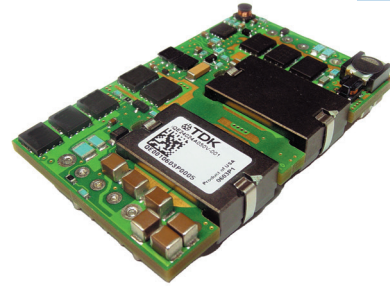


## 132-204W, 18 to 36V or 36 to 75V Input Isolated DC-DC Quarter Brick

<https://product.tdk.com/en/power/iQE>  
[www.emea.lambda.tdk.com/iQE](http://www.emea.lambda.tdk.com/iQE)



Industrial



Test



COMM



Broadcast

The iQE series of isolated DC-DC converters deliver up to 204W in a compact and high-performance industry standard open-frame quarter footprint. Capable of operating from nominal input voltages of 24V (18-36V) or 48V (36 to 75V), the converter provides fully regulated outputs from 5V up to 15V for demanding environments in telecom, datacom, computing and industrial applications. The output voltage can be adjusted from -10 to +10% of nominal using the trim connection to accommodate non-standard voltages.

### Features

- High Operating Efficiency up to 93%
- Openframe Construction
- Available from 5V up to 15V outputs
- Constant Switching Frequency
- Monotonic Start-Up Into a Pre-Bias Output

### Benefits

- Reduces Heat Losses/Dissipation in System
- Low profile for height constraint installations
- Flexible and wide output voltage coverage for various loads
- Predictable EMI
- Reliable and Stable Output in Multi-Load conditions

### Model Selector

Model	Input Voltage (V)	Output Voltage (V)	Output Adjust Range (A)	Max Current (A)	Max Power (W)	Efficiency (%)	On/Off Share	Pin Length (inch)	Baseplate
<a href="#">iQE48030A050V-000-R</a>	36 - 75	5	4.5 - 5.5	30	150	91.0	Pos	0.145	No
<a href="#">iQE48030A050V-001-R</a>	36 - 75	5	4.5 - 5.5	30	150	91.0	Neg	0.145	No
<a href="#">iQE48017A120V-000-R</a>	36 - 75	12	10.8 - 13.2	17	204	93.0	Pos	0.145	No
<a href="#">iQE48017A120V-001-R</a>	36 - 75	12	10.8 - 13.2	17	204	93.0	Neg	0.145	No
<a href="#">iQE48017A120V-007-R</a>	36 - 75	12	10.8 - 13.2	17	204	93.0	Neg	0.180	No
<a href="#">iQE4W011A120V-001-R</a>	18 - 60	12	10.8 - 13.2	11	132	90.0	Neg	0.145	No
<a href="#">iQE48010A150V-001-R</a>	36 - 75	15	13.5 - 16.5	10	150	91.0	Neg	0.145	No
<a href="#">iQE48010A150V-007-R</a>	36 - 75	15	13.5 - 16.5	10	150	91.0	Neg	0.180	No

