

# CERTIFICATE OF COMPLIANCE

**Certificate Number** 20180104-E145156  
**Report Reference** E145156-20171229  
**Issue Date** 2018-JANUARY-04

**Issued to:** ISKRA, d d  
STEGNE 21  
1000 LJUBLJANA SLOVENIA

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


COMPONENT - FIXED CAPACITORS FOR USE IN  
ELECTRONIC EQUIPMENT  
See Addendum Page

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

**Standard(s) for Safety:**  
**Additional Information:**

See Addendum Page  
See the UL Online Certifications Directory at  
[www.ul.com/database](http://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.

The UL Recognized Component Mark generally consists of the manufacturer's identification and catalog number, model number or other product designation as specified under "Marking" for the particular Recognition as published in the appropriate UL Directory. As a supplementary means of identifying products that have been produced under UL's Component Recognition Program, UL's Recognized Component Mark: , may be used in conjunction with the required Recognized Marks. The Recognized Component Mark is required when specified in the UL Directory preceding the recognitions or under "Markings" for the individual recognitions.

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, Director North American Certification Program  
UL LLC

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This is to certify that representative samples of the product as specified on this certificate were tested according to the current UL requirements.

Class X2 Capacitors. Models KNB1580, KNB1582 and KNB1583 series with Capacitance from 0.01 ~ 15 $\mu$ F with tolerance suffix code K( $\pm$ 10%), M( $\pm$ 20%). Refer to CONSTRUCTION DETAILS for Model designation and rated capacitance.

**Standard(s) for Safety:** Fixed Capacitors for Use in Electronic Equipment – Part 14: Sectional Specification: Fixed Capacitors for Electromagnetic Interference Suppression and Connection to the Supply Mains - UL 60384-14# & CSA E60384-14:14. Fixed Capacitors for Use in Electronic Equipment - Part 1: Generic Specification - CSA E60384-1:14.



Bruce Mahrenholz, Director North American Certification Program  
UL LLC

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## DESCRIPTION

## PRODUCT COVERED:

USR, CNR - Component - Class X2 Capacitors. Models KNB1580, KNB1582 and KNB1583 series with Capacitance from 0.01 ~ 15 $\mu$ F with tolerance suffix code K( $\pm$ 10%), M( $\pm$ 20%). Refer to CONSTRUCTION DETAILS for Model designation and rated capacitance.

## RATINGS:

Class	Voltage Rating (ac)	Lower Category Temperature ( $^{\circ}$ C)	Upper Category Temperature ( $^{\circ}$ C)	Capacitance Tolerance (%) $\text{\$}$	Climatic Category	Passive Flammability Category
X2	305/310	-40	110	K( $\pm$ 10%), M( $\pm$ 20%)	56	B

Note  $\text{\$}$ : the model code may be followed by K( $\pm$ 10%), M( $\pm$ 20%)

## ABBREVIATIONS:

USR - Recognized, indicates investigation to UL 60384-14, Second Edition.

CNR - Recognized, indicates investigation to CSA E60384-1:14, Third Edition, and CSA E60384-14:14, Third Edition.

## TECHNICAL CONSIDERATIONS (NOT FOR FIELD REPRESENTATIVE USE):

## Conditions of Acceptability

These components have been investigated and are intended for use in Electronic Equipment for Electromagnetic Interference Suppression and Connection to the Supply Mains where the acceptability of the combination is determined by UL LLC.

1. These components are intended to be installed within a suitable enclosure in the end use application.
2. Electrical spacings from uninsulated parts and the case shall comply with the requirements of the end-use product.
3. These components are intended for use in 50/60 Hz circuits up to a nominal 310 Vac.
4. These capacitors have been evaluated for 56days damp heating in an ambient of  $40 \pm 2$   $^{\circ}$ C,  $93 \pm 3$  % RH with acceptable results. Additional evaluation should be made if the unit is intended to be used in a different ambient.