



Product information
Modular OpenRail Fast Ethernet switch
8-24 ports -MS20-1600SAAPH08.0.
934 435-004

Name	
Name	Modular OpenRail Fast Ethernet switch 8-24 ports
Delivery informations	
Availability	not yet 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 (μ W and dBm)], Trap for configuration saving and changing, duplex mismatch detection, disable learning, Port Monitor
Configuration	Comand 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
Railway norm		n/a
Substation		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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