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

<table>
<thead>
<tr>
<th>Type</th>
<th>Rail Data Diode LV Train (Product Code: RDD20-1400A-EUUS999HHE3SXX.X.XX)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Name</td>
<td>Rail Data Diode LV Train</td>
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<tr>
<td>Software Version</td>
<td>HiOS 09.0.06</td>
</tr>
<tr>
<td>Part Number</td>
<td>942197003</td>
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<tr>
<td>Port type and quantity</td>
<td>14 ports in total, thereof 6 x M12 &quot;D&quot;-coded and 8 x RJ45</td>
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</tbody>
</table>

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 Uncast/Multicast Address Entries, ToS / 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), Jumbo Frames, 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) 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, Tethet, 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), HDisccovery, 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 saveing, Clear config but keep IP settings, CLI script handling over ENVM at boot, HTML5 based Management |
**Security:**
- Port Power Down, Manual Cable Crossing

**Time synchronisation:**
- PTPv2 Transparent Clock two-step, PTPv2 Boundary Clock, Buffered Real Time Clock, SNTP Client, SNTP Server

**Miscellaneous:**

**Routing:**
- IPv4/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 (Telecordia SR-332 Issue 3) @ 25°C: 159.3 h
- Operating temperature: -40 to +70 °C
- Storage/transport temperature: -40 to +85 °C
- Relative humidity (non-condensing): 5-95 %

**Mechanical construction**
- Dimensions (WxHxD): 146 mm x 164 mm x 120 mm
- Weight: 2200 g
- Mounting: 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

**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 terms of guarantee for detailed information)

**Scope of delivery and accessories**
- Accessory 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

<table>
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<tr>
<th>Product Documentation:</th>
<th><a href="https://www.doc.hirschmann.com">https://www.doc.hirschmann.com</a></th>
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## History

Update and Revision: Revision Number: 0.122 Revision Date: 01-02-2024

## Variants

<table>
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