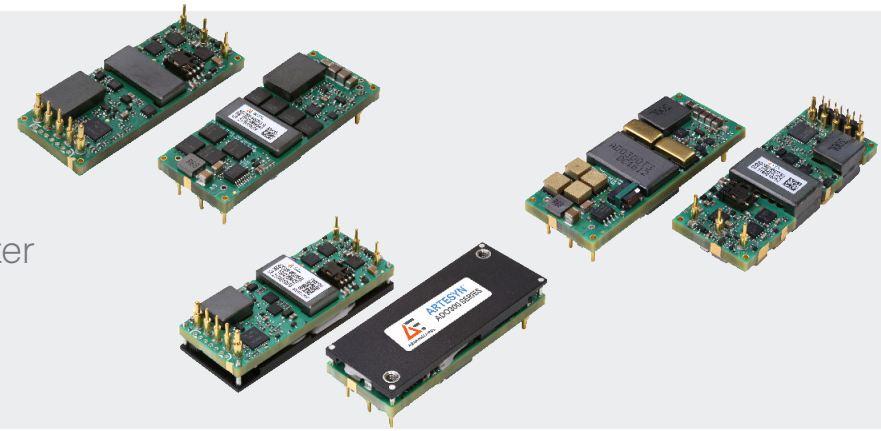
ARTESYN ADO300 SERIES

300 Watt 1/8 Brick DC-DC Converter



Advanced Energy's Artesyn ADO300 series eighth-brick isolated DC-DC converters provides a single fully regulated at 3.3 V , 5 V or 12 V output. Rated at 300 watts, these converters can deliver up to 300 W power and have no minimum load requirement. They have an input voltage range of 36 to 75 V and are primarily designed for use with standard 48 V supplies in computing and server applications, as well as regulated 48 V supplies in communications equipment.

AT A GLANCE

Total Power:

300 Watts
(11.77 V @ 26 A)
(5 V @ 60 A)
(3.3 V @ 60 A)

Input Voltage:

36 to 75 Vdc

Single Output:

12 V, 5 V, 3.3 V

SPECIAL FEATURES

- 300 W continuous power
- Ultra high efficiency
- 36 to 75 Vdc Telecom input range
- Baseplate version for contact cooling or heatsink mounting
- Parallel and Droop current sharing
- Remote output sense
- Fully regulated output voltage
- No minimum load requirement
- Remote control function
- Low ripple and noise
- Fixed switching frequency
- High capacitive load capability
- Pre-bias start-up capability
- Excellent thermal performance
- High reliability
- RoHS 6 compliant
- UL94 V-0 materials
- Two-year warranty (consult factory for extended terms)

SAFETY

- TUV/CE 62368-1
- UL/cUL 62368-1

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ELECTRICAL SPECIFICATIONS

Input	12 V	5 V	3.3 V
Input voltage	36 - 75 Vdc		
Input surge	95 V / 100 mSec		
Input UVLO (typical)	Turn-on: 34 Vdc Turn-off: 32 Vdc Hysteresis: 2 Vdc		
Efficiency	95.5% (60% load)	95.2% (50% load)	93.7% (50% load)
I/O insulation	Basic insulation		
I/O isolation	1500 Vdc		
Output	**12 V**	**5 V**	**3.3 V**
Output voltage (Vin = 48 V)	11.82 V	5 V	3.3 V
Output current maximum	26 A	60 A	60A
Noise & ripple	70 mV pk-pk typ.	50 mV pk-pk typ.	20 mV pk-pk typ.
Overtemperature protection	Baseplate: 110 °C typ. Open frame: 125 °C hot spot typ.		
Overvoltage protection method / OCP operation	115%-150% rated output voltage/hiccup and auto restart		
Overcurrent protection method / OCP operation	110%-150% rated output current /hiccup and auto restart		
Control	**12 V**	**5 V**	**3.3 V**
Enable	TTL compatible (negative logic)		
Switching frequency	150 KHz fixed frequency		
Pre-bias start-up	0% - 90% Vout		
Parallel connection & droop share	Droop share		

PIN ASSIGNMENTS

Pin #	Name	Funtion	Optional
1	+Vin	Positive input voltage	
2	Remote On/Off	Remote control	
3	-Vin	Negative input voltage	
4	-Vo	Negative output voltage	
5	-Sense	Remote sense negative	Yes
6	Trim/C1	Voltage adjustment	Yes
7	+Sense	Remote sense positive	Yes
8	+Vo	Positive output voltages	
9	C2	Digital	Yes
10	Sig_Gnd	Digital	Yes
11	Data	Digital	Yes
12	SMBAlert	Digital	Yes
13	Clock	Digital	Yes
14	Addr1	Digital	Yes
15	Addr0	Digital	Yes

