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(54) **EMERGENCY LIGHTING DEVICES**

NOTBELEUCHTUNGSVORRICHTUNGEN

DISPOSITIFS D'ÉCLAIRAGE D'URGENCE

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(56) References cited:

EP-A2- 1 885 039 WO-A1-2012/089355

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Description

TECHNICAL FIELD OF THE INVENTION

[0001] The invention relates to the field of emergency lighting devices, such as emergency lighting devices using LEDs.

BACKGROUND OF THE INVENTION

[0002] Frequently, homes, offices, and industrial plant facilities experience many types of emergency situations involving power failures where an interior or exterior area has no light. The power failures may be caused by electrical short circuits, brownouts, fire, accidents, natural disasters (i.e., floods, hurricanes, tornadoes, etc.), or a planned shutoff of electricity to a facility or dwelling.

[0003] In order to face this situation, for example, emergency lighting devices with rechargeable central or decentral batteries are designed for use with LED emergency lighting means and can be operated as part of a combined system with electronic LED drivers.

[0004] However, in the prior art, emergency devices for lighting means, such as LEDs, present some disadvantages related, for example, to the duration of their batteries or the efficiency of the testing of their operational status. For example, EP 1 885 039 A2 and WO 2012/089335 A1 disclose an emergency device for lighting means according to the preamble of independent claim 1, respectively.

[0005] Thus, it is an objective of this invention to provide for an improved emergency device for lighting means, such as LEDs.

SUMMARY OF THE INVENTION

[0006] According to a first aspect the invention relates to an emergency device for lighting means, having a driver stage and terminals to drive emergency lighting means based on a DC power supply. The emergency devices for lighting means comprises a wireless communication unit. The wireless communication unit is designed to receive a first signal from a neighboring emergency device for lighting means and to transmit a second signal to the neighboring emergency device for lighting means.

[0007] When in the following an (one) emergency device is mentioned, it is to be understood that this encompasses a plurality of devices, especially when several devices are located in a room or office. In addition each emergency device in the office or room can preferably contain the data for all other emergency devices in the area/room/office. The inter-device communication according to the invention is not limited to one adjacent device. It can be extended to 1-n devices only limited by memory and proximity, n being the total number of devices.

[0008] Using a device-to-device wireless communication has the advantage of improving the reliability and

performance of an emergency system.

[0009] Normally, a wireless communication is used in order to enable devices to communicate with a base station for controlling and reporting. According to the invention, the emergency device-to-emergency device communication is facilitated in order to improve system performance and reliability.

[0010] Moreover, by using wireless communication unit to exchange information between emergency devices, instead of just with a base station, the emergency devices can instigate the exchange of information between each other in order to facilitate their communication.

[0011] The neighboring emergency device can be defined either via pre-configuration, signal strength, time of flight or other means.

[0012] In the emergency device for lighting means according to the first aspect, the emergency device for lighting means further comprises a processor, wherein the first signal comprises a request for the status of the emergency device, and wherein the processor is designed to extract a first information about the status of the emergency device for lighting means, to extract a second information about the status of the neighboring emergency device for lighting means and to command the wireless transmission thereof to at least one neighboring emergency device for lighting means.

[0013] In the emergency device for lighting means according to the first aspect, the first information comprises first data about a scheduling of an automatic testing of the emergency device for lighting means and the second information comprises second data about a scheduling of an automatic testing of the neighboring emergency device for lighting means.

[0014] This provides the advantage of avoiding simultaneous selftesting in a given area and, thereby, avoiding risks due to flat batteries, when an emergency event actually occurs. Moreover, the synchronization of automatic testing has the advantage of avoiding that more than one emergency device in an area can test together. This also avoids the possibility that the system is not ready to respond to an emergency event, because several units have exhausted batteries after a testing event in the same area. This is also defined by the standard IEC62034, although the method to guarantee this is not defined by the standard. Local device-to-device communication would identify where a test is ongoing or where a test has just been completed and the battery is empty. It would then be possible to block or pend tests that were scheduled in that area.

[0015] In a preferred embodiment of the emergency device for lighting means according to the first aspect, the emergency device for lighting means further comprises a black box unit for critical parameters associated with emergency devices for lighting means and the processor is designed to store first black box data of the emergency device and second black box data of at least one neighboring emergency device for lighting means in the black

box unit.

[0016] This provides the advantage that all local devices, such as the emergency device for lighting means and the neighboring emergency device for lighting means hold the black box data or critical parameters of the other devices in the same area, so that in event of failure the data can be sent back to explain why the event occurred without need for near field communication (NFC) or other interface. Moreover, if local devices can store information from each other, they can hold events such as overvoltage protection (OVP) or thermal events and report back even when the device experiencing the event has failed.

[0017] In fact, from a failure analysis of neighboring devices, when communication is blocked from multiple neighboring units, it can be deduced that the unit has stopped working as opposed to a loss of coms through one medium.

[0018] In a preferred embodiment of the emergency device for lighting means according to the first aspect, the wireless communication unit is based on a wireless communication protocol, wherein the wireless communication protocol allows for a mesh architecture.

[0019] In general, failures in the device-to-device communication are often identified by loss of communication with an emergency device (no answer to a query), although this could also be related to the connection infrastructure.

[0020] An important feature of a wireless emergency system employing a mesh network is that a communication path is available and several local devices can hold data about neighboring devices. This provides the advantage that, by local device-to-device communication, it is possible to identify when an emergency device was broken because several local devices would be sharing data.

