AIM™ in a VIA Package

AIM1714xB6MC7D5yzz

Universal AC Input Module

Features & Benefits

- Universal input (85 to 264 Vac, 47 to 63Hz)
- Chassis Mount or PCB Mount Form Factor
- Small robust package
- Low profile
- EMI filtering
- Meets EN61000-4-5 Class 3 surge protection when used with external MOV and paired with Vicor PFM4414 products

Product Description

The AIM in a VIA Package (AC Input Module) is a front end module designed to interface directly with worldwide AC mains and provide a rectified AC input to Vicor's family of VIA PFM4414 products. The AIM combines a bridge rectifier, EMI filter, and surge protection circuitry in an easy to use VIA plastic housing. Together, the AIM and PFM in a VIA Package realize a small, efficient, simple, and cost effective EMI Class B AC-DC solution for a broad range of end applications.

Typical Applications

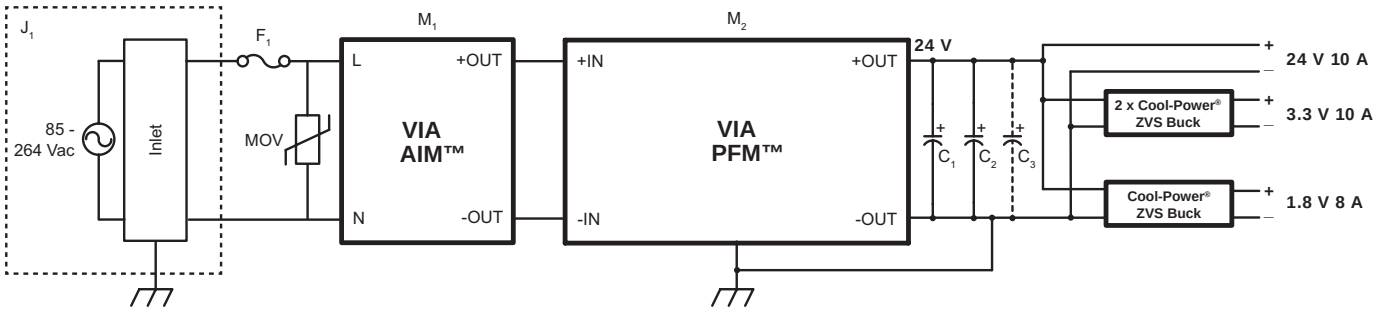
- Small cell base stations
- Telecom switching equipment
- LED lighting
- Test and Measurement Equipment
- 200 – 400W Industrial Power Systems
- Office Equipment

Size:
1.76 x 1.40 x 0.37 in
44.6 x 35.5 x 9.3 mm

Part Ordering Information

Product Function	Package Length	Package Width	Package Type	Input Voltage	Range Ratio	Output Voltage (Range)	Max Output Power	Product Grade	Option Field	
AIM	17	14	x	B6	M	C7	D5	y	z	z
AIM = AC Input Module	Length in Inches x 10	Width in Inches x 10	B = Board VIA V = Chassis VIA	Internal Reference				C = -20 to 100°C T = -40 to 100°C	00 = Chassis/Always On 04 = Short Pin/Always On 08 = Long Pin/Always On	

