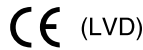




Patent No. 4959764 and 5066900

[ 2 YEAR WARRANTY ]



## BXA200 SERIES

Single output

- Telecom power system
- UL, CSA and TÜV approved
- Distributed power architecture
- True N+1 redundancy
- Parallelability to kilowatt power levels
- Patented Zero Voltage Switching (ZVS) topology
- Fixed frequency operation
- High power density 36W/in<sup>3</sup>

The BXA200 Series of high density DC/DC converters uses Artesyn Technologies patented resonant transition zero voltage switching topology together with advanced packaging to provide high performance with a power density of 36Watts/in<sup>3</sup>. Fixed frequency operation at 500kHz together with our unique integrated magnetics and internal filters, facilitate easier system filtering, limiting input conducted noise to EN55022 level A. Zero voltage switching together with advanced power train design minimizes power losses, yielding efficiencies up to 85%, from a 4.6 x 2.4 x 0.5 inch industry standard package. The BXA200 series with six single output models from 3.3V to 48V, offer short circuit protection, overvoltage protection, true current sharing, redundancy and up to 40A capability, all of which simplify and accelerate design-in cycles, reduce component counts, save PCB space and increase system reliability, giving you the lowest overall cost of ownership with the shortest possible time to market.

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

OUTPUT SPECIFICATIONS		
Voltage adjustability	(See Note 6)	±10%
Remote sense	(See Note 5) 0.5V line drop compen.	
Line regulation	Typical	±0.5%
Load regulation	Typical	±0.5%
Ripple and noise	0-20MHz (See Note 1)	See table
Transient response	50% to 75% load step (recovery to ±2.0% Vo)	100µs
Temperature coefficient		±0.02%/°C, Max
Overvoltage protection		112% to 165% latching
Short circuit protection		Continuous automatic recovery
Output set point accuracy		±1.0%
Current limit	Auto recovery	112% ±8.0%
Current share accuracy		±10% full load
INPUT SPECIFICATIONS (4)		
Input voltage range	48VDC	38 to 75VDC
Input filter		Yes
Input transients	1 second	90V
Turn-on time (resistive load)	Vout to within 1.0%	50ms max.
Total input capacitance		8µF
Remote ON/OFF Logic compatibility	(See Note 3) CMOS	
ON threshold	5Vmin. or open-circuit	
OFF threshold		1VDC max.
Shutdown idle current		45mA
On/off current sink		5mA
Control turn-on time (resistive load)		20ms, max. Vout to within 1%

EMC CHARACTERISTICS		
Conducted noise	EN55022, EN55011, FCC Bellcore 1089 (See Note 10)	Level A
GENERAL SPECIFICATIONS		
Efficiency		See table
Isolation voltage	Input/output Input/baseplate Output/baseplate	1500VDC 1500VDC 500VDC
Switching frequency	Fixed	500kHz, ±4.0%
Frequency synchronisation range	(See Note 7)	465kHz to 535kHz
Approvals and standards (See Note 12)		EN60950, IEC950, UL1950 CSA C22.2 No. 950
Case material		Plastic case, aluminum baseplate
Material flammability		UL94V-0
Weight		220g (7.8oz)
MTBF	MIL-HDBK-217F	750,000 hours
ENVIRONMENTAL SPECIFICATIONS		
Thermal performance	Operating baseplate Non-operating Overtemp. shutdown, baseplate nominal (See Note 9) Thermal impedance, Pout 3V3 output Pout other models	-25°C to +85°C -40°C to +125°C 100°C 5°C/Watt 130W, max. 200W, max.
Vibration	5Hz to 500Hz	2.4G rms

