

INTERNATIONAL STANDARD

NORME INTERNATIONALE



INTERNATIONAL SPECIAL COMMITTEE ON RADIO INTERFERENCE
COMITÉ INTERNATIONAL SPÉCIAL DES PERTURBATIONS RADIOÉLECTRIQUES

Limits and methods of measurement of radio disturbance characteristics of electrical lighting and similar equipment

Limites et méthodes de mesure des perturbations radioélectriques produites par les appareils électriques d'éclairage et les appareils analogues

CISPR 15:2013

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LIMITS AND METHODS OF MEASUREMENT OF RADIO DISTURBANCE CHARACTERISTICS OF ELECTRICAL LIGHTING AND SIMILAR EQUIPMENT

INTERPRETATION SHEET 1

This interpretation sheet has been prepared by subcommittee CISPR F: Interference relating to household appliances, tools, lighting equipment and similar apparatus, of IEC technical committee CISPR: International special committee on radio interference.

The text of this interpretation sheet is based on the following documents:

ISH	Report on voting
CISPR/F/583/ISH	CISPR/F/591/RVD

Full information on the voting for the approval of this interpretation sheet can be found in the report on voting indicated in the above table.

CISPR 15 interpretation sheet on the assessment of retrofit Extra Low Voltage LED lamps

Introduction

During the CISPR meeting in Seoul 2011 the IARU reported that a number of LED lighting products are causing interference with amateur radio reception. See item 15 of the minutes CISPR/1218/RM.

In addition to this verbal report, the IARU submitted in January 2012 a detailed written report which was circulated as CISPR/F/565/INF. Major sources of interference are some types of Extra Low Voltage (e.g. 12 V) LED lamps for which the current CISPR 15 requirements are not clear. Additional clarification of the standard was requested urgently.

In response the CISPR F management committee issued document CISPR/F/568/INF setting out an action plan to resolve the issue at short notice.

Part of the solution is this Interpretation Sheet which details the assessment of retrofit ELV LED lamps.

Question: How are the requirements of CISPR 15 applied to retrofit Extra Low Voltage (ELV) LED lamps?

Interpretation: When assessing retrofit ELV LED lamps against the requirements of CISPR 15 the following procedure shall be applied.

ELV LED lamps without active switching electronic components are considered to fulfil the requirements of CISPR 15 without test.

All other types of retrofit ELV LED lamps shall be tested in conjunction with a wire wound 50 or 60 Hz ring-core transformer. The use of such a transformer is considered to be the worst-case condition and shall be used unless it is clearly stated in the manufacturer's instructions that the lamp is unsuitable for use with such a transformer. In this case measurements shall be performed in combination with a typical compliant electronic transformer for halogen lamps.

The combination of transformer and ELV LED lamp shall comply with the mains disturbance voltage limits of Table 2a and the radiated disturbance limits of Tables 3a and 3b.

During the disturbance voltage measurement, the ELV LED lamp is mounted in a conical metal housing as described in Figure 7. The ELV LED lamp is then connected to the transformer by a flexible 3-core cable consisting of two ELV supply conductors and the earth connection to the conical housing. The length of this cable shall be as short as possible. The metal conical housing shall be positioned with its cable entrance close to the transformer.

The combination of transformer and conical metal housing shall be tested as a luminaire in accordance with the requirements of 8.2.

When performing the radiated disturbance measurements in accordance with Clause 9, the conical metal housing shall not be used.

References are to CISPR 15:2013.

CISPR 15:2013

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LIMITS AND METHODS OF MEASUREMENT OF RADIO DISTURBANCE CHARACTERISTICS OF ELECTRICAL LIGHTING AND SIMILAR EQUIPMENT

INTERPRETATION SHEET 2

This interpretation sheet has been prepared by subcommittee CISPR F: Interference relating to household appliances, tools, lighting equipment and similar apparatus, of IEC technical committee CISPR: International special committee on radio interference.

The text of this interpretation sheet is based on the following documents:

ISH	Report on voting
CISPR/F/584/ISH	CISPR/F/592/RVD

Full information on the voting for the approval of this interpretation sheet can be found in the report on voting indicated in the above table.

CISPR 15 interpretation sheet on: Test conditions for wall dimmers

Introduction

More and more incandescent lamps are replaced by energy saving lamps (fluorescent and LED). Some types are dimmable by phase control of the supply voltage. New wall dimmers are developed to improve the dim performance when the dimmer is loaded with energy saving lamps. CISPR 15 is not clear on how to test these types of wall dimmers.

This interpretation sheet has been prepared by the Joint 17B-23B-34A-77A IEC Forum on the dimming of electronic self-ballasted lamps and was finalized during the CISPR/F/WG2 meeting in Bangkok.

Question: How to test a wall dimmer which is suitable for energy saving lamps?

Relevant text CISPR 15:

Clause 8 of CISPR 15 specifies the 'Method of measurement of disturbance voltages'.

8.3.1 'Directly operating devices' specifies the test arrangement of independent directly operating light regulating devices such as wall dimmers.

The second paragraph reads:

'Unless otherwise specified by the manufacturer, the regulating device shall be measured with the maximum allowed load consisting of incandescent lamps as specified by the manufacturer.'

Answer:

- 1) Independent directly operating light regulating devices (e.g. wall dimmers) which are suitable for incandescent lamps and other types of lighting equipment (e.g. self-ballasted lamps) shall be tested with incandescent lamps.
- 2) Independent directly operating light regulating devices which are only suitable for lighting equipment other than incandescent lamps shall be tested with the appropriate lighting equipment as provided by the manufacturer.

The above will be included in the full revision of CISPR 15, following the 8th edition.

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