

OpenRail Managed DIN Rail Mount Switches



OpenRail Compact and Modular Switches

With the continued growth and demand for application-specific switches, Hirschmann has developed the OpenRail line of managed and unmanaged switches. The OpenRail series allows users to choose either a Compact or Modular switch, as well as specify port density, backbone type (copper/fiber), connector type (RJ45, M12, SC, ST, LC, MTRJ), and speed, temperature ratings, conformal coating and a myriad of industry approvals. Both compact

and modular platforms offer redundant power inputs and fault relay (triggerable by loss of power and/or port link), while only the managed versions offers media/ring redundancy, multicast filtering/IGMP Snooping, VLAN, port mirroring, network diagnostics, port control, etc.

Compact Switches

A compact platform that allows for up to 24-ports in a mere 4.25" of DIN rail! Available in managed and unmanaged versions.

RS20 Series Managed/Unmanaged

4x, 8x, 9x, 16x, 17x, 24x and 25x 10/100 Mbps ports

Note: 4x only available as managed, all others available as managed or unmanaged switches

RS30 Series

2x Gigabit Uplinks and 8x, 16x, and 24x 10/100 Mbps ports

Available as a managed or unmanaged switch

RS40 Series

9x Gigabit ports

Available as a managed switch only

EtherNet/IP™
conformance tested



Modular Switches (MICE)

A modular and flexible backplane-based platform that provides an almost limitless variety of port variations while allowing users to change the switch's port density and configuration on the fly using hot-plug Media Modules. Only available as a managed switch.

MS20 Series

MS20-08: 8x 10/100 Mbps ports (max)

MS20-16: 16x 10/100 Mbps ports. With backplane extension (MB-2T) a port density of 24x 10/100 Mbps can be obtained

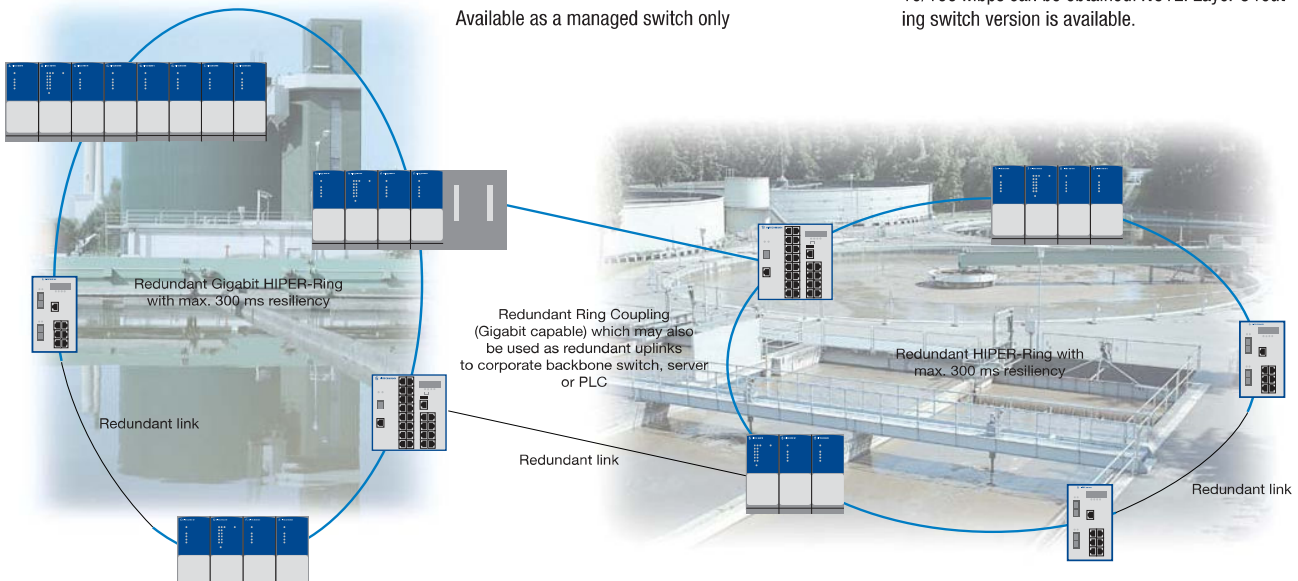
MS30 Series

MS30-08: 2x Gigabit and 8x 10/100 Mbps ports

MS30-16: 2x Gigabit and 16x 10/100 Mbps ports. With backplane extension (MB-2T) a port density of 26x 10/100 Mbps (max) can be obtained

