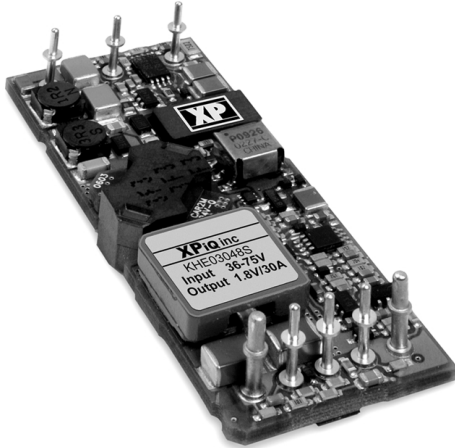


# Eighth Brick DC/DC Converters

## 30 Amps KHE030 Series

**XPiQ inc.**

Intelligent Design Quality Product



Low Voltage Outputs

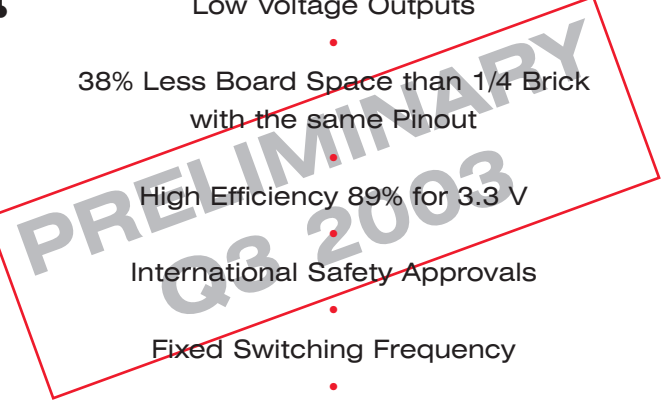
38% Less Board Space than 1/4 Brick with the same Pinout

High Efficiency 89% for 3.3 V

International Safety Approvals

Fixed Switching Frequency

Low 0.417" Profile



## Specification

### Input

- Input Voltage Range • 36-75 VDC
- Input Current • 2.40 A max at 36 VDC  
1.20 A max at 75 VDC
- Input Reflected Ripple Current • 25 mA
- Remote On/Off • Shorted to -Vin (Logic Low) = ON  
Open (Logic High) = OFF  
Positive logic is available
- Input Reverse Voltage Protection • External components required

### Output

- Output Voltage • 1.2 VDC to 5.0 VDC
- Output Voltage Adjustment •  $\pm 10\%$
- Minimum Load • 0 minimum load required
- Line Regulation • 0.1% (36-75 VDC; full load)
- Load Regulation • 0.2% (no load to full load, 48 V input)
- Setpoint Accuracy •  $\pm 1\%$  maximum
- Ripple & Noise • 70 mV pk-pk maximum
- Transient Response • 3% max deviation, 100  $\mu$ s recovery time for a 25% load change
- Temperature Coefficient • 0.01%/°C
- Remote Sense • Compensates for up to 10% Vout drop
- Overvoltage Protection • 120-135%, recycle input to reset
- Overcurrent Protection • 115-150%, constant current with auto recovery
- Overtemperature Protection • Shutdown at +125 °C with auto restart

### General

- Efficiency • 89% for 3.3 Vout, See Chart
- Isolation Voltage • 1500 VDC Input to Output
- Switching Frequency • 260 kHz/ $\pm 30$  kHz
- Package Style • Open frame
- MTBF • 1,000,000 hours per Bellcore
- Size • 0.896" x 0.417" x 2.30"
- Weight • 15 grams

### Environmental

- Operating Temperature • -40 °C to +85 °C ambient  
see derating chart  
with 300 LFM  
Full power to +70 °C
- Cooling • Convection or forced air
- Humidity • 5-95% RH non-condensing
- Storage Temperature • -55 °C to 125 °C

### Safety

- Safety Approvals • UL60950, TUV (per EN60950) cUL  
CE marked
- EMI/EMC • Bellcore TSYNWT 1089 with external filter

