

RAILWAY COMPUTER

Compliant with EN 50155

Duagon provides CAN-enabled communication solutions for train networks, control, monitoring, and information systems. The devices comply with the railroad standard EN 50155 regarding vibration, emission, and temperature requirements.

BL72E is a box PC for the rail and public transport industry, e.g. for Internet-on-board, positioning via GNSS (global navigation satellite system), CCTV (closed circuit television), recording, passenger entertainment, etc. It is based on the quad-core of AMD's Ryzen V1000 APU (acceleration processing unit) and a Radeon Vega 3D graphics engine. Supported I/O functionality includes a 4000 display port, four 1 Gbit/s Ethernet, audio, two USB 3.2, EIA-232, EIA-422/EIA-485, and more. An optional CAN or MVB (multi-function vehicle bus) interface can be implemented. Wireless options include 4G LTE or WLAN communication. The device contains eight micro-SIM card slots and can be supplemented with further LTE modems, memory, and I/Os. Housed in an aluminum case with cooling fins as heat sinks, the PC is suitable for fanless operation at temperatures from -40 °C to +70 °C. A power supply of 24 V_{DC} to 110 V_{DC} is possible.



BL72E enables wireless communication and data storage in rail applications (Source: Duagon)



DC19 and DC20 panel PCs are dedicated for interactive rail applications (Source: Duagon)

The company's 10,4-inch DC19 and 12,1-inch DC20 panel PCs and HMIs (human machine interfaces) with a touch LCD display are powered by an 1,6-GHz Intel Atom processor from the E3900 series. The devices can be used as a part of the train control and management system (TCMS), provide driver information about the route, display the train environment, or used for CCTV purposes. Standard interfaces include CAN, two 1-Gbit/s Ethernet ports, audio, two digital I/Os, as well as EIA-232, EIA-422, and EIA-485. In addition, 4G cellular network and GNSS connectivity are possible. The rugged PCs with an IP65-protected front can be powered with 24 V_{DC} to 110 V_{DC} and operate in a -25 °C to +70 °C environment.

Modern rail vehicles have control, monitoring and information systems for monitoring, maintenance, air conditioning and heating as well as control of traction, brake, and door. The D532 is a communication module (gateway) designed for the harsh traction environment and supporting a line-redundant physical layer. It offers such communication interfaces as CAN, MVB, EIA-485, EIA-422, and current loop. The device with a 32-bit CPU (central processing unit) enables integration of CAN-based sensors or connection of several sub-systems to an MVB network. A configuration input allows selection of up to 16 pre-installed applications or configurations. A command-line interface and an Ethernet interface are available for maintenance and diagnostic purposes. The integrated webserver enables to access diagnostic data and to configure the device remotely.



The company's gateways interconnect different communication networks in rail vehicles (Source: Duagon)

The Swiss-headquartered company, is a supplier of communication, computing, and control technology for system-critical applications in rail, medical, and automation markets. The portfolio is complemented by engineering services and application software. Duagon employs more than 700 people in eight countries, with about 420 engineers for product development and maintenance.

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