

PFC FrontEnd

Power Factor Corrected High Voltage DC Front End

Features

- Power factor corrected (PFC)
- Low profile (1.72"/43,6 mm H)
- Output power to 2,200 W
- High power density > 28 W/in³
- Up to 4 non-isolated outputs
- Integral cooling fan
- Meets MIL-STD-810E for vibration
- DIN rail mountable
- Safety agency approvals: cTÜVus, CE Marked
- RoHS compliant
- Output voltage 360, 375 or 384V

Product Overview

The PFC FrontEnd is an extremely low profile, 1 RU enclosed chassis mount AC front end that may be used with any Vicor 300 V VI-200/VI-J00 or 375 V Maxi, Mini, Micro modules or ViPAC Arrays to create a complete, high density AC-DC power supply.

Accepting universal input voltages of 85 Vac to 264 Vac, and 100-380 Vdc, the PFC FrontEnd can deliver up to 2,200 W @ 230Vac from 4 non-isolated outputs (additional using "Y" adapters). With an extremely compact, package size of 1.72" H (43,6mm) x 6.4" W (162,6mm) x 7" L (177,8mm), the PFC FrontEnd can provide >28 W/in³.

The PFC FrontEnd is DIN mountable.

Besides meeting the cTÜVus and CE Marked safety agency approvals, the PFC FrontEnd complies with harmonic current limits per EN61000-3-2, electrical fast transient/burst per EN61000-4-4 and surge immunity per EN61000-4-5. It also meets the rugged MIL-STD-810E for vibration.

For more details about the product, refer to the PFC FrontEnd Design Guide available online at vicorpower.com.



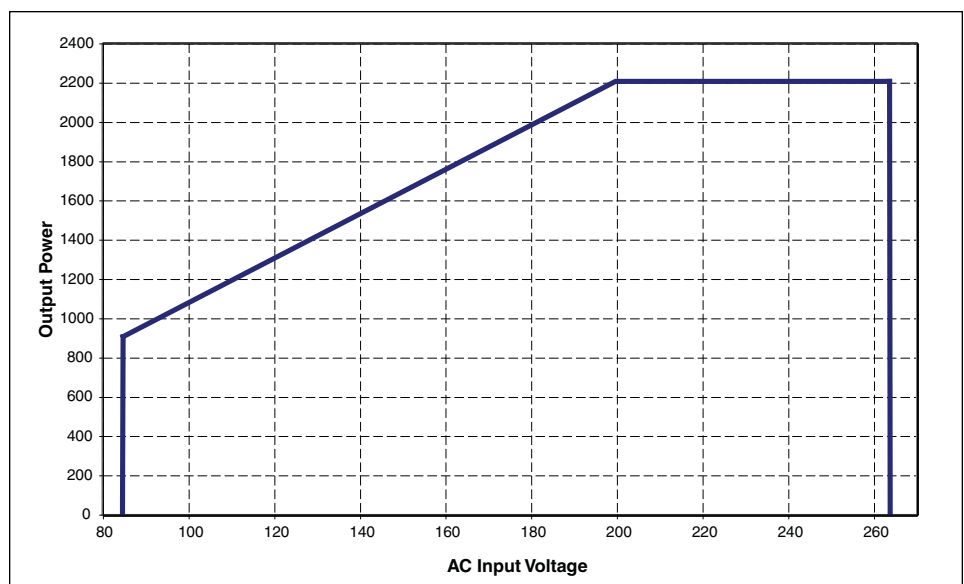
PFC FrontEnd
1.72"H x 6.4" W x 7.0" L
43,6 mm x 162,6 mm x 177,8 mm
Up to 2,200 W
1 to 4 non-isolated outputs

Part Number

F E X X X

Where XXX = 360, 375 or 384, dependent on model selected

PFC FrontEnd Output Power vs. AC Input Voltage



ELECTRICAL CHARACTERISTICS

Electrical characteristics apply over the full operating range of input voltage, output load (resistive) and baseplate temperature, unless otherwise specified.

