Claims

1. An arrangement for connecting an electrical system to electronic units of a system for control of electrical devices,
the arrangement comprises a plate (1) formed by a printed circuit board having
- on a first side (2) thereof at least one first side connector (3, 4) configured to receive a connector of said electrical system and
- an opposite second side (5) thereof being formed by the printed circuit board (6) to which said at least one first side connector (3, 4) connects and whereas the printed circuit board (6) is provided with at least one second side connector (7) designed for connection of members controlling said electronic units thereto, wherein the intermediate connections between said at least one first side connector and said at least one second side connector realizing an interface between said electrical system to said electronic units are implemented by using printed circuit board technology, **characterized** in that the arrangement comprises a rack (8) having a rear wall member (9) with an internal wall formed by said second side (5) of said plate (1), that the rear wall member (9) has a cover (10) with a gasket (11) with one or more recesses (12) for external access of said at least one first side connector (3, 4), and that the cover (10) is configured to seal around said at least one first side connector (3, 4) to protect the at least one second side connector (7) and members to be connected thereto, wherein said cover (10) is designed to provide IP65 protection of the interior of the rack (8) including the printed circuit board (6), said at least one second side connector (7), and members to be connected thereto.

2. An arrangement according to claim 1, **characterized** in that it has at least one said second side connector (7) configured to provide connections to said members in the

form of printed circuit boards.

3. An arrangement according to claim 1 and 2, **characterized** in that it has at least one said first side connector (3, 4) configured to be able to receive signals from sensors of a said electrical system.

4. An arrangement according to any of the preceding claims, **characterized** in that it has at least one said first side connector (3, 4) configured to be able to receive signals from a communication system, such as using Ethernet or CAN.

5. An arrangement according to any of the preceding claims, **characterized** in that it has at least one said first side connector (3, 4) configured to receive feed of electric energy to said electronic units from a source of electric energy.

6. An arrangement according to any of the preceding claims, **characterized** in that said rack (8) has a box-like character with an opening on a front side thereof configured to allow said at least one second side connector (7) to be accessible from outside of the rack.

7. An arrangement according to any of the preceding claims, **characterized** in that said at least one second side connector (7) is configured to be connected to members controlling electronic units for control of electrical devices in the form of converters.

8. An arrangement according to any of the preceding claims, **characterized** in that it comprises a plurality of said first side connectors (3, 4) and/or a plurality of said second side connectors (7).

9. An arrangement according to any of the preceding claims, **characterized** in that it is configured to connect an electrical system on board a track-bound vehicle (18) to electronic units of a system for control of converters arranged on the vehicle.

10. An arrangement according to claims 5 and 9, **characterized** in that it has at least one said first side connector (3, 4) configured to receive electric energy from electric batteries of the vehicle.

11. A converter box, **characterized** in that it has an arrangement (16) according to any of the preceding claims enclosed therein.

12. A track-bound vehicle provided with an arrangement according to any of claims 1 – 10.