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(71) Applicant: **SIGNIFY HOLDING B.V.** [NL/NL]; High Tech Campus 48, 5656 AE Eindhoven (NL).

(72) Inventors: **WANG, Zhipei**; c/o High Tech Campus 7, 5656 AE Eindhoven (NL). **ZHANG, Huan**; c/o High Tech Campus 7, 5656 AE Eindhoven (NL). **ZHANG, Jia**; c/o High Tech Campus 7, 5656 AE Eindhoven (NL).

(74) Agent: **VAN EEUWIJK, Alexander, Henricus, Waltherus** et al.; High Tech Campus 7, 5656 AE Eindhoven (NL).

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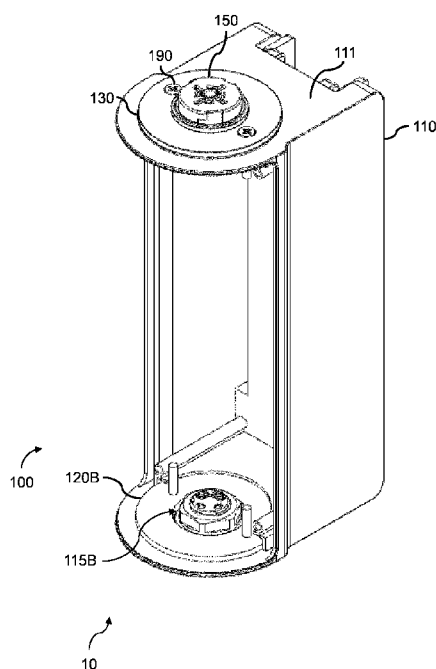


FIG. 2

(57) Abstract: A mount for an outdoor lighting controller. The mount comprises a rotatable support, for an electrical interface, that is able to rotate about an aperture in the housing. The electrical interface is able to engage with the rotatable support and, when engaged, prevent or stop the rotation of the aperture. When disengaged, the rotatable support can rotate to facilitate selection or defining of the orientation of the electrical interface with respect to the housing.

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MOUNT FOR AN OUTDOOR LIGHTING CONTROLLER

FIELD OF THE INVENTION

The present invention relates to the field of outdoor lighting, and in particular, to mounts for an outdoor lighting controller.

BACKGROUND OF THE INVENTION

5 There is an increasing interest and use in artificial lighting for outdoor environments. It is common for an outdoor luminaire to be associated with an outdoor lighting controller (OLC). The outdoor lighting controller is usually contained with a mount, e.g., secured to a pole, that provides fluid and/or dust ingress protection for the outdoor lighting controller.

10 There is a desire to provide a mount, for an OLC, with an electrical interface for coupling one or more additional components or modules thereto. Example components/modules include communication modules (e.g., radiofrequency modules), sensing or detection modules and so on.

15 There is an ongoing desire to improve the flexibility of use of a mount for an outdoor lighting controller.

SUMMARY OF THE INVENTION

The invention is defined by the claims.

20 According to examples in accordance with an aspect of the invention, there is provided a mount for an outdoor lighting controller.

The mount comprises a housing for enclosing the outdoor lighting controller, the housing comprising an aperture sized to permit the passage of one or more electrical conductors.

25 The mount also comprises an electrical interface for the one or more electrical conductors. The mount also comprises a rotatable support positioned proximate to the aperture of the housing, the rotatable support being configured to releasably engage with the electrical interface.

The electrical interface and rotatable support are configured to, when the electrical interface and rotatable support are disengaged, be rotatable with respect to the housing. The electrical interface and rotatable support are also configured to, when the electrical interface and rotatable support are engaged, couple the rotatable support to a surface of the housing to prevent rotation of the electrical interface and rotatable support with respect to the housing.

The present invention provides a mount for an outdoor lighting controller that facilitates the provisioning of additional functionality to the outdoor lighting controller. In particular, the mount comprises an electrical interface (for connecting to an additional module) that can provide supplementary functionality to an outdoor lighting controller housed by the mount.

Advantageously, the electrical interface is releasably engaged with a rotatable support of the mount. When disengaged with the rotatable support, rotation of the support (and therefore electrical interface) is possible. When engaged with the rotatable support, the orientation of the electrical interface cannot be changed. This provides a mechanism for adjusting or modifying the orientation of the electrical interface (and therefore of any additional module to be coupled to the electrical interface) with respect to the mount, whilst ensuring the orientation can be fixed for general use of the outdoor lighting controller.

The proposed approach thereby provides a mount that is easier to install, with greater flexibility over elements to be coupled to the mount.

The rotatable support may comprise a first portion configured to partially cover and/or extend into the aperture of the housing, wherein the first portion is configured to releasably engage with the electrical interface. This approach ensures that the electrical interface engages with the rotatable support within or beyond the aperture of the housing, such that the electrical interface does not need to pass through the (walls of) the housing itself. This improves an ease of coupling the electrical interface to the remainder of the mount, and also increases an ease with which the rotatable support can be rotated.

The rotatable support may comprise a second portion configured to couple the rotatable support to the surface of the housing when the electrical interface and rotatable support are engaged. This provides a mechanism for using mechanical coupling or friction to prevent or restrict rotation of the rotatable support with respect to the housing. This thereby provides a reliable and materially efficient mechanism for preventing rotation of the rotatable support when the interface and support are engaged.

In some examples, the first portion comprises one or more fastening apertures for engaging with a respective one or more fasteners for engaging the electrical interface and the rotatable support; and the mount further comprises the one or more fasteners. This provides a reliable and easy-to-install mechanism for engaging the electrical interface and rotatable support to one another. However, other forms of fastening arrangements could be used, and would be readily apparent to the skilled person.

Each fastener may comprise a fastener gasket for preventing fluid and/or dust ingress into the one or more fastening apertures when the electrical interface and rotatable support are engaged. This improves a fluid and/or dust ingress protection of the overall mount, e.g., to improve the IP rating of the mount.

The surface of the housing (to which the rotatable support is configured to contact or couple) is preferably an inner surface of the housing. This approach positions the rotatable support within the housing, so as to reduce a risk of damaging or misplacing the rotatable support. This thereby provides a more reliable mount.

The housing further comprises a retaining element configured to, when the electrical interface and rotatable support are disengaged, prevent the rotatable support from moving more than a predetermined distance away from the inner surface of the housing. This approach reduces a risk of the rotatable support from falling within the housing, e.g., so as to become inaccessible or difficult to access, when disengaging the electrical interface (e.g., for exchange, replacement or maintenance).

The mount may further comprise a gasket positioned between the electrical interface and the rotatable support. The use of a gasket acts to reduce a likelihood of fluid and/or dust ingress between the electrical interface and the rotatable support and/or housing. This embodiment thereby improves the IP rating of the mount.

In preferred examples, the rotatable support is configured to surround the aperture of the housing.

The aperture of the housing may be positioned on a flat sidewall of the housing. This decreases a risk of any gaps forming between the electrical interface and the housing or rotatable support, thereby reducing a risk of fluid and/or dust ingress into the housing and improving the IP rating of the mount.

The mount may further comprise a pole mounting mechanism configured to couple the mount to a pole. This advantageously configures the mount for use with outdoor lighting controllers configured to control luminaires on a pole (e.g., streetlights). Such

environments are particularly exposed to weather conditions (e.g., rain or dust), such that the proposed mount would be particularly advantageous when used in such scenarios.