[0021] In a preferred embodiment of the emergency device for lighting means according to the first aspect, the emergency device for lighting means is configured to store in a memory configuration data of at least one neighboring emergency device.

[0022] This provides the advantage that, if it is possible to know and communicate with neighboring emergency devices, then multiple configurations could be stored in emergency devices that would enable replacements to be automatically configured according the replaced part.

[0023] Moreover, this has the advantage that a replacement support by storage of neighboring emergency device configurations can be done, so that, when an emergency device is detected as failed, a new emergency device can be programed from the neighboring emergency devices.

[0024] According to a second aspect, the invention relates to a system comprising at least an emergency device for lighting means according to the first aspect and a neighboring emergency device for lighting means, wherein the neighboring emergency device for lighting means has a driver stage and terminals to drive emergency lighting means based on a DC power supply. The

neighboring emergency device for lighting means further comprises a wireless communication unit, wherein the communication unit is designed to receive a first signal from the emergency device for lighting means and to transmit a second signal to the emergency device for lighting means.

[0025] According to a third aspect, the invention relates to a method for communicating using an emergency device for lighting means according to the first or second aspect or any one of the implementation forms thereof, the method comprising the steps of receiving a first signal from a neighboring emergency device for lighting means and transmitting a second signal to the neighboring emergency device for lighting means.

[0026] In the method according to the third aspect, the first signal comprises a request for the status of the emergency device for lighting means, and the method further comprises the steps of extracting a first information about the status of the emergency device for lighting means, extracting a second information about the status of the neighboring emergency device for lighting means and commanding the wireless transmission thereof to the neighboring emergency device for lighting means.

[0027] In the method according to the third aspect, the first information comprises first data about a scheduling of an automatic testing of the emergency device, and the second information comprises second data about a scheduling of an automatic testing of the neighboring emergency device for lighting means.

[0028] In a further implementation form of the method according to the third aspect, the method further comprises the step of storing first black box data of the emergency device and second black box data of the neighboring emergency device for lighting means in a black box unit for critical parameters associated with emergency devices for lighting means.

[0029] In a further implementation form of the method according to the third aspect, the method further comprises the step of storing in a memory configuration data of at least one neighboring emergency device.

BRIEF DESCRIPTION OF THE DRAWINGS

[0030]

Fig. 1 shows an embodiment of an emergency device for lighting means according to an embodiment;

Fig. 2 shows a system comprising an emergency device for lighting means and a neighboring emergency device for lighting means according to an embodiment;

Fig. 3 shows an exemplary embodiment of a system comprising an emergency device for lighting means according to an embodiment; and

Fig. 4 shows a method for communicating using an

emergency device for lighting means according to an embodiment.

DETAILED DESCRIPTION OF THE PREFERRED EMBODIMENTS

[0031] Aspects of the present invention are described herein in the context of an emergency lighting device, a system comprising an emergency device for lighting means or a method for communicating using an emergency device for lighting means.

[0032] The present invention is described more fully hereinafter with reference to the accompanying drawings, in which various aspects of the present invention are shown. This invention however may be embodied in many different forms and should not be construed as limited to the various aspects of the present invention presented through this disclosure. Rather, these aspects are provided so that this disclosure will be thorough and complete, and will fully convey the scope of the present invention to those skilled in the art. The various aspects of the present invention illustrated in the drawings may not be drawn to scale. Rather, the dimensions of the various features may be expanded or reduced for clarity. In addition, some of the drawings may be simplified for clarity. Thus, the drawings may not depict all of the components of a given apparatus.

[0033] Various aspects of an emergency device for lighting means will be presented. However, as those skilled in the art will readily appreciate, these aspects may be extended to aspects of emergency devices for lighting means without departing from the invention.

[0034] It is further understood that the aspect of the present invention might contain integrated circuits that are readily manufacturable using conventional semiconductor technologies, such as complementary metal-oxide semiconductor technology, short "CMOS". In addition, the aspects of the present invention may be implemented with other manufacturing processes for making optical as well as electrical devices. Reference will now be made in detail to implementations of the exemplary aspects as illustrated in the accompanying drawings. The same reference signs will be used throughout the drawings and the following detailed descriptions to refer to the same or like parts.

[0035] Now referring to figure 1, an emergency device for lighting means 1 is shown according to an embodiment.

[0036] The emergency device 1 comprises a driver 5, a detection unit 8, a processor 9, a wireless transmission interface 10, an antenna 11, AC supply terminals 6, 6' or terminals for being supplied from an external (e.g., central) DC power supply 4', light means supply terminals 3, 3', and an internal DC supply 4.

[0037] The emergency device 1 typically monitors the states of an alternating current AC and is connected to emergency lighting means 2. Moreover, the emergency device 1 may be connected to the external DC supply 4'.

[0038] In order to better explain the functionality of the different components of the emergency device 1, we refer to an embodiment of the emergency device 1, wherein the emergency device 1 is one or more light-emitting diodes (LEDs).

[0039] LEDs require specialized devices called LED drivers 5 to operate. LED drivers 5 (also known as LED power supplies) are similar to ballasts for fluorescent lamps or transformers for low-voltage bulbs: they provide LEDs with the electricity they require to function and perform at their best.

