

## IBC32 Eighth-Brick Series Fixed Ratio 2nd Generation IBC

**Total Power:** 300W  
**Input Voltage:** 38 - 55 Vdc



### Special Features

- 48 V input with isolated 9.6 V output
- Ultra-high efficiency, 97%
- Unprecedented usable output power levels
- High power density open-frame technology
- Wide operating ambient temperature range
- Industry standard eighth-brick footprint and pinout
- Low profile, 0.48" (12.2 mm)
- Meets basic insulation requirements of EN60950-1
- Remote ON/OFF and overtemperature protection
- RoHS compliant
- 2 year warranty

### Safety

UL/cUL 60950-1, 1st Edition  
EN 60950-1 VDE

## Electrical Specifications

### Output

Line regulation:	Low line to high line	See table
Load regulation	Full load to min. load	See table
Total error band (including set-point, line, load and temperature)	Vin = 38 V to 55 V	7.0 - 11.0 Vdc
Minimum load		0 A
Overshoot	At turn on and turn-off	None
Undershoot		None
Ripple and noise	(See note 2)	100 mV pk-pk typ. 30 mV rms typ.
5 - 20 MHz		

### Input

Input voltage range	38 - 55 Vdc	
Input current	Remote OFF	7 mA typ.
Input current (max.)	(See note 1)	8.6 A max. @ Io max. and Vin = min. rated
Input reflected ripple (See note 4)	550 mA (pk-pk) 200 mA rms	
Remote ON/Off		(see note 6)
Logic compatibility		Open collector ref. to- input
On		>2.4 Vdc
OFF		<0.8 Vdc
Undervoltage lockout	Power-up	35 V
	Power-down	33.5 V
Startup time (see note 3)	Power-up	12 ms
	Remote ON/OFF	1 ms



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

### EMC Characteristics

Immunity:		
ESD air enclosure	EN61000-4-2 8 kV, 6 kV	(Air contact)
Input transients:	Input voltage	Duration before shutdown
	>58 V	2 seconds
	>60 V	1 second
	>62 V	0 seconds

### General Specifications

Efficiency		97%
Basic insulation	Input/output	2250 Vdc
Switching frequency	Fixed	350 kHz typ.
Approvals and standards (see note 5)		EN60950-1 VDE UL/cUL60950-1
Material flammability		UL94V-0
Weight		37 g (1.31 oz)
MTBF	Telcordia Tech SR-332	2,100,000 hours
Representative model:	48 Vin, 40 °C, 50% load ground benign	

### Environmental Specifications

Thermal performance	Operating ambient, temperature	-40 °C to +85 °C
	Non-operating	-55 °C to +125 °C
<b>Protection</b>		
Short-circuit	Hiccup	
Overvoltage	(See note 9)	Non-latching
Thermal		125 °C hot spot

### Ordering Information

Output Power (Max.)	Input Voltage	Output Voltage	Output Current (Min.)	Output Current (Max.)	Efficiency (Typ.)	Set Point Accuracy %	Regulation <sup>2</sup>		Model Number
							Line %	Load	
300 W	38 - 55 Vdc	9.6 V	0 A	32 A	97%	---	$\Delta$ Vin/5	2.3%	IBC32AEN4896J

