



# Quarter-Brick Series

Dual output



DC/DC CONVERTERS

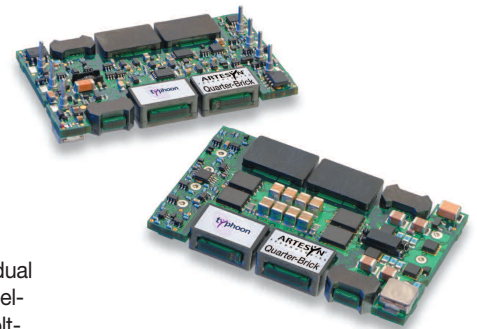
High Current, High Efficiency, Low Profile

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**NEW Product**



- **Two independent outputs**
- **High full load efficiency**
- **Wide ambient temperature range of -40 °C to +85 °C**
- **Up to 100% load imbalance**
- **Tracking, monotonic start-up**
- **Starts into pre-biased outputs**
- **Basic insulation system**
- **Over-voltage and over-temperature protection**
- **100 V, 100 ms input voltage transient response**
- **Secondary side control, no optocouplers, fast transient load response**
- **Available RoHS compliant**



These are new high efficiency, open-frame, isolated 40 A converters in an industry standard dual quarter-brick footprint. These converters deliver high output current at low voltages, and excellent useable power density for today's high end applications. This series features an input voltage range of 36 Vdc to 75 Vdc and output voltages of 1.2 V/3.3 V, 1.5 V/3.3 V, 1.8 V/3.3 V, 2.5 V/3.3 V, and 5 V/3.3 V. The output voltage on each model is adjustable from 90% to 110% of the nominal value. Typical efficiencies are 90%. This series also has a remote ON/OFF capability. Over-current and over-voltage protection features are included as standard. Designed to meet international safety agency approvals, including EN60950-1 and UL/cUL60950, this series reduces compliance costs and time to market.

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

Voltage adjustability	Both outputs	±10% min.
Minimum load	Both outputs	0%
Ripple and noise	20 MHz bandwidth	50 mV pk-pk max. 15 mV rms max.
Short circuit protection		Both outputs
Turn-on characteristics	Both outputs	Monotonic

### INPUT SPECIFICATIONS

Input voltage range	48 V nominal	36-75 Vdc
Input current	No load Remote OFF	80 mA max. 6 mA max.
Active high remote ON/OFF Logic compatibility	Open collector ref to -input ON OFF	Open circuit or >2.4 Vdc <0.4 Vdc
Undervoltage lockout	Power up Power down	35.5 V (typ.) 33.5 V (typ.)
Start-up time	Power up Remote ON/OFF	14 ms (typ.) 14 ms (typ.)

### EMC CHARACTERISTICS

Immunity:		
ESD air enclosure	EN61000-4-2 8 kV/6 kV(O/P within spec.)	
Radiated field enclosure	EN61000-4-3 10 V/m (O/P within spec.)	
Conducted	EN61000-4-6 10 V (O/P within spec.)	
Input transients	100 V, 100 ms	

### GENERAL SPECIFICATIONS

Efficiency		See table
Basic insulation	Input/output	2250 Vdc
Switching frequency	Fixed	480 kHz
Approvals and standards	(See Notes 1 and 2)	EN60950-1 VDE UL/cUL 60950
Material flammability		UL94V-0
Weight		34 g (1.2 oz)
MTBF	Telcordia Tech SR-332	2,883,816 hours

### ENVIRONMENTAL SPECIFICATIONS

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

Short-circuit	Continuous
Overvoltage	Non-latching
Thermal	125 °C hot spot temperature with automatic recovery