MS40 Series (PowerMICE)

4x Gigabit and 16x 10/100 Mbps ports. With backplane extension (MB-2T) a port density of 28x 10/100 Mbps can be obtained. NOTE: Layer 3 routing switch version is available.



Example of compact and modular managed and unmanaged switches employed in a Water Wastewater treatment plant.



OpenRail Configuration

RS20-0800S2S2TDHE		OpenRail Managed DIN Rail Mount Switches - Part Configurator	
RS20-		Design/Model Compact Rail Switch RS20 10/100 Mbps Ethernet uplinks RS22 10/100 Mbps Ethernet uplinks (4 xPoE) RS30 10/100/1000 Mbps Ethernet uplinks RS32 10/100/1000 Mbps Ethernet uplinks (4 x PoE) RS40 Full Gigabit Modular MICE Switch MS20 10/100 Mbps Ethernet uplinks MS30 10/100/1000 Mbps Ethernet uplinks	
08		Ports Fast Ethernet 04 (only RS20) 00: number of 1000 Mbps ports (RS20, RS22 and MS20) 08 02: number of 1000 Mbps ports (RS30, RS32 and MS30) 09 (only RS20, RS22) 09, 17, 25: number of 100 Mbps ports (RS20 > 2 fiber ports) 16 17 (RS20, RS22, RS30, RS32) 24 (RS20, RS22, RS30, RS32) 24 (MS20, MS30) 25 (RS20, RS22, RS30, RS32)	
00		Ports Gigabit Ethernet 00 00, 02: number of 1000 Mbps ports (00-RS22 and 02-RS30) 02 09 09: number of 1000 Mbps ports (RS40)	
S2		Ports, Type 1. Uplink T1 1 x Twisted Pair RJ45 (10/100 Mbps) O6 1 x SFP Slot Gigabit M2 1 x Multimode SC (100 Mbps) MM 2 x Multimode SC (100 Mbps) M4 1 x Multimode ST (100 Mbps) NN 2 x Multimode ST (100 Mbps) S2 1 x Singlemode SC (100 Mbps) VV 2 x Singlemode SC (100 Mbps) S4 1 x Singlemode ST (100 Mbps) UU 2 x Singlemode ST (100 Mbps) L2 1 x Long Haul SC (100 Mbps) 00 2 x SFP Slot Gigabit G2 1 x Long Haul+ SC (100 Mbps) CC 2 x SFP Combo Gigabit	
S2		Ports, Type 2. Uplink T1 1 x Twisted Pair RJ45 (10/100 Mbps) L2 1 x Long Haul SC (100 Mbps) M2 1 x Multimode SC (100 Mbps) G2 1 x Long Haul+ SC (100 Mbps) M4 1 x Multimode ST (100 Mbps) O6 1 x SFP Slot Gigabit S2 1 x Singlemode SC (100 Mbps) ZZ 2 x SFP Slot FE (100 Mbps)	
T		Temperature Range S 0°C up to +60° C T -40° C up to +70° C E -40° C up to +70° C includes Conformal Coating	
D		Power Supply A MICE 24 VDC (18–32 V) C MICE 24 V/48VDC (18–60 V) D Rail 12/24 V/48 VDC (9.6–60 V) and 24 VAC (18–30 V) E MICE 24/18 VDC (18–60 V) 6 pin connector P Rail 47–52 VDC (PoE)	
H		Approvals A cUL508 - cUL1604 - Class1 Div.2 H cUL508 - cUL1604 - Class1 Div.2 GL: German Lloyd - IEC 61850-3: Substation IEEE 1613: Substation - EN 50121-4: Railway (along track) B cUL508 - cUL1604 - Class1 Div.2 GL: German Lloyd - IEC 61850-3: Substation IEEE 1613: Substation - EN 50121-4: Railway (along track) ATEX100a, Zone 2: Hazardous Location	
E		Software Version U Unmanaged E Enhanced, additional filters and redundancy P Professional, additional security and diagnostics, advanced filtering and redundancy	
H		Configuration H Standard P PROFINET pre-setting X Customer specific E EtherNet/IP pre-setting	
H		OEM-Type H Standard X Customer specific	
04.0.		Software Release 04.0. Software release 4.0. XX.X. Newest software release	