### Related Products

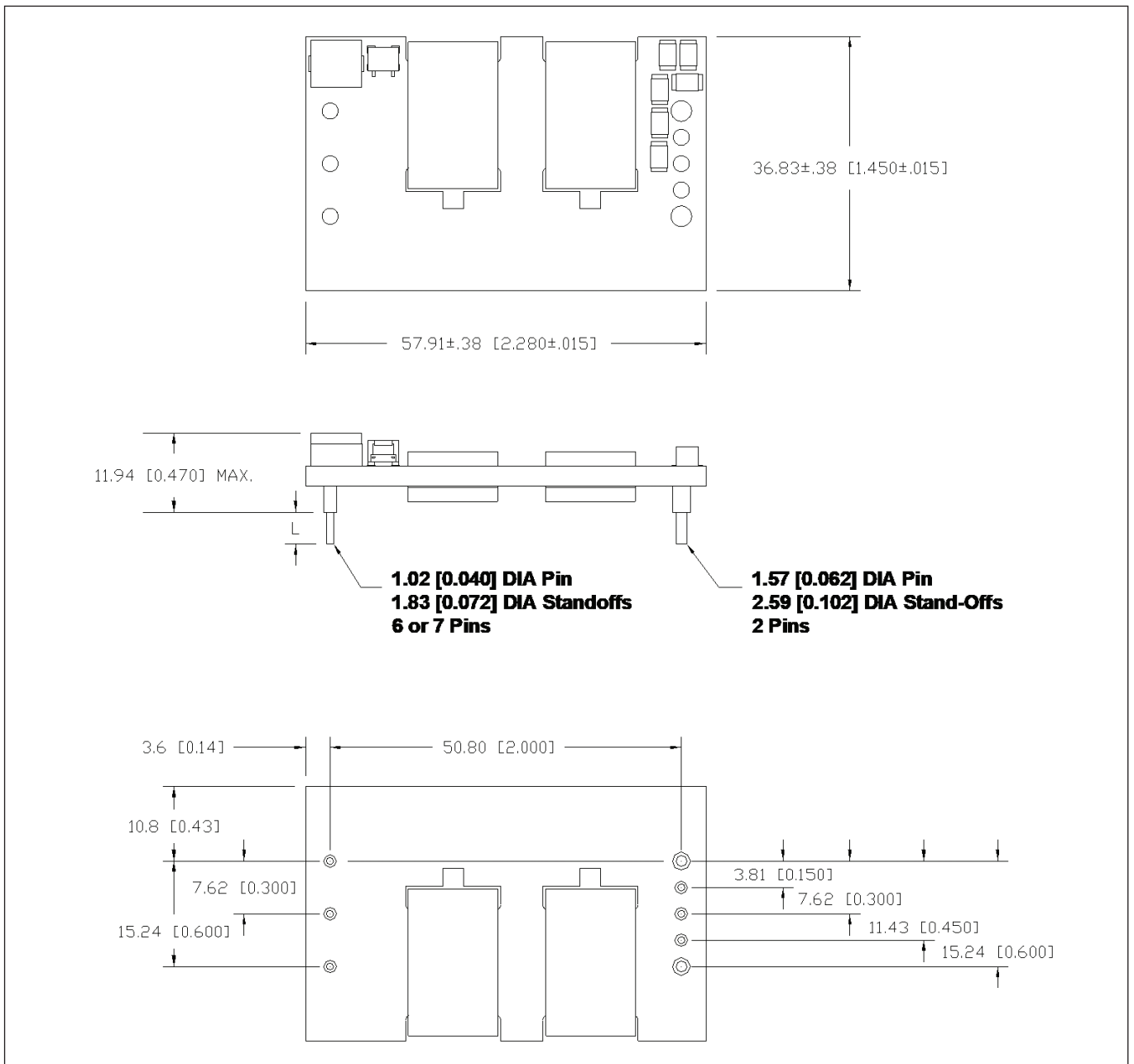
Type	Part Number	Description
Isolated DC-DC Converter	<a href="#">iQG</a>	300W-504W, Input 36-75V, Isolated Quarter Brick
Isolated DC-DC Converter	<a href="#">iEH</a>	300W, Input 36-75V, Isolated Eighth Brick
Isolated DC-DC Converter	<a href="#">iEA</a>	78W, Input 36-75V, Isolated Eighth Brick
Isolated DC-DC Converter	<a href="#">GQA</a>	120W Industrial, Input 9-36V, Isolated Quarter Brick
Non-Isolated DC-DC Converter	<a href="#">iBH</a>	80W/20A, 3.5-14Vin, 0.7 - 5.5Vout, DOSA Compatible
Non-Isolated DC-DC Converter	<a href="#">iCH</a>	85W/12A, 4.5-14Vin, 0.7 - 8.5Vout, DOSA Compatible
Non-Isolated DC-DC Buck-Boost Converter	<a href="#">iZC</a>	300W, Input 9-53V or 9-36V, Output 9.6-48V 8A, 5-28V 12.5A or 8-24V 20A
Input Filter	<a href="#">iDQ</a>	75V / 10A Filter
Evaluation Board	<a href="#">FQX-HQA-EVK-D0</a>	Evaluation board (no modules) that fits standard Eighth or Quarter brick and FQx or iDQ input filters

