

Title (en)

Method and device for replacing a bulb of a light signal

Title (de)

Vorrichtung und Verfahren zur Realisierung eines Glühlampenersatzes für ein Lichtsignal

Title (fr)

Dispositif et procédé pour remplacer une lampe à incandescence d'un signal lumineux

Publication

EP 2463174 B1 20131030 (DE)

Application

EP 10194406 A 20101209

Priority

EP 10194406 A 20101209

Abstract (en)

[origin: EP2463174A1] The device for creating a replacement of an incandescent lamp by a lighting unit for a light signal in rail traffic that is in an interlocking side of safety monitoring, comprises: lighting units such as LED lights with a power supply interface; an interlocking side interface (8) to subscribe the electric power from a signal box; and an interface module interposed between the interlocking side interface and the power supply interface, where the interface module comprises a control logic (24), which knows a signal aspect and/or a daily time-dependent characteristic of the incandescent lamp. The device for creating a replacement of an incandescent lamp by a lighting unit for a light signal in rail traffic that is in an interlocking side of safety monitoring, comprises: lighting units such as LED lights with a power supply interface; an interlocking side interface (8) to subscribe the electric power from a signal box; an interface module interposed between the interlocking side interface and the power supply interface, where the interface module comprises a control logic (24), which knows a signal aspect and/or a daily time-dependent characteristic of the incandescent lamp to be replaced and controls the power output of the power supply interface as a function of the selected signal aspect and/or daily time; a voltmeter (30) measuring the interlocking-side at the interface and the voltage applied to the control logic; and a power receiver that controls the time measured by the control logic in dependence of the voltage so that the interlocking side interface replicates the characteristic of the power consumed to replace incandescent lamp. The voltmeter operates in tycom readiness management system mode. The power receiver has a power driver in pulse-width modulation (PWM) mode, and eliminates typical inrush current in response to the interlocking-side switching present on the lamp for a cold filament in the lamp. The power receiver eliminates the inrush current in a: first temporal portion of a temporary parallel resistance after providing the electrical power for switching on the lighting unit, where the parallel resistance corresponds to the resistance of the incandescent lamp in the cold filament and the resistance value increases with time; and second temporal portion of the temporary parallel resistance replaced by a PMW-function to simulate the load characteristics of the lamp. An independent claim is included for a method for creating a replacement of an incandescent lamp by an energy efficient lighting unit for a light signal in rail traffic.

IPC 8 full level

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CPC (source: EP)

B61L 5/1881 (2013.01); **B61L 2207/02** (2013.01)

Cited by

DE102016007366A1; CN104781130A; EP2687418A3; CN110481598A; EP3072775A1; DE102012221991A1; CN104768829A; AU2013351411B2; EP2894389A1; DE102016007366B4; DE102013218998B4; CN105557070A; RU2634643C2; US9656681B2; DE202016003785U1; US11420660B2; US9562952B2; EP3456604A1; CN111587203A; AU2018337923B2; WO2014082860A3; WO2014082859A3; WO2019058188A1; WO2015039879A1; EP2687418B1

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