



Quarter-Brick Series

Wide Input IBC



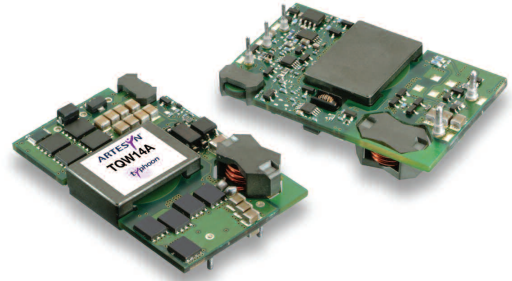
DC-DC CONVERTERS

168 W Intermediate Bus Converters

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NEW Product

- **Wide input 36 Vdc to 75 Vdc**
- **Output voltage of 12 V \pm 10%**
- **Current rating 14 A**
- **Ultra high efficiency, 94.5% typical**
- **Industry standard quarter-brick footprint**
- **Low profile - 0.35"**
- **Remote ON/OFF**
- **Available RoHS compliant**



This series is a Quarter-Brick, wide-input intermediate bus converter (IBC) designed primarily for distributed power applications. Capable of operating from any input voltage in the range 36 Vdc to 75 Vdc, this high efficiency isolated dc-dc converter module generates a semi-regulated 12 V output and can deliver up to 14 A. It provides designers with a particularly cost-effective means of generating an intermediate bus voltage for powering multiple downstream point-of-load converters, and can also be used to power loads directly. This series features a low profile open-frame construction and has an industry standard quarter-brick footprint.

**2 YEAR WARRANTY***All specifications are typical at nominal input, full load at 25 °C unless otherwise stated***SPECIFICATIONS****OUTPUT SPECIFICATIONS**

Output voltage	(Nominal)	12 Vdc
Output voltage range		10.8-13.2 Vdc
Total regulation (Over line, load and temperature)	\pm 10% max. 36-75 Vin \pm 5% max. 40-60 Vin	
Output current		0 A min. 14 A max.
Ripple and noise (See Note 2)	(0-20 MHz)	150 mV pk-pk
Output capacitance	External to unit	200 μ F min.

INPUT SPECIFICATIONS

Input voltage range		36-75 Vdc
Input current	No load Max.	100 mA 3.9 A max. @ 48 Vin
Active low remote ON/OFF (See Note 1)	Open collector ref to input ON OFF	>1.1 Vdc or floating <0.8 Vdc
Start-up time	Power-up from Remote ON/OFF	15 ms typ.

EMC CHARACTERISTICS

Conducted emissions	EN55022	Level A
	EN55022	Level B
Radiated emissions	EN55022	Level A
Immunity:		
ESD air	EN61000-4-2 8 kV	
ESD contact	EN61000-4-2 6 kV	
Radiated field enclosure	EN61000-4-3 10 V/m	
Conducted (dc power)	EN61000-4-6 10 V	
Conducted (signal)	EN61000-4-6 10 V	
Input transients	ETS 300 132-2, ETR 283	

GENERAL SPECIFICATIONS

Efficiency		94.5% typ.
Basic insulation	Input/output	2250 Vdc
Switching frequency	Fixed	333 kHz
Approvals and standards	EN60950 (TÜV Product Service) UL/cUL60950	
Material flammability		UL94V-0
Weight		40 g (1.43 oz)
MTBF	MIL-HDBK-217F	156,000 hours
Representative model:	14 A @ 48 Vin, 40 °C 100% load ground benign Telcordia SR-332	1,231,000 hours

ENVIRONMENTAL SPECIFICATIONS

Thermal performance (See Note 3)	Operating ambient temperature	-40 °C to +100 °C
	Non-operating	-55 °C to +125 °C

PROTECTION

Current limit and short-circuit	Hiccup, auto recovery
Thermal	Auto recovery

International Safety Standard Approvals

UL/cUL CAN/CSA 22.2 No. 60950-00 : UL 60950
UL 60950 File No. E174104



TÜV Product Service (EN60950) Certificate No. B 04 07 38572 046



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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.)	TOTAL REGULATION	MODEL NUMBER ^(1,4)
168 W	36-75 Vdc	12 V	0 A	14 A	94.5%	±10%	TQW14A-48S12-RJ

