

General Features

The D510 is a configurable 6-port PoE Ethernet switch for railway applications. All 6 ports can be fully configured and support 100BASE-TX/10BASE-T, Auto-Crossover, Auto-Negotiation and Auto-Polarity. They are equipped with M12 connectors to guarantee a reliable connection.

The switch can be powered from PoE (IEEE 802.3af/802.3at) or directly from any train battery voltage. QoS and VLAN allow the implementation of a performance optimised railway Ethernet network. Redundancy concepts can be realized by using the static port trunking option.

The output power on the 4 PoE ports is limited to a total of 16W (requires PoE+ if the switch is powered over the uplink port). This allows for a very compact housing with integrated DC/DC conversion that eliminates the need for an expensive external power supply.

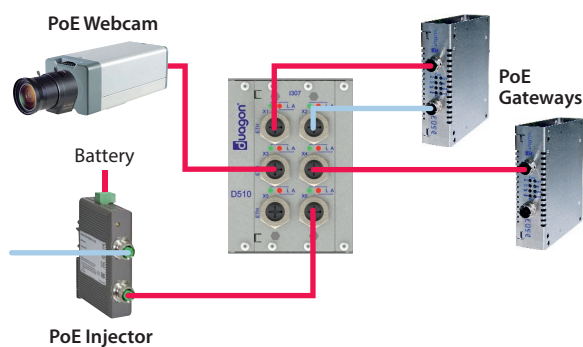
As an option, the switch can be ordered with a customer defined configuration for QoS, VLAN, port trunking, rate limiting and port settings (stored in on-board EEPROM).

The D510 is designed for harsh rolling stock environments and is fully compliant to EN50155, IEC61375 and IEEE802.3.

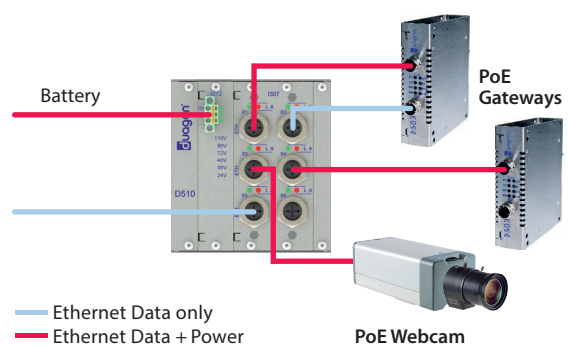


Application Examples

PoE Powered



Battery Powered



Key Benefits

- Battery voltage input (up to 110V) eliminates the need for an external power supply
- For peripheral applications: Can be powered from PoE+
- Customer specific configurations for rate limiting, filtering and prioritisation (on-board EEPROM)
- Power limitation of PoE ports allows for a very compact housing at full EN 50155 temperature range support
- Power interruption class S2: No service needed due to electrolytic capacitor free design
- Complies to IEC 61375, EN 50155, EN 50121 and IEEE 802.3

Life Cycle Cost

Total cost of ownership was focused when creating the installation, maintenance and service concept. The PoE options of the D510 reduce the number of power supplies and ca-

bling effort, leading to lower costs. Further, to avoid service expenses, the switch has strictly been designed without the usage of electrolytic capacitors.

Technical Data

Input	<ul style="list-style-type: none"> – 24–110V – Interruption Class S2 – Can be powered directly from battery (24Vdc–110Vdc) or from PoE(+) – 1.5 kVac galvanic isolation – $P_{max} = 20\text{ W}$ (16 W PoE + 4 W max. internal logic)
Technology	<ul style="list-style-type: none"> – IEEE 802.3u 10BASE-TX – IEEE 802.3 10BASE-T – Store-and-Forward processing – QoS (IEEE 802.1p / IPv4 TOS & DS) support with 4 traffic classes – 802.1Q VLAN support – Flow control (IEEE 802.3x and back pressure) – Port trunking (static configuration) – Wide options for rate limiting, filtering and prioritization
Interface	<ul style="list-style-type: none"> – 6 M12 ports – 4 × PoE 802.3af PSE class 1 – 1 × PoE+ 802.3at PD – F/H duplex mode – Auto-Negotiation, Auto-Crossing and Auto-Polarity

PoE Sourcing	– PoE output power limited to 16 W 4 × class 1 / 2 × class 2 / 1 × class 0/3
Diagnostics	<ul style="list-style-type: none"> – Port mirroring possible (static configuration) – Link- and Act-LED for every port
Operating Conditions	<ul style="list-style-type: none"> – Ambient temperature: – 40 °C to + 70 °C (EN 50155) – Relative humidity: 75%, max 95% for 30 days per year (conformal coating) EN 60068 – Shock and vibration: According to EN 61373 category 1, class B – EMI: According to EN 50121 and EN 50155
Mounting	<ul style="list-style-type: none"> – DIN Rail – 3U Rack Cassette – Anywhere (4 screw holes)
Physical Characteristics	<ul style="list-style-type: none"> – Housing: Metal, IP30 protection – Dimensions: 91.5 × 100 × 120 mm – Weight: 1.1 kg (battery powered)

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Order Code and HW Options

EXAMPLE: D510-P-HV-D

Product Type: **D510** - [] - [] - []

PoE Output	Power Supply	PoE*	Mounting
No PoE sourcing ports	PoE(+) powered		DIN rail
4 PoE ports	24 Vdc	LV	Wall
	36–48 Vdc	MV*	3U
	72 Vdc	EV*	
	96–110 Vdc	HV	

*Contact duagon for lead times and availability

Related Documents

Data Sheet D510  d-006796-nnnnnn.pdf
available at www.duagon.com

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