\* Preliminary datasheet - see website for current specs

## OUTPUT VOLTAGE & CURRENT RATINGS

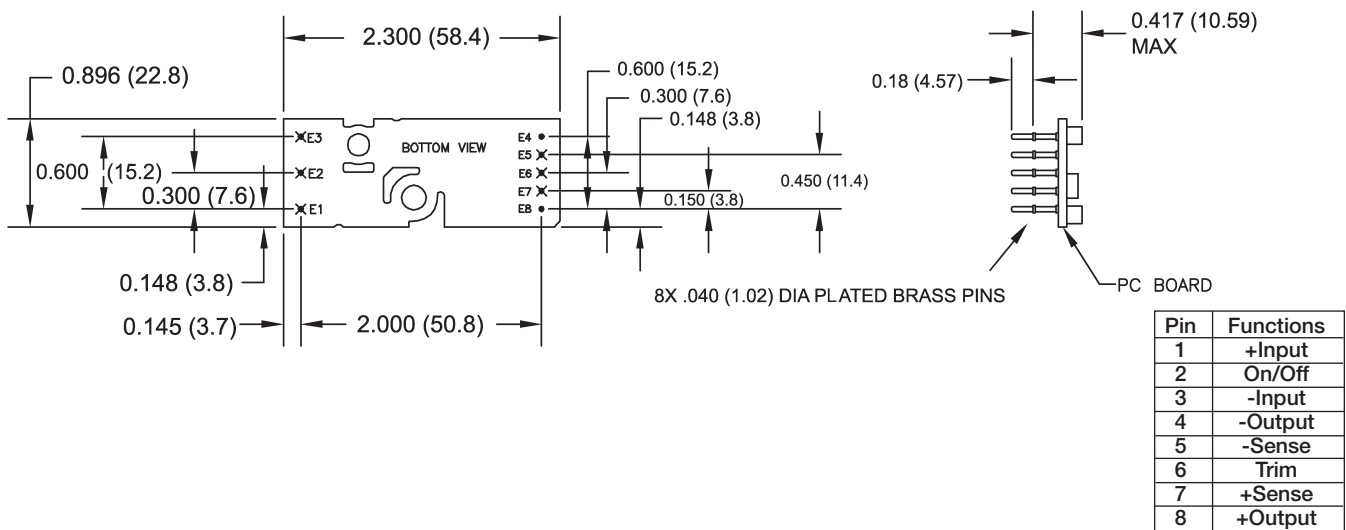
**KHE030**

Output Power	Output Voltage	Output Current Maximum	Efficiency	Model Number <sup>(1)</sup>
36.0 W	1.2 V	30 A	82%	KHE03048S1V2
45.0 W	1.5 V	30 A	83%	KHE03048S1V5
54.0 W	1.8 V	30 A	86%	KHE03048S1V8
62.5 W	2.5 V	25 A	87%	KHE03048S2V5
66.0 W	3.3 V	20 A	89%	KHE03048S3V3
75.0 W	5.0 V	15 A	89%	KHE03048S05

### Notes

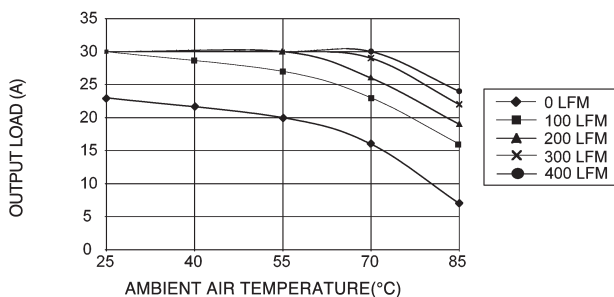
1. Please add one of the following suffix codes to the model when ordering: 'AL' for negative logic, 'AH' for positive logic. Standard product is open frame with negative logic suffix 'AL'.

## Mechanical Details

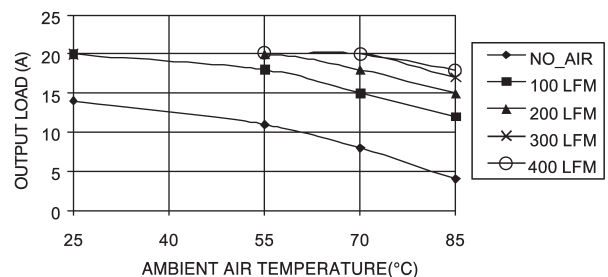


## Derating Curves

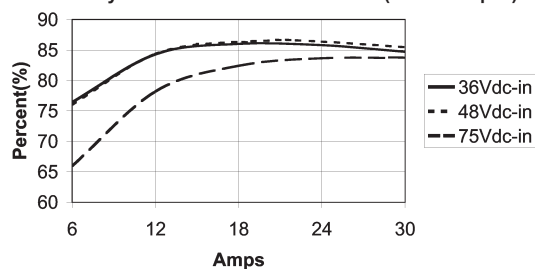
Derating Curve for KHE03048S1V8 (1.8 V output)



Derating Curve for KHE03048S3V3 (3.3 V output)



Efficiency Curve for KHE03048S1V8 (1.8 V Output)



\* Preliminary datasheet - see website for current specs