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Product: Rail Data Diode LV Train

Data Diode for 24 V operating voltage with train approvals

Product Description

The RDD20 devices consist of 2 independent DATA IN and DATA OUT routers. Within the device there is a continuous unidirectional data connection (100 Mbit/s) from DATA IN to DATA OUT for the data transmission. Due to the security requirements, data transmission is only possible from DATA IN to DATA OUT. Data Diode for 24 V operating voltage with train approvals

Technical Specifications

Product description

Type:	Rail Data Diode LV Train (Product Code: RDD20-1400A-EUUS999HHE3SXX.X.XX)
Name:	Rail Data Diode LV Train
Software Version:	HiOS 09.0.09
Part Number:	942197003
Port Type and Quantity:	14 ports in total, thereof 6 x M12 "D"-coded and 8 x RJ45

Product Life Cycle

Last Order Date:	2026-01-31
Last Delivery Date:	2026-04-30
Last Service Date:	2031-04-30

More Interfaces

Power supply/signaling contact:	2 x plug-in terminal block, 2- pin / 1 x plug-in terminal block, 2-pin
V.24 interface:	2 x RJ11 socket
SD-card slot:	2 x SD card slot for Autoconfiguration Adapter ACA31

Network size - length of cable

Twisted pair (TP):	0-100 m

Network size - cascadibility

Line - / star topology:	any

Power requirements

Operating Voltage:	2 x 24 VDC (16,8 .. 32 VDC)
Power consumption:	23 W

Software

Switching:	Independent VLAN Learning, Fast Aging, Static Unicast/Multicast Address Entries, QoS / Port Prioritization (802.1D/p), TOS/DSCP Prioritization, Interface Trust Mode, CoS Queue Management, IP Ingress DiffServ Classification and Policing, Queue-Shaping / Max. Queue Bandwidth, Flow Control (802.3X), Egress Interface Shaping, Ingress Storm Protection, Jumbo Frames, VLAN (802.1Q), Protocol-based VLAN, VLAN Unaware Mode, Voice VLAN, MAC-based VLAN, IP subnet-based VLAN, IGMP Snooping/Querier per VLAN (v1/v2/v3), Unknown Multicast Filtering, Multiple VLAN Registration Protocol (MVRP), Multiple MAC Registration Protocol (MMRP), Multiple Registration Protocol (MRP), Layer 2 Loop Protection
Redundancy:	HIPER-Ring (Ring Switch), HIPER-Ring over Link Aggregation, Link Aggregation with LACP, Link Backup, Media Redundancy Protocol (MRP) (IEC62439-2) - Redundancy Manager, Media Redundancy Protocol (MRP) (IEC62439-2) - Redundancy Client, MRP over Link Aggregation, Sub Ring Manager, RSTP 802.1D-2004 (IEC62439-1), RSTP Guards, VRRP, VRRP Tracking, HiVRRP (VRRP enhancements), Redundant Network Coupling
Management:	DNS Client, Dual Software Image Support, TFTP, SFTP, SCP LLDP (802.1AB), LLDP-MED, SSHv2, V.24, HTTP, HTTPS, Traps, SNMP v1/v2/v3, Telnet, OPC-UA Server

Diagnostics:	Management Address Conflict Detection, MAC Notification, Signal Contact, Device Status Indication, TCPDump, LEDs, Syslog, Persistent Logging on ACA, Email Notification, Port Monitoring with Auto-Disable, Link Flap Detection, Overload Detection, Duplex Mismatch Detection, Link Speed and Duplex Monitoring, RMON (1,2,3,9), Port Mirroring 1:1, Port Mirroring 8:1, Port Mirroring N:1, RSPAN, SFLOW, VLAN Mirroring, System Information, Self-Tests on Cold Start, Copper Cable Test, SFP Management, Configuration Check Dialog, Switch Dump, Snapshot Configuration Feature
Configuration:	Automatic Configuration Undo (roll-back), Configuration Fingerprint, Text-based Configuration File (XML), BOOTP/DHCP Client with Auto-Configuration, DHCP Server: per Port DHCP Server: Pools per VLAN, AutoConfiguration Adapter ACA31 (SD card), HiDiscovery, DHCP Relay with Option 82, Command Line Interface (CLI), CLI Scripting Full-featured MIB Support, Web-based Management Context-sensitive Help, Backup config on a remote server when saving, Clear config but keep IP settings, CLI script handling over ENVM at boot, HTML5 based Management
Security:	MAC-based Port Security, Port-based Access Control with 802.1X, Guest/unauthenticated VLAN, Integrated Authentication Server (IAS), RADIUS VLAN Assignment, RADIUS Policy Assignment, Multi-Client Authentication per Port, MAC Authentication Bypass, DHCP Snooping, Dynamic ARP Inspection, Automatic Denial-of-Service Prevention, LDAP, Ingress MAC-based ACL, Ingress IPv4-based ACL, Time-based ACL, VLAN-based ACL, Ingress VLAN-based ACL, ACL Flow-based Limiting, Access to Management restricted by VLAN, Device Security Indication, Audit Trail, CLI Logging, HTTPS Certificate Management, Restricted Management Access, Appropriate Use Banner, Configurable Password Policy, Configurable Number of Login Attempts, SNMP Logging, Multiple Privilege Levels, Local User Management, Remote Authentication via RADIUS, User Account Locking, Password change on first login
Time synchronisation:	PTPv2 Transparent Clock two-step, PTPv2 Boundary Clock, Buffered Real Time Clock, SNTP Client, SNTP ServerPTPv2 Transparent Clock two-step, PTPv2 Boundary Clock, Buffered Real Time Clock, SNTP Client, SNTP Server
Miscellaneous:	Port Power Down, Manual Cable Crossing
Routing:	IP/UDP Helper, Full Wire-Speed Routing, Port-based Router Interfaces, VLAN-based Router Interfaces, Loopback Interface, ICMP Filter, Net-directed Broadcasts, OSPFv2, RIP v1/v2, ICMP Router Discovery (IRDP), Static Unicast Routing, Proxy ARP, Static Route Tracking

