

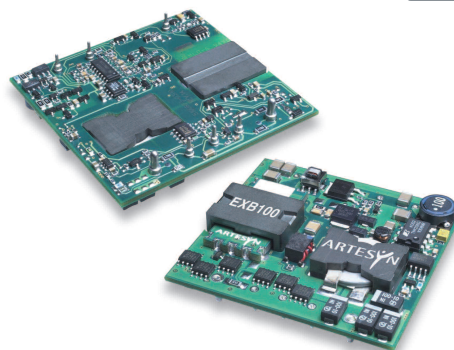
# EXB100 Series

## Single output

### NEW Product



- Ultra wide trim range, 60% to 110% (1.08 Vdc to 5.5 Vdc)
- High efficiency, 91.5% @ 5 Vdc, 90.5% @ 3.3 Vdc
- Basic insulation (input to output)
- Industry standard half-brick pin-out
- No minimum load
- Overvoltage and overtemperature protection
- Remote ON/OFF
- Available RoHS compliant



The EXB100 series of 100 W single output isolated dc-dc converters are specially designed to meet the power needs of low voltage silicon. Housed in an open-frame package with standard footprint, these latest generation converters offer efficiencies as high as 91.5% (typical on 5 V at 20 A). The series comprises two 48 V input models with 5 V and 3.3 V outputs. The 3.3 V model features a wide input range, trimmable output voltage and 30 A output (the 5 V model is limited to 20 A). Remote sense and remote ON/OFF facilities are included as standard, and the converters are comprehensively protected against overcurrent, overvoltage and overtemperature conditions.



2 YEAR WARRANTY

All specifications are typical at nominal input, full load at 25 °C unless otherwise stated

### SPECIFICATIONS

#### OUTPUT SPECIFICATIONS

Voltage adjustability		60% to 110%
Output setpoint accuracy		1.5%
Line regulation	Low line to high line	±0.2% max.
Load regulation	Full load to min. load	±0.4% max.
Total error band		3.0%
Minimum load		0%
Overshoot	At turn-on and turn-off	None
Undershoot		None
Ripple and noise	(See Note 1)	100 mV pk-pk 5 Hz to 20 MHz 50 mV rms
Transient response	Deviation	150 mV (See Note 2) 300 µs recovery to within total error band

#### INPUT SPECIFICATIONS

Input voltage range		36-75 Vdc
Input current	No load Remote OFF	150 mA 20 mA
Input current (max.)	(See Note 3)	3.15 A max. @ Io max. and Vin = 36-75 Vdc
Input reflected ripple	(See Note 4)	60 mA (pk-pk)
Remote ON/OFF	(See Note 5)	
Logic compatibility	Open collector ref to -input	
ON	>2 Vdc	
OFF	<1.2 Vdc	
Undervoltage lockout	Power up Power down	36 V 30 V
Start-up time	Power up	40 ms
(See Note 6)	Remote ON/OFF	35 ms

Conducted emissions	EN55022 (See Note 7)	Level A
	EN55022 (See Note 7)	Level B
Radiated emissions	EN55022 (See Longform Datasheet)	Level A
Immunity:		
ESD air	EN61000-4-2 8 kV, 15 kV	
ESD contact	EN61000-4-2 6 kV, 8 kV	
Radiated field enclosure	EN61000-4-3 10 V/m	
Conducted (DC power)	EN61000-4-6 10 V	
Conducted (signal)	EN61000-4-6 10 V	(See Note 5)
Input transients	ETS 300 132-2, ETR 283	

Efficiency		See table
------------	--	-----------

Switching frequency	5 V	300 kHz typ.
(Fixed)	3.3 V	220 kHz typ.

Material flammability		UL94V-0
-----------------------	--	---------

MTBF	MIL-HDBK-217F	1,034,000 hours
Representative model:	100% load, ground benign BELLCORE 332	591,000 hours

Thermal performance	Operating ambient temperature	-40 °C to +90 °C
	Non-operating	-40 °C to +125 °C
Altitude derating	3,000 m	20%
(above sea level)	10,000 m	50%

# EXB100 Series

## Single output

OUTPUT POWER (MAX.)	INPUT VOLTAGE	OVP	OUTPUT VOLTAGE	OUTPUT CURRENT (MIN.)	OUTPUT CURRENT (MAX.)	EFFICIENCY (TYP.)	REGULATION		MODEL NUMBER <sup>(10)</sup>
							LINE	LOAD	
100 W	36-75 Vdc	6.0 Vdc	5 V	0 A	20 A	91.5%	±0.2%	±0.4%	EXB100-48S05J <sup>(9)</sup>
100 W	36-75 Vdc	3.9 Vdc	3.3 V	0 A	30 A	90.5%	±0.2%	±0.4%	EXB100-48S3V3-RJ