The mount may comprise a plurality of apertures, electrical interfaces and rotatable supports – each configured in the same way as the previously described corresponding elements.

Thus, for instance, a mount may be adapted wherein: the housing further comprises a second aperture sized to permit the passage of one or more second electrical conductors; the mount further comprises a second electrical interface for the one or more second electrical conductors; and the mount further comprises a second rotatable support positioned proximate to the second aperture of the housing, the second rotatable support being configured to releasably engage with the second electrical interface.

In this example, the second electrical interface and the second rotatable support are configured to: when the second electrical interface and the second rotatable support are disengaged, be rotatable with respect to the housing; and when the second electrical interface and second rotatable support are engaged, couple the second rotatable support to a surface of the housing to prevent rotation of the second electrical interface and second rotatable support with respect to the housing.

In some examples, the electrical interface is sized to cover the aperture of the housing.

In other examples, the electrical interface is sized to expose at least a portion of the aperture; and the mount further comprises an intermediate element configured to, when positioned between the electrical interface and the housing, together with the electrical interface, cover the aperture of the housing. Thus, the electrical interface may be smaller than the aperture in the housing (e.g., would fit through the aperture in the housing). Use of the intermediate element facilitates coupling of the electrical interface to the rotatable support.

In some examples, the rotatable support is configured to be releasably engaged with both: a first electrical interface sized to cover the aperture of the housing; and via an intermediate element, a second electrical interface sized to expose a portion of the aperture of the housing, wherein, when the rotatable support is engaged with the second electrical interface via the intermediate element, the intermediate element and the second electrical interface together cover the aperture of the housing.

Thus, the electrical interface may be exchanged or interchangeable with another electrical interface. This advantageously provides a high degree of flexibility in the design and

use of the mount, e.g., to provide a wide range of possible additional functionalities and/or capabilities to the outdoor lighting controller housed by the mount.

These and other aspects of the invention will be apparent from and elucidated with reference to the embodiment(s) described hereinafter.

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BRIEF DESCRIPTION OF THE DRAWINGS

For a better understanding of the invention, and to show more clearly how it may be carried into effect, reference will now be made, by way of example only, to the accompanying drawings, in which:

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Figures 1 and 2 illustrate a proposed mount;

Figure 3 is a cross-sectional view of the proposed mount with a first type of electrical interface;

Figure 4 illustrates a rotatable support for use with a proposed mount;

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Figure 5 is a cross-sectional view of the proposed mount with a second type of electrical interface;

Figure 6 illustrates a fastener for use in a proposed mount;

Figure 7 is an exploded view of a proposed mount;

Figure 8 illustrates a first outdoor lighting controller arrangement; and

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Figure 9 illustrates a second outdoor lighting controller arrangement.

DETAILED DESCRIPTION OF THE EMBODIMENTS

The invention will be described with reference to the Figures.

25

It should be understood that the detailed description and specific examples, while indicating exemplary embodiments of the apparatus, systems and methods, are intended for purposes of illustration only and are not intended to limit the scope of the invention. These and other features, aspects, and advantages of the apparatus, systems and methods of the present invention will become better understood from the following description, appended claims, and accompanying drawings. It should be understood that the Figures are merely schematic and are not drawn to scale. It should also be understood that the same reference numerals are used throughout the Figures to indicate the same or similar parts.

30

The invention provides a mount for an outdoor lighting controller. The mount comprises a rotatable support, for an electrical interface, that is able to rotate about an aperture

in the housing. The electrical interface is able to engage with the rotatable support and, when engaged, prevent or stop the rotation of the aperture. When disengaged, the rotatable support can rotate to facilitate selection or defining of the orientation of the electrical interface with respect to the housing.

5 Figures 1 and 2 illustrate a mount 100 according to a proposed approach. The mounting is designed for housing or enclosing an outdoor lighting controller (not illustrated in Figure 1).

 The mount 100 comprises a housing 110, a rotatable support 120 and an electrical interface 150.

10 The housing 110 is configured to house and/or support an outdoor lighting controller therein. In particular, the housing defines an interior volume sized to house an outdoor lighting controller, e.g., house the relevant circuitry and/or supports for the outdoor lighting controller.

 The housing 110 comprises an aperture 115, located in one of the (side)walls 111 of the housing, which is sized to permit the passage of one or more electrical conductors (e.g., wires). The electrical conductors may be configured for connecting to the outdoor lighting controller housed or enclosed by the housing 110. In the illustrated example, the aperture 115 has a circular cross-sectional shape. The aperture 115 is preferably located in a flat or substantially flat (side)wall 111 of the housing 110. This improves the fluid and/or dust ingress protection of the housing.

 For illustrative clarity, a portion of the housing (namely a cover) is not illustrated in Figure 1.

 The electrical interface 150 is configured to carry or mount the one or more electrical conductors. In particular, the electrical interface 150 is configured for coupling to an additional module for providing supplementary functionality to the outdoor lighting controller housed by the housing 110. Examples of suitable electrical interfaces 150 are known in the art, and include electrical sockets or the like (e.g., an electrical interface that complies with the Zhaga standards). Different types of electrical interfaces are well established.

 The rotatable support 120 is configured to surround the aperture 115. In particular examples, the rotatable support 120 comprises its own support aperture through which the one or more electrical conductors can pass. In the illustrated example, the rotatable support has an annular cross-sectional shape.

 The electrical interface 150 and rotatable support 120 are configured to releasably engage with one another. This may be achieved by a fastening arrangement.

In the illustrated example, the fastening arrangement is embodied using one or more fastening apertures and a corresponding one or more fasteners. More particularly, the rotatable support 120 comprises one or more fastening apertures 129, which are accessible via the aperture 115. A corresponding one or more fasteners 190 (e.g., screws or clips) are configured to releasably engage with the one or more fastening apertures so as to releasably engage the electrical interface 150 to the rotatable support.

In alternative examples, the fastening aperture(s) and fastener(s) may be replaced and/or supplemented by another form of fastening arrangement, such as a hoop-and-loop fastening arrangement or a twist-to-lock fastening arrangement. Preferably, the fastening arrangement is one that fixes the distance between the rotatable support and the electrical interface, e.g., to engage the two elements together.

When the electrical interface 150 and rotatable support 120 are disengaged with respect to one another, the rotatable support and electrical interface are able to rotate with respect to the housing. In particular, when the electrical interface and rotatable support are disengaged with respect to one another, the electrical interface may be removed or disconnected entirely from the rotatable support, e.g., for exchange/replacement and/or maintenance. Figure 1 illustrates the scenario in which electrical interface 150 and rotatable support 120 are disengaged.

In particular, when the rotatable support and electrical interface are able to rotate, they rotate within a respective plane in or parallel to a plane in which the rotatable support lies. This plane may also be parallel to a plane in which the aperture 115, and therefore (side)wall, lies.

When the electrical interface 150 and rotatable support 120 are engaged with one another, the rotatable support contacts (e.g., is clamped to) a surface of the housing (here, an inner surface of the housing). In particular, the fastening arrangement may clamp the housing between the rotatable support and the electrical interface (or an element mounting the electrical interface, as later described). Thus, the fastening arrangement may be configured to, when engaging the electrical interface and rotatable support, press the rotatable support against the surface of the housing.