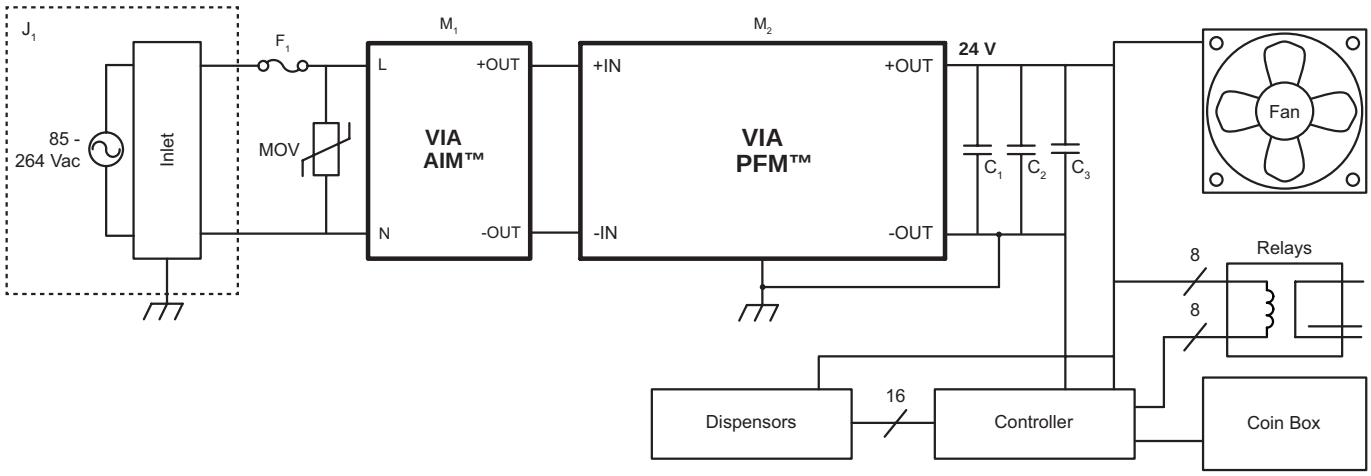
Typical PCB Mount Applications



The PCB terminal option allows mounting on an industry standard printed circuit board, with two different pin lengths.

Parts List for Typical PCB Mount Applications	
J1	**Qualtek** 703W IEC 320-C14 Power Inlet
F1	**Littelfuse** 0216008.MXP 8A 250VAC 5 x 20mm holder
M1	**Vicor AIM™** AIM1714BB6MC7D5yzz
M2	**Vicor PFM™** PFM4414BB6M24D0yzz
C1, C2, (C3)	**Nichicon** UVR1V153MRD 15,000µF 35V 4.3A 25 x 50mm bent 90°, x 3 pcs **or**
	CDE 380LX153M035A022 15,000µF 35V 5.6A 35 x 30mm snap in, x 3 pcs **or**
	Sic Safco Cubisic LP A712062 22,000µF 35V 5.8A 45 x 75 x 12mm rectangular, x 2 pcs
MOV	**Littelfuse** TMOV20RP300E VARISTOR 10kA 30 V 250 J 20mm

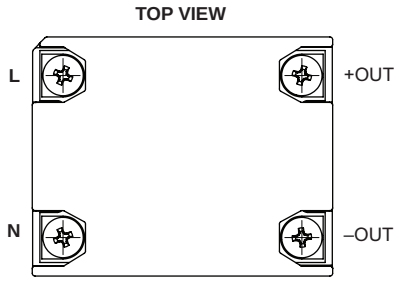
Typical Chassis Mount Applications



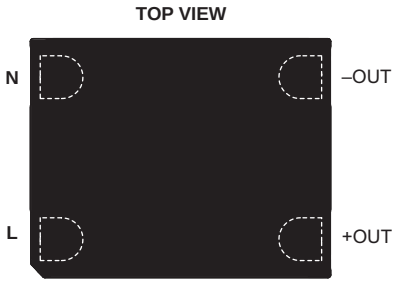
The VIA AIM and VIA PFM are available in Chassis Mount option, saving the cost of a PCB and allowing access to both sides of the power supply for cooling. The parts list below minimizes the number of interconnects required between necessary components, and selects components with terminals traditionally used for point to point chassis wiring.

Parts List for Typical Chassis Mount Applications	
J1	**Qualtek** 719W or 723W IEC 320-C14 Power Inlet
F1	**Littelfuse** 0216008.MXP 8A 250VAC 5 x 20mm in a J1, or separate fuse holder
M1	**Vicor AIM™** AIM1714VB6MC7D5y00
M2	**Vicor PFM™** PFM4414VB6M24D0y00
C1, C2, C3	**Nichicon** LNT1V153MSE 15,000µF 35V 5.1A 35 x 83mm screw terminal **or**
C1	**Kemet** ALS30A473KE040 47,000µF 40V 14.2A 51 x 84mm screw terminal
MOV	**Littelfuse** TMOV20RP300E VARISTOR 10kA 300V 250 J 20mm

Pin Configuration



1714 VIA AIM - Chassis Mount - Terminals Up



1714 VIA AIM - PCB Mount - Pins Down

Please note that these Pin drawings are not to scale.

Pin Descriptions

Signal Name	Type	Function
N	INPUT POWER RETURN	AC Neutral / Line 2 input
L	INPUT POWER	AC Line1 input
–OUT	OUTPUT POWER RETURN	Negative output power terminal
+OUT	OUTPUT POWER	Positive output power terminal

Absolute Maximum Ratings

The absolute maximum ratings below are stress ratings only. Operation at or beyond these maximum ratings can cause permanent damage to the device.

Parameter	Comments	Min	Max	Unit
Input voltage pp at terminals, 1ms max		0	600	Vpk
Input voltage (AC RMS) continuous		0	275	V_{RMS}
Output current (continuous)		0	5.3	A_{RMS}
Operating junction temperature		-40	125	°C
Storage temperature		-40	125	°C
Input/Output pin torque and mounting torque			4 (0.45)	in/lbs (N-m)