

CERTIFICATE OF COMPLIANCE

Certificate Number 20141229-E135493
Report Reference E135493-A27-UL
Issue Date 2014-DECEMBER-29

Issued to: VICOR CORP
25 FRONTAGE RD
ANDOVER MA 01810

**This is to certify that
representative samples of**

POWER SUPPLIES, INFORMATION TECHNOLOGY
EQUIPMENT INCLUDING ELECTRICAL BUSINESS
EQUIPMENT

AC/DC Converter- VIA PFM series

Have been investigated by UL in accordance with the
Standard(s) indicated on this Certificate.

Standard(s) for Safety: UL 60950-1 and CAN/CSA C22.2 No. 60950-1-07-
Information Technology Equipment - Safety - Part 1:
General Requirements

Additional Information: See the UL Online Certifications Directory at
www.ul.com/database for additional information

Only those products bearing the UL Certification Mark should be considered as being covered by UL's
Certification and Follow-Up Service.

Recognized components are incomplete in certain constructional features or restricted in performance
capabilities and are intended for use as components of complete equipment submitted for investigation rather
than for direct separate installation in the field. The final acceptance of the component is dependent upon its
installation and use in complete equipment submitted to UL LLC.

Look for the UL Certification Mark on the product.



Bruce Mahrenholz, Assistant Chief Engineer, Global Inspection and Field Services

UL LLC

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contact a local UL Customer Service Representative at www.ul.com/contactus



UL TEST REPORT AND PROCEDURE

Standard:	UL 60950-1, 2nd Edition, 2014-10-14 (Information Technology Equipment - Safety - Part 1: General Requirements) CAN/CSA C22.2 No. 60950-1-07, 2nd Edition, 2014-10 (Information Technology Equipment - Safety - Part 1: General Requirements)
Certification Type:	Component Recognition
CCN:	QQGQ2, QQGQ8 (Power Supplies for Information Technology Equipment Including Electrical Business Equipment)
Product:	AC/DC Converter
Model:	VIA PFM series
Rating:	See Miscellaneous Enclosure for model details. Rated Input Voltage: 85-264 Vac(rectified) Rated Output Voltage: 24 Vdc Rated Output Power: 400W max See Miscellaneous Enclosure for model details.
Applicant Name and Address:	VICOR CORP 25 FRONTAGE RD ANDOVER MA 01810-5424 UNITED STATES

This is to certify that representative samples of the products covered by this Test Report have been investigated in accordance with the above referenced Standards. The products have been found to comply with the requirements covering the category and the products are judged to be eligible for Follow-Up Service under the indicated Test Procedure. The manufacturer is authorized to use the UL Mark on such products which comply with this Test Report and any other applicable requirements of UL LLC ('UL') in accordance with the Follow-Up Service Agreement. Only those products which properly bear the UL Mark are considered as being covered by UL's Follow-Up Service under the indicated Test Procedure.

The applicant is authorized to reproduce the referenced Test Report provided it is reproduced in its entirety.

UL authorizes the applicant to reproduce the latest pages of the referenced Test Report consisting of the first page of the Specific Technical Criteria through to the end of the Conditions of Acceptability.

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Prepared by: Hong Ung

Reviewed by: Dean Baker

Supporting Documentation

The following documents located at the beginning of this Procedure supplement the requirements of this Test Report:

- A. Authorization - The Authorization page may include additional Factory Identification Code markings.
- B. Generic Inspection Instructions -
 - i. Part AC details important information which may be applicable to products covered by this Procedure. Products described in this Test Report must comply with any applicable items listed unless otherwise stated in the body of this Test Report.
 - ii. Part AE details any requirements which may be applicable to all products covered by this Procedure. Products described in this Test Report must comply with any applicable items listed unless otherwise stated in the body of each Test Report.
 - iii. Part AF details the requirements for the UL Certification Mark which is not controlled by the technical standard used to investigate these products. Products are permitted to bear only the Certification Mark(s) corresponding to the countries for which it is certified, as indicated in each Test Report.

Product Description

The VIA PFM Series are a family of isolating AC-DC converters that are designed for building-in. The output is considered SELV.

