

300W, 36 to 75V Input Isolated DC-DC Eighth Brick

<https://product.tdk.com/en/power/iEH>
www.emea.lambda.tdk.com/iEH



Industrial



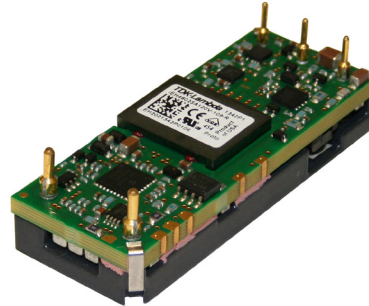
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Broadcast



The iEH series of isolated DC-DC converters deliver up to 300W in a compact and high performance eighth brick footprint. Available in 10.8V or 12V outputs with efficiencies up to 94.6%, these fully regulated Intermediate Bus Converters (IBC) feature very high, true useable power in high ambient temperatures. This makes them ideal for driving Non-Isolated Point-Of-Load (POL) converters in Distributed Power Architectures (DPA), commonly deployed in data communications, computing and storage applications. The iEH is available in an open frame format or with an integral base-plate for conduction cooling.

Features	Benefits
• High Operating Efficiency up to 94.6%	• Reduces Heat Losses/Dissipation in System
• Open Frame or Baseplate Construction	• Mounting Flexibility for Low Profile or Conduction Cooling
• 10.8V or 12V Intermediate Bus Voltage	• Optimized Distributed Power Architecture (DPA) for Driving Point-Of-Loads (POL)
• Constant Switching Frequency	• Predictable EMI
• Monotonic Start-Up Into a Pre-Bias Output	• Reliable and Stable Output in Multi-Load Conditions

Model Selector

Model	Input Voltage (V)	Output Voltage (V)	Maximum Current (A)	Maximum Power (W)	On/Off Polarity	Pin Length (inch)	Baseplate (-1xx-R Suffix)	Droop Load Share
iEH48028A108V-103-R *	36 - 75	10.8	28	300	Neg	0.145	Yes	No
iEH48028A108V-109-R	36 - 75	10.8	28	300	Neg	0.190	Yes	No
iEH48025A120V-003-R *	36 - 75	12	25	300	Neg	0.145	No	No
iEH48025A120V-103-R *	36 - 75	12	25	300	Neg	0.145	Yes	No
iEH48025A120V-107-R *	36 - 75	12	25	300	Neg	0.190	Yes	No
iEH48025A120V-109-R	36 - 75	12	25	300	Neg	0.190	Yes	No

* Non Latching OVP (Over Voltage Protection)

Preferred option

Related Products

Type	Part Number	Description
Isolated DC-DC Converter	iQL	300W, Input 36-75V or 18-36V, Isolated Quarter Brick
Isolated DC-DC Converter	iQG	300W~504W, Input 36-75V, Isolated Quarter Brick
Isolated DC-DC Converter	iEA	78W, Input 36-75V, Isolated Eighth Brick
Isolated DC-DC Converter	GQA	120W Industrial, Input 9-36V, Isolated Quarter Brick
Non-Isolated DC-DC Converter	iBH	80W/20A, 3.5-14Vin, 0.7 - 5.5Vout, DOSA Compatible
Non-Isolated DC-DC Converter	iCH	85W/12A, 4.5-14Vin, 0.7 - 8.5Vout, DOSA Compatible
Input Filter	iDQ	75V / 10A Filter
Evaluation Board	FQX-HQA-EVK-D0	Evaluation board (no modules) accepting standard Eighth or Quarter brick and FQx or iDQ input filters

Specifications				
Model		iEH48028A108V-xxx-R		iEH48025A120V-xxx-R
Input				
Input Voltage Range	Vdc	36 - 75		36 - 75 (1)
Input Transient (100 ms)	Vdc	100		
Input Current (max)	A	9		8.5
Turn-On Input Voltage (typ)	Vdc	34.5		
Turn-Off Input Voltage (typ)	Vdc	32.5		
Efficiency (typical)	%	94.0		94.6
Safety Certifications and Markings	-	IEC/UL/CSA/EN 62368-1, 60950-1, CE Mark and UKCA Mark		
Output				
Output Voltage Initial Setpoint	Vdc	10.65 - 10.85		11.89 - 12.11
Output Voltage Tolerance	Vdc	10.48 - 11.02		11.76 - 12.24
Line Regulation (typ)	mV	25		30
Load Regulation (typ)	mV	60		30
External Load Capacitance	uF	488 - 3300		
Ripple & Noise (typ)	mVpp	85		60
Switching Frequency (fixed)	kHz	140		150
Overcurrent Protection Threshold (Hiccup)	A	36		29.5
Over Voltage Protection (Latching)	Vdc	13.1		14.8
Over Temperature Protection	-	Auto recovery		
Environmental				
Operating Temperature (Tc)	°C	-40 to 124		-40 to 130
Storage Temperature	°C	-55 to 125		
Humidity (non condensing)	%RH	10 - 95		
Cooling	-	Conduction, convection or forced air (See product specifications for derating)		
Isolation Voltage (Input to Output) (Input to Baseplate)	Vdc	2250		
		1500		
Isolation Resistance	MΩ	≥ 15		
Shock	-	50g; 6ms half-sine; three axes; MIL-STD-202G Method 213B		
Vibration	-	5 to 50 Hz (0.5g); 50 to 500 Hz (1.5g); three axes; GR-63-CORE, Issue 3		
Other				
Weight (max)	g	50		
Size (LxWxH)	inch	2.3 x 0.9 x 0.522		
	mm	58.42 x 22.86 x 13.26		
MTBF - Telcordia SR-332 (100% Load, 40°C)	MHrs	> 3		
Warranty	yrs	3		

