



## HIRSCHMANN

A BELDEN BRAND

### Product information MACH4002-48G+3X-L3E

Industrial Ethernet:Backbone Switches:Chassis:MACH4002-48G+3X-L3E

Name MACH4002-48G+3X-L3E



MACH 4000, modular, managed Industrial Backbone-Router, Layer 3 Switch with Software Enhanced.

#### Delivery informations

Availability available

#### Product description

Description MACH 4000, modular, managed Industrial Backbone-Router, Layer 3 Switch with Software Enhanced.

#### Port type and quantity

up to 48 Gigabit-ETHERNET and 3x 10Gigabit-ETHERNET ports, thereof up to 16 Gigabit-ETHERNET ports via media modules practicable, 3x 10Gigabit XFP sockets and 16 Gigabit TP (10/100/1000Mbit/s) ports are integral installed

#### Type

MACH4002-48G+3X-L3E

#### Order No.

943 878-201

#### More Interfaces

##### Power supply/signaling contact

1 plug-in terminal block, 4-pin, 2x egresses manual or automatic switchable (1 A at max. 60 V DC or max. 30 V)

##### V24 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 - cascadability

##### 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/slavefunctionality), 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



## HIRSCHMANN

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### Industrial Ethernet:Backbone Switches:Chassis:MACH4002-48G+3X-L3E

#### EMC interference immunity

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

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

#### Approvals

Safety of industrial control equipment	cUL 508
Shipbuilding	Germanischer Lloyd
Safety of information technology equipment	cUL 60950-1
Railway norm	EN50121-4 (pending)

#### Scope of delivery and accessories

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

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