

---

## ANNEX B

---

### Claims

1. A needle hub and an on-skin sensor assembly, wherein the needle hub is configured to apply the on-skin sensor assembly to a skin of a host,

the on-skin sensor assembly (360) comprising a sensor (338),

the needle hub comprising:

a base (71752) comprising an anti-rotation feature, the base (71752) configured to be at least partially disposed in an aperture (396) of the on-skin sensor assembly (360), wherein the aperture (396) is a through-hole extending through on-skin sensor assembly (360) along an insertion axis of an insertion element (7174), the insertion element comprising a needle, wherein the aperture (396) is adapted for sensor and needle insertion,

wherein the needle hub is configured to couple with the an insertion element (7174), and

wherein the anti-rotation feature is configured to prevent rotation of the base (7172) within the aperture (396),

wherein the anti-rotation feature comprises a key having a shape complementary to at least a portion of the aperture (396).

- ~~2. The needle hub and an on-skin sensor assembly of Claim 1, wherein the anti-rotation feature comprises a key having a shape complementary to at least a portion of the aperture.~~
- ~~3. The needle hub and an on-skin sensor assembly of Claim 1, further comprising at least one upper arm.~~
- ~~4. The needle hub and an on-skin sensor assembly of Claim 2 3, wherein the at least one upper arm is configured to be disposed through an aperture in a needle carrier assembly of an applicator.~~
- ~~5. The needle hub and an on-skin sensor assembly of Claim 3 4, wherein the at least one upper arm is configured to contact an upper surface of the needle carrier assembly adjacent to the aperture in the needle carrier assembly.~~
- ~~6. The needle hub and an on-skin sensor assembly of Claim 4 5, wherein the at least one upper arm is configured to be disposed in a groove in the upper surface of the needle carrier assembly, thereby immobilizing the needle hub with respect to the needle carrier assembly.~~
- ~~7. The needle hub and an on-skin sensor assembly of Claim 2 3, wherein the at least one upper arm is flexible.~~
- ~~8. The needle hub and an on-skin sensor assembly of Claim 2 3, wherein the at least one upper arm is configured to flex radially inward.~~

- ~~8.~~ ~~9.~~ The needle hub and an on-skin sensor assembly of Claim ~~2~~ 3, further comprising at least one lower arm.
- ~~9.~~ ~~10.~~ The needle hub and an on-skin sensor assembly of Claim ~~8~~ 9, wherein the at least one lower arm is configured to contact a lower surface of the needle carrier assembly adjacent to an aperture in the needle carrier assembly.
- ~~11.~~ ~~The needle hub and an on-skin sensor assembly of Claim 1, wherein the insertion element comprises a needle.~~
- ~~10.~~ ~~12.~~ The needle hub and an on-skin sensor assembly of Claim ~~1~~ 11, wherein the needle comprises an open side configured to receive ~~the~~ a sensor of the on-skin sensor assembly.
- ~~11.~~ ~~13.~~ The needle hub and an on-skin sensor assembly of Claim 1, wherein the base comprises a flat surface configured to mate with ~~the~~ a top surface of the on-skin sensor assembly, thereby maintaining the insertion element in a substantially perpendicular orientation to the top surface of the on-skin sensor assembly.
- ~~12.~~ ~~14.~~ The needle hub and an on-skin sensor assembly of Claim 1, wherein the insertion element (7174) comprises:
- a locking feature comprising a ridge configured to mate with a complementary-shaped feature within the needle hub;
  - a locking feature comprising a groove configured to mate with a complementary-shaped feature within the needle hub;
  - a locking feature that heat stakes the insertion element to the needle hub;
  - a locking element comprising one or more friction-fit or snap-fit elements securing the insertion element to the needle hub;
  - a locking feature comprising complementary clamshell elements on the insertion element and the needle hub configured to mate with one another; or
  - a locking element comprising one or more inserted molded elements configured to couple the insertion element to the needle hub.
- ~~13.~~ ~~15.~~ The needle hub and an on-skin sensor assembly of Claim 1, wherein the on-skin sensor assembly (360) comprises an electronics unit.