Notes

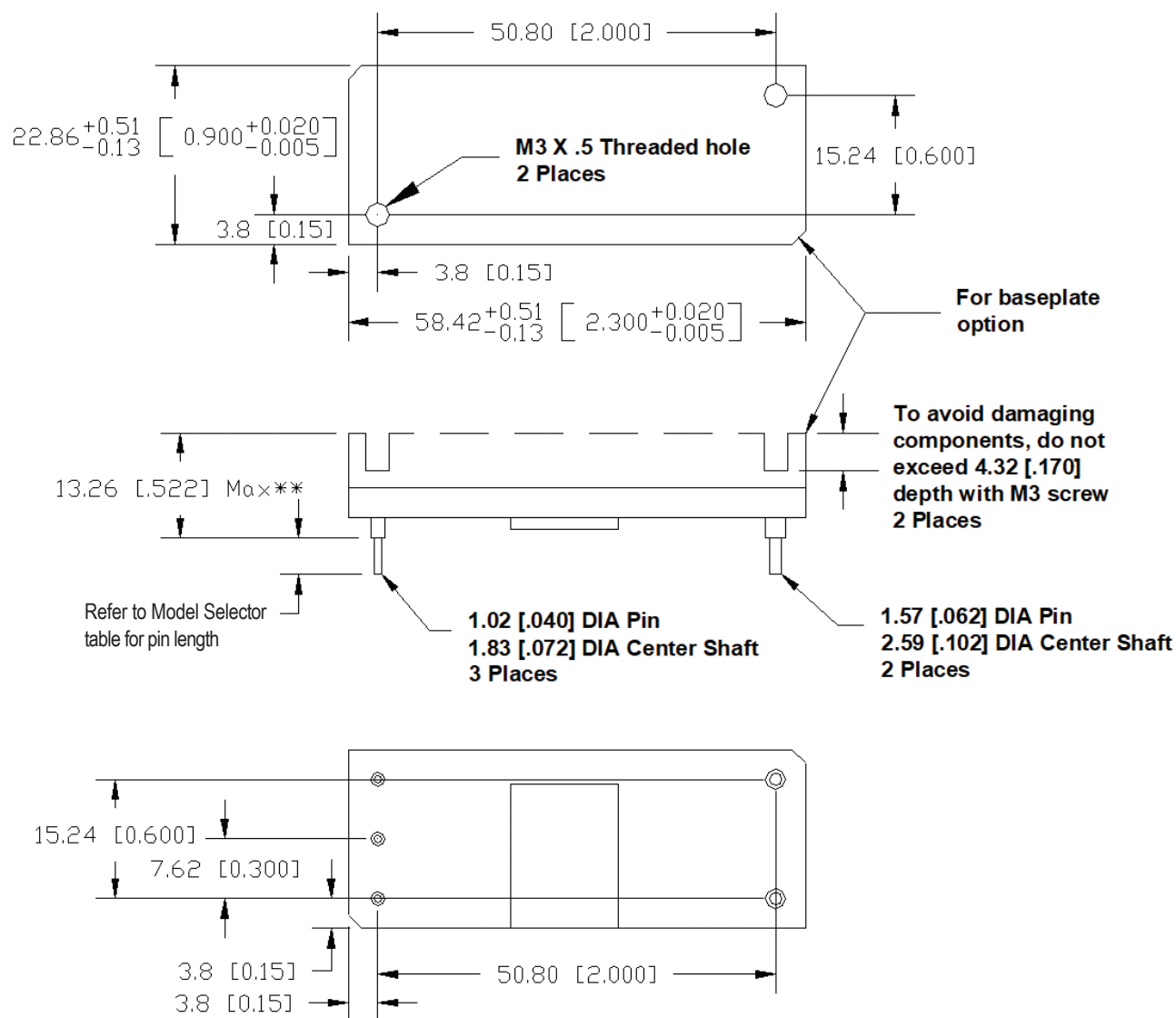
(1) When operating below 40V input, the module will operate but the load regulation may be out of specification.

