



MS20 Managed Modular DIN Rail Mount Ethernet Switches

The MS20 series of Ethernet switches have eight to twenty-four 100 Mbit/s max ports. Fully managed (web, SNMP and CLI) IGMP snooping (multicast filtering), VLAN, port mirroring, port control, port security, link alarms, broadcast limiter, traffic diagnostics, HIPER-Ring redundancy, RSTP, etc.

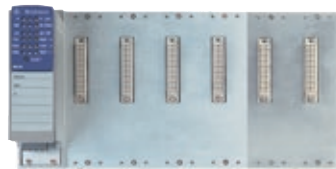
Features include: available in a 2 and 4 slot version (4 slot can be expanded to a 6 slot using MB-2T), requires the use of hot-swappable media modules for any combination of copper/fiber ports, dual power inputs and dual fault relay outputs, USB configuration backup/restore and fast device replacement, standard 0 °C to +60 °C (-40 °C to +70 °C and conformal coating available), differentiator between similar switches listed is the firmware level/features (E = Enhanced, P = Professional). Last digit in part number category software version (see page 12-15 for additional Management Software Functionality details).



MS20-08



MS20-16



MS20-16
(including backplane extension MB-2T)

All Ports are 10/100 Mbit/s		
Part No.	Order No.	Ports/Features
MS20-0800SAAE	943 435-001	2 x any MM2/MM3 (2 slots, max. 8 x 10/100 Mbit/s ports)
MS20-0800SAAP	943 435-002	2 x any MM2/MM3 (2 slots, max. 8 x 10/100 Mbit/s ports)
MS20-0800ECCP	943 956-001	2 x any MM2/MM3 (2 slots, max. 8 x 10/100 Mbit/s ports), -40 °C to +70 °C, conformal coated, 24/48 V DC, EN 50155
MS20-1600SAAE	943 435-003	4 x any MM2/MM3 (6 slots max. 16 x 10/100 Mbit/s ports/24 ports w/ MB-2T)
MS20-1600SAAP	943 435-004	4 x any MM2/MM3 (6 slots max. 16 x 10/100 Mbit/s ports/24 ports w/ MB-2T)
MS20-1600ECCP	943 956-002	4 x any MM2/MM3 (6 slots max. 16 x 10/100 Mbit/s ports/24 ports w/ MB-2T), -40 °C to +70 °C, conformal coated, 24/48 V DC, EN 50155



MS30 Managed Modular DIN Rail Mount Ethernet Switches



MS30-08

The MS30 series of Ethernet switches have the same functionality and features as the MS20 series, with the exception of an added slot for a Gigabit Media Module (for 2 x 10/100/1000 RJ45/Gigabit SFP combo ports).

Features include: uplink ports are 10/100/1000 Mbit/s, all other ports are 10/100 Mbit/s, MS30-08 can have a max of 8 x 10/100 Mbit/s ports and 2 x 10/100 RJ45/Gigabit SFP combo ports. Ports can be any combination of copper and/or fiber, and Gigabit RJ45/SFP combo ports compatible with Gigabit SFPs.



MS30-16



MS30-16 (including backplane extension MB-2T)

All Ports are 10/100 Mbit/s		
Part No.	Order No.	Ports/Features
MS30-0802SAAE	943 435-005	2 x any MM2/MM3 and 1 x MM4-2TX/SFP (max 10 ports)
MS30-0802SAAP	943 435-006	2 x any MM2/MM3 and 1 x MM4-2TX/SFP (max 10 ports)
MS30-1602SAAE	943 435-007	4 x any MM2/MM3 (6 x w/MB-2T) and 1 x MM4-2TX/SFP (max 26 ports)

MS Backplane Extensions

MICE 2-slot backplane extensions are used for MS20-16, MS30-16 and MS4128. Only one per switch may be used for a maximum of six total slots.



Backplane Extensions		
Part No.	Order No.	Ports/Features
MB-2T	943 733-102	MS20-16, MS30-16, and MS4128
MB20-2TAHH	943 435-002	Same as above but with -40 °C to +70 °C



Managed Modular DIN Rail Mount Switches

Any combination of the following hot-swappable media modules may be used to attain the desired port density/type on a MS switch. The only restriction is the number of slots that the MS backplane has (one media module per slot).

