CUI INC®

SERIES: VFB600 | **DESCRIPTION:** DC-DC CONVERTER

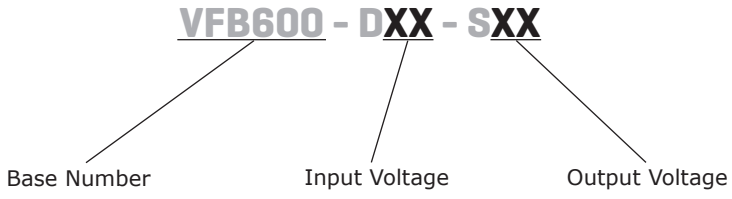
FEATURES

- up to 700 W isolated output
- industry standard full brick package
- 2:1 input range (18~36 V, 36~75 V)
- single output from 12~48 V
- 1,500 V isolation
- over current, over temperature, over voltage, and short circuit protections
- remote on/off
- efficiency up to 92%

MODEL	input voltage range (Vdc)	output voltage (Vdc)	output current max (A)	output power max (W)	ripple and noise[2] max (mVp-p)	efficiency typ (%)
VFB600-D24-S12[1]	18 ~ 36	12	50	600	120	89
VFB600-D24-S24	18 ~ 36	24	25	600	240	91
VFB600-D24-S28[1]	18 ~ 36	28	21.5	600	280	90
VFB600-D24-S32[1]	18 ~ 36	32	18.75	600	320	91
VFB600-D24-S48	18 ~ 36	48	12.5	600	480	92
VFB600-D48-S12[1]	36 ~ 75	12	50	600	120	90
VFB600-D48-S24	36 ~ 75	24	25	600	240	91
VFB600-D48-S28[1]	36 ~ 75	28	25	700	280	91
VFB600-D48-S32[1]	36 ~ 75	32	18.75	600	320	92
VFB600-D48-S48	36 ~ 75	48	12.5	600	480	92

Notes: 1. UL approved
2. Ripple and noise are measured at 20 MHz BW with 220 µF aluminum capacitor accross the input. Add 470 µF aluminum, 1 µF ceramic, 10 µF tantalum capacitors across output.

PART NUMBER KEY



INPUT

parameter	conditions/description		min	typ	max	units
operating input voltage			18 36	24 48	36 75	Vdc Vdc
input current	100% load, Vin = 18 V for VFB600-D24 series 100% load, Vin = 36 V for VFB600-D48 series			37.7 21.7		Vdc Vdc
under voltage lockout	power up	24 V input 48 V input	16 15	17 16	18 17	Vdc Vdc
	power down	24 V input 48 V input	34 32	35 33	36 34	Vdc Vdc
over voltage protection	turn on	24 V input 48 V input		38 77		Vdc Vdc
	turn off	24 V input 48 V input		40 80		Vdc Vdc
positive logic remote on/off	Module ON Module OFF		1		10 0.01	mA mA
filter	PI type					

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			±0.5	%
voltage accuracy				±1.5	%
transient response	25% step load change			500	µs
adjustability[1]		60		110	%
switching frequency	24 V input 48 V input		250 300		kHz kHz
temperature coefficient			±0.03		%/°C

Notes: 1. This is accomplished by connecting an external resistor between the +Vout and +Sense pin for both trim up and trim down. A fixed resistor will be added between the –Sense and TRIM pin.

PROTECTIONS

parameter	conditions/description	min	typ	max	units
over voltage protection	%Vo	115		140	%
short circuit protection	continuous				
current limit		110		150	%
thermal shutdown case temp.			110		°C

SAFETY AND COMPLIANCE

parameter	conditions/description	min	typ	max	units
isolation voltage	input to output input to case output to case	1,500 1,500 1,500			Vdc Vdc Vdc
isolation resistance		10			MΩ
isolation capacitance			4,000		pF
safety approvals	UL 60950-1, EN 60950-1				
RoHS compliant	yes				

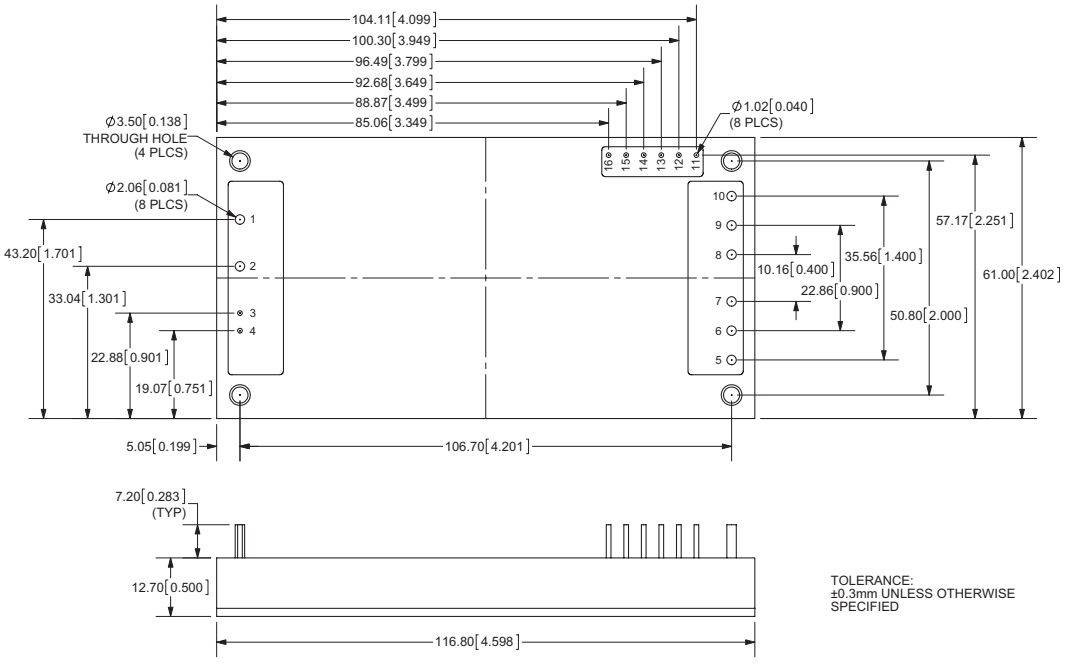
ENVIRONMENTAL

parameter	conditions/description	min	typ	max	units
case operating temperature		-40		100	°C
storage temperature		-55		105	°C
humidity	non-condensing			95	%

MECHANICAL

parameter	conditions/description	min	typ	max	units
dimensions	4.60 x 2.40 x 0.50 (116.8 x 61.0 x 12.7 mm)				inch
case material	aluminum baseplate with plastic case				
weight			260		g

MECHANICAL DRAWING



All dimensions in mm[inches]:

PIN CONNECTIONS	
PIN	FUNCTION
1	-Vin
2	+Vin
3	-On/Off
4	+On/Off
5 ~ 7	+Vo
8 ~ 10	-Vo
11	-S
12	+S
13	TRIM
14	PC/NC
15	IOC
16	AUX

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	06/27/2011
1.02	adjustability note added, V-Infinity branding removed	08/07/2012
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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