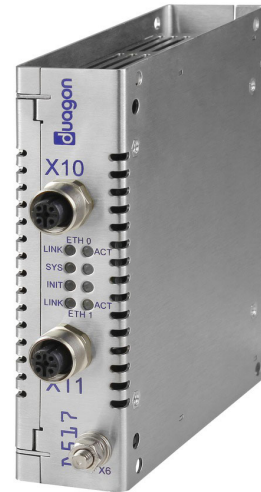


- Design-time configurable packet filter with independent filter configuration for both filter directions
- Up to 100 filter rules configurable, e.g. 50 rules for each filter direction
- Configurable rules include IP source and destination address, protocol, UDP and TCP source and destination port, TCP flags and ICMP type and code
- Supports IP fragmented packets
- Directly powered from the vehicle battery; supporting voltages ranges from 24 V up to 110 V



ETHERNET-TO-ETHERNET GATEWAY

The D517 is a secure Ethernet-to-Ethernet gateway. The integrated firewall implements a design-time configurable packet filter.

Compliant with all relevant railway standards, the D517 provides a reliable barrier between critical and non-critical network segments, significantly reducing the risk of unauthorized access and data breaches.

ADVANCED PACKET FILTERING

At the core of the D517 is an advanced packet filtering system implemented directly in FPGA logic, providing fast and efficient data processing with minimal latency. The D517 is capable of handling up to 100 customizable filtering rules based on IP addresses, protocols, and port numbers, ensuring that only authorized data passes through the network. Additionally, the system's capability to manage IP-fragmented packets via a dedicated soft-core processor ensures seamless operation even in complex network environments. This high level of configurability and processing power makes the D517 an indispensable tool for maintaining the integrity of railway communication networks.

There are two Ethernet interfaces, a serial interface and a JTAG interface for software update and debugging purposes. The Ethernet interfaces comply with IEEE 802.3.

FOR ROLLING STOCK ENVIRONMENTS

The D517 is designed for harsh rolling stock environment and complies with the EN 50155, EN 50121, and IEC 61373 standards: it withstands -40 °C to +70 °C ambient temperatures, is coated against humidity and provides enhanced EMI and vibration robustness.

The gateway is integrated in a stainless-steel housing that is mounted on a DIN rail. The device is powered directly from the vehicle battery supporting voltages ranges from 24 V up to 110 V.

- **Contact duagon** for custom software applications not covered by the configurable standard application.

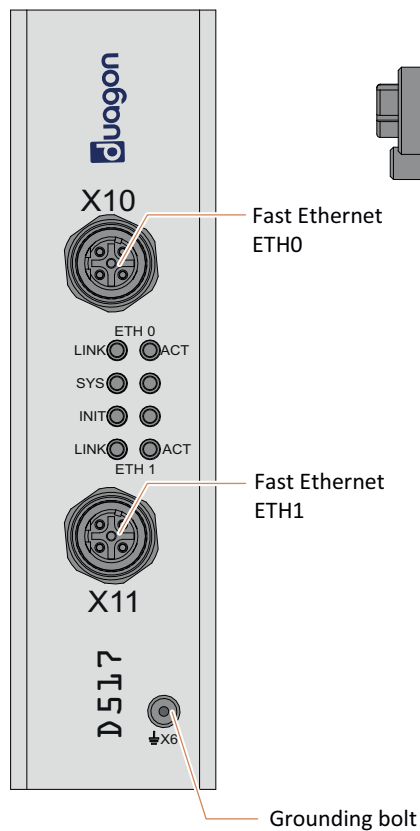


www.duagon.com/products/d517/

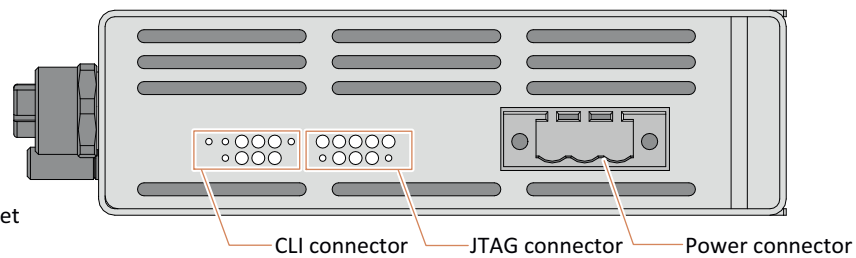
DATA SHEET

D517 | DIAGRAM

Front View



Top View



D517 | TECHNICAL DATA

ETHERNET INTERFACE FUNCTIONALITY

- General network support: IPv4
- User configuration interfaces
 - Command line interface (CLI)
 - HTTP
 - FTP

CPU

- FPGA-based soft CPU, 32-bit, 75 MHz

INTERFACES

- Ethernet
 - 2 × 10BASE-T/100BASE-TX, M12, D-coded, receptacle

- LED
 - Status: initialization, system status
 - Ethernet: link, activity

ELECTRICAL SPECIFICATIONS

- Supply voltage:
 - 24 V DC to 36 V DC nom. (EN 50155)
 - 48 V DC to 110 V DC nom. (EN 50155)
 - Power over Ethernet (PoE)
- Power consumption: 2.8 W approx. powered directly from battery

MECHANICAL SPECIFICATIONS

- Dimensions: (W) 31.6 mm, (D) 106 mm, (H) 120 mm
- Weight: 415 g approx.



