

## BXB150 Series Single output

**Total Power:** 150 W  
**Input Voltage:** 18 - 36 Vdc  
36 - 75 Vdc  
**# of Outputs:** Single



Rev.05.13.08  
bxb150  
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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

## Safety

VDE0805/EN60950/IEC950

UL1950

CSA C22.2 No. 950

## Electrical Specifications

### Output

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

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| Input                                |                    |                                             |
|--------------------------------------|--------------------|---------------------------------------------|
| Input voltage range                  | 24 Vin nominal     | 18 - 36 Vdc                                 |
|                                      | 48 Vin nominal     | 36 - 75 Vdc                                 |
| Input current                        | No load            | 130 mA max.                                 |
|                                      | Remote OFF         | 20 mA max.                                  |
| Input current (max.)<br>(See note 4) | 24 Vin             | 9.0 A max. @ Io max.<br>and Vin = 0 to 75 V |
|                                      | 48 Vin             | 6.5 A max. @ Io max.<br>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                  |                    | Open collector ref to -input                |
| ON                                   |                    | 1.2 Vdc max.                                |
| OFF                                  |                    | Open circuit                                |
| Undervoltage lockout:                | 24 Vin: power-up   | 17 V                                        |
|                                      | 24 Vin: power-down | 16.3 V                                      |
|                                      | 48 Vin: power-up   | 34 V                                        |
|                                      | 48 Vin: power-down | 32.5 V                                      |
| Startup time (see note 8)            | Power-up           | 20 ms                                       |
|                                      | Remote ON/OFF      | 20 ms                                       |

| EMC Charateristics               |                  |         |
|----------------------------------|------------------|---------|
| Conducted emissions (see note 3) | Bellcore 1089    | Level A |
|                                  | FCC part 15      | Level A |
|                                  | EN55022, CISPR22 | Level A |

| General Specifications               |                                      |                                                       |
|--------------------------------------|--------------------------------------|-------------------------------------------------------|
| Efficiency                           |                                      | See table                                             |
| Isolation voltage                    | Input/case                           | 1500 Vdc                                              |
|                                      | Input/output                         | 1500 Vdc                                              |
|                                      | Output/case                          | 1500 Vdc                                              |
| Switching frequency                  | Fixed                                | 500 kHz typ.                                          |
| Approvals and standards (see note 5) |                                      | VDE0805, EN60950, IEC950<br>UL1950, CSa c22.2 No. 950 |
| Case material                        | Aluminum baseplate with plastic case |                                                       |
| Weight                               |                                      | 110 g (3.88 oz)                                       |
| MTBF                                 | Bellcore 332                         | 1,400,000 hours                                       |
|                                      | MIL-HDBK-217F                        | 580,000 hours min.                                    |
|                                      | @ 40 °C, 100% FL                     |                                                       |

## Environmental Specifications

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

| Protection    |                                       |  |
|---------------|---------------------------------------|--|
| Short-circuit | Continuous, automatic recovery        |  |
| Overvoltage   | Non-latching                          |  |
| Undervoltage  | Non-latching                          |  |
| Thermal       | 110 °C baseplate, automataic recovery |  |

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

## Ordering Information

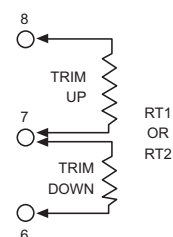
| Output Power (Max.) | Input Voltage | OVP      | Output Voltage | Output Current (Min.) | Output Current (Max.) | Efficiency (Typ.) | Regulation |       | Model Number      |
|---------------------|---------------|----------|----------------|-----------------------|-----------------------|-------------------|------------|-------|-------------------|
|                     |               |          |                |                       |                       |                   | Line       | Load  |                   |
| 100 W               | 18 - 36 Vdc   | 4.3 Vdc  | 3.3 V          | 0 A                   | 30 A                  | 77%               | ±0.05%     | ±0.1% | BXB150-24S3V3FLTJ |
| 100 W               | 36 - 75 Vdc   | 4.3 Vdc  | 3.3 V          | 0 A                   | 30 A                  | 79%               | ±0.05%     | ±0.1% | BXB150-48S3V3FLTJ |
| 150 W               | 36 - 75 Vdc   | 6.5 Vdc  | 5 V            | 0 A                   | 30 A                  | 84%               | ±0.05%     | ±0.1% | BXB150-48S05FLTJ  |
| 150 W               | 36 - 75 Vdc   | 14.5 Vdc | 12 V           | 0 A                   | 12.5 A                | 84%               | ±0.05%     | ±0.1% | BXB150-48S12FLTJ  |
| 150 W               | 36 - 75 Vdc   | 17.5 Vdc | 15 V           | 0 A                   | 10 A                  | 88%               | ±0.05%     | ±0.1% | BXB150-48S15FLTJ  |

