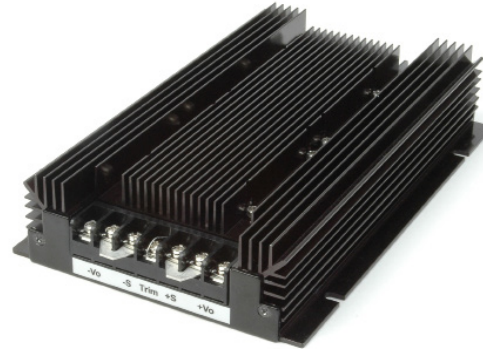


## SERIES: VFK400W | DESCRIPTION: DC-DC CONVERTER

### FEATURES

- up to 400 W isolated output
- rugged metal enclosure with integrated heat sink
- 4:1 input range (10~36 V, 18~75 V)
- single output from 12~48 V
- 1,500 V isolation
- over current, over temperature, over voltage, and short circuit protection
- remote on/off
- efficiency up to 87%



MODEL	input voltage range (Vdc)	output voltage (Vdc)	output current max (A)	output power max (W)	ripple and noise <sup>1</sup> max (mVp-p)	efficiency max (%)
VFK400W-Q24-S12	10~36	12	33.3	400	200	87
VFK400W-Q24-S24	10~36	24	16.7	400	240	86
VFK400W-Q24-S48	10~36	48	8.3	400	480	86
VFK400W-Q48-S12	20~75	12	33.6	400	200	87
VFK400W-Q48-S24	18~75	24	16.7	400	240	86
VFK400W-Q48-S48	18~75	48	8.3	400	480	86.5

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

### PART NUMBER KEY

**VFK400W-Q XX -S XX**

Base Number

Input Voltage

Output Voltage

## INPUT

parameter	conditions/description	min	typ	max	units
operating input voltage	24 V input	10	24	36	Vdc
	48 V input    12 V output 24, 48 V output	20 18	48 48	75 75	Vdc Vdc
under voltage lockout	power up    24 V input 48 V input		9.5 17.8		Vdc Vdc
	power down    24 V input 48 V input		8.5 15.5		Vdc Vdc
remote on/off <sup>1</sup>					

Notes:    1. logic compatibility, open collector ref to -input  
Module ON, 3.5~75 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			±1	%
load regulation	measured from full load to zero load			±1	%
voltage accuracy				±1.5	%
transient response	25% step load change			500	µs
adjustability <sup>2</sup>		90		105	%
switching frequency			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		150	%
short circuit protection	continuous				

## SAFETY AND COMPLIANCE

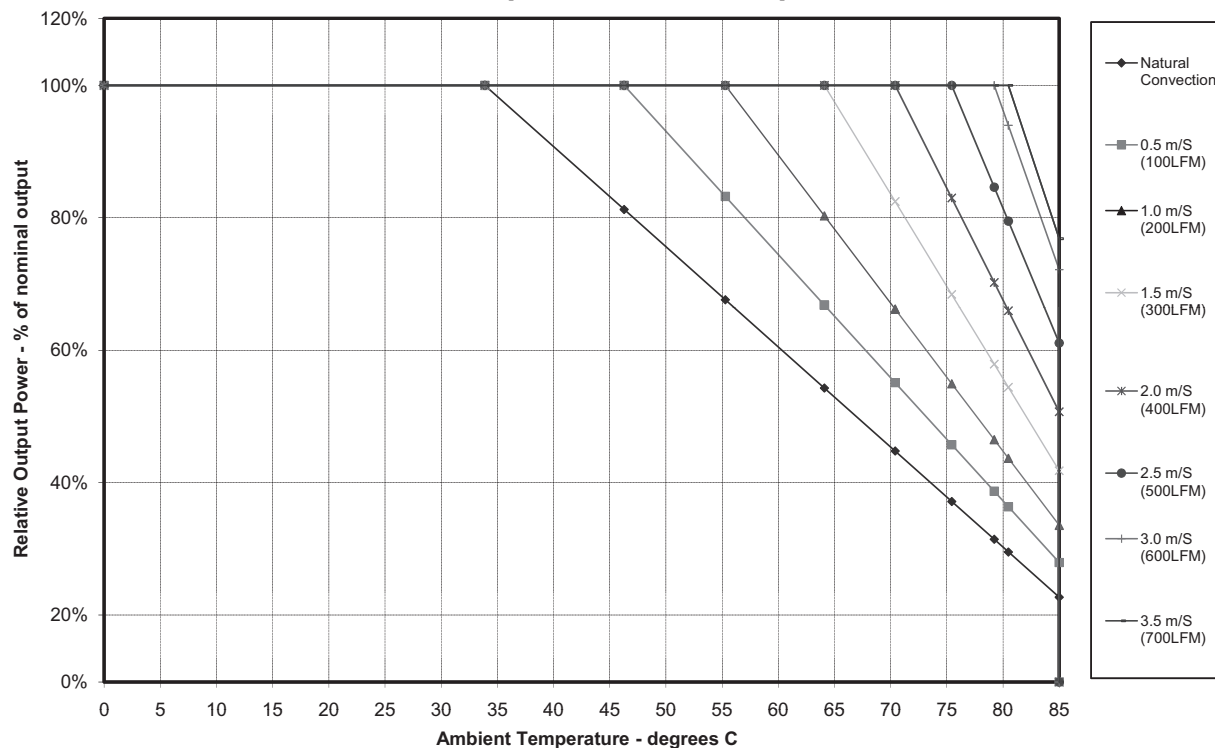
parameter	conditions/description	min	typ	max	units
isolation voltage	input to output	1,500			Vdc
	input to case	1,500			Vdc
	output to case	1,500			Vdc
isolation resistance		10			MΩ
RoHS compliant	yes				