Modules: All Copper		
Part No.	Order No.	Ports/Features
MM2-4TX1	943 722-101	4 x 10/100 Mbit/s RJ45
MM2-4TX1-EEC	943 722-151	4 x 10/100 Mbit/s RJ45, extended temperature range



Modules: Multimode			
Type	Part No.	Order No.	Ports/Features
MM	MM2-2FXM2	943 718-101	2 x 100 Mbit/s MM SC
MM	MM3-4FXM2	943 764-101	4 x 100 Mbit/s MM SC
MM	MM3-4FXM4	943 835-101	4 x 100 Mbit/s MM ST
MM	MM3-1FXM2/3TX1	943 839-101	1 x 100 Mbit/s MM SC, 3 x RJ45
MM	MM3-2FXM2/2TX1	943 837-101	2 x 100 Mbit/s MM ST, 2 x RJ45
MM	MM3-4FLM4	943 760-101	4 x 10 Mbit/s MM ST
MM	MM3-2FXM2/2TX1	943 761-101	2 x 100 Mbit/s MM SC, 2 x RJ45
MM	MM3-2FXM2/2TX1-EEC	943 761-151	2 x 100 Mbit/s MM SC, 2 x RJ45, ext. temperature range
MM	MM3-1FXM2/1FXS2/2TX1	943 929-101	2 x 100 Mbit/s SC (1 x MM and 1 x SM), 2 x RJ45
MM	MM2-4FXM3	943 721-101	4 x 100 Mbit/s MM MTRJ
MM	MM2-2FXM3/2TX1	943 720-101	2 x 100 Mbit/s MM MTRJ, 2 x RJ45
SFP	MM20-Z6Z6Z6SAHH	943 938-001	4 x 100 Mbit/s SFP sockets (SFPs are sold separately), for MS20, MS30 and MS4128



Modules: Singlemode			
Type	Part No.	Order No.	Ports/Features
SM	MM2-2FXS2	943 719-101	2 x 100 Mbit/s SM SC
SM	MM3-2FXS2/2TX1	943 762-101	2 x 100 Mbit/s SM SC, 2 x RJ45
SM	MM3-2FXS2/2TX1-EEC	943 762-151	2 x 100 Mbit/s SM SC, 2 x RJ45, ext. temperature range
SM	MM3-1FXS2/3TX1	943 838-101	1 x 100 Mbit/s SM SC, 3 x RJ45
SM	MM3-4FXS2	943 836-101	4 x 100 Mbit/s SM SC
SM	MM3-1FXL2/3TX1	943 763-101	1 x 100 Mbit/s SM SC Long Haul, 3 x RJ45
SM	MM3-1FXLH/3TX1	943 930-101	1 x 100 Mbit/s SM SC Long Haul+, 3 x RJ45
SM	MM3-1FXS2/3TX1-EEC	943 838-151	1 x 100 Mbit/s SM SC, 3 x RJ45, ext. temperature range
SFP	MM20-Z6Z6Z6SAHH	943 938-001	4 x 100 Mbit/s SFP sockets (SFPs are sold separately), for MS20, MS30 and MS4128



Modules: Gigabit			
Type	Part No.	Order No.	Ports/Features
Gigabit	MM4-2TX/SFP	943 622-001	2 x Gigabit RJ45/SFP combo ports for use with MS30 and MS4128
Gigabit	MM4-4TX/SFP	943 010-001	4 x Gigabit RJ45/SFP combo ports for use with MS4128 only



Managed Modular DIN Rail Mount Switches (continued)