PRODUCT COMPLIANCE: FUNCTIONS

- Ethernet
 - Ethernet: IEEE 802.3-2012
 - Fast Ethernet (FE): IEEE 802.3u
 - Port-based network access control: IEEE 802.1X
 - Link Layer Discovery Protocol (LLDP): IEEE 802.1AB
 - Link Aggregation Control Protocol (LACP): IEEE 802.3ad

PRODUCT COMPLIANCE: RAIL - ROLLING STOCK

- Compliance level: This product is prepared for use in EN 50155 systems. Some parameters are system-dependent and are specified on system level.

- Operating temperature: -40 °C to +70 °C, +85 °C for 10 min (EN 50155:2017, class OT4, ST1)
- Rapid temperature variations: EN 50155:2017, class H1, no requirements
- Altitude: +1800 m max. (EN 50125-1:2014, class AX)
- Shock: 30 ms @ 50 m/s² (EN 61373:2010/AC:2017-09, vehicle body, cat. 1, class B)
- Vibration: 10 min @ 1.01 m/s² (functional) and 5 h @ 5.72 m/s² (long-life) (EN 61373:2010/AC:2017-09, vehicle body, cat. 1, class B)
- Useful life: 20 years (EN 50155:2017, class L4)

D517 | ORDERING INFORMATION

ORDERING OPTIONS

1

Power Supply

- LV: 24 V to 36 V DC
- HV: 48 V to 110 V DC
- PoE: Power over Ethernet (PD)

2

Grounding Bolt

- G: with grounding bolt
- <Empty>: no grounding bolt (legacy)

D517 - X - X (final order code)

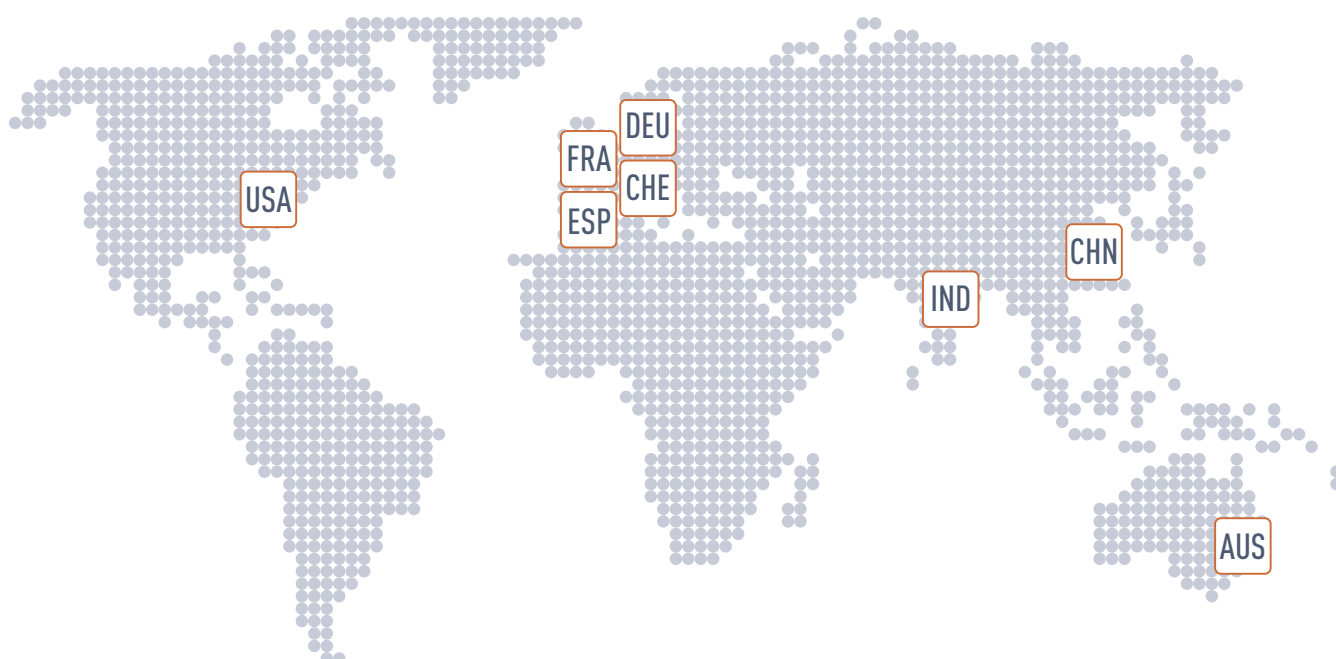
Group	Option	Note
1	PoE	Contact duagon for availability and lead times
2	G	Contact duagon for availability and lead times



LEADING THE EMBEDDED FUTURE

duagon WORLDWIDE

duagon has a global presence with support and sales representatives across eight countries. With three decentralized engineering and production sites, our customers take advantage of the added competence and flexibility.



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