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# **BXA30 Series**Single and dual output

Total Power: 30W Input Voltage: 9 - 18VDC

36 - 75VDC

# of Outputs: Single, dual



# **Special Features**

- Designed to meet telecom power supply interface standard ETS300-132-2
- UL, VDE and CSA safety approvals
- VDE0878 and EN55022 conducted emissions level A
- EN61000-4-2, -3, -4, -5, -6 immunity compliant
- Fixed frequency operation at 350 kHz
- MTBF in excess of 7,005,000 hours (demonstrated)
- Basic insulation system
- Available RoHS compliant
- 2 year warranty

The BXA30 series, comprising 9 different models, has been conceived as an applications-specific range of dc-dc converters, specifically addressing telecommunications, industrial electronics, test equipment, mobile telecommunications and distributed power applications. The series offers three wide input voltage ranges, 9 Vdc to 18 Vdc and 36 Vdc to 75 Vdc, and is available in single and dual output versions. Designed to meet ETSI telecoms interface standards ETS300-132-2 and BTR2511, together with internal filtering to EN55022 level A, safety approval to EN60950 and UL1950, and isolation of 1500 Vdc, the 48 Vdc models are ideal for telecommunications applications. The 12 V models are particularly suited to industrial, mobile telecom and test equipment applications, featuring EN61000-4-2, -3, -4, -5 and -6 immunity compliant. Other features include low output ripple, overvoltage protection, continuous short circuit protection, remote enable and remote sense.

# Safety

VDE0805/EN60950/IEC950 File No. 14501-3336-7006 Licence No. 6231

UL1950 File No. E174104 CSA C22.2 No. 950 File No. LR41062C





# **Specifications**

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

OUTPUT SPECIFICATIONS		
Voltage adjustability	Singles	±10%
Line regulation	LL to HL (single/dual)	±0.2%/±0.4%
Load regulation	FL to NL (single/dual)	±0.2%/±0.4%
Ripple and noise (20 MHz bandwidth)	3.3 V 5.0 V All others All models	60 mV pk-pk 50 mV pk-pk 100 mV pk-pk 20 mV rms
Temperature coefficient		±0.02%/°C
Overvoltage protection	Transient	135% Vout
Short circuit protection	Singles Duals (single short)	Continuous (See BXA15/30 Design Note 100)
	Duals (dual short)	Continuous
Transient response	25% to 100% load	4.0%
Voltage accuracy		±1.5%
Load cross regulation	Dual output 30% to 100% output va	3.0% priation
INPUT SPECIFICATIONS		
Input voltage range	12 Vin nominal 48 Vin nominal	9-18 Vdc 36-75 Vdc
Reverse voltage protection (See Note 7)		Yes
Max. input rise and fall time	48 V	5 V/ms ETS300-132
Remote ON/OFF Logic compatibility ON OFF		CMOS/TTL Open circuit <1 Vdc

EMC CHARACTERISTICS		
Conducted emissions  Radiated emissions ESD air ESD contact Surge Fast transients Radiated immunity Conducted immunity	EN55022, FCC part 15 (N EN55022, FCC part 15 (N VDE0878 (Note 4) (48 V) EN55022, FCC part 15 EN61000-4-2, level 3 EN61000-4-2, level 4 EN61000-4-5, level 3 EN61000-4-4, level 3 EN61000-4-6, level 3	ote 5) Level B
GENERAL SPECIFICATION	NS	
Efficiency		See table
Isolation voltage Basic insulation	Input/output input/case, 48 V models	1500 Vda 1500 Vda
Switching frequency	Fixed	350 kHz
Approvals and standards (See Note 12)		DE0805, EN60950 IEC950, UL1950 SA C22.2 No. 950
Case material	Alu	minum substrate with plastic case
Material flammability		UL94V-0
Weight		120 g (4.24 oz)
MTBF (See Note 9)	Demonstrated @ 25 °C	7,005,000 hours
ENVIRONMENTAL SPECI	FICATIONS	
Thermal performance	temperature, (See Notes 6, 8)	-25 °C to +100 °C -55 °C to +100 °C
Thermal impedance	Free air convection, baseplate to air With heatsink (See Note)	6.5 °C/W 8) 5.2 °C/W
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## **Ordering Information**