### International Safety Standard Approvals

TÜV EN60950/IEC950 File No. B 95 09 13183 072

UL1950 File No. E136005

CSA C22.2 No. 950 File No. LR41062C

# 130 to 200 Watt High density DC/DC converters

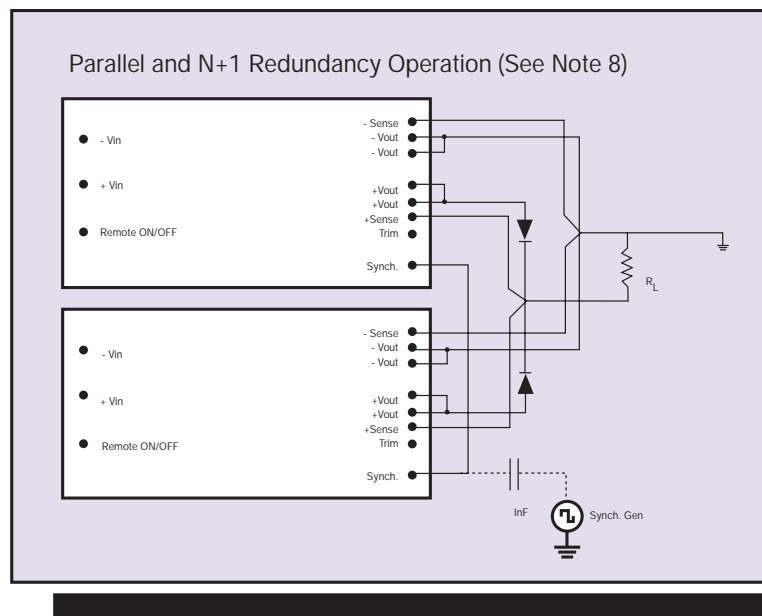
INPUT VOLTAGE	OUTPUT POWER	OUTPUT VOLTAGE	OUTPUT CURRENT	EFFICIENCY	RIPPLE & NOISE PK-PK, MAX. (1)	STATIC REG. BAND (2)	OVP THRESHOLD	MODEL NUMBER
38-75VDC	130W	3.3V	40A	78%	60mV	55mV, Max.	4.5 to 5.5VDC	BXA200-48S3V3
38-75VDC	200W	5V	40A	83%	100mV	50mV, Max.	6.0 to 7.0VDC	BXA200-48S05
38-75VDC	200W	12V	16.7A	83%	110mV	112mV, Max.	14.25 to 15.75VDC	BXA200-48S12
38-75VDC	200W	15V	13.3A	83%	100mV	130mV, Max.	17.57 to 19.42VDC	BXA200-48S15
38-75VDC	200W	24V	8.3A	84%	150mV	185mV, Max.	27.0 to 29.9VDC	BXA200-48S24
38-75VDC	200W	48V	4.16A	85%	250mV	328mV, Max.	65.0 to 72.0VDC	BXA200-48S48

## Notes

- 1 A 10 $\mu$ F tantalum capacitor on the output.
- 2 Specified for all conditions line and load.
- 3 Fit external 1K $\Omega$  resistor in series with remote on/off pin.
- 4 **Normal operation:** When a high impedance power source is used, an aluminium electrolytic capacitor of value 220 $\mu$ F rated at 100V should be placed across the two voltages input pins, -Vin and +Vin. This capacitor should be located as close as possible to the input terminals.
- 5 **Remote sense operation:** Remote sense will automatically compensate for output voltage line losses up to 0.5VDC. The unit will operate if the sense terminals are left open. There are internal resistors between each sense line and the output terminal. However, regulation will degrade if the sense lines are left open. Do not reverse the sense leads as this may damage the unit.
- 6 **External trimming:** The modules allow a trim range of  $\pm 10\%$  of the output voltage to the rated maximum power. Trimming is implemented as shown.
- 7 **Synchronization function:** This function allows the synchronisation of the fixed switching frequency to an external clock. The frequency adjustability range is 500kHz  $\pm 35$ kHz and the synch. function is TTL compatible, coupled through a 1nF capacitor. Two or more units can be synchronized to each other by connecting all of the synch. pins together.
- 8 **Parallel and N+1 redundancy operation:**

