

MACH1000 19" Ruggedized Rack-Mount Switches

Fast Ethernet Uplink Ports, Gigabit Ethernet Uplink Ports, and Full Gigabit Ethernet Switches

The MACH1000 is available in a 24 port custom configurable design with 2 or 4 additional Gigabit uplink (RJ45 and/or SFP for fiber) and PoE ports. The MACH1000 is also available in an all-Gigabit version, offering 16 10/100/1000 RJ45/SFP combo ports to provide countless copper/fiber combinations. These Über-Rugged™ switches are available with Layer 2 or Layer 3 capabilities. The fanless design and extremely efficient components are optimized for minimal heat generation and high MTBF (mean time between failure). The 16 port GE switches offer sub-10 second boot times and offer time synchronization IEEE 1588v2, precision 30 ns.



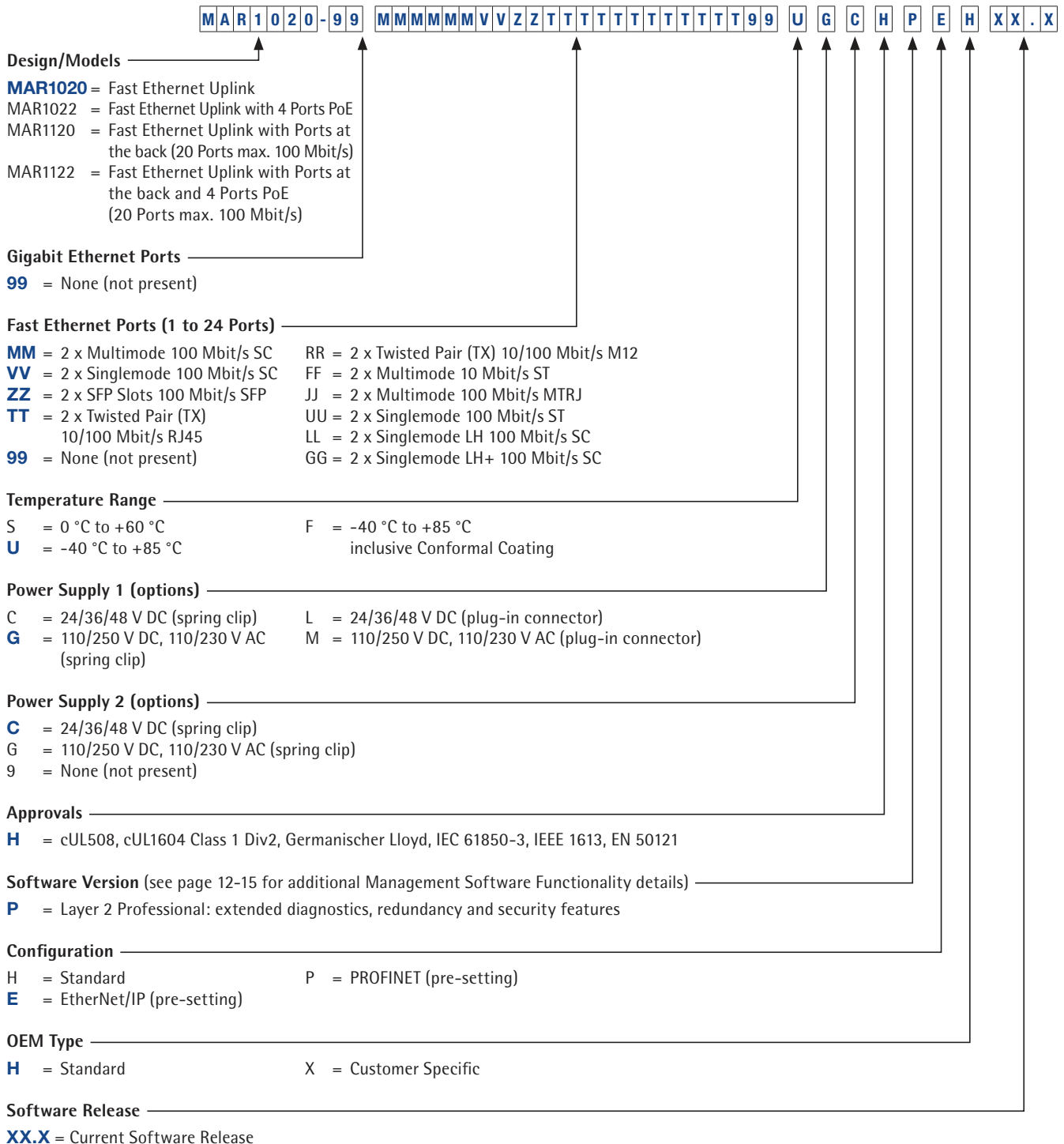
Technical Information

Product Description			
Type	MAR1020 Series 1x2x	MAR1030 Series 1x3x	MAR1040 Series 1x4x
Available Ports	2 to 24	2 to 28	16 (Full Gigabit)
Construction			
Mounting	19" Control Cabinet		
Protection Class	IP30		
Dimensions (WxHxD)	445 x 44 x 308 mm		
Weight	appr. 5 kg		
Ambient Conditions			
Operating Temperature	0 °C to +60 °C, -40 °C to +85 °C, or -40 °C to +85 °C (inclusive Conformal Coating)		
Storage/Transport Temperature	-40 °C to +85 °C		
Relative Humidity (non-condensing)	10% to 95%		
Conformal Coating	Yes (variant dependent)		
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	24 - 48 V DC or 110 - 250 V DC and 110 - 230 V AC		
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	cULus ISA12.12.01		
Ship	Germanischer Lloyd		
Transportation	NEMA TS2 (non-PoE models)		
Railway	EN 50121-4, EN 50155		
Substation	IEC 61850-3, IEEE 1613		
Reliability			
MTBF Range	21.5 to 38.9 years	20 to 47.6 years	27.1 to 27.8 years
Warranty	5 years standard		

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

MACH1000 19" Ruggedized Rack-Mount Switch Configurations

Fast Ethernet Uplink Ports: **MAR1020- | MAR1022- | MAR1120- | MAR1122**



