



# DTD

DATA DIODE  
EN 50155 RAILWAY SYSTEM  
FOR CYBERSECURITY APPLICATIONS

The DATA DIODE (or DTD) technology is a one-way unidirectional communication device that enables the secure transfer of data between two domains, with different levels of security clearance. It provides a physical barrier that blocks any traffic in one way, while allowing data to flow freely in the opposite direction.

## MAIN FEATURES

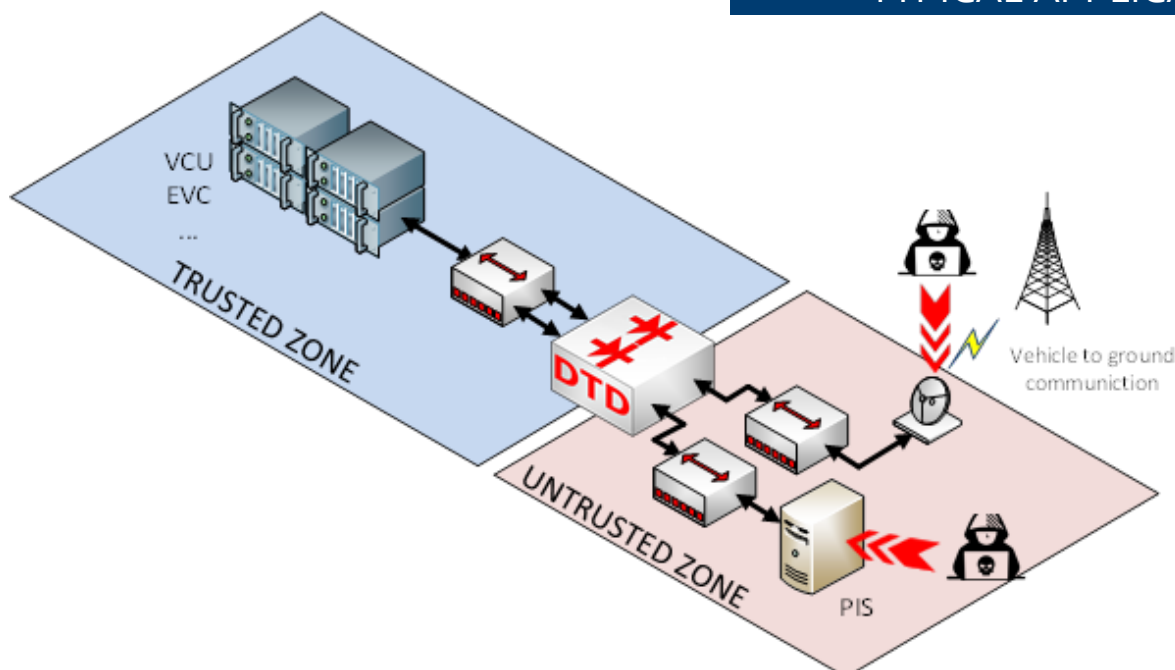
- EN 50155:2021 fully compliant
- Hardware guaranteed unidirectional traffic
- Protocol break technology
- 2x 100Mbps/s independent and isolated channels
- Low-latency transfer (250µs)
- ARP on each Ethernet interface
- Operating temperature : -40°C to +70°C
- Full range power supply : 24Vdc to 110Vdc
- 2x independent password protected maintenance ports
- Dedicated network diagnosis LEDs on each Ethernet port



## MECHANICAL INTEGRATION

- Size-1U - half 19" rack-mount solution
- Reduced weight (< 1Kg)
- All communication ports available on front panel

## TYPICAL APPLICATION



# ENVIRONMENTAL QUALIFICATION TESTS



## EMC TESTS

NF EN 61000-4-2	2009	ESD	Enclosure contact: $\pm 6$ kV Enclosure air: $\pm 8$ kV	Criterion B
NF EN 61000-4-3	2020	Radiated immunity RFI	80MHz... 1GHz: 25V/m 1.4GHz... 2.1GHz: 15V/m 2.1GHz... 2.7GHz: 5V/m 5.1GHz... 6.0GHz: 3V/m	Criterion A
NF EN 61000-4-4	2013	Fast burst	$\pm 2$ kV direct/indirect	Criterion A
NF EN 61000-4-5	2014	Transient surge	$\pm 2$ kV MC $\pm 1$ kV MD	Criterion B
NF EN 61000-4-6	2014	Conducted immunity RFI	150kHz...80MHz / 10Vrms	Criterion A
NF EN 55016-2-1	2014	Measuring conducted emissions	150kHz...500kHz 500kHz...30MHz	<99dB $\mu$ V <93dB $\mu$ V
NF EN 55016-2-3	2017	Measuring radiated emissions	30MHz...230MHz 230MHz...1GHz 1GHz...3GHz 3Ghz...6GHz	<50dB $\mu$ V/m at 3m <57dB $\mu$ V/m at 3m <76dB $\mu$ V/m at 3m <80dB $\mu$ V/m at 3m

## CLIMATIC TESTS

NF EN 60068-2-1	2007	Cold storage	-40°C 16 hours	Criterion A
NF EN 60068-2-1	2007	Cold start	-40°C	Criterion A
NF EN 60068-2-2	2007	Dry heat	+70°C / +85°C 10min	Criterion A
NF EN 60068-2-30	2006	Damp test	+55°C 95% humidity 48 hours	Criterion A
NF EN 60068-2-14	2009	Fast temperature change	-25°C / +70°C / 5 cycles	Criterion A

## FIRE PROTECTION

NF EN 45545	2020	Railway applications /Fire protection on railway vehicles		HL3
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## MECHANICAL TESTS

NF EN 60068-2-64	2008	Random vibration	5...150Hz - 1.01m/ s <sup>2</sup>	Criterion A
NF EN 60068-2-64	2008	Simulated Long Life testing	5 ... 150Hz - 7.9m/s <sup>2</sup> - XYZ 5 hours	Criterion A
NF EN 60068-2-27	2009	Shocks	50m/s <sup>2</sup> - XYZ - 30ms	Criterion A