Model Differences

See Miscellaneous Enclosure for model nomenclature

Technical Considerations

- Equipment mobility : for building-in
- Connection to the mains : not directly connected to the mains
- Operating condition : continuous
- Access location : for building-in
- Over voltage category (OVC) : OVC II
- Mains supply tolerance (%) or absolute mains supply values : 85-264 Vac (rectified)
- Tested for IT power systems : -
- IT testing, phase-phase voltage (V) : N/A
- Class of equipment : Class I (earthed)
- Considered current rating of protective device as part of the building installation (A) : N/A
- Pollution degree (PD) : PD 2
- IP protection class : IP X0
- Altitude of operation (m) : Up to 5000
- Altitude of test laboratory (m) : less than 2000 meters
- Mass of equipment (kg) : 0.157

Engineering Conditions of Acceptability

For use only in or with complete equipment where the acceptability of the combination is determined by UL LLC. When installed in an end-product, consideration must be given to the following:

- The following secondary output circuits are SELV: All.
- The following secondary output circuits are at hazardous energy levels: All.
- The investigated Pollution Degree is: 2
- The following end-product enclosures are required: Mechanical, Fire, Electrical.
- An external bridge rectifier is required in front of the PFM.
- The output is separated from the input by reinforced insulation.
- The VIA PFM was evaluated over the full operating range of 85-264Vac rectified.
- See de-rating curve for maximum output power vs. case temperature in Miscellaneous Enclosure.
- The case must be earthed in the end application.
- The VIA PFM was evaluated with fast acting external fuse rated 8A (Littelfuse 216 series or Bussmann S501).

Additional Information

N/A

VIA PFM Model Number: PFMaabbcdewwxxyzz

Example: PFM4914VB6M24D0T00

PFM = Constant

Product Function	
PFM	Power Factor Module

aa = 49

Package Length Designator	
44	4.4 inches
49	4.9 inches

bb = 14

Package Width Designator	
14	1.4 inches

c = V

Package Type	
V	Chassis mount
B	Board mount

dd = B6

Input Voltage range	
B6	85-264 Vac

e = M

Range Ratio (Vin high / Vin low)	
M	3.1

ww = 24

Output Voltage	
24	24 Vdc
48	48 Vdc

xx = D0

Output Power	
B0	200W
D0	400W

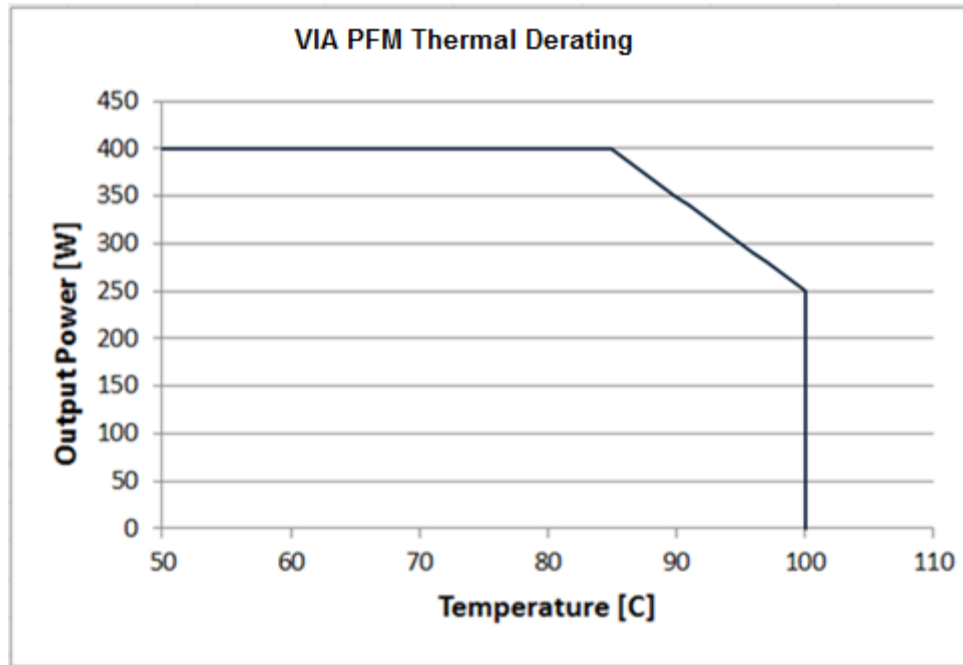
y = T

Product Grade	
C	-20 to 100°C
T	-40 to 100°C
M	-55 to 100°C

zz = 00

Options (non-safety related)	
00	Any alphanumeric

Customer Special Model Number	Equivalent Standard Model Number
PFA175B240C400A33	PFM4914VB6M24D0C00
PFA175B240T400A33	PFM4914VB6M24D0T00
PFA175B480C400A33	PFM4914VB6M48D0C00
PFA175B480T400A33	PFM4914VB6M48D0T00
PFA175C240C400A33	PFM4914BB6M24D0C04
PFA175C240T400A33	PFM4914BB6M24D0T04
PFA175C480C400A33	PFM4914BB6M48D0C04
PFA175C480T400A33	PFM4914BB6M48D0T04
PFA175G240C400A33	PFM4914BB6M24D0C08
PFA175G240T400A33	PFM4914BB6M24D0T08
PFA175G480C400A33	PFM4914BB6M48D0C08
PFA175G480T400A33	PFM4914BB6M48D0T08



Output Power vs. Case Temperature for operation from 85-264 Vac (rectified).