

PFC FlatPAC

575 Watt Single Output AC-DC Switcher

*Application Notes
Functional and Mechanical Layout
Installation and Operation Guidelines*

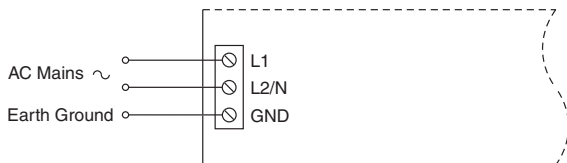


Product Description

The PFC FlatPAC user-definable offline power supplies provides a complete power solution that incorporates one Vicor Maxi DC-DC converter and a HAM front-end in a modular package. The PFC FlatPAC offers up to 575 W in a single output supply. These power supplies feature a universal input, of 85-264 Vac and are available in 8 output voltages and three product grades.

Application Notes

AC Mains and Connections



Note: This product is internally fused

Functional and Mechanical Layout

Inputs

- 7 AC in L1
- 8 AC in L2/N
- 9 Chassis Ground

FlatPAC units are shipped with pins 11-12 and 14-15 connected via jumper plugs (Vicor P/N 02589) for **local sense**. For **remote sense**, remove these connections and connect pins 10-12 and 14-16, as shown in the Output Sense and Trim drawing on page 3.

Outputs

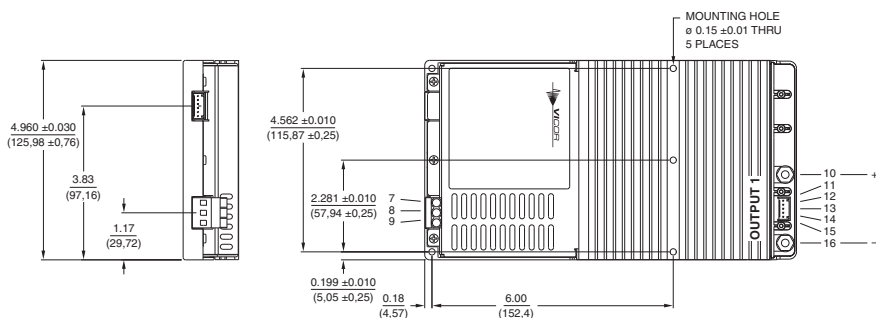
- 10 +Power Out
- 11 +Out**
- 12 +Sense*
- 13 Trim*
- 14 -Sense*
- 15 -Out**
- 16 -Power Out

All FlatPAC models are available with a **conduction cooled** flat plate instead of the top heat sink. Visit vicorpower.com for outline drawings.

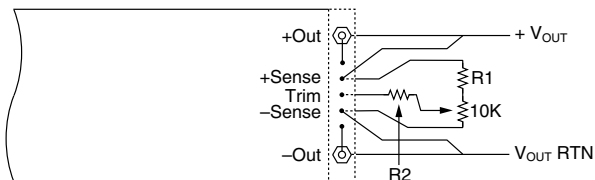
Inputs

MU-Series

Outputs

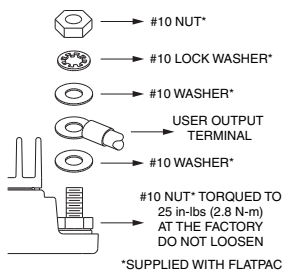
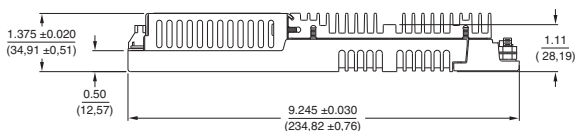


Output Sense and Trim



+Sense and -Sense must be connected locally or remotely (shown).
See calculator for output voltage trimming at vicorpower.com

All Models



OUTPUT STUD CONNECTIONS

Notes:

- All output studs 10-32 UNF. Torque to 20 in-lbs (2.3 N-m).
- Output supervisory terminals (11–15): use mating connector Vicor P/N 16385, AMP P/N 644083-5
- AMP Termination Tool Pistol Grip Handle P/N 58074-1; with interchangeable head P/N 58246-1
- Do not loosen bottom nut.

