Claims

1. An ~~E~~electronic proximity sensor ~~with~~comprising:

a decorative surface made of a synthetic material;

a capacitive sensor element~~s~~ placed below ~~a~~ the decorative surface disposed in such a manner that the sensor elements can detect by means of capacitive evaluation whether a finger is moving closer to the sensor surface and thus whether switching functions must be executed~~,~~;

wherein the decorative surface is coated with a coating comprising at least one thin layer made of a semiconductor ~~layer~~material which provides metallic gloss to the decorative surface and which does not shield the capacitive sensor elements lying underneath, wherein the coating comprises a primer UV acryl lacquer layer provided as intermediate layer between the decorative surface and the at least one thin layer made of a semiconductor material in order to smooth any potential surface structure.

2. Electronic proximity sensor according to claim 1 wherein the at least one thin layer made of semiconductor material is one layer in a layer system comprising thin layers made of semiconductor material and layers made of dielectric material, wherein the both kind of layers are provided forming an alternating layer system.

~~2~~3. Electronic proximity sensor according to any one of claim 1 or 2, wherein the thickness of the thin layer made of a semiconductor ~~layer~~ material or the total thickness of the thin layers made of a semiconductor material is between 10nm and 100nm.

~~3~~4. Electronic proximity sensor according to any one of ~~the~~ claims 1 ~~and 2~~ to 3, wherein the semiconductor ~~layer~~ material in the thin layers made of semiconductor material comprises silicon ~~as semiconductor material~~ and/or germanium.

~~4~~5. Electronic proximity sensor according to claim ~~3~~ 4, wherein the semiconductor material ~~layer~~ consists of silicon or germanium or silicon and germanium.

~~5. Electronic proximity sensor according to one of the preceding claims, wherein the semiconductor layer is a component of a layer system comprising at least one further layer, which is preferably an interference layer system.~~

6. Electronic proximity sensor according to ~~claim 5~~any one of claims 2 to 5, wherein the ~~at least one other layer~~ dielectric material in the layers made of dielectric material is a ~~SiO2 layer~~SiO_2.

~~7. Electronic proximity sensor according to claim 5 or 6, wherein the layer system is an alternating layer system.~~

~~8. Electronic proximity sensor according to one of the preceding claims, wherein between the component forming the decorative surface and the semiconductor layer, an intermediary layer is provided which comprises a polymer layer that preferably consists of a UV-hardened lacquer.~~

~~9~~7. Electronic proximity sensor according to any one of the preceding claims, wherein the coating comprises a top layer provided as a sealing layer against the environment and this layer being ~~a polymer coating is provided which preferably consists of~~ a UV-hardened acryl lacquer layer.

~~10. Proximity circuit with an electronic proximity sensor according to one of the preceding claims.~~

8. Electronic proximity sensor according to any of the preceding claims, wherein the decorative surface is a synthetic surface of an automobile interior component.

~~11~~9. Method for producing an electronic proximity sensor, ~~having~~the method comprising the steps of:

- providing a decorative surface, the decorative surface comprising synthetic material;
- providing an electronic proximity sensor having a capacitive sensor element placed below a~~the~~ decorative surface, such that the sensor elements can detect by means of capacitive evaluation whether a finger is moving closer to the sensor surface and thus whether switching functions must be executed;

- coating the decorative surface with a primer UV acryl lacquer layer, the primer UV acryl lacquer is configured to smooth any potential surface structure;
- coating the decorative surface with a semiconductor layer~~, the thickness of which is between 10nm and 100nm, wherein the coating is achieved by means of a vacuum process.~~, such that the semiconductor layer provides metallic gloss to the decorative surface and does not shield the capacitive sensor elements lying underneath.

10. The method of claim 9, the thickness of the semiconductor layer is between 10nm and 100nm, wherein the coating is achieved by means of a vacuum process.

~~12~~11. Method according to claim ~~11~~10, wherein the vacuum process is preferably a PVD and/or a CVD process.