MACH4000 Gigabit Backbone Layer 2/3 Rack-Mount Switches

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

The MACH4000 series of high density managed switches is capable of providing as many as 48 Gigabit ports and three 10-Gigabit ports. Each model comes standard with over 8 to 16 ports and can be configured with as many as 32 additional ports. Choose from five MACH4000 models that allow either two or four hot-swappable media modules.

NOTE: A fan module is included in each chassis. For a complete switch, please be sure to specify media modules and power supply separately.

Technical Information

Product Description	
Type	**MACH4000 Series**
Available Ports	8 to 51
Construction	
Mounting	19" Control Cabinet
Protection Class	IP20
Dimensions (W x H x D)	480 x 88 x 435 mm
Weight	7.5 kg
Ambient Conditions	
Operating Temperature	0 °C to +60 °C
Storage/Transport Temperature	-25 °C to +70 °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 3 Enhanced (L3E), Layer 3 Professional (L3P)
Power Requirements	
Operating Voltage	24 V DC or 48 V DC or 110 to 240 V AC (variant applicable)
PoE (802.3af) Ports Supported	Yes (variant applicable)
PoE Plus (802.3at) Ports Supported	n/a
Regulatory Approvals	
Safety of Industrial Control Equipment	cUL508
Hazardous Locations	n/a
Ship	Germanischer Lloyd
Transportation	n/a
Railway (norm)	n/a
Substation	n/a
Reliability	
MTBF Range	11.1 to 18.9 years
Warranty	5 years standard

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

MACH4000 Gigabit Backbone Layer 2/3 Rack-Mount Switch Configurations

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

MACH4000 – High Density Layer 2/3 Gigabit Backbone Switch Chassis			
Part No.	**Order No.**	**Layer/Software**	**Description**
MACH4002-24G-L2P	943 916-101	Layer 2, Professional Management	Fixed ports: 8 x Gigabit Ethernet combo ports* (SFP dual speed socket or TP 10/100/1000 Mbit/s)
MACH4002-24G-L3E	943 916-201	Layer 3, Enhanced Management	Media modules: 2 x sockets (8 ports max each) for total 16 ports 10/100/1000 Mbit/s
MACH4002-24G-L3P	943 916-301	Layer 3, Professional Management	(Media modules sold separately – see Media modules below. For software functionality – see page 12-15)
MACH4002-24G+3X-L2P	943 915-101	Layer 2, Professional Management	Fixed ports: 3 x 10-Gigabit Ethernet XFP sockets and 8 Gigabit Ethernet ports, TP/RJ45 10/100/1000 Mbit/s
MACH4002-24G+3X-L3E	943 915-201	Layer 3, Enhanced Management	Media modules: 2 x sockets (8 ports max each) for total 16 ports 10/100/1000 Mbit/s
MACH4002-24G+3X-L3P	943 915-301	Layer 3, Professional Management	(Media modules sold separately – see Media modules below. For software functionality – see page 12-15)
MACH4002-48G-L2P	943 911-101	Layer 2, Professional Management	Fixed ports: 16 Gigabit Ethernet (8 Gigabit Ethernet combo ports* 100/1000 Mbit/s, SFP dual speed socket or 10/100/1000 Mbit/s + 8 Gigabit 10/100/1000 Mbit/s RJ45)
MACH4002-48G-L3E	943 911-201	Layer 3, Enhanced Management	
MACH4002-48G-L3P	943 911-301	Layer 3, Professional Management	Media modules: 4 x sockets (8 ports max each) for total 32 ports 10/100/1000 Mbit/s (Media modules sold separately – see Media modules below. For software functionality – see page 12-15)
MACH4002-48G+3X-L2P	943 878-101	Layer 2, Professional Management	Fixed ports: 3 x 10-Gigabit Ethernet XFP sockets and 16 Gigabit Ethernet ports (10/100/1000 Mbit/s RJ45)
MACH4002-48G+3X-L3E	943 878-201	Layer 3, Enhanced Management	
MACH4002-48G+3X-L3P	943 878-301	Layer 3, Professional Management	Media modules: 4 x sockets (8 ports max each) for total 32 ports 10/100/1000 Mbit/s (Media modules sold separately – see Media modules below. For software functionality – see page 12-15)

NOTE: *Fan module is included in each chassis. Please purchase media modules and power supply separately.
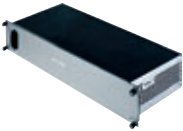See accessories for SFPs + XFP. Configuration will dictate final port count and media type.

MACH4000 Media Modules

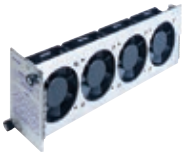| MACH4000 Media Modules			
Product	**Part No.**	**Order No.**	**Ports/Features**
	M4-8TP-RJ45	943 863-001	8 x 10/100/1000 Mbit/s RJ45 (no 1000 Mbit/s with MACH4002 48+4G)
	M4-FAST 8-SFP	943 864-001	8 x 100 Mbit/s SFP sockets*
	M4-FAST 8TP-RJ45-PoE	943 873-001	8 x 10/100 Mbit/s RJ45 ports with Power over Ethernet
	M4-GIGA 8-SFP	943 879-001	8 x 100/1000 Mbit/s SFP sockets* (not for MACH4002 48+4G)

NOTE: *SFP/XFP fiber optic transceivers sold separately (see accessories on page 96).

MACH4000 Power Supplies and Accessories

MACH4000 Internal Power Supplies			
Product	**Part No.**	**Order No.**	**Voltage**
	M4-S-AC/DC 300W	943 870-001	110 – 240 V AC internal power module (redundancy in combination with M4-POWER chassis and power supply
	M4-S-24VDC 300W	943 871-001	24 V DC internal power module (redundancy power input)
	M4-S-48VDC 300W	943 872-001	48 V DC internal power module (redundancy power input)

MACH4000 External Power Supplies			
Product	**Part No.**	**Order No.**	**Voltage**
	M4-POWER	943 874-001	Rack-mounted external power chassis. Requires at least one M4-P power supply (more for redundant power), with a maximum of 3 power supplies
	M4-P AC/DC 300W	943 875-001	110 – 240 V AC power module for use with external M4-POWER chassis
	M4-P DC 24V 300W	943 876-001	24 V DC power module for use with external M4-POWER chassis (redundant power input)
	M4-P DC 48V 300W	943 877-001	48 V DC power module for use with external M4-POWER chassis (redundant power input)
	M4-POWERCABLE II	943 922-001	Spare power cable to connect M4-POWER and MACH4002, 1 m

MACH4000 Accessories			
Product	**Part No.**	**Order No.**	**Voltage**
	M4-AIR	943 869-001	Fan module (included with chassis), has 4 redundant fans with fault notification
	M4-AIR-L	942 005-001	Fan module for MACH4002 chassis, 4 redundant fans with reduced speed, lower noise level, only for 0 °C to +40 °C
	M4-RACKMOUNT-50mm	943 951-001	19" fixing brackets offer 50 mm more space in the front of the switch for cables
	M4-RACKMOUNT	943 951-101	19" spare fixing brackets