NOTE: Due to the vast number of switch variations (port density, port type, approvals, power input, etc.), Hirschmann has developed a part number matrix that permits users to custom-tailor their own switch. Simply decide on Compact or Modular, number of ports, the type of uplink ports (these can be used as standard ports), and select the temperature, power and approvals.

It is highly recommended that configurations are verified using the online Configurator.

www.beldensolutions.com

Required Field	Optional
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Compact Managed DIN Rail Mount Switches



RS20 Series Compact Switches

300ms HiPer-Ring

All copper ports are 10/100 Mbps. Uplink ports are 100 Mbps.

- Available in 4/8/9/16/17/24 and 25x100 Mbps ports
- Fully managed (web, SNMP and CLI) – VLAN, IGMP snooping (multicast filtering), port mirroring, port control, port security, link alarms, broadcast limiter, traffic diagnostics, ring redundancy and much more
- Fiber ports are available in multimode and/or singlemode
- Dual power inputs and fault relay
- USB port for configuration backup/restore and fast device replacement
- Std. 0°C to +60°C (-40°C to +70°C, conformal coating available)
- Differentiator between similar switches listed is the firmware level/features (last digit of part number). See bottom of page 17 (E is L2 Enhanced, P is L2 Professional)

All Copper		
Part No.	Order No.	Ports
RS20-0400T1T1SDAE	943 434-007	4x RJ45
RS20-0400T1T1SDAP	943 434-008	4x RJ45
RS20-0800T1T1SDAE	943 434-021	8x RJ45
RS20-0800T1T1SDAP	943 434-022	8x RJ45
RS20-1600T1T1SDAE	943 434-023	16x RJ45
RS20-1600T1T1SDAP	943 434-024	16x RJ45
RS20-2400T1T1SDAE	943 434-041	24x RJ45
RS20-2400T1T1SDAP	943 434-042	24x RJ45

Multimode		
Part No.	Order No.	Ports
RS20-0400M2T1SDAE	943 434-009	3x RJ45, 1x SC
RS20-0400M2T1SDAP	943 434-010	3x RJ45, 1x SC
RS20-0400M2M2SDAE	943 434-001	2x RJ45, 2x SC
RS20-0400M2M2SDAP	943 434-002	2x RJ45, 2x SC
RS20-0800M2M2SDAE	943 434-003	6x RJ45, 2x SC

RS20-0800M2M2SDAP	943 434-004	6x RJ45, 2x SC
RS20-0800M4M4SDAE	943 434-017	6x RJ45, 2x ST
RS20-0800M4M4SDAP	943 434-018	6x RJ45, 2x ST
RS20-1600M2T1SDAE	943 434-025	15x RJ45, 1x SC
RS20-1600M2T1SDAP	943 434-026	15x RJ45, 1x SC
RS20-1600M2M2SDAE	943 434-005	14x RJ45, 2x SC
RS20-1600M2M2SDAP	943 434-006	14x RJ45, 2x SC
RS20-2400M2M2SDAE	943 434-043	22x RJ45, 2x SC
RS20-2400M2M2SDAP	943 434-044	22x RJ45, 2x SC

