



120W Harsh Environment Quarter Brick Converters

Features	Benefits
• Standard Quarter Brick Footprint	• Assists System Integration
• 9-40, 18-40VDC Inputs	• Designed for 28V DC Networks
• Up to 91.5% Efficiency	• Easier System Thermal Management
• Up to 115°C Baseplate Temperatures	• Suitable for Conduction Cooling
• Rugged Package with Encapsulation	• For Rugged Environments
• No Optocouplers Used	• Allows High Temperature Operation
• Enhanced Screening Option	• Suitable for High Reliability Applications



Specification		HQA						
Model		5V	12V	15V	24V	28V	48V	
Nominal Output Voltage	VDC	5V	12V	15V	24V	28V	48V	
Input Voltage Range	VDC	9 - 40V					18 - 40V	
Input Current	A	16A Maximum						
Efficiency (100% load, 24V input)	%	90	90	89	87	89	91.5	
Output Voltage Adjustment	VDC	4.5 - 5.5	10.8 - 13.2	13.5 - 16.5	21.6 - 26.4	25.2 - 30.8	45.6 - 52.8	
Output Voltage Accuracy	%	±3%						
Ripple & Noise (max) pk-pk	mV	150	150	200	250	250	300	
Line Regulation (typ)	%	0.05	0.05	0.05	0.05	0.05	0.05	
Load Regulation (max)	%	0.03	0.03	0.03	0.03	0.03	0.03	
Overcurrent Protection (typ)	A	37	14.5	12	6.2	5.2	4.0	
Overvoltage Protection (typ)	V	6.5	15	18	32	35	54	
Remote On/Off	-	Yes; Low = ON, Open = OFF						
Remote Sense	-	Yes			Not as standard			
Operating Temperature	°C	Standard screening: -40°C to +115°C, Enhanced screening: -55°C to +115°C						
Storage Temperature	°C	-65°C to +125°C						
Temperature regulation	%	0.5% across full temperature range						
Humidity (non condensing)	%RH	MIL-STD 883 Method 1004.7						
Cooling	-	Conduction, convection or forced air						
Withstand Voltage	VDC	Input to baseplate, Input to Output 2250VDC						
Isolation Resistance	Ω	>10MΩ						
Vibration	-	MIL-STD-202G, Method 201A, Unpowered, sweep 1: 5 to 50 Hz at 0.5g, sweep 2: 50 to 500 Hz at 1.5g, three axis						
Shock	-	MIL-STD-202G, Method 213B, Table 213-1, Test Condition I, Unpowered, 50G half sine 6ms, three axis						
Safety Agency Certifications	-	IEC/EN/UL/CSA 62368-1, IEC/EN/UL/CSA 60950-1, CE Mark						
Qualification Methods	-	MIL-STD-883F and MIL-STD-202G						
Weight (Typ)	g	100g (Flanged version)						
Size (LxWxH)	mm	Flanged version: 60.6 x 55.9 x 12.7; Non-flanged version: 60.6 x 39 x 12.7						
Warranty	yrs	3						

Notes: See Installation Manual for full details, test methods of parameters and application notes

Model Selector				
Model	Input Voltage (V)	Output Voltage (V)	Maximum Current (A)	Maximum Power (W)
HQA2W120W050V-007-S	9 - 40	5	24	120
HQA2W120W120V-007-S	9 - 40	12	10	120
HQA2W120W150V-007-S	9 - 40	15	8	120
HQA2W120W240V-007-S	9 - 40	24	5	120
HQA2W120W280V-007-S	9 - 40	28	4.2	118
HQA24120W480V-007-S	18 - 40	48	2.5	120