[0040] Furthermore, LED drivers 5 also protect LEDs from voltage or current fluctuations. A change in voltage could cause a change in the current being supplied to the LEDs. LED light output is proportional to its current supply, and LEDs are rated to operate within a certain current range (measured in amps). Therefore, too much or too little current can cause light output to vary or degrade faster due to higher temperatures within the LED.

[0041] In summary, the LED driver 5 supplies, in a controlled manner, the lighting means 2 with electrical power.

[0042] Moreover, in one embodiment, the detection unit 8 is configured to detect if there is an alternating current supply and, in case of an AC power supply failure, the emergency device 1 is driven by a DC power supply from the internal DC supply 4 or the external DC supply 4' in order to operate the lighting means 2 in such an emergency condition.

[0043] Moreover, the emergency device 1 comprises a wireless communication unit, wherein the wireless communication unit comprises the interface 10 and the antenna 11 and is designed to receive a first signal from a neighboring emergency device for lighting means 13 and to transmit a second signal to the neighboring emergency device for lighting means 13.

[0044] Figure 2 shows an exemplary embodiment of a system 200 comprising an emergency device for lighting means 1 and a neighboring emergency device for lighting means 13 at different times (t1 and t2).

[0045] In this embodiment, the neighboring emergency device 13(t1) sends the first signal comprising a request for the status of the emergency device 1 to the emergency device 1.

[0046] In one embodiment, the processor of the emergency device 9 is designed to extract a first information about the status of the emergency device for lighting means 1. In one embodiment, the first information comprises data about a duration test of the emergency device 1.

[0047] Moreover, the wireless communication unit is configured to send, at a second time t2, the second signal comprising the first information to the neighboring emergency device 13(t2).

[0048] The neighboring emergency device 13 can comprise a processor as well, which can be configured to perform a test duration of the neighboring emergency device 13, if the emergency device 1 is not performing a test duration at the same time.

[0049] Figure 3 shows the system 200 comprising the emergency device for lighting means 1 and the neighboring emergency device for lighting means 13 according to an embodiment.

[0050] In this embodiment, the system 200 is an office 12 which comprises five emergency devices for lightning means (1, 13, 14, 15, 16). Furthermore, the emergency devices for lightning means 1, 13, 14, 15, 16 comprise an antenna each 11, 13', 14', 15', and 16".

[0051] Moreover, in this embodiment, the emergency device 1, 13, 14 and 15 comprise each a memory 8', 13", 14", and 15".

[0052] In one embodiment, the memory 8', for example, comprises a black box unit and the processor 9 is designed to store first black box data of the emergency device 1 and second black box data of the neighboring emergency device for lighting means 13 in the black box unit.

[0053] Moreover, the emergency device for lighting means 1 can be configured to store in the memory 8' configuration data of the neighboring device.

[0054] According to an embodiment, the wireless communication units of the emergency devices 1, 13, 14, 15 and 16 are based on a wireless communication protocol, wherein the wireless communication protocol allows for a mesh architecture.

[0055] Figure 4 shows a method 400 for communicating using the emergency device for lighting means 1 according to an embodiment.

[0056] The method 400 comprises the following step:

- receiving 402 a first signal from the neighboring emergency device for lighting means 13; and
- transmitting 404 a second signal to the neighboring device for lighting means 13.

Reference Signs

[0057]

- | | |
|----|--------------------------|
| 1 | Emergency device |
| 2 | Emergency lighting means |
| 3 | Terminal |
| 3' | Terminal |
| 4 | DC supply |
| 4' | DC supply |
| 5 | Driver |
| 6 | Terminal |
| 6' | Terminal |
| 7 | Terminal |
| 7' | Terminal |
| 8 | Detection unit |
| 8' | Memory |
| 9 | Processor |
| 10 | Interface |
| 11 | Antenna |
| 12 | Office |

- | | | |
|--------|---|---------|
| 13 | Neighboring emergency device | |
| 13(t1) | Neighboring emergency device 1 at time t1 | |
| 13(t2) | Neighboring emergency device 1 at time t2 | |
| 13' | Antenna | |
| 5 | 13" | Memory |
| 14 | Emergency device | |
| 14' | Antenna | |
| 14" | Memory | |
| 15 | Emergency device | |
| 10 | 15' | Antenna |
| 15" | Memory | |
| 16 | Emergency device | |
| 16' | Antenna | |
| 200 | System | |
| 15 | 400 | Method |
| 402 | Method step | |
| 404 | Method step | |

Claims

1. Emergency device for lighting means (1), having a driver stage (5) and terminals (3, 3') to drive emergency lighting means (2) based on a DC power supply (4, 4'), comprising:

a wireless communication unit, and
a processor (9),
wherein the wireless communication unit is designed
to receive a first signal from a neighboring emergency device for lighting means (13),
wherein the first signal comprises a request for the status of the emergency device (1) for lighting means (13),
wherein the processor (9) is designed

to extract a first information about the status of the emergency device for lighting means (1), and
to extract a second information about the status of the neighboring emergency device for lighting means (13),

wherein the processor (9) is further designed to command the wireless transmission thereof to the neighboring emergency device for lighting means (13), and
wherein the wireless communication unit is further designed
to transmit a second signal to the neighboring emergency device for lighting means (13),

characterized in that

the first information comprises first data about a scheduling of an automatic testing of the emergency device for lighting means (1), and

the second information comprises second data about a scheduling of an automatic testing of the neighboring emergency device for lighting means (13).

