

WHAT IS CLAIMED IS:

1. A sensor assembly comprising:
a housing assembly configured to attach to a body surface of a patient and comprising at least one opening;
a skin sensor movably disposed in the at least one opening of the housing assembly;
5 and
wherein the housing assembly is configured to move independently relative to the skin sensor when an external force is applied to the housing assembly.
2. The sensor assembly according to claim 1, wherein the housing assembly comprises an attachment collar and a cover attached to the attachment collar.
3. The sensor assembly according to claim 2, wherein the attachment collar comprises at least one opening and wherein the skin sensor is movably disposed in the at least one opening of the attachment collar.
4. The sensor assembly according to claim 1, wherein the skin sensor is slidably disposed in the at least one opening of the housing assembly.
5. The sensor assembly according to claim 1, wherein the skin sensor is rotatably disposed in the at least one opening of the housing assembly.
6. The sensor assembly according to claim 1, wherein the housing assembly further comprises a frame positioned in the at least one opening of the housing assembly and configured to slidably receive the skin sensor in the at least one opening of the housing assembly.
7. The sensor assembly according to claim 1, wherein the external force is a positive, negative or rotational force applied to the outer surface of the housing assembly.

8. The sensor assembly according to claim 1, wherein the sensor assembly further comprises one or more biasing assemblies configured to prevent a transfer of externally applied force to the skin sensor.

9. The sensor assembly according to claim 2, wherein the sensor assembly further comprises one or more biasing assemblies configured to prevent a transfer of externally applied force to the skin sensor.

10. The sensor assembly according to claim 1, wherein the skin sensor is configured to be tiltable in at least one direction relative to the at least one opening of the housing assembly.

11. The sensor assembly according to claim 10, wherein the skin sensor is configured to be tiltable in all directions relative to the at least one opening of the housing assembly.

12. The sensor assembly according to claim 6, wherein the frame comprises a plurality of ribs arranged around an inner perimeter of the frame and the skin sensor comprises a plurality of slots arranged around an outer perimeter of the skin sensor and wherein the plurality of ribs arranged around an inner perimeter of the frame are configured to slidably
5 mate with the plurality of slots arranged around an outer perimeter of the skin sensor.

13. The sensor assembly according to claim 3, wherein the skin sensor is configured to extend beyond the at least one opening of the attachment collar to form a protrusion.

14. The sensor assembly according to claim 1, wherein the sensor assembly further comprises a controller.

15. A sensor assembly comprising:
an attachment collar configured to attach to a body surface of a patient and comprising at least one opening;

a skin sensor movably disposed in the at least one opening of the attachment collar;

5 and

a cover attached to the attachment collar;

wherein the attachment collar and cover are configured to move independently relative to the skin sensor when an external force is applied to the sensor assembly.

16. The sensor assembly according to claim 15, wherein the skin sensor is configured to extend beyond the attachment collar to form a protrusion.

17. The sensor assembly according to claim 16, wherein the skin sensor further comprises an adhesive layer on at least a portion of a bottom surface of the skin sensor surrounding the protrusion, and wherein the attachment collar further comprises an adhesive layer on at least a portion of a bottom surface of the attachment collar.

18. A sensor assembly comprising:

an attachment collar configured to attach to a body surface of a patient and comprising at least one opening,

a skin sensor disposed in the at least one opening of the attachment collar, and

5 a cover attached to the attachment collar and at least partially enclosing the skin sensor,

wherein the cover and the attachment collar are configured to rotate independently of the skin sensor when a rotational force is applied to the sensor assembly.

19. The sensor assembly of claim 18, wherein the sensor assembly further comprises a cable rotatably secured to a top surface of the cover.

20. The sensor assembly of claim 19, wherein the cable is configured to rotate independently of the skin sensor when a rotational force is applied to the cable.