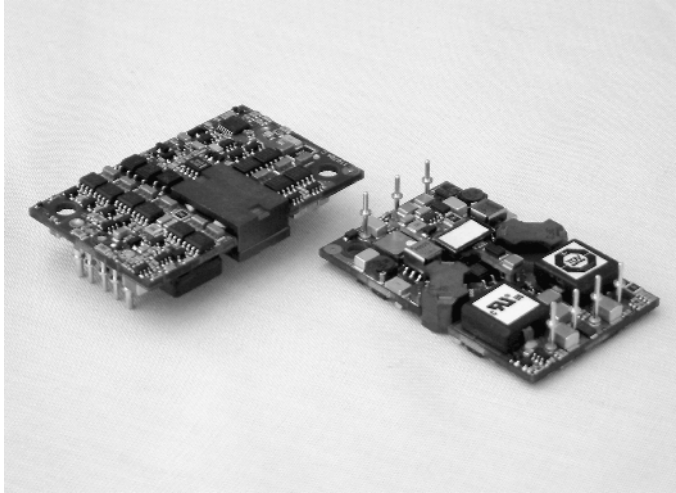


Quarter Brick DC/DC Converters

30 Amps KDQ030 Series

XPIQ inc.
Intelligent Design Quality Product



- Industry Standard Footprint
- Dual Outputs from 1.2 V to 5.0 V
- 30A Combined with Two 15A Channels
- High Efficiency - Up to 88%
- International Safety Approvals
- Low 0.417" Profile

Specification

Input

- Input Voltage Range • 36-75 VDC
- Input Current • 1.2 to 3.0 A See Table
- Input Reflected Ripple Current • 50 mA pk-pk
- No Load Input Current • 150 mA at 48 VDC in
- Remote ON/OFF • Shorted to -Vin (Logic Low) = ON
Open (Logic high) = OFF
Positive Logic available (See Note 3)
- Input Reverse Voltage Protection • External components required (See Note 4)
- Input Transient • Units capable of withstanding 100 V for 100 ms

Output

- Output Voltage • See Table
- Voltage Adjustment • $\pm 10\%$
- Minimum Load • No minimum load required
- Line Regulation • $\pm 0.1\%$ for V1 and V2
- Load Regulation • 33 mV on V1, 30 mV on V2
- Setpoint Accuracy • $\pm 2\%$
- Ripple & Noise • 50 mV pk-pk max
- Transient Response • 100 mV max deviation,
100 μ s recovery time for a 25% load change
- Overvoltage Protection • 115-130% typical, latching circuit,
recycle input to reset
- Overcurrent Protection • 20-32 A soft start, recycle
input to reset
- Overtemperature Protection • Shut down at 125 °C measured on
board, auto restart
- Temperature Coefficient • 0.01%/°C

General

- Efficiency • 88% for 3.3/5V model
- Isolation • 1500 VDC Input to Output
- Size • 2.280" x 1.450" x 0.417"
(0.5" with baseplate)
- Weight • 35 g for open frame version
65 g for baseplate version
- MTBF • 2,000,000 hours calculated to Bellcore

Environmental

- Operating Temperature (with 200 LFM) • -40° C to +85 °C ambient
See Derating Curve
Full power to +55 °C
- Storage Temperature • -55 °C to +125 °C
- Humidity • 5-95% RH non-condensing

EMC & Safety

- Safety Approvals • UL 60950, IEC 60950,
CSA 950 per cUL,
CE Marked for LVD
- EMI/EMC • FCC level B Part 15 with external
filtering, contact Technical Sales
for details