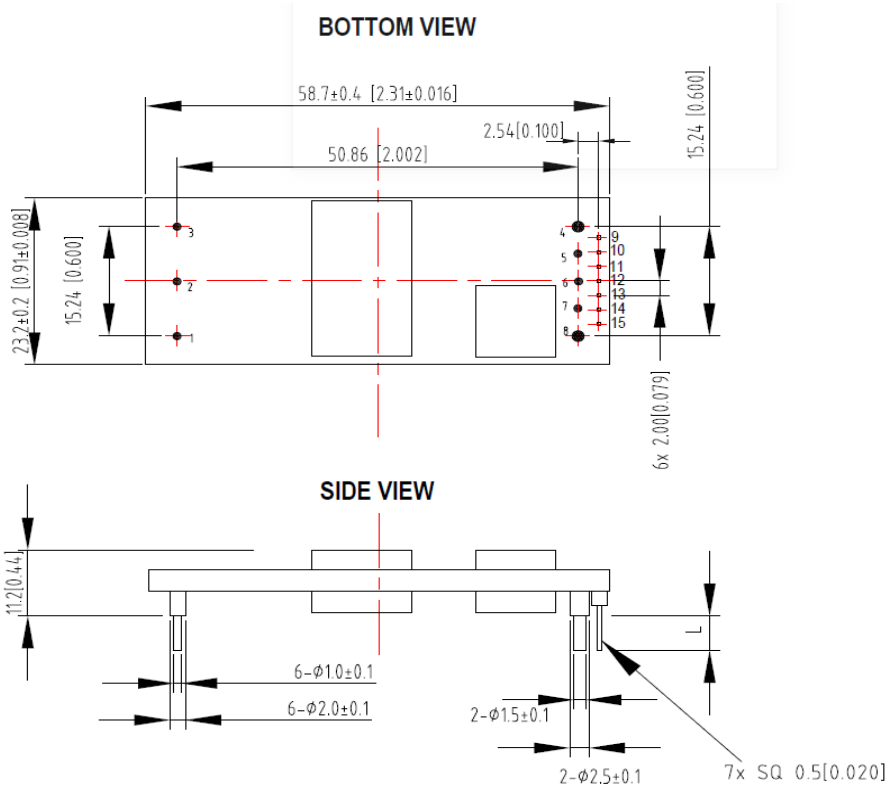
PIN LENGTH OPTIONS

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

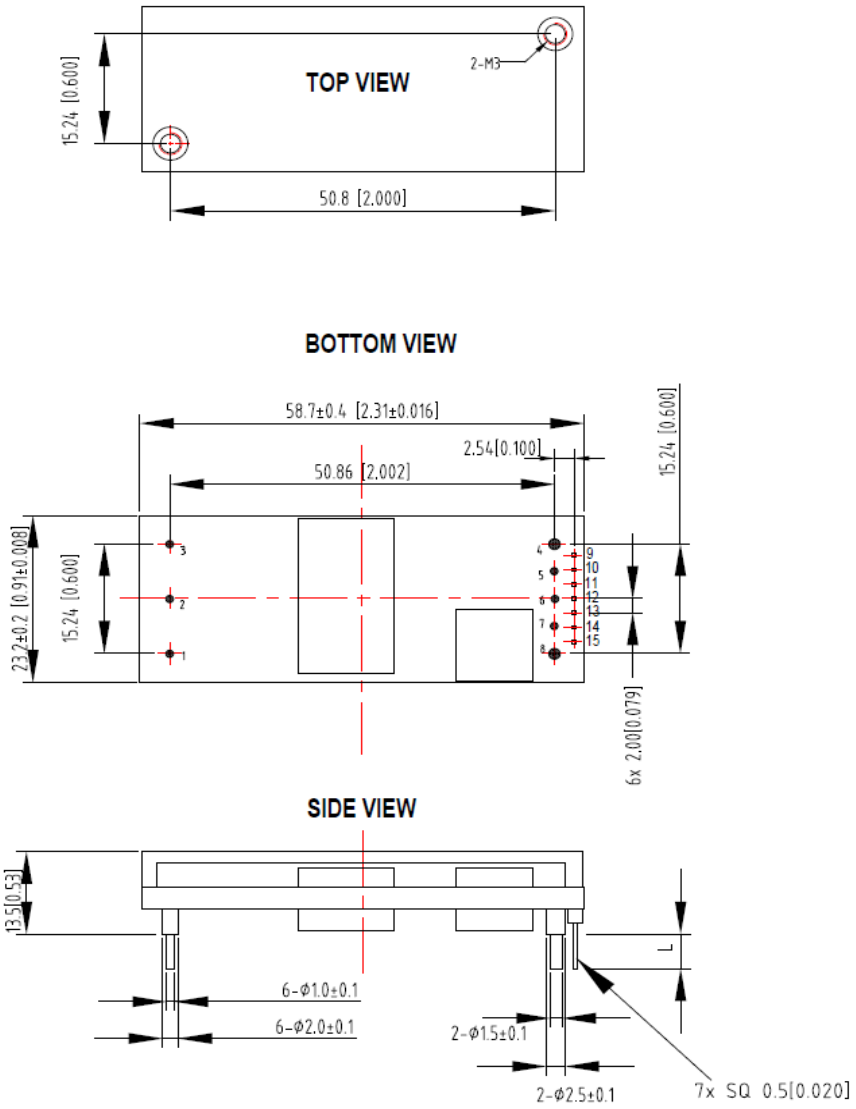
ENVIRONMENTAL SPECIFICATIONS

Operating temperature	-40 to +85 °C
Storage temperature	-55 to +125 °C
MTBF	1.5 million hours

ADO300-48S12-6LI MECHANICAL DRAWING - OPEN FRAME MODULE



ADO300-48S12B-6LI MECHANICAL DRAWING - BASEPLATE MODULE



Unit: mm[inch] L=3.8±0.5mm
Tolerance: X.Xmm±0.5mm[X.XX in.±0.02in.]
X.XXmm±0.25mm[X.XXX in.±0.01in.]

Notes:
1. Dimensions within the box are critical dimensions.
2. Depth penetration into baseplate of M3 screws used at baseplate mounting holes, not to exceed maximum of 3.0mm.
3. No pin 9-15 for ADO300-48S12B-6L; ADO300-48S12B-6LI with pin 9-15.
4. Different output voltage ADO300 products have slight differences in the mechnical drawing. Please check the specified product's Technical Reference Note for more details.
5. All specifications are subject to change without notice. Mechanical drawings are for reference only.

ORDERING INFORMATION

Model number	Input voltage	Output voltage set point	Output current	Efficiency