## Notes

- 1 Measured with 10  $\mu$ F tantalum capacitor and 1  $\mu$ F ceramic capacitor across output.
- 2  $di/dt = 0.1$  A/ $\mu$ s,  $V_{in} = 48$  Vdc,  $T_c = 25$  °C, load change = 0.5  $I_o$  max. to 0.75  $I_o$  max. and 0.75  $I_o$  max. to 0.5  $I_o$  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. **BXB150-48S05FHTJ**. 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 sales representative or use the on-line model number search tool at <http://www.powerconversion.com> to find a suitable alternative.

## External Output Trimming

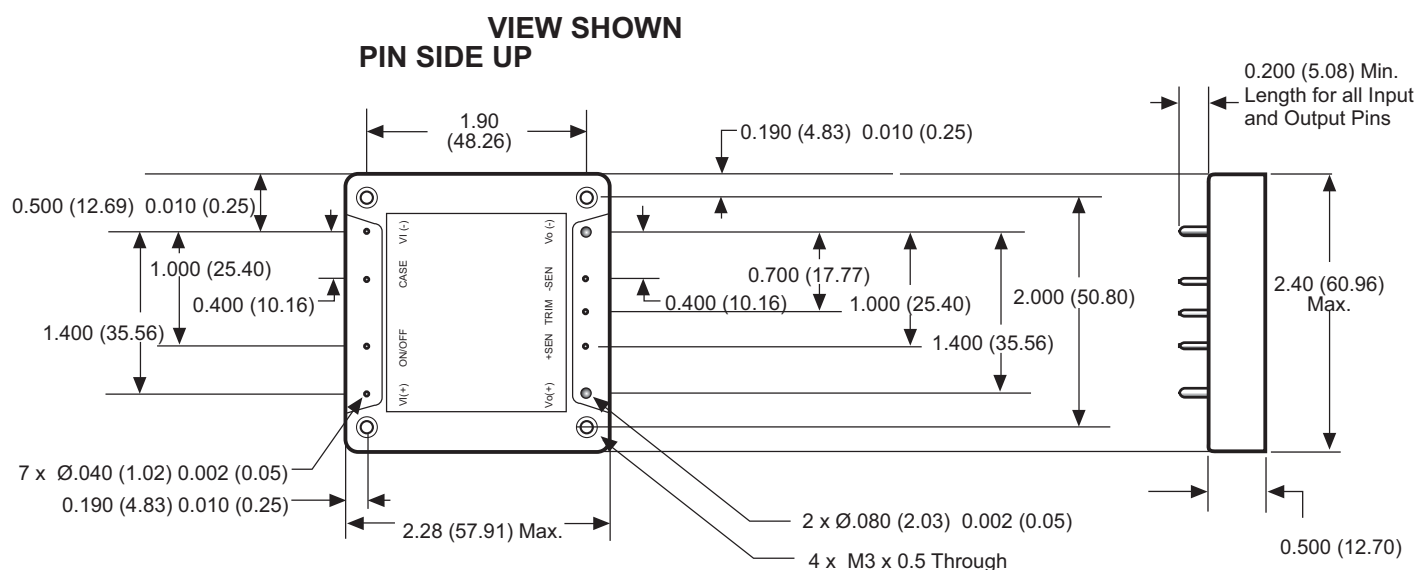
Output can be externally trimmed by using the method shown.



## 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         |

## Mechanical Drawing



**ALL DIMENSIONS IN INCHES (mm)**

Tolerance : x.xx 0.02in. (0.51mm)  
x.xxx 0.010in. (0.254mm)

■ Embedded Power for  
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### 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)

14/F, 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)**  
**[techsupport.embeddedpower@emerson.com](mailto:techsupport.embeddedpower@emerson.com)**

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