

MACH100 19" Industrial Workgroup Rack-Mount Switches



Fast Ethernet Uplink Ports, Gigabit Ethernet Uplink Ports, and 10 Gigabit Uplink Ports

The MACH100 series of switches are offered in versions with 8, 20, or 24 permanently installed 10/100 Mbit/s RJ45 Ethernet ports, or as modular switches with 8 permanent ports and slots for 2 additional 8 port media modules that are hot-swappable. All versions offer RJ45/SFP combo ports for connection to the network backbone. An all-Gigabit version with 24 10/100/1000 ports is also available.

The MACH104-16TX-PoEP models offer 16 TX ports that support PoE and PoE Plus. Versions of this switch are also available with two 10-Gigabit XFP uplinks or a redundant power supply as well as a fanless variant with an external power supply unit.



Technical Information

Product Description					
Type	MACH102-8TP-x	MACH102-xTP-Fx	MACH104-20TX-Fx	MACH104-20TX-F-4PoE	MACH104-16TX-PoEP-x
Available Ports	10, 18, 26	10, 26	24	24	20, 22
Modularity	Yes	No			
Construction					
Mounting	19" Control Cabinet				
Protection Class	IP20				
Dimensions (WxHxD)	448 x 44 x 310 mm				448 x 44 x 345 mm
Weight	appr. 4 kg		appr. 4.4 kg		appr. 4.5 kg
Ambient Conditions					
Operating Temperature	0 °C to +50 °C				
Storage/Transport Temperature	-20 °C to +85 °C				
Relative Humidity (non-condensing)	10% to 95%				
Conformal Coating	n/a				
Interfaces					
V.24 Interface	1 x RJ11 socket				
USB Interface	1 x USB (ACA21-USB adapter)				
Software					
Supported Classic Software Levels	Layer 2 Professional (L2P)		Layer 2 Professional (L2P), Layer 3 Professional (L3P)		
Power Requirements					
Operating Voltage	110 to 240 V AC				110 to 240 V AC, 44 to 57 V DC (variant dependent)
PoE (802.3af) Ports Supported	8, 16	No	4		16 ports
PoE Plus (802.3at) Ports Supported	4, 8	No	No		8 ports
Regulatory Approvals					
Safety of Industrial Control Equipment	cUL508				
Hazardous Locations	n/a				
Ship	n/a				
Transportation	EN 50121-4				EN 50121-4 (variant dependent)
Railway (norm)	n/a				
Substation	n/a				
Reliability					
MTBF Range	19.1 to 26.5 years	14.9 to 17 years	13.7 years	14.6 to 21.4 years	
Warranty	5 years standard				

NOTE: These are the prominent technical specifications. For complete technical specifications visit: www.belden.com/hirschmann



MACH100 19" Industrial Workgroup Rack-Mount Switch Configurations

Fast Ethernet, Gigabit Ethernet and 10 Gigabit Uplink Ports, PoE and PoE+ Ports

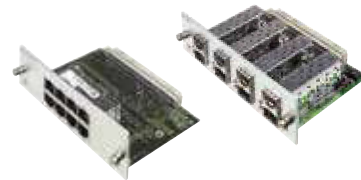
Modular Fast Ethernet Switches with Gigabit Ethernet Uplink Ports

Part No.	Order No.	Ports/Functions
MACH102-8TP	943 969-001	8 x 10/100 Mbit/s RJ45, 2 x FE/GE combo ports (Twisted Pair or SFP), 2 slots for 8 port media module
MACH102-8TP-R	943 969-101	Same as 943 969-001, but with redundant 110/220 V AC power supply



Media Modules

Part No.	Order No.	Ports/Functions
M1-8TP-RJ45	943 970-001	8 x 10/100 Mbit/s RJ45 media module
M1-8TP-RJ45 PoE	942 028-001	8 x 10/100 Mbit/s RJ45 PoE+ according to IEEE 802.3at media module
M1-8MM-SC	943 970-101	8 x 10/100 Mbit/s MM SC media module
M1-8SM-SC	943 970-201	8 x 10/100 Mbit/s SM SC media module
M1-8SFP	943 970-301	8 x 100 Mbit/s SFP media module



Fast Ethernet Switches with Gigabit Ethernet Uplink Ports

Part No.	Order No.	Ports/Functions
MACH102-8TP-F	943 969-201	8 x 10/100 Mbit/s RJ45, 2 x FE/GE combo ports (Twisted Pair or SFP)
MACH102-8TP-FR	943 969-301	Same as 943 969-201, but with redundant 110/220 V AC power supply
MACH102-24TP-F	943 969-401	24 x 10/100 Mbit/s RJ45, 2 x FE/GE combo ports (Twisted Pair or SFP)
MACH102-24TP-FR	943 969-501	Same as 943 969-401, but with redundant 110/220 V AC power supply

Gigabit Ethernet Switches

Part No.	Order No.	Ports/Functions
MACH104-20TX-F	942 003-001	20 x 10/100/1000 Mbit/s RJ45, 4 x FE/GE combo ports (Twisted Pair or SFP)
MACH104-20TX-FR	942 003-001	Same as 942 003-001, but with redundant 110/220 V AC power supply
MACH104-20TX-F-L3P	942 003-002	Same as 942 003-001, but with Layer 3 Professional Software
MACH104-20TX-FR-L3P	942 003-102	Same as 942 003-101, but with Layer 3 Professional Software

Gigabit Ethernet Switches with PoE Ports

Part No.	Order No.	Ports/Functions
MACH104-20TX-F-4PoE	942 003-201	Same as 942 003-001, 4 of the 20 ports are PoE Ports according to IEEE 802.3af
MACH104-20TX-F-4PoE-L3P	942 003-202	Same as 942 003-201, but with Layer 3 Professional Software

Gigabit Ethernet Switches with PoE+ Ports

Part No.	Order No.	Ports/Features
MACH104-16TX-PoEP	942 030-001	16 x 10/100/1000 Mbit/s RJ45 PoE+ according to IEEE 802.3at (max. 240 W), 4 x FE/GE combo ports (Twisted Pair or SFP)
MACH104-16TX-PoEP-L3P	942 030-002	Same as 942 030-001, but with Layer 3 Professional Software
MACH104-16TX-PoEP -R	942 026-001	Same as 942 030-001 but with redundant power supply
MACH104-16TX-PoEP -R-L3P	942 026-002	Same as 942 026-001 but with Layer 3 Professional Software
MACH104-16TX-PoEP -E	942 027-001	Same as 942 030-001 but fanless with external PoE power supply
MACH104-16TX-PoEP-E-L3P	942 027-002	Same as 942 027-001 but with Layer 3 Professional Software
MACH104-16TX-PoEP +2X	942 031-001	Same as 942 030-001, but with additional 2 x 10GE XFP
MACH104-16TX-PoEP +2X-L3P	942 031-002	Same as 942 031-001 but with Layer 3 Professional Software
MACH104-16TX-PoEP +2X -R	942 033-001	Same as 942 031-001 but with redundant power supply
MACH104-16TX-PoEP +2X -R-L3P	942 033-002	Same as 942 033-001 but with Layer 3 Professional Software
MACH104-16TX-PoEP +2X -E	942 032-001	Same as 942 031-001 but fanless with external PoE power supply
MACH104-16TX-PoEP +2X -E-L3P	942 032-002	Same as 942 032-001 but with Layer 3 Professional Software

NOTE: For SFP transceiver see page 112.