complex three-dimensional shape than the shape of a preformed and subsequently inserted element.

A first aspect of the present invention relates to a method of manufacturing an in vivo analyte sensing device, the method comprising the steps:

(a) providing a sensor base plate comprising at least one recess, wherein at least one elastomeric conductive polymer element is present in the at least one recess and wherein the at least one elastomeric conductive polymer element is retained in the at least one recess without externally added adhesive and/or without deformation,

(b) fitting a sensor with the sensor base plate wherein the sensor comprises:

(i) a first sensor contact pad on a first side of the sensor, and

(ii) a second sensor contact pad on a second side of the sensor, wherein the first side and the second side are different from each other and particularly opposing each other,

and wherein the first sensor contact pad is placed into electrical contact with the at least one elastomeric conductive polymer element;

(c) connecting an electronics unit with the first sensor contact pad and the second sensor contact pad, and

(d) positioning a cover over the sensor base plate and the electronic unit.

In a particular embodiment of this aspect, step (a) comprises

(a1) providing a raw sensor base plate comprising at least one recess, and

(a2) passing, e.g. injecting a curable conductive polymer composition into the at least one recess of the raw sensor base plate and curing the curable conductive polymer composition wherein the at least one elastomeric conductive polymer element is formed within the at least one recess and wherein the sensor base plate is obtained.

A further aspect of the present invention is an in vivo analyte sensing device, which is obtainable by a manufacturing method as indicated above.

Still a further aspect of the present invention is an in vivo analyte sensing device comprising

(a) a sensor base plate comprising at least one recess, wherein at least one elastomeric conductive polymer element is present in the at least one recess and wherein the at least one elastomeric conductive polymer element is retained in the at least one recess without externally added adhesive and/or without deformation of its shape,

(b) a sensor comprising a first portion adapted to be inserted into a user´s body and a second sensor portion adapted to be outside the user´s body, wherein the sensor is fitted with the sensor base plate and wherein the second sensor portion comprises

(i) a first sensor contact pad on a first side of the second sensor portion, and

(ii) a second sensor contact pad on a second side of the second sensor portion, wherein the first side and the second side are different,

wherein the first sensor contact pad is in electrical contact with the at least one elastomeric conductive polymer element;

(c) an electronics unit connected with the first sensor contact pad and the second sensor contact pad wherein the at least one elastomeric conductive polymer element is in electrical contact with the electronics unit,

(d) a cover,

(e) optionally an electrical power unit, and

(f) optionally a fastening element adapted for fasting the device to the user’s body.

Still a further aspect of the invention is a method of manufacturing a sensor base plate adapted for an in vivo analyte sensing device, the method comprising the steps:

(a1) providing a raw sensor base plate comprising at least one recess, and

(a2) passing a curable conductive polymer composition into the at least one recess of the raw sensor base plate and curing the curable