



## Product information MACH1000, Full Gigabit Ethernet switch 16 ports - MAR1040-4C4C4C4C9999SM9HPHH09.0.

Industrial Ethernet:Ruggedized Switches:Fast/Gigabit Ethernet Control Cabinet Switches:Full Gigabit Ethernet Control Cabinet Switches:with Firmware Release 9:MACH1000, Full Gigabit Ethernet switch

16 ports

<https://www.e-catalog.beldensolutions.com:443/link/57078-24455-49846-49997-82828-437643-437642/en/MAR1040-4C4C4C4C9999SM9HPHH09.0/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 MAR1040-4C4C4C4C9999SM9HPHH09.0.

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 Dual Software Image Support; TFTP; LLDP (802.1AB); LLDP-MED; SSHv1; SSHv2; V.24; HTTP; HTTPS; Traps; SNMP v1/v2/v3; Telnet

Diagnostics Management Address Conflict Detection; Address Relearn Detection; MAC Notification; Signal Contact; Device Status Indication; TCPDump; LEDs; Syslog; Port Monitoring with Auto-Disable; Link Flap Detection; Overload Detection; Duplex Mismatch Detection; RMON (1,2,3,9); Port Mirroring 1:1; Port Mirroring 8:1; Port Mirroring N:1; System Information; Self-Tests on Cold Start; Copper Cable Test; SFP Management; Configuration Check Dialog; Switch Dump; Link Speed and Duplex Monitoring

Configuration AutoConfiguration Adapter ACA11 Limited Support (RS20/30/40, MS20/30); Automatic Configuration Undo (roll-back); Configuration Fingerprint; BOOTP/DHCP Client with Auto-Configuration; DHCP Server: per Port; DHCP Server: Pools per VLAN; DHCP Server: Option 43; AutoConfiguration Adapter ACA21/22 (USB); HiDiscovery; DHCP Relay with Option 82; Command Line Interface (CLI); CLI Scripting; Full-featured MIB Support; Web-based Management; Context-sensitive Help

Security IP-based Port Security; MAC-based Port Security; Port-based Access Control with 802.1X; Guest/unauthenticated VLAN; RADIUS VLAN Assignment; Multi-Client Authentication per Port; MAC Authentication Bypass; Access to Management restricted by VLAN; HTTPS Certificate Management; Restricted Management Access; Appropriate Use Banner; SNMP Logging; Local User Management; Remote Authentication via RADIUS



## Industrial Ethernet:Ruggedized Switches:Fast/Gigabit Ethernet Control Cabinet Switches:Full Gigabit Ethernet Control Cabinet Switches:with Firmware Release 9:MACH1000, Full Gigabit Ethernet switch 16 ports

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<b>Redundancy functions</b>	Advanced Ring Configuration for MRP; HIPER-Ring (Manager); HIPER-Ring (Ring Switch); Fast HIPER-Ring; Link Aggregation with LACP; Media Redundancy Protocol (MRP) (IEC62439-2); Redundant Network Coupling; Sub Ring Manager; RSTP 802.1D-2004 (IEC62439-1); MSTP (802.1Q); RSTP Guards; RSTP over MRP
<b>Filter</b>	PoE (802.3AF); PoE+ (802.3AT); Manual Cable Crossing
<b>Industrial Profiles</b>	EtherNet/IP Protocol; IEC61850 Protocol (MMS Server, Switch Model); PROFINET IO Protocol
<b>Time synchronisation</b>	Dual Software Image Support; TFTP; LLDP (802.1AB); LLDP-MED; SSHv1; SSHv2; V.24; HTTP; HTTPS; Traps; SNMP v1/v2/v3; Telnet
<b>Switching</b>	Disable Learning (hub functionality); Independent VLAN Learning; Fast Aging; Static Unicast/Multicast Address Entries; QoS / Port Prioritization (802.1D/p); TOS/DSCP Prioritization; Egress Broadcast Limiter per Port; Flow Control (802.3X); Jumbo Frames; VLAN (802.1Q); GARP VLAN Registration Protocol (GVRP); Double VLAN Tagging (QinQ); Voice VLAN; GARP Multicast Registration Protocol (GMRP); IGMP Snooping/Querier (v1/v2/v3)
<b>Ambient conditions</b>	
<b>Operating temperature</b>	0 °C ... 60 °C
<b>Storage/transport temperature</b>	-40 °C ... 85 °C
<b>Relative humidity (non-condensing)</b>	5 % ... 95 %
<b>MTBF</b>	13.6 years (MIL-HDBK-217F)
<b>Protective paint on PCB</b>	No
<b>Mechanical construction</b>	
<b>Dimensions (W x H x D)</b>	445 mm x 44 mm x 345 mm
<b>Mounting</b>	19" control cabinet
<b>Weight</b>	5600 g
<b>Protection class</b>	IP30
<b>Mechanical stability</b>	
<b>IEC 60068-2-27 shock</b>	15 g, 11 ms duration, 18 shocks
<b>IEC 60068-2-6 vibration</b>	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.
<b>EMC interference immunity</b>	
<b>EN 61000-4-2 electrostatic discharge (ESD)</b>	8 kV contact discharge, 15 kV air discharge
<b>EN 61000-4-3 electromagnetic field</b>	35 V/m (80-2700 MHz); 1 kHz, 80% AM
<b>EN 61000-4-4 fast transients (burst)</b>	4 kV power line, 4 kV data line
<b>EN 61000-4-5 surge voltage</b>	power line: 2 kV (line/earth), 1 kV (line/line), 1 kV data line, IEEE1613: power line 5 kV (line/earth)
<b>EN 61000-4-16 mains frequency voltage</b>	30 V, 50 Hz continuous; 300 V, 50 Hz 1 s
<b>EMC emitted immunity</b>	
<b>FCC CFR47 Part 15</b>	FCC 47 CFR Part 15 Class A
<b>EN 55022</b>	EN 55022 Class A
<b>Approvals</b>	
<b>Safety of industrial control equipment</b>	cUL 508
<b>Hazardous locations</b>	ISA 12.12.01 Class 1 Div. 2
<b>Shipbuilding</b>	Germanischer Lloyd
<b>Railway norm</b>	EN 50121-4, EN50155 (pending), NEMA TS
<b>Substation</b>	IEC 61850-3, IEEE 1613
<b>Transportation</b>	EN 50121-4, EN50155 (pending), NEMA TS
<b>Scope of delivery and accessories</b>	
<b>Scope of delivery</b>	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](mailto:inet-sales@belden.com)

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