ADO300-48S12-6L	36 - 75 Vdc	11.77 Vdc	26 A	95.2% (full load)
ADO300-48S12B-6L	36 - 75 Vdc	11.77 Vdc	26 A	95.2% (full load)
ADO300-48S12-6LI	36 - 75 Vdc	11.77 Vdc	26 A	95.2% (full load)
ADO300-48S12B-6LI	36 - 75 Vdc	11.77 Vdc	26 A	95.2% (full load)
ADO300-48S05-6L	36 - 75 Vdc	5.0 Vdc	60 A	94.6% (full load)
ADO300-48S05-6LI	36 - 75 Vdc	5.0 Vdc	60 A	94.6% (full load)
ADO300-48S05B-6L	36 - 75 Vdc	5.0 Vdc	60 A	94.6% (full load)
ADO300-48S05B-6LI	36 - 75 Vdc	5.0 Vdc	60 A	94.6% (full load)
ADO300-48S05PB-6L	36 - 75 Vdc	5.0 Vdc	60 A	94.6% (full load)
ADO300-48S3V3-6L	36 - 75 Vdc	3.3 Vdc	60 A	93% (full load)
ADO300-48S3V3-6LI	36 - 75 Vdc	3.3 Vdc	60 A	93% (full load)
ADO300-48S3V3B-6L	36 - 75 Vdc	3.3 Vdc	60 A	93% (full load)
ADO300-48S3V3B-6LI	36 - 75 Vdc	3.3 Vdc	60 A	93% (full load)

Default = Negative remote control
P = Positive remote control
B = Baseplate
-6 = 3.8 mm pin length
I = PMBus interface version

ABOUT ADVANCED ENERGY

Advanced Energy (AE) has devoted more than three 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

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ENG-ADO300 SERIES-235-01 03.23.21