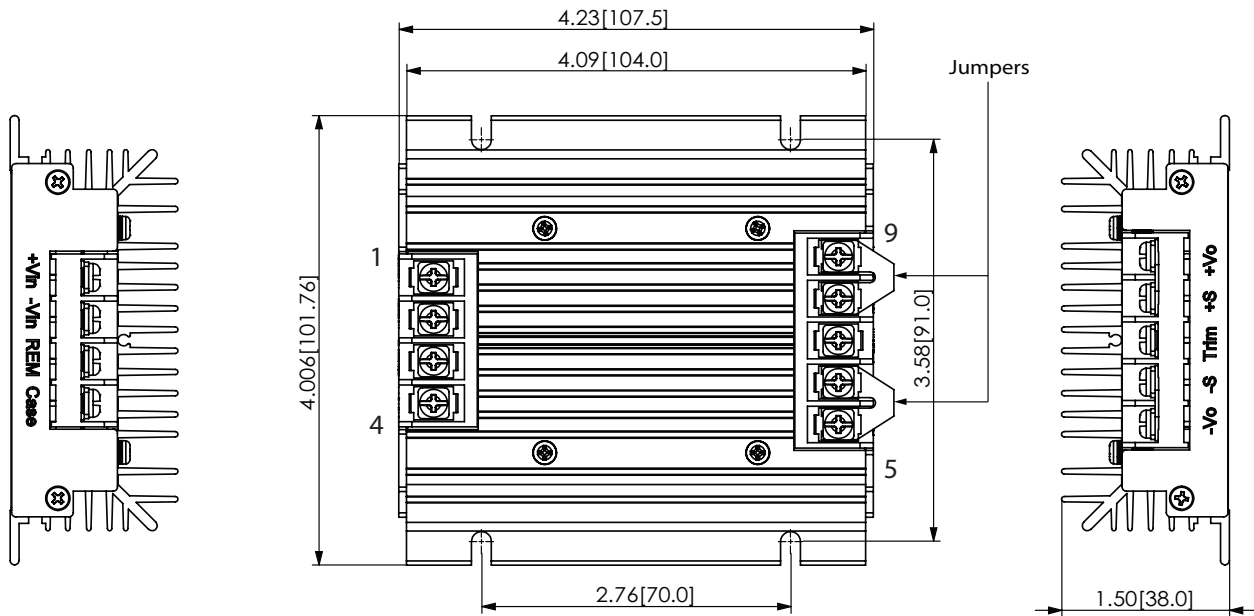
parameter	conditions/description	min	typ	max	units
dimensions	101.76 x 107.5 x 38.0 (3.34 x 4.232 x 1.50 inch)				mm
case material	steel and aluminum extrusion				
weight			522		g

MECHANICAL DRAWING

units: mm[inch]
 tolerance:
 X.X = ±0.3mm
 X.XX = ±0.25mm



PIN CONNECTIONS	
PIN	FUNCTION
1	+Vin
2	-Vin
3	on/off
4	case
5	-Vo
6	-S
7	trim
8	+Vo
9	+S



*DIN rail mounting kit available (part# VHK-DIN)

Note: All specifications measured at 25°C, nominal input voltage, and full load unless otherwise noted.

REVISION HISTORY

rev.	description	date
1.0	initial release	10/11/2006
1.01	new template applied	12/21/2011
1.02	misc. updates and corrections	03/13/2012
1.03	updated mechanical drawing	03/27/2012
1.04	V-Infinity branding removed	09/06/2012
1.05	added 28 V output models	11/05/2012
1.06	misc. updates, added 5 V output models for both 24 and 48 V inputs	11/16/2012
1.07	updated spec	03/14/2013

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



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