Single-Mode		
Part No.	Order No.	Ports
RS20-0400S2T1SDAE	943 434-011	3x RJ45, 1x SC
RS20-0400S2T1SDAP	943 434-012	3x RJ45, 1x SC
RS20-0400S2S2SDAE	943 434-013	2x RJ45, 2x SC
RS20-0400S2S2SDAP	943 434-014	2x RJ45, 2x SC
RS20-0800S2S2SDAE	943 434-019	6x RJ45, 2x SC
RS20-0800S2S2SDAP	943 434-020	6x RJ45, 2x SC
RS20-1600S2S2SDAE	943 434-027	14x RJ45, 2x SC
RS20-1600S2S2SDAP	943 434-028	14x RJ45, 2x SC
RS20-2400S2S2SDAE	943 434-045	22x RJ45, 2x SC
RS20-2400S2S2SDAP	943 434-046	22x RJ45, 2x SC

NOTE: Add an additional “-E” to switches for pre-configured IGMP Snooping, auto-negotiation on the uplinks and more (a factory-set configuration for EtherNet/IP). Please contact us for more details.

RS30 Series Compact Switches

FAST 30ms HiPer-Ring

All copper ports are 10/100 Mbps. Uplink ports are Gigabit.

- Available in 8x, 16x and 24x10/100 Mbps ports. All with 2 additional Gigabit ports
- Identical management and features as RS20
- Fiber uplink ports are available in multimode and/or singlemode by using Gigabit SFP

All Copper		
Part No.	Order No.	Ports
RS30-0802T1T1SDAE	943 434-029	8x 10/100 RJ45, 2x 10/100/1000 RJ45
RS30-0802T1T1SDAP	943 434-030	8x 10/100 RJ45, 2x 10/100/1000 RJ45
RS30-1602T1T1SDAE	943 434-033	16x 10/100 RJ45, 2x 10/100/1000 RJ45

EtherNet/IP™
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PROFI
NET

RS30-1602T1T1SDAP	943 434-034	16x 10/100 RJ45, 2x 10/100/1000 RJ45
RS30-2402T1T1SDAE	943 434-037	24x 10/100 RJ45, 2x 10/100/1000 RJ45
RS30-2402T1T1SDAP	943 434-038	24x 10/100 RJ45, 2x 10/100/1000 RJ45

Fiber		
Part No.	Order No.	Ports
RS30-08020606SDAE	943 434-031	8x 10/100 RJ45, 2x Gigabit SFP
RS30-08020606SDAP	943 434-032	8x 10/100 RJ45, 2x Gigabit SFP
RS30-16020606SDAE	943 434-035	16x 10/100 RJ45, 2x Gigabit SFP
RS30-16020606SDAP	943 434-036	16x 10/100 RJ45, 2x Gigabit SFP
RS30-24020606SDAE	943 434-039	24x 10/100 RJ45, 2x Gigabit SFP
RS30-24020606SDAP	943 434-040	24x 10/100 RJ45, 2x Gigabit SFP

RS40 Series Compact Switches

FAST 30ms HiPer-Ring

All ports are Gigabit

- Available with 9 ports (4 of which are RJ45/SFP combo ports)
- Identical management and features as RS20 and RS30
- 5x 10/100/1000 RJ45 and 4x 100/1000 RJ45/SFP combo ports (function of one RJ45 is lost for each SFP utilized)
- Fiber uplink ports are available in multimode and/or singlemode by using Gigabit or 100 Mbps SFP

Compact Switches - RS40	
Part No.	Ports
RS40-0009CCCCSDAE	9x 10/100/1000 RJ45, 4x 100/1000 SFP
RS40-0009CCCCSDAP	9x 10/100/1000 RJ45, 4x 100/1000 SFP

NOTE: A combo port is a combination 10/100/1000 Mbps RJ45 and 1000 Mbps SFP port (100 and 1000 Mbps SFPs are supported by RS40). Only one is active at a time. The use of one SFP port disables one RJ45 port. The use of two SFP ports disables two RJ45 ports, etc.

