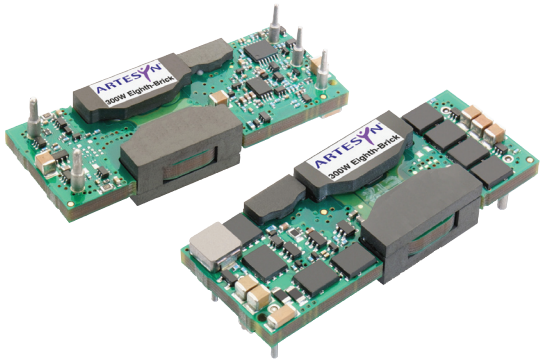
IBC
Eighth-Brick Series
2nd Generation IBC

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/in^3) 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 over-temperature 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 (including setpoint, line, load and temperature):	IBC25AET4812 IBC20AES4812 IBC17AEW4812	9.70 - 13.40 Vdc 11.52 - 12.48 Vdc 11.40 - 12.60 Vdc
Minimum load:		0 A
Overshoot:	At turn on and turn-off	None
Undershoot:		None
Ripple and noise: 5 - 20 MHz	(See note 2)	60 mV pk-pk typ. 20 mV rms typ.

Input		
Input voltage range:		See table
Input current:	Remote OFF	6 mA typ.
Input current (max.):	(See note 1)	6.9 A max. @ lo max. and Vin = min. rated
Input reflected ripple: (See note 4)	IBC25AET4812 IBC20AES4812 IBC17AEW4812	550 mA (pk-pk) 230 mA (pk-pk) 230 mA (pk-pk)
Remote ON/Off: Logic compatiblity: On OFF		(see note 6) Open collector ref. to- input >2.4 Vdc <0.4 Vdc
Undervoltage lockout: IBC25AET4812: IBC20AES4812: IBC17AEW4812:	Power-up Power-down Power up Power down	40 V 38 V 35.2 V 34 V
Startup time (see note 3):	Power-up Remote ON/OFF	15 ms 5 ms

ARTESYN®

EMERSON™
Network Power

EMC Charateristics		
Immunity:		
ESD air enclosure:	EN61000-4-2 8 kV, 6 kV	(Air contact)
Input transients:	IBC25AET4812 IBC20AES4812 IBC17AEW4812	60 V. 100 ms 60 V. 100 ms 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 Representative model:	Telcordia Tech SR-332 48 Vin, 40 °C, 50% load ground benign	5,500,000 hours

Environmental Specifications

Thermal performance:	Operating ambient temperature Non-operating	-40 °C to +85 °C -55 °C to +125 °C

Protection		
Short-circuit:		Hiccup
Overvoltage:	(See note 9)	Non-latching
Thermal:		125 °C hot spot

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

Ordering Information

Output Power (Max.)	Input Voltage	Output Voltage	Output Current (Min.)	Output Current (Max.)	Efficiency (Typ.)	Regulation[2] (typical)			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%	-2/-1.5%	IBC20AES4812J
200 W	36 - 75 Vdc	12 V	0 A	17 A	94.0%	±0.25%	±1.0%	-3/+2%	IBC17AEW4812J

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

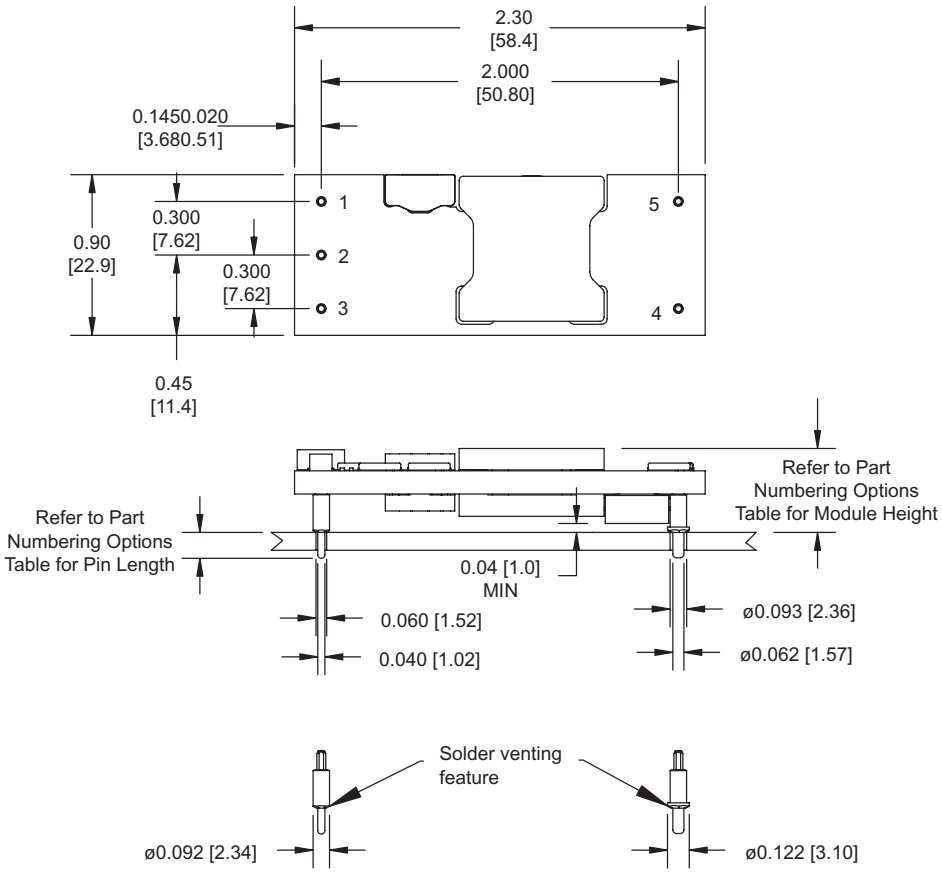
Part Number System with Options

Product Family	Rated Output Current	Form Factor	Input Voltage Type	Input Voltage	Output Voltage		Remote ON/ OFF Logic	Module 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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