

IEC SYSTEM FOR CONFORMITY TESTING  
AND CERTIFICATION OF ELECTRICAL  
EQUIPMENT (IECEE)  
CB SCHEME

SYSTÈME CEI D'ESSAIS DE CONFORMITÉ  
ET DE CERTIFICATION DES EQUIPEMENTS  
ELECTRIQUES (IECEE)  
METHODE OC

## CB TEST CERTIFICATE CERTIFICAT D'ESSAI OC

Product  
*Produit*

DC/DC Power Supply

Name and address of the applicant  
*Nom et adresse du demandeur*

Puls GmbH  
Arabellastraße 15  
D-81925 München, Germany

Name and address of the manufacturer  
*Nom et adresse du fabricant*

PULS Elektronische Stromversorgungen GmbH  
Niederwaldstrasse 3  
D-09123 Chemnitz, Germany

Name and address of the factory  
*Nom et adresse de l'usine*

PULS EP k.s.  
ul. Alfonse Muchy 5473  
430 01 Chomutov, Czech Republic

Rating and principal characteristics  
*Valeurs normales et caractéristiques principales*

22.5VDC up to 30VDC, 17 A, IP X0, Class III (Supplied by SELV)

Trade mark (if any)  
*Marque de fabrique (si elle existe)*

None

Model/type Ref.  
*Ref. de type*

UB10.KKX-XX and UBC10.KKX-XX

Additional information (if necessary)  
*Information complémentaire (si nécessaire)*

Testing done under the Supervised Manufacturer's Testing (SMT) procedure. This is amendment to CB DK-9713 of 2006-04-10 due to added model. See appendix

**PUBLICATION**  
IEC 60950-1:2001

**EDITION**  
1"

A sample of the product was tested and found to be in conformity with  
*Un échantillon de ce produit a été essayé et a été considéré conforme à la*

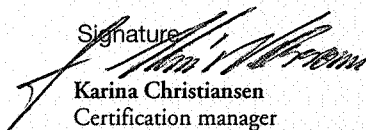
as shown in the Test Report Ref. No. which form part of this certificate  
*comme indiqué dans le Rapport d'essais numéro de référence*  
*qui constitue une partie de ce certificat*

E137006-A14-CB-1 with Amendment 1 dated 2007-04-23

This CB Test Certificate is issued by the National Certification Body  
*Ce Certificate d'essai OC est établi par l'Organisme National de Certification*

Date 2007-04-24

Signature

  
Karina Christiansen  
Certification manager

**UL International Demko A/S**  
Lyskaer 8, P.O. Box 514  
DK-2730 Herlev, Denmark  
Telephone: +45 44856565  
Fax: +45 44856500



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**Underwriters  
Laboratories Inc.®**

Internal Ref.:

Paul Zawatson

# Appendix to CB Certificate No. DK-9713/A1

## Additional information:

### Output:

Normal mode: 22.2VDC up to 29.7VDC (voltage drop input-output: 0.3V); 15A

Buffer mode: 22.3VDC; 10A

Where KK represents the input voltage and can be 22.5V up to 30V, X can be any character or number, not safety relevant.

Herlev, 2007-04-24

  
Karina Christiansen  
Certification Manager

## UL International Demko A/S

Lyskaer 8, P.O. Box 514  
DK-2730 Herlev, Denmark  
Telephone: +45 44856565  
Fax: +45 44856500



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Laboratories Inc.®**

## **COVER PAGE FOR TEST REPORT**




Test Item Description:	DC/DC Power Supply
Model/Type Reference:	UB10.KKX-XX and UBC10.KKX-XX, where KK represents the input voltage and can be 22.5V up to 30V, X can be any character or number, not safety relevant.
Rating(s):	Input: 22.5VDC up to 30VDC, max. 17 A Output: Normal mode: 22.2VDC up to 29.7VDC (voltage drop input-output: 0.3V); 15A Buffer mode: 22.3VDC; 10A
Standards:	IEC 60950-1:2001, First Edition
Applicant Name and Address:	PULS GMBH ARABELLSTR 15 81925 MUENCHEN GERMANY
Factory Location(s):	PULS EP K.S. UL. ALFONSE MUCHY 5473 430 01 CHOMUTOV, CZECH REPUBLIC
This Report includes the following parts, in addition to this cover page: <ol style="list-style-type: none"><li>1. Specific Technical Criteria</li><li>2. Clause Verdicts</li><li>3. Critical Components</li><li>4. Test Results</li><li>5. Enclosures<ol style="list-style-type: none"><li>a. National Differences</li><li>b. Marking Plate</li><li>c. Photographs</li><li>d. Schematics + PWB</li><li>e. Manuals</li><li>f. Miscellaneous</li></ol></li></ol>	
The original report was modified on 2007-04-23 to include the following changes/additions: add model UBC10.KKX-XX	
All applicable tests according to the above standard(s) have been carried out. Test results are valid only for the tested equipment. This Test Report can be reproduced only in whole. Amendments and corrections can be reproduced only with the original CB Test Report. Written permission from UL International Demko A/S is required if the test report is copied in part.	

