

LineRunner IS-3420/IS-3421

Features

- State-of-the-Art technology for the specific tasks in smart grids, in future-proof telecontrol and in mission-critical networks
- Ideal transmission technology for IEC 60870-5-101, -104 and IEC 61850
- Existing, with serial protocols communicating RTUs can further be operate and connected with the serial tunnel or the protocol converter function
- DSL connections via copper pairs with a data rate of 192 to 11,400 kbps
- Automatic rate adaption to the line quality
- Up to 25 km transmission distance (at 0.8 mm wire diameter)
- Monitoring of signal quality on the copper line
- 4 port 100 Mbps Ethernet switch with QoS, Spanning Tree, and VLANs
- Optional InterVLAN routing and multiple IP addresses
- Support of redundant network structures via rings and/or parallel paths
- Remote management, configuration, and monitoring via IP
- Portable configuration stick for backup of configuration and easy unit exchange
- Two RS-232 interfaces (optional RS-485) for configuration and/or transmission (tunneling) of serial telecontrol protocols
- Configurable alarm contact
- Integrated overvoltage protection
- Low power consumption, extended temperature range, no mechanical components
- Remote powering with LineRunner SCADA NG RFS and RPS



Additional Information

- Compact housing for DIN-rail mounting, made of plastic (IS-3420) or metal (IS-3421)
- Dimensions (WxHxD): IS-3420 (68 x 99 x 114.5mm), IS-3421 (87 x 99,3 x 105.3mm)
- Wide range power supply: Input voltage nominal (min/max) +24...+60VDC (+20...+72VDC)
- LED-indication at the front panel
- All connections realized with plug connectors

Supported Protocols (Selection)

- Ethernet according IEEE 802.3 / IEEE 802.3u (10Base-T / 100Base-TX)
- SDSL according to ETSI TS 101 524 and SHDSL according to ITU-T G.991.2
- Telnet, Secure Shell (SSH) and Web access for remote management
- Trivial File Transfer Protocol (TFTP) for transmission of firmware and configuration
- Simple Network Management Protocol (SNMP)
- Simple Network Time Protocol (SNTP) for clock synchronisation
- Syslog for central logging of events
- Link Layer Discovery Protocol (LLDP) acc. to IEEE 802.1AB for neighbor detection
- Hypertext Transfer Protocol (HTTP) for easy configuration using the integrated webserver
- Rapid and Multiple Spanning Tree Protocol acc. to IEEE 802.1D and IEEE 802.1Q
- Network access control acc. to IEEE 802.1X

Further Information:

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Technical Data

Switch

- Non-Blocking Wire-Speed Switch
- QoS by Port, IEEE802.1p und TOS/DS
- VLAN support
- 2k MAC addresses
- Modus Store & Forward, Transparent Bridge

Supported Standards & Protocols

- AutoMDIX Auto-Crossover
- ETSI SDSL.bis (ETSI TS 101 524 V1.2.2)
- IEC 60870-5-101, and -104 Telecontrol equipment and systems – transmission protocols
- IEEE 802.1AB-2005 Link Layer Discovery Protocol
- IEEE 802.1D-2004 MAC Bridges / Rapid Spanning Tree, contains IEEE 802.1w-2001, IEEE 802.1t-2001, and IEEE 802.1D-1999
- IEEE 802.1Q-2011 Multiple Spanning Tree Protocol
- IEEE 802.1p Class of Service, IEEE 802.1Q-2005 Virtual Local Area Network
- IEEE 802.1X-2004 Port based Network Access Control
- IEEE 802.3-2005 Cl. 14 Ethernet
- IEEE 802.3-2005 Cl. 25 Fast Ethernet, contains IEEE 802.3u-1996
- IEEE 802.3-2005 Cl. 28 Auto-Negotiation (NWAY)
- IEEE 802.3-2005 An. 31B flow control, contains IEEE 802.3x-1998
- IEEE 802.3-2005 Cl. 63 Ethernet in the First Mile (EFM/2BASE-TL), contains IEEE 802.3ah-2005
- ITU G.991.2-2004 HDLC for Packet, G.shdsl.bis
- ITU G.994.1 G.hs
- RFC 768 UDP, RFC 791 IP, RFC 792 ICMP
- RFC 793 TCP, RFC 826 ARP, RFC 854 Telnet
- RFC 1058 RIP, RFC 1122 Requirements for Internet Hosts
- RFC 1155 Structure and Identification of Management Information for TCP/IP-based Internets
- RFC 1156 Management Information Base for Network Management of TCP/IP-based Internets
- RFC 1157 SNMP
- RFC 1213 Management Information Base for Network Management of TCP/IP-based Internets: MIB-II (replaces RFC 1158)
- RFC 1350 TFTP Rev. 2 (replaces RFC 783)
- RFC 1519 Classless Interdomain Routing
- RFC 1812 Requirements for IP Version 4 Routers
- RFC 2616 HTTP/1.1 (replaces RFC 2068), W3C HTML 4.01 / CSS Level 3
- RFC 2388 VRRP
- RFC 2453 RIP Version 2 (replaces RFC 1723 and RFC 1388)
- RFC 3164 The BSD Syslog Protocol
- RFC 4330 SNTP (replaces RFC 2030 and RFC 1769)
- RFC-4254 and RFC-5251 SSHv3

Environment

- Operating temperature -25 – 70 °C
- rel. humidity 5...95%
(non-condensing)

Electromagnetic Compatibility

- Emission IEC 55011
 - Power Supply (cond.) Class A
 - Field Strength (radiated) Class A
- Electrostatic Discharge IEC 61000-4-2
 - 8 kV Air, 6 kV Contact Criteria A

- Electromagnetic Immunity IEC 61000-4-2
 - 80 MHz to 3 GHz Criteria A
- Surge & Burst Immunity IEC 61000-4-3 und -4
 - Surge 4 kV Criteria A
 - Burst 4 kV Criteria A
- Immunity Conducted Disturbances IEC 61000-4-6
 - 10 V, 0.15 MHz to 80 MHz, 80% AM 1 kHz Criteria A
- Magnetic field immunity IEC 61000-4-8
 - Criteria A
- Immunity Mains Frequency IEC 61000-4-16
 - 300 V Criteria A
- Immunity Osc. Wave IEC 61000-4-18
 - 2.5 kV Criteria A