Don't see your configuration requirement? Build your own on page 9!



Optimized Price/Performance Ratio DIN Rail Mount Switches



RSB20 Series - Compact Über-Rugged Basic Managed Switches

10/100 BASE-TX and 100 BASE-FX

The new Hirschmann RSB20 series of managed switches consists of 32 models that are distinguished by the number and type of ports offered, factory settings for EtherNet/IP and specific operating temperature ranges.

This provides an economically attractive entry into the segment of managed switches, where customers only pay for their exact equipment (feature and function) needs. The RSB20 portfolio permits customized, hardened and reliable communications solutions without compromising quality.

The RSB20 series provides customized communications solutions with design features that adapt to any application without compromising quality or system performance.

Product Features

- Available in 8 and 9 port versions (10/100 BASE-TX, 100 BASE-FX).
- Variety of fiber port solutions (MM, SM and SFP)
- Available with pre-configured multicast filtering (IGMP Snooping and Querier) for EtherNet/IP use
- Fanless operational Temperature ranges from 0 to +60 °C or -40 to +70 °C (EEC versions)
- Redundant 12/24VDC power inputs
- Broad management functionality (see page 17 for details)
- Various configuration and diagnostic functionality – standard
- Industrial standards: cUL508 and cUL1604 Class I Div. 2 and NEMA TS 2 (EEC version)

Key Benefits

- Design and feature-set optimizes cost/performance ratio
- Tailored functionality for all industrial Ethernet applications including EtherNet/IP and PROFINET installations
- Same switch management look and feel as all other Hirschmann managed devices
- Can be integrated into HiPer Ring and HiVision network management/visualization software
- High Mean Time Between Failure (MTBF) >60 years and low MTTR (Mean Time To Replace) when using RJ11 ACA configuration storage/recovery adapter
- Broad selection of media redundancy (ring and/or mesh), dual power inputs and multicast filtering
- Models range from the 8TX port up to a flexible version with 6TX + 3 100BASE SFP sockets



