Patent claims

1. A disinfection device (23) for disinfecting a surface (41) on a passenger conveying device (13), which passenger conveying device (13) is part of a passenger transport system (1) and is used for conveying passengers within a building structure (5);
wherein the disinfection device (23) comprises a controller (25) for controlling an operation of the disinfection device (23);
wherein the controller (25) of the disinfection device (23) is adapted to be connected to a control unit (15) of the passenger transport system (1) via a bidirectional communication system (33), and
wherein the controller (25) of the disinfection device (23) is adapted to send status signals, which reflect information about a current operation, a current state and/or a current configuration of the disinfection device (23), to the control unit (15) and to receive control signals generated by the control unit (15) of the passenger transport system (1) taking into account received status signals, wherein the controller (25) controls the operation of the disinfection device (23) taking into account received control signals, **characterized in** that the controller (25) of the disinfection device (23) is adapted to control a disinfection intensity with which the disinfection device (23) disinfects the surface (41) to be disinfected, depending on control signals which are transmitted to the controller (25) by the control unit (15) of the passenger transport system (1) and which indicate an operating parameter of the disinfection device (23) correlating with a disinfection intensity currently to be effected.

2. A passenger transport system (1), comprising:
- a passenger conveying device (13) for conveying passengers within a building structure (5);
- a control unit (15) for controlling an operation of the passenger conveying device (13); and
- a disinfecting device (23) according to claim 1 for disinfecting a surface (41) to be disinfected on the passenger conveying device (13);
wherein the disinfection device (23) comprises a controller (25) for controlling an operation of the disinfection device (23);
wherein the controller (25) of the disinfection device (23) is connected to the control unit (15) of the passenger transport system (1) via a bidirectional communication system (33), and
wherein the control unit (15) of the passenger transport system (1) and the controller (25) of the disinfection device (23) are adapted in such a manner that status signals, which reflect information about a current operation, a current state and/or a current configuration of the disinfection device (23), are sent from the controller (25) to the control unit (15), and the control unit (15) generates control signals taking into account received status signals and transmits them to the controller (25), wherein the controller (25) controls the operation of the disinfection device (23) taking into account received control signals,

characterized in that the controller (25) of the disinfection device (23) is adapted to control a disinfection intensity with which the disinfection device (23) disinfects the surface (41) to be disinfected depending on control signals which are sent to the controller (25) by the control unit (15) of the passenger transport system (1) and which indicate an operating parameter of the disinfection device (23) correlating with a disinfection intensity currently to be effected.

3. The passenger transport system according to claim 2,
wherein the control unit (15) generates control signals which indicate a setpoint value for the operating parameter of the disinfection device (23) correlating with a disinfection intensity currently to be effected, taking into account the status signals received from the controller (25).

4. The passenger transport system according to any one of claim 2 or 3,
wherein the disinfection device (23) is adapted to be able, in a new state, to effect as maximum disinfection intensity a disinfection intensity which is greater than a minimum disinfection intensity necessary for sufficient disinfection of the surface (41) to be disinfected, and
wherein the control unit (15) of the passenger transport system (1) and/or the controller (25) of the disinfection device (23) are adapted to operate the disinfection device (23) in normal operation with a disinfection intensity above the minimum disinfection intensity and to successively increase an operating parameter of the disinfection device (23) correlating with a currently effected disinfection intensity.

5. The passenger transport system according to any one of claims 2 to 4,
wherein the control unit (15) of the passenger transport system (1) and/or the controller (25) of the disinfection device (23) are adapted to increase the operating parameter of the disinfection device (23) correlating with a currently effected disinfection intensity depending on an operating time since start-up of the disinfection device (23).

6. The passenger transport system according to any one of claims 2 to 5,
wherein the disinfection device (23) further comprises a sensor (29) for detecting a measured variable which correlates with the disinfection intensity, and
wherein the control unit (15) of the passenger transport system (1) and/or the controller (25) of the disinfection device (23) are adapted to increase the operating parameter of the disinfection device (23) correlating with a currently effected disinfection intensity depending on the measured variable detected by the sensor (29).

7. The passenger transport system according to claim 6,

wherein the control unit (15) of the passenger transport system (1) and/or the controller (25) of the disinfection device (23) are adapted to regulate the operating parameter of the disinfection device (23) correlating with a currently effected disinfection intensity depending on the measured variable detected by the sensor (29).

8. The passenger transport system according to any one of claims 2 to 7,
wherein the operating parameter of the disinfection device (23) correlating with a disinfection intensity currently to be effected is monitored and, if the operating parameter exceeds a predetermined threshold value, a warning signal is output which indicates an approaching end of a service life of the disinfection device (23).

9. The passenger transport system according to any one of claims 2 to 8,
wherein the disinfection device (23) further comprises a sensor (31) for detecting a temperature inside the disinfection device (23) and/or for detecting a temperature in an environment adjacent to the disinfection device (23), and
wherein the control unit (15) of the passenger transport system (1) and/or the controller (25) of the disinfection device (23) are adapted to control the operation of the disinfection device (23) depending on the temperature detected by the sensor (31).

10. The passenger transport system according to claim 6 or 9,
wherein the controller (25) of the disinfection device (23) is adapted to send the measured variable determined by the sensor (29, 31) and/or a data signal correlating with the measured variable determined by the sensor (29, 31) to the control unit (15) of the passenger transport system (1).

11. The passenger transport system according to any one of claims 2 to 10,
wherein the passenger transport system (1) further comprises an interface device (37) adapted to send data from the control unit (15) of the passenger transport system (1) to a remotely arranged computer (35) and/or to provide data from a remotely arranged computer (35) for reception by the control unit (15) of the passenger transport system (1).

12. The passenger transport system according to any one of claims 2 to 11,
wherein the control unit (15) generates the control signals taking into account information about a speed at which the passenger conveying device (13) is operated and/or a number of passengers conveyed by the passenger conveying device (13).

13. The passenger transport system according to any one of claims 2 to 12, wherein the disinfection device (23) further comprises an output device (39), which is adapted to output a signal which can be perceived by a human being and which indicates a current state of the disinfection device (23).

14. A method for operating a passenger transport system (1) according to any of the preceding claims 2 to 13, the method comprising:
- transmitting status signals reflecting information about a current operation, a current state and/or a current configuration of the disinfection device (23) from the controller (25) to the control unit (15), and
- controlling an operation of the disinfection device (23) taking into account received control signals which are transmitted from the control unit (15) to the controller (25) taking into account received status signals,
wherein, furthermore, the status signals are optionally sent from the control unit (15) to a remotely arranged computer (35) and processed there and/or wherein, furthermore, control signals are optionally transmitted from the remotely arranged computer (35) to the control unit (15) and from the control unit further to the controller (25) to control the operation of the disinfection device (23).

15. The method according to claim 14,
wherein a digital twin of the passenger transport system (1) is stored in the remotely arranged computer (35) and wherein properties of the passenger transport system (1) are determined based on the digital twin of the passenger transport system (1) taking into account the status signals transmitted by the controller (25) of the disinfection device (23).