




Product information MACH1000, Full Gigabit Ethernet switch 16 ports - MAR1040-4C4C4C4C9999SM9HPHH07.0.

Industrial Ethernet:Ruggedized Switches:Fast/Gigabit Ethernet Control Cabinet Switches:Full Gigabit Ethernet control cabinet switches:with Firmware Release 7:MACH1000, Full Gigabit Ethernet switch

16 ports

<http://e-catalog.hirschmann.com/link/57078-24455-49846-49997-82828-173144-173174/en/MAR1040-4C4C4C4C9999SM9HPHH07.0./uistate>

Name	MACH1000, Full Gigabit Ethernet switch 16 ports
	
	Ethernet/Fast Ethernet/Gigabit Ethernet switch, managed, Industrial Switch 19" rack mount, fanless design
Delivery informations	
Availability	available
Product description	
Description	Ethernet/Fast Ethernet/Gigabit Ethernet switch, managed, Industrial Switch 19" rack mount, fanless design
Port type and quantity	16 x combo ports (10/100/1000BASE TX RJ45 plus related FE/GE-SFP slot)
Type	MAR1040-4C4C4C4C9999SM9HPHH07.0.
Order No.	942 004-001
More Interfaces	
Power supply/signaling contact	power supply 1: power supply, 3 pin plug-in terminal block, signal contact, 2 pin plug-in terminal block;
V.24 interface	1 x RJ11 socket
USB interface	1 x USB to connect the AutoConfiguration Adapter ACA21-USB
Network size - length of cable	
Twisted pair (TP)	0 m ... 100 m
Multimode fiber (MM) 50/125 µm	cf. Gigabit and Fast Ethernet SFP modules
Multimode fiber (MM) 62.5/125 µm	cf. Gigabit and Fast Ethernet SFP modules
Single mode fiber (SM) 9/125 µm	cf. Gigabit and Fast Ethernet SFP modules
Single mode fiber (LH) 9/125 µm (long haul transceiver)	cf. Gigabit and Fast Ethernet SFP modules
Network size - cascading	
Line - / star topology	any
Ring structure (HIPER-Ring) quantity switches	up to 10 ms (10 switches), up to 30 ms (50 switches), up to 40 ms (100 switches), up to 60 ms (200 switches)
Power requirements	
Operating voltage	power supply 1: 120/250 V DC; 110/230 V AC
Current consumption at 24 V DC	power supply 1: n/a;
Current consumption at 230 V AC	power supply 1: 110 mA (26 W) max., if all ports are equipped with SFP (100 W PoE option);
Power output in Btu (IT) h	90 max (350 PoE option)
Software	
Management	Serial interface, web-interface, SNMP V1/V2, HiVision file transfer SW HTTP/TFTP
Diagnostics	LEDs, log-file, syslog, relay contact, RMON, port mirroring 1:1 and n:1, topology discovery 802.1AB, cable tester (TX), address conflict detection, network error detection, SFP diagnostic (temperature, optical input and output power), Trap for configuration saving and changing, duplex mismatch detection
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), integrated DHCP server per port, automatic invalid configuration undo
Security	Port Security (IP und MAC) with multiple addresses, SNMP V3, SSH, authentication (IEEE802.1x), radius authentication for SNMPv3 (web)
Redundancy functions	HIPER-Ring, Fast HIPER-Ring, MRP, MSTP, RSTP - IEEE802.1D-2004, MRP and RSTP in parallel, link aggregation, multiple rings
Filter	QoS 8 classes, prioritisation (IEEE 802.1D/p), VLAN (IEEE 802.1Q), multicast (IGMP 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, v1/v2 hardware timestamp with accuracy of 30 ns, 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



Industrial Ethernet:Ruggedized Switches:Fast/Gigabit Ethernet Control Cabinet Switches:Full Gigabit Ethernet control cabinet switches:with Firmware Release 7:MACH1000, Full Gigabit Ethernet switch

16 ports

<http://e-catalog.hirschmann.com/link/57078-24455-49846-49997-82828-173144-173174/en/MAR1040-4C4C4C9999SM9HPHH07.0/ui/state>

Ambient conditions

Operating temperature	0 °C ... 60 °C
Storage/transport temperature	-40 °C ... 85 °C
Relative humidity (non-condensing)	5 % ... 95 %
MTBF	119540
Protective paint on PCB	No

Mechanical construction

Dimensions (W x H x D)	445 mm x 44 mm x 345 mm
Mounting	19" control cabinet
Weight	5600 g
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.; 1 g, 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); 1 kHz, 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 5 kV (line/earth)
EN 61000-4-6 conducted immunity	30 V, 50 Hz continuous; 300 V, 50 Hz 1 s
EN 61000-4-16 mains frequency voltage	30 V, 50 Hz continuous; 300 V, 50 Hz 1 s

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	cUL 1604 Class1 Div 2
Shipbuilding	Germanischer Lloyd
Railway norm	EN 50121-4, EN50155 (pending), NEMA TS
Substation	IEC 61850-3, IEEE 1613
Transportation	EN 50121-4, EN50155 (pending), NEMA TS

Scope of delivery and accessories

Scope of delivery	device, operating manual
-------------------	--------------------------

For more information please contact:

Hirschmann Automation and Control GmbH

Stuttgarter Strasse 45-51

72654 Neckartenzlingen

Germany

Phone: +49 7127/14-1809

E-Mail: inet-sales@belden.com

The information published in the websites has been compiled as carefully as possible. It is subject to alteration without notice in technical as well as in price-related/commercial respect. The complete information and data were available on user documentation. Mandatory information can only be obtained by a concrete query.