

SERIES: VHK100W | **DESCRIPTION:** DC-DC CONVERTER

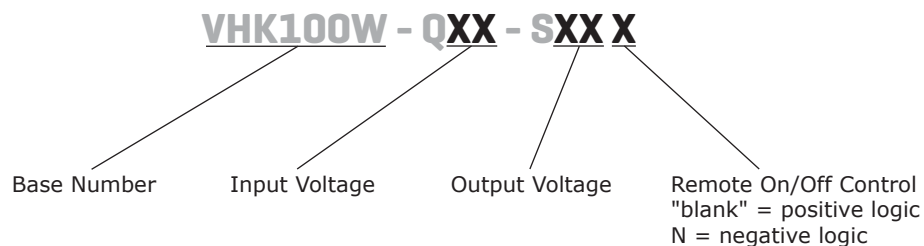
FEATURES

- up to 100 W isolated output
- rugged metal enclosure with integrated heat sink
- 4:1 input range (9~36 V, 18~75 V)
- single output from 3.3~48 V
- 1,500 V isolation
- over current, over temperature, over voltage, and short circuit protections
- remote on/off
- efficiency up to 87%



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 (%)
VHK100W-Q24-S3R3	9 ~ 36	3.3	20	66	100	80
VHK100W-Q24-S5	9 ~ 36	5	20	100	100	82
VHK100W-Q24-S12	9 ~ 36	12	8.3	100	150	84
VHK100W-Q24-S15	9 ~ 36	15	6.7	100	150	85.5
VHK100W-Q24-S24	9 ~ 36	24	4.17	100	240	85
VHK100W-Q24-S28	9 ~ 36	28	3.57	100	280	86
VHK100W-Q24-S48	9 ~ 36	48	2.08	100	480	84
VHK100W-Q48-S3R3	18 ~ 75	3.3	20	66	100	79
VHK100W-Q48-S5	18 ~ 75	5	20	100	100	84.5
VHK100W-Q48-S12	18 ~ 75	12	8.3	100	150	85.5
VHK100W-Q48-S15	18 ~ 75	15	6.7	100	150	86.5
VHK100W-Q48-S24	18 ~ 75	24	4.17	100	240	87
VHK100W-Q48-S28	18 ~ 75	28	3.57	100	280	86
VHK100W-Q48-S48	18 ~ 75	48	2.08	100	480	85

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					
filter	PI type				

Notes: 1. logic compatibility, open collector ref to -input
Module ON, >3.5 Vdc or open circuit
Module OFF, <1.2 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			±1	%
voltage accuracy				±1	%
transient response	25% step load change			500	µs
adjustability ²			±10		%
switching frequency	100% load, input voltage range		250		kHz
temperature coefficient			±0.03		%/°C

Notes: 2. trim-up: connect a resistor between the trim pin and +Sense
trim-down: connect a resistor between the trim pin and -Sense

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

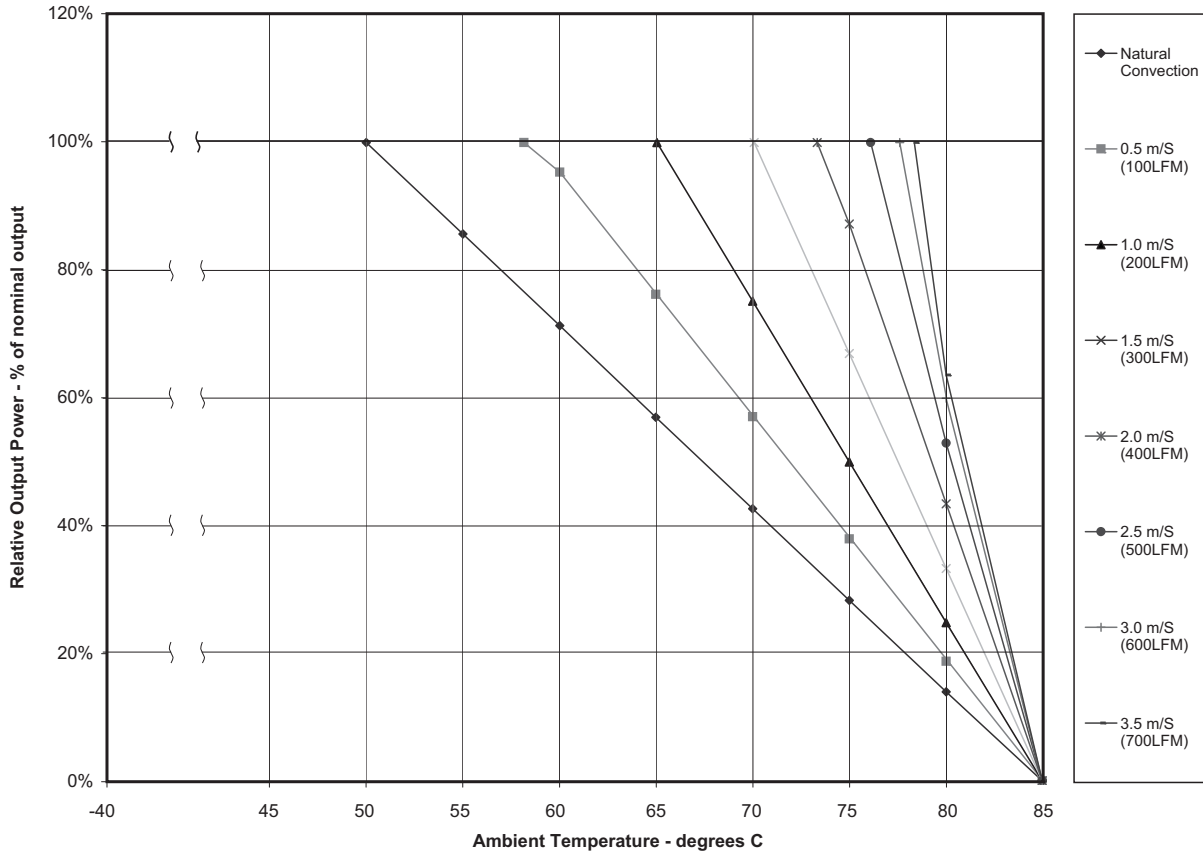
parameter	conditions/description	min	typ	max	units
isolation voltage	input to output	1,500			Vdc
	input to case	1,500			Vdc
	output to case	1,500			Vdc
isolation resistance		100			MΩ
RoHS compliant	yes				