2. Emergency device for lighting means (1) according to claim 1, wherein the emergency device for lighting means (1) further comprises a black box unit for critical parameters associated with emergency devices for lighting means (1, 13) and wherein the processor (9) is designed to store first black box data of the emergency device (1) and second black box data of the neighboring emergency device for lighting means (13) in the black box unit.

3. Emergency device for lighting means (1) according to claim 1 or claim 2, wherein the wireless communication unit is based on a wireless communication protocol, wherein the wireless communication protocol allows for a mesh architecture.

4. Emergency device for lighting means (1) according to any one of the preceding claims, wherein the emergency device for lighting means (1) is configured to store in a memory (8') configuration data of the neighboring emergency device (13).

5. System (200) comprising at least an emergency device for lighting means (1) according to claim 1 and a neighboring emergency device for lighting means (13), wherein the neighboring emergency device for lighting means (13) has a driver stage and terminals to drive emergency lighting means based on a DC power supply and further comprises: a wireless communication unit, wherein the communication unit is designed to receive a third signal from the emergency device for lighting means (1) and to transmit a fourth signal to the emergency device for lighting means (1).

6. Method for communicating (400) using an emergency device for lighting means (1) according to any one of the claims 1 to 4, the method (400) comprising the steps of:

- receiving (402) a first signal from a neighboring emergency device for lighting means (13),

wherein the first signal comprises a request for the status of the emergency device for lighting means (1),

- extracting a first information about the status of the emergency device for lighting means (1),
 - extracting a second information about the status of the neighboring emergency device for lighting means (13),
 - commanding the wireless transmission thereof

to the neighboring emergency device for lighting means (13), and
 - transmitting (404) a second signal to the neighboring emergency device for lighting means (13),

characterized in that

the first information comprises first data about a scheduling of an automatic testing of the emergency device for lighting means (1), and the second information comprises second data about a scheduling of an automatic testing of the neighboring emergency device for lighting means (13).

7. The method (400) of claim 6, wherein the method (400) further comprises the step of:

- storing first black box data of the emergency device (1) and second black box data of the neighboring emergency device for lighting means (13) in a black box unit for critical parameters associated with emergency devices for lighting means (1, 13).

8. The method (400) of claim 6 or claim 7, wherein the method (400) further comprises the step of:

- storing in a memory (8') configuration data of the neighboring emergency device (13).

Patentansprüche

1. Notfallvorrichtung für Beleuchtungsmittel (1), die eine Treiberstufe (5) und Anschlüsse (3, 3') aufweisen, um Notfallbeleuchtungsmittel (2) basierend auf einer Gleichstromleistungsversorgung (4, 4') anzutreiben, umfassend:

eine Drahtloskommunikationseinheit, und einen Prozessor (9),
 wobei die Drahtloskommunikationseinheit ausgelegt ist, um ein erstes Signal von einer benachbarten Notfallvorrichtung für Beleuchtungsmittel (13) zu empfangen,
 wobei das erste Signal eine Anforderung für den Status der Notfallvorrichtung (1) für Beleuchtungsmittel (13) umfasst,
 wobei der Prozessor (9) ausgelegt ist zum Extrahieren von ersten Informationen über den Status der Notfallvorrichtung für Beleuchtungsmittel (1) und
 Extrahieren von zweiten Information über den Status der benachbarten Notfallvorrichtung für Beleuchtungsmittel (13),
 wobei der Prozessor (9) ferner ausgelegt ist zum