Modules: Special Purpose			
Type	Part No.	Order No.	Ports/Features
Realtime	MM23-T1T1T1T1SAAH PTPv2	–	IEEE 1588 Version 2 PTP module, 4 x 10/100 RJ45, replacement for 943 117-001
Realtime	MM23-M2M2T1T1SAAH PTPv2	–	IEEE 1588 Version 2 PTP module, 2 x multimode, SC sockets, replacement for 943 117-002
Realtime	MM23-S2S2T1T1SAAH PTPv2	–	IEEE 1588 Version 2 PTP module, 2 x singlemode, SC sockets, replacement for 943 117-003
Realtime	MM23-F4F4T1T1SAAH PTPv2	–	IEEE 1588 Version 2 PTP module, 2 x multimode, ST sockets, replacement for 943 117-004
Realtime	MM33-07079999SA PTPv2	–	IEEE 1588 Version 2 PTP module, SFP sockets
Realtime	MM3-4TX1-RT-EEC	943 955-001	4 x RJ45, railway certifications EN 50155, EN 50121-4, IEEE 1588 Version 1
Realtime	MM3-2FXM2/2TX1-RT-EEC	943 955-002	2 x 100 Mbit/s MM SC, 2 x RJ45, IEEE 1588 Version 1, railway certifications EN 50155, EN 50121-4
Realtime	MM3-2FXS2/2TX1-RT-EEC	943 955-003	2 x 100 Mbit/s SM SC, 2 x RJ 45, IEEE 1588 Version 1, railway certifications EN 50155, EN 50121-4
AUI	MM20-A8A89999SAHH	943 840-101	2 x AUI SUB-D 15-pin male D-sub
M12	MM3-4TX5	943 841-101	4 x M12 sockets (D-code), for connectors see OCTOPUS family
PoE	MM22-T1T1T1T1SAHH	943 938-002	4 x RJ45 PoE (external PoE power supply)
SFP	MM20-Z6Z6Z6Z6SAHH	943 938-001	4 x 100 Mbit/s SFP sockets (SFPs are sold separately), for MS20, MS30 and MS4128

Fast Ethernet MICE Media Modules, Digital I/O		
Part No.	Order No.	Ports/Features
MM24-IOIOIOIOSZHH	MM24-IOIOIOIOSZHH	Port 1: 1 x digital input, 1 x digital output Port 2: 1 x digital input, 1 x digital output Port 3: 1 x digital input, 1 x digital output Port 4: 1 x digital input, 1 x digital output
MM24-IOIOIOIOTZHH	MM24-IOIOIOIOTZHH	Same as above, except with extended temperature range -40 °C to +70 °C
MM24-IOIOIOIOEZHH	MM24-IOIOIOIOEZHH	Same as above, except with extended temperature range and conformal coating



MSP30/MSP32 Managed Modular DIN Rail Mount Switches

MSP30/MSP32 MICE Switch Power

The Hirschmann MSP30 Layer 3 switch extends the unique security functions of the MSP30 family to include high-performance routing. This functionality is offered in a variety of hardware packages. Unicast dynamic routing (UR) and multicast dynamic routing (MR) offer customers an attractive cost benefit – “Just pay for what you need.” With its existing modular IPv6-ready hardware, the MSP30 Layer 3 switch enables complete solutions that meet all network requirements.



Technical Information

Product Description		
Type	MSP30-Series	MSP32-Series
Available Ports	12, 20, 28 four of which can be Gigabit (variant dependent)	
Enhanced Redundancy Functions	MRP	
Construction		
Mounting	DIN Rail	
Protection Class	IP30	
Dimensions (WxHxD)	236.6/313.8/391 x 147.2 x 141.75 mm (variant dependent)	
Weight	2100/2400/2650 g (variant dependent)	2200/2500/2750 g (variant dependent)
Ambient Conditions		
Operating Temperature	0 °C to +60 °C, -40 °C to +70 °C or -40 °C to +70 °C (inclusive Conformal Coating), IEC 60068-2-2 Dry Heat Test	
Storage/Transport Temperature	-40 °C to +85 °C	
Relative Humidity (non-condensing)	5% to 95%	
Conformal Coating	Yes (variant dependent)	
Interfaces		
V.24 Interface	1 x RJ45 socket	
USB Interface	1 x USB socket (to connect auto-configuration adapter ACA21-USB)	
SD Interface	1 x SD socket (to connect auto-configuration adapter ACA31-SD)	
Software		
Supported HiOS Software Levels	Layer 2 Advanced (L2A), Layer 3 Advanced (L3A)	
Power Requirements		
Operating Voltage	24/36/48 V DC redundant	
PoE (802.3af) Ports Supported	n/a	integrated PoE Plus function with up to 120 W
PoE Plus (802.3at) Ports Supported	n/a	integrated PoE Plus function with up to 120 W
Regulatory Approvals		
Safety of Industrial Control Equipment	cUL508	
Hazardous Locations	ISA-12.12.-01 Class 1 Div. 2 Group A, B, C, D – Haz. Loc (pending), ATEX-95 Approval, Category 3G (Zone 2), Group IIC, T4, “nA” (pending)	
Ship	Germanischer Lloyd (pending)	
Transportation	NEMA TS2 (pending)	
Railway (norm)	EN 50121-4 (pending)	
Substation	IEC 61850-3, IEEE 1613 (pending)	
Reliability		
MTBF Range	www.hirschmann.com	
Warranty	5 years standard	

