

VI Brick® AC Front End FE175D480C033FP-00

BRICK

Overview

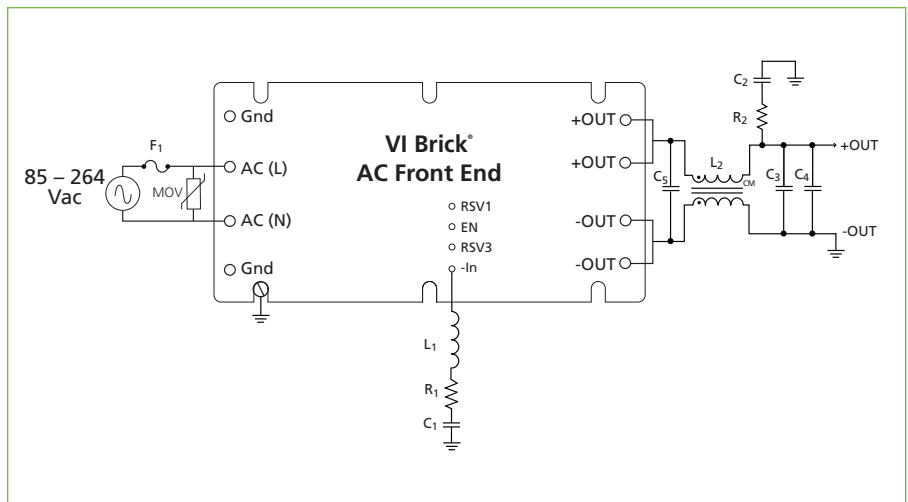
- Universal Input: 85 – 264 Vac
- Output: 48 Vdc - isolated, regulated (SELV)
- Power: 330 W - over entire input voltage range
- Isolated AC-DC converter with active Power Factor Correction (PFC)
- Integrated rectification, filtering and transient protection
- Peak efficiency: > 92%
- EN55022, Class B EMI conducted emissions with a few components
- EN61000-3-2 harmonic limits
- -40 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/in³
 - Complete solution including hold-up capacitors, 54 W/in³

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

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 or click [VI Brick AC Front End Data Sheet](#).

