

## 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.hirschmann.com](http://www.hirschmann.com)



## 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	942 003-101	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 96.

