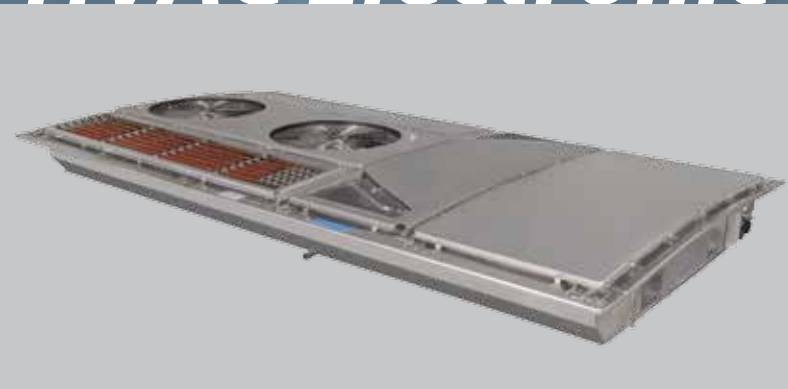




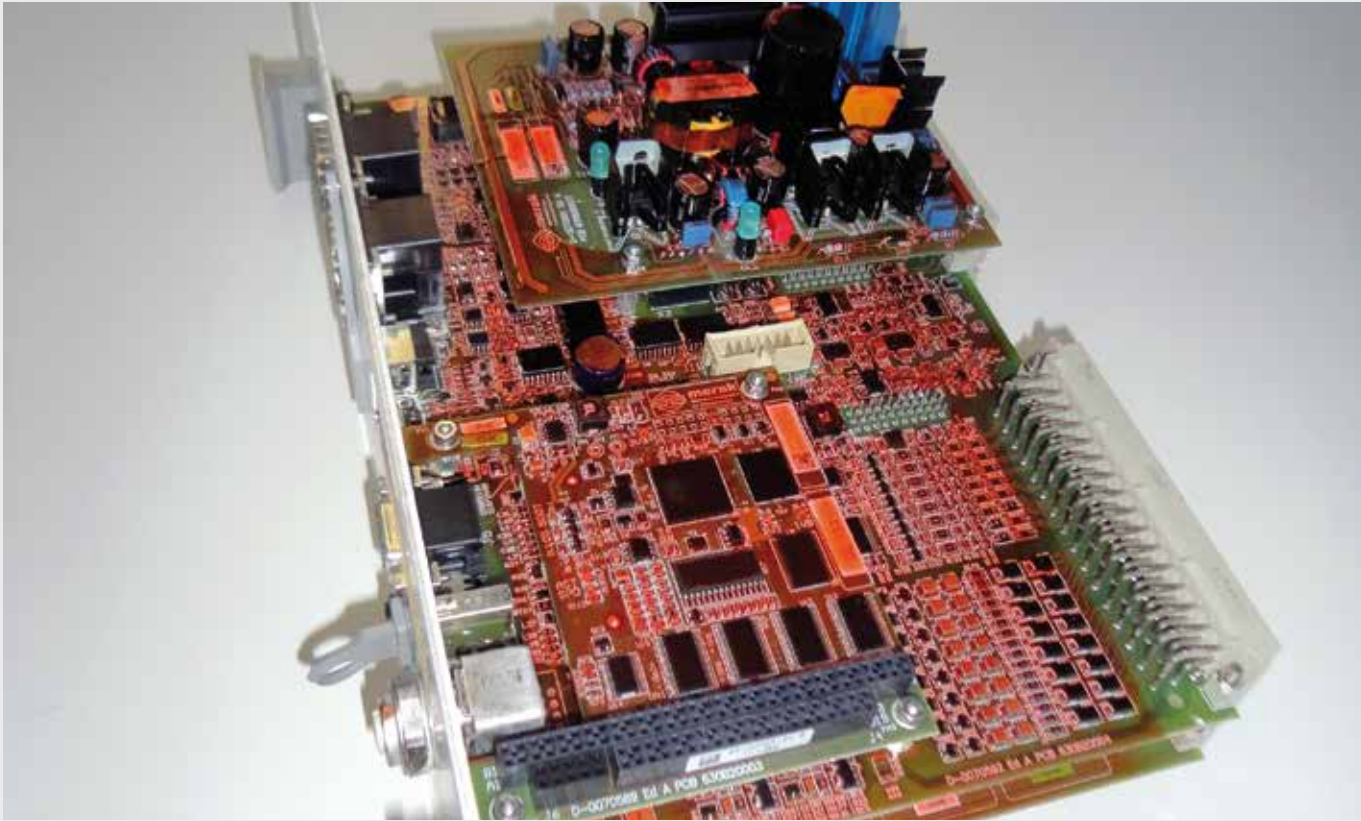
HEC: HVAC Electronic Control



APPLICATIONS

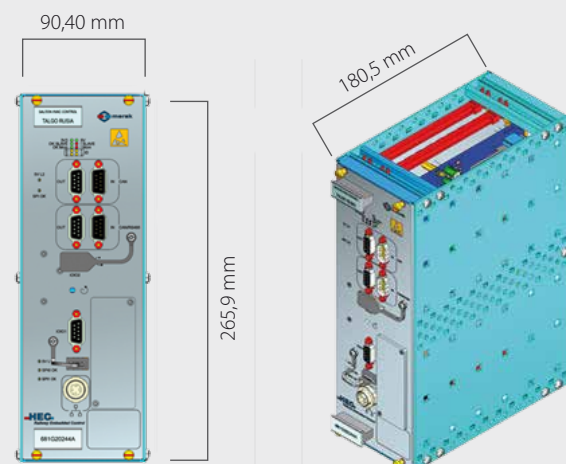
High Speed Trains | Light Rail Vehicles | Locomotives | Metros | Passenger Coaches | Regional and Commuter Trains | Special Vehicles

HEC: HVAC ELECTRONIC CONTROL. RAILWAY SUB-SYSTEM CONTROL AND MONITORING



WITH MORE THAN 50 YEARS OF EXPERIENCE IN HVAC SOLUTIONS FOR RAILWAY APPLICATIONS, Merak continues to improve its products adapting them to new market demands. Ensuring proper performance as well as high reliability is one of Merak's most important goals. Our Engineering team constantly looks for improvements to achieve competitive lead times and prices.

In this sense, Merak has developed a new generation, state-of-the-art embedded controller specially designed for railway HVAC applications. The main target is to achieve accurate and reliable regulation leading to an optimized solution for passengers in terms of safety and comfort. This latest innovation helps Merak maintain position as one of the leading suppliers of high-end technology solutions for railway applications.





CUSTOMER BENEFITS

MERAK HEC Controllers have been designed including significant advantages like:

- Designed according to global railway standards, incl. EN, GOST and STM
- Solid solution package for the intelligent devices within all train management systems
- Compliant with cutting edge protocols (i.e.: IPTCOM and CIP)