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

MSP MICE Switch Power Configurations

Gigabit Ethernet Uplink Ports, Gigabit Ethernet Uplink Ports with PoE+ Capability

M S P 3 0 - 0 8 0 4 0 S C Z 9 9 9 H H E 3 A X X . X

Design

MSP30 = Gigabit Ethernet Uplink Ports
 MSP32 = Gigabit Ethernet Uplink Ports with PoE(+) Capability

Number of Fast Ethernet Ports

08 = 08 x 10/100 Mbit/s
 16 = 16 x 10/100 Mbit/s
 24 = 24 x 10/100 Mbit/s

Number of Gigabit Ethernet Ports

04 = 4 x 10/100/1000 Mbit/s

Number of 10 Gigabit Ethernet Ports

0 = 10/100/1000/10000 Mbit/s

Temperature Range

S = Standard 0 °C to +60 °C
T = Extended -40 °C to +70 °C
E = Extended -40 °C to +70 °C with conformal coating

Power Supply

C = 24/36/48 V DC (18 to 60 V DC)
P = 47 to 57 V DC (PoE), 53 to 57 V DC (PoE+)

Approvals

Z9 = CE, FCC, EN 61131 (EN 60950)	VT = VY + EN50121-4
Y9 = Z9 + cUL508 (UL60950)	T9 = Z9 + EN50121-4
W9 = Z9 + ATEX Zone 2	TY = T9 + cUL508 (UL60950)
WY = Y9 + ATEX Zone 2	U9 = Z9 + GL (ABS, BV, DNS, LR)
X9 = Y9 + ISA 12.12.01 Class 1 Div. 2	UY = U9 + cUL508 (UL60950)
V9 = Z9 + IEC 61850, IEEE 1613	UW = UY + ATEX Zone 2
VY = V9 + cUL508 (UL60950)	UX = UY + ISA 12.12.01 Class 1 Div. 2
VU = VY + GL (ABS, BV, DNS, LR)	

Software Packages

99 = Reserved
UR = Unicast Routing
MR = Multicast Routing

Customization

HH = Hirschmann Standard
HX = Hirschmann Extreme

Software Configuration

E = Entry (Hirschmann Standard Configuration)

Software Level

3A = HiOS Layer 3 Advanced
2A = HiOS Layer 2 Advanced

Software Release

XX.X = Current Software Release
03.0 = Software Version 03.0
02.0 = Software Version 02.0

NOTE: The last four categories (**Customization, Software Configuration, Software Level** and **Software Release**) are optional.



Managed Modular MICE Switch Power Media Modules

MSM20/MSM24/MSM40/MSM42 Managed Modular MICE Switch Power Media Modules

The variety of transmission media and range of connector versions ensure an optimum degree of flexibility and application coverage.

Transmission media

- Copper
- Multimode Fiber
- Singlemode Fiber
- Long Haul Fiber
- Long Haul+

Connector versions

- RJ45
- SC
- ST
- LC via SFP (small form-factor pluggable)



Any combination of the hot-swappable media modules may be used to attain the desired port density/type on a MICE Switch Power switch. The sole limitation is the number of media module slots on a switch (one media module per slot).

Media modules are available as Fast Ethernet and Gigabit variants and their uniform design allows the customer to place them on any module slot of MSP. Additionally PoE+ variant of the Gigabit module ensure integration of PoE based end devices into the network.

