

Claims

- 5 1. System ~~(2)~~ with a controller ~~(16)~~ and with an actuator ~~(4)~~ as well as with an assembly ~~(18)~~ for providing functional safety, the assembly ~~(18)~~ having a switching unit ~~(24)~~, which is inserted into an electrical supply line ~~(8)~~ of the actuator ~~(4)~~ and is operated by means of a control device ~~(22)~~ of the assembly ~~(18)~~, which is connected to the controller ~~(16)~~ in terms of signal technology.
- 10 2. System ~~(2)~~ according to claim 1,
characterized in
that the switching unit ~~(24)~~ has a number of switching elements ~~(54)~~, which are electrically connected in series and are inserted into the supply line ~~(8)~~.
- 15 3. System ~~(2)~~ according to claim 2,
characterized in
that two of the switching elements ~~(54)~~ are each a mechanical switch ~~(56)~~.
- 20 4. System ~~(2)~~ according to claim 2 or 3,
characterized in
that one of the switching elements ~~(54)~~ is a semiconductor switch ~~(58)~~.
- 25 5. System ~~(2)~~ according to one of claims 2 to 4,
characterized in
that the switching unit ~~(24)~~ has a fuse ~~(60)~~, which is electrically connected in series with the switching elements ~~(54)~~.
- 30 6. System ~~(2)~~ according to one of claims 2 to 5,
characterized in
that the switching unit ~~(24)~~ has a control unit ~~(48)~~, by means of which the switching elements ~~(54)~~ are actuated.
7. System ~~(2)~~ according to one of claims 1 to 6,

characterized in

that the switching unit ~~(24)~~ has an additional switching element ~~(62)~~, which is inserted into a ground line ~~(10)~~ of the actuator ~~(4)~~.

5

8. System ~~(2)~~ according to one of claims 1 to 7,

characterized by

10

a further actuator ~~(72)~~ with a further supply line ~~(70)~~, the switching unit ~~(24)~~ having a number of further switching elements ~~(66)~~, which are electrically connected in series and are inserted into the further supply line ~~(70)~~, or the assembly ~~(18)~~ having a further switching unit ~~(78)~~, which is inserted into the further supply line ~~(70)~~ and is operated by means of the control device ~~(22)~~.

9. System ~~(2)~~ according to one of claims 1 to 8,

characterized in

15

that the control device ~~(22)~~ and the switching unit ~~(24)~~ are connected by means of a first bus system ~~(44)~~ in terms of signal technology, the control device ~~(22)~~ being configured as a master of the first bus system ~~(44)~~.

10. System ~~(2)~~ according to one of claims 1 to 9,

20

characterized in

that the control device ~~(22)~~ and the controller ~~(16)~~ are connected by means of a second bus system ~~(36)~~ in terms of signal technology, the control device ~~(22)~~ being configured as a slave of the second bus system ~~(36)~~.

25

11. Assembly ~~(18)~~ for providing functional safety according to one of claims 1 to 10.

12. Switching unit ~~(24)~~ according to one of claims 1 to 10.