



# HIRSCHMANN

A BELDEN BRAND

## Product information MACH4002-24G-L2P

Industrial Ethernet:Backbone Switches:Chassis:MACH4002-24G-L2P

<http://www.e-catalog.beldensolutions.com/link/57078-24455-49838-24526-40304/en/conf/ulistate>

|                                               |                                                                                                                                                                                                                                                                                                             |
|-----------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Name                                          | MACH4002-24G-L2P                                                                                                                                                                                                                                                                                            |
|                                               |                                                                                                                                                                                                                            |
|                                               | MACH 4000, modular, managed Industrial Backbone-Switch, Layer 2 Switch with Software Professional.                                                                                                                                                                                                          |
| <b>Delivery informations</b>                  |                                                                                                                                                                                                                                                                                                             |
| Availability                                  | available                                                                                                                                                                                                                                                                                                   |
| <b>Product description</b>                    |                                                                                                                                                                                                                                                                                                             |
| Description                                   | MACH 4000, modular, managed Industrial Backbone-Switch, Layer 2 Switch with Software Professional.                                                                                                                                                                                                          |
| Port type and quantity                        | up to 24 Gigabit-ETHERNET ports, thereof up to 16 Gigabit-ETHERNET ports via media modules practicable, 8 Gigabit combo ports SFP(100/1000Mbit/s) or TP (10/100/1000Mbit/s) are integral installed                                                                                                          |
| Type                                          | MACH4002-24G-L2P                                                                                                                                                                                                                                                                                            |
| Order No.                                     | 943 916-101                                                                                                                                                                                                                                                                                                 |
| <b>More Interfaces</b>                        |                                                                                                                                                                                                                                                                                                             |
| Power supply/signaling contact                | 1 plug-in terminal block, 4-pin, 2x egresses manual or automatic switchable (1A at 240 V DC)                                                                                                                                                                                                                |
| V.24 interface                                | 1 x RJ11 socket, serial interface to the configuration of devices                                                                                                                                                                                                                                           |
| USB interface                                 | 1USB interface to connect auto-configuration adapter (ACA21-USB)                                                                                                                                                                                                                                            |
| <b>Network size - cascability</b>             |                                                                                                                                                                                                                                                                                                             |
| Line - / star topology                        | any                                                                                                                                                                                                                                                                                                         |
| Ring structure (HIPER-Ring) quantity switches | ring recovery time < 50 ms typ. at LWL                                                                                                                                                                                                                                                                      |
| <b>Power requirements</b>                     |                                                                                                                                                                                                                                                                                                             |
| Operating voltage                             | power supply unit M4-S-xx or M4-Power Chassis with power supply unit please order separately                                                                                                                                                                                                                |
| Power consumption                             | 70 W (without media modules)                                                                                                                                                                                                                                                                                |
| <b>Service</b>                                |                                                                                                                                                                                                                                                                                                             |
| Management                                    | serial interface, web interface, SNMP V1/V2/V3, HiVision, file transfer SW HTTP/TFTP                                                                                                                                                                                                                        |
| Diagnostics                                   | LEDs (power, link status, data, 100 Mbit/s, auto-negotiation, full-duplex, error, redundancy management, ring-port, LED-test), signal contact, syslog, logfile, RMON, port mirroring, Topology Discovery IEEE 802.1AB (LLDP)                                                                                |
| Configuration                                 | command line interface (CLI), TELNET, BootP, DHCP, DHCP Option 82, HiDiscovery, auto-configuration adapter (ACA21-USB)                                                                                                                                                                                      |
| Security                                      | port-security (MAC- and IP-adresses), access control to agent (VLAN/IP) authentication 802.1x, SSH, SSL, SNMP V3                                                                                                                                                                                            |
| Other services                                | QoS 8 classes, prioritisation (IEEE 802.1D/p), VLAN (IEEE 802.1Q), multicast (IGMP snooping/querier), broadcastlimiter, flow control IEEE 802.3x, SNTP (Simple Network Time Protocol), TOS (Type of Service) Diff.-Serv (DSCP), TOS-Prio-Mapping, protocol based VLANs (IP, nonIP Traffic), Traffic Shaping |
| Prepared for                                  | MSTP-802.1s                                                                                                                                                                                                                                                                                                 |
| <b>Redundancy</b>                             |                                                                                                                                                                                                                                                                                                             |
| Redundancy functions                          | HIPER-Ring (ring structure), RSTP IEEE 802.1D/w (rapid spanning tree protocol), redundant network/ring coupling (master/slave functionality), redundant 24 V power supply by M4-Power basic device, redundant signal contact, link aggregation dynamic and static (max. 7 trunks, 8 ports/trunk, LACP)      |
| <b>Ambient conditions</b>                     |                                                                                                                                                                                                                                                                                                             |
| Operating temperature                         | 0 °C to +60 °C                                                                                                                                                                                                                                                                                              |
| Storage/transport temperature                 | -25 °C to +70 °C                                                                                                                                                                                                                                                                                            |
| Relative humidity (non-condensing)            | 10% to 95%                                                                                                                                                                                                                                                                                                  |
| <b>Mechanical construction</b>                |                                                                                                                                                                                                                                                                                                             |
| Dimensions (W x H x D)                        | 480 mm x 88 mm x 435 mm                                                                                                                                                                                                                                                                                     |
| Mounting                                      | 19" control cabinet                                                                                                                                                                                                                                                                                         |
| Weight                                        | 7.5 kg                                                                                                                                                                                                                                                                                                      |
| Protection class                              | IP 20                                                                                                                                                                                                                                                                                                       |
| <b>Mechanical stability</b>                   |                                                                                                                                                                                                                                                                                                             |
| 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                                                                                                                                                 |
| <b>EMC interference immunity</b>              |                                                                                                                                                                                                                                                                                                             |
| EN 61000-4-2 electrostatic discharge (ESD)    | 6 kV contact discharge, 8 kV air discharge                                                                                                                                                                                                                                                                  |

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|---------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------|
| <b>EN 61000-4-3 electromagnetic field</b>         | 10 V/m (80 - 1000 MHz)                                                                                                                   |
| <b>EN 61000-4-4 fast transients (burst)</b>       | 2 kV power line, 1 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                                                                          |
| <b>EN 61000-4-6 conducted immunity</b>            | 3 V (10 kHz - 150 kHz), 10 V (150 kHz - 80 MHz)                                                                                          |
| <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                                                                                                                                  |
| <b>Shipbuilding</b>                               | Germanischer Lloyd                                                                                                                       |
| <b>Safety of information technology equipment</b> | cUL 60950-1                                                                                                                              |
| <b>Railway norm</b>                               | EN50121-4 (pending)                                                                                                                      |
| <b>Scope of delivery and accessories</b>          |                                                                                                                                          |
| <b>Scope of delivery</b>                          | device, terminal block, operating manual, fan M4-AIR installed                                                                           |
| <b>Accessories to order separately</b>            | SFP transceiver (100/1000MBit/s), Power supply unit, auto-configuration adapter (ACA21-USB), network management with Industrial HiVision |

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