



HIRSCHMANN

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New Product Bulletin

NP 1017HE

Hirschmann™ Gigabit Ethernet Workgroup Switches

Belden® is further consolidating its position as a leader in the Industrial Ethernet field with its three new Hirschmann™ switches.



The new Hirschmann™ Workgroup Switches of the MACH100 Family are the Gigabit Speed Link Between the Production Network and the Backbone

These switches, which replace the tried-and-tested Gigabit LION series, allow you to link workgroups in close proximity to production or on different floors of a building to the backbone at Gigabit speed, via either a twisted pair cable or fiber optics.

Industrial Ethernet makes for end-to-end data communications from management to the control and field levels. With its range of Hirschmann™ products, Belden is able to offer its clients the optimal solution for every application – all from a single source. All the managed switches are based on the OpenRail platform, which allows different Layer 2 and Layer 3 software packages to be combined with various hardware components. The upside for the user is that all the products have the same look and feel, the same functionality and the same high standard of quality. In addition, this platform strategy means that personnel do not have to be retrained for each new product. That saves time and money and helps make the most of your investment.

The new workgroup switches maximize operating availability, with an MTBF of up to 17 years (depending on the variant). In addition, the switches are cooled without fans, making them extremely quiet. Redundancy methods such as HIPER Ring, MRP (IEC ring function), Rapid

Spanning Tree, Redundant Ring-/Network Coupling and link aggregation ensure a high level of network availability. Low power consumption not only cuts operating costs, thus enhancing profitability, but also helps to conserve natural resources and protect the environment.

Product Features

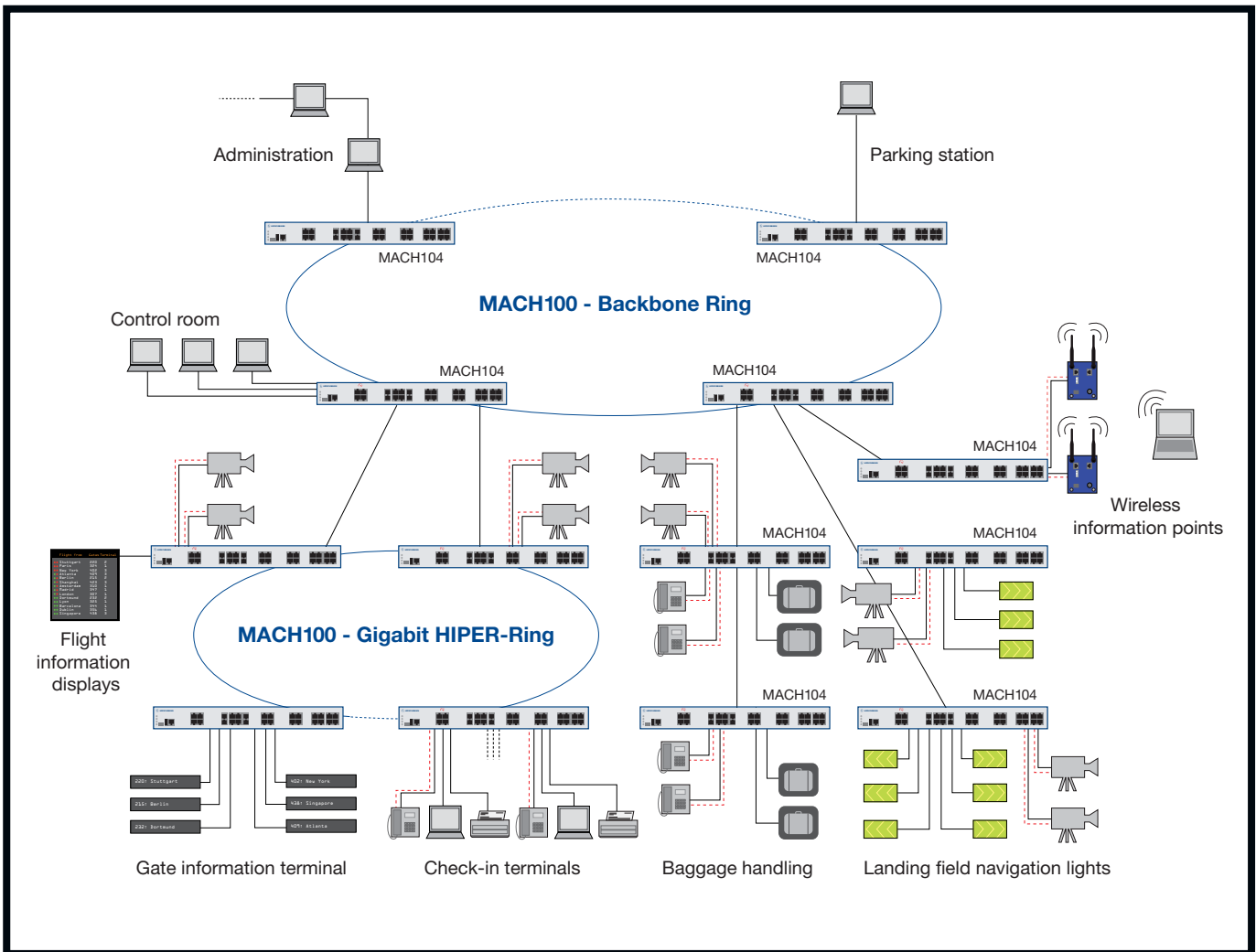
- 24 Gigabit Ethernet ports, 4 of which are combo ports
- Four optional Power over Ethernet (PoE) ports
- Plug&play principle makes for easy commissioning
- OpenRail Layer 2 Professional software package
- High availability thanks to comprehensive redundancy and backup mechanisms
- Sturdy metal housing featuring fanless design
- Temperature range from 0 °C to +50 °C
- High vibration and shock resistance
- Extensive resilience to magnetic fields and electrostatic discharges
- The latest energy-saving chip technology
- Optional extra: redundant power supply
- Approvals: CE, FCC, cUL508, EN 60950