Specification					
Model(s)		5V	12V	15V	
<b>Input</b>					
Input Voltage Range	(iQE48) (iQE4W)	Vdc	36 - 75		
			18 - 60		
Input Transient	(iQE48) (iQE4W)	Vdc	100 (100 ms)		
			100 (100 us)		
Input Current (max)	(iQ L24)	A	10		
Turn-ON Input Voltage (typ)	(iQE48) (iQE4W)	Vdc	33.0		
			17		
Turn-OFF Input Voltage (typ)	(iQE48) (iQE4W)	Vdc	30.0		
			15.5		
Efficiency (typical)		%	Refer to Model Selector Table		
Safety Certifications and Markings		-	IEC/UL/CSA/EN 62368-1, 60950-1, CE Mark and UKCA Mark		
<b>Output</b>					
Output Voltage Initial Setpoint		Vdc	4.92 - 5.08	11.64 - 12.36	14.7 - 15.3
Output Voltage Tolerance		Vdc	4.85 - 5.15	11.58 - 12.42	14.48 - 15.52
Line Regulation (typ)		mV	7	5 ~ 8	10
Load Regulation (typ)		mV	10	14	20
Remote Sense	(iQE48) (iQE4W)	%Vo,nom	10		
			5		
Output Voltage Adjustment Range		%Vo,nom	±10		
Ripple & Noise (typ) (2)	(iQE48) (iQE4W)	mVpp	35	60	60
			35		
External Load Capacitance	(iQE48) (iQE4W)	uF	0 - 3000	0 - 3000	0 - 2000
			200 - 3000		
Switching Frequency (fixed)	(iQE48) (iQE4W)	kHz	330		
			285		
Overcurrent Protection (hiccup)	(iQE48) (iQE4W)	A	41	22	13
			15		
Over Voltage Protection		Vdc	5.7 - 6.8	13.6 - 16.5	16.7 - 21
Over Temperature Protection		-	Auto recovery		
<b>Environmental</b>					
Operating Temperature (Tc)		°C	-40 to 125		
Storage Temperature		°C	-55 to 125		
Humidity (non condensing)		%RH	10 - 95		
Cooling		-	Convection or forced air (See product specifications for derating)		
Isolation Voltage		Vdc	1500 (Input to Output)		
Shock		-	MIL-STD-202G, Method 213B, Test Condition 1		
Vibration		-	5 to 50 Hz (0.5g); 50 to 500 Hz (1.5g); three axes; Bellcore TR-EOP-000063-5.4.4		
<b>Other</b>					
Weight (max)		g	50		
Size (LxWxH)		mm	57.91 x 36.83 x 11.94		
Size (LxWxH)		inches	2.28 x 1.45 x 0.47		
MTBF - Telcordia SR-332 (100% Load, 40°C)		MHrs	> 2.93		
Warranty		yrs	3		