(2) See website for detailed product specifications ([10.8V @ 28A](#), [12V @ 25A](#))

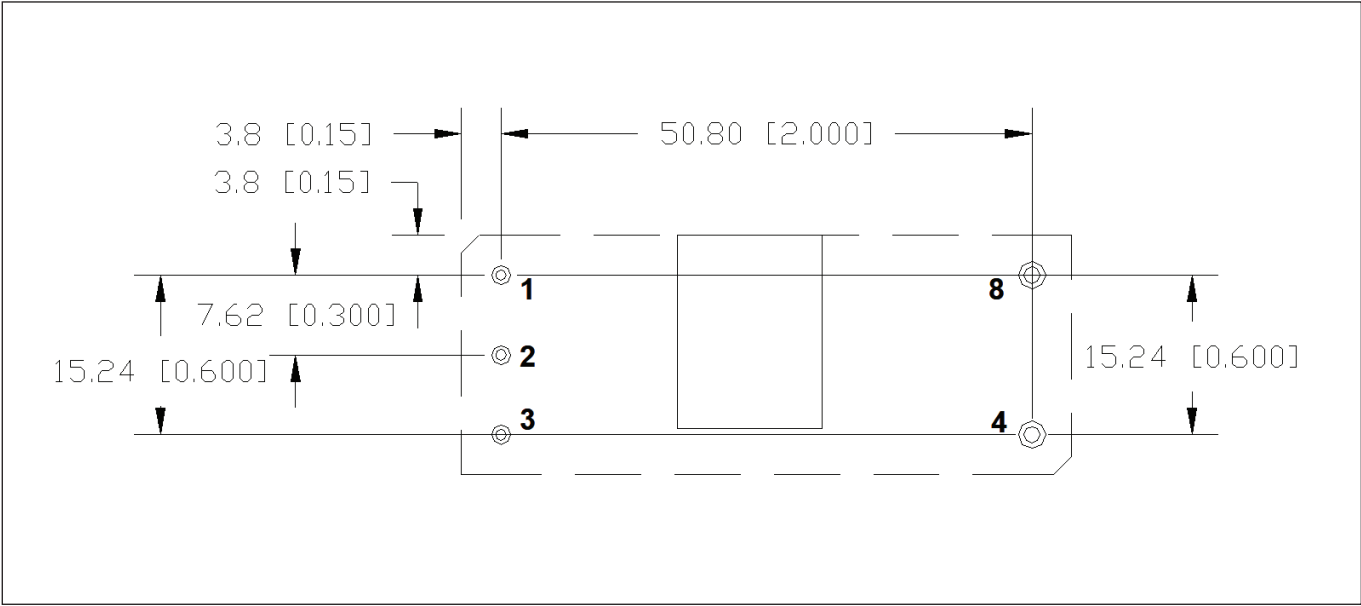
Mechanical Specification

Dimensions are in mm [in].

Unless otherwise specified tolerances are: $x.x \pm 0.5$ [0.02], $x.xx$ and $x.xxx \pm 0.25$ [0.010]



Recommended PCB Hole Pattern



PIN Assignment

Pin	Function	Pin	Function
1	Vin(+)	5	None
2	On/Off	6	None
3	Vin(-)	7	None
4	Vo(-)	8	Vo(+)

Pin base material is copper with gold plating.



TDK-Lambda France SAS

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



Italy Sales Office

Tel: +39 02 61 29 38 63
info.italia@it.tdk-lambda.com
www.emea.lambda.tdk.com/it



Netherlands

info@nl.tdk-lambda.com
www.emea.lambda.tdk.com/nl



TDK-Lambda Germany GmbH

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



Austria Sales Office

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



Switzerland Sales Office

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



Nordic Sales Office

Tel: +45 8853 8086
info@dk.tdk-lambda.com
www.emea.lambda.tdk.com/dk



TDK-Lambda UK Ltd.

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



TDK-Lambda Ltd.

Tel: +9 723 902 4333
info@tdk-lambda.co.il
www.emea.lambda.tdk.com/il



C.I.S.

Commercial Support:

Tel: +7 (495) 665 2627

Technical Support:

Tel: +7 (812) 658 0463
info@tdk-lambda.ru
www.emea.lambda.tdk.com/ru



TDK-Lambda Americas

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



TDK-Lambda Singapore Pte Ltd.

Tel: +65 6251 7211
tls.mkt@sg.tdk-lambda.com
www.sg.lambda.tdk.com



TDK India Private Limited, Power Supply Division

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

