

# BXB150 Series

## Single output

- 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



2 YEAR WARRANTY

The BXB150 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 BXB150 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 BXB150 series is approved to IEC950 by UL, CSA and VDE.

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

### SPECIFICATIONS

#### OUTPUT SPECIFICATIONS

|  |                            |   |
|--|----------------------------|---|
| Voltage adjustability                              |                            | 60% to 110%   |
| Set point accuracy                                 |                            | ±1.0%   |
| 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<br>(5Hz to 20MHz)<br>(See Note 1) | 3.3V and 5V<br>12V and 15V | 75mV pk-pk,<br>20mV rms<br>100mV pk-pk,<br>30mV rms       |
| Temperature coefficient                            |                            | ±0.01%/°C   |
| Transient response<br>(See Note 2)                 |                            | ±2.0% max. deviation<br>170µs recovery<br>to within ±1.0% |
| Remote sense                                       |                            | 0.5VDC transmission<br>line drop compensation             |

#### INPUT SPECIFICATIONS

|  |                                |  |
|--|--------------------------------|--|
| Input voltage range  | 24Vin nominal<br>48Vin nominal | 18 to 36VDC<br>36 to 75VDC   |
| Input current  | No load<br>Remote OFF          | 130mA max.<br>20mA max.  |
| Input current (max.)<br>(See Note 4)                         | 24Vin<br>48Vin                 | 9.0A max. @ Io max.<br>and Vin = 0 to 75V<br>6.5A max. @ Io max.<br>and Vin = 0 to 75V |
| Input reflected ripple<br>(See Note 6)                       |                                | 5mA pk-pk  |
| Active low remote ON/OFF<br>Logic compatibility<br>ON<br>OFF |                                | (See Note 7)<br>Open collector ref to -input<br>1.2VDC max.<br>Open circuit            |

#### INPUT SPECIFICATIONS (continued)

|                               |  |                              |
|-------------------------------|--|------------------------------|
| Undervoltage lockout          | 24Vin: power up<br>24Vin: power down<br>48Vin: power up<br>48Vin: power down | 17V<br>16.3V<br>34V<br>32.5V |
| Start-up time<br>(See Note 8) | Power up<br>Remote ON/OFF  | 20ms<br>20ms                 |

#### EMC CHARACTERISTICS

|                                     |  |                               |
|-------------------------------------|--|-------------------------------|
| Conducted emissions<br>(See Note 3) | Bellcore 1089<br>FCC part 15<br>EN55022, CISPR22 | Level A<br>Level A<br>Level A |
|-------------------------------------|--|-------------------------------|

#### GENERAL SPECIFICATIONS

|   |  |   |
|---|--|---|
| Efficiency                              |  | See table   |
| Isolation voltage                       | Input/case<br>Input/output<br>Output/case        | 1500VDC<br>1500VDC<br>1500VDC                         |
| Switching frequency                     | Fixed  | 500kHz typ.   |
| Approvals and standards<br>(See Note 5) |  | VDE0805, EN60950, IEC950<br>UL1950, CSA C22.2 No. 950 |
| Case material                           |  | Aluminum baseplate<br>with plastic case               |
| Material flammability                   |  | UL94V-0   |
| Weight                                  |  | 110g (3.88oz)   |
| MTBF                                    | Bellcore 332<br>MIL-HDBK-217F<br>@ 40°C, 100% FL | 1,400,000 hours<br>580,000 hours min.                 |

#### ENVIRONMENTAL SPECIFICATIONS

|                     |                                       |                                      |
|---------------------|---------------------------------------|--------------------------------------|
| Thermal performance | Operating case temp.<br>Non-operating | -40°C to +100°C<br>-55°C to +125°C   |
| Altitude            | Operating<br>Non-operating            | 10,000 feet max.<br>40,000 feet max. |
| Vibration           | 5Hz to 500Hz                          | 2.4G rms (approx.)                   |

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For the most current data and application support visit [www.artesyn.com/powergroup/products.htm](http://www.artesyn.com/powergroup/products.htm)

| OUTPUT POWER (MAX.) | INPUT VOLTAGE | OVP     | OUTPUT VOLTAGE | OUTPUT CURRENT (MIN.) | OUTPUT CURRENT (MAX.) | EFFICIENCY (TYP.) | REGULATION |       | MODEL NUMBER (7) |
|---------------------|---------------|---------|----------------|-----------------------|-----------------------|-------------------|------------|-------|------------------|
|                     |               |         |                |                       |                       |                   | LINE       | LOAD  |                  |
| 100W                | 18-36VDC      | 4.3VDC  | 3.3V           | 0A                    | 30A                   | 77%               | ±0.05%     | ±0.1% | BXB150-24S3V3FLT |
| 100W                | 36-75VDC      | 4.3VDC  | 3.3V           | 0A                    | 30A                   | 79%               | ±0.05%     | ±0.1% | BXB150-48S3V3FLT |
| 150W                | 36-75VDC      | 6.5VDC  | 5V             | 0A                    | 30A                   | 84%               | ±0.05%     | ±0.1% | BXB150-48S05FLT  |
| 150W                | 36-75VDC      | 14.5VDC | 12V            | 0A                    | 12.5A                 | 84%               | ±0.05%     | ±0.1% | BXB150-48S12FLT  |
| 150W                | 36-75VDC      | 17.5VDC | 15V            | 0A                    | 10A                   | 88%               | ±0.05%     | ±0.1% | BXB150-48S15FLT  |

### Notes

- Measured with 10µF tantalum capacitor and 1µF ceramic capacitor across output.
- di/dt = 0.1A/1µs, Vin = 48VDC, Tc = 25°C, load change = 0.5 lo max. to 0.75 lo max. and 0.75 lo max. to 0.5 lo max.
- Units should be characterised within systems. External components required.
- Input fusing is recommended based on surge current and maximum input current.
- This product is only for inclusion by professional installers within other equipment and must not be operated as a stand alone product.
- Simulated source impedance of 12µH. 12µH inductor in series with +Vin.
- Active high remote on/off option is available (standard product is active low), designate with the suffix 'FHT' e.g. **BXB150-48S05FHT**. Consult factory for further details and options.
- Start-up into resistive load.

### PROTECTION

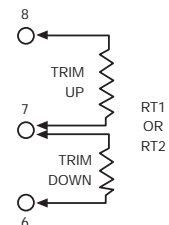
|                          |                                     |
|--------------------------|-------------------------------------|
| Short circuit protection | Continuous, automatic recovery      |
| Oversvoltage protection  | Non-latching                        |
| Undervoltage protection  | Non-latching                        |
| Thermal protection       | 110°C baseplate, automatic recovery |

### TELECOM SPECIFICATION

|                            |              |
|----------------------------|--------------|
| Central office interface A | ETS300-132-2 |
|----------------------------|--------------|

### EXTERNAL OUTPUT TRIMMING

Output can be externally trimmed by using the method shown.



### International Safety Standard Approvals

- VDE0805/EN60950/IEC950 File No. 10401-3336-1095
- UL1950 File No. E136005
- CSA C22.2 No. 950 File No. LR41062C

### 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        |

