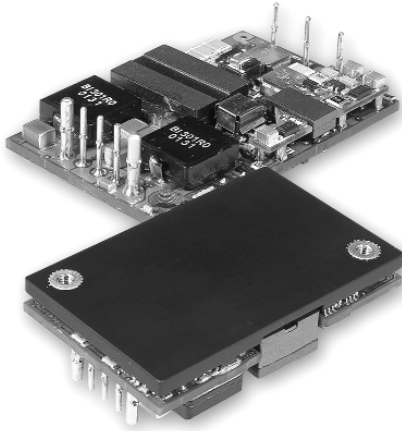


# Quarter Brick DC/DC Converters

## 50 Amps KHQ050 Series

**XPiQ inc.**

Intelligent Design Quality Product



- Low Voltage Outputs to 1.2 V
- 50 A Output High Power Density
- High Efficiency - Up to 91%
- International Safety Approvals
- Low Profile 0.43"

## Specification

### Input

- **Input Voltage Range** • 36-75 VDC
- **Input Current** • 1.0 A - 3.4 A, See Table
- **Input Reflected Ripple** • 25 mA pk-pk
- **No Load Input Current** • 100 mA at 48 VDC in
- **Remote On/Off** • Shorted to -Vin (Logic Low) = ON  
Open (Logic high) = OFF  
Positive logic is available (see note 3)
- **Input Reverse Voltage Protection** • External components required
- **Input Transient** • Capable of withstanding 100 V for 100 mS
- **Undervoltage lockout** • Above 32 to 35 VDC = ON  
Below 29 to 34 VDC = OFF

### Output

- **Output Voltage** • 1.2 VDC to 5.0 VDC
- **Output Voltage Adjustment** •  $\pm 10\%$
- **Minimum Load** • No minimum load required
- **Line Regulation** •  $\pm 5$  mV or 0.5% whichever is greater
- **Load Regulation** •  $\pm 10$  mV or 0.5% whichever is greater
- **Setpoint Accuracy** •  $\pm 50$  mV
- **Ripple & Noise** • 100 mV pk-pk maximum
- **Transient Response** • 150 mV max deviation, 100  $\mu$ s recovery time for a 25% load change
- **Temperature Coefficient** • 0.01%/°C
- **Remote Sense** • Compensates for up to 10% of Vout drop
- **Overvoltage Protection** • 120%-135%, recycle input to reset

### Overcurrent Protection

### Short Circuit Protection

### Overtemperature Protection

### General

#### Efficiency

#### Isolation

#### Size

#### Package Style

#### Weight

#### MTBF

- 110-150% auto restart
- Protected to short circuit conditions, hiccup mode
- Shutdown at +125 °C auto restart
- 91% for 3.3 V out, See Table
- 1500 VDC Input to Output
- 2.28" x 1.45" x 0.43" (without baseplate)
- Open frame, baseplate option
- 42 g for open frame
- 1,000,000 hours per Bellcore

### Environmental

#### Operating Temperature (with 300 LFM)

#### Storage Temperature

#### Humidity

- -40 °C to +85 °C ambient see derating chart Full power to +60 °C
- -55 °C to +125 °C
- 5-95% RH non-condensing

### EMC & Safety

#### Safety Approvals

#### EMI/EMC

- UL60950, IEC60950, CSA 60950 per cUL, CE Marked for LVD
- FCC level B Part 15 with external filtering

# OUTPUT VOLTAGE & CURRENT RATINGS

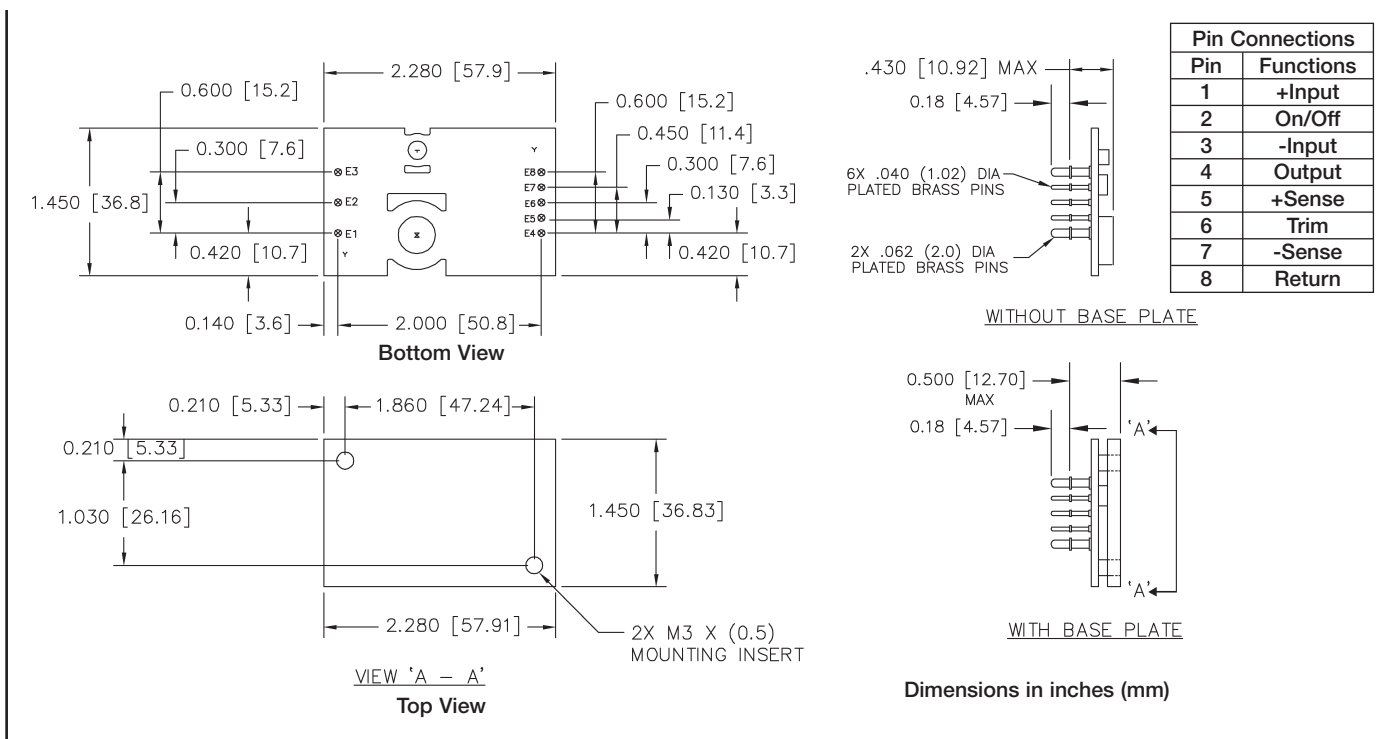
**KHQ050**

Output Power	Output Voltage	Output Current Maximum	Efficiency	Input Current	Model Number <sup>3)</sup>
60.0 W	1.2 V	50 A	84%	1.44 A	KHQ05048S1V2
75.0 W	1.5 V	50 A	85%	1.78 A	KHQ05048S1V5
90.0 W	1.8 V	50 A	89%	2.10 A	KHQ05048S1V8
112.5 W	2.5 V	45 A	89%	2.63 A	KHQ05048S2V5
148.5 W	3.3 V	45 A	91%	3.40 A	KHQ05048S3V3
135.0 W	5.0 V	27 A	91%	3.10 A	KHQ05048S05

### Notes

- Standard product is open frame with negative logic.
- Baseplate versions are built to order.
- 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.
- For details of external filtering, contact technical sales.

### Mechanical Details



### Applications Information