In this way, rotation of the rotatable support, and therefore the electrical interface, with respect to the housing is prevented or restricted when the rotatable support and electrical interface are engaged. More particularly, the frictional force between the rotatable support and the (inner) surface of the housing prevents rotation of the rotatable support when the electrical interface and rotatable support are engaged. Rotation of the rotatable support (and

electrical interface) is permitted when the rotatable support and electrical interface are disengaged.

Figure 2 illustrates the scenario in which electrical interface 150 and rotatable support 120 are engaged.

5 It will be appreciated that the electrical interface 150 and rotatable support 120 can be (e.g., loosely) connected to one another without becoming engaged within the meaning of the present disclosure. This may occur, for instance, if each fastener is a screw that is only partially screwed into its corresponding fastening aperture. The electrical interface 150 and rotatable support 120 may be considered to be engaged only when the rotatable support is
10 pressed against the surface of the housing to prevent the rotation of the rotatable support. Loosely connecting the interface and support together may be advantageous during installation or maintenance for maintaining an alignment of the two elements, whilst still permitting the rotation of both elements with respect to the housing. Thus, in preferred examples, the fastening arrangement is configured to permit a loose connection between the electrical interface and
15 rotatable support without the two elements becoming engaged.

In the illustrated example, the electrical interface 150 is sized to expose at least a portion of the aperture. Moreover, the electrical interface 150 will expose at least a portion of the support aperture in the rotatable support 120.

To facilitate the coupling of the electrical interface 150 to the rotatable support
20 120, the mount 100 further comprises an intermediate element 130. The intermediate element, when positioned between the electrical interface and the housing, will (together with the electrical interface) cover the aperture 115 of the housing 110. In other words, the intermediate element 130 acts as an electrical interface coupler.

The intermediate element 130 may couple to the electrical interface 150 using a
25 snap fit mechanism or twist-to-fit mechanism. However a wide variety of other approaches will be apparent to the skilled person, e.g., an interference fit, a screw fit, a bayonet fit and so on. The intermediate element may comprise one or more second fixing apertures configured to releasably engage with the fastener(s) 190. By way of example each second fixing aperture may comprise a threaded aperture through which a screw can be moved and secured thereto.

30 When the electrical interface 150 and the rotatable support 120 are engaged with one another, here: via the intermediate element 130, a (side)wall 111 of the housing 110 is clamped by the intermediate element and the rotatable support. In this way, the rotatable support is pushed against a surface of the (side)wall 111 of the housing so as to prevent rotation of the rotatable support.

The intermediate element may 130, for instance, comprise a metal ring or annulus configured to engage with the electrical interface 150.

The mount 100 may further comprise a gasket 135. The gasket is positioned between the electrical interface 150 (or intermediate element 130) and the housing 110 and/or rotatable support. The gasket acts to prevent or reduce fluid and/or dust ingress between the electrical interface 150 (or intermediate interface 130) and the housing, and thereby fluid and/or dust ingress through the aperture 115 into the interior of the mount 100.

The gasket may, in some circumstances, comprise one more gasket apertures through which a fastener may be positioned. The gasket apertures can be avoided if, for instance, the gasket is positioned between only the electrical interface (or intermediate element) and the housing 110.

The gasket preferably comprises a flexible, waterproof material (such as silicone or the like). In particular the gasket may be formed in the shape of a ring, e.g., an O-ring.

Figure 3 is a cross-sectional view of a portion of the mount 100, when the rotatable support 120 and the electrical interface 150 are engaged with one another (i.e., the mount is in an engaged configuration).

As illustrated in Figure 3, when the mount 100 is in an engaged configuration, the rotatable support 120 contacts or presses against an inner surface 116 of the housing 110. This prevents the rotation of the rotatable support with respect to the housing 110, e.g., by way of friction.

The rotatable support 120 may comprise a first portion 121 configured to partially cover and/or extend into the aperture 115 of the housing 110. The rotatable support 120 and the electrical interface 150 may releasably engage with the first portion 121 of the aperture (e.g., the fastening aperture(s) are located in the first portion 121). The shape of the perimeter of the first portion may match or fit into the shape of the aperture (e.g., within a margin of error defined by the manufacturing process). In preferable examples, a normal to the plane of the aperture, that passes through a center of the aperture, may also pass through the center of the first portion.

The rotatable support 120 may further comprise a second portion 122 configured to couple the rotatable support 120 to the surface 116 of the housing 110 when the electrical interface and rotatable support are engaged.

In the illustrated example, the second portion 122 is located further from a center of the rotatable support 120 than the first portion 121. The first portion 121 and the second

portion 122 may, for instance, form concentric portions of an annulus-shaped element. The first portion may have a greater thickness than the second portion, to facilitate extension of the first portion into the aperture when the second portion abuts or contacts the surface 116 of the housing.

5 The mount 100 may further comprise a retaining element 117. The retaining element is a portion of the mount (here: a portion of the housing 110) configured to, when the electrical interface and rotatable support are disengaged, prevent the rotatable support from moving more than a predetermined distance away from the inner surface of the housing. Instead of being a portion of the housing, the retaining element may be a separate independent element,
10 e.g., coupled to the housing).

 In this way, the rotatable support can be retained close to the inner surface of the housing (e.g., preventing the rotatable support from falling deep within the interior of the housing when disengaged from the electrical interface) for ease of re-engaging with the electrical interface, or ease of engaging with another electrical interface.

15 The retaining element may comprise one or more projections or protrusions that extend parallel to the surface 116. This helps keep the rotatable support in a same orientation (both when engaged and when disengaged with the electrical interface 150) for ease of engaging the electrical interface.

 The retaining element 117 may be configured to prevent sideways movement of
20 the rotatable support with respect to the aperture. Thus, the retaining element 117 may be configured to retain the rotatable support a same distance away from an axis normal to the aperture 115 of the housing 110.

 Figure 4 illustrates the rotatable support 120.

 The second portion 122 may comprise one or more protrusions 125 configured
25 to extend towards the surface 116 of the housing 110, e.g., perpendicularly to the surface 116. The one or more protrusions 125 increase the amount of friction between the rotatable support 120 and the surface 116 (when the mount is in the engaged configuration).

 One advantage of the proposed approach is that the electrical interface can be disengaged from the rotatable support, and a different electrical interface can then be engaged
30 to the rotatable support. The proposed approach thereby provides a mount having an interchangeable electrical interface, i.e., an electrical interface that can be exchanged for a different electrical interface.

 By way of example, the rotatable support is configured to be releasably engaged with both: a first electrical interface sized to cover the aperture of the housing; and via an

intermediate element, a second electrical interface sized to expose a portion of the aperture of the housing, wherein, when the rotatable support is engaged with the second electrical interface via the intermediate element, the intermediate element and the second electrical interface together cover the aperture of the housing.

5 In other words, the rotatable support can be interchangeably engaged with the first electrical interface or the second electrical interface.

Figure 5 is a cross-sectional view of a portion of the mount 100, when the rotatable support 120 and a different electrical interface 140 (to that previously disclosed) are engaged with one another (i.e., the mount is in an engaged configuration).