Modules: Copper		
Part No.	Order No.	Ports/Features
MSM40-T1T1T1T1SZ9HH 9E99.9.99	942 077-999	4 x Gigabit Ethernet Ports RJ45, Standard Temperature Range 0 °C to +60 °C, Basic Approvals
MSM40-T1T1T1T1TZ9HH 9E99.9.99	942 077-999	4 x Gigabit Ethernet Ports RJ45, Extended Temperature Range -40 °C to +70 °C, Basic Approvals
MSM40-C1C1C1C1SZ9HH 9E99.9.99	942 077-999	4 x Gigabit Ethernet Combo Ports RJ45/SFP, Standard Temperature Range 0 °C to +60 °C, Basic Approvals
MSM40-C1C1C1C1TZ9HH 9E99.9.99	942 077-999	4 x Gigabit Ethernet Combo Ports RJ45/SFP, Extended Temperature Range -40 °C to +70 °C, Basic Approvals

Modules: Multimode		
Part No.	Order No.	Ports/Features
MSM20-M2T1T1T1SZ9HH 9E99.9.99	942 077-999	1 x Fast Ethernet Multimode Fiber Port, 3 x Fast Ethernet Ports RJ45, Standard Temperature Range 0 °C to +60 °C, Basic Approvals
MSM20-M2M2T1T1SZ9HH 9E99.9.99	942 077-999	2 x Fast Ethernet Multimode Fiber Ports, 2 x Fast Ethernet Ports RJ45, Standard Temperature Range 0 °C to +60 °C, Basic Approvals
MSM20-M2M2M2M2SZ9HH 9E99.9.99	942 077-999	4 x Fast Ethernet Multimode Fiber Ports, Standard Temperature Range 0 °C to +60 °C, Basic Approvals
MSM20-M2M2M2M2TZ9HH 9E99.9.99	942 077-999	4 x Fast Ethernet Multimode Fiber Ports, Extended Temperature Range -40 °C to +70 °C, Basic Approvals

NOTE: For further combinations and options such as Conformal Coating, please visit our website at: www.hirschmann.com



Managed Modular MICE Switch Power Media Modules (continued)

Managed Modular MSM20/MSM24/MSM40/MSM42 MICE Switch Power Media Modules



Modules: Singlemode		
Part No.	Order No.	Ports/Features
MSM20-S2T1T1T1SZ9HH9E99.9.99	942 077-999	1 x Fast Ethernet Singlemode Fiber Port, 3 x Fast Ethernet Ports RJ45, Standard Temperature Range 0 °C to +60 °C, Basic Approvals
MSM20-S2S2T1T1SZ9HH9E99.9.99	942 077-999	2 x Fast Ethernet Singlemode Fiber Ports, 2 x Fast Ethernet Ports RJ45, Standard Temperature Range 0 °C to +60 °C, Basic Approvals
MSM20-S2S2S2S2SZ9HH9E99.9.99	942 077-999	4 x Fast Ethernet Singlemode Fiber Ports, Standard Temperature Range 0 °C to +60 °C, Basic Approvals
MSM20-S2S2S2S2TZ9HH9E99.9.99	942 077-999	4 x Fast Ethernet Singlemode Fiber Ports, Extended Temperature Range -40 °C to +70 °C, Basic Approvals

Modules: Long Haul		
Part No.	Order No.	Ports/Features
MSM20-G2T1T1T1SZ9HH9E99.9.99	942 077-999	1 x Fast Ethernet Long Haul Fiber Port, 3 x Fast Ethernet Ports RJ45, Standard Temperature Range 0 °C to +60 °C, Basic Approvals
MSM20-G2G2T1T1SZ9HH9E99.9.99	942 077-999	2 x Fast Ethernet Long Haul Fiber Ports, 2 x Fast Ethernet Ports RJ45, Standard Temperature Range 0 °C to +60 °C, Basic Approvals
MSM20-G2G2G2S2SZ9HH9E99.9.99	942 077-999	4 x Fast Ethernet Long Haul Fiber Ports, Standard Temperature Range 0 °C to +60 °C, Basic Approvals
MSM40-C1C1C1C1TZ9HH9E99.9.99	942 077-999	4 x Fast Ethernet Long Haul Fiber Ports, Extended Temperature Range -40 °C to +70 °C, Basic Approvals

