



Data sheet

MACH4002-24G+3X-L3E - MACH4002-24G+3X-L3E

Industrial Ethernet:Backbone Switches:Chassis:MACH4002-24G+3X-L3E

Name MACH4002-24G+3X-L3E



Delivery informations

Document created at 09-08-2010
Availability available

Product description

Description MACH 4000, modular, managed Industrial Backbone-Router, Layer 3 Switch with Software Enhanced.
Port type and quantity up to 24 Gigabit-ETHERNET and 3x 10Gigabit-ETHERNET ports, thereof up to 16 Gigabit-ETHERNET ports via media modules practicable, 3x 10Gigabit XFP sockets and 8 Gigabit TP (10/100/1000Mbit/s) ports are integral installed
Type MACH4002-24G+3X-L3E
Order No. 943 915-201

More Interfaces

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)

Network size - cascading

Line - / star topology any
Ring structure (HIPER-Ring) quantity switches ring recovery time < 50 ms typ. at LWL

Power requirements

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)

Service

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-addresses), 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
Routing static routing, VRRP router redundancy; layer 3 - ACL, HiVRRP router redundancy < 500 ms
Dynamic routing RIP V1/2

Redundancy

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)

Ambient conditions

Operating temperature 0 °C to +60 °C
Storage/transport temperature -25 °C to +70 °C
Relative humidity (non-condensing) 10% to 95%

Mechanical construction

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

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.; 0.7 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



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EMC interference immunity

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|--|---|
| EN 61000-4-2 electrostatic discharge (ESD) | 6 kV contact discharge, 8 kV air discharge |
| EN 61000-4-3 electromagnetic field | 10 V/m (80 - 1000 MHz) |
| EN 61000-4-4 fast transients (burst) | 2 kV power line, 1 kV data line |
| EN 61000-4-5 surge voltage | power line: 2 kV (line/earth), 1 kV (line/line), 1 kV data line |
| EN 61000-4-6 conducted immunity | 3 V (10 kHz - 150 kHz), 10 V (150 kHz - 80 MHz) |

EMC emitted immunity

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|-------------------|---------------------------|
| FCC CFR47 Part 15 | FCC CFR47 Part 15 Class A |
| EN 55022 | EN 55022 Class A |

Approvals

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| Safety of industrial control equipment | cUL 508 (E175531) |
| Germanischer Lloyd | GL |
| Safety of information technology equipment | cUL 60950 (E168643) |
| Railway norm | EN 50121-4:2000, electromagnetic compatibility along the route (> 10m) |

Scope of delivery and accessories

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|---------------------------------|--|
| Scope of delivery | device, terminal block, operating manual, fan M4-AIR installed |
| Accessories to order separately | SFP transceiver (100/1000MBit/s), Power supply unit, auto-configuration adapter (ACA21-USB), network management with Industrial HiVision |