10 The electrical interface 140 differs from the previously disclosed electrical interface in that it is sized to cover the aperture 105 of the housing 110. The electrical interface may, for instance, be a different type of electrical interface to the previously described electrical interface (e.g., a socket according to an NEMA standard).

As such, the electrical interface 140 does not require the intermediate element to engage with the rotatable support. Rather, the electrical interface may directly engage with the support using the fastening arrangement (e.g., optionally, via the gasket 135 for improved fluid and/or dust ingress protection).

Figure 6 illustrates an example of a fastener 190 for engaging the electrical interface and the rotatable support. In particular, the fastener 190 may be configured to engage with a fastening aperture (not visible) of a rotatable support.

In the illustrated example, the fastener is a screw comprising a screw thread 605 for engaging with the fastening aperture. The corresponding fastening aperture may, for instance, be a threaded aperture. Other examples of suitable fasteners will be apparent to the skilled person, e.g., a fastener comprising a clipping mechanism or the like.

25 The fastener 190 further comprises a fastener gasket 610. The fastener gasket is configured for preventing or reducing fluid and/or dust ingress into the one or more fastening apertures when the electrical interface and rotatable support are engaged. In particular, when the fastening gasket is fastened or engaged with the corresponding fastening aperture, the fastener gasket is positioned to contact (e.g., be pressed against) the bounds of the fastening aperture, e.g., on an outer surface of the rotatable support, so as to prevent fluid flow towards the fastening aperture.

Embodiments may comprise one or more fasteners, such as one or more of the illustrated fasteners, for engaging the electrical interface to the rotatable support.

Figure 7 provides an exploded view of the mount 100, for improved contextual understanding. For the sake of illustrative clarity, the electrical connector is not illustrated.

Figure 8 provides a view of the mount 100 in a use-case scenario, namely secured or mounted to a pole 890. In this illustration, a cover portion 801 of the housing is provided such that the mount 100 is able to (entirely) encapsulate or enclose the outdoor lighting controller.

The mount 100 comprises a pole mounting mechanism 895 configured to couple the mount to a pole 890. The pole mounting mechanism may comprise, for instance, one or more straps or clips for coupling the mount 100 to the pole 890.

In some examples, the exterior shape of the housing is configured or designed for the pole, e.g., to compliment the shape of the pole. By way of example, a pole-coupling portion 896 of the housing 110 may be shaped to have complimentary geometry with the pole, e.g., be curved or have a cut-out portion for receiving the pole.

Figure 8 illustrates a first outdoor lighting controller arrangement 800. The outdoor lighting controller arrangement 800 comprises the mount 100 (which encloses an outdoor lighting controller) as well as an additional module 810 or component coupled to the electrical connector (not visible) of the mount 100.

The additional module 810 may, for instance, be a module for providing supplementary functionality to the outdoor lighting controller. As an example, the additional module may providing sensing, communication, additional processing and/or storage functionality for the outdoor lighting controller. Accordingly, the outdoor lighting controller is configured to communicate with the additional module 810 via the electrical conductor(s) and the electrical interface.

It will be apparent that the proposed mount is particularly advantageous for facilitating the changing of the orientation of the additional module with respect to the mount. This is particularly advantageous when the additional module is a sensing module (e.g., a motion sensor) or a communication module (e.g., a radiofrequency module comprising an antenna). In such modules, the directionality of the module is important for desired or improved performance. By facilitating the rotation of the additional module about the mount using the proposed approach, improved performance of the additional module can be achieved – e.g., to facilitate adjustment of the directionality of the module for a particular use case scenario.

By way of example, if the additional module 810 is a radiofrequency module comprising an antenna, then the proposed mount facilitates controlling the direction of the

antenna (e.g., for directing the antenna in a desired direction with improved signal-to-noise characteristics).

As another example, if the additional module 810 is a motion sensing module, then the proposed mount facilitates controlling the direction in which motion is detected with respect to the mount.

The preceding description describes a mount with only a single (interchangeable) electrical interface. However, a mount may be configured to have a plurality of electrical interfaces. In this way, the housing may comprise a plurality of apertures, and the mount may comprise a corresponding plurality of electrical interfaces and a corresponding plurality of rotatable supports. Additional instances of elements previously described (e.g., gaskets, fasteners etc.) may also form part of the mount as needed.

For instance, turning back to Figure 1, the housing 110 may further comprise a second aperture 115B sized to permit the passage of one or more second electrical conductors. The mount may further comprise a second electrical interface 140, 150 for the one or more second electrical conductors. Such a mount further comprises a second rotatable support 120B positioned proximate to the second aperture of the housing, the second rotatable support being configured to releasably engage with the second electrical interface 140, 150.

Of course, the second electrical interface and the second rotatable support are configured to: when the second electrical interface and the second rotatable support are disengaged, be rotatable with respect to the housing; and when the second electrical interface and second rotatable support are engaged, couple the second rotatable support to a surface of the housing to prevent rotation of the second electrical interface and second rotatable support with respect to the housing.

Figure 9 illustrates a second outdoor lighting controller arrangement 900, which comprises a mount with a plurality of electrical interfaces, here: two electrical interfaces. The outdoor lighting controller arrangement comprises a first additional module 810 coupled to a first electrical interface and a second additional module 920 coupled to a second electrical interface.

Embodiments also provide an outdoor lighting arrangement comprising any herein disclosed outdoor lighting controller arrangement and an outdoor lighting device configured to generate and produce light, e.g., responsive to one or more control signals generated by the outdoor lighting controller.

Variations to the disclosed embodiments can be understood and effected by those skilled in the art in practicing the claimed invention, from a study of the drawings, the

disclosure and the appended claims. In the claims, the word "comprising" does not exclude other elements or steps, and the indefinite article "a" or "an" does not exclude a plurality.

The mere fact that certain measures are recited in mutually different dependent claims does not indicate that a combination of these measures cannot be used to advantage.

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If the term "adapted to" is used in the claims or description, it is noted the term "adapted to" is intended to be equivalent to the term "configured to". If the term "arrangement" is used in the claims or description, it is noted the term "arrangement" is intended to be equivalent to the term "system", and vice versa.

Any reference signs in the claims should not be construed as limiting the scope.

CLAIMS:

1. A mount (100) for an outdoor lighting controller, the mount comprising:
a housing (110) for enclosing the outdoor lighting controller, the housing comprising an aperture (115) sized to permit the passage of one or more electrical conductors;
an electrical interface (140, 150) for the one or more electrical conductors; and
5 a rotatable support (120) positioned proximate to the aperture of the housing, the rotatable support being configured to releasably engage with the electrical interface (140, 150),

wherein the electrical interface and rotatable support are configured to:

when the electrical interface and rotatable support are disengaged, be
10 rotatable with respect to the housing for adjusting the orientation of the electrical interface; and
when the electrical interface and rotatable support are engaged, press the rotatable support against a surface of the housing to prevent rotation of the electrical interface and rotatable support with respect to the housing.

15 2. The mount of claim 1, wherein the rotatable support (120) comprises a first portion (121) configured to partially cover and/or extend into the aperture of the housing, wherein the first portion is configured to releasably engage with the electrical interface (140, 150).

20 3. The mount of claim 2, wherein the rotatable support comprises a second portion (122) configured to couple the rotatable support to the surface of the housing when the electrical interface and rotatable support are engaged.

