



• RoHS compliant (VE versions)

• Universal input: 85 – 264 Vac

• Output power: 250 W

• Operating temperature: 100°C

• Efficiency: 97%

• Integral EMI filtering

• Input transient protection

• Inrush limiting

• CE Marked

Product Highlights

The AIM (Alternating Input Module) is an AC front-end module which interfaces directly with worldwide AC mains. The AIM provides line rectification, EMI/RFI filtering, transient protection and inrush limiting in a half brick package measuring 2.28" x 2.4" x 0.5".

The AIM is used in conjunction with Vicor VI-200 or VI-J00 DC-DC converters to realize a universal AC input, high-density, low-profile switching power supply with outputs from 1 – 95 Vdc and a total power rating up to 200 W. An external capacitor is used to satisfy system hold-up requirements. Internal EMI filtering meets EN55022 and FCC Part 15, Class A emissions limits.

Data Sheet VI-AIM



Universal AC Input Front End Module



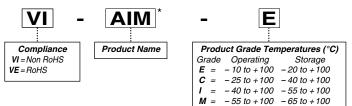
Actual size: 2.28 x 2.4 x 0.5 in 57.9 x 61.0 x 12.7 mm

Absolute Maximum Ratings

Parameter	Rating	Unit	Notes
Maximum value of hold-up capacitance	e 1200	μF	
Thermal resistance	0.4	°C/Watt	Baseplate-to-sink
Operating temperature	-55 to +100	°C	M-Grade
Storage temperature	-65 to 105	°C	M-Grade
Transient surge withstand			
Common mode	$7/50 \mu$ S, 2 kV pulse, 2 journal to 360 degree phase and		EN61000-4-5 IEC 801-5
	$J/50~\mu$ S, 1 kV pulse, 2 journo 360 degree phase and		With external MOV

VI-AIM Input Voltage	Compatible DC-DC Converter	Notes
85 – 132 Vac	VI-x5x-xx	Used with a 100 – 200 Vin converter
180 – 264 Vac	VI-x6x-xx	Used with a 200 - 400 Vin converter
85 – 264 Vac	VI-x7x-xx	Used with a 100 – 375 Vin converter

Part Numbering



^{*} For Mega Module packaging option add an L before the product name. Example: Vx-LAIM-xx

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AIM, Universal AC Input Front End Module

Rev. 2.6

Page 1 of 4

1

AC Input Module

SPECIFICATIONS

(typical at $T_{BP} = 25$ °C, nominal line and 75% load, unless otherwise specified)

■ INPUT SPECIFICATIONS

Parameter	Min	Тур	Max	Unit	Notes
AC line input		85 – 264 ¹		Vac	No strapping; no damage below low line
		47 – 440		Hz	
Inrush current	<40 A	at peak line (264	Vrms)		

¹Dependent upon input range of compatible DC-DC converter.

■ OUTPUT SPECIFICATIONS

Parameter	Min	Тур	Max	Unit	Notes
Output voltage		120 – 373		Vdc	Peak of AC line
Output power		250		W	Delivered to converter(s)
Hold-up time		Application specific			A function of external capacitance and power
Efficiency		97%			

■ SAFETY SPECIFICATIONS

Parameter	Min	Тур	Max	Unit	Notes
Dielectric withstand					
Input to output		None			Provided by DC-DC converter
Input/output to baseplate		1,500			Vrms

■ AGENCY APPROVALS

Safety Standards	Agency Markings	Notes
Conducted EMI/RFI VDE 0871/FCC Part 15, Class A EN55022, Class A		With compatible DC-DC converter modules External 0.47 μ F capacitor required
UL1950, CSA 22.2-950, EN60950		

■ GENERAL SPECIFICATIONS

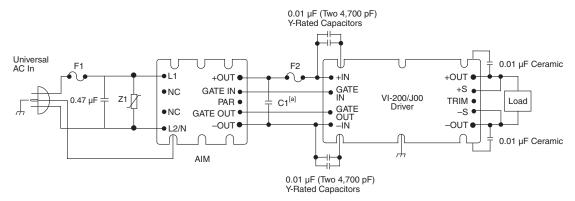
Parameter	Min	Тур	Max	Unit	Notes
Size	2.28" x 2	4" x 0.5" (57,9 x 6	1,0 x 12,7)	in (mm)	Mega Module, SlimMod and FinMod packages available
Weight		3.0 (85)		Ounces (Grams)	

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Rev. 2.6

Page 2 of 4



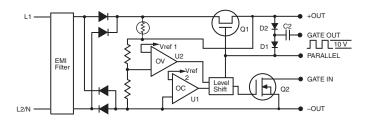
 $^{[a]}$ Consult factory or refer to Selecting Capacitors for AIM Modules on page 34 of the VI-200 and VI-J00 Design Guide .

Z1: MOV Part #30076

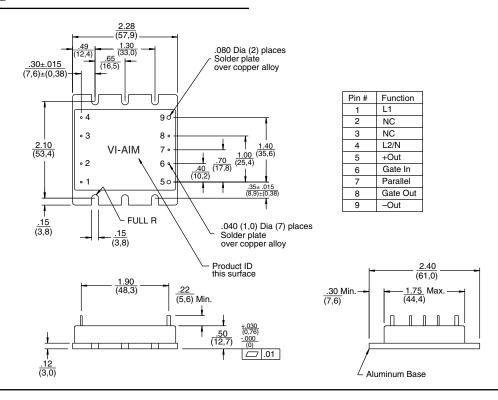
Fuse 1: 6.3A/250V (IEC 5X20 mm) Buss GDB-6.3 or 7 A / 250 V (3AG 1/4" x 1 1/4") Littlefuse 314-007

Fuse 2: For VI-X7X-XX — Buss PC-Tron 2.5 A (250 V) For VI-X6X-XX — Buss PC-Tron 3 A (250 V) For VI-X5X-XX — Buss PC-Tron 5 A

VI-AIM Block Diagram



Mechanical Diagram



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AIM, Universal AC Input Front End Module

Rev. 2.6

Page 3 of 4

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