

## Products for Condition Based Maintenance/ Predictive Maintenance Just get the right product from duagon

In order to achieve maximum availability of the rolling stock, while at the same time keeping maintenance cost to a minimum, CBM and PM are getting more and more relevant to train operating companies. The implementation requires the collection and processing of a huge amount of data from different and sometimes separated sources. duagon offers a broad range of products that enable our customers to collect data from any fieldbus or sensor. Combined with the powerful computing and storage capability of duagon's products, leading CBM/PM capabilities can be added to your system.



### D509 - MVB to WLAN Gateway

The D509 is the all in one solution that combines Wireless LAN with Ethernet and MVB in one space saving device. The device consists of one galvanically isolated MVB interface with line A and B, one Ethernet interface and one WLAN interface realized with an SMA connector. The Ethernet interface is able to run various real time Ethernet protocols, whereas the WLAN can be used to realise the train to ground communication. It is fully compliant to IEEE 802.11abgn.

- High flexibility Ethernet / WLAN gateway
- Message data stack and bus administrator option available
- Freely programmable



### DAXIO3410M/E/C - Analog I/O Module

The DAXIO3410M/E/C contains a versatile set of IO channels.

- 4 digital in + out channels
- 10+6 digital input channels
- 3 analog inputs for voltage or resistive measurements

The digital outputs do not conduct back driving voltages, which allows the use in redundant configurations. All digital channels have LED status indicators. IEC61131 programming is possible. There is a version DXIO0808M/E/C available with only digital I/O's



### IONIA - Communication and Control Platform

A high performance CPU module with a real time operating system builds the core of all ionia devices. The flexible configuration of the platform allows for different combinations of communication, control, diagnostic data logging and control applications. E.g. I/O platforms for MVB, Ethernet and CAN can be realized with specific I/O numbers and types (analog, digital,...). But also communication racks with different protocols (e.g. MVB, Ethernet, CAN,...) can be realized in one space-saving device. Each ionia can be easily programmed and configured.



### D503 - MVB-Ethernet Gateway

The D503 is an MVB to Ethernet Gateway with one MVB and one or two Ethernet interfaces. The Gateway is integrated in a stainless steel housing that can be mounted on a DIN rail. The device is powered directly from the vehicle battery. It is designed for the harsh traction environment (-40°C to 70°C) and tested against EN50155/EN50121. The device can be used to get any information available on the MVB.

- Option MVB read only available
- User programmable
- Battery powered (24V - 110V)



### D507 - Ethernet to Ethernet Gateway

The D507 is an Ethernet to Ethernet gateway with two hardware Ethernet interfaces. The gateway is optimized for the different railway specific real-time protocols like: CIP, TRDP, IPTcom, PROFINET, TCP/IP. It can be used as a protocol converter or as a network separation gateway. It is also available as safety gateway that separates two Ethernet networks to each other by implementing a data diode functionality.

- Supports various Ethernet protocols
- Two separated Ethernet interfaces with two MAC addresses
- User programmable
- Battery powered (24V - 110V)



### D429L - Communication Module

The D429L module is a cost optimized version of our top-seller, the D429. It flexibly supports a broad range of communication interfaces: MVB, CAN, RS485, RS422, RS232. In case of MVB only Process Data (PD) is supported. A powerful ARM7 CPU enables customer specific communication protocols and applications. The module supports MVB EMD or ESD+ with redundant lines. Supply voltages between 24V and 110V are supported. It complies to the standards EN50155, EN50121-3-2 and IEC61375.

- Battery powered (24V - 110V)

Further products can be found on [www.duagon.com](http://www.duagon.com)