

IBC Eighth-Brick Series

2nd Generation IBC

Total Power: 200 - 300W
Input Voltage: 36 - 75Vdc

Special Features

- 48 V input with isolated 12 V output
- Ultra-high efficiency, 95.5% 12 V @ 25 A
- Unprecedented usable output power levels
- High power density (362 W/in³) open-frame technology
- Wide operating ambient temperature range
- Industry standard eighth-brick footprint and pinout
- Low profile, 0.40" (10.2 mm)
- Meets basic insulation requirements of EN60950-1
- Remote ON/OFF and overtemperature protection
- Available RoHS compliant
- 2 year warranty

Safety

UL/cUL 60950-1, 1st Edition

EN 60950-1 VDE



Electrical Specifications

Output		
Output setpoint accuracy		See table
Line regulation:	Low line to high line	See table
Load regulation	Full load to min. load	See table
Total error band	IBC25AET4812	9.70 - 13.40 Vdc
(including setpoint, line, load and temperature)	IBC20AES4812	11.52 - 12.48 Vdc
	IBC17AEW4812	11.40 - 12.60 Vdc
Minimum load		0 A
Overshoot	At turn on and turn-off	None
Undershoot		None
Ripple and noise	(See note 2)	60 mV pk-pk typ. 20 mV rms typ.
5 - 20 MHz		
Input		
Input voltage range		See table
Input current	Remote OFF	6 mA typ.
Input current (max.)	(See note 1)	6.9 A max. @ Io max. and Vin = min. rated
Input reflected ripple	IBC25AET4812	550 mA (pk-pk)
(See note 4)	IBC20AES4812	230 mA (pk-pk)
	IBC17AEW4812	230 mA (pk-pk)
Remote ON/OFF		(see note 6)
Logic compatibility		Open collector ref. to- input
On		>2.4 Vdc
OFF		<0.4 Vdc
Undervoltage lockout:	Power-up	40 V
IBC25AET4812 and	Power-down	38 V
IBC20AES4812	Power up	35.2 V
IBC17AEW4812	Power down	34 V
Startup time (see note 3)	Power-up	15 ms
	Remote ON/OFF	5 ms

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

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EMC Characteristics

Immunity:		
ESD air enclosure	EN61000-4-2 8 kV, 6 kV	(Air contact)
Input transients:	IBC25AET4812	60 V. 100 ms
	IBC20AES4812	60 V. 100 ms
	IBC17AEW4812	100 V. 100 ms

General Specifications

Efficiency	See table	
Basic insulation	Input/output	2250 Vdc
Switching frequency	Fixed	600 kHz typ.
Approvals and standards (see note 5)	EN60950-1 VDE UL/cUL60950-1	
Material flammability	UL94V-0	
Weight	33 g (1.16 oz)	
MTBF	5,500,000 hours	
Representative model:	Telcordia Tech SR-332 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
Protection		
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.)	Regulation ²			Model Number
						Set Point Accuracy %	Line %	Load	
300 W	42 - 53 Vdc	12 V	0 A	25 A	95.5%	---	+10, -12.5%	±1.5%	IBC25AET4812J
240 W	42 - 53 Vdc	12 V	0 A	20 A	94.5%	±0.25%	±0.3%	±1.5%	IBC20AES4812J
200 W	36 - 75 Vdc	12 V	0 A	17 A	94.0%	±0.25%	±1.0%	±1.5%	IBC17AEW4812J