Part Number System with Options**TQW14A-48S12-RJ**

Product Family
TQW = Transformer Quarter-Brick
Wide Input

Rated Output Current
14A = 14 Amps

RoHS Compliance ⁽⁴⁾
J = Pb-free (RoHS 6/6 compliant)

Remote ON/OFF Logic
'-R' = Negative (See Note 1)

Output Voltage
12 V

Type of Output
S = Single

Input Voltage
48 V

Notes

- The standard product features active-low remote ON/OFF.
Active low ON/OFF
ON <0.7 V
OFF > 1.1 V or open circuit.
- Tested with 4 x 47 µF tantalum capacitors plus 2 x 4.7 µF ceramic capacitors. See Application Note 135 for set-up.
- Derating curves available in both the Longform Datasheet and Application Note.
- TSE RoHS 5/6 (non Pb-free) compliant versions may be available on special request, please contact your local sales representative for details.

RECOMMENDED SYSTEM CAPACITANCE

Input capacitance	33 µF
Output capacitance	200 µF/10 mΩ ESR max.



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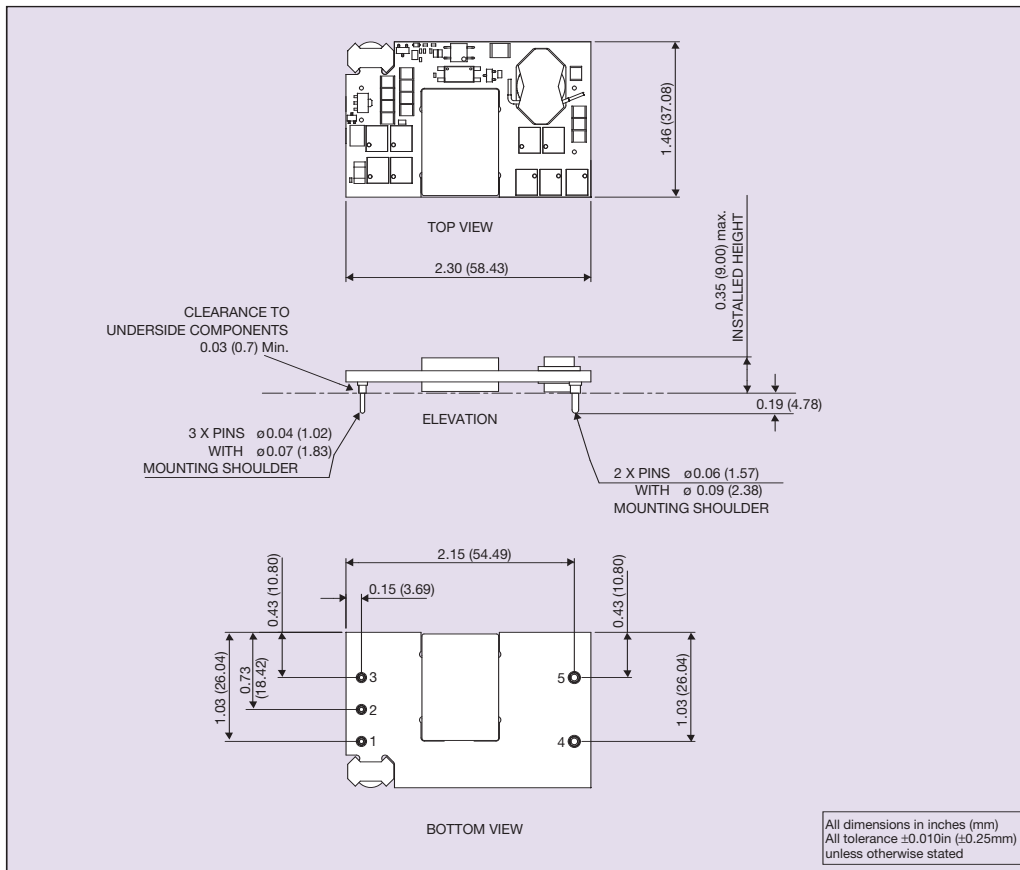
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PIN CONNECTIONS	
PIN NUMBER	FUNCTION
1	Vin+
2	Remote
3	Vin-
4	Vout+
5	Vout-

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Please consult our website for the following items: ✓ Application Note ✓ Longform Datasheet

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