## ENVIRONMENTAL

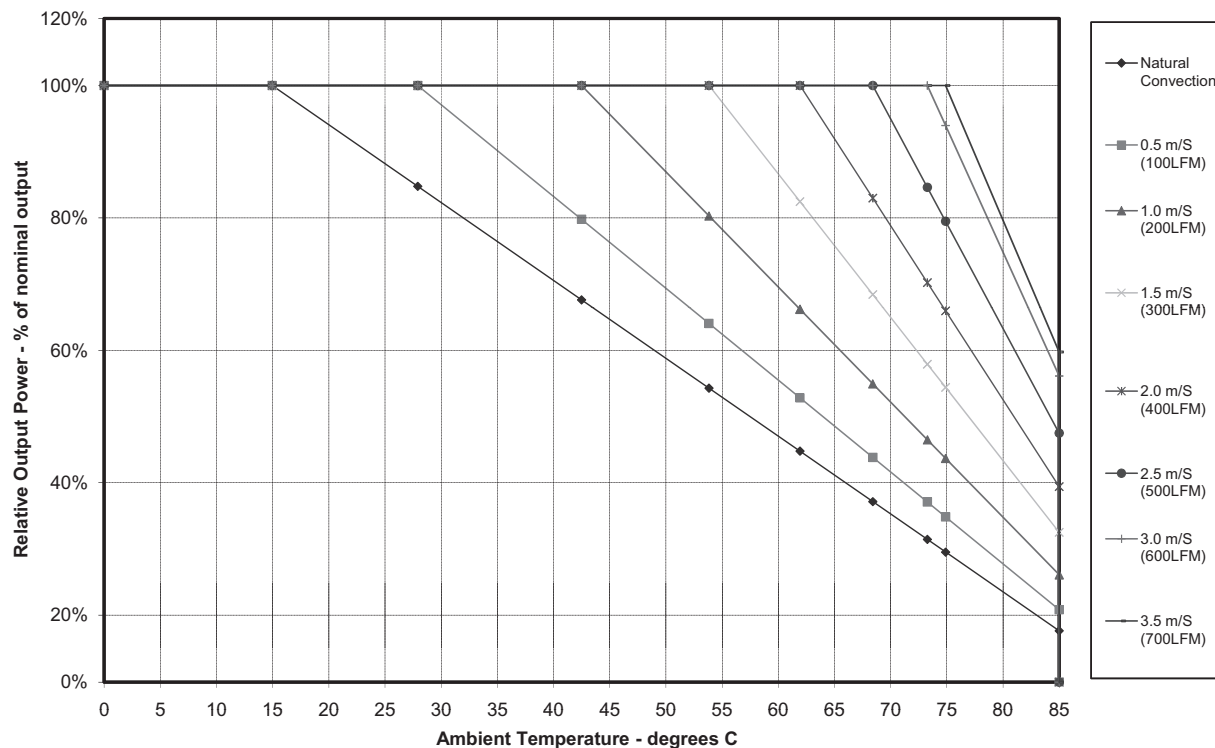
parameter	conditions/description	min	typ	max	units
case operating temperature	see derating curve	-40		100	°C
maximum case temperature			110		°C
storage temperature		-55		105	°C

