



# Quarter-Brick Series

## Dual output

**ARTESYN**  
TECHNOLOGIES

DC/DC CONVERTERS

High Current, High Efficiency, Low Profile

1

**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
- 100V, 100ms input voltage transient response
- Secondary side control, no optocouplers, fast transient load response



These are new high efficiency, open-frame, isolated 40A 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 to 75VDC and output voltages of 1.2V/3.3V, 1.5V/3.3V, 1.8V/3.3V, 2.5V/3.3V, and 5.0V/3.3V. 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	20MHz bandwidth	50mV pk-pk max. 15mV rms max.
Short circuit protection	Both outputs	
Turn-on characteristics	Both outputs	Monotonic

#### INPUT SPECIFICATIONS

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

#### EMC CHARACTERISTICS

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

#### GENERAL SPECIFICATIONS

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

#### ENVIRONMENTAL SPECIFICATIONS

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

#### PROTECTION

Short-circuit	Continuous
Over-voltage	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



VDE Certificate No. 10401-3336-0197



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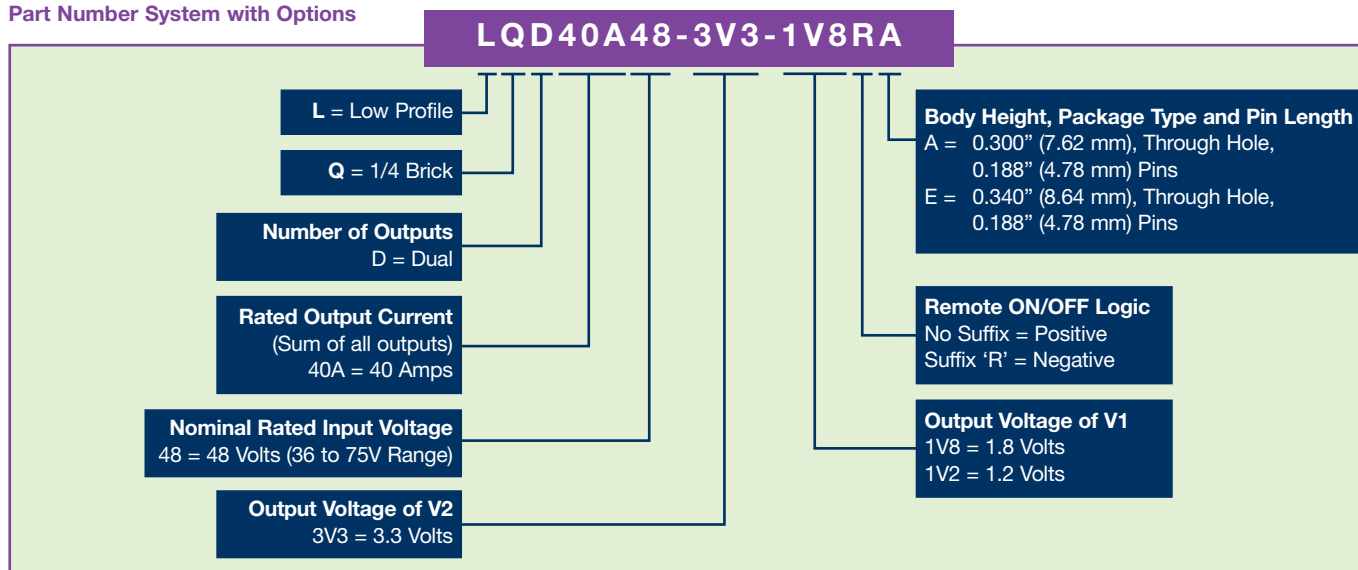
2

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 CURRENT		OVP TRIP POINT		EFFICIENCY	
NOMINAL		INITIAL SET POINT <sup>(3)</sup>		REGULATION BAND						(TYP.)	MODEL NUMBER
1	2	1	2	1	2	1	2	1	2		
QUARTER-BRICK DUAL OUTPUT PERFORMANCE MODELS											
1.2V	3.3V	1.18 - 1.22V	3.25 - 3.35V	1.16 - 1.24V	3.2V - 3.4V	20A	20A	1.5V	4.0V	90.0%	LQD40A48-3V3-1V2
1.5V	3.3V	1.48 - 1.55V	3.25 - 3.35V	1.44 - 1.55V	3.2V - 3.4V	20A	20A	1.8V	4.0V	90.5%	LQD40A48-3V3-1V5
1.8V	3.3V	1.77 - 1.83V	3.25 - 3.35V	1.75 - 1.85V	3.2V - 3.4V	20A	20A	2.0V	4.0V	90.5%	LQD40A48-3V3-1V8
2.5V	3.3V	2.46 - 2.54V	3.25 - 3.35V	2.42 - 2.58V	3.2V - 3.4V	20A	20A	3.0V	4.0V	90.5%	LQD40A48-3V3-2V5
QUARTER-BRICK DUAL OUTPUT VALUE MODELS											
1.2V	3.3V	1.18 - 1.22V	3.25 - 3.35V	1.16 - 1.24V	3.20V - 3.40V	15A	15A	1.5V	4.0V	90.0%	LQD30A48-3V3-1V2
1.5V	3.3V	1.48 - 1.52V	3.25 - 3.35V	1.44 - 1.55V	3.20V - 3.40V	15A	15A	1.8V	4.0V	90.5%	LQD30A48-3V3-1V5
1.8V	3.3V	1.77 - 1.83V	3.25 - 3.35V	1.75 - 1.85V	3.20V - 3.40V	15A	15A	2.0V	4.0V	90.5%	LQD30A48-3V3-1V8
2.5V	3.3V	2.46 - 2.54V	3.25 - 3.35V	2.42 - 2.58V	3.20V - 3.40V	15A	15A	3.0V	4.0V	91.0%	LQD30A48-3V3-2V5
3.3V	5.0V	3.25 - 3.35V	4.92 - 5.08V	3.20 - 3.40V	4.85V - 5.15V	15A	10A	4.0V	6.0V	91.0%	LQD25A48-5V0-3V3

