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INDUSTRY STANDARD OF THE PEOPLE'S REPUBLIC OF CHINA

GA/T 484-2004

LED variable message signs of road traffic inducement

LED道路交通诱导可变标志

(English Translation)

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Foreword

This standard was drafted in accordance with the rules given in GB/T 1.1-2009.

This standard replaces GA/T 484-2010 "LED Road Traffic Induced Variable Information Sign", compared with GA/T 484-2010, except for editing the main technical changes outside the series are as follows.

--- Removed the definition of terms for LEDs (see 3.1 of 2010 edition);

--- Removed the definition of terms for the induction system (see 3.6 of the 2010 edition);

---Modified English terminology for pixel spacing (see 3.7, 3.9 of 2010 edition);

--- Revised the definition of the terminology of the normal optical axis (see 3.8, 3.10 of the 2010 edition);

--- Revised the definition of terms for the two primary color induction markers (see 3.10, 3.12 of the 2010 edition);

--- Removed the definition of the terminology of the central control unit (see 3.15 of the 2010 edition);

--- Removed the definition of the terms uploaded (see 3.16 for the 2010 edition);

--- Removed the definition of the terms downloaded (see 3.17 of the 2010 edition);

--- Removed the classification according to display performance in the classification (see 4.1 of 2010 edition);

--- Revised the composition of the structure (see 5.1, 5.1.1 of the 2010 edition);

--- Revised the specification of the point spacing specification (see 5.3.2, 5.1.5 of the 2010 edition);

--- Revised the LED road traffic induced variable information mark flatness requirements (see 5.3.3, 2010 version of 5.1.4);

--- Increased the relative deviation requirement of the pixel center distance of the LED road

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traffic induced variable information mark (see 5.3.4, 2010 edition) 5.1.4);

--- Removed the relevant content of the management software control function in system management (see 5.2.1.4, 5.2.1.5 of 2010 edition, 5.2.1.7);

---Modified the rules for displaying text size (see 5.4.2.1, 5.2.2.1 of 2010 edition);

--- Added screen display requirements when there is no control over the monochrome variable information mark (see 5.4.2.2, 5.2.2.3 of 2010 edition);

---Modified the definition of dual primary color variable information mark display function (see 5.4.2.3, 5.2.2.4 of 2010 edition);

--- Revised the provisions of the full color screen induced sign display function (see 5.4.2.4, 5.2.2.5 of the 2010 version);

--- Added provisions for the layout of local induced signs (see 5.4.2.5);

--- Revised the basic method of traffic information release (see 5.4.3.1, 5.2.3.1 of 2010 edition);

--- Removed the optional method of traffic information release (see 5.2.3.2 of 2010 edition);

--- Modified the screen dimming requirements for variable information signs (see 5.4.4.1, 5.2.4.1 of the 2010 edition);

--- Increased the setting requirements for "at least one" of the ambient illumination detection device (see 5.4.4.2, 5.2.4.2 of the 2010 edition);

---Modified the requirements for manual dimming function (see 5.4.4.3, 5.2.4.3 of 2010 edition);

---Modified the brightness requirements of the full screen induced sign (see 5.5.1.1, 5.3.1 of the 2010 version);

--- Increased the optical performance requirements of the local induction mark text (see 5.5.1.2);

--- Modified the uniformity of illumination (see 5.5.2, 5.3.2 of the 2010 edition);

--- Modified the out of control point requirements (see 5.5.3, 5.3.3 of the 2010 edition);

--- Increased the rule of the color of the induced mark base (see 5.6.1);

--- Revised the rules for the color coordinates of the mark color boundary (see Table 2 of 5.6.2, Table 2 of 5.4.2 of the 2010 edition);

--- Removed the primary wavelength of the primary color of the three primary color induction markers (see 5.4.3 of the 2010 edition);

--- Revised the power and power factor requirements (see 5.7, 5.5 of the 2010 edition);

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--- Removed the relevant provisions of the RS-232-C data interface (see 5.7.2 of the 2010 edition);

--- Removed the relevant provisions of the communication procedures (see 5.8 of the 2010 edition);

--- Revised the requirements for temperature rise (see 5.8.7, 5.6.7 for the 2010 edition);

--- Modified the description of low temperature performance requirements (see 5.10.1, 5.9.1 of 2010 edition);

--- Modified the enclosure protection level requirements (see 5.10.4, 2010 editions 5.9.4 and 5.9.5);

--- Revised the description of weather resistance performance requirements (see 5.10.8, 5.9.9 of the 2010 edition);

--- Increased requirements for impact resistance (see 5.10.9);

--- Revised the relevant requirements for reliability (see 5.10.10, 5.9.10 of the 2010 edition);

--- Revised the power measurement test method (see 6.7, 6.7 of 2010 edition);

--- Increased the test method of the physical interface (see 6.9);

--- Removed the test method for communication procedures (see 6.9 of 2010 edition);

--- Revised the test method for the salt spray test (see 6.10.6, 6.10.7 for the 2010 edition);

--- Revised the test method for weather resistance test (see 6.10.8, 2010 version of 6.10.9);

--- Revised the scope of type inspection (see 7.1.1, 7.1.1 of the 2010 edition);

--- Removed storage environment requirements (see version 9.4.1 of 2010).

1 Scope

This standard specifies the classification, naming, technical requirements, test methods, inspection rules and installation of LED road traffic induced variable information signs.

And use, labeling, packaging, transportation and storage.

This standard applies to the design, manufacture and inspection of road traffic induced variable information signs.

2 Normative references

The following documents are indispensable for the application of this document. For dated references, only the dated version applies to this article.

Pieces. For undated references, the latest edition (including all amendments) applies to this

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document.

GB 2312 Basic set of Chinese character coded character set for information exchange GB/T 2423.1 Environmental testing of electrical and electronic products - Part 2. Test methods Test A. Low temperature GB/T 2423.2 Environmental testing of electrical and electronic products - Part 2. Test methods Test B. High temperature GB/T 2423.3 Environmental testing of electric and electronic products - Part 2. Test method test Ca. constant damp heat test GB/T 2423.10 Environmental testing of electric and electronic products - Part 2. Test method test Fc. Vibration (sinusoidal) GB/T 2423.17 Environmental testing of electric and electronic products - Part 2. Test method test Ka. salt spray GB/T 3681 plastic natural daylight weather aging, solar aging after glass filtration and Fresnel spectroscopy accelerate sunlight aging Exposure method GB/T 4208-2017 enclosure protection grade (IP code) GB 4599-2007 Automotive filament light bulb headlights GB/T 5080.7 Equipment reliability test Verification efficiency test plan for failure rate and mean time between failures under the assumption of constant failure rate GB 5768.2 Road traffic signs and markings - Part 2. Road traffic signs GB/T 18833-2012 Road traffic reflective film GB 51038 Specification for setting of urban road traffic signs and markings IEEE802.2/3 LAN protocol

3 Terms and definitions

The following terms and definitions apply to this document.

Pixel pixel

A basic display unit consisting of single or multiple LEDs that controls its illuminated or extinguished state.

Display module A structurally independent smallest unit consisting of several pixels.

Module displayteam

A separate display unit consisting of a number of display modules, drive circuits, control circuits and corresponding structural components.

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