

IAQ1H Series

Quarter Brick up to 177W | 65-160V Input

The IAQ1H Immense-Amazon series provides isolated DC/DC conversion for 65V to 160V high voltage bus systems. Full metal enclosure with silicone potting provides exceptional EMI shielding and thermal performance. Designed for railway, industrial control, and defense applications.


177W

Max Output

160V

Max Input

4.57M hrs

MTBF

- Wide Input Range - 65V to 160Vdc continuous, 200V transient
- Metal Enclosed - Six-sides silicone potted for extreme environments
- High Reliability - MTBF >4.57M hours (Bellcore TR-332)
- Safety Isolation - 2.0KVdc I/O, 1.0KVdc I/C and O/C
- Quarter Brick - Industry-standard 8-pin interface
- Budgetary Version - Contact for availability

EXISTING MODEL LIST

Model Number	Input	Pin Max	Vout	Iout	Max Out	Eff.
IAQ1H240xxxE-05xxA	65-160V	57W	24V	2A	48W	89%
IAQ1H240xxxE-05xxB	65-160V	80W	24V	3A	72W	90%
IAQ1H120xxxE-13xx0	65-160V	177W	12V	13A	156W	88%
IAQ1H050xxxE-10xxB	36-160V	59W	5V	10A	50W	85%

SPECIFICATIONS

Absolute Max

Op Temp	-50C to +110C
Storage	-55C to +125C
Input (Op)	-0.5V to +160Vdc
Transient	200V Max
I/O Isolation	2.0KVdc
I/C Isolation	1.0KVdc
O/C Isolation	1.0KVdc
RC Voltage	-0.5V to +12Vdc

General

Switching Freq	330KHz
MTBF	4.57x10^6 hrs
OTP	110C+/-5C
Weight	58g

Package

Form Factor	Quarter Brick 8-Pin
Enclosure	Metal potted
Profile	0.37"
Weight	58g
Base Plate	Aluminum alloy
Mounting	M3x0.5
Max Torque	3.9 in-lb

Control

RC High	+3.0V to +6.5V
RC Low	0V to +1.0V
RC Current	-0.5mA to +1.5mA

Input

Voltage Range	+65V to +160Vdc
Reflected Ripple	20mA/60mAp-p
Power ON	+61.4 to +65.0V
Power OFF	+56.2 to +59.8V
Off Current	6mA Max
Latch Current	8mA Max
Input Cap	4.7uF Max

Output

Accuracy	+/-1.0%
Line Reg	+/-0.3%
Load Reg	+/-0.3%
Temp Drift	+/-0.03%/C
Tolerance	+/-4%
Ripple	3% Vo (1% RMS)
OVP	115~130% Vo
Current Limit	108%~125%
Trim	+/-10%
Step Load	+/-6%/500us
Start-Up	20ms/250ms

NOTE: Specs typical at nominal input, full load, 25C.

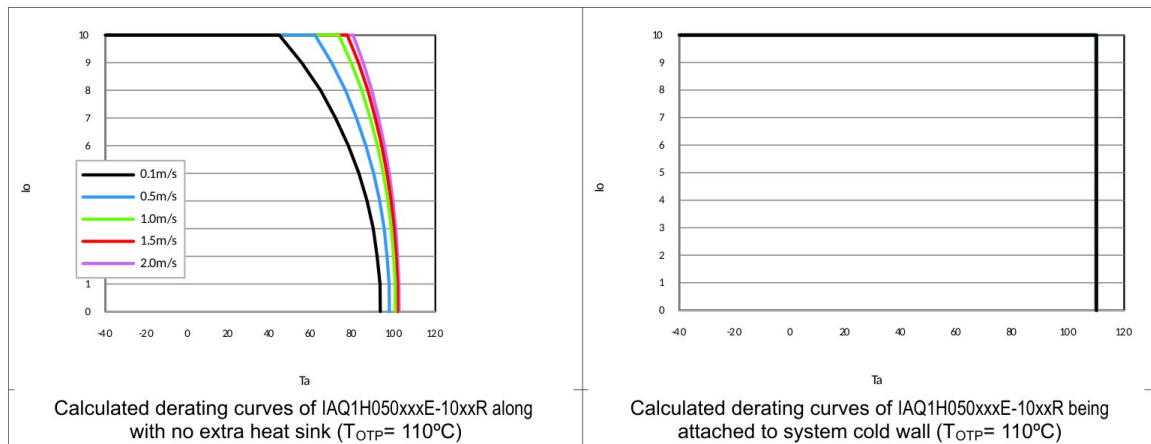
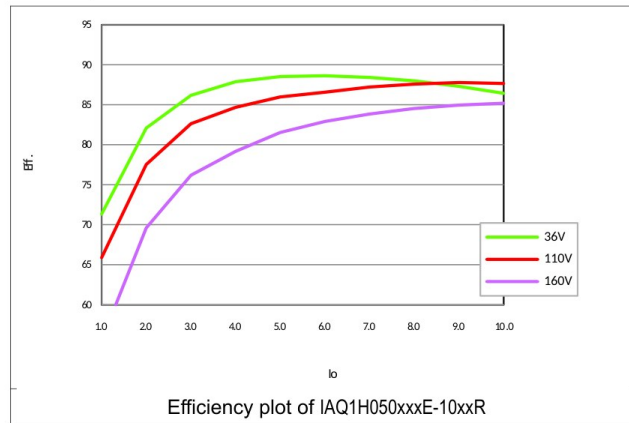
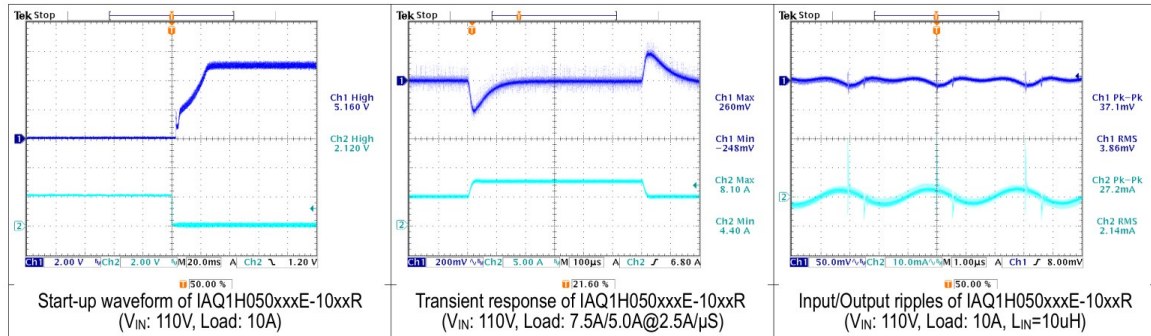
TYPICAL WAVES AND CURVES

