

# VI Brick® AC Front End FE175D480C033FP-00

**BRICK**

## Overview

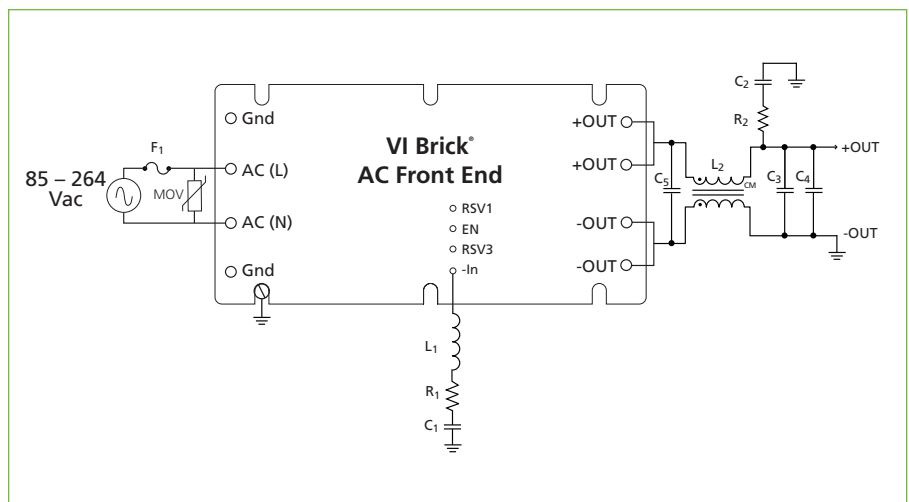
- Universal Input: 85 – 264 Vac
- Output: 48 Vdc - isolated, regulated (SELV)
- Power: 330 W - over entire input voltage range
- Isolated AC-DC converter with active Power Factor Correction (PFC)
- Integrated rectification, filtering and transient protection
- Peak efficiency: > 92%
- EN55022, Class B EMI conducted emissions with a few components
- EN61000-3-2 harmonic limits
- -55 to 100°C base plate operation



## Features

- Compact and robust package
  - Low profile, 9.55 mm height above board
  - Small footprint, size of a business card
  - Flanged aluminum package for secure mounting and thermal management
- Efficiency
  - Consistent high efficiency across the worldwide mains (flat efficiency curve)
  - Reduced power loss and cooling requirements
- Integrated solution streamlines design, reduces time to market
  - Module includes PFC, regulation, isolated 48 V output (SELV), filtering, rectification, transient protection, agency approvals, simplified thermal management
  - Simple design, requires few external components
- Full feature module with high power density
  - Module power density, 121 W/in<sup>3</sup>
  - Complete solution including hold-up capacitors, 54 W/in<sup>3</sup>

## Basic Application



Part Number	Input Voltage	Output Voltage	Output Power	Operating Temperature
FE175D480C033FP-00	85 – 264 Vac	48 Vdc	330 W	-20 to 100°C
FE175D480T033FP-00	85 – 264 Vac	48 Vdc	330 W	-40 to 100°C
FE175D480M033FP-00	85 – 264 Vac	48 Vdc	330 W	-55 to 100°C

Replace the “-00” suffix in the part number with “-CB” to order an evaluation board.

**Note:** This document is a product overview, for detailed information, go to [vicorpower.com](http://vicorpower.com) or click [VI Brick AC Front End Data Sheet](#).