- Befehlen der Drahtlosübertragung davon an die benachbarte Notfallvorrichtung für Beleuchtungsmittel (13) und wobei die Drahtloskommunikationseinheit ferner ausgelegt ist zum Übertragen eines zweiten Signals an die benachbarte Notfallvorrichtung für Beleuchtungsmittel (13),
dadurch gekennzeichnet, dass die ersten Informationen erste Daten über eine Planung eines automatischen Testens der Notfallvorrichtung für Beleuchtungsmittel (1) umfassen und die zweiten Informationen zweite Daten über eine Planung eines automatischen Testens der benachbarten Notfallvorrichtung für Beleuchtungsmittel (13) umfassen.
2. Notfallvorrichtung für Beleuchtungsmittel (1) nach Anspruch 1, wobei die Notfallvorrichtung für Beleuchtungsmittel (1) ferner eine Black-Box-Einheit für kritische Parameter umfasst, die Notfallvorrichtungen für Beleuchtungsmittel (1, 13) zugehörig sind, und wobei der Prozessor (9) ausgelegt ist, um erste Black-Box-Daten der Notfallvorrichtung (1) und zweite Black-Box-Daten der benachbarten Notfallvorrichtung für Beleuchtungsmittel (13) in der Black-Box-Einheit zu speichern.
 3. Notfallvorrichtung für Beleuchtungsmittel (1) nach Anspruch 1 oder 2, wobei die Drahtloskommunikationseinheit auf einem Drahtloskommunikationsprotokoll basiert, wobei das Drahtloskommunikationsprotokoll eine Netzarchitektur ermöglicht.
 4. Notfallvorrichtung für Beleuchtungsmittel (1) nach einem der vorstehenden Ansprüche, wobei die Notfallvorrichtung für Beleuchtungsmittel (1) konfiguriert ist, um Konfigurationsdaten der benachbarten Notfallvorrichtung (13) in einem Speicher (8') zu speichern.
 5. System (200), umfassend mindestens eine Notfallvorrichtung für Beleuchtungsmittel (1) nach Anspruch 1 und eine benachbarte Notfallvorrichtung für Beleuchtungsmittel (13), wobei die benachbarte Notfallvorrichtung für Beleuchtungsmittel (13) eine Treiberstufe und Anschlüsse aufweist, um Notfallbeleuchtungsmitteln basierend auf einer Gleichstromleistungsversorgung anzutreiben und ferner umfasst:
eine Drahtloskommunikationseinheit, wobei die Kommunikationseinheit ausgelegt ist, um ein drittes Signal von der Notfallvorrichtung für Beleuchtungsmittel (1) zu empfangen und ein viertes Signal an die Notfallvorrichtung für Beleuchtungsmittel (1) zu übertragen.
 6. Verfahren zum Kommunizieren (400) unter Verwendung einer Notfallvorrichtung für Beleuchtungsmittel (1) nach einem der Ansprüche 1 bis 4, das Verfahren (400) umfassend die Schritte:
- Empfangen (402) eines ersten Signals von einer benachbarten Notfallvorrichtung für Beleuchtungsmittel (13),
wobei das erste Signal eine Anforderung für den Status der Notfallvorrichtung für Beleuchtungsmittel (1) umfasst,
- Extrahieren von ersten Informationen über den Status der Notfallvorrichtung für Beleuchtungsmittel (1),
- Extrahieren von zweiten Informationen über den Status der benachbarten Notfallvorrichtung für Beleuchtungsmittel (13),
- Befehlen der Drahtlosübertragung davon an die benachbarte Notfallvorrichtung für Beleuchtungsmittel (13) und
- Übertragen (404) eines zweiten Signals an die benachbarte Notfallvorrichtung für Beleuchtungsmittel (13),
dadurch gekennzeichnet, dass die ersten Informationen erste Daten über eine Planung eines automatischen Testens der Notfallvorrichtung für Beleuchtungsmittel (1) umfassen und die zweiten Informationen zweite Daten über eine Planung eines automatischen Testens der benachbarten Notfallvorrichtung für Beleuchtungsmittel (13) umfassen.
 7. Verfahren (400) nach Anspruch 6, wobei das Verfahren (400) ferner den Schritt umfasst:
- Speichern erster Black-Box-Daten der Notfallvorrichtung (1) und zweiter Black-Box-Daten der benachbarten Notfallvorrichtung für Beleuchtungsmittel (13) in einer Black-Box-Einheit für kritische Parameter, die Notfallvorrichtungen für Beleuchtungsmittel (1, 13) zugehörig sind.
 8. Verfahren (400) nach Anspruch 6 oder 7, wobei das Verfahren (400) ferner den Schritt umfasst:
- Speichern von Konfigurationsdaten der benachbarten Notfallvorrichtung (13) in einem Speicher (8').

Revendications

1. Dispositif de secours pour moyens d'éclairage (1), ayant un étage de pilotage (5) et des bornes (3, 3') pour piloter des moyens d'éclairage de secours (2) sur la base d'une alimentation en puissance CC (4, 4'), comprenant :

- une unité de communication sans fil, et
un processeur (9),
dans lequel l'unité de communication sans fil est
conçue
pour recevoir un premier signal provenant d'un
dispositif de secours pour moyens d'éclairage
voisin (13),
dans lequel le premier signal comprend une de-
mande pour l'état du dispositif de secours (1)
pour moyens d'éclairage (13),
dans lequel le processeur (9) est conçu
pour extraire des premières informations con-
cernant l'état du dispositif de secours pour
moyens d'éclairage (1), et
pour extraire des deuxièmes informations con-
cernant l'état du dispositif de secours pour
moyens d'éclairage voisin (13),
dans lequel le processeur (9) est conçu en outre
pour commander la transmission sans fil de cel-
les-ci au dispositif de secours pour moyens
d'éclairage voisin (13), et
dans lequel l'unité de communication sans fil est
conçue en outre
pour transmettre un deuxième signal au dispo-
sitif de secours pour moyens d'éclairage voisin
(13),
caractérisé en ce que
les premières informations comprennent des
première données concernant une planification
d'un essai automatique du dispositif de secours
pour moyens d'éclairage (1), et
les deuxièmes informations comprennent des
deuxième données concernant une planification
d'un essai automatique du dispositif de secours
pour moyens d'éclairage voisin (13).
2. Dispositif de secours pour moyens d'éclairage (1)
selon la revendication 1, dans lequel le dispositif de
secours pour moyens d'éclairage (1) comprend en
outre une unité de boîte noire pour des paramètres
critiques associés à des dispositifs de secours pour
moyens d'éclairage (1, 13) et dans lequel
le processeur (9) est conçu pour stocker des pre-
mières données de boîte noire du dispositif de se-
cours (1) et des deuxièmes données de boîte noire
du dispositif de secours pour moyens d'éclairage voi-
sin (13) dans l'unité de boîte noire.
3. Dispositif de secours pour moyens d'éclairage (1)
selon la revendication 1 ou la revendication 2, dans
lequel l'unité de communication sans fil est basée
sur un protocole de communication sans fil, dans
lequel le protocole de communication sans fil permet
une architecture maillée.
4. Dispositif de secours pour moyens d'éclairage (1)
selon l'une quelconque des revendications précé-
dentes, dans lequel le dispositif de secours pour
- moyens d'éclairage (1) est configuré pour stocker
dans une mémoire (8') des données de configuration
du dispositif de secours voisin (13).
5. Système (200) comprenant au moins un dispositif
de secours pour moyens d'éclairage (1) selon la re-
vendication 1 et un dispositif de secours pour
moyens d'éclairage voisin (13), dans lequel le dis-
positif de secours pour moyens d'éclairage voisin
(13) a un étage de pilotage et des bornes pour piloter
des moyens d'éclairage de secours sur la base d'une
alimentation en puissance CC et comprend en
outre :
une unité de communication sans fil, dans lequel
l'unité de communication est conçue pour recevoir
un troisième signal provenant du dispositif de se-
cours pour moyens d'éclairage (1) et pour transmet-
tre un quatrième signal au dispositif de secours pour
moyens d'éclairage (1).
6. Procédé pour communiquer (400) en utilisant un dis-
positif de secours pour moyens d'éclairage (1) selon
l'une quelconque des revendications 1 à 4, le pro-
cédé (400) comprenant les étapes consistant à :
- recevoir (402) un premier signal provenant d'un
dispositif de secours pour moyens d'éclairage
voisin (13),
dans lequel le premier signal comprend une deman-
de pour l'état du dispositif de secours pour moyens
d'éclairage (1),
- extraire des premières informations concer-
nant l'état du dispositif de secours pour moyens
d'éclairage (1),
- extraire des deuxièmes informations concer-
nant l'état du dispositif de secours pour moyens
d'éclairage voisin (13),
- commander la transmission sans fil de celles-
ci au dispositif de secours pour moyens d'éclairage
voisin (13), et
- transmettre (404) un deuxième signal au dis-
positif de secours pour moyens d'éclairage voi-
sin (13),
caractérisé en ce que
les premières informations comprennent des
première données concernant une planification
d'un essai automatique du dispositif de secours
pour moyens d'éclairage (1), et
les deuxièmes informations comprennent des
deuxième données concernant une planification
d'un essai automatique du dispositif de secours
pour moyens d'éclairage voisin (13).
7. Procédé (400) selon la revendication 6, dans lequel
le procédé (400) comprend en outre l'étape consis-
tant à :

