CLAIMS:

1. A safety elevator having an imaging device (5) installed at an elevator entrance to monitor an open/close operation of elevator doors, the safety elevator comprising:

a door controller (3) to control the open/close operation of the elevator doors; and

an image processing unit (6, 9, 21) to determine a detection area from a video signal from the imaging device (5) and detect an object to be detected;

wherein a size of the detection area is changed in accordance with the elevator doors are opened or closed.

2. A safety elevator according to claim 1, wherein the size of the detection area is determined in accordance with an opening width of the elevator doors when the elevator doors are opened or closed.

3. A safety elevator according to claim 1, wherein the detection area is reduced as an opening width of the elevator doors when the elevator doors are opened or closed is reduced.

4. A safety elevator according to claim 1, wherein the detection area is divided into a plurality of detection blocks and the number of detection blocks is changed when the elevator doors are opened or closed.

5. A safety elevator according to claim 1, wherein the detection area is divided into a plurality of detection blocks and is reduced without changing the number of detection blocks as an opening width of the elevator doors when the elevator doors are opened or closed is reduced.

6. A safety elevator according to claim 1, wherein the imaging device (5) is arranged above the elevator entrance and the detection area is formed as a rectangular area with a large depth in a direction from a landing to the elevator entrance.

7. A safety elevator according to claim 1, wherein the imaging device (5) is arranged above the elevator entrance and the detection area is formed as a one-dimensional area with a small depth in a direction from a landing to the elevator entrance.

8. A safety elevator according to claim 1, wherein the detection area can be set as a rectangular area with a large depth in a direction from a landing to the elevator entrance or as a one-dimensional area with a small depth in the direction from the landing to the elevator entrance.

9. A safety elevator according to claim 1, wherein the door controller (3) controls the open/close operation of the elevator doors in accordance with a result of detection by the image processing unit (6, 19, 21).

10. A safety elevator according to claim 1, wherein the door controller (3) stops or reverses the operation of the elevator doors when the elevator doors move from a fully open state

to a closed state, in accordance with a result of detection by the image processing unit (6, 19, 21).

CLAIMS

1. A safety elevator having an imaging device (5) installed at an elevator entrance to monitor an open/close operation of elevator doors, the safety elevator comprising:

a door controller (3) to control the open/close operation of the elevator doors; and

an image processing unit (6, 9, 21) to determine a detection area from a video signal from the imaging device (5) and detect an object to be detected;

wherein a size of the detection area is changed in accordance with the elevator doors are opened or closed, and

wherein the detection area is divided into a plurality of detection blocks and the number of detection blocks is changed when the elevator doors are opened or closed.

2. A safety elevator according to claim 1, wherein the size of the detection area is determined in accordance with an opening width of the elevator doors when the elevator doors are opened or closed.

3. A safety elevator according to claim 1, wherein the detection area is reduced as an opening width of the elevator doors when the elevator doors are opened or closed is reduced.

4. A safety elevator having an imaging device (5) installed at an elevator entrance to monitor an open/close operation of elevator doors, the safety elevator comprising:

a door controller (3) to control the open/close operation of the elevator doors; and

an image processing unit (6, 9, 21) to determine a detection area from a video signal from the imaging device (5) and detect an object to be detected;

wherein a size of the detection area is changed in accordance with the elevator doors are opened or closed, and

wherein the detection area is divided into a plurality of detection blocks and is reduced without changing the number of detection blocks as an opening width of the elevator doors when the elevator doors are opened or closed is reduced.

5. A safety elevator according to claim 1 or 4, wherein the imaging device (5) is arranged above the elevator entrance and the detection area is formed as a rectangular area with a large depth in a direction from a landing to the elevator entrance.

6. A safety elevator according to claim 1 or 4, wherein the imaging device (5) is arranged above the elevator entrance and the detection area is formed as a one-dimensional area with a small depth in a direction from a landing to the elevator entrance.

7. A safety elevator according to claim 1 or 4, wherein the detection area can be set as a rectangular area with a large depth in a direction from a landing to the elevator entrance or as a one-dimensional area with a small depth in the direction from the landing to the elevator entrance.

8. A safety elevator according to claim 1 or 4, wherein the door controller (3) controls the open/close operation of the elevator doors in accordance with a result of detection by the image processing unit (6, 19, 21).

9. A safety elevator according to claim 1 or 4, wherein the door controller (3) stops or reverses the operation of the elevator doors when the elevator doors move from a fully open state to a closed state, in accordance with a result of detection by the image processing unit (6, 19, 21).