

## 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<sup>3</sup>) 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 CAN/CSA 22.2 No.  
60950-1 : UL60950-1  
File No. E135734

VDE File No. 10401-3336-0206.  
Licence No. 40012752



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This is a new series of high power density, low profile Eighth-Brick Intermediate Bus Converters (IBC) targeted specifically at the computer, industrial electronics, and telecommunications distributed power markets. In a Distributed Power Architecture (DPA), these converters are intended to power multiple downstream non-isolated point-of-load (POL) converters. The elevated conversion efficiency, open-frame construction, and superior thermal performance of this series produces rated output currents up to 25 A and power densities as high as 362 W/in<sup>3</sup>. These superior performance levels enable these eighth-brick models to replace quarter-brick and half-brick converters in applications where footprint, profile, and cost are critical. The IBC25A fixed ratio model produces an unregulated 12 V output while the narrow and wide input IBC20A and IBC17A models produce a 12 V output semi-regulated with line and load variations. All models are fully protected against overcurrent, overvoltage, and overtemperature. A positive logic primary referenced remote ON/OFF input is included as standard with negative logic available as an option.



# Specifications

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

OUTPUT SPECIFICATIONS		
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	9.70-13.40 Vdc
	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.

INPUT SPECIFICATIONS		
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 (See Note 4)	IBC25AET4812	550 mA (pk-pk)
	IBC20AES4812	230 mA (pk-pk)
	IBC17AEW4812	230 mA (pk-pk)
Remote ON/OFF Logic compatibility	(See Note 6) Open collector ref. to -input	
	ON	>2.4 Vdc
	OFF	<0.4 Vdc
Undervoltage lockout:	Power up	40 V
	Power down	38 V
	Power up	35.2 V
	Power down	34 V
Start-up time (See Note 3)	Power up	15 ms
	Remote ON/OFF	5 ms

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	Telcordia Tech SR-332	5,500,000 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

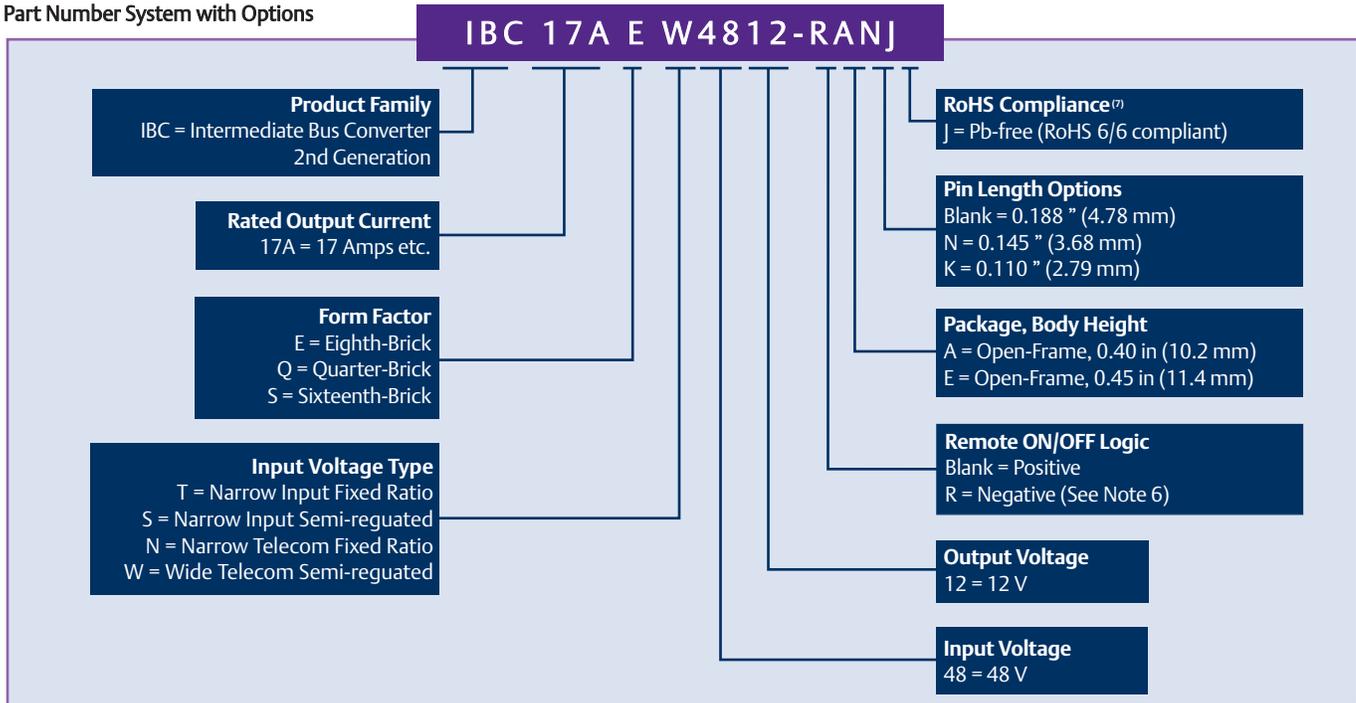
PROTECTION	
Short-circuit	Hiccup
Overvoltage	Non-latching
Thermal	125 °C hot spot