### 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 LQD40A48-3V3-1V2 models  
96 Watts for LQD40A48-3V3-1V5 models  
102 Watts for LQD40A48-3V3-1V8 models  
116 Watts for LQD40A48-3V3-2V5 models  
67.5 Watts for LQD30A48-3V3-1V2 models  
72 Watts for LQD30A48-3V3-1V5 models  
76.5 Watts for LQD30A48-3V3-1V8 models  
87 Watts for LQD30A48-3V3-2V5 models  
99.5 Watts for LQD25A48-5V0-3V3 models
- 3  $I_{O1} = I_{max}$ ,  $I_{O2} = I_{max}$ .



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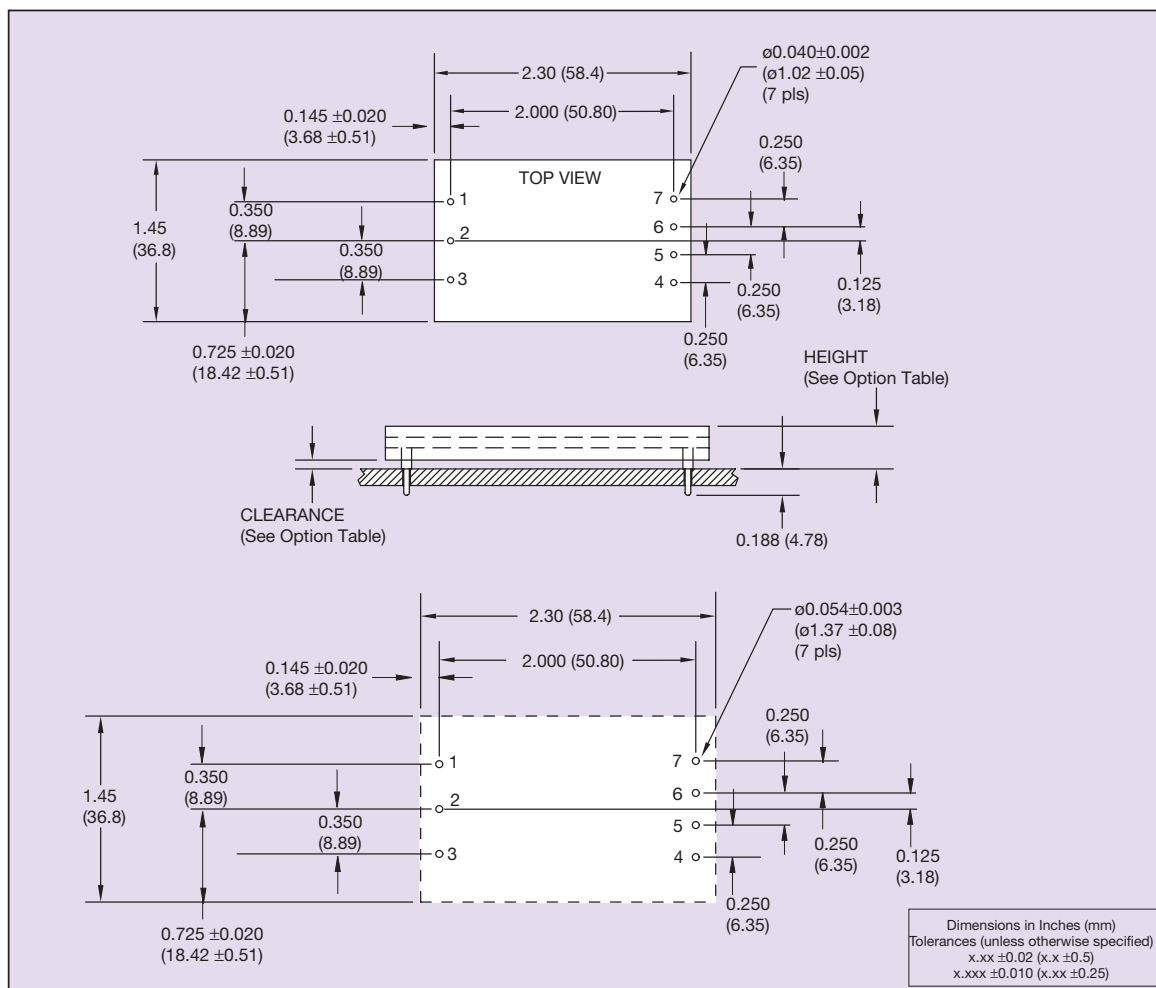


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3

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**NEW Product**



## 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.

## 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

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

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