CLAIMS

1. Injection device for injecting liquid medicine to a patient, the injection device comprising a main part and a removable module, wherein the main part is arranged to house a medicine container connected to a needle, ~~and~~ the removable module ~~comprises~~ comprising :

a skin contact surface for resting on the patient's skin during injection, ~~said~~ the skin contact surface ~~having~~ comprising a through hole for passage of the needle ~~and~~ and ~~being intended to rest on the patient's skin during the injection~~a sensor for detecting contact between the skin contact surface and the patient's skin; and

electrical contacts cooperating with corresponding electrical contacts of the main part.

~~2. Injection device according to claim 1, wherein the removable module comprises a sensor for detecting contact between the skin contact surface and the patient's skin.~~

~~3.~~2. Injection device according to claim 1 ~~or 2~~, further comprising a mechanism for moving the medicine container toward the skin contact surface from a first position to a second position or away from the skin contact surface from the second position to the first position.

~~4.~~3. Injection device according to claim ~~3~~2, wherein the removable module comprises releasable tabs for holding a needle assembly including the needle in the through hole while the medicine container is moved from the first position to the second position in order to automatically connect the needle to the medicine container.

~~5.~~4. Injection device according to claim ~~4~~3, wherein the removable module comprises a sensor for detecting insertion of the needle assembly into the through hole.

~~6.~~5. Injection device according to claim ~~4~~ 3 or ~~5~~4, wherein the removable module comprises one or more abutments for limiting insertion of the needle assembly into the through hole.

~~7.~~6. Injection device according to any one of claims ~~3~~ 2 to ~~6~~5, wherein the removable module comprises a retaining member which may be actuated to retain the needle in the through hole while the medicine container is moved from the second position to the first position in order to automatically disconnect the needle from the medicine container.

~~8.~~7. Injection device according to claim ~~7~~6, wherein the removable module comprises an engine for actuating the retaining member.

~~9. Injection device according to any one of claims 1 to 8, wherein the removable module comprises electrical contacts cooperating with corresponding electrical contacts of the main part.~~

~~10.~~8. Injection device according to any one of claims 1 to ~~9~~7, further comprising a button which, in a rest position, locks the removable module to prevent its detachment from the main part and which, when actuated, unlocks the removable module to allow its detachment from the main part.

9. Injection device according to claim ~~10~~8, wherein the button is concealed by a removable battery pack of the injection device.

~~11.~~10. A removable module for an injection device for injecting liquid medicine to a patient, the removable module being removably attachable to a main part of the injection device, the removable module comprising:

a skin contact surface for resting on the patient's skin during injection, the skin contact surface comprising a through hole for passage of a needle and a sensor for detecting contact between the skin contact surface and the patient's skin; and

electrical contacts arranged to cooperate with corresponding electrical contacts of the main part.

11. A removable module according to claim 10 further comprising releasable tabs for holding a needle assembly including the needle in the through hole while a medicine container of the main part is moved from a first position to a second position in order to automatically connect the needle to the medicine container.

12. A removable module according to claim 10 or 11 further comprising a sensor for detecting insertion of the needle assembly into the through hole.

13. A removable module according to any of claims 10 to 12 further comprising one or more abutments for limiting insertion of the needle assembly into the through hole.

14. A removable module according to any of claims 11 to 13 further comprising a retaining member which may be actuated to retain the needle in the through hole while the medicine container of the main part is moved from the second position to the first position in order to automatically disconnect the needle from the medicine container

15. A removable module according to claim 14 further comprising an engine for actuating the retaining member.