



Off-Line Front Ends

Single- or Three-Phase
Strappable

Features:

- 250, 500, 750 watt, 115/230 VAC strappable single-phase
- 1.5, 3, 5 kW, 208 VAC three-phase
- 20-50 mS Holdup
- UL, CSA, TÜV Approved
- FCC/VDE Class B (single-phase)
- FCC/VDE Class A (three-phase)
- BUS OK, AC OK, DC OK status signal
- 96-98% Efficiency
- PC and Chassis mount
- VI-26X, VI-J6X series compatible

Product Highlights:

From AC line in, to highly regulated DC out, Vicor offers the total design solution through a complete family of Off-Line Front End and DC-DC Modular Power Components.

Vicor's family of Off-Line Front Ends interface VI-260 and VI-J60 series DC-DC Converters, Master and Mega Modules, to 100, 115, 220 or 240 VAC single-phase and 208 VAC three-phase mains. In addition, Front Ends provide conducted EMI/RFI filtering to FCC/VDE, (Class B single-phase, Class A three-phase), transient surge protection, active in-rush limiting, a BUS OK status output (suitable for controlling Vicor DC-DC Converter modules via their gate-in pin) and an AC OK status output for system use in the event of loss of the AC line.



Front End Specifications:

(typical at T=25°C, nominal line, 75% load, unless otherwise specified)

	Single Phase (250, 500, 750 W)	Three Phase (1.5, 3, 5 KW)
AC Line Input	Strappable 115/230 VAC	208 VAC +20%/-10% (Wye or Delta, Ø to Ø)
With Range Strap	90 VAC to 135 VAC	N/A
Without Range Strap	180 VAC to 270 VAC	N/A
Line Frequency	47 to 63 Hz ("C" Grade) 47 to 440 Hz ("I" Grade)	47 to 63 Hz ("C" Grade) 47 to 440 Hz ("I" Grade)
Line In-rush Current		52 Amps at peak line
115 VAC Operation	27 Amps at peak line	
230 VAC Operation	54 Amps at peak line	
240 VAC Operation		
AC Leakage Current	1.9 mA max. at 250 VAC, 63 Hz ("C" Grade)	3.2 mA max. at 208 VAC, 63 Hz
Power Factor (at full load)	0.52 to 0.65 (at low line input)	0.9 (typical at nom line)
Holdup Time (at full load)		20 mS min. (47 Hz)
Low Line	15mS min. (60Hz)	
Nominal Line	50 mS min. (60Hz)	
AC Fail Warning Time (at full load)	10 mS min.	5 mS min.
Module Gate Control Output (open drain FET, non-isolated, referenced to output)	Called BUS OK	Called Module Enable
ENABLE	Active High (FET cutoff) Power-up threshold >227 V Vdx max: 15 V zener clamp	Active High (FET cutoff) Power-up threshold >227 V Vdx max: 15 V zener clamp
ENABLE	Inactive state (DC BUS <190 V ±5%) Current sinking 100 mA @ Vds=0.3 V max.	Inactive state (DC BUS <187 VDC) Current sinking 100 mA @ Vds=0.3 V max.
AC OK and BUS OK Status Outputs (Optically Isolated, Transistor outputs)	AC OK (500, 750 W only)	AC OK and BUS OK
Off State Breakdown Voltage	VCE=70 V max.	5 mS min. VCE=70 V max.
On State Voltage	VCESAT=0.4 V max. at 1 mA	VCESAT=0.4 V max. at 1 mA
On State Current	1.5 mA max.	1.5 mA max.
On State Threshold (no load)	80-86 VAC	>210 VDC/187 VAC
Off State Threshold (load dependent)	88-77 VAC	<205 VDC/<182 VAC
Conducted EMI/RFI	VDE 0871/FCC part 15, Class B	VDE 0871/FCC part 15, Class A
Dielectric Withstand	AC line (both phases) to GND or Case 1.5 kVAC; 2121VDC	AC line (all phases) to GND or Case 1.5kVDC; 2121VDC
Transient Surge Withstand Capability (no damage)		
Common Mode	1.2/50µSec., 3 kV pulse, 2 joule, either polarity 0 to 360 degree phase angle with respect to AC line	1.2/50µSec., 3 kV pulse, 2 joule, either polarity 0 to 360 degree phase angle with respect to AC line
Normal Mode	1.2/50µSec., 1 kV pulse, 2 joule, either polarity 0 to 360 degree phase angle with respect to AC line	1.2/50µSec., 1 kV pulse, 2 joule, either polarity 0 to 360 degree phase angle with respect to AC line