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

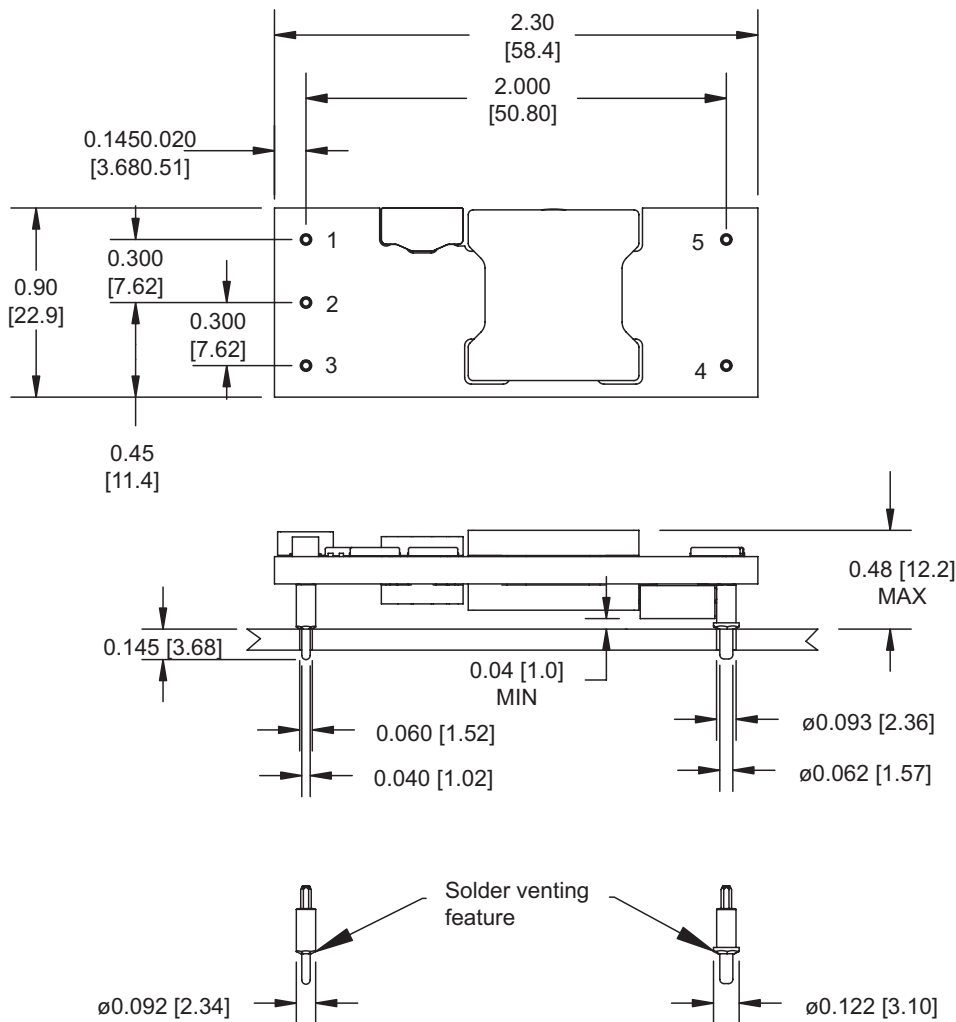
Part Number System with Options

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 ^(7,8)
IBC	17A	E	W	48	12	- R	A	N	J
IBC Intermediate Bus Converter 2nd Generation	17 A = 17 Amps etc.	E = Eighth-Brick Q = Quarter-brick S = Sixteenth-brick	T = Narrow Input Fixed Ratio S = Narrow Input Semi-reguated N = Narrow Telecom Fixed Ratio W = Wide Telecom Semi-reguated	48 = 48 V	12 = 12 V	Blank = Positive R = Negative (See Note 6)	A = Open-frame 0.40 in (10.2 mm) E = Open-rame, 0.45 in (11.4 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) Y = RoHS 5/6 compliant

Notes

- 1 Recommended input fusing is a 20 A HRC 250 V rated fuse.
- 2 Measured with external filter. See Application Note 182 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 182 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. IBC17AEW4812-RAJ.
- 7 TSE RoHS 5/6 (non Pb-free) compliant versions may be available on special request, please contact your local sales representative for details.
- 8 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.

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

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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
techsupport.embeddedpower@emerson.com

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