Product information
MACH102-8TP-R

Industrial Ethernet: Workgroup Switches: Fast-/Gigabit Ethernet Workgroup Switches, 10/24 ports: MACH102-8TP-R

Name
MACH102-8TP-R

26 port Fast Ethernet/Gigabit Ethernet Industrial Workgroup Switch (fix installed: 2 x GE, 8 x FE; via Media Modules 16 x FE), managed, Software Layer 2 Professional, Store-and-Forward-Switching, fanless Design, redundant power supply

Delivery informations

Availability
available

Description
26 port Fast Ethernet/Gigabit Ethernet Industrial Workgroup Switch (fix installed: 2 x GE, 8 x FE; via Media Modules 16 x FE), managed, Software Layer 2 Professional, Store-and-Forward-Switching, fanless Design, redundant power supply

Port type and quantity
Up to 26 Ethernet ports, thereof up to 16 Fast-Ethernet ports via modules realisable; 8x TP (10/100 BASE-TX, RJ45) Fast Ethernet ports and 2 Gigabit Combo ports fix installed

Type
MACH102-8TP-R

Order No.
943 969-101

More Interfaces

Power supply/signaling contact
1 x plug-in terminal block, 2-pin, output manual or automatic switchable (max. 1 A, 24 V DC bzw. 24 V AC)

V.24 interface
1 x RJ11 socket, serial interface for device configuration

USB interface
1 x to connect auto-configuration adapter ACA21-USB

VLAN interface

Twisted pair (TP)
0 - 100m

Multimode fiber (MM) 50/125 µm
Fast Ethernet: cf. SFP LWL module M-FAST SFP-MM/LC; Gigabit Ethernet: cf. SFP LWL module M-SFP-SX/LC and M-SFP-LX/LC

Multimode fiber (MM) 62.5/125 µm
Fast Ethernet: cf. SFP LWL module M-FAST SFP-MM/LC; Gigabit Ethernet: cf. SFP LWL module M-SFP-SX/LC and M-SFP-LX/LC

Single mode fiber (SM) 9/125 µm
Fast Ethernet: cf. SFP LWL module M-FAST SFP-SM/LC and M-FAST SFP-SM+/LC; Gigabit Ethernet: cf. SFP LWL module M-SFP-LX/LC

Single mode fiber (LM) 9/125 µm (long haul transceiver)
Fast Ethernet: cf. SFP LWL modul M-FAST SFP-LH/LC; Gigabit Ethernet: cf. SFP LWL modol M-SFP-LH/LC and M-SFP-LH+/LC

Network size - length of cable
Twisted pair (TP)
0 - 100m

Multimode fiber (MM) 50/125 µm
Fast Ethernet: cf. SFP LWL module M-FAST SFP-MM/LC; Gigabit Ethernet: cf. SFP LWL module M-SFP-SX/LC and M-SFP-LX/LC

Multimode fiber (MM) 62.5/125 µm
Fast Ethernet: cf. SFP LWL module M-FAST SFP-MM/LC; Gigabit Ethernet: cf. SFP LWL module M-SFP-SX/LC and M-SFP-LX/LC

Single mode fiber (SM) 9/125 µm
Fast Ethernet: cf. SFP LWL module M-FAST SFP-SM/LC and M-FAST SFP-SM+/LC; Gigabit Ethernet: cf. SFP LWL module M-SFP-LX/LC

Single mode fiber (LM) 9/125 µm (long haul transceiver)
Fast Ethernet: cf. SFP LWL modul M-FAST SFP-LH/LC; Gigabit Ethernet: cf. SFP LWL modol M-SFP-LH/LC and M-SFP-LH+/LC

Ring structure (HIPER-Ring) quantity switches
50 (reconfiguration time < 0,3 sec.)

Power requirements

Operating voltage
100 - 240 VAC, 47 - 63 Hz (redundant)

Power output in Btu (ft) h
44 (without media modules)

Rated current
0.4 - 0.2 A

Power consumption
13 W (without media modules)

Software

Management
serial Interface, web interface, SNMP V1/V2, HiVision file transfer SW HTTP/TFTP, LLDP-MED

Diagnostics
LEDs, log-file, syncing, relay contact, RMON, port mirroring 1:1 and n:n, egress/ingress traffic configurable, topology discovery 802.1TAB, cable tester (TX), address conflict detection, network error detection, SFP diagnostic [temperature, optical input and output power (μW and dBm)], Trap for configuration saving and changing, duplex mismatch detection, disable learning, Port Monitor