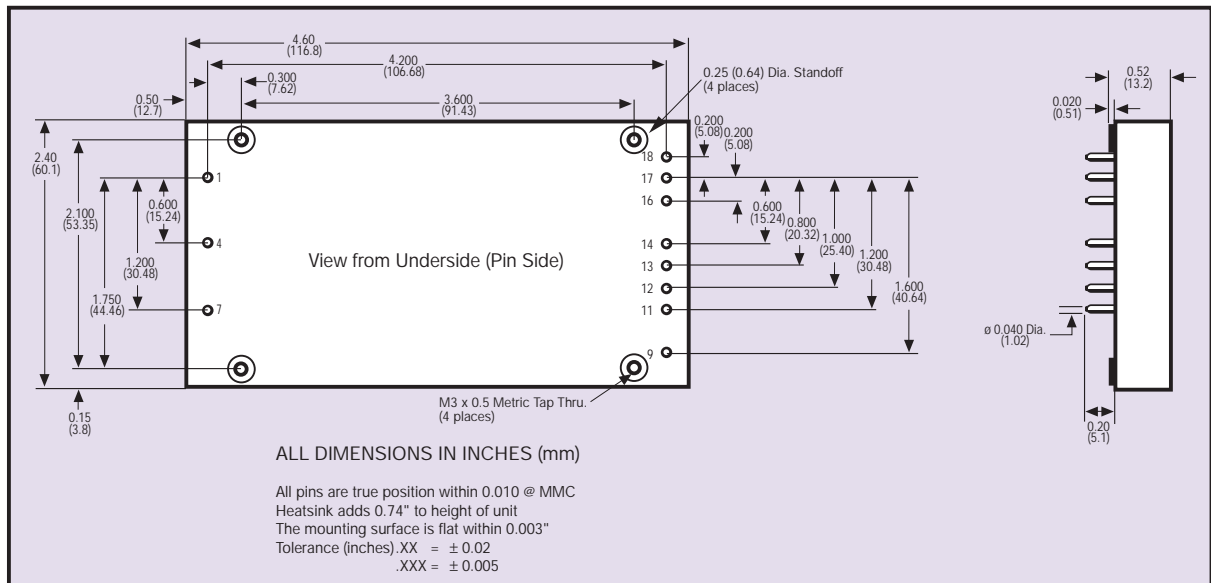
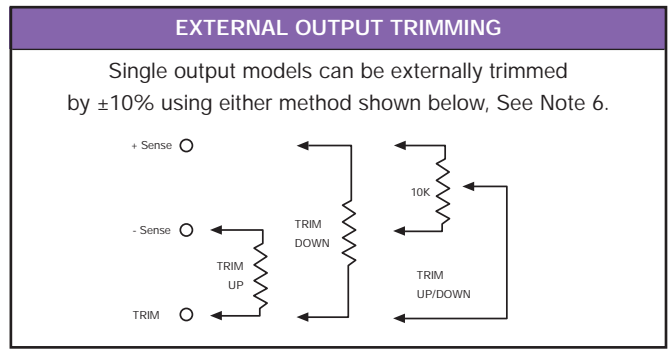
**Parallelling:** Two or more units can be paralleled to give higher power operation. The power output will be a multiple of the power block. Diodes are not necessary for parallel operation.

**N+1 Redundancy:** If redundancy is required, isolating diodes should be used. In this set-up when one unit is turned off, it will disconnect itself from the sharing group and the other unit(s) will take up the extra load.
- 9 **Thermal performance:** The baseplate must be kept below 85°C during normal operation. This can be achieved by providing the proper amount of moving air coupled with the proper size heatsink. The thermal impedance in still air with no heatsink is 5.0°C/W. If the baseplate temperature exceeds 100°C, the thermal protection circuitry protects the module by decreasing the current limit setpoint.
- 10 With a 120 $\mu$ F capacitor across the input terminals.
- 11 Contact your local distributor.
- 12 This product is only for inclusion by professional installers within other equipment and must not be operated as a stand alone product.



# 130 to 200 Watt High density DC/DC converters

PIN CONNECTIONS	
PIN NUMBER	FUNCTION
1	- Vin
4	+ Vin
7	Control
9	Sync./Current Share
11	Trim
12	+ Sense
13	+ Vout
14	+ Vout
16	- Vout
17	- Vout
18	- Sense



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