- stocker des premières données de boîte noire du dispositif de secours (1) et des deuxièmes données de boîte noire du dispositif de secours pour moyens d'éclairage voisin (13) dans une unité de boîte noire pour des paramètres critiques associés à des dispositifs de secours pour moyens d'éclairage (1, 13). 5

8. Procédé (400) selon la revendication 6 ou la revendication 7, dans lequel le procédé (400) comprend en outre l'étape consistant à : 10

- stocker dans une mémoire (8') des données de configuration du dispositif de secours voisin (13). 15

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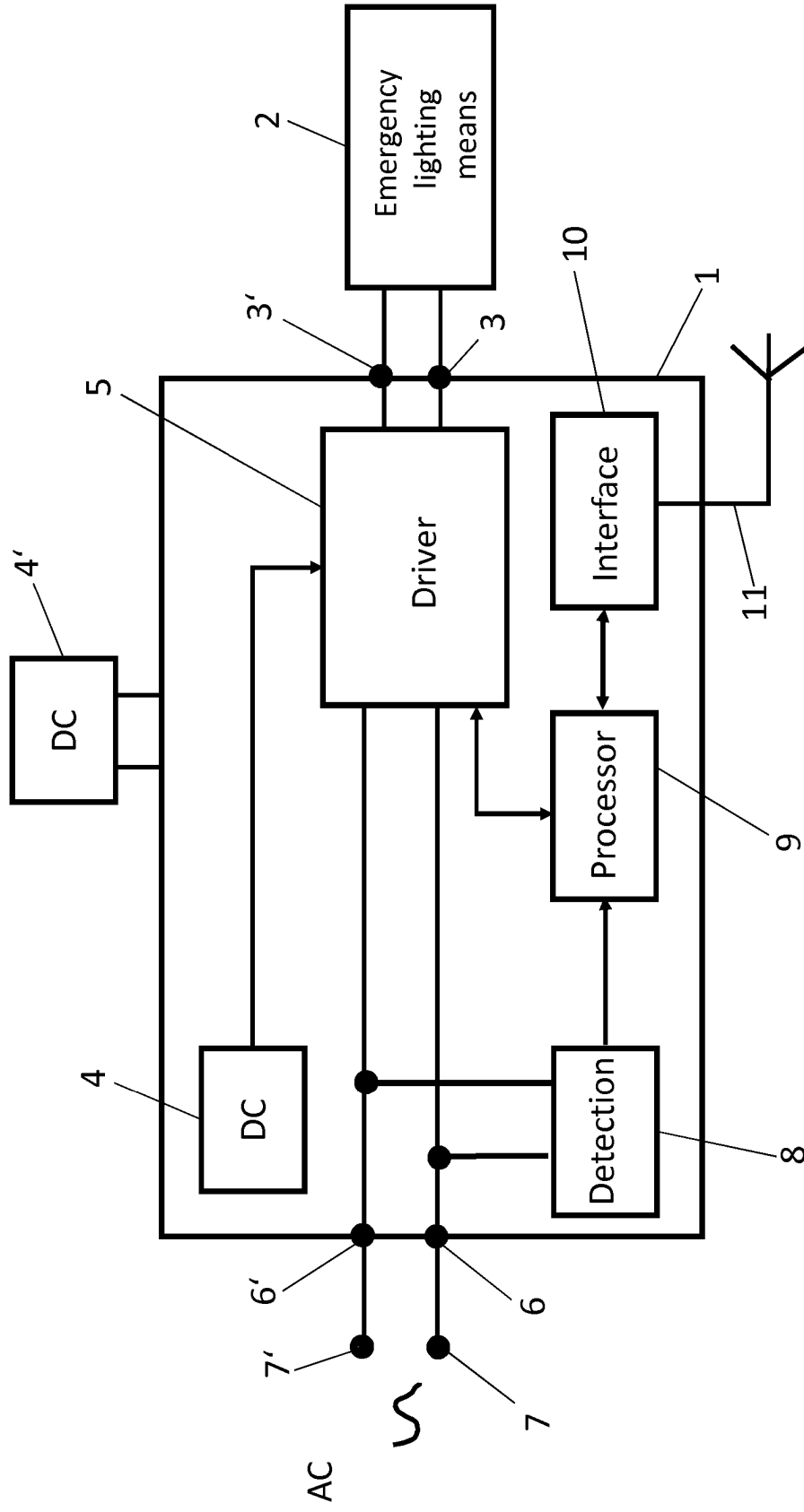