### International Safety Standard Approvals



UL/cUL CAN/CSA 22.2 No. 60950-00 : UL 60950  
File No. E135734/60950



VDE Certificate No. 10401-3336-0197



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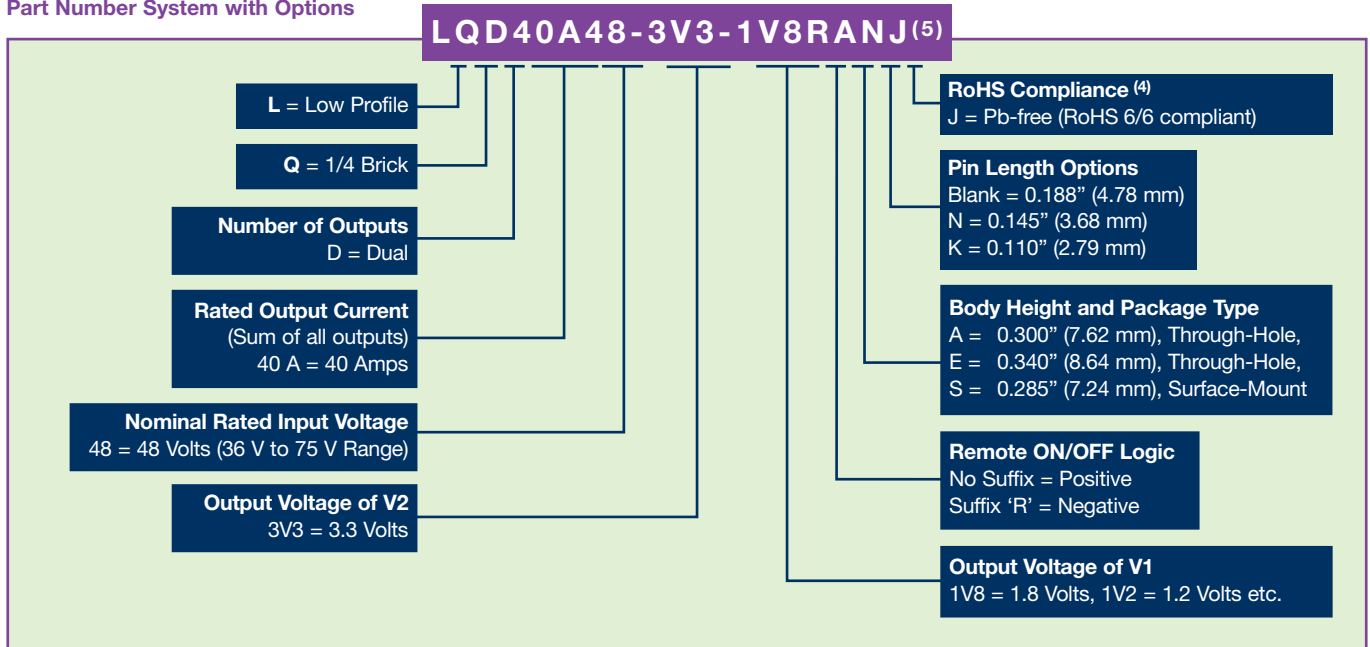
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For the most current data and application support visit [www.artesyn.com/powergroup/products.htm](http://www.artesyn.com/powergroup/products.htm)

**NEW Product**

OUTPUT VOLTAGE				OUTPUT		OVP		EFFICIENCY		MODEL NUMBER <sup>(4,5)</sup>	
NOMINAL		INITIAL SET POINT <sup>(3)</sup>		REGULATION BAND		CURRENT		TRIP POINT			(TYP.)
1	2	1	2	1	2	1	2	1	2		
<b>QUARTER-BRICK DUAL OUTPUT PERFORMANCE MODELS</b>											
1.2 V	3.3 V	1.18-1.22 V	3.25-3.35 V	1.16-1.24 V	3.2-3.4 V	20 A	20 A	1.5 V	4 V	90.0%	LQD40A48-3V3-1V2J
1.5 V	3.3 V	1.48-1.55 V	3.25-3.35 V	1.44-1.55 V	3.2-3.4 V	20 A	20 A	1.8 V	4 V	90.5%	LQD40A48-3V3-1V5J
1.8 V	3.3 V	1.77-1.83 V	3.25-3.35 V	1.75-1.85 V	3.2-3.4 V	20 A	20 A	2 V	4 V	90.5%	LQD40A48-3V3-1V8J
2.5 V	3.3 V	2.46-2.54 V	3.25-3.35 V	2.42-2.58 V	3.2-3.4 V	20 A	20 A	3 V	4 V	90.5%	LQD40A48-3V3-2V5J
<b>QUARTER-BRICK DUAL OUTPUT VALUE MODELS</b>											
1.2 V	3.3 V	1.18-1.22 V	3.25-3.35 V	1.16-1.24 V	3.2-3.4 V	15 A	15 A	1.5 V	4 V	90.0%	LQD30A48-3V3-1V2J
1.5 V	3.3 V	1.48-1.52 V	3.25-3.35 V	1.44-1.55 V	3.2-3.4 V	15 A	15 A	1.8 V	4 V	90.5%	LQD30A48-3V3-1V5J
1.8 V	3.3 V	1.77-1.83 V	3.25-3.35 V	1.75-1.85 V	3.2-3.4 V	15 A	15 A	2 V	4 V	90.5%	LQD30A48-3V3-1V8J
2.5 V	3.3 V	2.46-2.54 V	3.25-3.35 V	2.42-2.58 V	3.2-3.4 V	15 A	15 A	3 V	4 V	91.0%	LQD30A48-3V3-2V5J
3.3 V	5 V	3.25-3.35 V	4.92-5.08 V	3.20-3.40 V	4.85-5.15 V	15 A	10 A	4 V	6 V	91.0%	LQD25A48-5V0-3V3J

