

## AVD50B Series

### 50 Watt 1/16" brick DC/DC Converter

#### Data Sheet

**Total Power:** 50 Watts  
 (12 V @ 4.17 A)  
 (5 V @ 10 A)  
 (3.3 V @ 15 A)

**Input Voltage:** 36 - 75 Vdc

**Single Output:** 12 V, 5 V, 3.3 V



#### SPECIAL FEATURES

- 50 W continuous power
- Ultra high efficiency up to 93%
- Low ripple and noise
- Telecom DC input range
- Baseplate optimised for contact cooling
- Open frame optimized for air cooling
- Through hole and surface mount termination option
- Fixed switching frequency
- High capacitive load capability
- Pre-bias startup capability
- High reliability
- RoHS 6 compliant
- UL94 V-0 materials
- 2-year warranty (consult factory for extended terms)

#### SAFETY

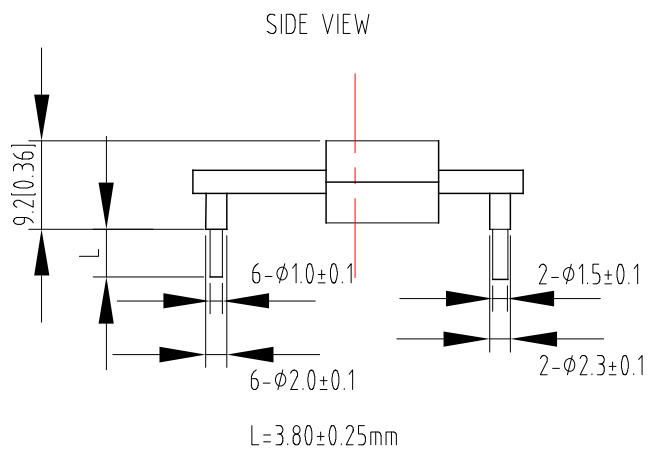
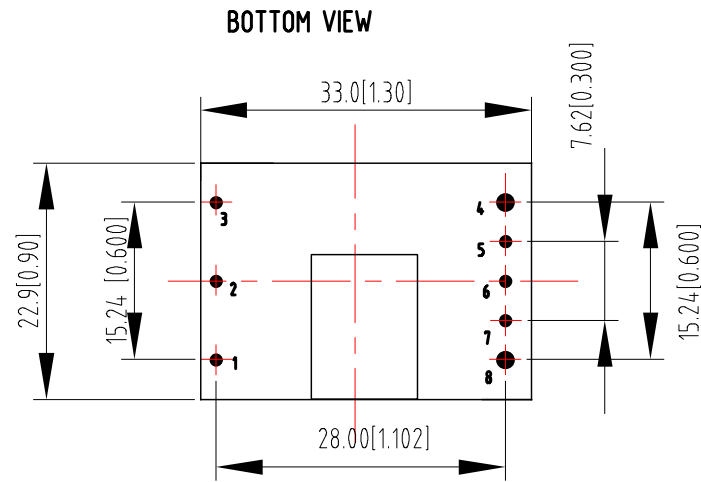
- EN62368
- UL/CSA62368
- CE

#### Electrical Specifications

Input	12 V	5 V	3.3 V
Input range	36 - 75 Vdc		
Input surge	100 V / 100 mSec		
Efficiency	93% (100% load)	91.5% (100% load)	92% (100% load)
I/O insulation	Basic insulation		
I/O isolation	2250 Vdc	1500 Vdc	1500 Vdc
Output	12 V	5 V	3.3 V
Output voltage	12 V nominal	5 V nominal	3.3 V nominal
Output current maximum	4.17 A	10 A	15 A
Noise & ripple	64 mV pk-pk typ.	35 mV pk-pk typ.	40 mV pk-pk typ.
Overtemperature protection	Baseplate: 110 °C Open frame: 120 °C hot spot		
Overvoltage protection method / OCP operation	Auto restart / 130% Vout		
Overcurrent protection method / OCP operation	Hiccup 150% Iout		
Control	12 V	5 V	3.3 V
Enable	TTL compatible (negative logic)		
Trim function	80% to 110% Vout		
Remote sense	Sense connections provided		
Switching frequency	350 KHz		