- Allow implementing Advance Monitoring and Condition Based Maintenance (CBM) solutions
- Upgradeably / ready for the future (i.e. corporate web-service terminal)
- Backward compatibility with legacy controllers
- Adaptable to worldwide applications. Supported by global Knorr-Bremse service and after-sales network
- Compatible with other KB Group electronic subsystems (BCU/DCU)

MAIN FEATURES

- Reliable. Qualified according to the strictest type and stress tests
- Compact. Low weight and reduced dimensions
- Easy Maintenance. Simple installation process
- Standard solutions (based on 3 different configurations) for any HVAC application.
- Operating under extreme temperatures (EN 50155 Class TX / start-up at -50 °C)
- Low Power consumption (14W max.)

TYPICAL INTERFACES FOR EACH CONFIGURATION

CONFIGURATION	MP-Bus	Solid State Output	Mech. Relay Output	Batt. Digital Input	24V Digital Input	Analog Inputs	Analog Outputs	RS-232	External CAN	Ethernet	RS-485
S1	1	8	4	16	0	8	2	1	1	1	1
S2	1	10	4	16	16	14	2	1	1	1	1
S3	1	18	6	16	16	14	2	1	1	1	1

Additional communication interfaces (i.e. MVB and LON) can be integrated through internal PC104 connection.
Third-party devices (i.e.: HMI) could be connected by means of external CAN bus.

Knorr-Bremse Systeme für Schienenfahrzeuge GmbH

Moosacher Straße 80
80809 Munich
Germany
Tel: +49 89 3547-0
Fax: +49 89 3547-2767

WWW.KNORR-BREMSE.COM



Knorr-Bremse Group

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