VI-200™

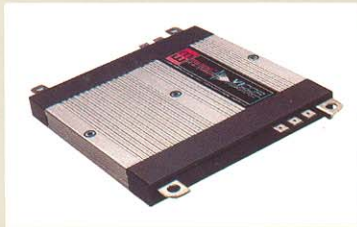
DC-DC Converters and Power Boosters™



- Up to 50 Watts/cubic inch
- 50 to 200 Watts
- UL, CSA, TÜV, VDE
- 80-90% Efficiency
- Size: 4.6"L x 2.4"W x 0.5"H
- Compatible Power Boosters
- MTBF > 700,000 hours

Mega/Master Module™

High Power DC-DC Converters



- Inputs: 10 to 400 VDC
- Single, dual and triple outputs
- 50-200 Watts: 4.9"L x 2.5"W x 0.62"H
- 100-400 Watts: 4.9"L x 4.9"W x 0.62"H
- 150-600 Watts: 4.9"L x 7.3"W x 0.62"H
- Up to 27 Watts/cubic inch
- 80-90% Efficiency
- UL, CSA, TÜV, VDE

FlatPAC™

High Power AC-DC Switchers



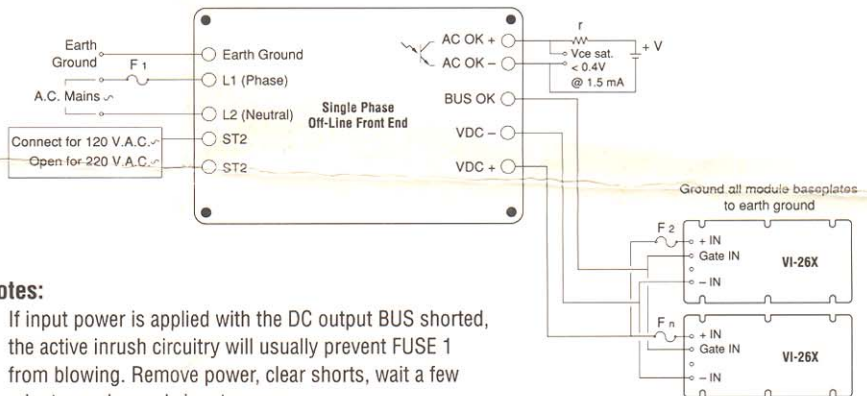
- Inputs: 115/230 VAC Strappable
- Single, dual and triple outputs
- 50-200 Watts: 8.6"L x 2.5"W x 1.37"H
- 100-400 Watts: 8.6"L x 4.9"W x 1.37"H
- 150-600 Watts: 8.6"L x 7.3"W x 1.37"H
- UL, CSA, TÜV
- 80-90% Efficiency
- ZCS Power Architecture
- Low Noise FM Control

Front End Selection Chart:

Model	Mounting		Output Power (Watts)		
	PC	Chassis	250	500	750
Single Phase					
VI-FPE6-CUX	■		■		
VI-FKE6-CUX		■	■		
VI-FPE6-CQX	■			■	
VI-FKE6-CQX		■		■	
VI-FPE6-CMX	■				■
VI-FKE6-CMX		■			■
Three Phase					
VI-TKY6-CHX		■	■		
VI-TKY6-CEX		■		■	
VI-TRY6-CCX		■			■

(To order Industrial Grade models, change the first "C" in the part number to an "I".)

Front End Connection Diagram



Notes:

1. If input power is applied with the DC output BUS shorted, the active inrush circuitry will usually prevent FUSE 1 from blowing. Remove power, clear shorts, wait a few minutes and reapply input power.
2. If unit is strapped for 115V operation and 220V is applied, the internal overvoltage crowbar will clear FUSE 1. Replace fuse, strap correctly and reapply power.
3. To control EMI/RFI most effectively, the return path to earth ground from either the front end or modules should be made via a good RF ground. User must assure proper grounding for safe operation.
4. AC OK+ and AC OK- on 500, 750, Watt only.
5. For FUSE 2 through FUSE n ratings consult factory.

Ordering Guidelines

To receive a complete catalog, including information on all Vicor products, applications and accessories, call Vicor today at: (800) 735-6200 or fax us at (508) 475-6715.

For immediate delivery of Vicor power components or configurable power supplies ask for **VICOR EXPRESS** at ext. 265.

Component Solutions For Your Power System

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