ACON™ DC-DC CONVERTERS — HS Series, 30W

Exclusively distributed by Powerstax

Input Ranges :
9-75 VDC

Output Output:
Single Output
3.3V
9.0V
12V
15V
24V

Output Power:
30 W

ACON's HS series single Output converter are designed for telecommunications, industrial and instrument applications. The wide input range (2:1 & 4:1) is ideal for battery or unregulated input applications. These converters features current-mode with MOSFET switching at 200 KHz. Automatic feed-forward compensation, pulse-by-pulse current limiting and output short-circuit protection are standard for all models. Input is well filtered to reduce reflected ripple current and efficiency is constant virtually independent of line variation. Mounting inserts are provided for chassis and/or heatsink mounting. All models are encapsulated in a 1.60" x 4.0" x 0.53" metal case with six-sided emi/rfi shielding.

FEATURES

General:

- Small footprint : 1.6" x 4.0"
- Current-Mode Control
- Input/Output Isolation
- Input Voltage from 9 to 75Vdc
- 4:1 Input Voltage Range
- High conversion efficiency to 84%
- Line & load regulation to ±1.0%
- Fixed operating frequency
- Six-Sided Shielding

Isolation:

- Isolation Voltage >500V

APPLICATIONS

- PoE (Power over Ethernet)
- Distributed Power Systems
- Workstations
- Computer Equipment
- Communications Equipment

TABLE OF CONTANTS :

1. Absolute Maximum Ratings

Stresses in excess of the absolute maximum ratings can cause performance degradation, adversely effect longterm reliability, and cause permanent damage to the device.

Parameter	Conditions / Description	Min	Max	Units
Input Voltage				
Continuous	12	-0.3	20	Vdc
	24	-0.3	38	Vdc
	48	-0.3	78	Vdc
	W-24	-0.3	38	Vdc
	W-48	-0.3	78	Vdc
Transient (100mSec.)	12	-0.3	20	Vdc
	24	-0.3	40	Vdc
	48	-0.3	80	Vdc
	W-24	-0.3	40	Vdc
	W-48	-0.3	80	Vdc
Operating Temperature	All models, base plate temperature	-40	+95	°C
Storage Temperature	**Ambient**	-55	+105	°C
Isolation Voltage	Input to Output		+700	Vdc

2. Input Specifications

Parameter	Conditions / Description	Min	Nom	Max	Units
Input Voltage					
Voltage Range (Continuous)	12	9	12	18	Vdc
	24	18	24	36	Vdc
	48	36	48	75	Vdc
	W-24	10	24	36	Vdc
	W-48	20	48	75	Vdc

3. Output Specifications

Parameter	Conditions / Description	Min	Nom	Max	Units
Voltage Accuracy	Please see table				%
Output Current	Please see table				Adc
Over Voltage Protection	Not available				Vdc
Line Regulation				±1.0	%Vout
Load Regulation				±1.0	%Vout
Transient Respoonse	50% ± 25% step load change		400		µSec.
Ripple & Noise	Please see table				mVp-p
Switching Frequency			200		KHz

4. Isolation Specifications

Parameter	Conditions / Description	Min	Nom	Max	Units
Isolation Voltage					
Input to Output		500			Vdc
I/O to Case		500			Vdc
Isolation Resistance	Input to Output	10			MΩ
Isolation Capacitance	Input to Output		3		nF

5. Environmental and Mechanical Specifications

Parameter	Conditions / Description	Min	Nom	Max	Units
Operating Temperature	Case Temperature	-25		+85	°C
Storage Temperature		-55		+105	°C
Thermal Impedance	Free Convection		7.0		°C/Watt
Temperature Coefficient				±0.02	%/°C
Shock	Halfsine wave, 3 axes	50			g
Sinusoidal Vibration	GR-63-CORE, Section 5.4.2	1			g
Humidity	Relative Humidity, Non-Condensing	20		95	%R.H.
Case Material	Black Coated Metal				
Weight			3.6 (102)		Oz (g)
MTBF (calculated)	Bellcore TR-NWT-000332 method 1 - parts count	0.5			MHrs