NOTE: The last three part number categories (**Configuration, OEM Type and Software Release**) are optional.



MACH1000 19" Ruggedized Rack-Mount Switch Configurations

Gigabit Ethernet Uplink Ports: MAR1030- | MAR1032- | MAR1130- | MAR1132

MAR1030-CCMMMMMVVZZTTTTTTTTTT99UCCCHPHHX.X

Design/Models

- MAR1030** = Gigabit Ethernet Uplink
- MAR1032 = Gigabit Ethernet Uplink with 4 Ports PoE
- MAR1130 = Gigabit Ethernet Uplink with Ports at the back (20 Ports max. 100 Mbit/s)
- MAR1132 = Gigabit Ethernet Uplink with Ports at the back and 4 Ports PoE (20 Ports max. 100 Mbit/s)

Gigabit Ethernet Ports

- CC** = 2 Ports Combo (2 x 10/100/1000 TX or 2 x GE SFP)
- 40 = 4 Ports GE SFP
- 4T = 4 Ports 10/100/1000TX
- 0T = 2 Ports GE SFP and 2 Ports 10/100/1000 TX

Fast Ethernet Ports (1 to 24 Ports)

- MM** = 2 x Multimode 100 Mbit/s SC
- VV** = 2 x Singlemode 100 Mbit/s SC
- ZZ** = 2 x SFP Slots 100 Mbit/s SFP
- TT** = 2 x Twisted Pair (TX) 10/100 Mbit/s RJ45
- 99** = None (not present)
- RR** = 2 x Twisted Pair (TX) 10/100 Mbit/s M12
- FF** = 2 x Multimode 10 Mbit/s ST
- JJ** = 2 x Multimode 100 Mbit/s MTRJ
- UU** = 2 x Singlemode 100 Mbit/s ST
- LL** = 2 x Singlemode LH 100 Mbit/s SC
- GG** = 2 x Singlemode LH+ 100 Mbit/s SC

Temperature Range

- S** = 0 °C to +60 °C
- U** = -40 °C to +85 °C
- F** = -40 °C to +85 °C inclusive Conformal Coating

Power Supply 1 (options)

- C** = 24/36/48 V DC (spring clip)
- G** = 110/250 V DC, 110/230 V AC (spring clip)
- L** = 24/36/48 V DC (plug-in connector)
- M** = 110/250 V DC, 110/230 V AC (plug-in connector)

Power Supply 2 (options)

- C** = 24/36/48 V DC (spring clip)
- G** = 110/250 V DC, 110/230 V AC (spring clip)
- 9** = None (not present)

Approvals

- H** = cUL508, cUL1604 Class 1 Div2, Germanischer Lloyd, IEC 61850-3, IEEE 1613, EN 50121

Software Version (see page 12-15 for additional Management Software Functionality details)

- P** = Layer 2 Professional: extended diagnostics, redundancy and security features