OUTPUT VOLTAGE & CURRENT RATINGS

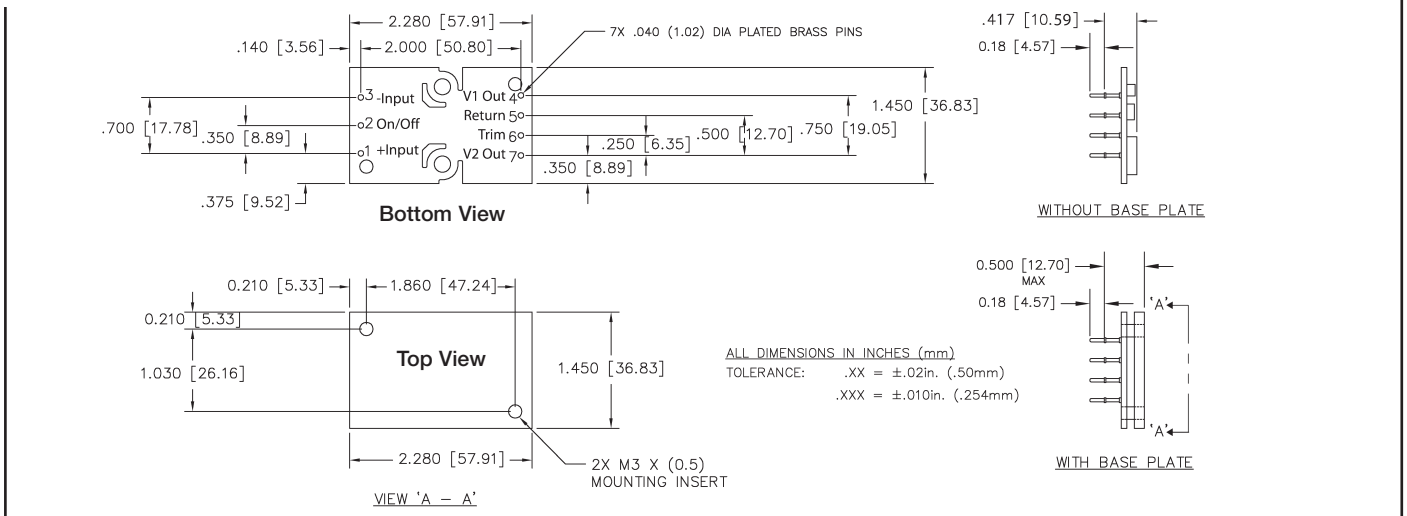
KDQ030

Output Power	Output Voltage		Output Current Maximum	Input Current ⁽⁶⁾	Efficiency	Model Number ⁽³⁾
	V1	V2				
45.0 W	1.2 V	1.8 V	15 A/15 A	1.2 A	78%	KDQ03048D1812
67.5 W	1.2 V	3.3 V	15 A/15 A	1.7 A	83%	KDQ03048D3312
60.0 W	1.5 V	2.5 V	15 A/15 A	1.5 A	82%	KDQ03048D2515
77.0 W	1.8 V	3.3 V	15 A/15 A	1.9 A	85%	KDQ03048D3318
87.0 W	2.5 V	3.3 V	15 A/15 A	2.1 A	86%	KDQ03048D3325
100.0 W	3.3 V	5.0 V	15 A/10 A	2.3 A	88%	KDQ03048D5033

Notes

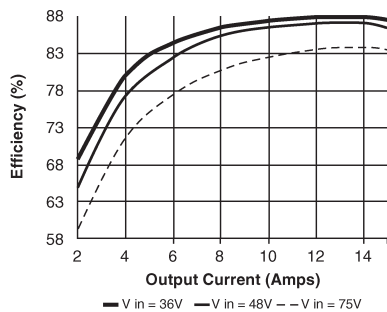
- Standard product is open frame with negative logic.
- Baseplate versions are built to order.
- Please add one of the following suffix codes to the part number when ordering:
AL = Open Frame/Negative logic, AH = Open Frame/Positive Logic, BL = Baseplate/Negative logic, BH = Baseplate/Positive logic.
- For input reverse voltage protection, use a parallel diode across the input terminals preceded by a 5 A fuse.
- Typical value measured at full load and nominal 48 V input.

Mechanical Details

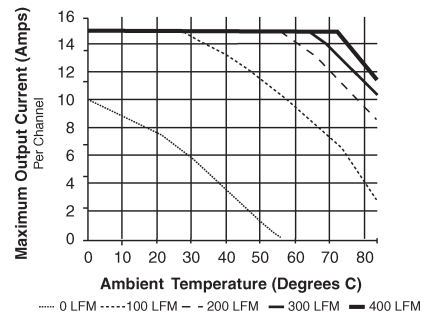


Application Information

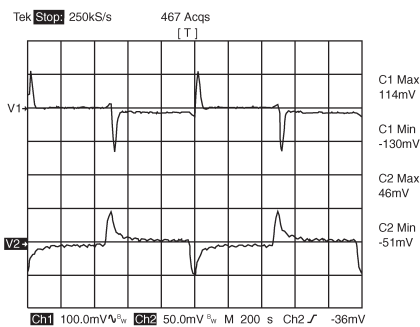
Efficiency vs Output Current for 3.3/2.5 V



Derating Curve for 3.3/2.5 V (No Baseplate)



Transient Response for 3.3/2.5 V (typical at 48Vin)
Step Load change of 50% to 75% at 1 A/ms



Output Ripple & Noise for 3.3/2.5 V at full load

