



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**
- **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 and UL/cUL60950, this series reduces compliance costs and time to market.



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 <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 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



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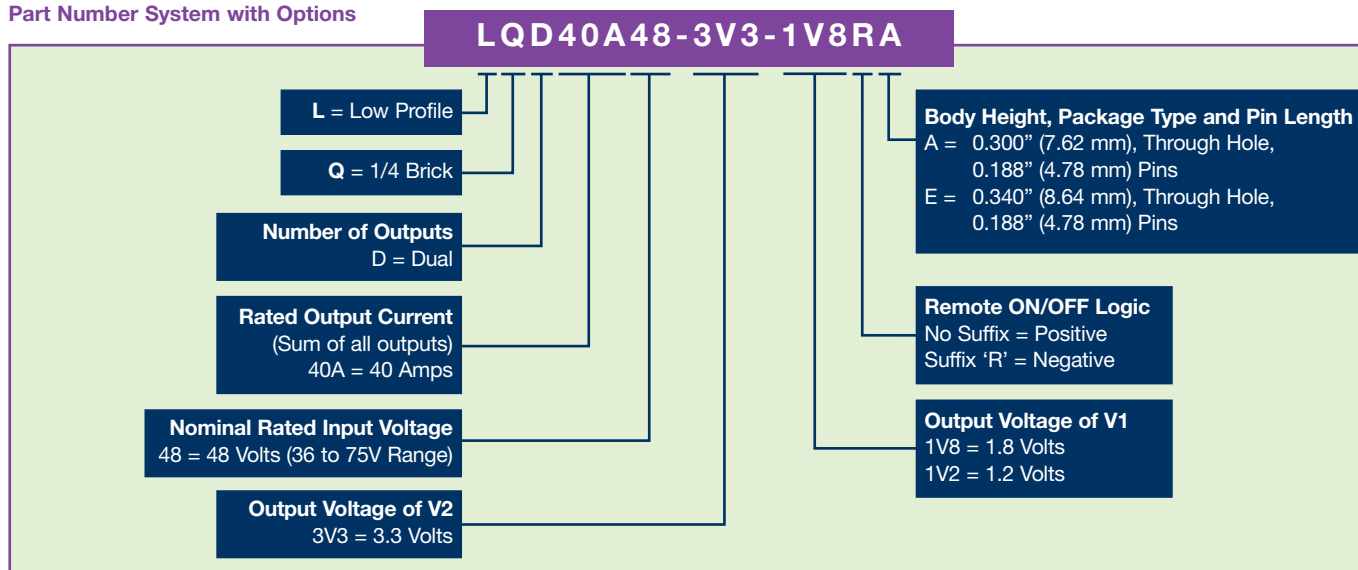
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For the most current data and application support visit www.artesyn.com/powergroup/products.htm

NEW Product

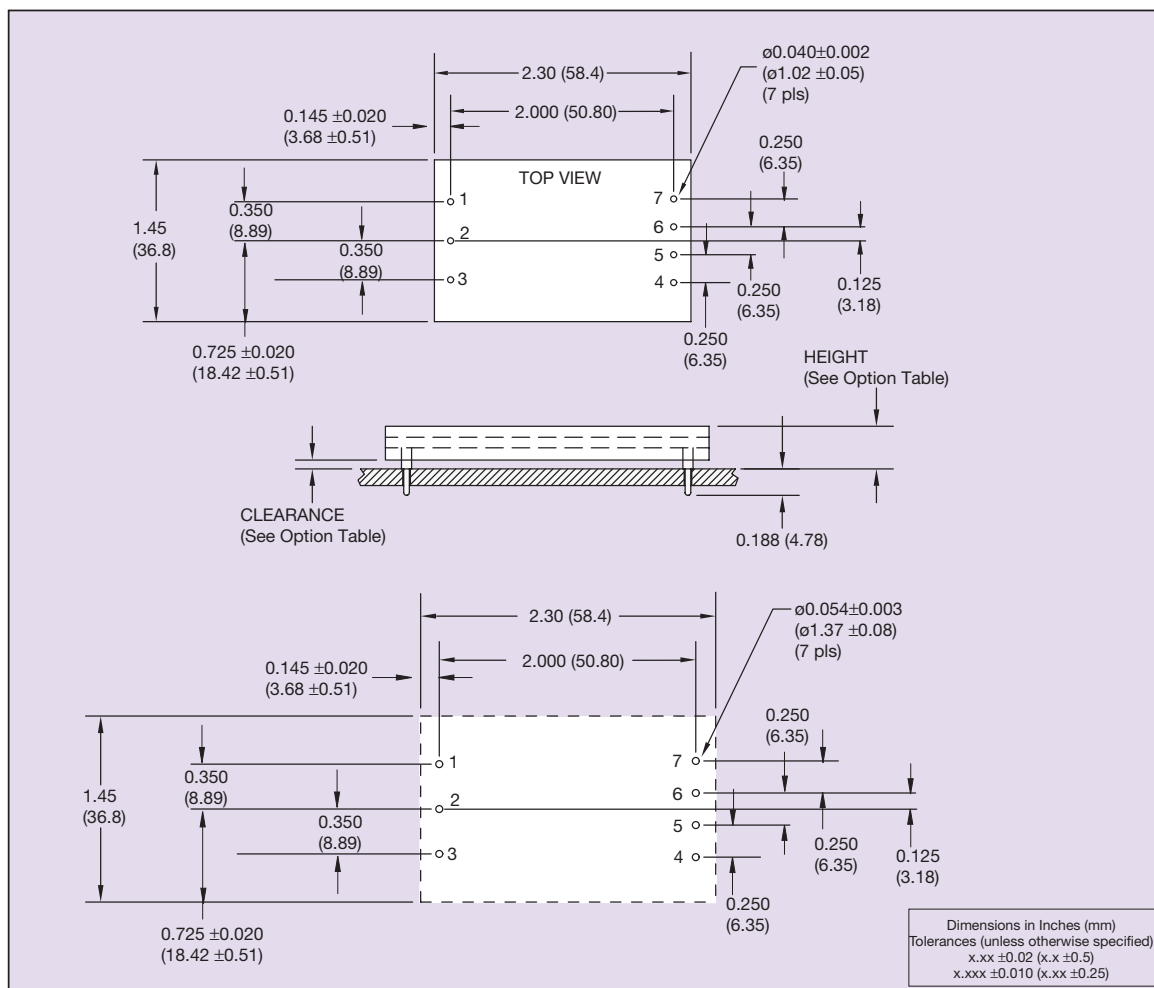
OUTPUT VOLTAGE						OUTPUT		OVP		EFFICIENCY	
NOMINAL		INITIAL SET POINT ⁽³⁾		REGULATION BAND		CURRENT		TRIP POINT		(TYP.)	MODEL NUMBER
1	2	1	2	1	2	1	2	1	2		
QUARTER-BRICK DUAL OUTPUT PERFORMANCE MODELS											
1.2V	3.3V	1.18 - 1.22V	3.25 - 3.35V	1.16 - 1.24V	3.2V - 3.4V	20A	20A	1.5V	4.0V	90.0%	LQD40A48-3V3-1V2
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
87.5 Watts for LQD25A48-5V0-3V3 models
- 3 $I_{O1} = I_{max}$, $I_{O2} = I_{max}$.



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

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

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