Mechanical Drawings

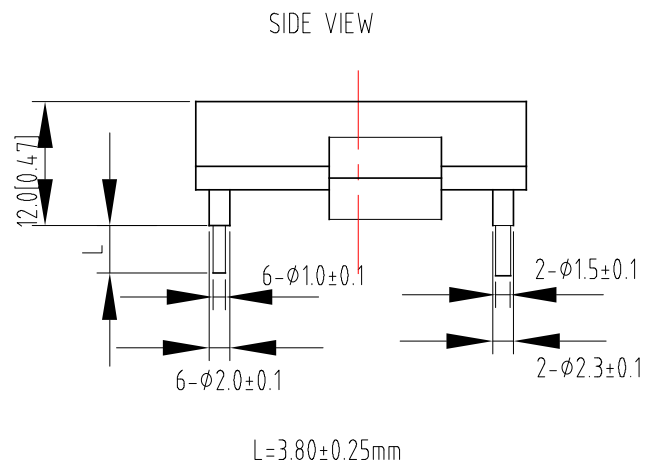
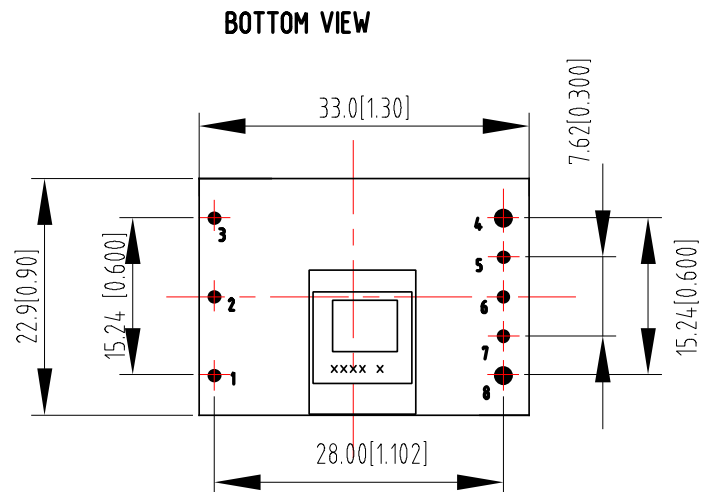
Model: AVD50B-48S05-6L



UNIT: mm[inch]

TOLERANCE: XXmm  $\pm$ 0.5mm[X.XX in  $\pm$ 0.02in]  
 X.XXmm  $\pm$ 0.25mm[X.XXX in  $\pm$ 0.01]

