



Product information Modular OpenRail Fast Ethernet switch 8-24 ports - MS20-1600SAAPHH08.0.

Industrial Ethernet:Modular Industrial Switches:Configurable modular switches:with Firmware Release 8:Modular OpenRail Fast Ethernet switch 8-24 ports

<http://www.e-catalog.beldensolutions.com/link/57078-24455-49860-49861-374205-374206/en/MS20-1600SAAPHH08.0./uistate>

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| Name | Modular OpenRail Fast Ethernet switch 8-24 ports |
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| | 16 port Fast Ethernet switch, managed, software Layer 2 Professional, for DIN rail store-and-forward-switching, fanless design |
| Delivery informations | |
| Availability | available |
| Product description | |
| Description | 16 port Fast Ethernet switch, managed, software Layer 2 Professional, for DIN rail store-and-forward-switching, fanless design |
| Port type and quantity | Fast Ethernet ports in total: 16; Gigabit Ethernet ports: 0 |
| Type | MS20-1600SAAPHH08.0. |
| Order No. | 943 435-004 |
| More Interfaces | |
| Power supply/signaling contact | 2 x plug-in terminal block, 4-pin |
| V.24 interface | 1 x RJ11 socket |
| USB interface | 1 x USB to connect the AutoConfiguration Adapter ACA21-USB |
| Network size - cascading | |
| Line - / star topology | any |
| Ring structure (HIPER-Ring) quantity switches | 50 (reconfiguration time < 0.3 sec.) |
| Power requirements | |
| Operating voltage | 24 V DC (18-32) V |
| Current consumption at 24 V DC | 500 mA |
| Current consumption at 48 V DC | 325 mA |
| Power output in Btu (IT) h | 41.0 |
| Software | |
| Management | Serial interface, web-interface, SNMP V1/V2, HiVision file transfer SW HTTP/TFTP, LLDP-MED |
| Diagnostics | LEDs, log-file, syslog, relay contact, RMON, port mirroring 1:1 and n:1, egress/ingress traffic configurable, topology discovery 802.1AB, cable tester (TX), address conflict detection, network error detection, SFP diagnostic [temperature, optical input and output power (µW and dBm)], Trap for configuration saving and changing, duplex mismatch detection, disable learning, Port Monitor |
| Configuration | Command line interface (CLI), TELNET, BootP, DHCP, DHCP option 82, HiDiscovery, easy device exchange with auto-configuration adapter ACA21-USB (automatic software and/or configuration upload), automatic script load from ACA21, integrated DHCP server per port, DHCP relay, automatic invalid configuration undo, Offline Configuration, SFP Whitelist, ARC automatic ring configuration (MRP), automatic port shutdown (link flapping), configuration signature (water marking), overload detection |
| Security | Port Security (IP und MAC) with multiple addresses (MAC 50 per port), SNMP V3, SSHv2, Authentication (IEEE802.1x), 802.1x Multi Client Authentication, Guest VLAN and Unauthenticated VLAN, Port based Radius VLAN assignment, Login Banner |
| Redundancy functions | HIPER-Ring, Fast HIPER-Ring, MRP, MSTP, RSTP - IEEE802.1D-2004, MRP and RSTP in parallel, link aggregation, multiple rings |
| Filter | QoS 4 classes, prioritisation (IEEE 802.1D/p), VLAN (IEEE 802.1Q), Voice VLAN, shared VLAN learning, Q-in-Q double VLAN tagging, multicast IGMP v1/v2/v3 (snooping/querier), multicast detection unknown multicast, broadcast-, unicast-, multicast limiter, fast aging, GMRP IEEE 802.1D |
| Industrial Profiles | EtherNet/IP and PROFINET (2.2 PDEV, GSDML stand-alone generator, automatic device exchange) profiles included, configuration and diagnostic via automation software tools like e.g. STEP7, or Control Logix |
| Time synchronisation | SNTP Server, PTP / IEEE 1588, realtime clock with energy buffer |
| Flow control | Flow control 802.3x, port priority 802.1D/p, priority (TOS/DIFFSERV), prio (MAC/IP), prio mapping (TOS Layer2), traffic shaping (unicast, multicast, broadcast) ingress / egress |
| Presettings | Standard |
| Ambient conditions | |
| Operating temperature | 0 °C ... 60 °C |
| Storage/transport temperature | -40 °C ... 70 °C |



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| Relative humidity (non-condensing) | 10 % ... 95 % |
| MTBF | 34.2 years (MIL-HDBK-217F) |
| Protective paint on PCB | No |
| Mechanical construction | |
| Dimensions (W x H x D) | 202 mm x 133 mm x 100 mm (140 at 48V module) |
| Mounting | DIN Rail |
| Weight | 880 g |
| Protection class | IP20 |
| Mechanical stability | |
| IEC 60068-2-27 shock | 15 g, 11 ms duration, 18 shocks |
| IEC 60068-2-6 vibration | 1 mm, 2 Hz-13.2 Hz, 90 min.; 0.7 g, 13.2 Hz-100 Hz, 90 min.; 3.5 mm, 3 Hz-9 Hz, 10 cycles, 1 octave/min.; 1 g, 9 Hz-150 Hz, 10 cycles, 1 octave/min |
| EMC interference immunity | |
| EN 61000-4-2 electrostatic discharge (ESD) | 6 kV contact discharge, 8 kV air discharge |
| EN 61000-4-3 electromagnetic field | 10 V/m (80-1000 MHz) |
| EN 61000-4-4 fast transients (burst) | 2 kV power line, 1 kV data line |
| EN 61000-4-5 surge voltage | power line: 2 kV (line/earth), 1 kV (line/line), 1 kV data line |
| EN 61000-4-6 conducted immunity | 3 V (10 kHz-150 kHz), 10 V (150 kHz-80 MHz) |
| EMC emitted immunity | |
| FCC CFR47 Part 15 | FCC 47 CFR Part 15 Class A |
| EN 55022 | EN 55022 Class A |
| Approvals | |
| Safety of industrial control equipment | cUL 508 |
| Hazardous locations | ISA 12.12.01 Class 1 Div. 2 |
| Shipbuilding | n/a |
| Transportation | NEMA TS2 |
| Scope of delivery and accessories | |
| Scope of delivery | Device, 2 x terminal block, operating manual, CD |

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