4. The mount of any of claims 2 or 3, wherein:
25 the first portion (121) comprises one or more fastening apertures (129) for engaging with a respective one or more fasteners (190) for engaging the electrical interface and the rotatable support; and
the mount further comprises the one or more fasteners (190).

5. The mount of claim 4, wherein each fastener comprises a fastener gasket (610) for preventing fluid and/or dust ingress into the one or more fastening apertures when the electrical interface and rotatable support are engaged.

5 6. The mount of any of claim 1 to 5, wherein the surface of the housing is an inner surface (116) of the housing.

7. The mount of claim 6, wherein the housing further comprises a retaining element (117) configured to, when the electrical interface and rotatable support are disengaged,
10 prevent the rotatable support from moving more than a predetermined distance away from the inner surface of the housing.

8. The mount of any of claims 1 to 7, further comprising a gasket (135) positioned between the electrical interface (140, 150) and the rotatable support (120).
15

9. The mount of any of claims 1 to 8, wherein the rotatable support (120) is configured to surround the aperture (115) of the housing.

10. The mount of any of claims 1 to 9, wherein the aperture of the housing is
20 positioned on a flat sidewall (111) of the housing.

11. The mount of any of claims 1 to 10, further comprising a pole mounting mechanism (895) configured to couple the mount to a pole (890).

25 12. The mount of any of claims 1 to 11, wherein:
the housing further comprises a second aperture (115B) sized to permit the passage of one or more second electrical conductors;

the mount further comprises a second electrical interface (140, 150) for the one or more second electrical conductors; and

30 the mount further comprises a second rotatable support (120B) positioned proximate to the second aperture of the housing, the second rotatable support being configured to releasably engage with the second electrical interface (140, 150),

wherein the second electrical interface and the second rotatable support are configured to:

when the second electrical interface and the second rotatable support are disengaged, be rotatable with respect to the housing; and

when the second electrical interface and second rotatable support are engaged, couple the second rotatable support to a surface of the housing to prevent rotation of the second electrical interface and second rotatable support with respect to the housing.

13. The mount of any of claims 1 to 12, wherein the electrical interface is sized to cover the aperture of the housing.

14. The mount of any of claims 1 to 12, wherein:

the electrical interface is sized to expose at least a portion of the aperture; and

the mount further comprises an intermediate element (130) configured to, when positioned between the electrical interface and the housing, together with the electrical interface, cover the aperture of the housing.

15. The mount of any of claims 1 to 14, wherein the rotatable support is configured to be releasably engaged with both:

a first electrical interface sized to cover the aperture of the housing; and

via an intermediate element, a second electrical interface sized to expose a portion of the aperture of the housing, wherein, when the rotatable support is engaged with the second electrical interface via the intermediate element, the intermediate element and the second electrical interface together cover the aperture of the housing.