Ordering Information

All Copper			
Part No.	Order No.	Ports	Port Configurations
RSB20-0800T1T1SAAB	942 014 001	8	8TX
RSB20-0800T1T1SAABE	942 014 017	8	8TX E, pre-configured multicast filtering for EtherNet/IP use
RSB20-0800T1T1TAABE	942 014 025	8	8TX E, pre-configured multicast filtering for EtherNet/IP use
RSB20-0800T1T1TAAB	942 014 009	8	8TX EEC
Multimode (Copper & Fiber)			
Part No.	Order No.		Port Configurations
RSB20-0800M2M2SAAB	942 014 002	8	6TX/2FX MM
RSB20-0800M2M2SAABE	942 014 018	8	6TX/2FX MM E, pre-configured multicast filtering for EtherNet/IP use
RSB20-0800M2M2TAABE	942 014 026	8	6TX/2FX MM E, pre-configured multicast filtering for EtherNet/IP use
RSB20-0800M2M2TAAB	942 014 010	8	6TX/2FX MM EEC
RSB20-0900M2TTSAB	942 014 005	9	8TX/1FX MM
RSB20-0900M2TTSABE	942 014 021	9	8TX/1FX MM E, pre-configured multicast filtering for EtherNet/IP use
RSB20-0900M2TTAABE	942 014 029	9	8TX/1FX MM E, pre-configured multicast filtering for EtherNet/IP use
RSB20-0900M2TTAAB	942 014 013	9	8TX/1FX MM EEC
RSB20-0900MMM2SAAB	942 014 007	9	6TX/3FX MM
RSB20-0900MMM2SAABE	942 014 023	9	6TX/3FX MM E, pre-configured multicast filtering for EtherNet/IP use
RSB20-0900MMM2TAABE	942 014 031	9	6TX/3FX MM E, pre-configured multicast filtering for EtherNet/IP use
RSB20-0900MMM2TAAB	942 014 015	9	6TX/3FX MM EEC
Singlemode (Copper & Fiber)			
Part No.	Order No.		Port Configurations
RSB20-0800S2S2SAAB	942 014 003	8	6TX/2FX SM
RSB20-0800S2S2SAABE	942 014 019	8	6TX/2FX SM E, pre-configured multicast filtering for EtherNet/IP use
RSB20-0800S2S2TAABE	942 014 027	8	6TX/2FX SM E, pre-configured multicast filtering for EtherNet/IP use
RSB20-0800S2S2TAAB	942 014 011	8	6TX/2FX SM EEC
RSB20-0900S2TTSAB	942 014 006	9	8TX/1FX SM
RSB20-0900S2TTSABE	942 014 022	9	8TX/1FX SM E, pre-configured multicast filtering for EtherNet/IP use
RSB20-0900S2TTAABE	942 014 030	9	8TX/1FX SM E, pre-configured multicast filtering for EtherNet/IP use
RSB20-0900S2TTAAB	942 014 014	9	8TX/1FX SM EEC
Singlemode/Multimode (Copper & Fiber)			
Part No.	Order No.		Port Configurations
RSB20-0900VM2SAAB	942 014 008	9	6TX/2FX SM/1 FX MM
RSB20-0900VM2SAABE	942 014 024	9	6TX/2FX SM/1 FX MM E, pre-configured multicast filtering for EtherNet/IP
RSB20-0900VM2TAABE	942 014 032	9	6TX/2FX SM/1 FX MM E, pre-configured multicast filtering for EtherNet/IP
RSB20-0900VM2TAAB	942 014 016	9	6TX/2FX SM/1 FX MM EEC
SFP			
Part No.	Order No.		Port Configurations
RSB20-0900ZZ6SAAB	942 014 004	9	6TX/3SFP
RSB20-0900ZZ6SAABE	942 014 020	9	6TX/3SFP E, pre-configured multicast filtering for EtherNet/IP use
RSB20-0900ZZ6TAABE	942 014 028	9	6TX/3SFP E, pre-configured multicast filtering for EtherNet/IP use
RSB20-0900ZZ6TAAB	942 014 012	9	6TX/3SFP EEC

NOTE: All models available with optional Conformal Coating.

Über-Rugged™ Managed DIN Rail Mount Switches



RSR Series Compact Über-Rugged™ Switches



RSR-XX Ruggedized Gigabit Ethernet Switches for DIN Rail-Mount

- Extended temperature range: -40°C to +85°C
- Up to two AC/DC inputs with choice of voltage
- DIN rail or panel mounting
- Extremely high RFI/EMI immunity
- Robust metal housing
- Resistant to shock and vibration
- From 8TX to 10 ports fiber
- Panel mount kit available
- Ultra-fast ring recovery time <10ms

