EXB100 Series

Single output

ARTESYN TECHNOLOGIES

DC/DC CONVERTERS | 54-100W DC/DC Isolated Converters | 1

NEW Product

- **Ultra wide trim range, 60% to 110% (1.08V to 5.5V)**
- **High efficiency, 91.5% @ 5V, 90.5% @ 3.3V, 87.5% @ 1.8V**
- **Basic insulation (input to output)**
- **Industry standard half-brick pin-out**
- **No minimum load**
- **Over-voltage and over-temperature protection**
- **Remote ON/OFF**

The EXB100 series of 100W 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 5V at 20A). The series comprises three 48V input models with 5V, 3.3V and 1.8V outputs. All models feature a wide input range, trimmable output voltage and 30A output (5V is limited to 20A). Remote sense and remote ON/OFF facilities are included as standard, and the converters are comprehensively protected against over-current, over-voltage and over-temperature 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 5Hz to 20MHz	(See Note 1)	100mV pk-pk 50mV rms
Transient response (See Note 2)	Deviation	150mV 300µs recovery to within total error band

INPUT SPECIFICATIONS

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

EMC CHARACTERISTICS

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

GENERAL SPECIFICATIONS

Efficiency		See table
Basic insulation	Input/output	1500VDC
Switching frequency (Fixed)	5V 3.3V, 1.8V	300kHz typ. 220kHz typ.
Approvals and standards (See Note 8)		TÜV Product Service UL/cUL60950
Material flammability		UL94V-0
Weight		45g (1.59oz)
MTBF Representative model:	MIL-HDBK-217F 1V8 @ 48Vin, 40ºC 100% load, ground benign BELLCORE 332	115,000 hours 591,000 hours

ENVIRONMENTAL SPECIFICATIONS

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

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ARTESYN TECHNOLOGIES

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 (9)
							LINE	LOAD	
100W	36-75VDC	6.0VDC	5.0V	0A	20A	91.5%	±0.2%	±0.4%	EXB100-48S05
100W	36-75VDC	3.9VDC	3.3V	0A	30A	90.5%	±0.2%	±0.4%	EXB100-48S3V3
54W	36-75VDC	2.2VDC	1.8V	0A	30A	87.5%	±0.2%	±0.4%	EXB100-48S1V8

Notes

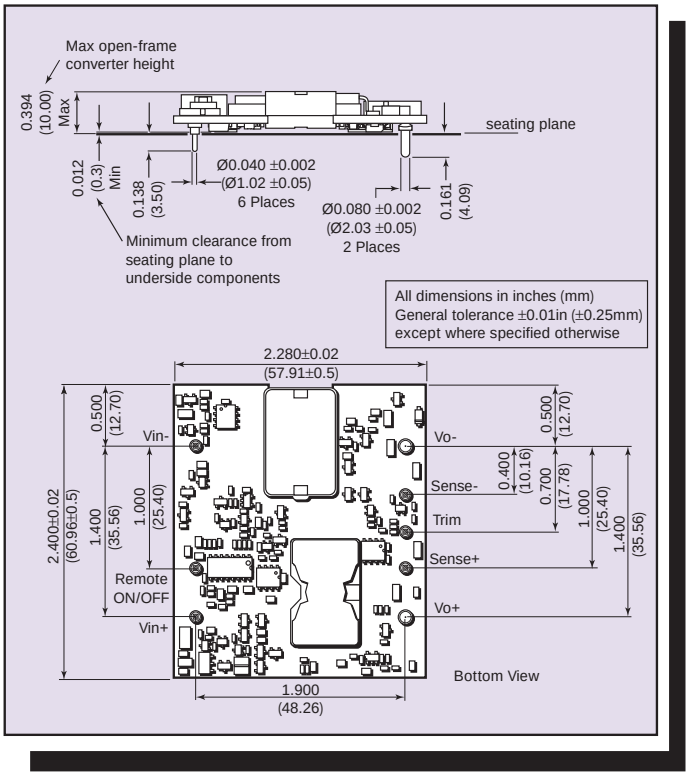
1. Measured as per recommended set-up. See Application Note 129 for details.
2. di/dt = 0.1A/µs, Vin = 48VDC, Tc = 25°C, load change = 0.5 Io max. to 0.75 Io max. and 0.75 Io max. to 0.5 Io max.
3. Recommended input fusing is a 5A HRC 200V rated fuse.
4. Measured with external filter. See Application Note 129 for details.
5. Signal line assumed <3m 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 EXB100-48S3V3-R.

PROTECTION	
Short circuit protection	Continuous
Overvoltage protection	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

c UL us — UL/cUL CAN/CSA 22.2 No. 60950-00 : UL 60950
File No. E174104

TÜV — TÜV Product Service. Certificate No. B 02 02 38572 031