Claims

1. Device (1) for monitoring an operating state of a control device (6) of a passenger transport system (2), comprising

   - a detection unit (4) for generating a first electrical quantity depending on a signaled state of the control device (6),

   - an evaluation unit (8) for analyzing the first electrical variable in relation to the operating state of the control device (6) and for generating a second electrical variable that is dependent on the analysis of the first electrical variable,

   - an interface (10) for transmitting a second electrical signal that is dependent on the analysis and is generated in the evaluation unit (8),

   the detection unit (4) comprising a conversion device (12) for converting an optical signal of at least one optical indicator (14) of the control device (6) into the first electrical quantity, preferably a photoelectric element,

   characterized in that

   the conversion device (12) has at least one plug-in device (22) that can be plugged onto at least one optical indicator (14) of the control device (6),

   the plug-in device (22) having a photoelectric element (16) for monitoring the indicator (14) on a first side that, in the plugged-on state, faces the optical indicator (14), wherein the plug-in device (22) has a camera (18) for monitoring at least one further optical indicator (14) on a second side that, in the plugged-on state, faces away from the optical indicator (14) onto which the plug-in device (22) is plugged.

2. Device (1) according to claim 1, wherein the conversion device (12) comprises a photoresistor (16) and/or the camera (18).

3. Device (1) according to either of the preceding claims, wherein the conversion device (12) can be mounted in a control device housing (20), wherein the conversion device (12) is designed such that a plurality of optical indicators (14) in the control device housing (20) can be monitored.

4. Method for monitoring an operating state of a control device (6) of a passenger transport system (2), comprising the steps of

   - optically monitoring, preferably continuously optically monitoring, at least one optical indicator (14) of the control device (6),

   - generating an electrical signal corresponding to the optical state of the at least one monitored optical indicator (14),

   - detecting a change in state of the optical indicator (14) based on changes in the electrical signal,

   - evaluating the detected change in state, wherein, in a learning phase of the method, the evaluation of the detected changes in state is used to define states of the control device (6) and/or passenger transport system (2).

5. Method according to claim 4, wherein the detection of a change in state of the optical indicator (14) comprises identifying changes in the color and/or state change patterns, in particular on-off patterns and/or intensity change patterns, and/or identifying a one-time switch-off and/or switch-on.

6. Method according to any of claims 4 or 5, wherein, in a monitoring phase of the method, the evaluation of the detected changes in state is used to identify error states of the control device (6) and/or the passenger transport system (2).

7. Method according to any of claims 4 to 6, wherein the method further comprises a step of transmitting the detected changes in state of the control device (6) to an entity outside the passenger transport system (2).

8. Method according to any of claims 4 to 7, the method further comprising the step of resetting when a specific error state of the control device (6) and/or passenger transport system (2) is identified.

9. Method for retrofitting an existing passenger transport system (2) comprising the step of:

   installing a device (1) according to any of claims 1 to 3 on an existing passenger transport system, such that optical indicators (14) of a control device (6) of the existing passenger transport system (2) can be detected by the device (1).