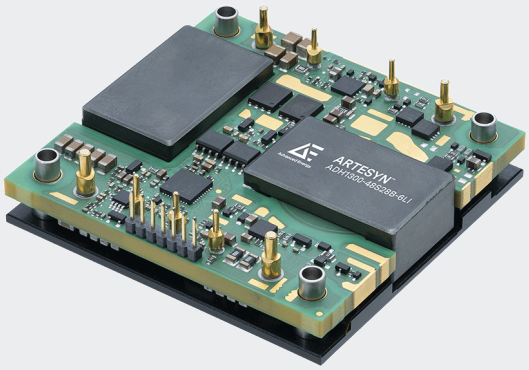
ARTESYN ADH1300-48S28 SERIES

1300 W Half-Brick DC-DC Converter



Advanced Energy's Artesyn ADH1300-48S28 series is a single output DC-DC converter with standard half-brick outline and pin configuration. It provides a regulated low noise output and function for a digital-controlled PMBus interface. It delivers up to 1300 W with 28 VDC output voltage. The 95.5% peak efficiency and excellent thermal management, and operational ambient temperature range of -40°C to +85°C makes it an ideal choice for use in datacom and telecommunication applications.

AT A GLANCE

Total Power

1300 W

Input Voltage

36 to 75 VDC

Single Output

Single

SPECIAL FEATURES

- 1300 W continuous power
- Efficiency: >95.5% peak
- 36 to 75 VDC telecomm input range
- Base-plate for contact cooling or heatsink mounting
- Excellent thermal performance
- Power good function
- No minimum load requirement
- Fixed switching frequency
- Remote control function (negative logic)
- Remote output sense
- PMBus™ function
- High reliability
- RoHS 3.0
- 2 years warranty
- Input under voltage protection
- Input over voltage protection
- Output over voltage protection
- Output over current protection
- Over temperature protection

SAFETY/COMPLIANCE

- IEC/EN/UL/CSA 62368-1
- UL/TUV
- CE Mark
- UL94 V-0

©2024 Advanced Energy Industries, Inc.

