

## Excellent Integrated System Limited

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[Artesyn Embedded Technologies](#)  
[BXB50-24S15FLTJ](#)

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 Embedded Power for  
Business-Critical Continuity

## BXB50 Series

### Single output

**Total Power:** 33 - 50W  
**Input Voltage:** 18 - 36VDC  
36 - 75VDC  
**# of Outputs:** Single



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bxb50s  
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### Special Features

- Industry standard footprint
- MTBF >1.4 million hours (Bellcore 332)
- Input voltage to ETS300-132-2
- Adjustable output voltage
- No minimum load required
- Separate case ground pin
- 2:1 input range for battery powered applications
- Undervoltage lockout (UVLO)
- UL, VDE and CSA safety approvals
- Available RoHS compliant
- 2 year warranty

The BXB50 Series are high power density dc-dc converters packaged in the industry standard footprint (2.40 x 2.28 x 0.50 inches) to give designers optimum choices when specifying for both new and replacement designs. Suitable for a wide range of applications in nearly any industry, the BXB50 was particularly designed with communication and distributed power applications in mind. Using Bellcore 332, the MTBF is greater than 1,400,000 hours. Aluminum baseplate technology with four threaded M3 inserts makes heatsink attachment and optimum thermal management easy. The BXB50 series are approved to IEC950 by UL, CSA and VDE.

### Safety

VDE0805/EN60950/IEC950  
File No. 10401-3336-0205  
Licence No. 40012035

UL60950 File No. E136005

CSA C22.2 No. 950  
File No. LR41062C

 ARTESYN® **EMERSON**  
Network Power

## Specifications

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

OUTPUT SPECIFICATIONS			INPUT SPECIFICATIONS CONTINUED		
Voltage adjustability		60% to 110%	Undervoltage lockout	24 Vin: power up 24 Vin: power down 48 Vin: power up 48 Vin: power down	17 V 16 V 34 V 32.5 V
Set point accuracy		±1.0%	Start-up time (See Note 8)	Power up Remote ON/OFF	20 ms 20 ms
Line regulation	Low line to high line	±0.05%			
Load regulation	Full load to min. load	±0.10%			
Minimum load		0%			
Overshoot	At turn-on and turn-off	None			
Undershoot		None			
Ripple and noise (5 Hz to 20 MHz) (See Note 1)	3.3 V and 5 V 12 V and 15 V	75 mV pk-pk, 20 mV rms 100 mV pk-pk, 30 mV rms	Conducted emissions (See Note 3)	Bellcore 1089 FCC part 15 EN55022, CISPR22	Level A Level A Level A
Temperature coefficient		±0.01%/°C			
Transient response (See Note 2)		±2.0% max. deviation 170 µs recovery to within ±1.0%			
Remote sense		0.5 Vdc transmission line drop compensation			
INPUT SPECIFICATIONS			EMC CHARACTERISTICS		
Input voltage range	24Vin nominal 48Vin nominal	18-36 Vdc 36-75 Vdc			
Input current	No load Remote OFF	100 mA max. 20 mA max.			
Input current (max.) (See Note 4)	48 V models	3.5 A max. @ Io max. and Vin = 0 to 75 V			
Input reflected ripple (See Note 6)		5 mA pk-pk			
Active low remote ON/OFF (See Note 7)					
Logic compatibility ON OFF		Open collector ref to -input 1.2 Vdc max. Open circuit			
GENERAL SPECIFICATIONS			GENERAL SPECIFICATIONS		
Efficiency			Efficiency		See table
Isolation voltage			Isolation voltage	Input/case Input/output Output/case	1500 Vdc 1500 Vdc 1500 Vdc
Switching frequency			Switching frequency	Fixed	500 kHz typ.
Approvals and standards (See Note 5)			Approvals and standards (See Note 5)	VDE0805, EN60950, IEC950 UL1950, CSA C22.2 No. 950	
Case material			Case material	Aluminum baseplate with plastic case	
Material flammability			Material flammability	UL94V-0	
Weight			Weight	110 g (3.88 oz)	
MTBF			MTBF	Bellcore 332 MIL-HDBK-217F @ 40 °C, 100% load	1,400,000 hours 580,000 hours min.
ENVIRONMENTAL SPECIFICATIONS			ENVIRONMENTAL SPECIFICATIONS		
Thermal performance			Thermal performance	Operating case temp. Non-operating	-40 °C to +100 °C -55 °C to +125 °C
Altitude			Altitude	Operating Non-operating	10,000 feet max. 40,000 feet max.
Vibration			Vibration	5-500 Hz 2.4 G rms (approx.)	