Immense-Amazon series Quarter brick

65Vdc~160Vdc standard Vin range

TYPICAL WAVES AND CURVES

(Below waveforms use on-hand customized 5V/10A sample as instant reference.)

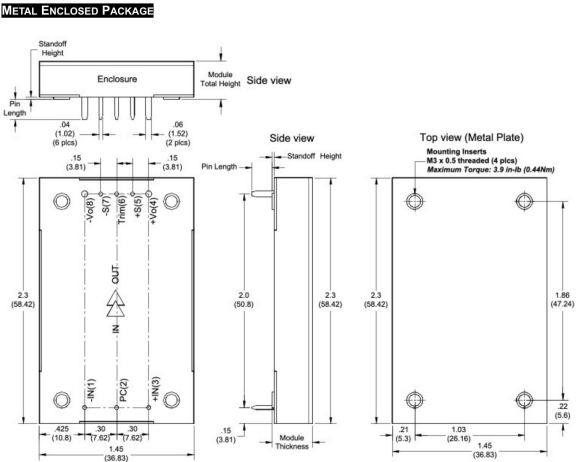


NOTE:

Due to natural interaction between various tolerances of the components used in this product, de-rating performance of different units of the same model can be similar but not exactly the same. A higher OTP set point may also result in de-rating curves that "appear" to be much better. However, the key should always be whether or not the other devices in customer system are able to survive in a constant high temperature environment. The de-rating curves, calculated or actual measured, are therefore used as a reference only and it is strongly recommended for the actual usage to run the units under the curves' limits in real application. **Due to the very high power density, in the majority of the actual applications, attaching the enclosure unit to the system cold wall would usually be highly recommended, while adding extra forced air would surely be better.**

MECHANICAL DRAWING

Immense-Amazon series Quarter brick
65Vdc~160Vdc standard Vin range



Dimensions and Pin Connections

Designation	Function Description	Pin #
-IN	Negative input	1
PC	Remote control. To turn-on and turn-off output.	2
+IN	Positive input	3
+Vo	Positive output	4
+S	Positive remote sense	5
TRIM	Output voltage adjust	6
-S	Negative remote sense	7
-Vo	Negative output	8

Dimensions: inches (mm)
Tolerances: .xxx±0.02 (.x±0.5)
.xxx±0.01 (.x±0.25)
Weight: 55g
Base plate: Aluminum alloy with anode oxide
Mounting inserts: Stainless steel
Maximum torque: 3.9 in-lb (0.44Nm)
Pin material: Copper alloy or Brass
Pin plating: Golden over Nickel

Pin Connections

Pin	Designation	Function
1	-IN	Negative input
2	PC	Remote control
3	+IN	Positive input
4	+Vo	Positive output
5	+S	Sense
6	TRIM	Voltage adjust
7	-S	Sense
8	-Vo	Negative output

Weight: 58g | Profile: 0.37" (E version)

NOTES

- 1. Use fuses or protection devices on the input.
- 2. Specs typical at nominal input, full load, 25C.
- 3. Subject to change without notice.
- 4. Not for critical life support applications.
- 5. Contact factory for availability.

Contact OneTech Integration

sales@onetech-integration.com

www.onetech-integration.com | +886-3-495-3882 | Taiwan R.O.C.