**Part Number System with Options**



**Notes**

- 1 User must provide recommended fuses in order to comply with safety approvals. See Application Note 137.
- 2 Maximum continuous output power.  
90 Watts for LQD40A48-3V3-1V2J models  
96 Watts for LQD40A48-3V3-1V5J models  
102 Watts for LQD40A48-3V3-1V8J models  
116 Watts for LQD40A48-3V3-2V5J models  
67.5 Watts for LQD30A48-3V3-1V2J models  
72 Watts for LQD30A48-3V3-1V5J models  
76.5 Watts for LQD30A48-3V3-1V8J models  
87 Watts for LQD30A48-3V3-2V5J models  
99.5 Watts for LQD25A48-5V0-3V3J models

- 3  $I_{O1} = I_{max}$ ,  $I_{O2} = I_{max}$ .
- 4 TSE RoHS 5/6 (non Pb-free) compliant versions may be available on special request, please contact your local sales representative for details.
- 5 The part number cannot exceed 18 characters. If the desired part number with options contains 19 characters then the last dash '-' in the part number is removed i.e. LQD25A48-5V0-3V3RAJ becomes LQD25A48-5V03V3RAJ. If the desired part number with options contains 20 characters then all dashes '-' are removed, i.e. LQD25A48-5V0-3V3RANJ becomes LQD25A485V03V3RANJ.

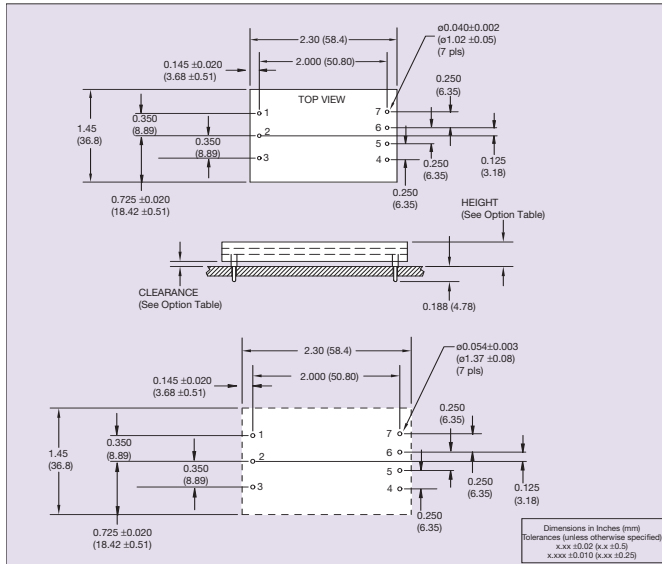


Figure 1 - Through-Hole Mechanical Drawing

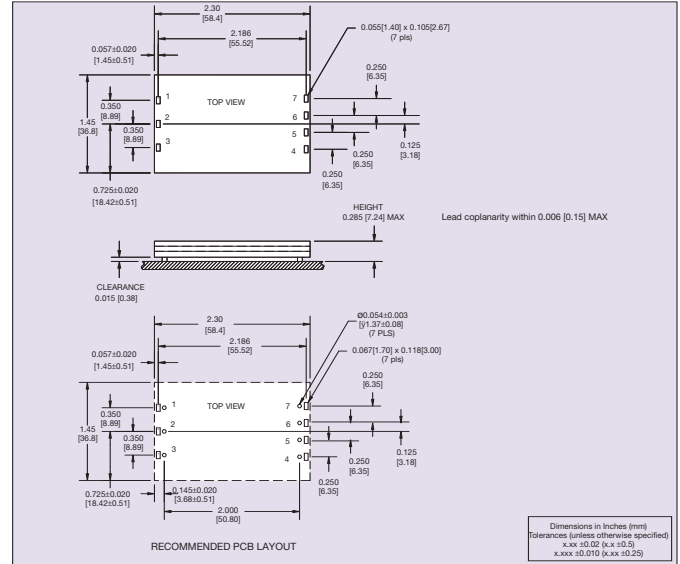


Figure 2 - Surface-Mount Mechanical Drawing

PIN CONNECTIONS	
PIN NUMBER	FUNCTION
1	+Vin
2	ON/OFF
3	-Vin
4	O/P 1
5	O/P RTN
6	Trim
7	O/P 2

DIMENSION OPTIONS		
OPTION	STAND OFF HEIGHT	BODY HEIGHT
A	0.030 (0.76) min.	0.300 (7.62) max.
E	0.070 (1.78) min.	0.340 (8.64) max.