HIRSCHMANN
A BELDEN BRAND

Product: MACH104-20TX-FR-L3P



Managed 24-port Full Gigabit 19" Switch with L3, redundant PSU

Product Description

24 ports 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 ports 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:	942003102
Port Type and Quantity:	24 ports in total; 20x (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

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

Twisted pair (TP):	0-100 m
Single mode fiber (SM) 9/125 µm:	see SFP module M-FAST SFP-SM/LC and SFP module M-SFP-LX/LC
Single mode fiber (LH) 9/125 µm (long haul transceiver):	see SFP 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 - cascadibility

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

Power requirements

Operating Voltage:	100-240 V AC, 50-60 Hz (redundant)
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

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)
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

MTBF (Telcordia SR-332 Issue 3) @ 25°C:	149063 h
Operating temperature:	0-+50 °C
Minimum Storage Temperature:	-20-+85 °C
Relative humidity (non-condensing):	10-95 %

Mechanical construction

Dimensions (WxHxD):	448 mm x 44 mm x 345 mm
Weight:	4400 g
Mount Type:	19" control cabinet
IP Protection Rating:	IP20

Mechanical stability

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

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

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

Approvals

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

Reliability

Guarantee:	60 months (please refer to the "terms of guarantee or detailed information)

Scope of delivery and accessories

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

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: 0.180 Revision Date: 03-03-2026

Variants

Item #	Type
942003102	MACH104-20TX-FR-L3P

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