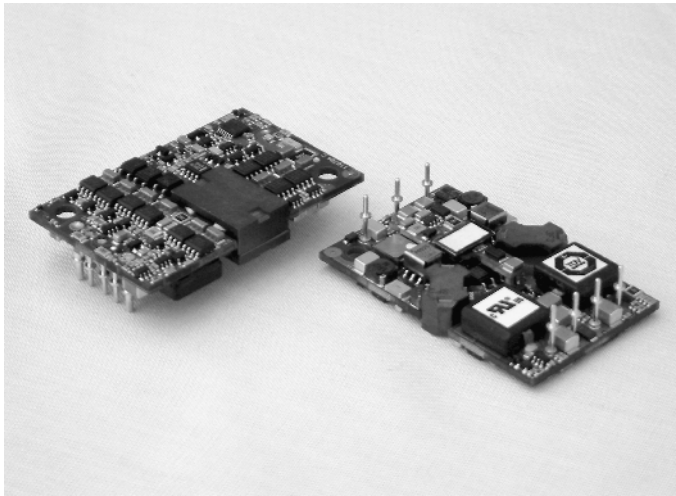


Quarter Brick DC/DC Converters

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** ±10%
- **Minimum Load** No minimum load required
- **Line Regulation** ±0.1% for V1 and V2
- **Load Regulation** 33 mV on V1, 30 mV on V2
- **Setpoint Accuracy** ±2%
- **Ripple & Noise** 50 mV pk-pk max
- **Transient Response** 100 mV max deviation, 100 μs 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** -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

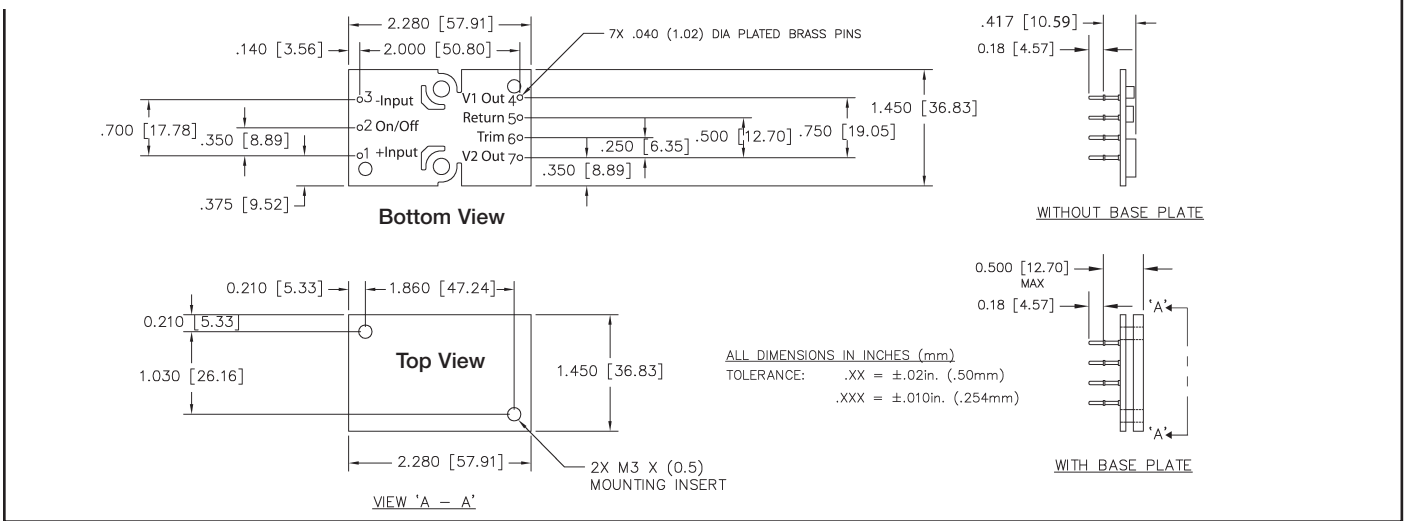
KDQ030

Output Power	Output Voltage		Output Current Maximum	Input Current ⁽⁵⁾	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

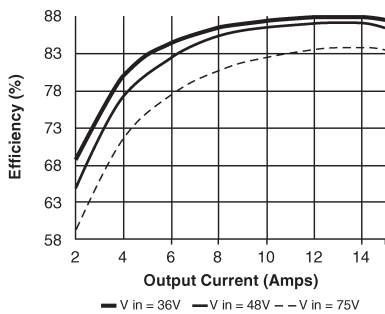
- Standard product is open frame with negative logic.
- Baseplate versions are built to order.
- Please add one of the following suffix codes to the part number when ordering:
 AL = Open Frame/Negative logic, AH = Open Frame/Positive Logic, BL = Baseplate/Negative logic, BH = Baseplate/Positive logic.
- 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

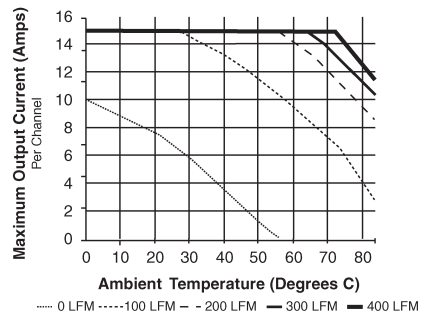


Application Information

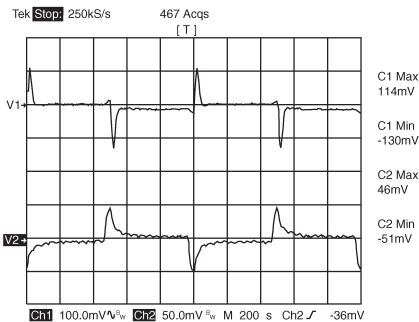
Efficiency vs Output Current for 3.3/2.5 V



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

