

Product: [MACH104-20TX-F-L3P](#)

Managed 24-port Full Gigabit 19" Switch with L3



Product Description

24 port Gigabit Ethernet Industrial Workgroup switch (20 x GE TX Ports, 4 x GE SFP combo ports), managed, software Layer 3 Professional, Store-and-Forward-Switching, IPv6 Ready, fanless design

Technical Specifications

Product description

| | |
|-------------------------|--|
| Description: | 24 port Gigabit Ethernet Industrial Workgroup switch (20 x GE TX Ports, 4 x GE SFP combo ports), managed, software Layer 3 Professional, Store-and-Forward-Switching, IPv6 Ready, fanless design |
| Part Number: | 942003002 |
| Port Type and Quantity: | 24 ports in total; 20 x (10/100/1000 BASE-TX, RJ45) and 4 Gigabit Combo ports (10/100/1000 BASE-TX, RJ45 or 100/1000 BASE-FX, SFP) |

More Interfaces

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| 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 USB to connect auto-configuration adapter ACA21-USB |

Network size - length of cable

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| Twisted pair (TP): | 0-100 m |
| Single mode fiber (SM) 9/125 µm: | see SFP module M-FAST SFP-MM/LC and SFP module M-SFP-SX/LC |
| Single mode fiber (LH) 9/125 µm (long haul transceiver): | see SFP FO module M-FAST SFP-SM+/LC |
| Multimode fiber (MM) 50/125 µm: | see SFP module M-FAST SFP-MM/LC and SFP module M-SFP-SX/LC |
| Multimode fiber (MM) 62.5/125 µm: | see SFP module M-FAST SFP-MM/LC and SFP module M-SFP-SX/LC |

Network size - cascability

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| Line - / star topology: | any |
| Ring structure (HIPER-Ring) quantity switches: | 50 (reconfiguration time < 0.3 sec.) |

Power requirements

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| Operating Voltage: | 100-240 V AC, 50-60 Hz |
| Power consumption: | 35 W |
| Power output in BTU (IT/h): | 119 |
| Redundancy functions: | HIPER-Ring, MRP, MSTP, RSTP - IEEE802.1D-2004, MRP and RSTP gleichzeitig, Link Aggregation |

Software

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| Switching: | Traffic Shaping, Disable Learning (hub functionality), Independent VLAN Learning, Fast Aging, Static Unicast/Multicast Address Entries, QoS / Port Prioritization (802.1D/p), TOS/DSCP Prioritization, CoS Queue Management, Egress Broadcast Limiter per Port, Flow Control (802.3X), Jumbo Frames, VLAN (802.1Q), Protocol-based VLAN, GARP VLAN Registration Protocol (GVRP), Double VLAN Tagging (QinQ), Voice VLAN, GARP Multicast Registration Protocol (GMRP), IGMP Snooping/Querier (v1/v2/v3) |
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| Redundancy: | 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) - Redundancy Manager, Media Redundancy Protocol (MRP) (IEC62439-2) - Redundancy Client, Redundant Network Coupling, RSTP 802.1D-2004 (IEC62439-1), MSTP (802.1Q), RSTP Guards, RSTP over MRP, VRRP, VRRP Tracking, HiVRRP (VRRP enhancements) |
| Management: | Dual Software Image Support, TFTP, LLDP (802.1AB), LLDP-MED, SSHv1, SSHv2, V.24, HTTP, HTTPS, Traps, SNMP v1/v2/v3, Telnet |
| Diagnostics: | 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 |
| Configuration: | 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 |
| Security: | 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, Ingress MAC-based ACL, Ingress IPv4-based ACL, Ingress VLAN-based ACL, Access to Management restricted by VLAN, HTTPS Certificate Management, Restricted Management Access, Appropriate Use Banner, SNMP Logging, Local User Management, Remote Authentication via RADIUS |
| Time synchronisation: | PTPv2 Transparent Clock two-step, PTPv2 Boundary Clock, Buffered Real Time Clock, SNTP Client, SNTP Server |
| Industrial Profiles: | EtherNet/IP Protocol, PROFINET IO Protocol |
| Miscellaneous: | Manual Cable Crossing |
| Routing: | Full Wire-Speed Routing, Port-based Router Interfaces, VLAN-based Router Interfaces, Net-directed Broadcasts, OSPFv2, RIP v1/v2, ICMP Router Discovery (IRDP), Equal Cost Multiple Path (ECMP), Proxy ARP, Static Route Tracking |
| Multicast routing: | DVMRP, IGMP v1/v2/v3, PIM-DM (RFC3973), PIM-SM / SSM (RFC4601) |

Ambient conditions

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| MTBF (Telcordia SR-332 Issue 3) @ 25°C: | 270 498 h |
| Operating temperature: | 0+50 °C |
| Relative humidity (non-condensing): | 10-95 % |

Mechanical construction

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| Dimensions (WxHxD): | 448 mm x 44 mm x 345 mm |
| Weight: | 4200 g |
| Mount Type: | 19" control cabinet |
| Protection class: | IP20 |

Mechanical stability

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| IEC 60068-2-6 vibration: | 3.5 mm, 5–8.4 Hz, 10 cycles, 1 octave/min; 1 g, 8.4–150 Hz, 10 cycles, 1 octave/min |
| IEC 60068-2-27 shock: | 15 g, 11 ms duration, 18 shocks |

EMC interference immunity

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| EN 61000-4-2 electrostatic discharge (ESD): | 4 kV contact discharge, 8 kV air discharge |
| EN 61000-4-3 electromagnetic field: | 10 V/m (80-3000 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

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| EN 55022: | EN 55022 Class A |
| FCC CFR47 Part 15: | FCC 47CFR Part 15, Class A |

Approvals

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

Reliability

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| Guarantee: | 60 months (please refer to the <a href="https://assets.belden.com/m/1424ddb7a3280e7a/original/Hirschmann-Automation-and-Control-GmbH-Terms-of-Guarantee.pdf" terms of guarantee </a for detailed information) |
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Scope of delivery and accessories

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| Accessories to Order Separately: | Fast Ethernet SFP modules, Gigabit Ethernet SFP modules, autoConfiguration Adapter ACA21-USB, terminal cable, Industrial Hivision Network Management software |
| 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 |

Further Instructions

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|------------------------|---|
| Product Documentation: | https://www.doc.hirschmann.com |
| Certificates: | https://www.doc.hirschmann.com/certificates.html |
| Software Download: | https://my.belden.com/s/downloads |

History

Update and Revision: Revision Number: 0.178 Revision Date: 09-26-2025

Variants

| Item # | Type |
|-----------|--------------------|
| 942003002 | MACH104-20TX-F-L3P |

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