Configuration

- H** = Standard
- E** = EtherNet/IP (pre-setting)
- P** = PROFINET (pre-setting)

OEM Type

- H** = Standard
- X** = Customer Specific

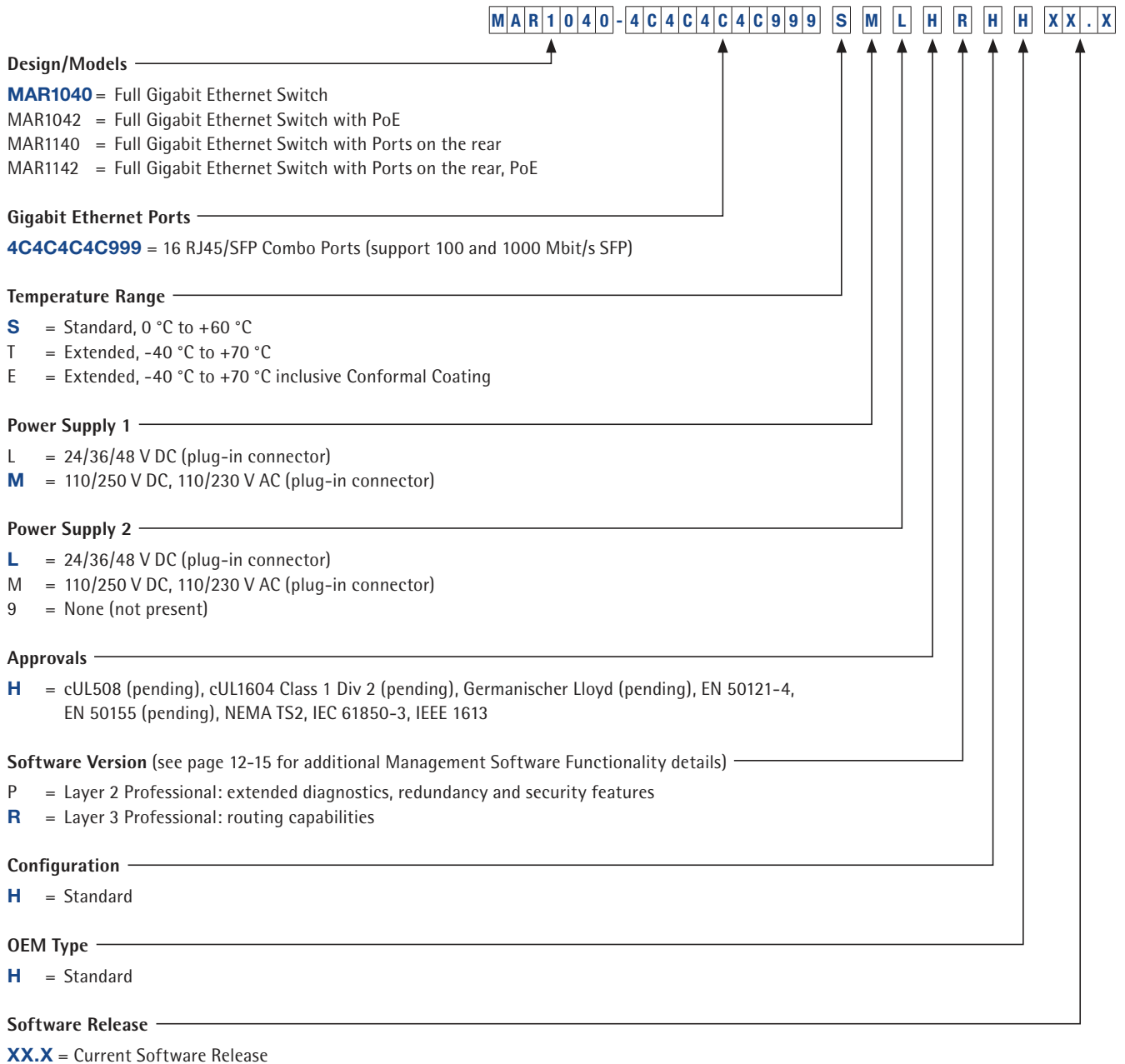
Software Release

- XX.X** = Current Software Release

NOTE: The last three part number categories (**Configuration**, **OEM Type** and **Software Release**) are optional.

MACH1000 19" Ruggedized Rack-Mount Switch Configurations

Full Gigabit Ethernet Switches: **MAR1040- | MAR1042- | MAR1140- | MAR1142**



NOTE: The last three part number categories (**Configuration, OEM Type and Software Release**) are optional.