



VCU with CAN and Digital Input/Output Interfaces



Redundant VCU with MVB and various Digital Input/Output Interfaces

Vehicle Control Unit (vcu)

FUNCTIONS

The Trainnet® Vehicle Control Unit (VCU) is a powerful computer for train automation. The Trainnet® VCU can carry out advanced control and diagnostic functions.

The Trainnet® VCU can control any train sub-system such as brakes or doors. It can be used for both physical control (e.g. opening/closing/locking the doors, activate heating/cooling/ventilation etc.) and diagnostics (e.g. checking the proper closing of a door, monitoring brake temperature etc.) of train sub-systems. Please find below common applications:

- Diagnostics
- PIS/PA system management
- Crew HMIs management
- Brakes and traction monitoring
- SIL and Safety Applications
- Fleet Management
- HVAC management
- Door management
- Lighting management
- CCTV system management
- Tank level monitoring
- Battery charge monitoring
- Train-to-wayside communication management

For more details, please visit our Application Software pages.

Trainnet® enables these control and diagnostic applications to run on the same train computers that are used for Gateway functionalities, providing a more compact and cost-effective solution. Physically separated Gateways can also be implemented.

KEY FEATURES

The Trainnet® VCU can connect with sub-systems and the Train Communication Network. Available interfaces include a wide range of bus technologies (e.g. WTB, MVB, CAN, Serial Links and Ethernet) and Input/Output Interface Modules (Analogue Input, High Speed Analogue Input, Digital Input/Output, Digital Relay Output, Analogue Output, Pt-100 temperature Sensor Input). Remote Input/Output Modules (RIOM) are also available.

MORE CONTROL

The Trainnet® VCU is a powerful and highly flexible system built on an open source software platform (Linux). You are free to develop your own applications as well as to integrate third party Hardware and Software onto the Trainnet® platform. With Trainnet®, you can develop

your own applications using the CODESYS PLC Software. You can also develop applications and make configuration modifications in C language, giving you full control. EKE has the expertise to develop all or a part of the Software for you, or alternatively provide training, tools and guidance to support your own developments. Finally, EKE can grant you the intellectual property rights (IPR) of the application Software in order to ensure you a safe, long-term investment.

On the Hardware side, the Trainnet® VCU is modular. This means you can develop tailored systems matching your needs perfectly. By simply selecting the interfaces you need, you make sure the system answers all your demands while being cost-efficient. Systems can be easily upgraded with additional modules as needs arise.

SUPPORT

EKE provides support for at least 30 years for all Trainnet® products.

EN 50155
EN 45545

TECHNICAL SPECIFICATIONS

Dimensions (W x H x D)

3U 44TE Rack
280 mm x 133 mm x 215 mm
(installation width 240 mm)

3U 84TE Rack
483 mm x 133 mm x 215 mm
(installation width 443 mm)

6U 84TE Rack
483 mm x 266 mm x 215 mm
(installation width 443 mm)

Weight

Depends on installed modules

Input Voltage

24, 36, 48, 52, 72 or 110 V DC

Temperature Range (operational)

-40 °C...+70 °C

MTBF (40 °C ambient temperature)

Depends on installed modules

Interface Options:

WTB, MVB, CAN, Ethernet, Serial Links, Analogue Input, High Speed Analogue Input, Digital Input/Output, Digital Relay Output, Analogue Output, Pt-100 temperature Sensor Input. Read Module pages for more details.