■ INPUT SPECIFICATIONS

Parameter		Unit	Notes
AC Input			
Voltage	85 – 264	Vac	
Frequency	47 – 800	Hz	
DC Input	100 – 380	Vdc	
Inrush current			
@ 115 Vac	2	A pk	@ 115 Vac
@ 230 Vac	3.5	A pk	@ 230 Vac
Conducted EMI/RFI	FCC Class A, EN 55022 Class A		
Power factor	0.99		@ 115 Vac
	0.95		@ 230 Vac
Harmonic current limits	EN61000-3-2		Passed
Voltage fluctuations and flicker	EN61000-3-3		Passed
ESD susceptibility	EN61000-4-2		Level 4, Performance, Criteria A
RF radiated immunity, 10 V/m	EN61000-4-3		Level 3, Performance Criteria A
Transient burst immunity	EN61000-4-4		Level 3, Performance, Criteria A
Surge immunity	EN61000-4-5		Installation Class 3, Performance Criteria A
RF conducted immunity	EN61000-4-6		Class 3, Performance Criteria A
Magnetic field immunity	EN61000-4-8		Level 4, Performance Criteria A
Voltage dips and interrupts	EN61000-4-11		Passed
Dielectric withstand			
Primary to chassis GND	2,121	Vdc	

■ ENVIRONMENTAL CHARACTERISTICS

Parameter		Unit	Notes
Storage temperature	-40 to +85	°C	
Operating temperature			
Full power	-20 to +45	°C	
Half power	-20 to +65	°C	
Safety approvals	cTÜVus, CE Marked		

■ MECHANICAL CHARACTERISTICS

Parameter		Unit	Notes
Weight	5.0	lbs.	
	2.3	kg	
Overall dimensions	7 x 6.4 x 1.72	inches	L x W x H
	177,8 x 162,6 x 43,6	mm	L x W x H

CONNECTION DIAGRAMS

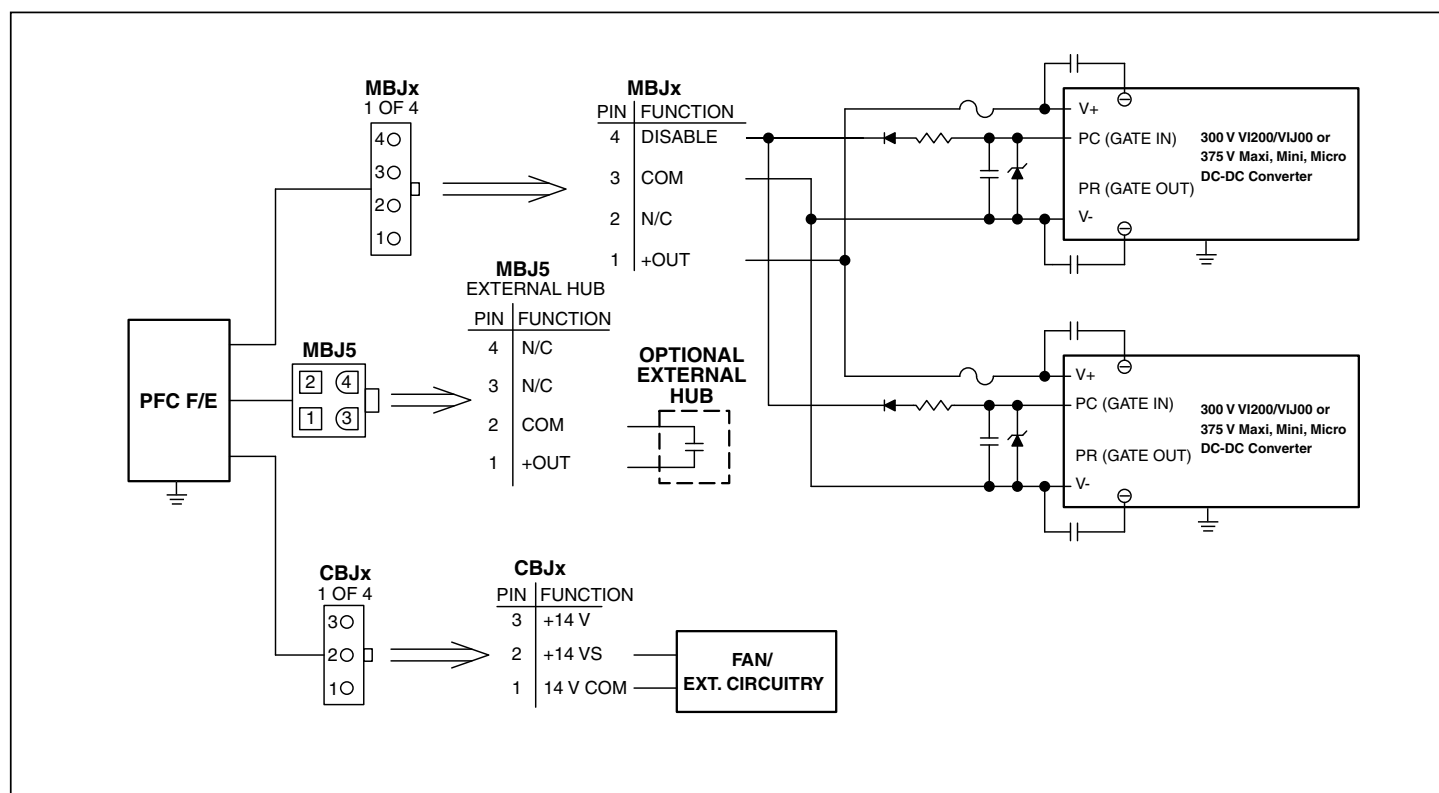


Figure 1 — Connection diagram using PFC FrontEnd with Vicor DC-DC converters.

