Digital Network Video Recorder
For Rolling Stock

petards
Rail Technology

eyeTrain

eyeTrain is designed to rail group standards, and incorporates the very latest in video, storage and communications technology.
The *eyeTrain* range offers digital (IP) technology matched to the harsh environment of rolling stock applications, providing the highest performance and resilience on the market.

Specifications

General

Type	Network Video Recorder for Rolling Stock Applications
Part Number	NVR-ST-397
Form Factor	Zintec housing
Dimensions	428 mm (W) x 44 mm (H) x 280 mm (D) Excluding connectors and flanges
Weight	5 kg (with 4 Storage Modules)

Recording

Storage Type	SATA 3.0 Storage Module
Storage Capacity	20 TB (4 x 5 TB Storage Modules)

Front Panel Indicators

Power (Green)
Recording (Green)
Event in progress (Yellow)
NVR healthy (Green)
Cameras healthy (Green)
Storage modules healthy (Green)
Port 1 - Link 1 Gb/s (Green)
Port 1 - Link 100 Mb/s (Green)
Port 2 - Link 100 Mb/s (Green)

Environmental

Temperature Range	-25 °C to +55 °C (Operational T1) -5 °C to +55 °C (Recording)
Power Supply	110 V DC
Power Consumption	37 W
Ingress Protection	IP 2X

… Immunity from attenuation, interference, and crosstalk which can affect analogue signals on rail vehicles …

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Connectivity

Power — 4 Way M12 Male A Coded

Pin	Signal
1	+DC1
2	+DC2
3	0 V 1
4	0 V 2

Ethernet (1 Gb/s PoE) — 8 Way M12 Female X-Coded

Pin	Signal
1	DA +
2	DA -
3	DB +
4	DB -
5	DC +
6	DC -
7	DD +
8	DD -

Ethernet (100 Mb/s) — M12 Female D Coded

Pin	Signal
1	Eth Tx +
2	Eth Tx -
3	Eth Rx +
4	Eth Rx -

Earth Bond — M6 Stud

… a level of runtime stability and resilience not normally associated with high technology systems…

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Serial Port 1 / RS 485

9 Way Standard D-Sub Male Pins

Pin	Signal	Pin	Signal
1	n/c	6	n/c
2	RXD	7	RTS
3	TXD	8	CTS
4	n/c	9	n/c
5	n/c		

Serial Port 2 / RS 485

9 Way Standard D-Sub Male Pins

Pin	Signal	Pin	Signal
1	n/c	6	n/c
2	RXD	7	RTS
3	TXD	8	CTS
4	n/c	9	n/c
5	n/c		

Standards Compliance

Shock	EN50155:2007 12.2.11, EN61373:2010
Ingress Protection	EN60529
Damp Heat	N/A
Dry Heat	EN50155:2007 12.2.4, EN60068-2-2
Low Temperature Storage	N/A
Cooling / Low temperature	EN50155:2007 12.2.14, EN60068-2-1
Rapid Temperature Cycling	N/A
Insulation	EN50155:2007 12.2.9
Insulation Resistance	EN50155:2007 12.2.9.1, EN600092-504
Voltage Withstand	N/A
Variation of Voltage Supply	EN50155:2007 12.2.2.a
Voltage Over-voltage	EN50155:2007 12.2.6
Voltage Interruption	EN50155:2007 12.2.2.b
Earth Bonding	EN50155:2007
Reverse Polarity	N/A
Conducted Emissions	EN50155:2007 12.2.8.2, EN50121-3-2:2016, EN55016-2-1:2014
Radiated Emissions	EN50155:2007 12.2.8.2, EN50121-3-2:2016, EN61000-6-4:2007 + A1:2011
Radiated Susceptibility	EN50155:2007 12.2.8.1, EN50121-3-2:2016, EN61000-4-3:2006
Conducted Susceptibility	EN50155:2007 12.2.8.1, EN50121-3-2:2016, EN61000-4-6:2014
Fast Transient Burst Sus	EN50155:2007 12.2.7.3, EN 50121-3-2:2016, EN61000-4-4:2012
Electrostatic Discharge	EN50155:2007 12.2.7.2, EN50121-3-2:2016, EN61000-4-2:2009
Surge Immunity	EN50155:2007 12.2.7.1, EN 50121-3-2:2016, EN 61000-4-5:2006

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