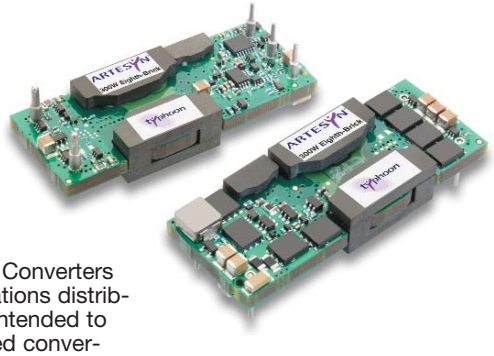
Eighth-Brick Series

2nd Generation IBC

NEW Product

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



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 Arcitecture (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 25A and power densities as high as 362W/in³. These superior performance levels enable these eight-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 12V output while the narrow and wide input IBC20A and IBC17A models produce a 12V 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.

Patent No. 6,765,810
Other Patents Pending

2 YEAR WARRANTY

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

SPECIFICATIONS

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 IBC20AES4812 IBC17AEW4812	9.70 to 13.40V 11.52 to 12.48V 11.40 to 12.60V
Minimum load		0A
Overshoot	At turn-on and turn-off	None
Undershoot		None
Ripple and noise 5 to 20MHz	(See Note 2)	60mV pk-pk typ. 20mV rms typ.

INPUT SPECIFICATIONS

Input voltage range		See Table
Input current	Remote OFF	6mA typ.
Input current (max.)	(See Note 1)	6.9A max. @ Io max. and Vin = min. rated
Input reflected ripple (See Note 4)	IBC25AET4812 IBC20AES4812 IBC17AEW4812	550mA (pk-pk) 230mA (pk-pk) 230mA (pk-pk)
Remote ON/OFF Logic compatibility ON OFF		(See Note 6) Open collector ref. to -input >2.4VDC <0.4VDC
Undervoltage lockout: IBC25AET4812 and IBC20AES4812 IBC17AEW4812	 Power up Power down Power up Power down	 40V 38V 35.2V 34.0V
Start-up time (See Note 3)	Power up Remote ON/OFF	15ms 5ms

EMC CHARACTERISTICS

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

GENERAL SPECIFICATIONS

Efficiency		See Table
Basic insulation	Input/output	1500VDC
Switching frequency	Fixed	600kHz typ.
Approvals and standards (See Note 5)		EN60950-1 VDE UL/cUL60950-1
Material flammability		UL94V-0
Weight		33g (1.16oz)
MTBF Representative model:	Telcordia Tech SR-332 48Vin, 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	Non-latching
Thermal	125°C hot spot

For the most current data and application support visit www.artesyn.com/powergroup/products.htm

NEW Product

OUTPUT POWER (MAX.)	INPUT VOLTAGE	OUTPUT VOLTAGE	OUTPUT CURRENT (MIN.)	OUTPUT CURRENT (MAX.)	EFFICIENCY (TYP.)	REGULATION			MODEL NUMBER (6)
						SET POINT ACCURACY	LINE %	LOAD %	
300W	42-53VDC	12V	0A	25A	95.5%	----	+10,-12.5%	±1.5%	IBC25AET4812
240W	42-53VDC	12V	0A	20A	94.5%	±0.25%	±0.3%	±1.5%	IBC20AES4812
200W	36-75VDC	12V	0A	17A	94.0%	±0.25%	±1.0%	±1.5%	IBC17AEW4812

Part Number System with Options

IBC 17A E W4812-RAN

Product Family
IBC = Intermediate Bus Converter 2nd Generation

Rated Output Current
17A = 17 Amps etc.