## COVER PAGE FOR TEST REPORT

Test Item Description:	DC/DC Power Supply
Model/Type Reference:	UB10.KKX-XX and UBC10.KKX-XX, where KK represents the input voltage and can be 22.5V up to 30V, X can be any character or number or blank, not safety relevant.
Rating(s):	Input: 22.5VDC up to 30VDC, max. 17 A Output: Normal mode: 22.2VDC up to 29.7VDC (voltage drop input-output: 0.3V); 15A Buffer mode: 22.3VDC; 10A
Standards:	Optional Output rating: Output 24Vdc 10A, 12 Vdc 5A, 240W IEC 60950-1:2001, First Edition
Applicant Name and Address:	PULS GMBH ARABELLASTR 15 81925 MUENCHEN GERMANY
Factory Location(s):	PULS EP K.S. UL. ALFONSE MUCHY 5473 430 01 CHOMUTOV, CZECH REPUBLIC
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The original report was modified on 2007-11-27 to include the following changes/additions: Type error corrections only.	
All applicable tests according to the above standard(s) have been carried out. Test results are valid only for the tested equipment. This Test Report can be reproduced only in whole. Amendments and corrections can be reproduced only with the original CB Test Report. Written permission from UL International Demko A/S is required if the test report is copied in part.	

 	Test Report issued under the responsibility of:	 An Affiliate of Underwriters Laboratories Inc.®
<b>TEST REPORT</b> <b>IEC 60950-1, First Edition</b> <b>Information technology equipment-Safety</b> <b>Part 1: General Requirements</b>		
<b>Report Reference No</b> .....	E137006-A14-CB-1	
<b>Date of issue</b> .....	2006-03-24	
<b>Total number of pages</b> .....	18	
<b>CB Testing Laboratory</b> .....	UL International Germany GmbH	
<b>Address</b> .....	Prüflabor, Hugentottenallee 175, 63263 Neu-Isenburg, Germany	
<b>Applicant's name</b> .....	PULS GMBH	
<b>Address</b> .....	ARABELLASTR 15 81925 MUENCHEN GERMANY	
<b>Test specification:</b>		
Standard .....	IEC 60950-1:2001, First Edition	
Test procedure .....	CB Scheme	
Non-standard test method .....	N/A	
<b>Test Report Form No.</b> .....	IEC60950_1B	
Test Report Form originator .....	SGS Fimko Ltd	
Master TRF .....	dated 2003-03	
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If this test Report is used by non-IECEE members, the IECEE/IEC logo shall be removed.		
<b>This report is not valid as a CB Test Report unless signed by an approved CB Testing Laboratory and appended to a CB Test Certificate issued by an NCB in accordance with IECEE 02.</b>		

<b>Test item description</b> .....	DC/DC Power Supply
Trade Mark .....	None
Model/Type reference .....	UB10.KKX-XX and UBC10.KKX-XX, where KK represents the input voltage and can be 22.5V up to 30V, X can be any character or number, not safety relevant.
Manufacturer .....	PULS GMBH, NIEDERWALDSTRAÙE 3, D-09123 CHEMNITZ, GERMANY
Rating .....	Input: 22.5VDC up to 30VDC, max. 17 A Output: Normal mode: 22.2VDC up to 29.7VDC (voltage drop input-output: 0.3V); 15A Buffer mode: 22.3VDC; 10A

<b>Testing procedure and testing location:</b>	
<input type="checkbox"/> <b>CB Testing Laboratory</b>	
Testing location / address..... :	
<input type="checkbox"/> <b>Associated CB Test Laboratory</b>	
Testing location / address..... :	
Tested by (name + signature) .....	
Approved by (+ signature) .....	
<input type="checkbox"/> <b>Testing Procedure: TMP</b>	
Tested by (name + signature) .....	
Approved by (+ signature) .....	
Testing location / address..... :	
<input type="checkbox"/> <b>Testing Procedure: WMT</b>	
Tested by (name + signature) .....	
Witnessed by (+ signature)..... :	
Approved by (+ signature) .....	
Testing location / address..... :	
<input checked="" type="checkbox"/> <b>Testing Procedure: SMT</b>	
Tested by (name + signature) .....	Thomas Weißbach
	
Approved by (+ signature) .....	Michaela Zielke
	
Supervised by (+ signature) .....	Paul Zawatson
	
Testing location / address..... :	PULS GMBH, Niederwaldstraße 3, D-09123 Chemnitz, Germany
<input type="checkbox"/> <b>Testing Procedure: RMT</b>	
Tested by (name + signature) .....	
Approved by (+ signature) .....	
Supervised by (+ signature) .....	
Testing location / address..... :	

**Summary of Testing:**

Unless otherwise indicated, all tests were conducted at PULS GMBH, Niederwaldstraße 3, D-09123 Chemnitz, Germany.

