

Quarter-Brick Series

Wide Input IBC

Total Power: 168W
Input Voltage: 36 - 75VDC
of Outputs: Single

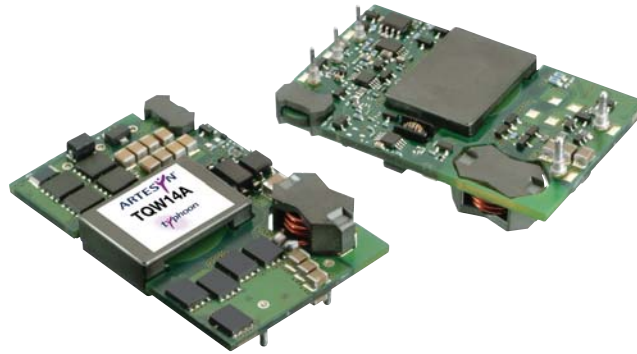
Special Features

- 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
- 2 Year Warranty

Safety

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



This series is a Quarter-Brick, wide-input intermediate bus converter (IBC). 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. This series features a low profile open-frame construction and has an industry standard quarter-brick footprint.

Rev.04.02.08
qbwiibc
1 of 4

Specifications

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

OUTPUT SPECIFICATIONS

Output voltage	(Nominal)	12 Vdc
Output voltage range		10.8-13.2 Vdc
Total regulation (Over line, load and temperature)	±10% max. 36-75 Vin ±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 µF 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 >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

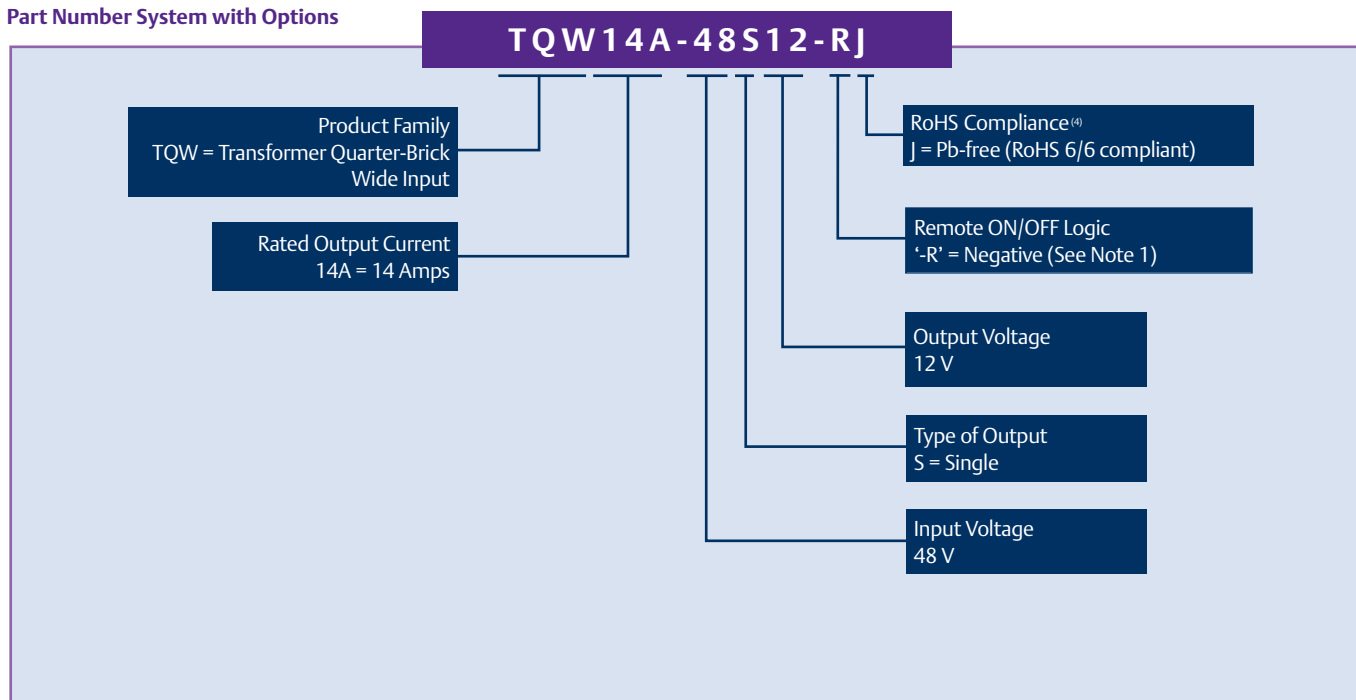
Current limit and short-circuit	Hiccup, auto recovery
Thermal	Auto recovery

