WHAT IS CLAIMED IS:

1. A controller for an elevator that has a position detection sensor attached to an elevator car and to-be-detected objects that are placed in a hoistway in correspondence to, for example, stopping floors and are detected by the position detection sensor, the position of the elevator car being detected by an output signal of the position detection sensor, wherein:

the position detection sensor is attached to the elevator car so that the position detection sensor passes positions opposite to the to-be-detected objects, the position detection sensor having at least four sensor units arranged side by side;

the to-be-detected objects are disposed at a plurality of places in the hoistway, each of the to-be-detected object having a plurality of to-be-detected units that are detected at the same time by at least two sensor units of the four sensor units arranged side by side underneath the elevator car; and

an abnormality is detected in response to a difference between output timings of the at least two sensor units of the sensor units in the position detection sensor.

2. The controller for an elevator according to Claim 1, wherein in a case that the door of the

elevator is open when an abnormality is detected in response to the difference between the output timings of the at least two sensor units of the sensor units in the position detection sensor, an announcement indicating that there is a step between floors is made.

3. The controller for an elevator according to Claim 1 or 2, wherein when the door is closed after an abnormality has been detected in response to the difference between the output timings of the sensor units, a buzzer sounds.

4. The controller for an elevator according to any one of Claims 1 to 3, wherein landing error of the elevator is detected in response to a first difference among the output timings of the plurality of sensor units and an operation of the elevator is stopped in response to a second difference among of the output timings of the plurality of sensor units, the second difference being larger than the first difference.

5. The controller for an elevator according to any one of Claims 1 to 4, wherein an abnormality is detected by cyclically monitoring with timer interrupts the difference among the output timings of the plurality of sensor units in the position detection sensor.

6. The controller for an elevator according to

Claim 5, wherein a first difference among the output timings of the plurality of sensor units is detected within a first prescribed monitoring period, and when a second difference among the output timings of the sensor units, which is larger than the first difference, continues over a second monitoring cycle, which is longer than the first prescribed monitoring period, the operation of the elevator is stopped.

7. The controller for an elevator according to any one of Claims 1 to 6, wherein when an abnormality is detected in response to the difference between the output timings of the at least two sensor units in the position detection sensor, the elevator is operated so as to move toward another floor and the operation of the elevator is stopped at a floor where an abnormality is not detected in response to the difference between the output timings of the sensor units in the position detection sensor.

8. The controller for an elevator according to any one of Claims 1 to 7, wherein when an abnormality is detected in response to the difference between the output timings of the plurality of sensor units in the position detection sensor and an event that a prescribed switch has been manipulated is detected, a floor at which the abnormality has been detected is

indicated by a destination floor button, in the elevator car, that corresponds to the floor at which the abnormality has been detected.

WHAT IS CLAIMED IS:

1. A controller for an elevator that has a position detection sensor attached to an elevator car and to-be-detected objects that are placed in a hoistway in correspondence to, for example, stopping floors and are detected by the position detection sensor, the position of the elevator car being detected by an output signal of the position detection sensor, wherein:

the position detection sensor is attached to the elevator car so that the position detection sensor passes positions opposite to the to-be-detected objects, the position detection sensor having at least four sensor units arranged side by side;

the to-be-detected objects are disposed at a plurality of places in the hoistway, each of the to-be-detected object having a plurality of to-be-detected units that are detected at the same time by at least two sensor units of the four sensor units arranged side by side underneath the elevator car; and

an abnormality is detected in response to a difference between output timings of the at least two sensor units of the sensor units in the position detection sensor by cyclically monitoring with timer interrupts the difference among the output timings of the plurality of sensor units in the position detection sensor.

2. The controller for an elevator according to Claim 1, wherein in a case that the door of the elevator is open when an abnormality is detected in response to the difference between the output timings of the at least two

sensor units of the sensor units in the position detection sensor, an announcement indicating that there is a step between floors is made.

3. The controller for an elevator according to Claim 1 or 2, wherein when the door is closed after an abnormality has been detected in response to the difference between the output timings of the sensor units, a buzzer sounds.

4. The controller for an elevator according to any one of Claims 1 to 3, wherein landing error of the elevator is detected in response to a first difference among the output timings of the plurality of sensor units and an operation of the elevator is stopped in response to a second difference among of the output timings of the plurality of sensor units, the second difference being larger than the first difference.

5. The controller for an elevator according to Claim 1, wherein a first difference among the output timings of the plurality of sensor units is detected within a first prescribed monitoring period, and when a second difference among the output timings of the sensor units, which is larger than the first difference, continues over a second monitoring cycle, which is longer than the first prescribed monitoring period, the operation of the elevator is stopped.

6. The controller for an elevator according to any one of Claims 1 to 5, wherein when an abnormality is detected in response to the difference between the output timings of the at least two sensor units in the position

detection sensor, the elevator is operated so as to move toward another floor and the operation of the elevator is stopped at a floor where an abnormality is not detected in response to the difference between the output timings of the sensor units in the position detection sensor.

7. The controller for an elevator according to any one of Claims 1 to 6, wherein when an abnormality is detected in response to the difference between the output timings of the plurality of sensor units in the position detection sensor and an event that a prescribed switch has been manipulated is detected, a floor at which the abnormality has been detected is indicated by a destination floor button, in the elevator car, that corresponds to the floor at which the abnormality has been detected.