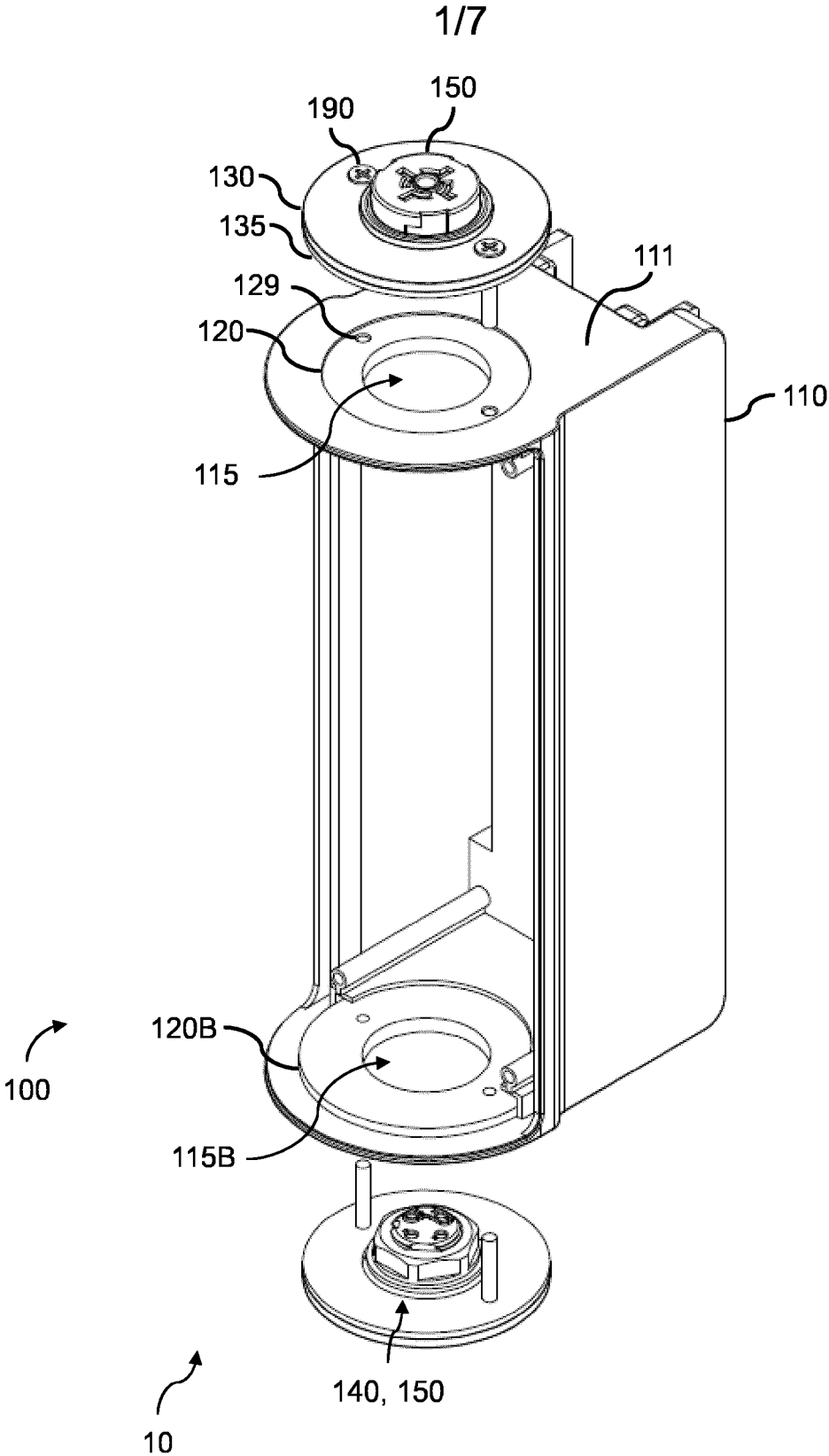


FIG. 1

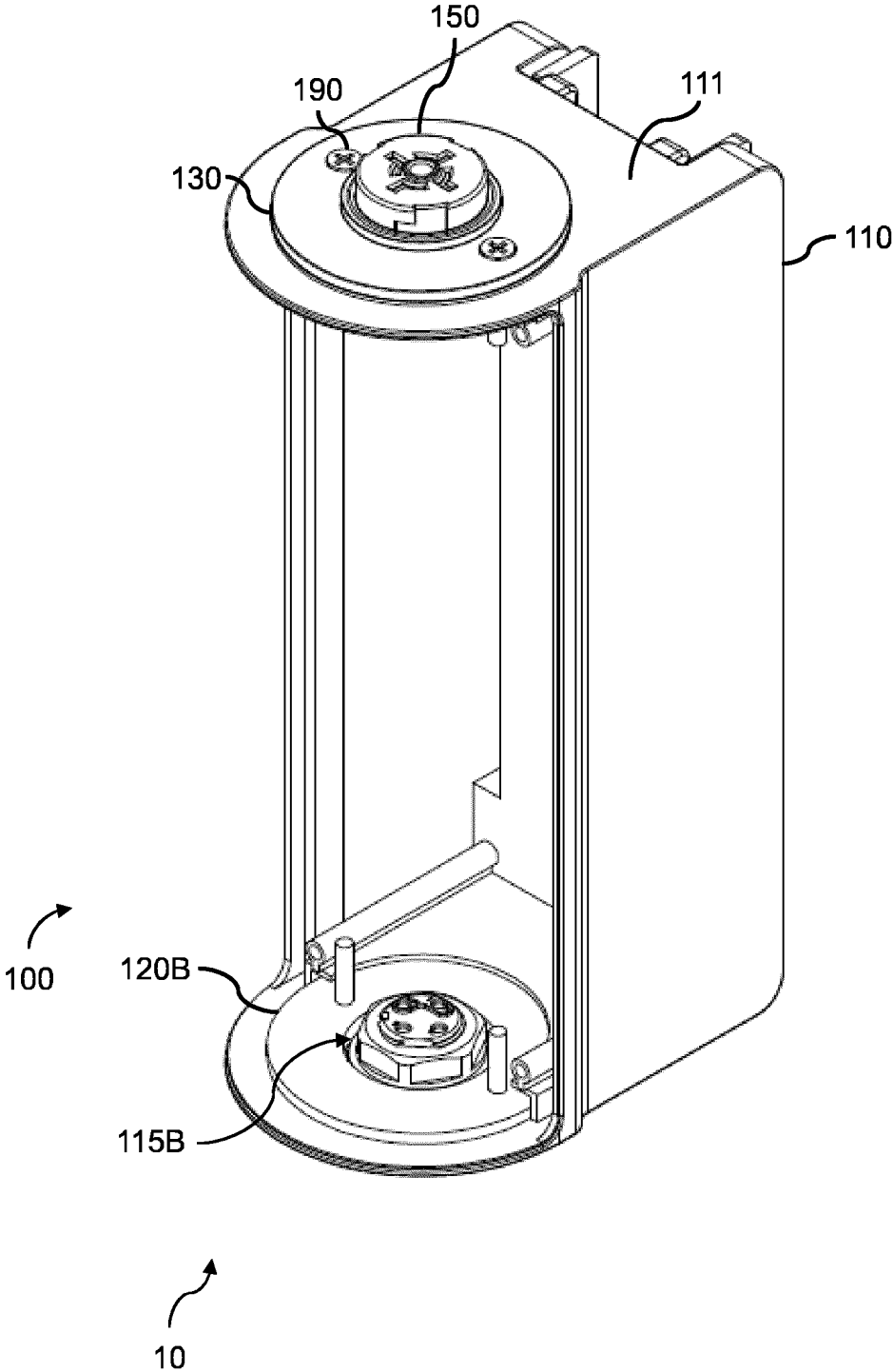


FIG. 2

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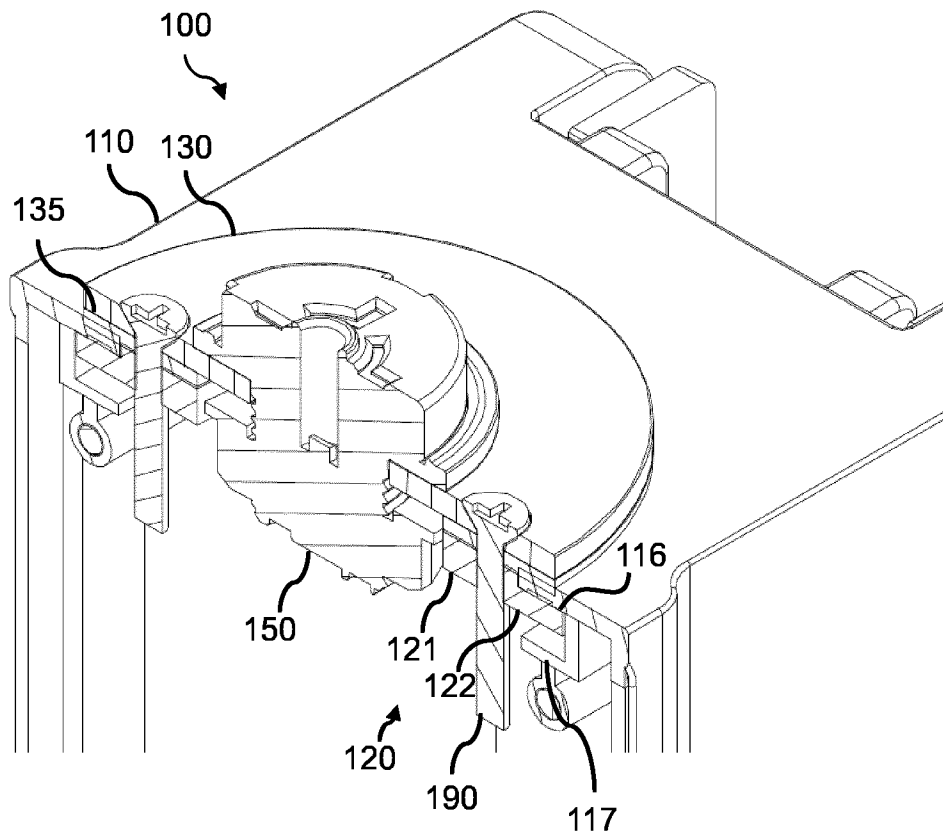


