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Product information Modular OpenRail Fast Ethernet switch 8-24 ports - MS20-1600SAAPH08.0.

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/MS20-1600SAAPH08.0/ui/state>

Name	Modular OpenRail Fast Ethernet switch 8-24 ports
	
	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	MS20-1600SAAPH08.0.
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 PDE, 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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