



Data sheet MACH1000, 2-24 ports Fast Ethernet PoE switch - ports on rear - MAR1122- CCTTTTTTMMMMMMMMMMMM9999999999UMMHPH05.0.

Industrial Ethernet:Ruggedized Switches:Fast/Gigabit Ethernet Control Cabinet Switches:PoE Control Cabinet Switches:MACH1000, 2-24 ports Fast Ethernet PoE switch - ports on rear

Name		MACH1000, 2-24 ports Fast Ethernet PoE switch - ports on rear
		
Delivery informations		
Document created at	09-08-2010	
Availability	available	
Product description		
Description	Ethernet/Fast Ethernet-switch, Power over Ethernet 4 ports, managed, industrial switch 19" cabinet mount, store-and-forward-switching, fanless design, software layer 2 professional.	
Port type and quantity	Fast-Ethernet ports in total: 16 x ports in total; 6 x Twisted Pair; 10 x Multimode SC;	
Type	MAR1122-CCTTTTTTMMMMMMMMMMMM9999999999UMMHPH05.0.	
Order No.	MAR1122-CCTTTTTTMMMMMMMMMMMM9999999999UMMHPH05.0.	
More interfaces		
V.24 interface	1 x RJ11 socket	
USB interface	1 x to connect auto-configuration adapter ACA21-USB	
Network size - length of cable		
Twisted pair (TP)	0 m - 100 m	
Multimode fiber (MM) 50/125 µm	0 - 5000 m, 8 dB Link Budget at 1300 nm, A = 1 dB/km, 3 dB reserve, B = 800 MHz x km and cf. SFP modules M-SFPxx	
Multimode fiber (MM) 62.5/125 µm	0 - 4000 m, 11 dB Link Budget at 1300 nm, A = 1 dB/km, 3 dB reserve, B = 500 MHz x km and cf. SFP modules M-SFPxx	
Single mode fiber (SM) 9/125 µm	cf. SFP modules M-SFPxx	
Single mode fiber (LH) 9/125 µm (long haul transceiver)	cf. SFP modules M-SFPxx	
Network size - cascading		
Line - / star topology	Any	
Ring structure (HIPER-Ring) quantity switches	100 switches	
Power requirements		
Operating voltage	Power supply 1: 120/250 VDC, 110/230 VAC; Power supply 2: 120/250 VDC, 110/230 VAC	
Current consumption at 230 V AC	Power supply 1 and 2: 150 mA (35W) max, if all ports are equipped with fiber	
Software		
Management	Serial interface, Web interface, SNMP V1/V2, HiVision file transfer SW HTTP/TFTP	
Diagnostics	LEDs, log-file, syslog, signal contact, RMON, port mirroring, topology discovery 802.1AB, Configuration Check, cable diagnostic (TX), disable learning	
Configuration	Command line interface (CLI), TELNET, BootP, DHCP, DHCP option 82, HiDiscovery, auto-configuration adapter (ACA21-USB), watchdog configuration	
Security	Port security (IP und MAC), SNMP V3, SSH, authentication (802.1x), radius authentication for SNMPv3 (web)	
Redundancy functions	HIPER-ring (ring structure), MRP (IEC-ring functionality), RSTP 802.1D-2004, redundant network/ring coupling, MRP and RSTP in parallel, link aggregation, redundant 24 V power supply	
Filter	QoS 4 classes, port prioritisation (IEEE 802.1D/p), VLAN (IEEE 802.1Q), shared VLAN learning, Multicast (IGMP Snooping/Querier), Multicast Detection unknown Multicast, Broadcastlimiter, Fast Aging, Multicast 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, 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	
Ambient conditions		
Operating temperature	-40 °C - 85 °C	
Storage/transport temperature	-40 °C - 85 °C	
Relative humidity (non-condensing)	10 % - 95 %	



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Protective paint on PCB	No
Mechanical construction	
Dimensions (W x H x D)	445 mm x 44 mm x 308 mm
Mounting	19" control cabinet
Weight	appr. 5 kg
Protection class	IP30
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.; 0.7g, 13.2 Hz - 100 Hz, 90 min.; 3.5 mm, 3 Hz - 9 Hz, 10 cycles, 1 octave/min.; 1g, 9 Hz - 150 Hz, 10 cycles, 1 octave/min.
EMC interference immunity	
EN 61000-4-2 electrostatic discharge (ESD)	8 kV contact discharge, 15 kV air discharge
EN 61000-4-3 electromagnetic field	35 V/m (80 - 2700 MHz); 1kHz, 80% AM
EN 61000-4-4 fast transients (burst)	4 kV power line, 4 kV data line
EN 61000-4-5 surge voltage	Power line: 2 kV (line/earth), 1 kV (line/line), 1 kV data line IEC61000-4-5: power line 5kV (line/earth)
EN 61000-4-6 conducted immunity	2,5 kV (line/earth), 1 kV (line/line) (1MHz)
EN 61000-4-16 mains frequency voltage	30V, 50Hz continuous; 300V, 50Hz 1s
EMC emitted immunity	
FCC CFR47 Part 15	FCC CFR47 Part 15 Class A
EN 55022	EN 55022 Class A
Approvals	
Safety of industrial control equipment	cUL 508 (pending)
Hazardous locations	cUL 1604 Class1 Div 2 (pending)
Germanischer Lloyd	Germanischer Lloyd (in preparation)
Substation	IEC 61850-3; IEEE 1613
Scope of delivery and accessories	
Scope of delivery	Device, operating manual