

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

SYSTÈME CEI D'ESSAIS DE CONFORMITÉ  
ET DE CERTIFICATION DES ÉQUIPEMENTS  
ÉLECTRIQUES (IECEE)  
METHODE OC

CB TEST CERTIFICATE  
CERTIFICAT D'ESSAI OC

Product  
*Produit*

Switch Mode Power Supply

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

Puls Elektronische Stromversorgungen GmbH  
Arabellastraße 15  
D-81925 München, Germany

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

Puls Elektronische Stromversorgungen GmbH  
Arabellastraße 15  
D-81925 München, 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 nominales et caractéristiques principales*

2x380V-480VAC, 50-60Hz, 0.6A (two phase)

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

Model/type Ref.  
*Ref. de type*

ML100.2XX-YY

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

Output: 24VDC up to 28VDC, 4.2A-3.6A.  
2 can also be 6 and stands for customer specific version, XX and YY can  
be any character or number, not safety relevant.  
Testing done under Supervised Manufacturer's Testing (SMT) procedure

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*

IEC 60950:1999

1"


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-A15-CB-1 issue date 2006-07-19

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 2006.09.11

  
Signature

 Karina Christiansen  
Certification manager



An Affiliate of  
**Underwriters  
Laboratories Inc.®**

**UL International Demko A/S**  
Lyskaer 8, P.O. Box 514  
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Fax: +45 44856500

Internal Ref.:  
Paul Zawatson

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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 nominales et caractéristiques principales*

2x380V-480VAC, 50-60Hz, 0.5A (two phase)

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

Model/type Ref.  
*Ref. de type*

ML90.2XX-YY

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

Output: 24VDC up to 28VDC, 3.75A-3.2A  
2 can also be 6 and stands for customer specific version, XX and YY can  
be any character or number, not safety relevant.  
Testing done under Supervised Manufacturer's Testing (SMT) procedure

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*

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Internal Ref.:  
Paul Zawatson

**TEST REPORT**  
**IEC 60950-1, First Edition**  
**Information technology equipment - Safety -**  
**Part 1: General Requirements**

**Report Reference No** .....: E137006-A15-CB-1

**Compiled by (+ signature)**.....: Elisabeth Ginkelmaier

*Elisabeth Ginkelmaier*

**Reviewed by (+ signature)** .....: Paul Zawatson

*Paul Zawatson*

**Date of issue** .....: 2006-07-19

**CB Testing Laboratory** .....: UL International Demko A/S

**Address**.....: Lyskaer 8, 2730, Herlev, Denmark

**Testing location/procedure** .....: CBTL [ ] SMT [x] TMP [ ] WMT [ ]

**Address**.....: PULS ELEKTRONIK, GMBH, Niederwaldstraße 3, D-09123  
Chemnitz, Germany

**Applicant's name** .....: PULS ELEKTRONISCHE STROMVERSORGUNGEN  
GMBH

**Address** .....: ARABELLASTR 15  
81925 MUNICH GERMANY

**Test specification:**

**Standard** .....: IEC 60950-1:2001, First Edition

**Test procedure** : CB Scheme

**Non-standard test method** .....: N/A

**Test Report Form No.** .....: IEC60950\_\_1A

**TRF originator** .....: SGS Fimko Ltd

**Master TRF** .....: dated 2002-03

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**Test item description** .....: DIN-Rail Switch Mode Power Supply

**Trade Mark** .....: None

**Model/Type reference** : ML100.2XX-YY and ML90.2XX-YY, where 2 can also be 6 and stands for customer specific version, XX and YY can be any character or number, not safety relevant

**Manufacturer** .....: PULS ELEKTRONISCHE  
STROMVERSORGUNGEN GMBH  
ARABELLASTR 15  
81925 MUNICH GERMANY

Rating .....: Model ML100.2XX-YY  
 Input: 2x380V-480VAC, 50-60Hz, 0.6A (two phase)  
 Output: 24VDC up to 28VDC, 4.2A-3.6A.  
 Model ML90.2XX-YY  
 Input: 2x380V-480VAC, 50-60Hz, 0.5A (two phase)  
 Output: 24VDC up to 28VDC, 3.75A-3.2A.

Marking Plate - Refer to Enclosure titled Miscellaneous for copy.

#### Particulars: test item vs. test requirements

Equipment mobility :	for building-in
Operating condition :	continuous
Mains supply tolerance (%) :	+/-15%
Tested for IT power systems :	Yes
IT testing, phase-phase voltage (V) :	380-480
Class of equipment :	Class I (earthed)
Mass of equipment (kg) :	0.9kg
Protection against ingress of water :	IP X0

#### Possible test case verdicts:

- 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)

#### General remarks:

**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 a NCB in accordance with IEC 60950-1.**

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.

"(see Enclosure #)" refers to additional information appended to the report.

"(see appended table)" refers to a table appended to the report.

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

**General Product Information:****Report Summary**

All applicable tests according to the referenced standard(s) have been carried out.

**Product Description**

The product is a Switch Mode Power Supply for DIN-Rail mounting.

**Model Differences**

Models are technical identical, except for the differences outlined below:

Model ML100.2XX-YY and Model ML90.2XX-YY are identical except current limitation (R306), power limitation (R286, R231, R314) and additional load limitation (V132, R346).

**Additional Information**

-

**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: 60°C in normal mounting position. Output derated to 88% in all other mounting positions.

The means of connection to the mains supply is: Permanently connected (field wired)

The product is intended for use on the following power systems: TT, TN, IT,

The normal mounting orientation is: Input downwards, output upwards. Other mounting orientations have been measured at a lower output current of 70%. 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 Production-Line tests are conducted for this product: Electric Strength, Earthing Continuity

The end-product Electric Strength Test is to be based upon a maximum working voltage of: Primary-SELV: 266Vrms, 380Vpk, Primary-L1 to L2: 480Vrms, 690Vpk; Primary-Earthed Metal: 257Vrms, 375Vpk;

The following secondary output circuits are SELV: All outputs of Model ML 100.2XX-YY and ML90.2XX-YY.

The following secondary output circuits are at non-hazardous energy levels: Output of Model ML100.2XX-YY and ML90.2XX-YY.

The following secondary output circuits are supplied by a Limited Power Source: Output of Model ML90.2XX-YY.

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

The maximum investigated branch circuit rating is: 15 A,

The investigated Pollution Degree is: 2

Proper bonding to the end-product main protective earthing termination is: Required at earthing terminal.

An investigation of the protective bonding terminals has: Not been conducted

The following magnetic devices (e.g. transformers or inductor) are provided with an OBJY2 insulation system with the indicated rating greater than Class A (105°C): T1 (Class F)

The following end-product enclosures are required: Mechanical, Fire, Electrical

*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.*