Ambient conditions

MTBF (Telcordia SR-332 Issue 3) @ 25°C:	159.3 h
Operating temperature:	-40-+70 °C
Minimum Storage Temperature:	-40-+85 °C
Relative humidity (non-condensing):	5-95 %

Mechanical construction

Dimensions (WxHxD):	146 mm x 164 mm x 120 mm
Weight:	2200 g
Mount Type:	DIN Rail
Protection class:	IP20

Mechanical stability

IEC 60068-2-6 vibration:	Operating: 5 Hz .. 150 Hz, broadband noise vertical: 1,0 m/s² (rms) horizontal: 0,7 m/s² (rms), not operating: 5 Hz .. 150 Hz, broadband noise vertical: 7,9 m/s² (rms) horizontal: 5,5 m/s² (rms)
IEC 60068-2-27 shock:	vertical: 30 m/s², 30 ms, horizontal: 50 m/s², 30 ms

EMC interference immunity

EN 61000-4-2 electrostatic discharge (ESD):	6 kV contact discharge, 8 kV air discharge
EN 61000-4-3 electromagnetic field:	20 V/m (80 .. 1000 MHz), 10 V/m (1400 .. 2000 MHz), 5 V/m (2000 .. 2700 MHz), 3 V/m (5100 .. 6000 MHz)
EN 61000-4-4 fast transients (burst):	2 kV power line, 2 kV data line
EN 61000-4-5 surge voltage:	2 kV (line / ground), 1 kV (line / line) power supply 2 kV (line/earth) data line
EN 61000-4-6 Conducted Immunity:	10 V (150 kHz .. 80 MHz)
EN 61000-4-16 mains frequency voltage:	300 A/m

EMC emitted immunity

EN 55032:	EN 55032 Class A
EN 55022:	EN 55022 Class A
FCC CFR47 Part 15:	FCC 47CFR Part 15, Class A

Approvals

Basis Standard:	CE, EN 60131-2
Safety of industrial control equipment:	EN 60950-1
Transportation:	EN50121-4, EN51055, EN 45545-2

Reliability

Guarantee:	60 months (please refer to the &lta href="https://assets.belden.com/m/1424ddb7a3280e7a/original/Hirschmann-Automation-and-Control-GmbH-Terms-of-Guarantee.pdf"terms of guarantee &lt/afor detailed information)

Scope of delivery and accessories

Accessories to Order Separately:	Terminal cable 943 301-001; AutoConfiguration Adapter ACA31 942 074-001; Network management software Industrial HiVision 943 156-xxx ; 3-pin terminal block for supply voltage (50 pieces) 943 845-008 ; 2-pin terminal block for signal contact (50 pieces.) 943 845-010 ; Power Cord 942 000-001; Protection cap for RJ45 socket (50 pieces) 943 936-001; Dust-Cover set for M12 socket, metal (25 pcs.) 942 057-001 ; Dust-Cover set for M12 socket, plastic (25 pcs.) 942 057-002
Scope of delivery:	Device, terminal blocks, general safety instructions

Further Instructions

Product Documentation:	https://www.doc.hirschmann.com
Certificates:	https://www.doc.hirschmann.com/certificates.html
Software Download:	https://my.belden.com/s/downloads

History

Update and Revision:	Revision Number: 0.157 Revision Date: 11-18-2025

Variants

Item #	Type
942197003	Rail Data Diode LV Train

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