## Specifications Contd.

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OUTPUT POWER (MAX.)	INPUT VOLTAGE	OUTPUT VOLTAGE	OUTPUT CURRENT (MIN.)	OUTPUT CURRENT (MAX.)	EFFICIENCY (TYP.)	REGULATION			MODEL NUMBER <sup>(6,7,8)</sup>
						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

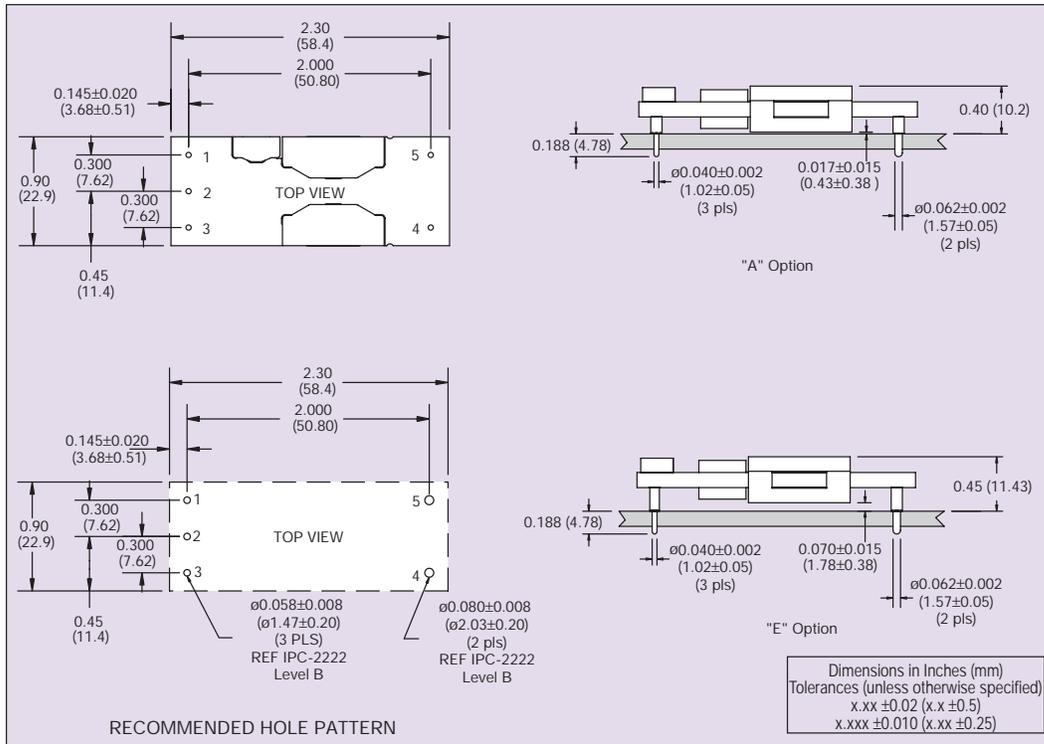
### Part Number System with Options



### 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 Artesyn representative or use the on-line model number search tool at <http://www.artesyn.com/powergroup/products.htm> to find a suitable alternative.

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



PIN CONNECTIONS	
PIN NUMBER	FUNCTION
1	+Vin
2	Remote ON/OFF
3	-Vin
4	-Vout
5	+Vout

Figure 1 - Mechanical Drawing and Pinout Table

### Americas

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Carlsbad, CA 92008  
USA  
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