Specifications Contd.

Rev.04.02.08
qbwiibc
3 of 4

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

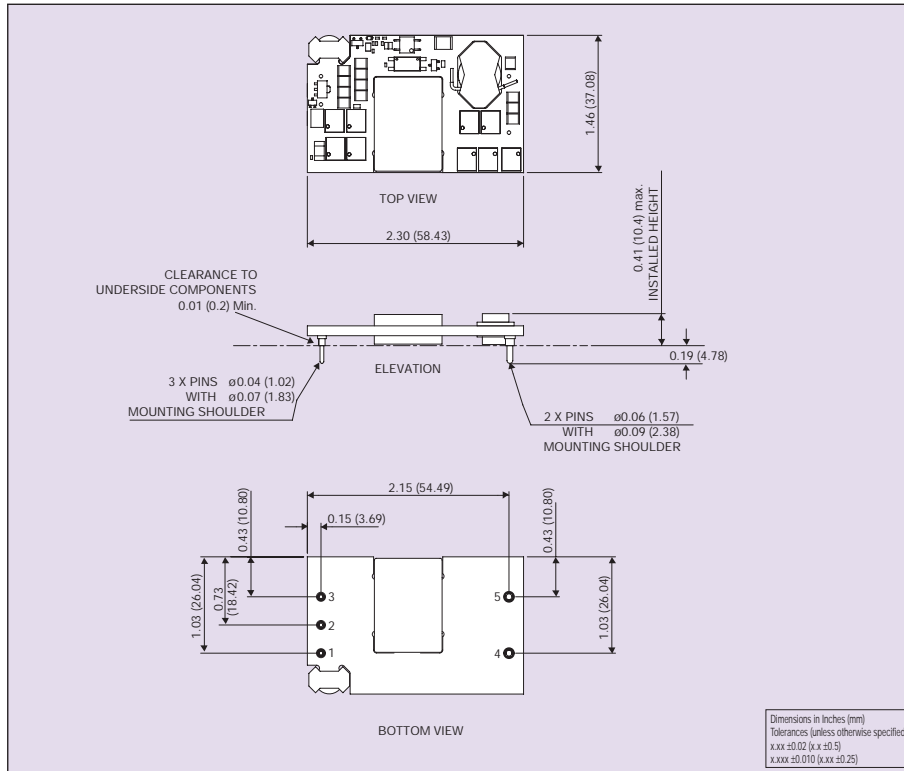


Notes

- 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 mW ESR max.



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

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

While every precaution has been taken to ensure accuracy and completeness in this literature, Emerson Network Power assumes no responsibility, and disclaims all liability for damages resulting from use of this information or for any errors or omissions.

Emerson Network Power.

The global leader in enabling business-critical continuity.

- AC Power
- Connectivity
- DC Power
- Embedded Computing
- **Embedded Power**
- Monitoring
- Outside Plant
- Power Switching & Controls
- Precision Cooling
- Racks & Integrated Cabinets
- Services
- Surge Protection

EmersonNetworkPower.com

Emerson Network Power and the Emerson Network Power logo are trademarks and service marks of Emerson Electric Co.
©2008 Emerson Electric Co.