## Performance

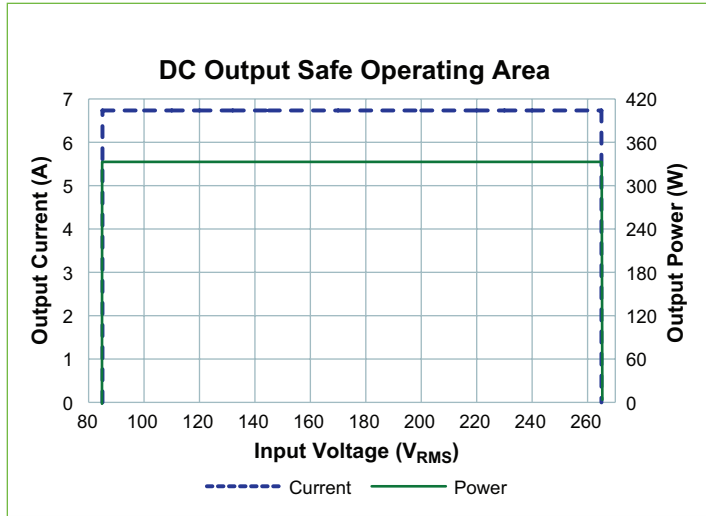


Figure 1 – DC output safe operating area

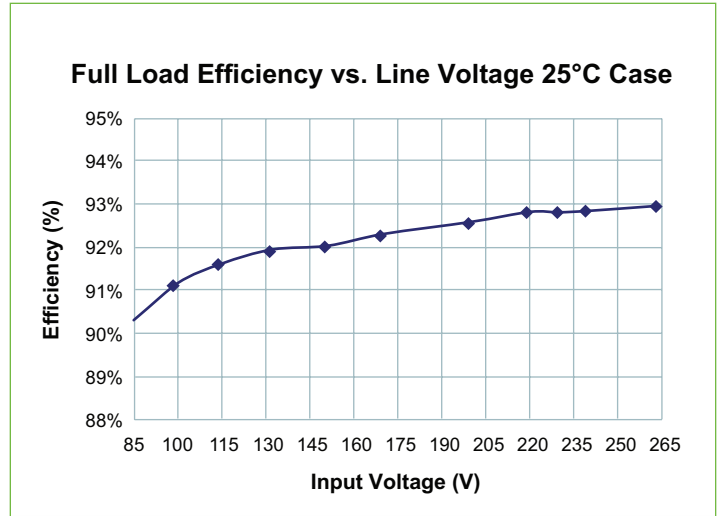


Figure 2 – Full load efficiency vs. line voltage

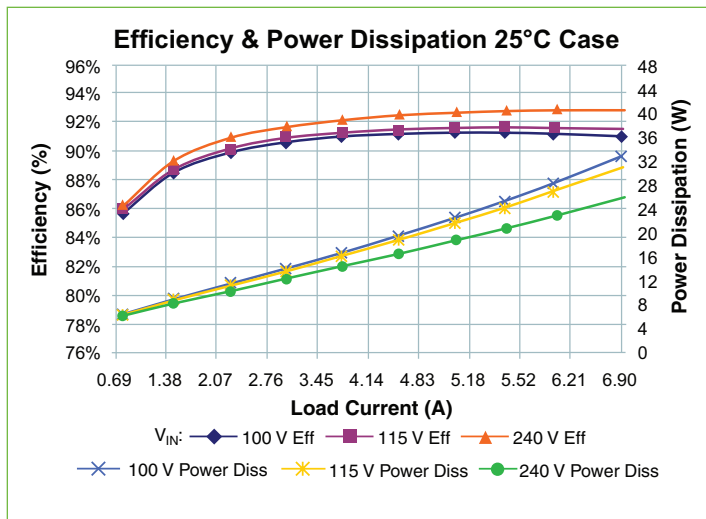


Figure 3 –  $V_{in}$  to  $V_{out}$  efficiency and power dissipation vs.  $V_{in}$  and  $I_{out}$

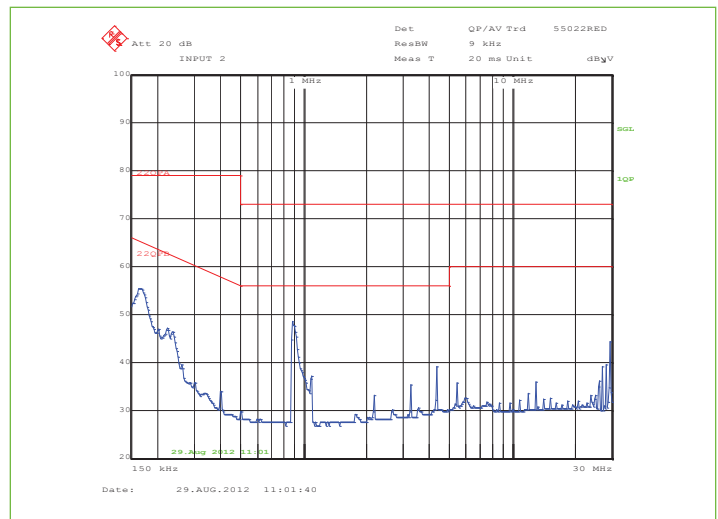
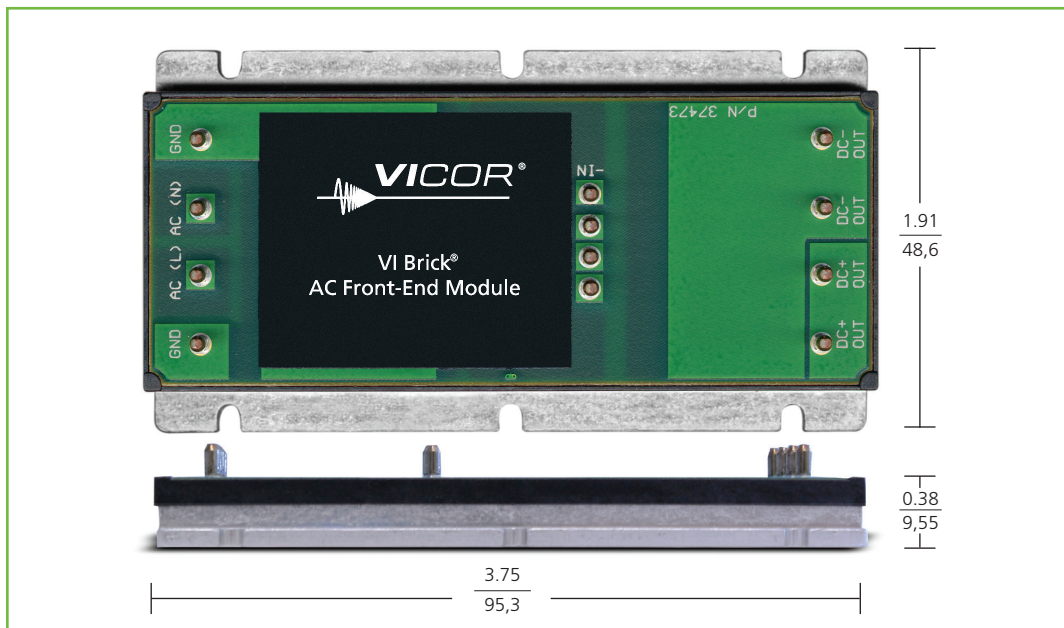


Figure 4 – Typical EMI spectrum, Quasi-Peak Scan, 90% load, 230  $V_{in}$ ,  $C_{out}$  = 6,800  $\mu$ F.

## Product Dimensions (Shown Actual Size)



## Accessories

- Common-mode Inductor – P/N 37052-601
- Low-profile (10 x 50 mm) capacitors – P/N 34837-108
- ThermMate Pad – P/N 36967
- Longitudinal Heat Sink (31.7 mm) – P/N 38145
- Transverse Heat Sink (31.7 mm) – P/N 38146
- Longitudinal Heat Sink (17.7 mm) – P/N 39068
- Transverse Heat Sink (17.7 mm) – P/N 39069
- Standoffs – See website for part numbers

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