




## Product information MACH1000, 2-20 ports Fast Ethernet PoE switch - ports on rear - MAR1122-99TTTTTTMMMMMMMMMMMM9999999999UMMHPHH09.0.

Industrial Ethernet:Ruggedized Switches:Fast/Gigabit Ethernet Control Cabinet Switches:PoE Control Cabinet Switches:with Firmware Release 9:MACH1000, 2-20 ports Fast Ethernet PoE switch - ports on rear

<https://www.e-catalog.beldensolutions.com:443/link/57078-24455-49846-49997-80037-438059-438066/en/MAR1122-99TTTTTTMMMMMMMMMMMM9999999999UMMHPHH09.0/ui/state>

|  |   |
|--|---|
| <b>Name</b>  | MACH1000, 2-20 ports Fast Ethernet PoE switch - ports on rear   |
|  |    |
|  | Industrial managed Fast Ethernet Switch, 19" rack mount, fanless Design, Power over Ethernet, 4 Ports, according to IEEE 802.3, Store-and-Forward-Switching, ports on rear  |
| <b>Delivery informations</b>                         |   |
| <b>Availability</b>                                  | available   |
| <b>Product description</b>                           |   |
| <b>Description</b>                                   | Industrial managed Fast Ethernet Switch, 19" rack mount, fanless Design, Power over Ethernet, 4 Ports, according to IEEE 802.3, Store-and-Forward-Switching, ports on rear  |
| <b>Port type and quantity</b>                        | Fast-Ethernet ports in total: 16 x ports in total; 6 x Twisted Pair; 10 x Multimode SC;   |
| <b>Type</b>  | MAR1122-99TTTTTTMMMMMMMMMMMM9999999999UMMHPHH09.0.  |
| <b>Order No.</b>                                     | MAR1122-99TTTTTTMMMMMMMMMMMM9999999999UMMHPHH09.0.  |
| <b>More interfaces</b>                               |   |
| <b>Power supply/signaling contact</b>                | Power supply 1: power supply 3 pin plug-in terminal block signal contact 2 pin plug-in terminal block; Power supply 2: power supply 3 pin plug-in terminal block signal contact 2 pin plug-in terminal block, supports only PoE   |
| <b>V.24 interface</b>                                | 1 x RJ11 socket   |
| <b>USB interface</b>                                 | 1 x to connect auto-configuration adapter ACA21-USB   |
| <b>Network size - length of cable</b>                |   |
| <b>Twisted pair (TP)</b>                             | 0 m ... 100 m   |
| <b>Multimode fiber (MM) 50/125 µm</b>                | 0 - 5000 m, 8 dB Link Budget at 1300 nm, A = 1 dB/km, 3 dB reserve, B = 800 MHz x km  |
| <b>Multimode fiber (MM) 62.5/125 µm</b>              | 0 - 4000 m, 11 dB Link Budget at 1300 nm, A = 1 dB/km, 3 dB reserve, B = 500 MHz x km   |
| <b>Network size - cascading</b>                      |   |
| <b>Line - / star topology</b>                        | Any   |
| <b>Ring structure (HIPER-Ring) quantity switches</b> | 100 switches  |
| <b>Power requirements</b>                            |   |
| <b>Operating voltage</b>                             | Power supply 1: 120/250 VDC, 110/230 VAC; Power supply 2: 120/250 VDC, 110/230 VAC  |
| <b>Current consumption at 230 V AC</b>               | Power supply 1 and 2: 150 mA (35W) max, if all ports are equipped with fiber  |
| <b>Software</b>                                      |   |
| <b>Management</b>                                    | Dual Software Image Support; TFTP; LLDP (802.1AB); LLDP-MED; SSHv1; SSHv2; V.24; HTTP; HTTPS; Traps; SNMP v1/v2/v3; Telnet  |
| <b>Diagnostics</b>                                   | 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; Link Speed and Duplex Monitoring; 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 |
| <b>Configuration</b>                                 | 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                         |
| <b>Security</b>                                      | 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   |
| <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  |

**Industrial Ethernet: Ruggedized Switches: Fast/Gigabit Ethernet Control Cabinet Switches: PoE Control Cabinet Switches: with Firmware Release 9: MACH1000, 2-20 ports Fast Ethernet PoE switch - ports on rear**

<https://www.e-catalog.beldensolutions.com:443/link/57078-24455-49846-49997-80037-438059-438066/en/MAR1122-99TTTTTTTTMMMMMMMMMM999999999UMMHPHH09.0/uistate>

|   |  |
|---|--|
| <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>                       | PTPv2 Transparent Clock two-step; PTPv2 Boundary Clock; Buffered Real Time Clock; SNTP Client; SNTP Server   |
| <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>                      | -40 °C ... 85 °C   |
| <b>Storage/transport temperature</b>              | -40 °C ... 85 °C   |
| <b>Relative humidity (non-condensing)</b>         | 10 % ... 95 %  |
| <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 308 mm  |
| <b>Mounting</b>                                   | 19" control cabinet  |
| <b>Weight</b>                                     | appr. 5 kg   |
| <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.; 1g, 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); 1kHz, 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 5kV (line/earth)  |
| <b>EN 61000-4-6 conducted immunity</b>            | 2,5 kV (line/earth), 1 kV (line/line) (1MHz)   |
| <b>EN 61000-4-16 mains frequency voltage</b>      | 30V, 50Hz continuous; 300V, 50Hz 1s  |
| <b>EMC emitted immunity</b>                       |  |
| <b>FCC CFR47 Part 15</b>                          | FCC CFR47 Part 15 Class A  |
| <b>EN 55022</b>                                   | EN 55022 Class A   |
| <b>Approvals</b>                                  |  |
| <b>Safety of industrial control equipment</b>     | cUL 508 (pending)  |
| <b>Hazardous locations</b>                        | cUL 1604 Class1 Div 2 (pending)  |
| <b>Germanischer Lloyd</b>                         | Germanischer Lloyd (in preparation)  |
| <b>Substation</b>                                 | IEC 61850-3; IEEE 1613   |
| <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)

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.