EXB100 Series

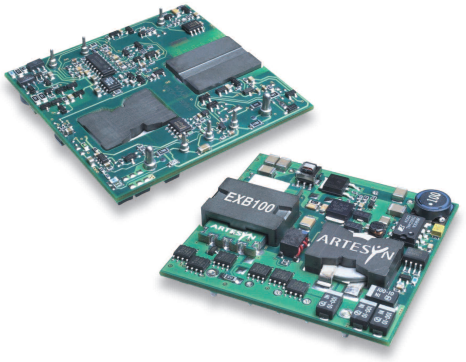
Single output

ARTESYN TECHNOLOGIES

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**

RoHS 2002/95/EC



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.

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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 5 Hz to 20 MHz	(See Note 1)	100 mV pk-pk 50 mV rms
Transient response (See Note 2)	Deviation	150 mV 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 Logic compatibility ON OFF		(See Note 5) Open collector ref to -input >2 Vdc <1.2 Vdc
Undervoltage lockout	Power up Power down	36 V 30 V
Start-up time (See Note 6)	Power up Remote ON/OFF	40 ms 35 ms

Conducted emissions	EN55022 (See Note 7) EN55022 (See Note 7)	Level A 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 (Fixed)	5 V 3.3 V	300 kHz typ. 220 kHz typ.
Material flammability		UL94V-0
MTBF Representative model:	MIL-HDBK-217F 100% load, ground benign BELLCORE 332	1,034,000 hours 591,000 hours
Thermal performance	Operating ambient temperature Non-operating	-40 °C to +90 °C -40 °C to +125 °C
Altitude derating (above sea level)	3,000 m 10,000 m	20% 50%

EXB100 Series

Single output

For the most current data and application support visit www.artesyn.com/powergroup/products.htm

NEW Product

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

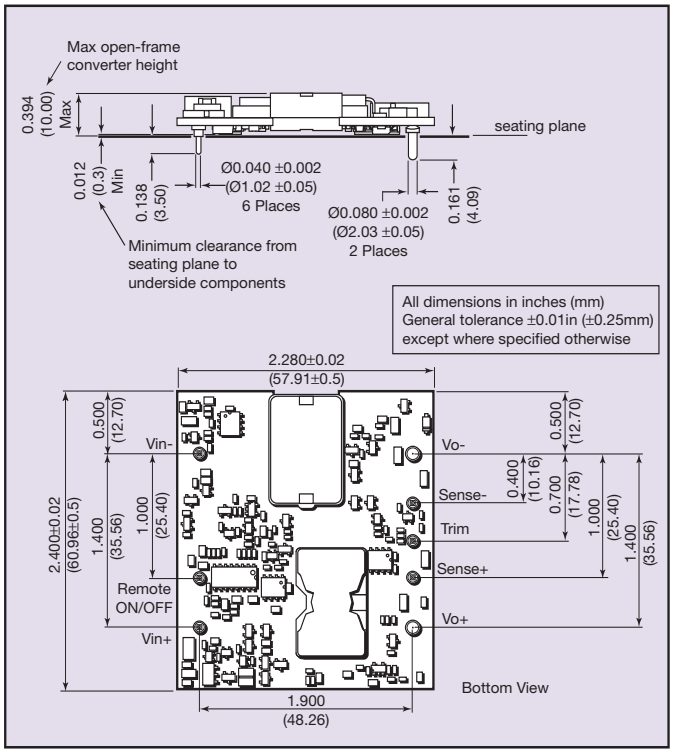
1. Measured as per recommended set-up. See Application Note 129 for details.
2. di/dt = 0.1 A/µs, Vin = 48 Vdc, Tc = 25 °C, load change = 0.5 Io max. to 0.75 Io max. and 0.75 Io max. to 0.5 Io max.
3. Recommended input fusing is a 5 A HRC 200 V rated fuse.
4. Measured with external filter. See Application 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

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