Configuration
Command line interface (CLI), TELNET, BonIP, DHCP, DHCP option 82, HDiscovery, easy device exchange with auto-configuration adapter ACA21-USB (automatic software and/or configuration upload), automatic script load from ACA21, integrated DHCP server per port, DHCP relay, automatic invalid configuration undo, Offline Configuration, SFP Whitelist, ARC automatic ring configuration (MRP), automatic port shutdown (link flapping), configuration signature (water marking), overload detection

Security
ACL/QoS, ACL Layer 4 fragment support, Port Security (IP und MAC) with multiple addresses (MAC 50 per port), SNMP V3, SSH, Authentication (IEEE802.1x), 802.1x Multi Client Authentication, Guest VLAN and Unauthenticated VLAN, Port based Radius VLAN assignment, MAC notification

Redundancy functions
HIPER-Ring, MRP, MSTP, RSTP - IEEE802.1D-2004, MRP and RSTP glitching, Link Aggregation, redundant 100 - 240 VAC power supply

Filter
QoS 8 classes, prioritization (IEEE 802.1Q), VLAN (IEEE 802.1Q), Voice VLAN, shared VLAN learning, Q-in-Q double VLAN tagging, multicast RMP v1/v2/v3, (snoping/queryer), multicast detection unknown multicast, broadcast, unicast, multicast limitet, fast aging, GMRP IEEE 802.1D, Jumbo Frame Support,
### Industrial Ethernet: Workgroup Switches

#### Fast-/Gigabit Ethernet Workgroup Switches, 10/24 ports: MACH102-8TP-R


<table>
<thead>
<tr>
<th>Industrial Profiles</th>
<th>EtherCAT, EtherCAT/PROFINET, EtherCAT/PROFINET, and other profiles included, configuration and diagnostic via automation, software tools like e.g. STEP7, or Control Logix</th>
</tr>
</thead>
<tbody>
<tr>
<td>Time synchronisation</td>
<td>PTP IEEE 1588 v1.1-2008 boundary and Transparent Clock hardware time stamping with accuracies of 30ms, SNTP server, real time clock with energy buffer</td>
</tr>
<tr>
<td>Flow control</td>
<td>Flow Control 802.3x, Port Priority 802.1Q, Priority (TOS/DIFFSERV), Pin (MAC/IP), Pin Mapping (TOS Layer2), Traffic Shaping (Unicast, Multicast, Broadcast) Ingress / Egress</td>
</tr>
</tbody>
</table>

#### Ambient conditions

- **Operating temperature**: 0° - +50°C
- **Storage/transport temperature**: -20° - +85°C
- **Relative humidity (non-condensing)**: 10% to 95%

#### MTBF

18.06 years (MIL-HDBK-217F Gb 25°C) (without media modules)

#### Mechanical construction

- **Dimensions (W x H x D)**: 448 x 44 x 310 (without fixing bracket)
- **Mounting**: 19” control cabinet
- **Weight**: 3.85 kg
- **Protection class**: IP20

#### EMC interference immunity

- **EN 61000-4-2 electrostatic discharge (ESD)**: 4 kV contact discharge, 8 kV air discharge
- **EN 61000-4-3 electromagnetic field**: 10 V/m (80 - 2700 MHz)
- **EN 61000-4-4 fast transients (burst)**: 2 kV power line, 4 kV data line
- **EN 61000-4-5 surge voltage**: power line: 2 kV (line/earth), 1 kV (line/line), 4 kV data line
- **EN 61000-4-6 conducted immunity**: 10 V (150 kHz - 80 MHz)

#### EMC emitted immunity

- **FCC CFR47 Part 15**: FCC 47 CFR Part 15 Class A
- **EN 55022**: EN 55022 Class A

#### Approvals

- **Safety of industrial control equipment**: cUL 508
- **Safety of information technology equipment**: cUL 60950-1

#### Scope of delivery and accessories

- **Scope of delivery**: MACH100 device, terminal block for signal contact, 2 brackets with fasteningscrews (pre-assembled), housing feet - stick-on, non-heating appliance cable - Euro model, C0-R0M with user manual, installation user manual
- **Accessories to order separately**: Fast Ethernet SFP modules, Gigabit Ethernet SFP modules, autoConfiguration Adapter ACA21-USB, terminal cable, Industrial Hivision Network Management software

---

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

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.