Installation and Operation Guidelines

Fusing. The PFC FlatPAC's internal fuses are not user-replaceable. Please return the unit to vendor if servicing is necessary.

Grounding. To satisfy IEC 950 Class I grounding requirements, connect a ground lead to the terminal marked \perp (GND). Use 2.5 mm² / #14 AWG wire.

Input Voltage Connections. Connect the line voltage to L1 (hot) and L2N (neutral). Use #14 AWG input wire. Recommended connector screw torque is 5 to 7 in-lbs (0.5 to 0.8 N-m). Recommended strip length is 8 mm.

Output Wire Gauge. Use the output wire gauge that corresponds to the output current of your FlatPAC unit, below: Do not loosen bottom nut.

100 A–160 A : #2 AWG	30 A–50 A : #8 AWG	10 A–15 A : #14 AWG
75 A–100 A : #4 AWG	20 A–30 A : #10 AWG	6 A–10 A : #16 AWG
50 A–75 A : #6 AWG	15 A–20 A : #12 AWG	0 A–6 A : #18 AWG

Output Voltage Trimming. Do not trim the outputs higher than 110% of their nominal output voltage. When an output is trimmed up, do not exceed its maximum rated output power.

Operating Temperature. Do not allow the PFC FlatPAC to exceed its maximum operating temperature, which is reached when the heat sink is 85°C. (Full power can be delivered up to this temperature.) Heat sink temperature is a function of the output power and voltage of the supply, ambient temperature, and airflow across the heat sink. Refer to the Vicor Applications Manual to determine the maximum ambient temperature for your application. Always use worst-case conditions when calculating operating temperature. **Note 1:** To ensure proper heat transfer from the internal module(s) to the heat sink, the mounting holes through the heat sink (2, 3, and 4 holes on one-, two-, and three-up models, respectively) must contain torqued screws at all times during operation, whether or not the unit is mounted. If the unit is operated unmounted, insert a #6 or metric panhead screw through each hole from below and secure with a nut on top, torqued to 6 in-lbs (0.7 N-m). **Note 2:** All FlatPAC models are available with a conduction cooled flat plate instead of the top heat sink. Contact factory for outline drawings.

For More Information

The Vicor Applications Manual and product data sheet contain complete information about FlatPAC AC-DC power supplies. To receive literature or to consult an applications engineer about installation or operation of this product, contact your nearest Vicor office or visit the Vicor Website. (See back panel.)

(Bitte lesen Sie die Sicherheits-Vorschriften auf Seite 6.)

Sicherungen. Die internen Sicherungen im FlatPAC können nicht vom Anwender ausgetauscht werden. Für Servicearbeiten schicken Sie das Teil bitte an den Händler zurück.

Erdung. Um den IEC 950 Klasse I Erdungsforderungen zu entsprechen, muß ein Erdungskabel an den Anschluß $\frac{1}{4}$ (GND) angeschlossen werden. Für FlatPAC Modelle mit einem Modul (max. Leistung 200 W) benutzen Sie bitte 1.5 mm² AWG 16- und für Modelle mit 2 und 3 Modulen (max. Leistung 400 W und 600 W) bitte 2.5 mm² AWG 14-Kabel.

Betriebstemperatur. Die maximale Betriebstemperatur des FlatPAC-Gerätes darf nicht überschritten werden. Dies ist gegeben, wenn der Kühlkörper eine Temperatur von 85 Grad Celsius erreicht hat. Die Kühlkörpertemperatur ist eine Größe, die sich aus der Ausgangsleistung und Spannung der Stromversorgung, der Umgebungstemperatur und der Luftzirkulation über dem Kühlkörper ergibt. Bitte bestimmen Sie mit Hilfe des Vicor Applikationshandbuches die maximale Umgebungstemperatur Ihrer Applikation.

Weitere Informationen. Das Vicor Applications Manual und Produkt-Datenblätter enthalten ausführliche Informationen über FlatPAC AC-DC Wandler. Fordern Sie bitte Unterlagen bei Vicor oder Ihrer nächsten Vicor Vertretung an.

Visit Vicor's Website at:
vicorpower.com

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