Model: AVD50B-48S05B-6L

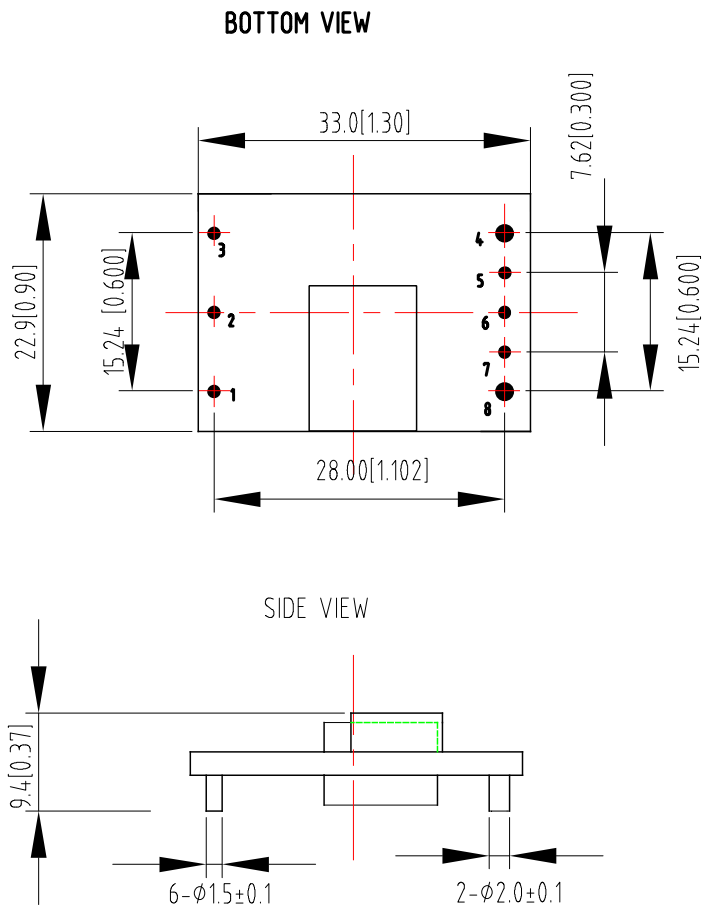


Notes:

1. Different output voltage AVD50B products have slight differences in the mechanical drawing. Please check the specified product's Technical Reference Note for more details
2. All specifications are subject to change without notice. Mechanical drawings are for reference only.

## Mechanical Drawings

Model: AVD50B-48S05TL



UNIT: mm[inch]

TOLERANCE: XXmm  $\pm 0.5$ mm[X.XX in  $\pm 0.02$ in]  
X.XXmm  $\pm 0.25$ mm[X.XXX in  $\pm 0.01$ in]

### Notes:

1. Different output voltage AVD50B products have slight differences in the mechanical drawing. Please check the specified product's Technical Reference Note for more details
2. All specifications are subject to change without notice. Mechanical drawings are for reference only.

## Pin Designations

Pin Number	Name	Name
1	Vin+	Positive input terminal
2	Remote ON/OFF	ON/OFF control terminal
3	Vin-	Negative input terminal
4	Vo-	Negative output terminal
5	S-	Negative remote sense
6	Trim	Output voltage trim
7	S+	Positive remote sense
8	Vo+	Positive output terminal

## Pin Length Options

Device Code Suffix	L
-4	4.8 mm $\pm 0.25$ mm
-6	3.8 mm $\pm 0.25$ mm
-8	2.8 mm $\pm 0.25$ mm
None	5.8 mm $\pm 0.25$ mm

### Environmental Specifications

Operating ambient temperature	-40 °C to +85 °C
Storage temperature	-55 °C to +125 °C
MTBF	2 Million hours

### Ordering Information

Model Number	Input Voltage	Output Voltage	Output Current	Structure
AVD50B-48S12-6L	36 - 75 Vin	12 Vdc	4.17 A	Open frame
AVD50B-48S12B-6L	36 - 75 Vin	12 Vdc	4.17 A	Baseplate
AVD50B-48S12TL	36 - 75 Vin	12 Vdc	4.17 A	SMT pin with reel tape package
AVD50B-48S05-6L	36 - 75 Vin	5 Vdc	10 A	Open frame
AVD50B-48S05B-6L	36 - 75 Vin	5 Vdc	10 A	Baseplate
AVD50B-48S05TL	36 - 75 Vin	5 Vdc	10 A	SMT pin with reel tape package
AVD50B-48S3V3-6L	36 - 75 Vin	3.3 Vdc	15 A	Open frame
AVD50B-48S3V3B-6L	36 - 75 Vin	3.3 Vdc	15 A	Baseplate
AVD50B-48S3V3TL	36 - 75 Vin	3.3 Vdc	15 A	SMT pin with reel tape package

Notes:

- Standard version is negative enable
- 6 = 3.8 mm pin length
- T = Surface mount, reel tape package
- L = RoHS 6 compliance
- P = Positive enable

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For support: [productsupport.ep@artesyn.com](mailto:productsupport.ep@artesyn.com)

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