



**TEST REPORT**

**IEC-EN 60950**

**Safety of information technology equipment**

**Report reference No.**.....: 1924400-3335-0033 (51479)      CB/DE1-30646-A1  
**Tested by**.....: Jürgen Bärwinkel  
Name in block letters and title  
**Approved by**.....: Günter Straube  
Name in block letters and title  
**Date of issue** .....: 15.10.2004

Signature  
Signature

This report is based on a blank test report that was prepared by FIMKO using information obtained from the TRF originator (see below)

**Testing Laboratory Name:** VDE Testing and Certification Institute  
**Address:** Merianstraße 28, D-63069 Offenbach  
**Testing location:**      CBTL ☐      SMT ☐      WMT ☒      TDAP ☒  
**Name:** American Power Conversion Corp.  
**Address:** 85 Rangeway Road Bldg. #2 , N. Billerica, MA 01862 USA  
WMT (TDAP File no. 1924400-9501-0002)

**Applicant's Name:** American Power Conversion (APC)  
**Address:** 85 Rangeway Road Bldg #2, N. Billerica, MA, 01862

**Manufacturer's Name:** American Power Conversion Corp.  
**Address:** 85 Rangeway Road Bldg. #2 , N. Billerica, MA USA

**Factory:** See page 3

**Test specification**  
**Standard:** EN 60950:2000 3<sup>rd</sup> Edition; IEC 60950:1999 + corr. 2000 modified;  
DIN EN 60950 (VDE 0805):2001-12  
**Test procedure:** VDE, CB –scheme  
**Non-standard test method:**

**Test Report Form No.:** 60950\_\_E/00-08  
**TRF originator:** FIMKO  
**Master TRF:** dated 00-08

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**Test item**

Description :		Uninterruptible Power Supply (UPS)
Trademark:		APC
Model and/or type reference :		SYAF8KI, SYAF8KRMI, SYAF16KI, SYAF16KRMI, SYAF16KXR9I, SYAF20KRMI
Serial number :		---
Rating(s) :	Input:	AC 200 / 230 / 240 V, 1 W+N+PE, 100 A, 50 - 60 Hz or
		AC 380 / 400 / 415 V, 3 W+N+PE, 100 A, 50 - 60 Hz
	Output:	AC 220 / 230 / 240 V, 1 W+N+PE, 100 A, 50 - 60 Hz
		8 kVA, 5.6 kW (SYAF8K Units)
		16 kVA, 11.2 kW (SYAF16K Units)
		20 kVA, 14 kW (SYAF20K Units)

### Particulars: test item vs. test requirements

Equipment mobility :	<u>movable</u> / hand-held / stationary / fixed / permanent connection / direct plug-in / <u>for building-in</u>
Operating condition :	<u>continuous</u> / short-time / intermittent
Mains supply tolerance (%) :	-10 / +6 %
Tested for IT power systems :	No
IT testing, phase-phase voltage (V) :	---
Class of equipment :	Class I
Mass of equipment (kg) :	> 18
Protection against ingress of water :	---

## TEST CASE VERDICTS

Test case does not apply to the test object : N(/A)  
 Test item does meet the requirement : P(ass)  
 Test item does not meet the requirement : F(ail)

## TESTING

Date of receipt of test item : 20.09.2004

Date(s) of performance of test : 20.09.2004 – 14.10.2004

### GENERAL REMARKS

This report shall not be reproduced except in full without the written approval of the testing laboratory.

The test results presented in this report relate only to the item(s) tested.

"(see remark #)" refers to a remark appended to the report.

"(see Annex #)" refers to an annex appended to the report.

Throughout this report a comma is used as the decimal separator.

“C” refers to an CENELEC deviation



**Factory:**

Name: American Power Conversion  
Address: Breaffy Road, Castlebar Co, Mayo, Ireland

Name:  
Address:

Name:  
Address:

Name:  
Address:

Name:  
Address:

**Copy of marking plate:**

See Main Test Report and Appendix 2



**Information/comments:**

Complete details of construction and testing as well as supporting documentation such as photographs and schematics are included in the attachment and the main testreport.

**This test report includes the following addendum:**

Appendix 1	Model Matrix	1	Page
Appendix 2	Copy of Rating Label	1	Page
Appendix 3	PDU List of Critical Components	1	Page
Appendix 4	PDU Photos	4	Pages



Appendix to test report reference No. : 1924400-3335-0033

VDE Test- and Certification Institute  
Merianstrasse 28  
D - 63069 Offenbach

EN 60950:2000 3<sup>rd</sup> Edition; IEC 60950:1999 + corr.  
2000 modified; DIN EN 60950 (VDE 0805):2001-12

TYPE OF APPLIANCE : Uninterruptible Power Supply (UPS)  
Made by : American Power Conversion (APC)  
Trade mark : APC  
Model/type ref. : SYAF8KI, SYAF8KRMI, SYAF16KI, SYAF16KRMI,  
SYAF16KXR9I, SYAF20KRMI  
Rated : See page 2