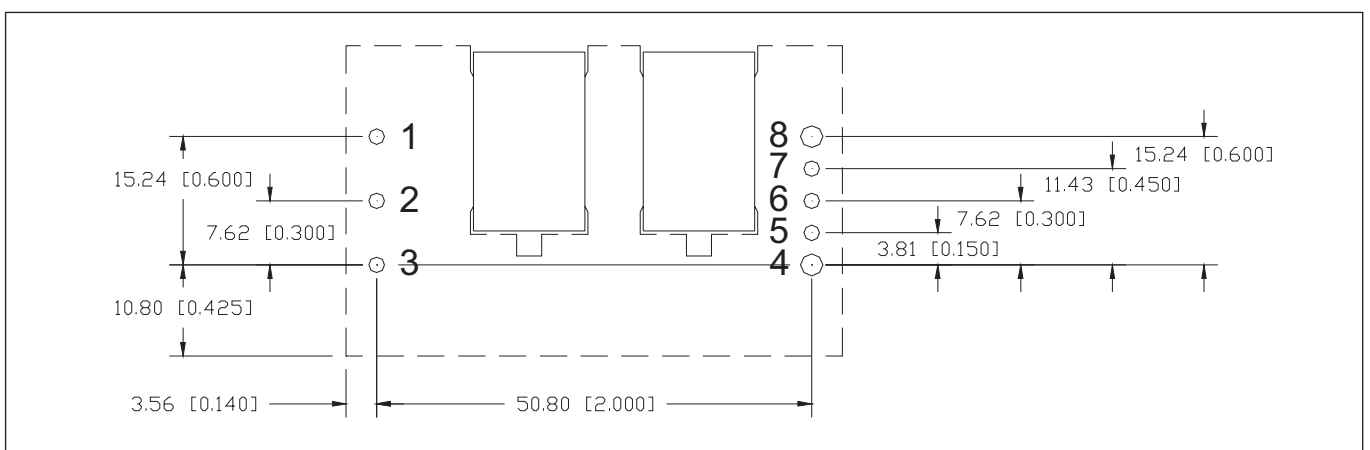
Notes

- (1) See website for detailed product [iQE48](#) and [iQE4W](#) specifications.
- (2) Measured with one 22 µF and one 0.1 µF ceramic capacitor, BW = 20MHz.

**Mechanical Specification**



**Recommended PCB Hole Pattern**



Pinout	
PIN	Function
1	Vin (+)
2	On / Off
3	Vin (-)
4	Vout (-)
5	Sense (-)
6	Trim
7	Sense (+)
8	Vout (+)

Pin base material is copper with tin over nickel plating.



**TDK-Lambda France SAS**

Tel: +33 1 60 12 71 65  
 tlf.fr.powersolutions@tdk.com  
 www.emea.lambda.tdk.com/fr



**Italy Sales Office**

Tel: +39 02 61 29 38 63  
 tlf.it.powersolutions@tdk.com  
 www.emea.lambda.tdk.com/it



**Netherlands**

tlf.nl.powersolutions@tdk.com  
 www.emea.lambda.tdk.com/nl



**TDK-Lambda Germany GmbH**

Tel: +49 7841 666 0  
 tlg.powersolutions@tdk.com  
 www.emea.lambda.tdk.com/de



**Austria Sales Office**

Tel: +43 2256 655 84  
 tlg.at.powersolutions@tdk.com  
 www.emea.lambda.tdk.com/at



**Switzerland Sales Office**

Tel: +41 44 850 53 53  
 tlg.ch.powersolutions@tdk.com  
 www.emea.lambda.tdk.com/ch



**Nordic Sales Office**

Tel: +45 8853 8086  
 tlg.dk.powersolutions@tdk.com  
 www.emea.lambda.tdk.com/dk



**TDK-Lambda UK Ltd.**

Tel: +44 (0) 12 71 85 66 66  
 tlu.powersolutions@tdk.com  
 www.emea.lambda.tdk.com/uk



**TDK-Lambda Ltd.**

Tel: +9 723 902 4333  
 tli.powersolutions@tdk.com  
 www.emea.lambda.tdk.com/il-en



**TDK-Lambda Americas**

Tel: +1 800-LAMBDA-4 or 1-800-526-2324  
 tla.powersolutions@tdk.com  
 www.us.lambda.tdk.com



**TDK Electronics do Brasil Ltda**

Tel: +55 11 3289-9599  
 sales.br@tdk-electronics.tdk.com  
 www.tdk-electronics.tdk.com/en



**TDK-Lambda Corporation**

Tel: +81-3-6778-1113  
 www.jp.lambda.tdk.com



**TDK-Lambda (China) Electronics Co. Ltd.**

Tel: +86 21 6485-0777  
 tlc.powersolutions@tdk.com  
 www.lambda.tdk.com.cn



**TDK-Lambda Singapore Pte Ltd.**

Tel: +65 6251 7211  
 tfs.marketing@tdk.com  
 www.sg.lambda.tdk.com



**TDK India Private Limited, Power Supply Division**

Tel: +91 80 4039-0660  
 mathew.philip@tdk.com  
 www.sg.lambda.tdk.com