---

## ANNEX B

---

### Claims

1. A needle hub and an on-skin sensor assembly, wherein the needle hub is configured to apply the on-skin sensor assembly to a skin of a host,

the on-skin sensor assembly (360) comprising a sensor (338),

the needle hub comprising:

a base (71752) comprising an anti-rotation feature, the base (71752) configured to be at least partially disposed in an aperture (396) of the on-skin sensor assembly (360), wherein the aperture (396) is a through-hole extending through on-skin sensor assembly (360) along an insertion axis of an insertion element (7174), the insertion element comprising a needle, wherein the aperture (396) is adapted for sensor and needle insertion,

wherein the needle hub is configured to couple with the an insertion element (7174), and

wherein the anti-rotation feature is configured to prevent rotation of the base (7172) within the aperture (396),

wherein the anti-rotation feature comprises a key having a shape complementary to at least a portion of the aperture (396).

- ~~2. The needle hub and an on-skin sensor assembly of Claim 1, wherein the anti-rotation feature comprises a key having a shape complementary to at least a portion of the aperture.~~
- ~~3.~~ 3. The needle hub and an on-skin sensor assembly of Claim 1, further comprising at least one upper arm.
- ~~4.~~ 4. The needle hub and an on-skin sensor assembly of Claim ~~2~~ 3, wherein the at least one upper arm is configured to be disposed through an aperture in a needle carrier assembly of an applicator.
- ~~5.~~ 5. The needle hub and an on-skin sensor assembly of Claim ~~3~~ 4, wherein the at least one upper arm is configured to contact an upper surface of the needle carrier assembly adjacent to the aperture in the needle carrier assembly.
- ~~6.~~ 6. The needle hub and an on-skin sensor assembly of Claim ~~4~~ 5, wherein the at least one upper arm is configured to be disposed in a groove in the upper surface of the needle carrier assembly, thereby immobilizing the needle hub with respect to the needle carrier assembly.
- ~~7.~~ 7. The needle hub and an on-skin sensor assembly of Claim ~~2~~ 3, wherein the at least one upper arm is flexible.
- ~~8.~~ 8. The needle hub and an on-skin sensor assembly of Claim ~~2~~ 3, wherein the at least one upper arm is configured to flex radially inward.

- ~~8.~~ ~~9.~~ The needle hub and an on-skin sensor assembly of Claim ~~2~~ 3, further comprising at least one lower arm.
- ~~9.~~ ~~10.~~ The needle hub and an on-skin sensor assembly of Claim ~~8~~ 9, wherein the at least one lower arm is configured to contact a lower surface of the needle carrier assembly adjacent to an aperture in the needle carrier assembly.
- ~~11.~~ ~~The needle hub and an on-skin sensor assembly of Claim 1, wherein the insertion element comprises a needle.~~
- ~~10.~~ ~~12.~~ The needle hub and an on-skin sensor assembly of Claim ~~1~~ 11, wherein the needle comprises an open side configured to receive ~~the~~ a sensor of the on-skin sensor assembly.
- ~~11.~~ ~~13.~~ The needle hub and an on-skin sensor assembly of Claim 1, wherein the base comprises a flat surface configured to mate with ~~the~~ a top surface of the on-skin sensor assembly, thereby maintaining the insertion element in a substantially perpendicular orientation to the top surface of the on-skin sensor assembly.
- ~~12.~~ ~~14.~~ The needle hub and an on-skin sensor assembly of Claim 1, wherein the insertion element (7174) comprises:
- a locking feature comprising a ridge configured to mate with a complementary-shaped feature within the needle hub;
  - a locking feature comprising a groove configured to mate with a complementary-shaped feature within the needle hub;
  - a locking feature that heat stakes the insertion element to the needle hub;
  - a locking element comprising one or more friction-fit or snap-fit elements securing the insertion element to the needle hub;
  - a locking feature comprising complementary clamshell elements on the insertion element and the needle hub configured to mate with one another; or
  - a locking element comprising one or more inserted molded elements configured to couple the insertion element to the needle hub.
- ~~13.~~ ~~15.~~ The needle hub and an on-skin sensor assembly of Claim 1, wherein the on-skin sensor assembly (360) comprises an electronics unit.