Tests performed (name of test and test clause)	Testing location / Comments
Power Supply Reference Page Heating (4.5.1, 1.4.12, 1.4.13)	

**Summary of Compliance with National Differences:**

AR, AT, AU, BE, CA, CH, CZ, DE, DK, ES, EU, FI, FR, GB, GR, HU, IE, IL, JP, KR, MY, NL, NO, NZ, PL, PT, SE, SG, SI, SK, US

**Copy of Marking Plate** - Refer to Enclosure titled Marking Plate for copy.



<b>Test item particulars :</b>	
Equipment mobility.....:	for building-in
Operating condition.....:	continuous
Mains supply tolerance (%):.....:	No direct connection
Tested for IT power systems.....:	No
IT testing, phase-phase voltage (V).....:	N/A
Class of equipment .....	Class III (supplied by SELV)
Mass of equipment (kg) .....	0.530
Protection against ingress of water.....:	IP X0
<b>Possible test case verdicts:</b>	
- test case does not apply to the test object .....	N / A
- test object does meet the requirement .....	P(Pass)
- test object does not meet the requirement .....	F(Fail)
<b>Testing:</b>	
Date(s) of receipt of test item .....	2006-11-01
Date(s) of Performance of tests .....	2007-03-17
<b>General remarks:</b>	
<p>The test results presented in this report relate only to the object tested.                  This report shall not be reproduced, except in full, without the written approval of the Issuing testing laboratory.</p> <p>"(see Enclosure #)" refers to additional information appended to the report.                  "(see appended table)" refers to a table appended to the report.</p> <p>Throughout this report a point is used as the decimal separator.</p> <p>Refer to the Cover Page For Test Report for a list of all Factory Locations.</p>	

<b>GENERAL PRODUCT INFORMATION:</b>
<b>Report Summary</b>
The original report was modified on 2007-04-23 to include the following changes/additions: add model UBC10.KKX-XX
<b>Product Description</b>
The model UB10.KKX-XX supplies all connected devices with a 24VDC voltage without interruption. When the 24V supply voltage is applied, the external battery is charged. In the event of a supply voltage failure, the external battery is connected to the output, and the stored power ensures that that all connected devices continue to operate without interruption.
<b>Model Differences</b>

Model UBC10.KKX-XX is identical to model Model UB10.KKX-XX except integrated battery, therefore different overall dimensions for enclosure.

#### **Additional Information**

Model UB10.KKX-XX all Abnormal Tests were conducted with external battery.

#### **Technical Considerations**

The product was submitted and tested for use at the maximum ambient temperature (T<sub>ma</sub>) permitted by the manufacturer's specification of: , Model UB10.KKX-XX = 60°C: Model UBC10.KKX-XX = 35°C.

Model UB10.KKX-XX all abnormal operations were conducted with external battery Manufacturer Geyer electronic, Type LL 7.2-12, 12V/7.2Ah and fuse in the battery-circuit Listed DC Fuse, Littelfuse Type 257, rated 30A, 32VDC.

The normal mounting orientation is: Input downwards, output upwards. Other mounting orientations have been measured at a lower output current of 85%. Refer to heating test table for details.

#### **Engineering Conditions of Acceptability**

When installed in an end-product, consideration must be given to the following:

The following secondary output circuits are SELV: 24 V DC

The following secondary output circuits are at hazardous energy levels: 24 V DC

The power supply terminals and/or connectors are: Suitable for field wiring

The investigated Pollution Degree is: 2

The unit is not intended for direct connection to centralized DC. The Unit is intended to be supplied by SELV circuits.

IEC 60950-1			
Clause	Requirement + Test	Result - Remark	Verdict
4.3	<b>Design and construction</b>		Pass
4.3.8	Batteries	Model UB10.KKX-XX external battery not part of this investigation.	Pass
5.3.3	Transformers		N/A
F	<b>Annex F, MEASUREMENT OF CLEARANCES AND CREEPAGE DISTANCES (see 2.10)</b>		Pass

*This is an extract of the CB-Scheme report with the most important information.  
If a complete copy of the report is required, please contact your PULS sales representative.*