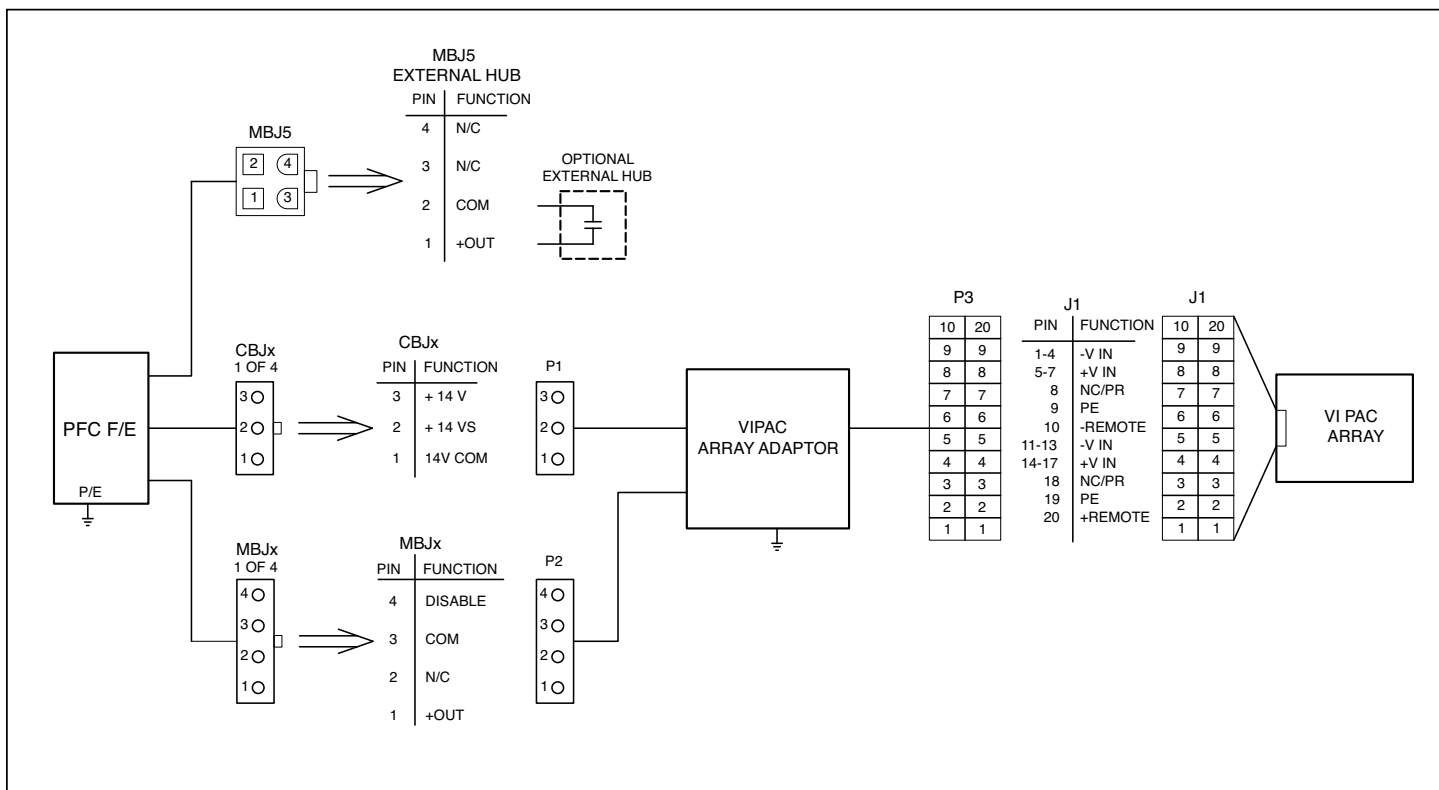
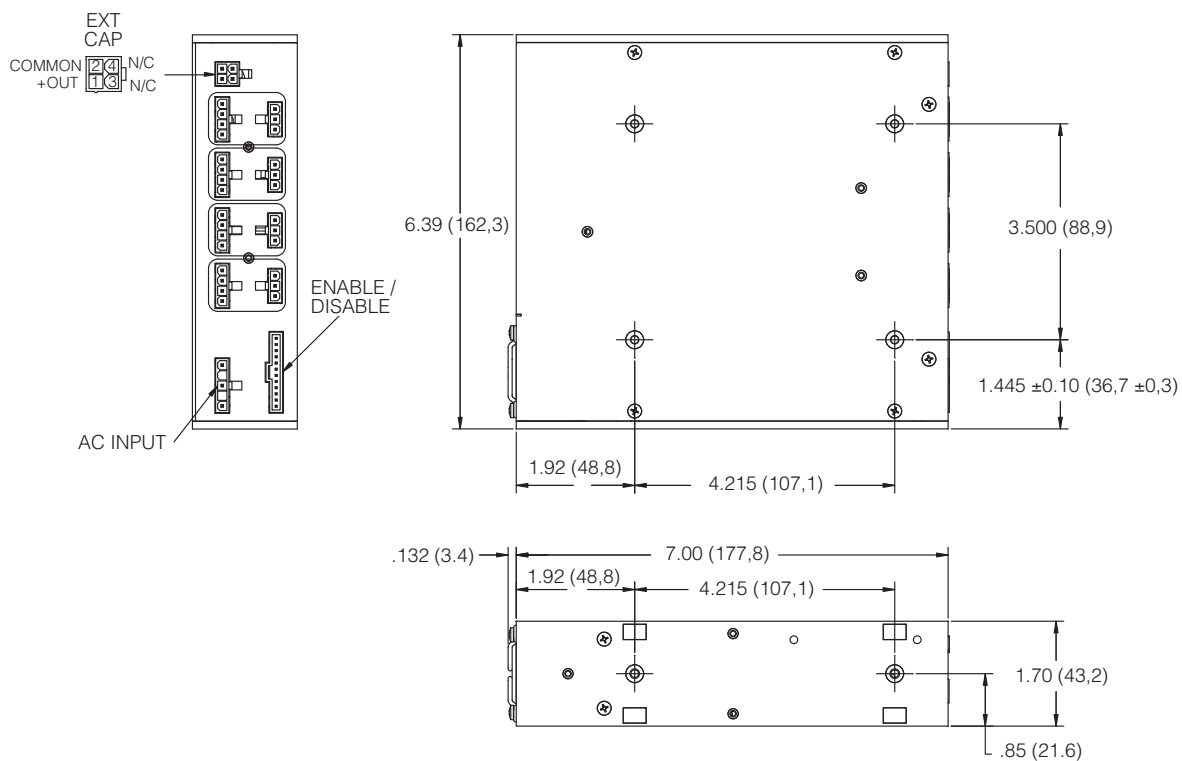


