



TRANSPORTATION

APPLICATION EXAMPLE

## Customized subrack solution as a switch box for railway systems

Applications for use in railway systems are subject to stringent requirements. For a project in this market, a supplier of railway equipment needed HEITEC to provide a customized system platform that can be installed directly on the train.

The subrack, which was later fully populated by the customer, serves as an onboard switch box for signals and functions with comparatively low load currents. It was designed to accommodate up to 14 modules. The switch box makes it possible, for example, to control the lighting on the train by means of modules. Other system tasks include managing audio communication (intercom) and various comfort-related functions, as well as controlling LED signal boards on the train. The installed modules are equipped with compact relays specifically designed for railway systems. To ensure reliable functioning, no conventional wiring was used for the relays themselves. Instead, they're soldered directly onto the PCBs.

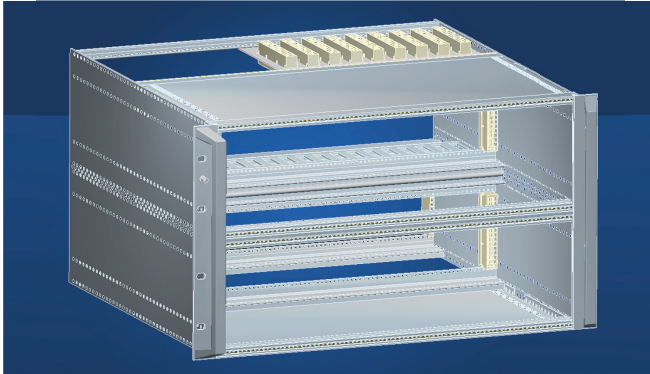
To implement the project, HEITEC designed an enclosure based on the HeiPac Vario series that's high-quality as well as cost-effective. Almost all of the components could be selected from the standard portfolio. The system itself is installed on the train directly under the roof. Although the ex-works HeiPac Vario standard series

isn't explicitly certified for the EN50155 railway standard, the system successfully passed all tests. Because space at the installation location is very tight, and in order to ensure that installation would be as easy as possible, a customized bracket for the connectors was developed for the customer along with an additional holding plate for wire routing. The customer is responsible for integrating the connectors, which will simply be wired to the modules. All that's needed is for the appropriate cabling to be provided at the installation location. The entire system can be easily assembled, and carrying handles facilitate easy transport and handling during installation.

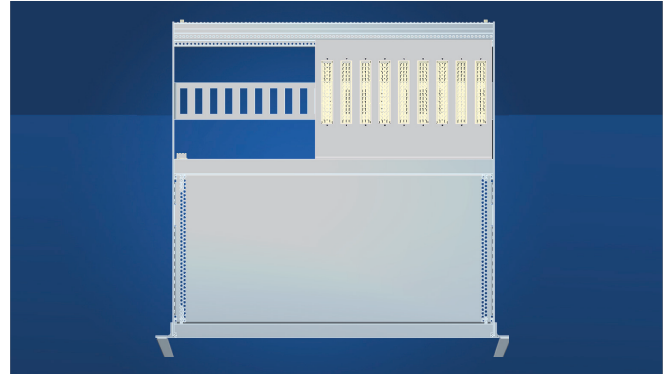
The optimized design meant that other adaptations of the enclosure, including the addition of ground studs on the holding flange, could be performed at a modest cost. HEITEC developed an enclosure for its customer that's optimally adapted to the customer's needs.

The HeiPac Vario series is HEITEC's most versatile 19-inch subrack family. Thanks to its wide range of sizes and accessories, it can be used to implement the most complex applications.

## Innovative Subrack Solution



Graphic of the 6U subrack which is divided into two 3U units



View of the support plate for customer specific connectors (top right) and retaining plate for cable management (top left)

## Technical Summary

- › HeiPac Vario subrack combined with customer-specific components
- › D x W x H: 427 mm x 84HP x 6U
- › Holding plate for customer-specific connectors
- › LP guide rails = 220 x 2.00 mm for 14 modules
- › Carrying handles for easy installation

## Customer Benefits

- › Variable, compact subrack solution for use in railway technology
- › Fully preassembled to accommodate PCBs
- › Prepared for customer-specific connectors and wiring
- › Easy system maintenance and testing
- › Cost-effective system solution

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