

## **Clarification of document ECE/TRANS/WP.29/GRE/2013/62, concerning electronic light source control gear**

Note: The text reproduced below was prepared by the expert from The Netherlands for further clarification, after consultation with several experts and in response to discussions on ECE/TRANS/WP.29/GRE/2013/44 and ECE/TRANS/WP.29/GRE/2013/62. The modifications to the existing text of the UN Regulation are marked in bold for new or strikethrough for deleted characters.

### **I. Proposal for Supplement 6 to the 01 series of amendments to Regulation No. 112**

*Insert a new paragraph 2.1.6., to read:*

**"2.1.6. Whether electronic light source control gear is part of the headlamp and whether this electronic light source control gear(s) is used for the passing and/or driving beam."**

*Insert new paragraph 3.7., to read:*

**"3.7. Electronic light source control gear shall bear the name of the manufacturer and its means of identification, except when it is incorporated with the headlamp body."**

*Paragraph 5.3., amend to read:*

"5.3. The headlamp shall be equipped with:

5.3.1. **Either** filament lamp(s) approved according to Regulation No. 37:

**5.3.1.1.** Any filament lamp covered by Regulation No. 37 may be used, provided that no restriction on the use is made in Regulation No. 37 and its series of amendments in force at the time of application for type approval.

5.3.1.2. The design of the device shall be such that the filament lamp can be fixed in no other position but the correct one. 6/

5.3.1.3. The filament lamp holder shall conform to the characteristics given in IEC Publication 60061. The holder data sheet relevant to the category of filament lamp used, applies.

**5.3.1.4.** ~~A means of controlling the voltage at the terminals of the device, within the limits as defined in Regulation No. 48, may, for convenience, be located within the body of the headlamp. However, for the purposes of type approval of the passing and/ or driving beam according to the provisions of this Regulation, such means of voltage control shall not be considered to be part of the headlamp and shall be disconnected during the testing to verify performance according to the requirements of this Regulation.~~

**Electronic light source control gear may be part of the headlamp, whether incorporated with the headlamp body or not.**

**In those cases that electronic light source control gear is part of the headlamp, the following applies:**

5.3.1.4.1. The manufacturer shall specify the input and output voltage of such an electronic light source control gear for the conditions under which the passing and/ or driving beam, according to the provisions of this Regulation, is to be approved.

5.3.1.4.2. The requirements in paragraph 6.2.4 (and 6.3.3. if applicable) of this Regulation shall be met at the minimum and the maximum voltage to the electronic light source control gear, as specified according to paragraph 5.3.1.4.1.

This shall be verified for the luminous intensity values calculated by multiplying the luminous intensity values measured at reference luminous flux, by the factors  $F_{V_{max}}$  and  $F_{V_{min}}$ , whereas:

$$F_{V_{max}} = I_{V_{max}} / I_{ref}$$

$$F_{V_{min}} = I_{V_{min}} / I_{ref}$$

$I_{V_{max}}$  is the luminous intensity value measured in 50 R\* at the maximum voltage to the control gear

$I_{V_{min}}$  is the luminous intensity value measured in 50 R\* at the minimum voltage to the control gear

$I_{ref}$  is the luminous intensity value measured in 50 R\* at reference luminous flux.

5.3.1.4.3. The voltage at the terminals of the filament light source shall be not less than 6.0 V (6 Volt-Systems), 12.0 V (12 Volt-Systems) or 24.0 V (24 Volt-Systems) and not larger than 6.75V (6 Volt-Systems), 13.5V (12 Volt-Systems) or 28.V (24 Volt-Systems), plus 3%. This shall be verified by measurements at the minimum and the maximum voltage to the electronic light source control gear, as specified according to paragraph 5.3.1.4.1.

5.3.1.4.4. The use of such an electronic light source control gear shall be noted in item 9. of the communication form in Annex 1.

5.3.2. and/or LED module(s):..."

\*/ for right-hand traffic; 50 L in the case of left-hand traffic

*Annex 1*

*Item 9.*, amend to read:

...Number and specific identification code(s) of electronic light source control gear(s)

**Electronic light source control gear:** .....yes/no 2/

Total objective luminous flux as described in paragraph 5.9. exceeds 2,000 lumen: yes/no/does not apply<sup>2</sup>..."

## II. Justification

1. This proposal takes into account comments received concerning documents ECE/TRANS/WP.29/GRE/2013/44 and ECE/TRANS/WP.29/GRE/2013/62. It was understood that document ECE/TRANS/WP.29/GRE/2013/44 is the conversion of informal document GRE-69-42 and that ECE/TRANS/WP.29/GRE/2013/62 is a superseding proposal. This informal document aims to further clarify ECE/TRANS/WP.29/GRE/2013/62, while maintaining the basic substance.

2. It appeared unclear how the electronic light source control gear located outside the headlamp body was to be treated. Therefore, it is proposed to delete the location requirement. In return, the electronic light source control gear must be specified in the documentation for application and be marked when not incorporated with the headlamp body, as proposed by new paragraphs 2.1.6 and 3.7.. The note in the communication form was adapted accordingly.

3. Another issue that was raised was if a verification at minimum and maximum voltage was required and whether a full beam pattern measurement at reference luminance flux was required for this, or not. A simplified method is now proposed in this document. The measurement of the full beam pattern at reference luminance flux is, of course, required as before, but the additional verification at minimum and maximum voltages is done merely by calculation and the accompanying measurement is only in one test point at the different voltages.

4. Some experts also suggested that the 3% tolerance may need to be mentioned also in these proposed requirements for Regulation No. 112. This may indeed have been overlooked and has now been added to the proposed paragraph 5.3.1.4.3..

5. Furthermore, paragraph 5.3. was edited and split into several subparagraphs to improve its readability.

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