FIG. 3

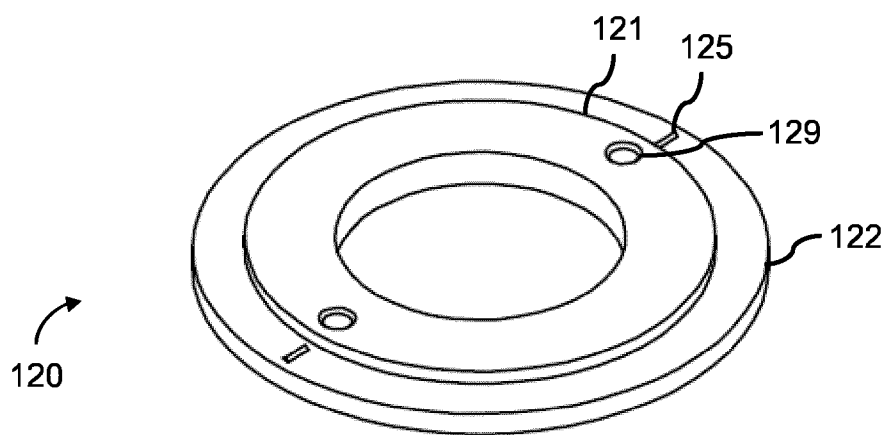


FIG. 4

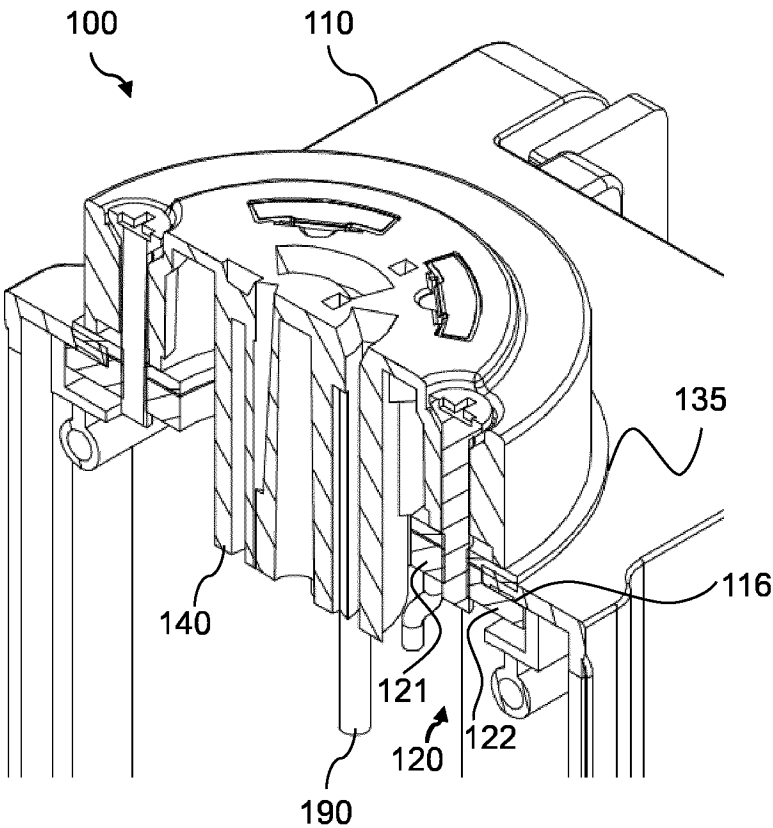


FIG. 5

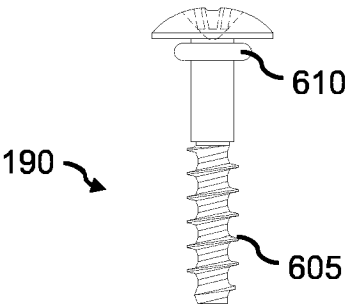


FIG. 6

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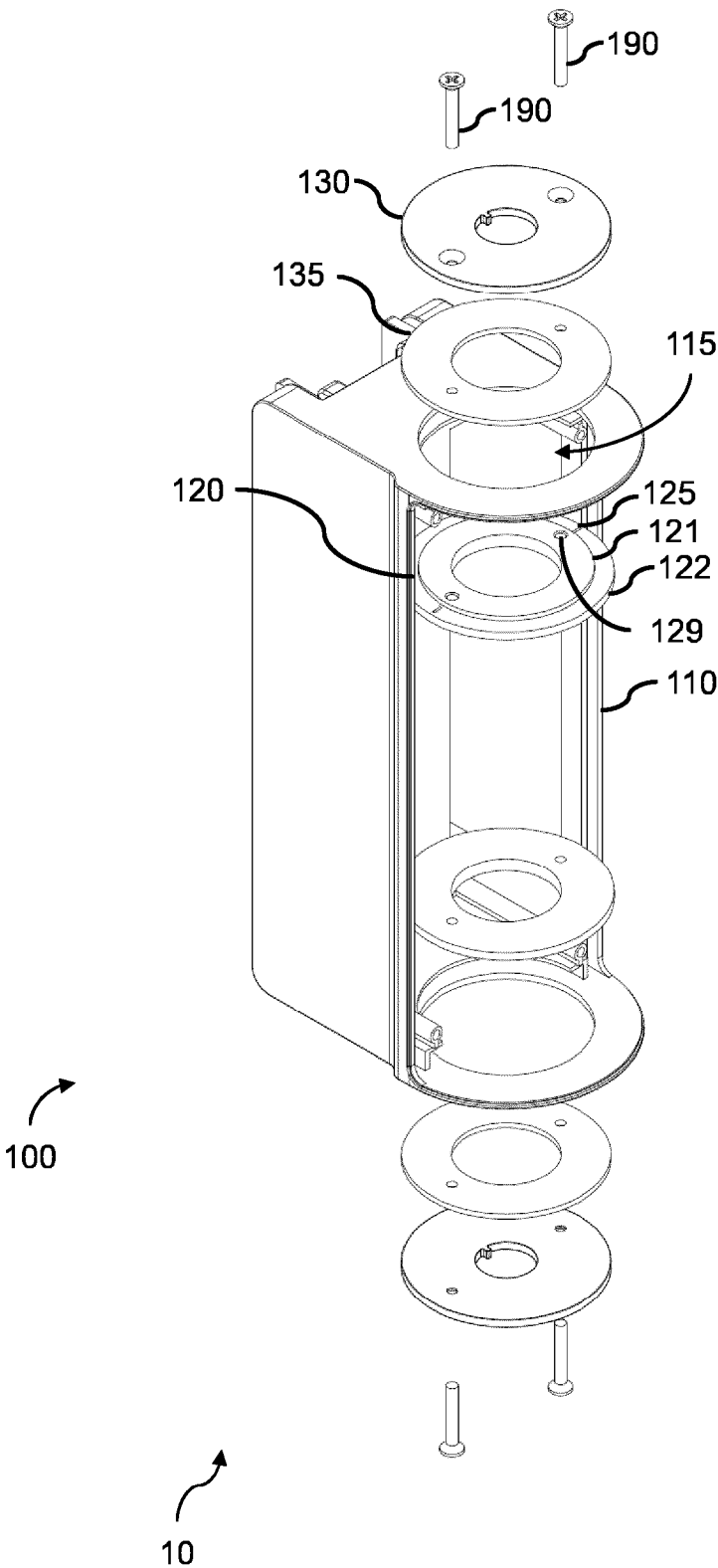