### Notes

- 1 Measured as per recommended set-up. See Application Note 129 for details.
- 2  $di/dt = 0.1 \text{ A}/\mu\text{s}$ ,  $V_{in} = 48 \text{ Vdc}$ ,  $T_c = 25^\circ\text{C}$ , load change = 0.5 I<sub>o</sub> max. to 0.75 I<sub>o</sub> max. and 0.75 I<sub>o</sub> max. to 0.5 I<sub>o</sub> max.
- 3 Recommended input fusing is a 5 A HRC 200 V rated fuse.
- 4 Measured with external filter. See Application Note 129 for details.
- 5 Signal line assumed <3 m in length.
- 6 Start-up into resistive load.
- 7 The EXB100 meets levels A and B conducted emissions with external components. See Application Note 129 for details.
- 8 This product is only for inclusion by professional installers within other equipment and must not be operated as a stand alone product.
- 9 Negative remote ON/OFF option also available. Add suffix '-R' to part number, for example EXB100-48S05-RJ.
- 10 The 'J' suffix indicates that these parts are Pb-free (RoHS 6/6) compliant. TSE RoHS 5/6 (non Pb-free) compliant versions may be available on special request, please contact your local sales representative for details.

### PROTECTION

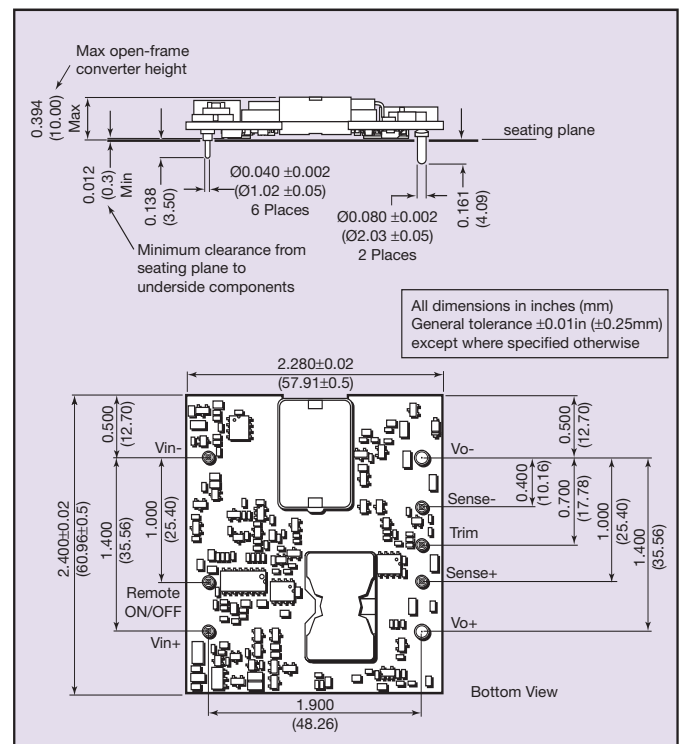
Short circuit	Continuous
Overvoltage	Non-latching clamp

### TELECOM SPECIFICATION

Central office interface A	ETS300-132-2 input voltage and current requirements
----------------------------	---

**CAUTION: Hazardous internal voltages and high temperatures. Ensure that unit is not user accessible.**

PIN CONNECTIONS	
PIN NUMBER	FUNCTION
1	-Vin
2	No Pin
3	Remote ON/OFF
4	+Vin
5	+Vout
6	+Sense
7	Trim
8	-Sense
9	-Vout



### International Safety Standard Approvals



UL/cUL CAN/CSA 22.2 No. 60950-00 : UL 60950  
File No. E174104  
TÜV Product Service. Certificate No. B 02 02 38572 031

Datasheet © Artesyn Technologies® 2006

The information and specifications contained in this datasheet are believed to be correct at time of publication. However, Artesyn Technologies accepts no responsibility for consequences arising from printing errors or inaccuracies. Specifications are subject to change without notice. No rights under any patent accompany the sale of any such product(s) or information contained herein.

Please consult our website for the following items: ✓ Application Note ✓ Longform Datasheet

[www.artesyn.com](http://www.artesyn.com)

# Mouser Electronics

Authorized Distributor

Click to View Pricing, Inventory, Delivery & Lifecycle Information:

Emerson Network Power:

[EXB100-48S05-RJ](#) [EXB100-48S3V3-RJ](#)