Form Factor
E = Eighth-Brick
Q = Quarter-Brick
S = Sixteenth-Brick

Input Voltage Type
T = Narrow Input Fixed Ratio
S = Narrow Input Semi-reguated
N = Narrow Telecom Fixed Ratio
W = Wide Telecom Semi-reguated

Pin Length Options
Blank = 0.188" (4.78mm)
N = 0.145" (3.68mm)
K = 0.110" (2.79mm)

Package, Body Height
A = Open-Frame, 0.40in (10.2mm)
E = Open-Frame, 0.45in (11.4mm)

Remote ON/OFF Logic
Blank = Positive
R = Negative (See Note 6)

Output Voltage
12 = 12V

Input Voltage
48 = 48V

Notes

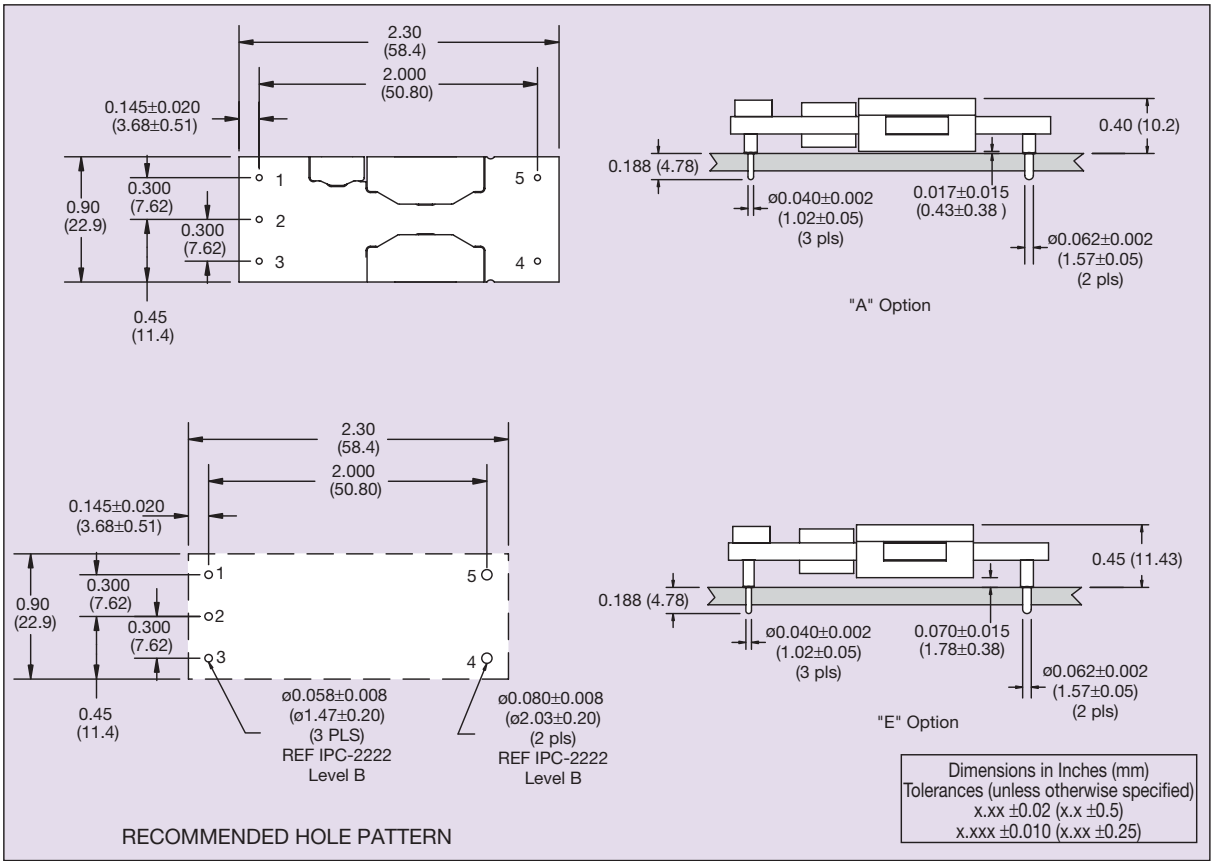
1. Recommended input fusing is a 20A HRC 250V rated fuse.
2. Measured with external filter. See Application Note 182 for details.
3. Start-up into resistive load.
4. Peak to peak measured without external Pi filter. Significant reduction possible with external filter. See Application Note 182 for details.
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-RA.

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

International Safety Standard Approvals

c UL us — UL/cUL CAN/CSA 22.2 No. 60950-1 : UL60950-1
File No. E135734

VDE — VDE Certificate No. 10401-3336-0206



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

Figure 1 - Mechanical Drawing and Pinout Table