**CAUTION: Hazardous internal voltages and high temperatures. Ensure that unit is not user accessible.**

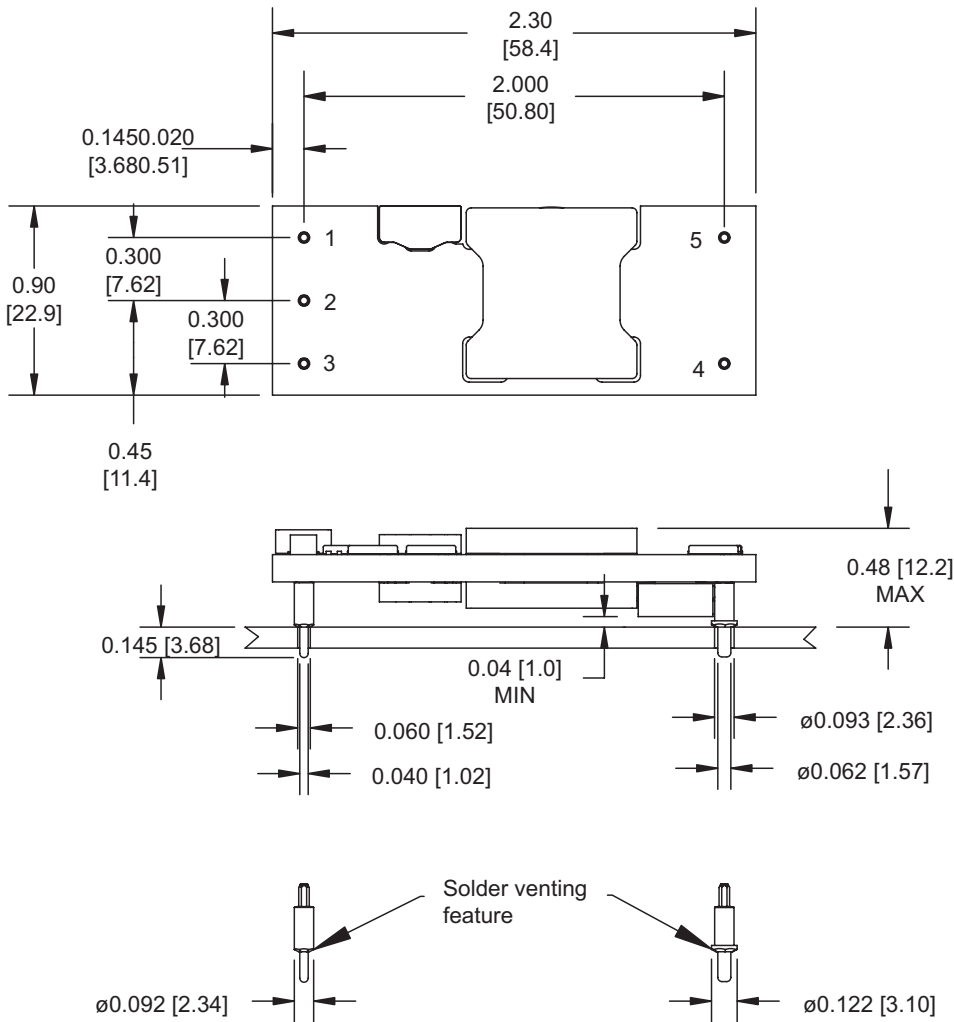
### Part Number System with Options

Product Family	Rated Output Current	Form Factor	Input Voltage Type	Input Voltage	Output Voltage	Remote ON/OFF Logic	Package, Body Height	Pin Length Options	RoHS Compliance <sup>(10)</sup>
<b>IBC</b>	<b>32A</b>	<b>E</b>	<b>N</b>	<b>48</b>	<b>96</b>	<b>R</b>	<b>E</b>	<b>N</b>	<b>J</b>
IBC Intermediate Bus Converter 2nd Generation	32 A = 32 Amps at 48 V	E = Eighth-Brick	T = Narrow Input Fixed Ratio S = Narrow Input Semi-regulated N = Narrow Telecom Fixed Ratio W = Wide Telecom Semi-regulated	48 = 48 V	96 = 9.6 V	Blank = Positive R = Negative (See Note 6)	E = Open-frame, 0.48 in (12.2 mm)	Blank = 0.188" (4.78 mm) N = 0.145" (3.68 mm) K = 0.110" (2.79 mm)	J = Pb-free (RoHS 6/6 compliant)

#### Notes

- 1 Recommended input fusing is a 20 A HRC 250 V rated fuse.
- 2 Measured with external filter. See Application Note 208 for details.
- 3 Start-up into resistive load.
- 4 Peak to peak measured without external PI filter. Significant reduction possible with external filter. See Application Note 208 for details.
- 5 This product is only for inclusion by professional installers within other equipment and must not be operated as a stand alone product.
- 6 Active-low remote ON/OFF option is also available. Please add the suffix '-R' to the part number, e.g. IBC32AEN4896-REJ.
- 7 Maximum output power at maximum input voltage.
- 8 Efficiency at 100% maximum output voltage.
- 9 After an input overvoltage latch off, the input voltage must be returned to 55 V or lower for unit to restart.
- 10 TSE RoHS 5/6 (non Pb-free) compliant versions may be available on special request, please contact your local sales representative for details.

Mechanical Drawing



Dimensions in Inches (mm)  
Tolerances (unless otherwise specified)  
x.xx 0.02 (x.x 0.5)  
x.xxx 0.010 (x.xx 0.25)

Pin connections	
Pin Number	Function
1	+Vin
2	Remote ON/OFF
3	-Vin
4	-Vout
5	+Vout

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)

While every precaution has been taken to ensure accuracy and completeness in this literature, Emerson Network Power assumes no responsibility, and disclaims all liability for damages resulting from use of this information or for any errors or omissions.

**Emerson Network Power.**  
The global leader in enabling business-critical continuity.

- AC Power
- Connectivity
- DC Power
- Embedded Computing
- Embedded Power
- Monitoring
- Outside Plant
- Power Switching & Controls
- Precision Cooling
- Racks & Integrated Cabinets
- Services
- Surge Protection

**EmersonNetworkPower.com**

Emerson Network Power and the Emerson Network Power logo are trademarks and service marks of Emerson Electric Co. ©2008 Emerson Electric Co.