Fig. 1

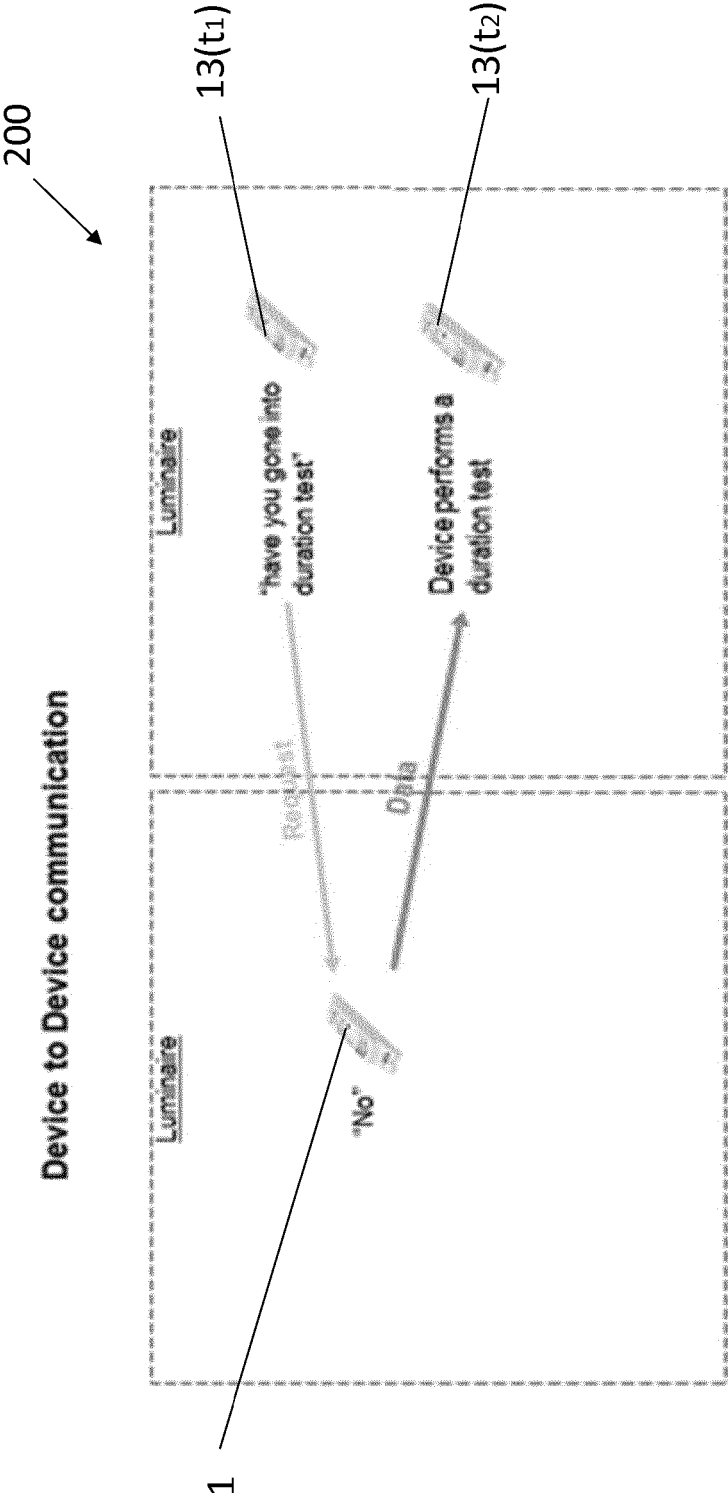


Fig. 2

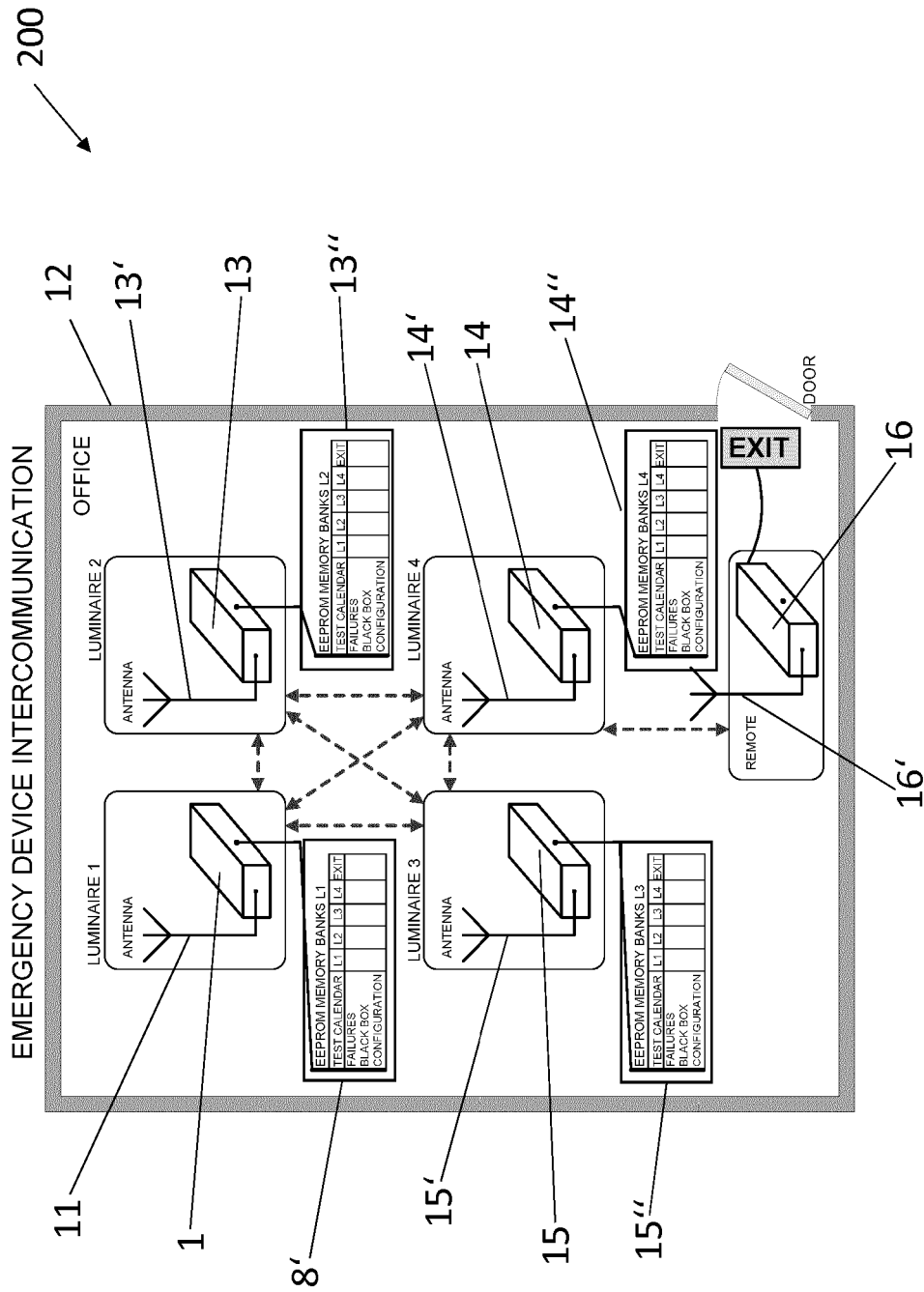


Fig. 3

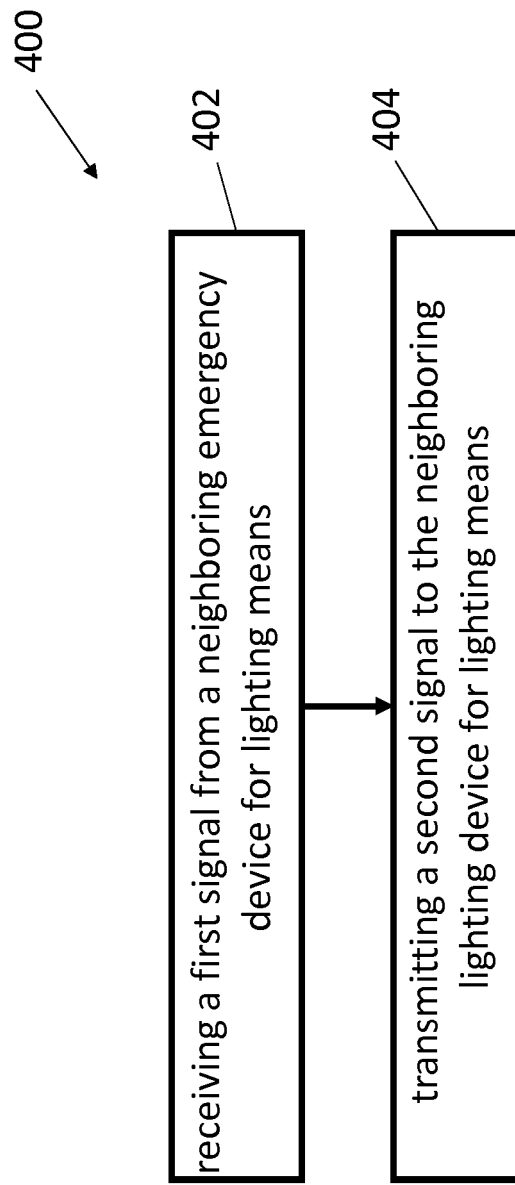


Fig. 4

REFERENCES CITED IN THE DESCRIPTION

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Patent documents cited in the description

- EP 1885039 A2 [0004]
- WO 2012089335 A1 [0004]