## Specifications Contd.

OUTPUT POWER (MAX.)	INPUT VOLTAGE	OVP	OUTPUT VOLTAGE	OUTPUT CURRENT (MIN.)	OUTPUT CURRENT (MAX.)	EFFICIENCY (TYP.)	REGULATION		MODEL NUMBER (7,9,10)
							LINE	LOAD	
33 W	18-36 Vdc	4.3 Vdc	3.3 V	0 A	10 A	76%	±0.05%	±0.10%	BXB50-24S3V3FLTJ
50 W	18-36 Vdc	14.5 Vdc	12 V	0 A	4.16 A	83%	±0.05%	±0.10%	BXB50-24S12FLTJ
50 W	18-36 Vdc	17.5 Vdc	15 V	0 A	3.33 A	83%	±0.05%	±0.10%	BXB50-24S15FLTJ
33 W	36-75 Vdc	4.3 Vdc	3.3 V	0 A	10 A	77%	±0.05%	±0.10%	BXB50-48S3V3FLTJ
50 W	36-75 Vdc	6.5 Vdc	5 V	0 A	10 A	82%	±0.05%	±0.10%	BXB50-48S05FLTJ
50 W	36-75 Vdc	14.5 Vdc	12 V	0 A	4.16 A	84%	±0.05%	±0.10%	BXB50-48S12FLTJ

### Notes

- 1 Measured with 10  $\mu$ F tantalum capacitor and 1  $\mu$ F ceramic capacitor across output.
- 2  $dI/dt = 0.1 A/1 \mu s$ ,  $V_{in} = 48$  Vdc,  $T_c = 25$  °C, load change = 0.5 lo max. to 0.75 lo max. and 0.75 lo max. to 0.5 lo max.
- 3 Units should be characterised within systems. External components required.
- 4 Input fusing is recommended based on surge current and maximum input current.
- 5 This product is only for inclusion by professional installers within other equipment and must not be operated as a stand alone product.
- 6 Simulated source impedance of 12  $\mu$ H. 12  $\mu$ H inductor in series with +Vin.
- 7 Active high remote on/off option is available (standard product is active low), designate with the suffix 'FHT' e.g. **BXB50-48S05FHTJ**. Consult factory for further details and options.
- 8 Start-up into resistive load.
- 9 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.
- 10 NOTICE: Some models do not support all options. Please contact your local Artesyn representative or use the on-line model number search tool at <http://www.artesyn.com/powergroup/products.htm> to find a suitable alternative

### PROTECTION

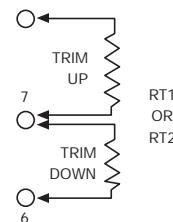
Short circuit	Continuous, automatic recovery
Oversupply	Non-latching
Undervoltage	Non-latching
Thermal	110 °C baseplate, automatic recovery

### TELECOM SPECIFICATION

Central office interface A	ETS300-132-2
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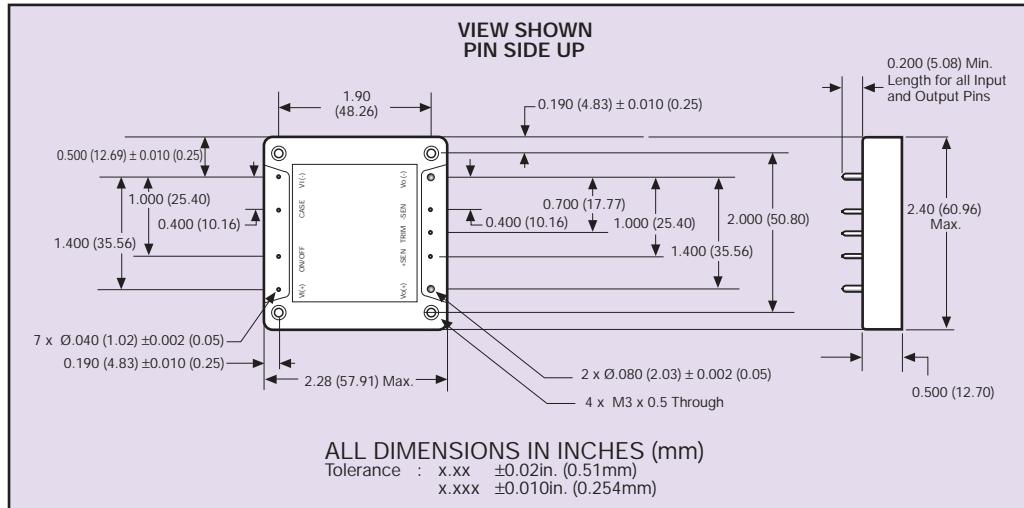
### EXTERNAL OUTPUT TRIMMING

Output can be externally trimmed by using the method shown.



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PIN CONNECTIONS	
PIN NUMBER	FUNCTION
1	+ Vin
2	Remote ON/OFF
3	Case
4	- Vin
5	- Vout
6	- Sense
7	Trim
8	+ Sense
9	+ Vout

**Americas**  
 5810 Van Allen Way  
 Carlsbad, CA 92008  
 USA  
 Telephone: +1 760 930 4600  
 Facsimile: +1 760 930 0698

**Europe (UK)**  
 Waterfront Business Park  
 Merry Hill, Dudley  
 West Midlands, DY5 1LX  
 United Kingdom  
 Telephone: +44 (0) 1384 842 211  
 Facsimile: +44 (0) 1384 843 355

**Asia (HK)**  
 16th - 17th Floors, Lu Plaza  
 2 Wing Yip Street, Kwun Tong  
 Kowloon, Hong Kong  
 Telephone: +852 2176 3333  
 Facsimile: +852 2176 3888

For global contact, visit:  
[www.powerconversion.com](http://www.powerconversion.com)  
[technicalsupport@powerconversion.com](mailto:technicalsupport@powerconversion.com)

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- Site Monitoring and Services

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