Modules: Power over Ethernet		
Part No.	Order No.	Ports/Features
MSM42-T1T1T1T1SZ9HH9E99.9.99	942 077-999	4 x Gigabit Ethernet PoE+ Ports RJ45, Standard Temperature Range 0 °C to +60 °C, Basic Approvals
MSM42-T1T1T1T1TZ9HH9E99.9.99	942 077-999	4 x Gigabit Ethernet PoE+ Ports RJ45, Extended Temperature Range -40 °C to +70 °C, Basic Approvals

Modules: Digital I/O		
Part No.	Order No.	Ports/Features
MSM24-IOIOIOIOSZ9HH9E99.9.99	942 077-999	4 x Digital I/O Interface, Standard Temperature Range 0 °C to +60 °C, Basic Approvals
MSM24-IOIOIOIOTZ9HH9E99.9.99	942 077-999	4 x Digital I/O Interface, Extended Temperature Range -40 °C to +70 °C, Basic Approvals

NOTE: For further combinations and options such as Conformal Coating, please visit our website at: www.hirschmann.com



MICE Switch Power Media Module Configurations

Fast Ethernet Ports, Fast Ethernet/Gigabit Ethernet Ports, Fast Ethernet/Gigabit Ethernet Ports with PoE+ Capability, Fast Ethernet/Gigabit Ethernet Ports with Enhanced Redundancy and PTP

M S M 4 0 - T 1 T 1 T 1 T 1 S Z 9 H H 9 E 9 9 . 9 9 9

Design

MSM20 = Fast Ethernet Ports
 MSM24 = Fast Ethernet Digital Input/Output
MSM40 = Fast Ethernet/Gigabit Ethernet Ports
 MSM42 = Fast Ethernet/Gigabit Ethernet Ports with PoE(+) Capability

Port Type 1. Uplink

T1 = Twisted Pair (TX)/RJ45 (10/100/1000 Mbit/s)
 T5 = Twisted Pair (TX)/M12 (10/100 Mbit/s)
 C1 = Combo Port Twisted Pair (TX)/RJ45 (10/100/1000 Mbit/s) & - Fiber Optic SFP Cage (100/1000 Mbit/s)
 G2 = Singlemode Long Haul FX DSC 200 km (100 Mbit/s)
 L2 = Singlemode Long Haul FX DSC (100 Mbit/s)
 S4 = Singlemode FX ST (100 Mbit/s)

M2 = Multimode FX DSC (100 Mbit/s)
 M4 = Multimode FX ST (100 Mbit/s)
 I/O = Digital Input/Output
 S2 = Singlemode FX DSC (100 Mbit/s)

Port Type 2. Uplink

(see port type 1. Uplink)

Port Type 3. Uplink

(see port type 1. Uplink)

Port Type 4. Uplink

(see port type 1. Uplink)

Temperature Range

S = 0 °C to +60 °C
T = -40 °C to +70 °C
P = -40 °C to +70 °C inclusive conformal coating

Approvals

Z9 = CE, FCC, EN 61131 (EN 60950)
Y9 = Z9 + cUL508 (UL60950)
W9 = Z9 + ATEX Zone 2
WY = Y9 + ATEX Zone 2
X9 = Y9 + ISA 12.12.01 Class 1 Div. 2
V9 = Z9 + IEC 61850, IEEE 1613
VY = V9 + cUL508 (UL60950)
VU = VY + GL (ABS, BV, DNS, LR)

VT = VY + EN50121-4
T9 = Z9 + EN50121-4
TY = T9 + cUL508 (UL60950)
U9 = Z9 + GL (ABS, BV, DNS, LR)
UY = U9 + cUL508 (UL60950)
UW = UY + ATEX Zone 2
UX = UY + ISA 12.12.01 Class 1 Div. 2

Customization

HH = Hirschmann Standard
HX = Hirschmann Extreme

Hardware Configuration

9 = No FPGA

Software Configuration

E = Entry (without configuration)

Software Release

99.9 = No Software

Maintenance

99 = No Maintenance Version

NOTE: The categories (Customization, Hardware Configuration, Software Configuration and Software Release) are optional.