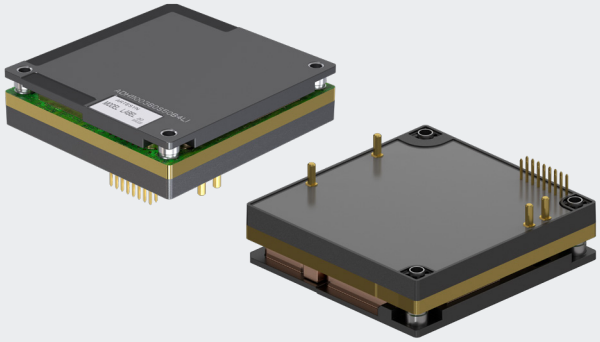
ADH1100 SERIES

1100 W Half-Brick DC-DC High Voltage Input Converter



Advanced Energy's ADH1100 series is an isolated output digital control DC-DC converter. It delivers up to 1100 W with 50 VDC output voltage. Ultra high peak efficiency of 96.9% and excellent thermal performance makes it an ideal choice. It can produce full power over an operating temperature range of -20°C to +85°C with forced air cooling. A PMBus™ interface is also provided for flexible digital control and monitoring.

AT A GLANCE

Total Power

1100 W

Input Voltage

350 to 420 VDC

Single Output

Single

SPECIAL FEATURES

- 1100 W continuous power
- Efficiency: >96.9% peak
- 350 to 420 VDC input range
- Base-plate for contact cooling
- Excellent thermal performance
- Power good function
- No minimum load requirement
- Separately parallel operation, active current sharing
- Separately series operation
- Remote control function (negative logic)
- Remote output sense
- PMBus™ function
- High reliability
- RoHS 3.0
- Reinforced insulation
- Pin length option: 4.8 mm
- 2 years warranty (consult factory for extended terms)
- Input under voltage protection
- Input over voltage protection
- Output over voltage protection
- Output over current protection
- Over temperature protection

SAFETY/COMPLIANCE

- IEC/UL/CSA 62368-1
- CE Mark

APPLICATIONS

- Industry/Telecom/Datacom/ Computing and Storage

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ELECTRICAL SPECIFICATIONS

Input	
Input Voltage Range	350 to 420 VDC
Input UVLO	Turn-on: 335 VDC typ. Turn-off: 320 VDC typ.
Input Current	<3.6 A at 350 VDC input
Efficiency	96.9% at 100% load (390 VDC input, READ_TEMP1 = 25°C)
Isolation[1]	4000 VDC input to output 2500 VDC input to baseplate
Output	
Output Voltage Set Point	50 VDC nominal
Output Current Maximum	22 A continouous
Output Power	1100 W continuous
Output Voltage Adjustment Range	380 V ≥ VIN,DC ≥ 350 V, -5% to +5% 420 V ≥ VIN,DC > 380 V, -5% to +12%
Output Regulation	Load regulation < 1000 mV Line regulation: < 350 mV
Output Noise & Ripple	< 700 mV pk-pk
Output Load Capacitance	906 to 4000 µF capacitor
Over Current Protection	23 to 50 A, latch after 3 times hiccup
Over Voltage Protection	57 to 68 VDC, latch off mode
Over Temperature (OTP) Protection	95°C to 130°C baseplate temperature, auto recovery
Control	
Enable	TTL compatible (negative logic), default is negative polarity enable.
PMBus	Digital control functions provided

Note 1 - Ensure three mounting holes of baseplate maintain reliable connection with earth.