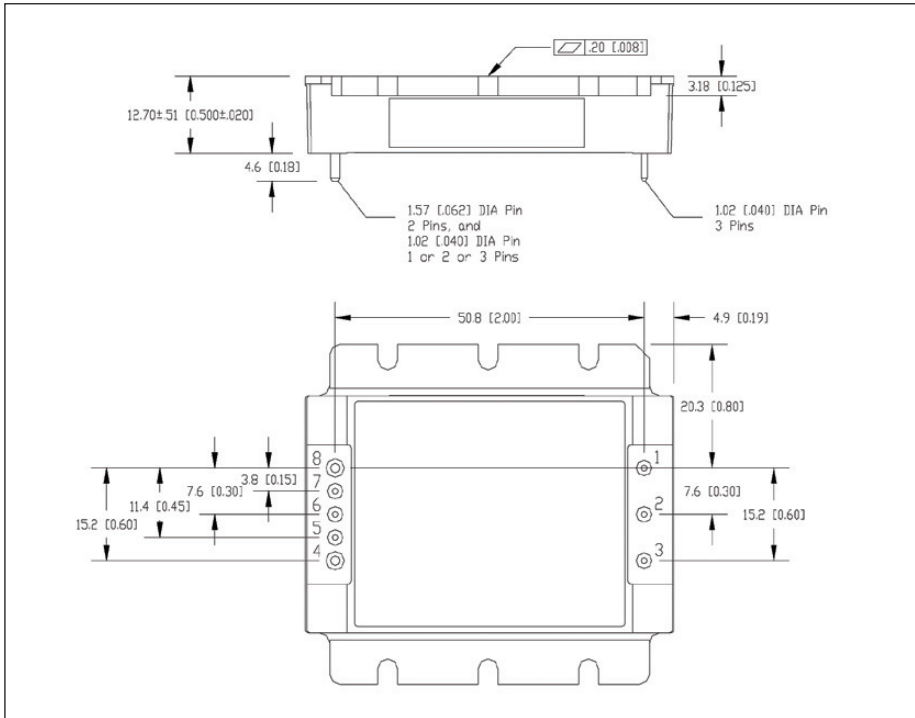
Screening		
Operation	S-Grade	M-Grade
Functional Test	Room and Hot Test	Cold, Room, and Hot Test
Burn in	Yes	Extended, 96 hour
Temperature Cycling	No	10 Cycles
Hi-Pot	2250VDC	2250VDC
Visual Inspection	Yes	Yes

Options	
Suffix	Description
-007-S	Flanged Baseplate, Standard Screening
-N07-S	Non-Flanged Baseplate, Standard Screening
-007-M	Flanged Baseplate, Enhanced Screening
-N07-M	Non-Flanged Baseplate, Enhanced Screening

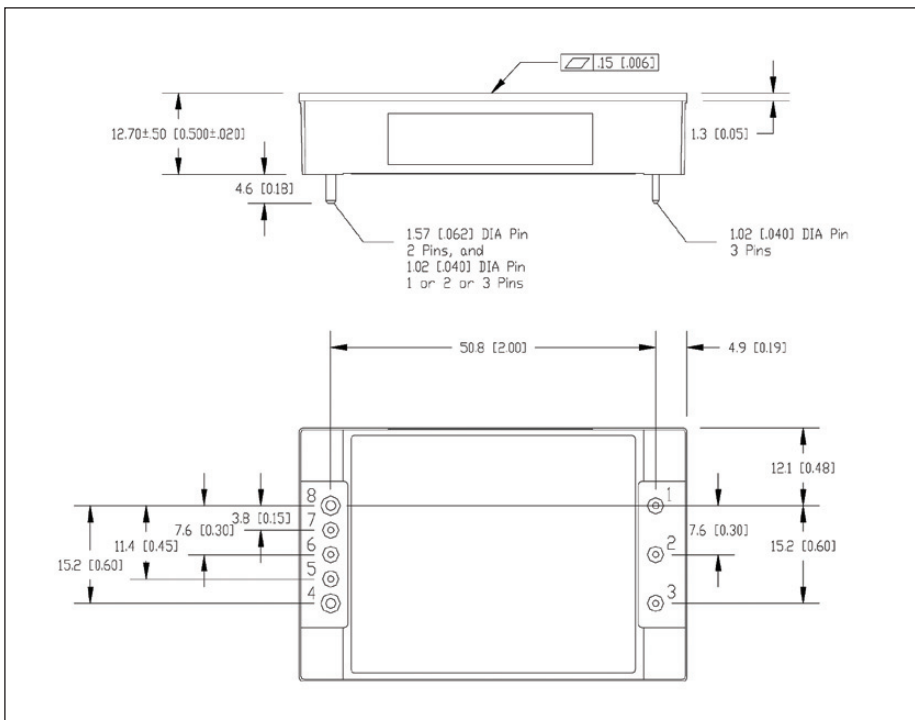
Standard Model
 Contact Factory for Status

Notes: *Contact factory for other Voltages or option codes

Outline Drawing Flange Version HQA Series



Outline Drawing Non-Flange Version HQA Series



Pin Assignment

PIN	Function
1	V _{in} (+)
2	On / Off
3	V _{in} (-)
4	V _o (-)
5	Sense (-), select models
6	Trim
7	Sense (+), select models
8	V _o (+)



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