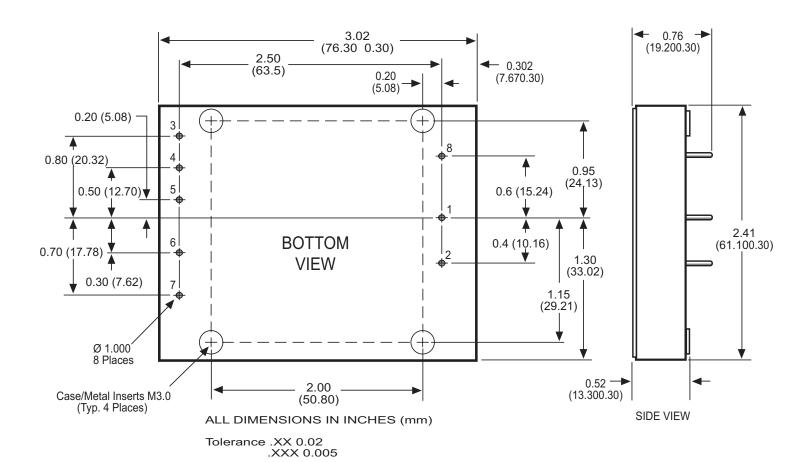
INPUT	OUTPUT	OUTPUT	INPUT	TYPICAL	REGULATION		MODEL
VOLTAGE	VOLTAGE	CURRENT (MAX.)	CURRENT (1)	EFFICIENCY	LINE (2)	LOAD (3)	NUMBER (4,6,14,15)
9-18 Vdc	5.0 V	5.0 A	100 mA	80%	±0.2%	±0.2%	BXA30-12S05J
36-75 Vdc	3.3 V	6.0 A	30 mA	75%	±0.2%	±0.2%	BXA30-48S3V3J
36-75 Vdc	3.3 V	8.0 A	30 mA	81%	±0.2%	±0.2%	BXA30-48S3V3/8J (11)
36-75 Vdc	5.0 V	5.0 A	30 mA	80%	±0.4%	±1.0%	BXA30-48S05J
36-75 Vdc	12.0 V	2.5 A	30 mA	85%	±0.2%	±0.2%	BXA30-48S12J
36-75 Vdc	15.0 V	2.0 A	30 mA	87%	±0.2%	±0.2%	BXA30-48S15J
36-75 Vdc	±5.0 V	±2.5 A	30 mA	80%	±0.4%	±0.4%	BXA30-48D05J
36-75 Vdc	±12.0 V	±1.25 A	30 mA	84%	±0.4%	±0.4%	BXA30-48D12J
36-75 Vdc	±15.0 V	±1.0 A	30 mA	86%	±0.4%	±0.4%	BXA30-48D15J

#### **Notes**

- Nominal, at no load.
- Low line to high line.
- 3 Full load to no-load. For duals, the value stated is for balanced loads.
- 4 An optional internal filter is available, which will meet VDE0871 level A, VDE0878 level A and EN55022 level A. Add the suffix '-F' to the model number, e.g. **BXA30-48512-FJ**. See BXA15 and BXA30 Design Note 100.
- 5 For conducted noise operation of the BXA30 to VDE0871, VDE0878 and EN55022 level B, see BXA15 and BXA30 Design Note 100.
- 6 For extended operating temperature, include the heatsink option, '-1' in the model number. Max. heatsink height is 12.5 mm, e.g. BXA30-48S15-1J
- 7 Reverse voltage protection can be implemented by putting a slow blow fuse on the negative input rail. Rate the fuse for 48 Vdc at 1.5 A and 12 Vdc at 6 A.
- 8 The maximum operating ambient temperature, without derating depends on internal power dissipation and hence efficiency and cooling method. BXA15 and BXA30 Design Note 100 provides detailed thermal calculations and designin details
- 9 Test results to-date are 1,590,000 hours @ 46 °C. The MTBF figure shown includes a calculated acceleration factor of 4.1 based on an activation energy of -0.55 eV.
- **10** Visit the Artesyn website to download a copy of Design Note 100.
- 11 This model has the same electrical pin-out and pin pitch spacings as the drawing on the following page. Dimensions are  $76.2 \times 76.2 \times 14.2$  mm,  $\pm 0.3$  mm.
- 12 This product is only for inclusion by professional installers within other equipment and must not be operated as a stand alone product.
- 13 If remote sense is not used, connect +sense to +vout and -sense to -vout.
- 14 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.
- 15 NOTICE: Some models do not support all options. Please contact your local Artesyn representative or go to www.powerconversion.com to find a suitable alternative

# **Specifications Contd.**

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PIN CONNECTIONS				
PIN NUMBER	SINGLE OUTPUT	DUAL OUTPUT		
1	+ Vin	+ Vin		
2	– Vin	– Vin		
3	+ Sense <sup>(13)</sup>	+ Vout		
4	Trim	Common		
5	– Sense	– Vout		
6	+ Vout	No Pin		
7	– Vout	No Pin		
8	Remote ON/OFF	Remote ON/OFF		

EXTERNAL OUTPUT TRIMMING			
Single output models can be externally trimmed by ±10% using either method shown.	TRIM UP 4 DOWN 3	5 4 0 3	10K TRIMPOT

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