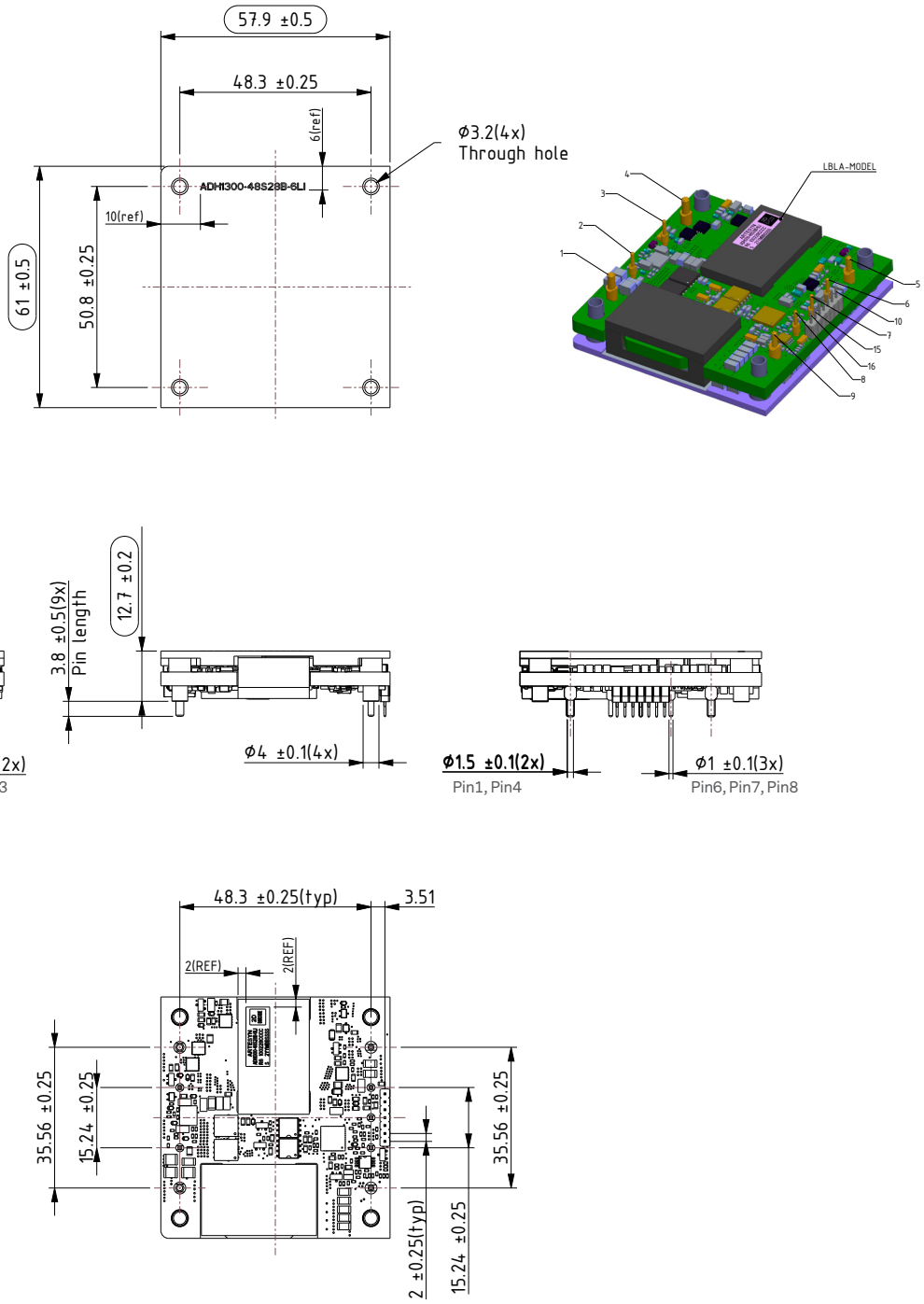
ELECTRICAL SPECIFICATIONS

Input	
Input Voltage Range	36 to 75 VDC
Input UVLO	Turn-on: 34 VDC typ. Turn-off: 32 VDC typ. Hysteresis: 4 VDC max.
Input Current	<40.5 A at 36 VDC input
Efficiency (50 VDC input, 25°C ambient)	95.0% at 100% load 95.5% at 50% load
Isolation	1500 VDC
Output	
Output Voltage Set Point	28 VDC nominal
Output Current Maximum	46.5 A continouous
Output Power	1300 W continuous
Output Voltage Adjustment Range	14 to 33 VDC
Output Regulation	Load regulation: +/-20mV typ. Line regulation: +/-50mV typ.
Output Noise & Ripple	<500 mV pk-pk
Over Current Protection	49 to 65 A, hiccup mode
Over Voltage Protection	35 to 40 VDC, hiccup mode
Over Temperature (OTP) Protection	110°C baseplate temperature typ., auto recovery
Control	
Enable	TTL compatible (negative logic), default is negative polarity enable.
PMBus	Digital control functions provided

ENVIRONMENTAL SPECIFICATIONS

Operating Temperature	-40°C to +85°C
Storage Temperature	-55°C to +125°C
Operating Humidity	10% to 95% non-condensing
Storage Humidity	10% to 95% non-condensing

MECHANICAL DRAWING



Dimensions in mm

PIN DESIGNATIONS

Pin	Name	Function
1	Vin+	Positive input voltage
2	Remote ON/OFF	Remote control
3	NC	NC
4	Vin-	Negative input voltage
5	Vo-	Negative output voltage
6	-Sense	Remote sense negative
7	Vo+	Positive output voltage
8	+Sense	Remote sense positive
9	Vo+	Positive output voltage
10	PMBus Remote Control/PG	PMBus interface (optional)
11	Sig_Gnd	PMBus interface (optional)
12	Data	PMBus interface (optional)
13	SMBAlert	PMBus interface (optional)
14	Clock	PMBus interface (optional)
15	Addr1	PMBus interface (optional)
16	Addr0	PMBus interface (optional)