**The new Hirschmann™ MACH100 Workgroup Switches:
High Availability and Low Power Consumption**

Gigabit speed and PoE make for powerful, future-proof connection of IP cameras.




The new Hirschmann™ Gigabit Ethernet workgroup switches MACH104-20TX-F, MACH104-20TX-FR and MACH104 20TX-F-4PoE each have 20 RJ45 ports and 4 combo ports, which can be equipped with SFP fiber optic transceivers. Additional features include comprehensive management and redundancy procedures, a variety of functions for configuration and diagnosis, high vibration and shock resistance as well as extensive resilience to magnetic fields and electrostatic discharges.

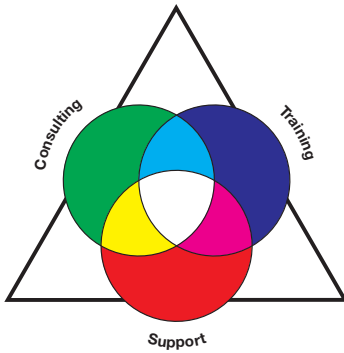
What is more, the MACH104-20TX-FR offers redundant power supply, while the MACH104-20TX-F-4PoE has 4 ports for power over Ethernet (PoE) with a power supply of 15.4 W per connected end device. The 48 VDC voltage required for this is generated directly from the 230 VAC power supply and is galvanically isolated in compliance with the IEEE 802.3af standard.