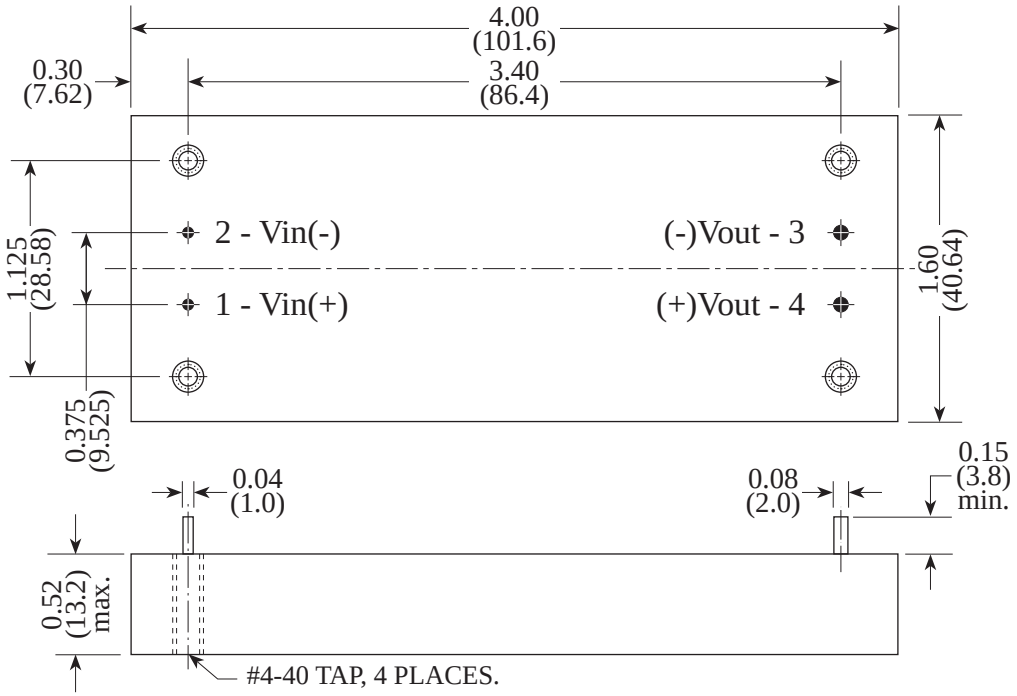
INPUT	OUTPUT								EFF. (typ.)	MODEL NO.
Nominal (Range)	Max. Output Power	Voltage (V)			Current (A)		Ripple & Noise		Over Load Protection		
		Set Point	Min.*	Max.*	Min.	Max.	Peak-Peak	R.M.S.			
12 (9-18)	30W	**5.00**	4.90	5.10	0.6	6.0	75mV	15mV	120% Rated Load	80%	**H30S1205**
		9.00	8.90	9.10	0.33	3.3	75mV	15mV		82%	**H30S1209**
		12.0	11.88	12.12	0.25	2.5	100mV	25mV		82%	**H30S1212**
		15.0	14.85	15.15	0.2	2.0	120mV	30mV		82%	**H30S1215**
		24.0	23.76	24.24	0.12	1.25	200mV	40mV		82%	**H30S1224**
24 (18-36)	30W	**5.00**	4.90	5.10	0.6	6.0	75mV	15mV		82%	**H30S2405**
		9.00	8.90	9.10	0.33	3.3	75mV	15mV		83%	**H30S2409**
		12.0	11.88	12.12	0.25	2.5	100mV	25mV		84%	**H30S2412**
		15.0	14.85	15.15	0.2	2.0	120mV	30mV		84%	**H30S2415**
		24.0	23.76	24.24	0.12	1.25	200mV	40mV		84%	**H30S2424**
48 (36-75)	30W	**5.00**	4.90	5.10	0.6	6.0	75mV	15mV		82%	**H30S4805**
		9.00	8.90	9.10	0.33	3.3	75mV	15mV		83%	**H30S4809**
		12.0	11.88	12.12	0.25	2.5	100mV	25mV		84%	**H30S4812**
		15.0	14.85	15.15	0.2	2.0	120mV	30mV		84%	**H30S4815**
		24.0	23.76	24.24	0.12	1.25	200mV	40mV		84%	**H30S4824**
W-24 (10-36)	30W	**5.00**	4.90	5.10	0.6	6.0	75mV	15mV		80%	**HW30S2405**
		9.00	8.90	9.10	0.33	3.3	75mV	15mV		82%	**HW30S2409**
		12.0	11.88	12.12	0.25	2.5	100mV	25mV		82%	**HW30S2412**
		15.0	14.85	15.15	0.2	2.0	120mV	30mV		82%	**HW30S2415**
		24.0	23.76	24.24	0.12	1.25	200mV	40mV		82%	**HW30S2424**
W-48 (20-75)	30W	**5.00**	4.90	5.10	0.6	6.0	75mV	15mV		82%	**HW30S4805**
		9.00	8.90	9.10	0.33	3.3	75mV	15mV		83%	**HW30S4809**
		12.0	11.88	12.12	0.25	2.5	100mV	25mV		84%	**HW30S4812**
		15.0	14.85	15.15	0.2	2.0	120mV	30mV		84%	**HW30S4815**
		24.0	23.76	24.24	0.12	1.25	200mV	40mV		84%	**HW30S4824**

* Combined Line & Load Regulation.

Product Numbering System & Selection Guide

H	**50**	**S**	**24**	**05**	**TS**
Series No.	Output Power	No Output	Input Voltage	Output Voltage	Options
H	**30** : 30W	**S** : Single	**12** : 9-18V	**03** : 3.3V	TS: Terminal Strips
			24 : 18-36V	**05** : 5.0V	
			48 : 36-75V	**12** : 12V	
			W-24 : 10-36V	**15** : 15V	
			W-48 : 20-75V	**24** : 24V	

PC Board Mount (Standard)



Chassis Mount (Optional, HS Suffix)