FIG. 7

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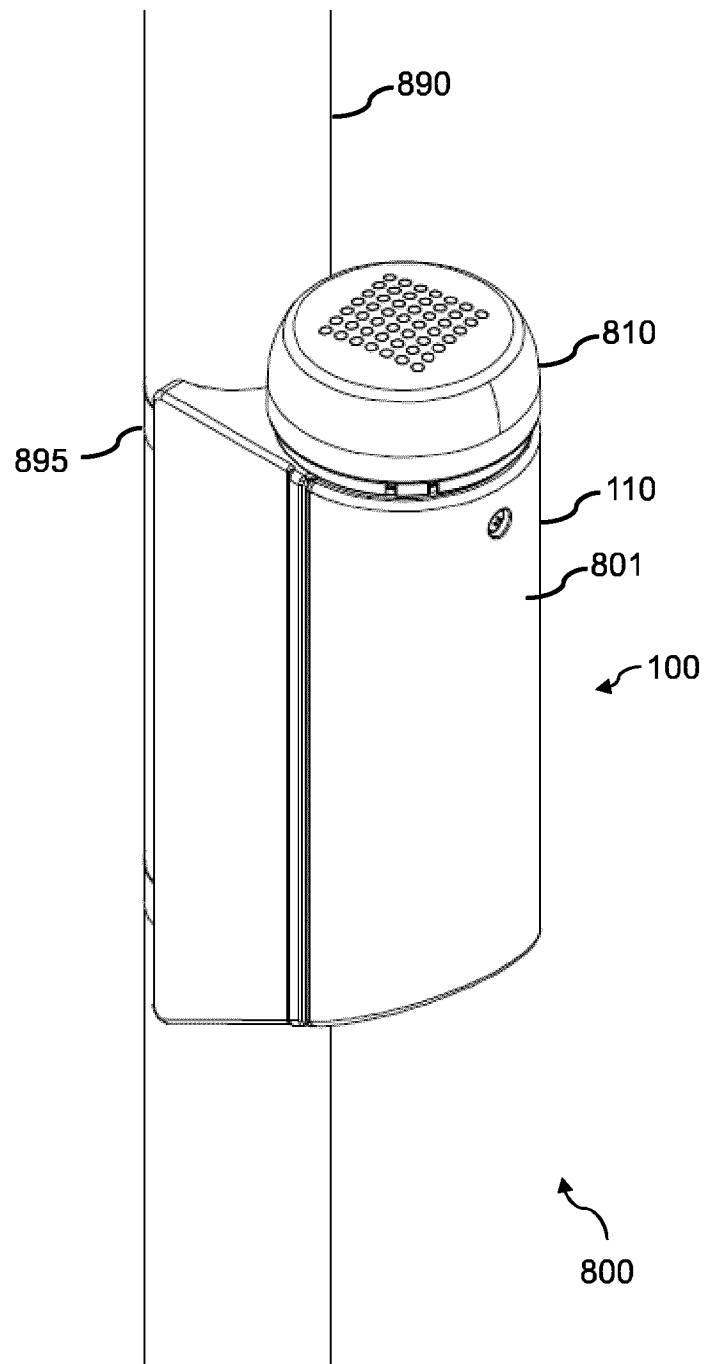


FIG. 8

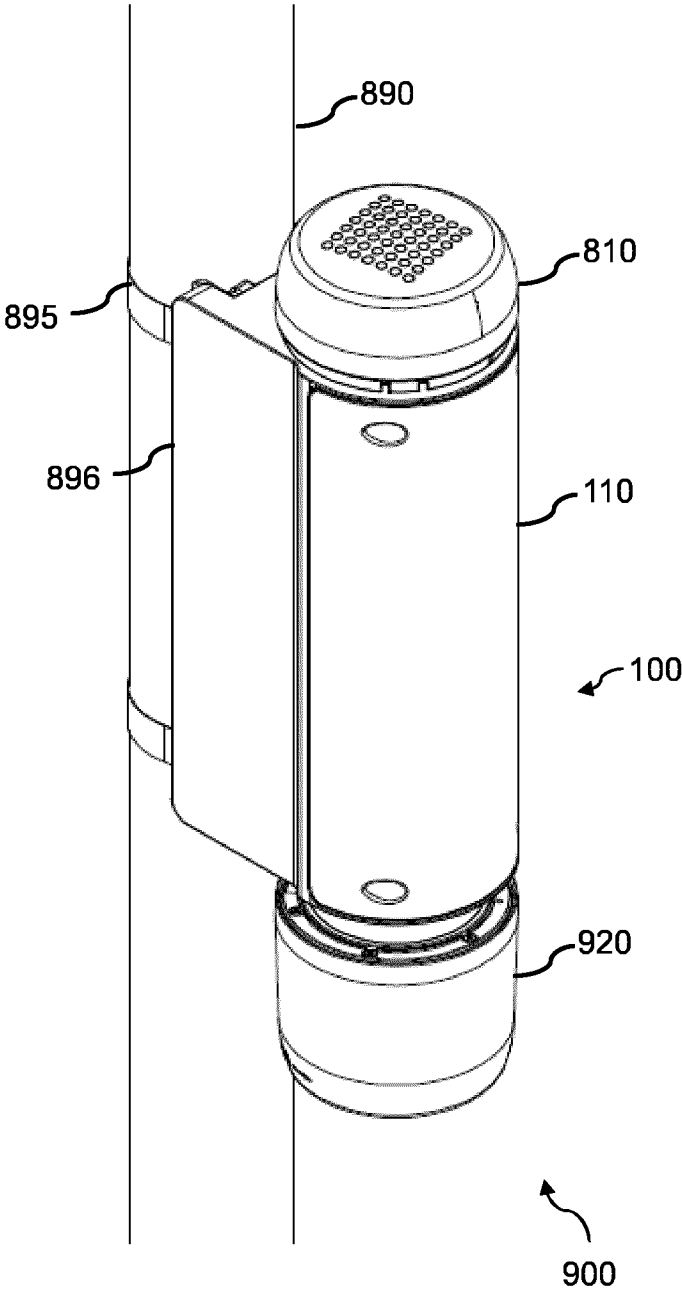


FIG. 9

INTERNATIONAL SEARCH REPORT

International application No
PCT/EP2024/067964

A. CLASSIFICATION OF SUBJECT MATTER		
INV.	F21V23/00 F21V31/00	H01R13/52 F21S8/08 F21V15/01
	G01J1/02	
ADD.		
According to International Patent Classification (IPC) or to both national classification and IPC		
B. FIELDS SEARCHED		
Minimum documentation searched (classification system followed by classification symbols)		
F21V H01R F21S G01J F21W		
Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched		
Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)		
EPO-Internal		
C. DOCUMENTS CONSIDERED TO BE RELEVANT		
Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	US 2021/384669 A1 (MUGAN SHAN [CA] ET AL) 9 December 2021 (2021-12-09)	1, 6 - 15
A	figures 1-11	2 - 5

X	WO 2022/029099 A1 (SCHREDER SA [BE]) 10 February 2022 (2022-02-10)	1
	figures 1-9	

X	EP 4 123 220 A1 (ZHEJIANG QICHENG ELECTRICAL EQUIPMENT CO LTD [CN]) 25 January 2023 (2023-01-25)	1, 2, 6 - 15
A	figures 11-16	3 - 5

☐ Further documents are listed in the continuation of Box C.		
☒ See patent family annex.		
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"A" document defining the general state of the art which is not considered to be of particular relevance		"T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention
"E" earlier application or patent but published on or after the international filing date		"X" document of particular relevance;; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone
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"P" document published prior to the international filing date but later than the priority date claimed		
Date of the actual completion of the international search		Date of mailing of the international search report
5 September 2024		20/09/2024
Name and mailing address of the ISA/ European Patent Office, P.B. 5818 Patentlaan 2 NL - 2280 HV Rijswijk Tel. (+31-70) 340-2040, Fax: (+31-70) 340-3016		Authorized officer Kebemou, Augustin

INTERNATIONAL SEARCH REPORT

Information on patent family members

International application No

PCT/EP2024/067964

Patent document cited in search report	Publication date	Patent family member(s)	Publication date
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WO 2022029099 A1	10-02-2022	AU 2021322869 A1 EP 4189789 A1 NL 2026201 B1 US 2023358394 A1 WO 2022029099 A1	09-03-2023 07-06-2023 08-04-2022 09-11-2023 10-02-2022
EP 4123220 A1	25-01-2023	NONE	