Performance

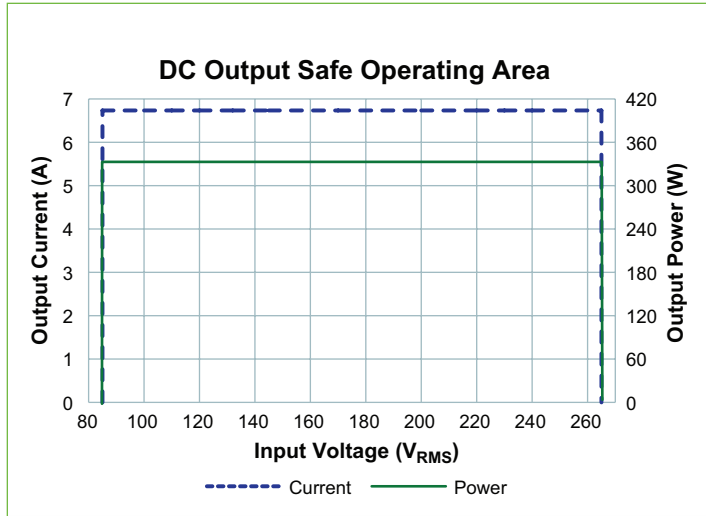


Figure 1 – DC output safe operating area

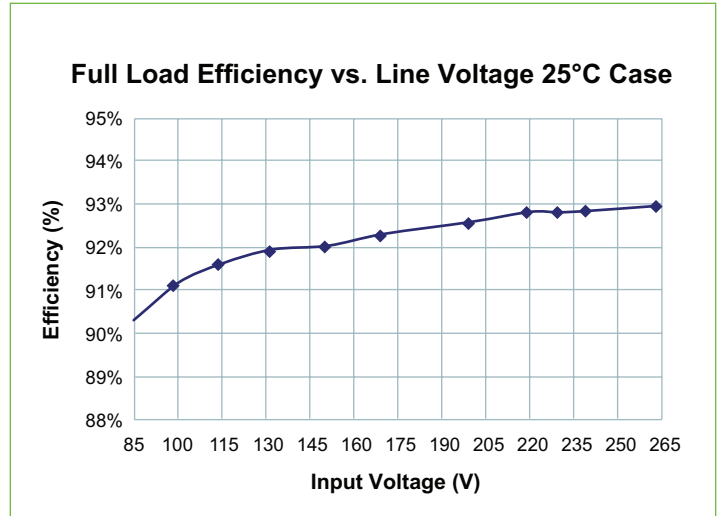


Figure 2 – Full load efficiency vs. line voltage

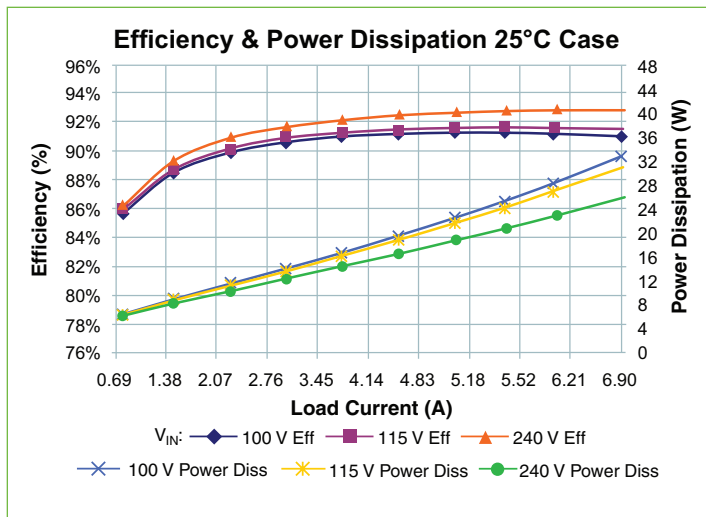


Figure 3 – V_{in} to V_{out} efficiency and power dissipation vs. V_{in} and I_{out}

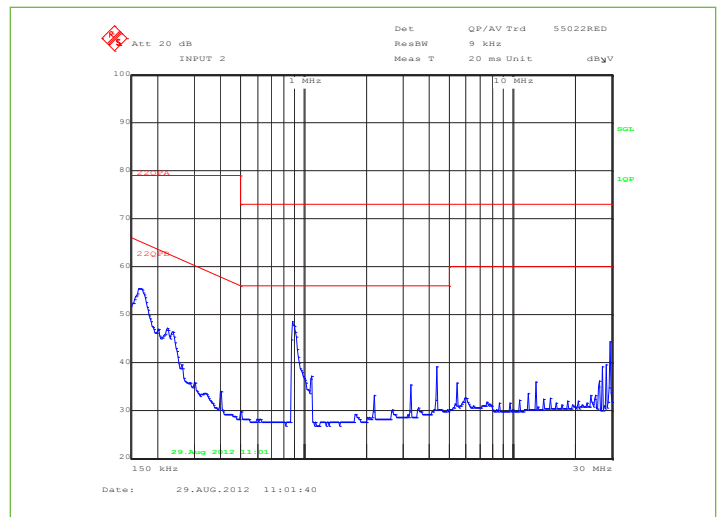
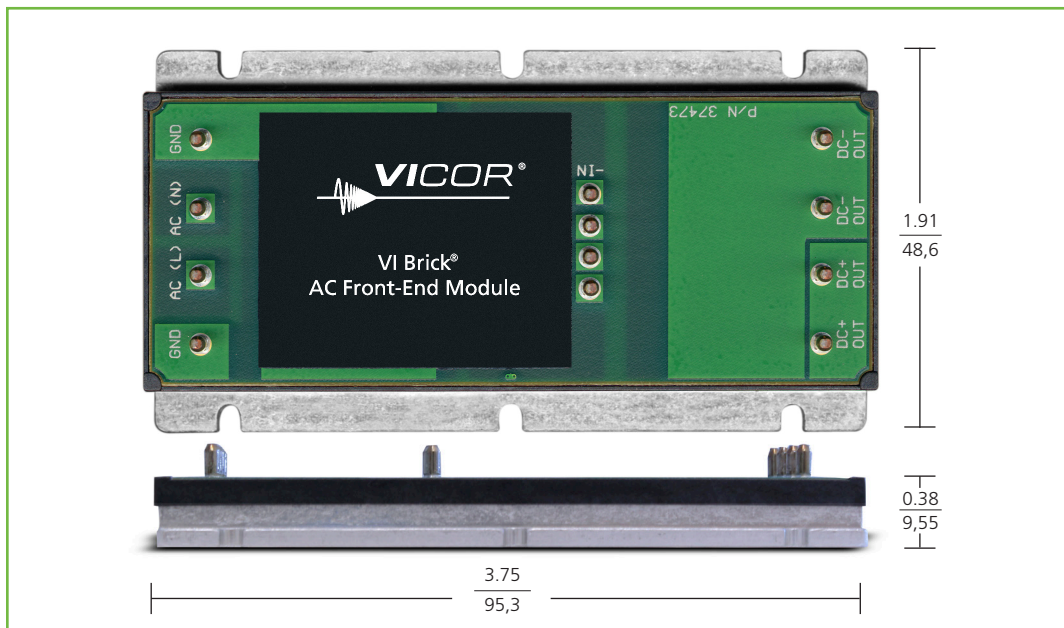


Figure 4 – Typical EMI spectrum, Quasi-Peak Scan, 90% load, 230 V_{in} , C_{out} = 6,800 μF .

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