PIN LENGTH OPTIONS

Device Code Suffix	Pin Length
-4	4.6 mm ± 0.25 mm
-6	3.8 mm ± 0.25 mm
-8	2.8 mm ± 0.25 mm
None	5.8 mm ± 0.25 mm

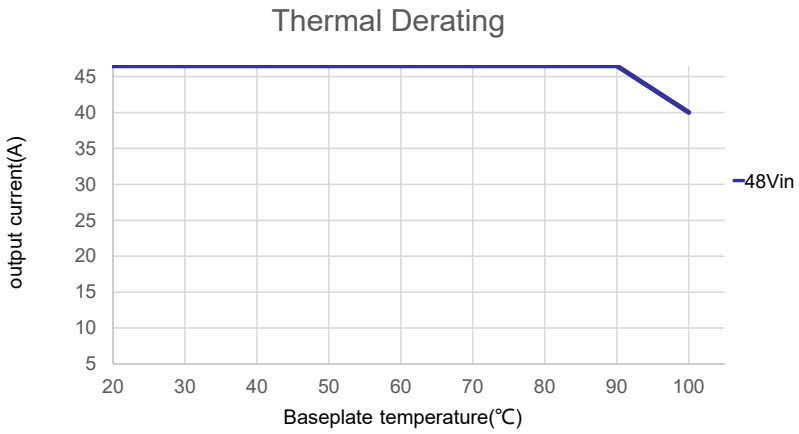
ORDERING INFORMATION

Model Number	Output Voltage Set Point	Output Current	Logic	PMBus™
ADH1300-48S28B[1]-6[3]L[4]I[5]	28 VDC	46.5 A	Negative Enable	Yes
ADH1300-48S28P[2]B[1]-6[3]L[4]I[5]	28 VDC	46.5 A	Positive Enable	Yes

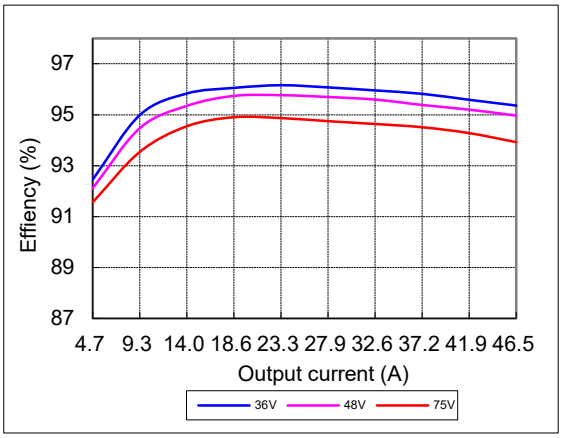
Note:
1. B = Baseplate
2. P = Positive enable. Negative enable is default "no character"
3. 6 = 3.8 mm pin length
4. L = RoHS 3.0 compliant
5. I = with PMBus function

THERMAL CONSIDERATION

The unit is designed to operate in different thermal environments and sufficient cooling must be provided. The output current vs. baseplate temperature is shown in thermal derating curve.



EFFICIENCY CURVE



ABOUT ADVANCED ENERGY

Advanced Energy (AE) has devoted more than four decades to perfecting power for its global customers. AE designs and manufactures highly engineered, precision power conversion, measurement and control solutions for mission-critical applications and processes.

Our products enable customer innovation in complex applications for a wide range of industries including semiconductor equipment, industrial, manufacturing, telecommunications, data center computing, and medical. With deep applications know-how and responsive service and support across the globe, we build collaborative partnerships to meet rapid technological developments, propel growth for our customers, and innovate the future of power.

PRECISION | POWER | PERFORMANCE | TRUST

For international contact information,
visit advancedenergy.com.

powersales@aei.com (Sales Support)
productsupport.ep@aei.com (Technical Support)
+1 888 412 7832

Specifications are subject to change without notice. Not responsible for errors or omissions. ©2024 Advanced Energy Industries, Inc. All rights reserved. Advanced Energy®, AE® and Artesyn™ are U.S. trademarks of Advanced Energy Industries, Inc.

ENG-ADH1300-48S28-235-01 08.20.24