Technical Data

Product Description			
			
Product Designation	MACH104-20TX-F	MACH104-20TX-FR	MACH104-20TX-F-4PoE
Description	24-port Gigabit Industrial Ethernet work-group switch (20xGE TX ports, 4xGE SFP combo ports), managed, Layer 2 Professional software, store and forward switching, fanless design	24-port Gigabit Industrial Ethernet work-group switch (20xGE TX ports, 4xGE SFP combo ports), managed, Layer 2 Professional software, store and forward switching, fanless design, redundant power supply	24-port Gigabit Industrial Ethernet work-group switch (20xGE TX ports, 4xGE SFP combo ports), managed, Layer 2 Professional software, store and forward switching, fanless design, integrated PoE, redundant power supply
Port Type and Quantity	24 ports in all; 20x (10/100/1000 BASE-TX, RJ45) and 4 Gigabit combo ports (10/100/1000 BASE-TX, RJ45 or 100/1000 BASE-FX, SFP)	24 ports in all; 20x (10/100/1000 BASE-TX, RJ45) and 4 Gigabit combo ports (10/100/1000 BASE-TX, RJ45 or 100/1000 BASE-FX, SFP)	24 ports in all; 20x (10/100/1000 BASE-TX, RJ45) of which four PoE ports and 4 Gigabit combo ports (10/100/1000 BASE-TX, RJ45 or 100/1000 BASE-FX, SFP)
Order No.	942 003-001	942 003-101	942 003-201
Power Supply			
Operating Voltage	100 – 240 VAC, 47 – 63 Hz	100 – 240 VAC, 47 – 63 Hz redundant	100 – 240 VAC, 47 – 63 Hz
Power Input	35 watts	35 watts	110 watts (with PoE Power)
Power Output in Btu (IT) h	119	119	170
Service			
Management	Serial interface, web interface, SNMP V1/V2, HiVision file transfer SW HTTP/TFTP	Serial interface, web interface, SNMP V1/V2, HiVision file transfer SW HTTP/TFTP	Serial interface, web interface, SNMP V1/V2, HiVision file transfer SW HTTP/TFTP
Diagnostics	LEDs, log file, syslog, relay contact, RMON (statistics, history, alarms, events), port mirroring, Topology Discovery 802.1AB, cable tester	LEDs, log file, syslog, relay contact, RMON (statistics, history, alarms, events), port mirroring, Topology Discovery 802.1AB, cable tester	LEDs, log file, syslog, relay contact, RMON (statistics, history, alarms, events), port mirroring, Topology Discovery 802.1AB, cable tester
Configuration	Command line interface (CLI), TELNET, BootP, DHCP, DHCP Option 82, HiDiscovery, auto-configuration adapter (ACA11, ACA21-USB), watchdog configuration, integrated DHCP server	Command line interface (CLI), TELNET, BootP, DHCP, DHCP Option 82, HiDiscovery, auto-configuration adapter (ACA11, ACA21-USB), watchdog configuration, integrated DHCP server	Command line interface (CLI), TELNET, BootP, DHCP, DHCP Option 82, HiDiscovery, auto-configuration adapter (ACA11, ACA21-USB), watchdog configuration, integrated DHCP server
Security	Port security (IP and MAC), SNMP V3, SSH, authentication (802.1x)	Port security (IP and MAC), SNMP V3, SSH, authentication (802.1x)	Port security (IP and MAC), SNMP V3, SSH, authentication (802.1x)
Redundancy			
Redundancy functions	HIPER ring (ring structure), MRP (IEC ring function), RSTP 802.1D-2004, redundant network/ring coupling, dual homing, link aggregation	HIPER ring (ring structure), MRP (IEC ring function), RSTP 802.1D-2004, redundant network/ring coupling, dual homing, link aggregation	HIPER ring (ring structure), MRP (IEC ring function), RSTP 802.1D-2004, redundant network/ring coupling, dual homing, link aggregation
Ambient Conditions			
Operating Temperature Range	0°C to +50°C	0°C to +50°C	0°C to +50°C
Storage/Transportation Temperature Range	-20°C to +85°C	-20°C to +85°C	-20°C to +85°C
Rel. Humidity (non-condensing)	10% to 95%	10% to 95%	10% to 95%
MTBF/MIL-HDBK-217F G_B25°C	130139 h	149063 h	119950 h
Structural Design			
Dimensions (WxHxD)	448 mm x 44 mm x 345 mm	448 mm x 44 mm x 345 mm	448 mm x 44 mm x 345 mm
Mounting	19" switch cabinet	19" switch cabinet	19" switch cabinet
Weight	4,2 kg	4,4 kg	4,6 kg
Degree of Protection	IP20	IP20	IP20
Approvals			
Safety for IT Installations	cUL 60950-1 (in preparation)	cUL 60950-1 (in preparation)	cUL 60950-1 (in preparation)
Safety for Industrial Control Equipment	cUL 508 (in preparation)	cUL 508 (in preparation)	cUL 508 (in preparation)



The Belden® Competence Center

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Our experts will support you from the network design stage to the optimization of operational measures. Up-to-date manufacturing expertise, an international service network and quick access to external specialists guarantee the best possible assistance. Come and arrange your personal service package now!



Always the Right Solution

Belden is one of the world's leading suppliers of signal transmission solutions including cable, connectivity and active components for mission-critical applications ranging from industrial automation and alternative power generation through to professional broadcasting. Belden offers an extensive portfolio of highly specialized products for management, control and field level, which the company produces and markets under its proprietary Belden®, Hirschmann™ and Lumberg Automation™ brands.

Be Certain with Belden: Single Source Solutions

All Belden products are designed to interact seamlessly. For optimum result we recommend the combined use of Hirschmann™ switches and Belden copper cables for Industrial Ethernet. Used together they deliver the highest quality performance and the most reliable connection in any industrial application.

Visit www.beldensolutions.com for more information, including brochure **NP123G: Belden® Copper Cables for Industrial Ethernet.**