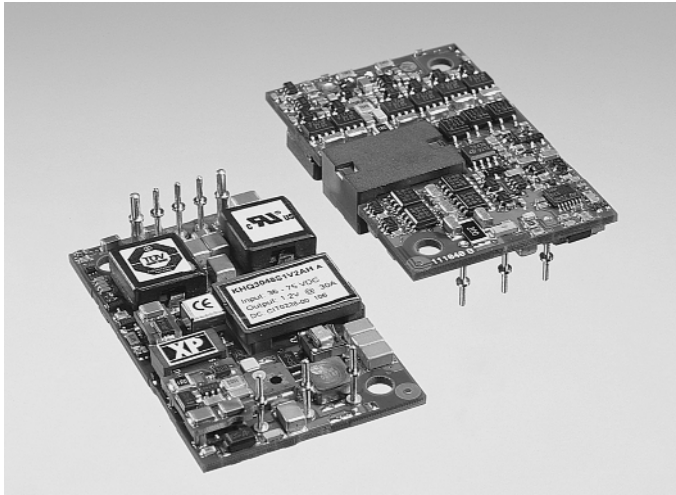


# Quarter Brick DC/DC Converters

## 30 Amps KHQ030 Series

**XPiQ inc.**

Intelligent Design Quality Product



- Low Voltage Outputs
- High Power Density
- Efficiency 91% for 3.3V/30 A
- ETS 300-321-2 Isolation
- International Safety Approvals
- Fixed Switching Frequency
- Low Profile

## Specification

### Input

- **Input Voltage Range** 36-75 VDC
- **Input Current** See Table
- **Input Reflected Ripple Current** 20 mA pk-pk
- **Remote ON/OFF** Shorted to -Vin (Logic Low) = ON  
Open (Logic high) = OFF  
Negative logic is standard,  
Positive logic is available (See Note 3)
- **Input Reverse Voltage Protection** External components required (See Note 4)
- **Input Transient** 100 V for 100 ms
- **Undervoltage Lockout** Above 32 to 34 VDC = ON  
Below 30 to 32.2 VDC = OFF

### Output

- **Output Voltage** 1.2 VDC to 3.3 VDC
- **Output Voltage Adjustment** ±10%
- **Minimum Load** No minimum load required
- **Line Regulation** ±0.5% (36-75 VDC; full load)
- **Load Regulation** ±0.5%
- **Output Voltage Accuracy** ±50 mV
- **Ripple & Noise** 100 mV pk-pk, 20 MHz bandwidth
- **Transient Response** 3% max deviation, 100 μs recovery time for a 25% step load change
- **Temperature Coefficient** 0.01%/°C
- **Remote Sense** Compensates for drop of up to 10% of output
- **Overvoltage Protection** 120%-130%, recycle input to reset

- **Overcurrent Protection** 110-135% auto restart
- **Short Circuit Protection** Protected from short circuit conditions, hiccup mode
- **Overtemperature Protection** Shutdown at 110 °C (measured on board), auto restart

### General

- **Efficiency** See Table
- **Isolation** 1500 VDC Input to Output
- **Size** 2.280" x 1.450" x 0.417" (0.5" with baseplate)
- **Switching Frequency** 330-350 kHz
- **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 with derating, full power to +50 °C with 200 LFM
- **Storage Temperature** -55 °C to +125 °C
- **Cooling** Convection cooled or forced air (See Derating Curve)
- **Humidity** 5-95% RH non-condensing

### EMC & Safety

- **Safety Approvals** UL 60950, IEC 60950, CSA 60950 per cUL, CE Marked for LVD
- **EMI/EMC** FCC level B Part 15 with external filtering (See Note)

# OUTPUT VOLTAGE & CURRENT RATINGS

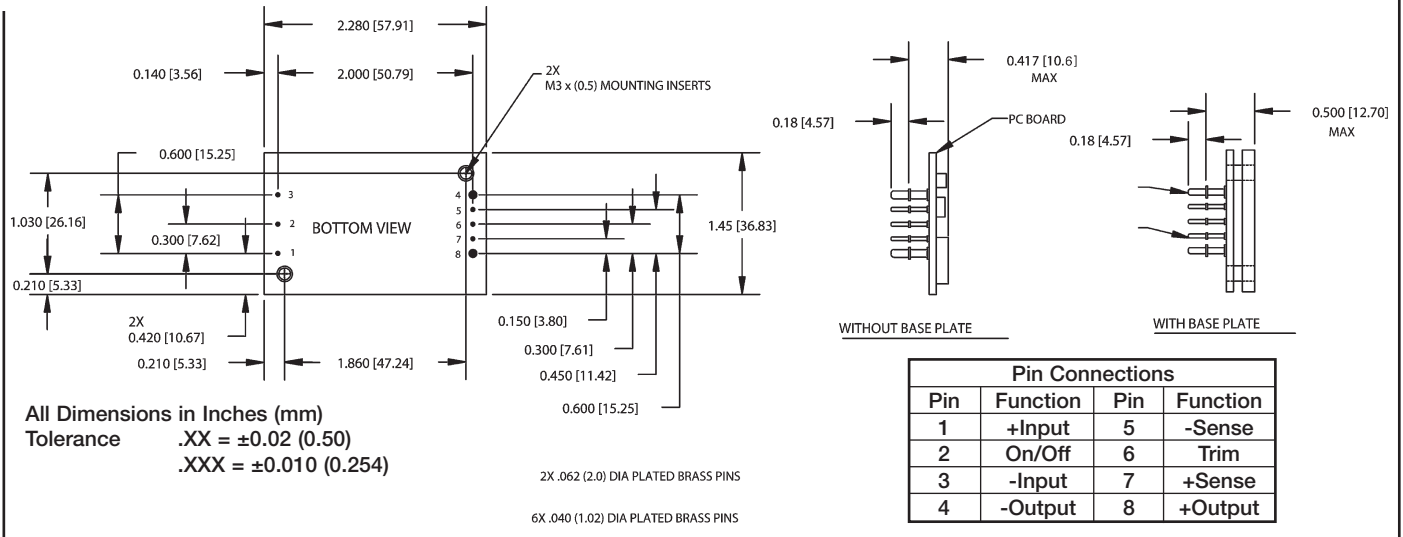
**KHQ030**

Output Power	Output Voltage	Output Current Maximum	Efficiency	Input Current	Model Number <sup>(3)</sup>
36 W	1.2 V	30 A	82%	0.92 A	KHQ03048S1V2
45 W	1.5 V	30 A	85%	1.11 A	KHQ03048S1V5
54 W	1.8 V	30 A	87%	1.30 A	KHQ03048S1V8
75 W	2.5 V	30 A	89%	1.80 A	KHQ03048S2V5
100 W	3.3 V	30 A	91%	2.29 A	KHQ03048S3V3

## Notes

1. Standard product is open frame with negative logic.
2. Baseplate versions are built to order.
3. Please add one of the following suffix code to the part number when ordering:  
AL = Open Frame/Negative logic, AH = Open Frame/Positive logic, BL = Baseplate/Negative logic, BH = Baseplate/Positive logic.
4. For input reverse voltage protection, use a parallel diode across the input terminals preceded by a 5 A fuse.
5. For details of external filtering, contact Technical Sales.

## Mechanical Details



## Derating Curves