Commission received from : Rick Everett (APC) Date: 20.09.2004

**Modification on the appliance:**

1. Add alternate model SYAF20KRMI to VDE File 1924400-3335-0033 and CB Certificate DE1-30646.

New Version	Already Certified Version	Modification / Differences
SYAF20KRMI	SYAF16KRMI	<p>The new model has higher output power 20 kVA / 14 kW instead of 16 kVA / 11.2 kW.</p> <p>The already certified model SYAF16KRMI is using 4 Power Modules and 1 for Redundancy. The new model SYAF20KRMI is using 5 Power Modules and no Redundancy Module.</p> <p>No additional tests were necessary due to the similarity to the approved model. The Heating Test performed on the already approved model was done with all 4 Power Modules fully loaded, so that the measured temperatures remain the same for the new model.</p>

2. Add alternate Output PDU Panels model SYPD10 and OM6362 to VDE File 1924400-3335-0033 and CB Certificate DE1-30646.

See attached Component List and Photos for details.

Remarks: For details see limited test results and main test report.

# SYMMETRA – LX MATRIX

VDE Reference Number: 1924400-3335-0033

Frame: SYAF8KI, SYAF8KRMI, SYAF16KI, SYAF16KRMI, SYAF16KXR9I, SYAF20KRMI.

Input: AC 220/230/240, 1 $\phi$  + N + GND, 50-60 Hz, 100A

AC 380/400/415, 3 $\phi$  + N + GND, 50-60 Hz, 100A

Output: AC 220/230/240, 1 $\phi$  + N + GND, 50-60 Hz, 100A

Total Output Power: 8 kVA, 5.6 kW (SYAF8K units)  
16 kVA, 11.2 kW (SYAF16K units)  
20 kVA, 14 kW (SYAF20K units)

Model SKU	Power Module SYPM4KI	Intelligence Module SYMIM5	Battery Module SYBT5
SYAF8KI	3	2	2
SYAF8KRMI	3	2	2
SYAF16KI	5	2	4
SYAF16KRMI	5	2	4
SYAF16KXR9I	5	2	13
SYAF20KRMI	5	2	4

PDU Panels:

SYPD10

0M6362

# APPLICABLE DRAWING

PART #: 885-2491  
REV 01  
SHEET 1 OF 1  
SCALE 1:1  
10/13/04  
J. BRIGGS



Symmetra LX

Input: 220/230/240V, 1Ø+N+⊕, 100A, 50-60Hz  
380/400/415V, 3Ø+N+⊕, 100A, 50-60Hz

Output: 220/230/240V, 1Ø+N+⊕, 50-60Hz  
Total Output Power: 20kVA, 14kW



## Total Power Off:

1. Set System Enable Switch to Standby: ⏻
2. Set Input Circuit Breaker to Standby: ⏻
3. Disconnect the Battery Modules.
4. Disconnect external Battery Cabinet (if provided).
5. Disconnect Mains / Branch Circuit.

**Caution:** For installation in a controlled environment. Refer to manual for environmental conditions.

ATTENTION : Pour utilisation en atmosphère contrôlée. Consulter la notice technique.

## Arrêt de courant total :

1. Mettre le commutateur de validation du système en position Standby (Attente) : ⏻
2. Mettre le disjoncteur de circuit d'entrée en position Standby : ⏻
3. Déconnecter les modules batterie.
4. Déconnecter l'armoire de batterie extérieure (le cas échéant).
5. Déconnecter le circuit de secteur et de dérivation.

## Vollständige Ausschaltung der Spannungsversorgung:

1. Stellen Sie den System-Aktivierungsschalter auf Bereitschaft: ⏻
2. Stellen Sie den Eingangs-Überlastschalter auf Bereitschaft: ⏻
3. Trennen Sie das Batteriemodul ab.
4. Trennen Sie den externen Batterieschrank ab (falls vorhanden).
5. Trennen Sie das Gerät vom Netz.

## Apagado total:

1. Coloque el Interruptor de Activación del Sistema en Espera: ⏻
2. Coloque el Interruptor de Circuitos de Entrada en Espera: ⏻
3. Desconecte los Módulos de Baterías.
4. Desconecte el Gabinete para la Batería externo (si fue provisto).
5. Desconecte el Circuito de Línea Principal/Derivado.

## WARNING

HIGH LEAKAGE CURRENT, Earth connection essential before connecting supply.

COURANT DE FUITE ELEVE, Raccordement a la terre indispensable avant le raccordement au reseau.

HOHER ABLEITSTROM, Vor Inbetriebnahme Erdungsverbindung herstellen.

CORRIENTE DE ALTA FUGA, Es fundamental la conexión a tierra antes de conectar el suministro.

Model: [ ]

S/N: [ ]

885-2491/1

SEE 885-2491\_REV01.DXF  
FOR DIE CUT DIMENSIONS

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1924400-3335-0033

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