

VIA PFM™, AC-DC Converter with PFC

Universal Input, 24 V or 48 V Regulated, Isolated Output

For use in: Small Cell Base Station, Telecom Switching Equipment, LED Lighting, Test and Measurement Equipment, 200 - 400 W Industrial Power Systems and Office Equipment

Value Proposition

Today's AC-DC power systems need to be small, reliable, easily-to-use, and cost competitive while achieving modern system requirements for efficiency, power factor, and conducted and radiated emissions. Vicor has solved these difficult challenges by combining advanced power conversion engines and electromagnetic compatibility functions inside the thermally adept and ultra-low-profile VIA package.

Features and Benefits

- **Small Size, low profile:**
Eliminates constraints of size or height in a design
- **Thermally adept VIA housing:**
Enables easy thermal design, possibly eliminating the need for a fan; chassis mount version enables system chassis to be part of thermal design
- **Integrated filtering, transient protection, inrush protection:**
Simplifies EMI and surge protection design, faster time to market
- **High efficiency of up to 92%:**
Excellent efficiency for such a small and low profile device
- **Active Power Factor Correction (PFC) exceeding 0.95 at most line/load conditions (filter dependent):**
Meets all agency standards
- **400 W available over entire input voltage range:**
No need to design different systems for different parts of the world
- **Chassis mount or PCB mount packaging options:**
Provides design flexibility, enables multiplicity of thermal design strategies
- **Small and simple "wall-plug-to-PoL design with Vicor PoL buck, and buck-boost regulator products:**
Simple, modular complete solution to achieve benchmark performance from wall-plug to Point of load
- **Easy-to-use solution requires only a few external components (rectifier, fuse, MOV, hold-up caps):**
Allows for design flexibility
- **24 V version operates with ~27 mF of 36 V hold-up capacitors
48 V version operates with ~6.8 mF of 63 V hold-up capacitors (application dependent):**
Small, flexible design
- **Voltage, current, and temperature protections:**
Protects the VIA PFM unit and system



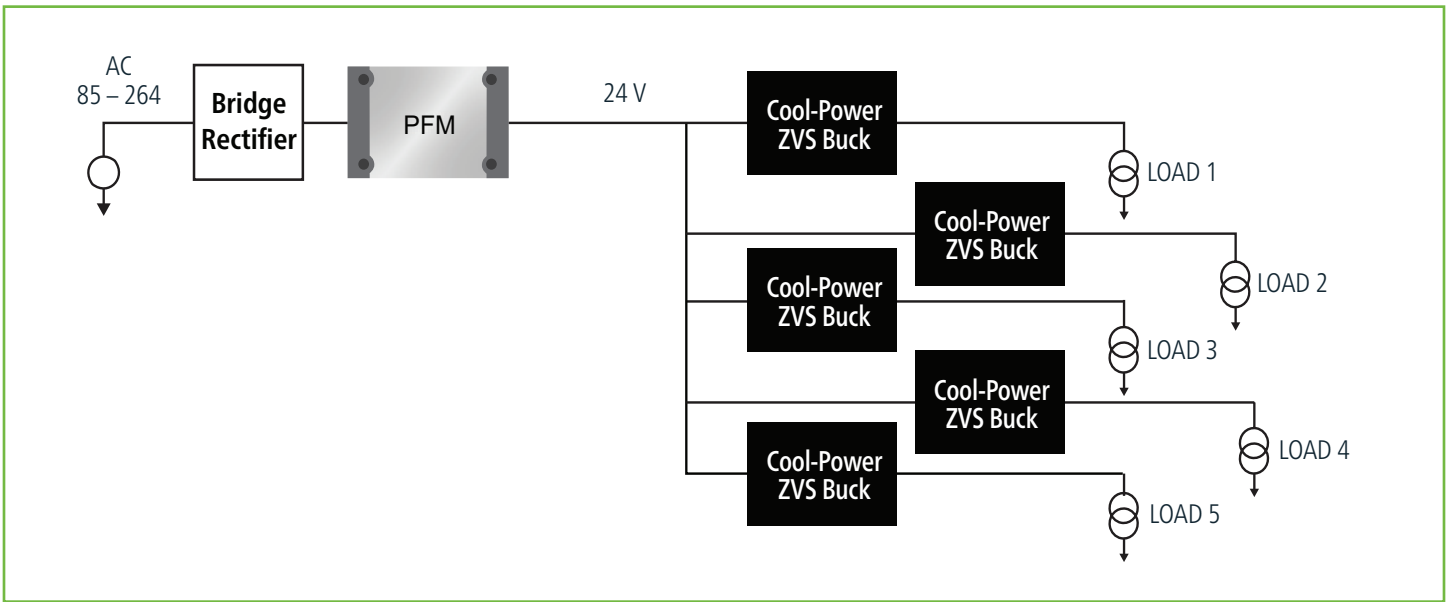
Product Description

The VIA PFM is a highly advanced 400 W AC-DC converter operating from a rectified universal AC input which delivers an isolated and regulated Safety Extra Low Voltage (SELV) 24 V or 48 V secondary output. This unique, ultra-low profile module incorporates AC-DC conversion, integrated filtering and transient surge protection in chassis mount or PCB mount form factor. The VIA PFM enables a versatile two sided thermal strategy which greatly simplifies thermal design challenges. When combined with downstream Vicor DC-DC conversion components and regulators, the VIA PFM allows the Power Design Engineer to employ a simple, low-profile design which will differentiate his end-system without compromising on cost or performance metrics.

Part Numbering

Product Function			Package Length		Package Width		Package Type	Max Input Voltage		Range Ratio	Max Output Voltage (Range)		Max Output Current/Power		Product Grade	Option Field	
P	F	M	4	9	1	4	V	B	6	M	2	4	D	0	C	0	0
PFM = Power Factor Module			Inches x 10		Inches x 10		B = Board VIA V = Chassis VIA	B6 = 85–264 Vac		M = 3.1	24 = 24 Vout 48 = 48 Vout		D0 = 400 W		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 Application, 24 V_{OUT} VIA PFMs



Mechanical Diagram (Chassis mount version shown)