ENVIRONMENTAL

parameter	conditions/description	min	typ	max	units
case operating temperature	see derating curve	-40		85	°C
maximum case temperature			90		°C
storage temperature		-55		105	°C

DERATING CURVES

VHK100W POWER DERATING CURVES AT NOMINAL INPUT



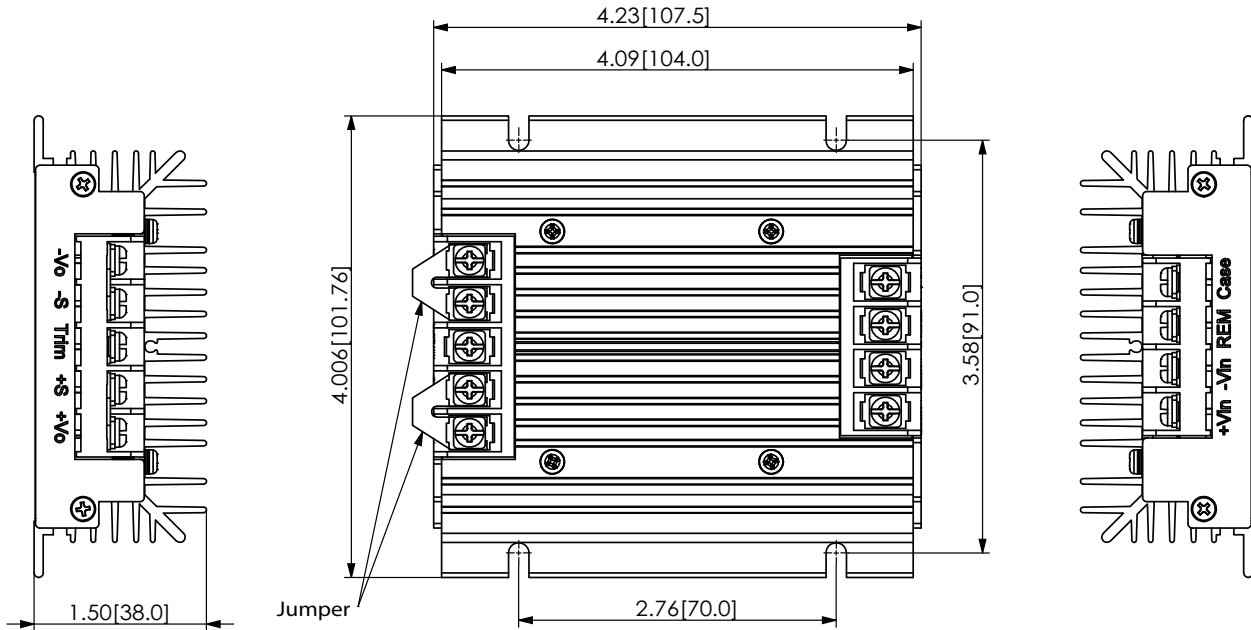
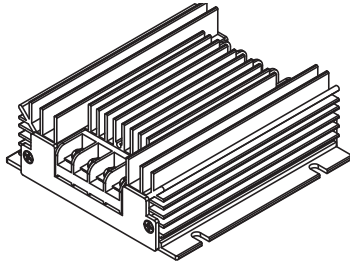
MECHANICAL

parameter	conditions/description	min	typ	max	units
dimensions	3.34 x 4.232 x 1.50 (101.76 x 107.5 x 38.0 mm)				inch
case material	steel and aluminum extrusion				
weight			502		g

MECHANICAL DRAWING

units: mm[inch]

TOLERANCE:
 X.X = ±0.3mm
 X.XX = ±0.25mm



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

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

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	06/27/2012

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



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