

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

Safety

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

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



Rev.12.17.07
bxa30
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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.



Specifications

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 | 60 mV pk-pk |
| | 5.0 V | 50 mV pk-pk |
| | All others | 100 mV pk-pk |
| | All models | 20 mV rms |
| Temperature coefficient | | ±0.02%/°C |
| Overvoltage protection | Transient | 135% Vout |
| Short circuit protection | Singles | Continuous |
| | Duals (single short) | (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 variation | 3.0% |

INPUT SPECIFICATIONS

| | | |
|---|----------------|------------------------------------|
| Input voltage range | 12 Vin nominal | 9-18 Vdc |
| | 48 Vin nominal | 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 | | CMOS/TTL Open circuit <1 Vdc |

EMC CHARACTERISTICS

| | | |
|---------------------|-------------------------------|------------------|
| Conducted emissions | EN55022, FCC part 15 (Note 4) | Level A |
| | EN55022, FCC part 15 (Note 5) | Level B |
| | VDE0878 (Note 4) (48 V) | Level A |
| Radiated emissions | EN55022, FCC part 15 | Level A |
| ESD air | EN61000-4-2, level 3 | Perf. criteria 2 |
| ESD contact | EN61000-4-2, level 4 | Perf. criteria 2 |
| Surge | EN61000-4-5, level 3 | Perf. criteria 2 |
| Fast transients | EN61000-4-4, level 3 | Perf. criteria 2 |
| Radiated immunity | EN61000-4-3, level 3 | Perf. criteria 2 |
| Conducted immunity | EN61000-4-6, level 3 | Perf. criteria 2 |

GENERAL SPECIFICATIONS

| | | |
|---------------------------------------|---|---|
| Efficiency | | See table |
| Isolation voltage | Input/output | 1500 Vdc |
| Basic insulation | input/case, 48 V models | 1500 Vdc |
| Switching frequency | Fixed | 350 kHz |
| Approvals and standards (See Note 12) | | VDE0805, EN60950 IEC950, UL1950 CSA C22.2 No. 950 |
| Case material | | Aluminum 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 SPECIFICATIONS | | |
| Thermal performance | Baseplate operating temperature, (See Notes 6, 8) | -25 °C to +100 °C |
| | Non-operating | -55 °C to +100 °C |
| Thermal impedance | Free air convection, baseplate to air | 6.5 °C/W |
| | With heatsink (See Note 8) | 5.2 °C/W |

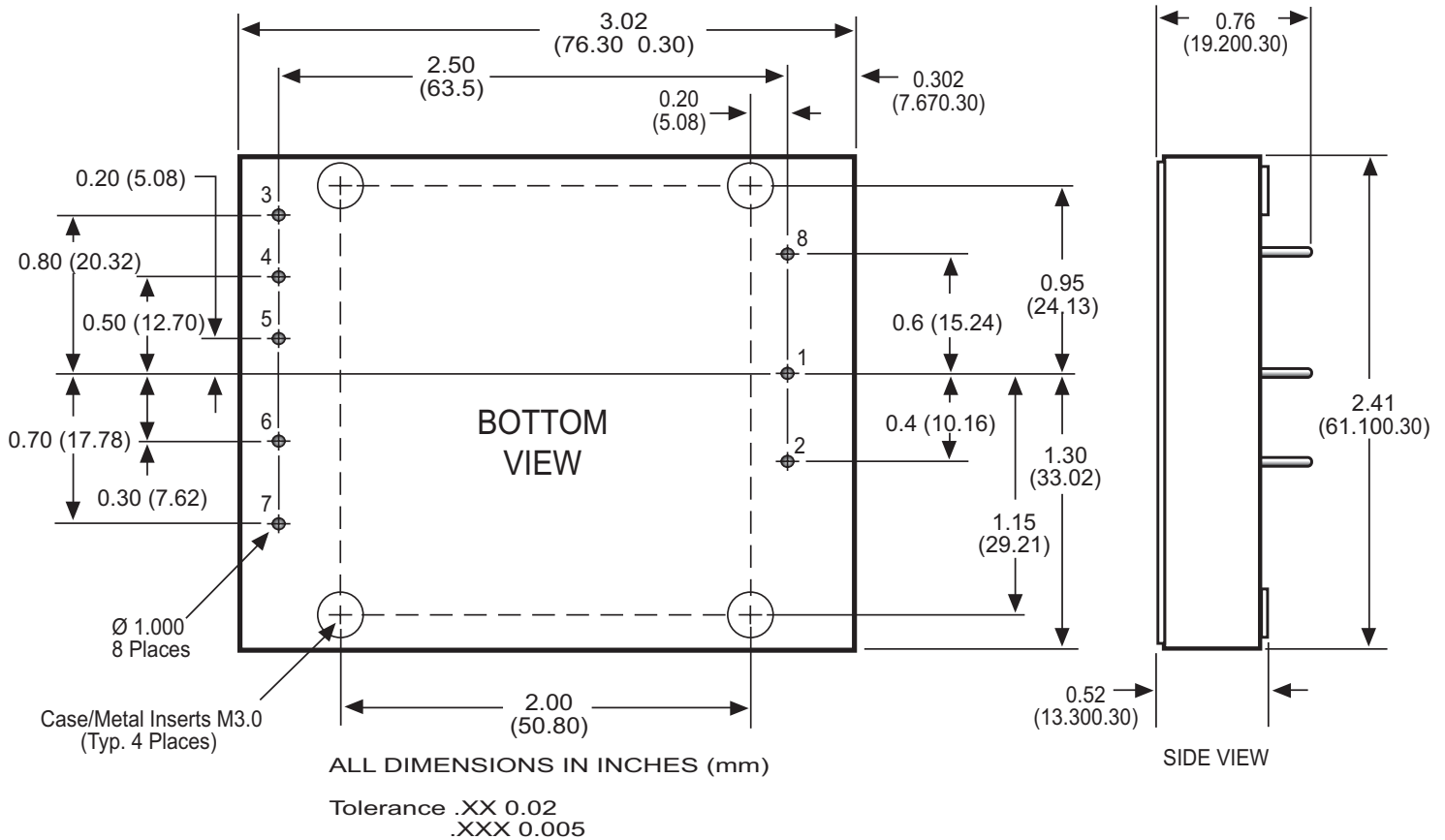
Ordering Information

| INPUT VOLTAGE | OUTPUT VOLTAGE | OUTPUT CURRENT (MAX.) | INPUT CURRENT ⁽¹⁾ | TYPICAL EFFICIENCY | REGULATION | | MODEL NUMBER ^(4,6,14,15) |
|---------------|----------------|-----------------------|------------------------------|--------------------|---------------------|---------------------|-------------------------------------|
| | | | | | LINE ⁽²⁾ | LOAD ⁽³⁾ | |
| 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

- 1 Nominal, at no load.
- 2 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. **BXA30-48S12-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 design-in 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 x 76.2 x 14.2 mm, ±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

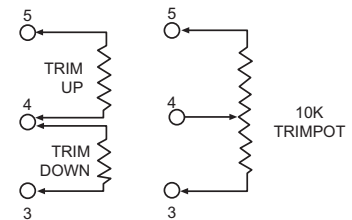
Specifications Contd.



| PIN CONNECTIONS | | |
|-----------------|-------------------------|---------------|
| PIN NUMBER | SINGLE OUTPUT | DUAL OUTPUT |
| 1 | + Vin | + Vin |
| 2 | - Vin | - Vin |
| 3 | + Sense ⁽¹³⁾ | + 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 $\pm 10\%$ using either method shown.



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