## DERATING CURVES

**24 V input, 12 V output**  
**48 V input, 12/24/48 V output**



**24 V input, 24/48 V output**

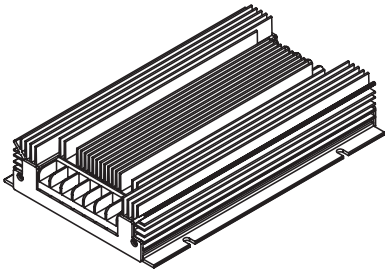


MECHANICAL

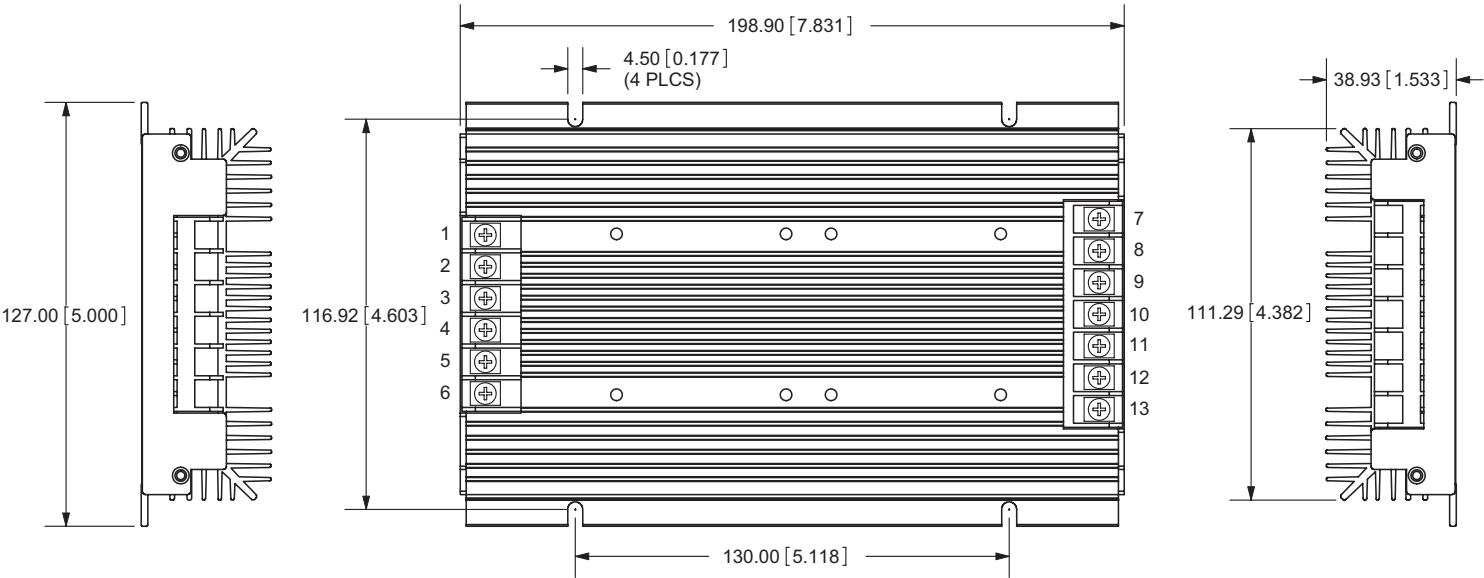
parameter	conditions/description	min	typ	max	units
dimensions	199 x 126.8 x 39 (7.84 x 4.99 x 1.54 inch)				mm
case material	steel and aluminum extrusion				
weight			1.18		kg

MECHANICAL DRAWING

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



PIN CONNECTIONS	
PIN	FUNCTION
1,2	+Vin
3,4	-Vin
5	on/off
6	case
7,8	+Vo
9	+S
10	Trim
11	-S
12,13	-Vo



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	03/13/2012
1.01	updated adjustability range	09/20/2012
1.02	corrected weight	12/18/2012
1.03	updated spec	04/01/2013

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



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CUI offers a two (2) year limited warranty. Complete warranty information is listed on our website.

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