

## TrainWise® Ethernet Train Switch



The TrainWise® Ethernet Train Switch (NT07) is an Ethernet Train Backbone Node (ETBN) supporting redundant backbone trainlines and multiple ports for connection to Ethernet Consist Network (ECN) switches or end devices.

The NT07 is VLAN configurable for improved network performance and security through logical segmentation and isolation of network traffic. Link aggregation is used for backbone trainline redundancy. Fail over between redundant Train Switches is managed by VRRP.

SNMP and web browser access plus port mirroring capability provide a range of monitoring and configuration options.

Product size and connectors may vary depending on configuration

## Technical compliance

Railway standards	Compliant with IEEE and IEC rail design standards (including IEEE 16 and IEC60571/ EN50155) IEC 61375-2-5 Electronic railway equipment – Train communication network (TCN) – Part 2-5: Ethernet train backbone IEC 61375-3-4 Electronic railway equipment – Train communication network (TCN) – Part 3-4: Ethernet Consist Network (ECN)
Fire, smoke and toxicity	Compliant to 49 CFR Part 238.103 guidelines and NFPA-130

## Electrical interfaces

Power supply	1	Operating voltage range: 16VDC – 90VDC
Power consumption		30 Watts (approximate)
Configuration input	4	Self-powered, jumpered in vehicle interface connector cable plug to define unit location or other identification
Status output	1	Form A, 0.5 Amp, normally open, solid state output
Status LEDs	✓	Power, Health, Link/Activity

## Options

Gbps ports	The NT07 is optionally available with Gbps Ethernet ports
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## Mechanical characteristics

Dimensions	10 in x 7 in x 4 in (25.4 cm x 17.8 cm x 10.2 cm) (approximate, including mounting flange)
Weight	4 lb (1.8 kg) (approximate)
Connectors	Ethernet: 12 x M12 D-coded; Power/Config: 2 x M12 A-coded; 1 x M8
Ingress protection	IP30

## Environmental conditions

Operating temperature	-40°F to +158°F (-40°C to +70°C)
Storage temperature	-40°F to +185°F (-40°C to +85°C)
Shock and vibration	IEC 61373; Category 1, Class A
Dielectric withstand	1.15kVAC circuit to circuit and circuit to chassis

## Protocols and features

Virtual networking	Virtual Local Area Network (VLAN) 802.1Q
Traffic prioritization	Quality of Service (QoS) 802.1p
Redundancy	Rapid Spanning Tree Protocol (RSTP) 802.1w
Monitoring	Simple Network Management Protocol (SNMP); port mirroring
Configuration	Web-browser; SNMP

## Electromagnetic compatibility

Surge immunity	IEC 62236-3-2, Table 7
Conducted emissions	IEC 62236-3-2, Table 3, 4, & 5
Conducted immunity	IEC 62236-3-2, Table 7 & 8
Radiated emissions	IEC 62236-3-2, Table 6
Radiated immunity	IEC 62236-3-2, Table 9 (with RF susceptibility verified to 6 GHz)
Electrical fast transient	IEC 62236-3-2, Table 7 & 8
Electrostatic discharge	IEC 62236-3-2, Table 9