ENVIRONMENTAL SPECIFICATIONS

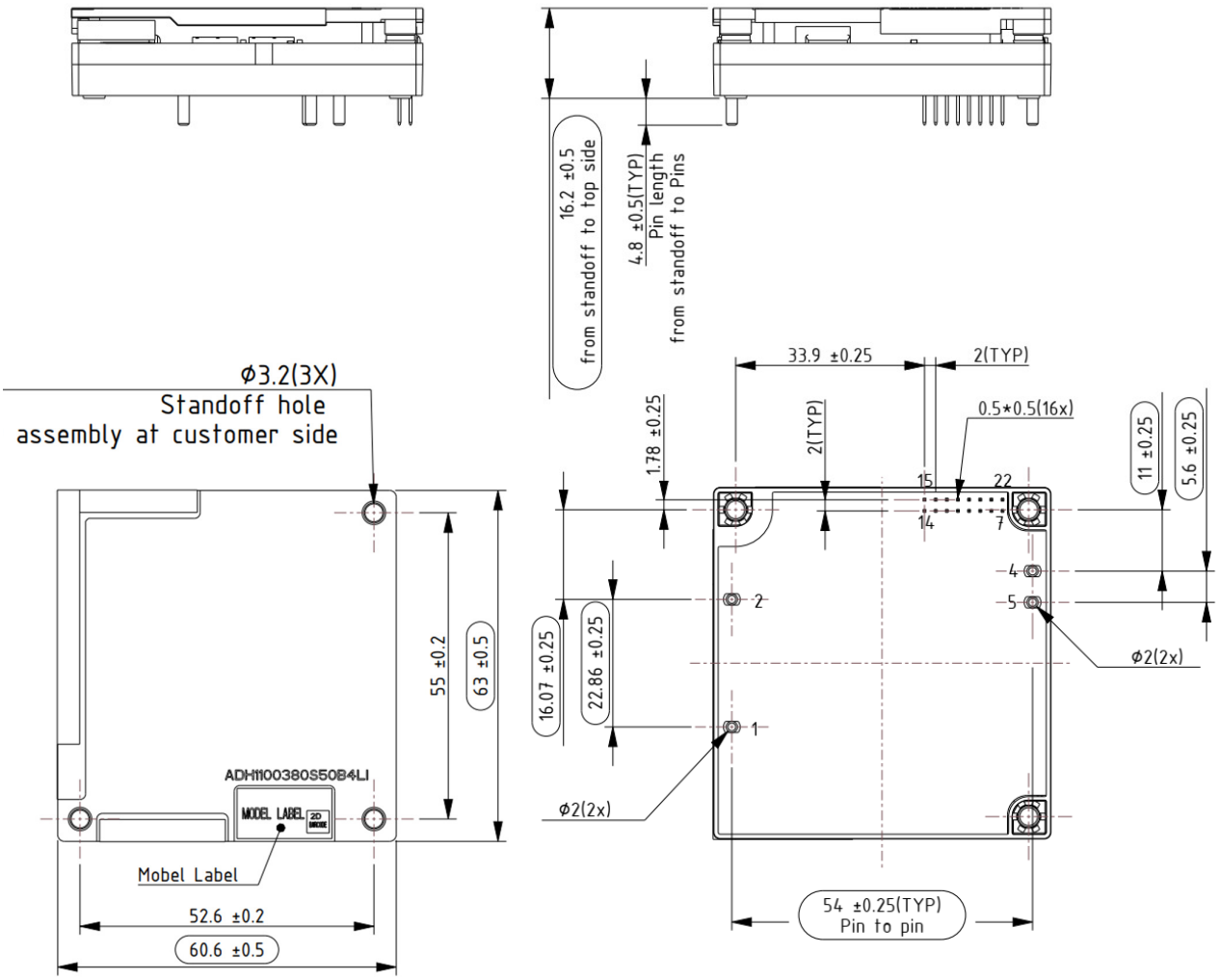
Operating Temperature	-20°C to +85°C
Storage Temperature	-55°C to +125°C
Operating Humidity	10% to 90% non-condensing
Storage Humidity	10% to 95% non-condensing

ORDERING INFORMATION

Model Number	Output Voltage Set Point	Output Current	Logic	PMBus™
ADH1100[1]380S50B[2]4[3]L[4]I[5]	50 VDC	22 A	Negative Enable	Yes

Note:
1. Output power 1100 W
2. B = Baseplate
3. 4 = 4.8 mm pin length
4. L = RoHS 3.0
5. I = with PMBus function

MECHANICAL DRAWING



UNIT: mm (inch) L=4.80 mm
TOLERANCE: X.X mm±0.5 mm [X.XX in.± 0.02in.]
X.XX mm±0.25 mm [X.XXX in.±0.01in.]
Pin 1,2,4,5: 2.0 mm DIA, 3 (empty),6 (empty),
Pin 7~22: 0.5 mm DIA
Height: 16.2 mm, 16.5 mm max, 15.7 mm min

PIN DESIGNATIONS

Pin	Name	Function
1	Vin+	Positive input voltage
2	Vin-	Negative input voltage
3	NC	NC
4	Vo-	Negative output voltage
5	Vo+	Positive output voltage
6	NC	NC
7	S-	Negative remote sense
8	PG	Power good
9	Sig_Gnd	PMBus interface
10	SDA	PMBus interface
11	Salert	PMBus interface.
12	SCL	PMBus interface
13	ACNOK	PFC OK after isolated
14	BNOK	PFC bulk voltage OK after isolated
15	UART_RX	Communication with PFC module
16	UART_TX	Communication with PFC module
17	Addr	PMBus interface
18	Ishare	Current share
19	Trim	Output voltage trim
20	Remote ON/OFF	Remote control
21	Aux VCC	Aux O/P
22	S+	Positive remote sense

PIN LENGTH OPTIONS

Device Code Suffix	Pin Length
4	4.8 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

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

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