Figure 2—Connection diagram using PFC FrontEnd with Vicor ViPAC Array.

Optional ViPAC Array adapter available (#19-130064)

MECHANICAL DRAWINGS



ACCESSORIES

The following accessories are available for the PFC FrontEnd.

CONNECTOR KITS **19-130059**

DIN RAIL **19-130060**

VIPAC ARRAY ADAPTER **19-130064**

Note: Additional technical information covered in the PFC FrontEnd Design Guide available online at vicorpower.com.

Vicor's comprehensive line of power solutions includes high density AC-DC and DC-DC modules and accessory components, fully configurable AC-DC and DC-DC power supplies, and complete custom power systems.

Information furnished by Vicor is believed to be accurate and reliable. However, no responsibility is assumed by Vicor for its use. Vicor components are not designed to be used in applications, such as life support systems, wherein a failure or malfunction could result in injury or death. All sales are subject to Vicor's Terms and Conditions of Sale, which are available upon request.

Specifications are subject to change without notice.

The latest data is available on the Vicor web site at vicorpower.com.

Westcor, a division of Vicor, designs and builds medium to high power configurable power supplies incorporating Vicor's high density DC-DC converters and accessory components. Westcor's product line includes:

- PFC Mini
- PFC Micro
- PFC MicroS
- Autoranging MegaPAC
- Mini MegaPAC
- PFC MegaPAC
- PFC FrontEnd
- PFC MegaPAC (High Power)
- PFC MegaPAC-EL (Low Noise)
- 3 Phase/4kW MegaPAC
- 3 Phase/4kW MegaPAC-EL (Low Noise)
- ConverterPACs
- FlatPAC-EN

See Design Guides for detailed information about all Westcor products. They can be downloaded in PDF format from the website.



Vicor Corporation
25 Frontage Road, Andover, MA, 01810
800-735-6200, Fax: 978-475-6715

Westcor Division of Vicor
560 Oakmead Parkway, Sunnyvale, CA 94085
Tel: 408-522-5280, Fax: 408-774-5555

vicorpower.com