

# 12-port train switch with dual bypass relay

## RFR-12-FB



- ⌘ One model for worldwide deployment
  - 24-110 VDC; interruption, over- and under voltage compliancy according EN50155
  - Ambient temperature -40°C (-40°F) to +70°C (158°F)
  - 85°C(185°F) dry heat compliant according EN50155
- ⌘ Designed for extreme environments
  - Dual bypass relay to mitigate powerless car scenario
  - 10g according IEC 61373 Cat. 1 Class B
  - LACP for aggregated and redundant backbone support
- ⌘ Externally tested and verified to EN50155
  - Surge resistance and Isolation
  - Magnetic Field Immunity
  - Conducted Emission
- ⌘ Comprehensive management features
  - WeOS™ operating system with CLI, web, FTP and USB configuration
  - Traffic and node management with VLAN, IGMP Snooping, DHCP Server and DHCP option 82
  - Routing and resilience mitigation with OSPFv2, VRRP, RIPv1/2, and NAT
  - Enhanced cyber security with 802.1X, VPN and firewall



The RFR-12-FB is a rugged Ethernet switch designed for applications with severe operating conditions and enhanced resilience demands.

With an ultra robust design, vibration resistant to military standards and a dual failsafe bypass relay these units are ideal for situations where mechanical stress, moisture, condensation, dirt or continuous vibrations could adversely affect the function of standard Ethernet switches.

Fully approved for onboard rolling stock, these units can be deployed in trains, trams, busses, mining trucks, army vehicles and drilling rigs.

Our unique FRNT technology is the fastest and most robust protocol on the market to re-configure a large network in the event of any link or hardware failure. RFR-12-FB also supports STP/RSTP in case of need for standard protocol.

For redundant backbone solutions the integrated LACP support ensures a safe connection that provides another redundancy layer on top of the bypass relay function.

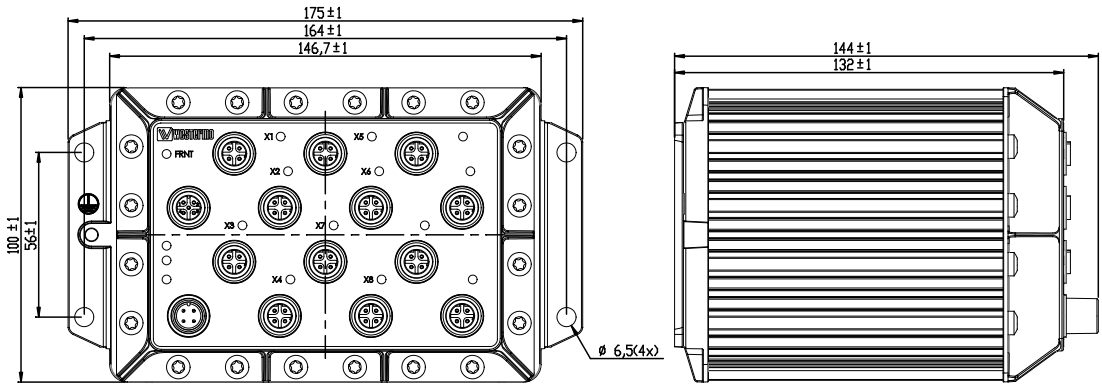
You can safely access your switch from anywhere in the network, or directly to the product via a console port. The HTTPS secured web configuration interface has been designed 'Made Easy', setting up a redundant ring or a VLAN is just a few clicks away. For more advanced configuration, you will find an SSH encrypted industry standard CLI which allows extremely detailed settings. For safe handling and MIB readout the switch is also equipped with SNMPv3.

### Ordering Information

Art.no	Description
3641-1620	RedFox-Rail 12 port Train Switch with dual bypass relay

# Specifications RFR-12-FB

## Dimensional drawing



Dimension W x H x D 175 x 100 x 144 mm (6.88 x 3.93 x 5.66 inch)

Weight 1950 g

Degree of protection IP 65

Power	
Operating voltage	14.4 to 154 VDC
Rated current	420 mA @ 24 VDC 98 mA @ 110 VDC

Interfaces	
Ethernet TX (both switch, router and coupler ports)	12 x 10/100 Mbit/s (4 for bypass capability)
Configuration plug	1 x 12 Mbit/s USB

Temperature	
Operating	-40 to +70°C
Storage & Transport	-40 to +85°C

Agency approvals and standards compliance	
EMC	EN 50155, Railway applications-Electronic equipment used on rolling stock
Safety	EN 60950-1, IT equipment