RSR30-0802S2M2T1UCCHPHH04.0.		Über-Rugged Managed DIN Rail Mount Switches - Part Configurator	
RSR30-		Design/Model	
		RSR20 Rail Switch Rugged Fast Ethernet RSR30 Rail Switch Rugged Gigabit Ethernet Uplink Ports	
09		Ports Fast Ethernet	
		06 6x 100 Mbps Ethernet	08 8x 100 Mbps Ethernet
		07 7x 100 Mbps Ethernet	09 9x 100 Mbps Ethernet
02		Ports Gigabit Ethernet	
		00 0x 1000 Mbps Ethernet	03 3x 1000 Mbps Ethernet
		02 2x 1000 Mbps Ethernet	
S2		Ports Typ1, Uplink	
		CC 2 x RJ45/SFP Combo Port Gigabit Ethernet	07 RJ45/SFP Combo Port Gigabit Ethernet
		00 2 x SFP Slot Gigabit Ethernet	06 SFP Slot Gigabit Ethernet
		TT 2 x Twisted Pair (Tx) / RJ45	T1 Twisted Pair (Tx) / RJ45
		MM 2 x Multimode FX SC	M2 Multimode FX SC
		JJ 2 x Multimode FX MTRJ	M3 Multimode FX MTRJ
		NN 2 x Multimode FX ST	M4 Multimode FX ST
		VV 2 x Singlemode FX SC	S2 Singlemode FX SC
		UU 2 x Singlemode FX ST	S4 Singlemode FX ST
		LL 2 x Singlemode Long Haul FX SC	L2 Singlemode Long Haul FX SC
		GG 2 x Singlemode Long Haul+ FX SC (200 km)	G2 Singlemode Long Haul+ FX SC (200 km)
		ZZ 2 x SFP Slot (100 Mbps)	Z6 SFP Slot (100 Mbps)
M2		Ports Type 2, Uplink	
		ZZ 2 x SFP Slot (100 Mbps)	M4 Multimode FX ST
		07 RJ45/SFP Compo Port Gigabit Ethernet	S2 Singlemode FX SC
		06 SFP Slot Gigabit Ethernet	S4 Singlemode FX ST
		T1 Twisted Pair (Tx) / RJ45	L2 Singlemode Long Haul FX SC
		M2 Multimode FX SC	G2 Singlemode Long Haul+ FX SC (200 km)
		M3 Multimode FX MTRJ	Z6 SFP Slot (100 Mbps)
T1		Remaining Ports	
		T1 Twisted Pair (Tx) / RJ45	Z6 SFP Slot (100 Mbps)
U		Temperature Range	
		S Standard 0° C up to + 60° C	
		U Extended - 40° C up to + 85° C	
		F Extended - 40° C up to + 85° C inclusive Conformal Coating	
C		Voltage Range 1	
		C 24/36/48 VDC	K 60/120/250 VDC and 110/230 VAC
C		Voltage Range 2	
		9 Not available	K 60/120/250 VDC and 110/230 VAC
		C 24/36/48 VDC	
H		Approvals	
		H UL508, GL, IEC 61850; IEEE 1613; EN 50121	
P		Software Version	
		P Professional	
H		Configuration	
		H Professional	X Customer specific
		P PROFINET pre-setting	E Ethernet/IP pre-setting
H		OEM-Type	
		H Standard	X Customer specific
04.0.		Software Release	
		04.0 Software Release 4.0	XX.X. Newest Software Release
Required Field	Optional		



Managed Modular DIN Rail Mount Switches

EtherNet/IP™
conformance tested

PROFI
NET



MS20 Modular Switches



All ports are 10/100 Mbps. 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.

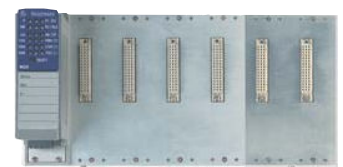
- Available in a 2- and 4-slot version (4-slot can be expanded to a 6 slot using MB-2T)
- Requires the use of hot-swappable media modules for any combination of copper/fiber ports
- Dual power inputs and dual fault relay outputs
- USB configuration backup/restore and fast device replacement
- Std. 0° 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. See page 17 for details.



MS20-08



MS20-16

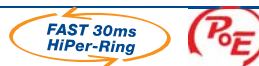


MS20-24 (including backplane extension MB-2T)

MS20 Modular Switches / All Ports are 10/100 Mbps

Part No.	Order No.	Ports
MS20-0800SAAE	943 435-001	2 x any MM2/MM3 (2 slots, max. 8 x 10/100 Mbps ports)
MS20-0800SAAP	943 435-002	2 x any MM2/MM3 (2 slots, max. 8 x 10/100 Mbps ports)
MS20-0800ECCP	943 956-001	2 x any MM2/MM3 (2 slots, max. 8 x 10/100 Mbps ports), -40 to +70 deg, conformal coated, 24/48 VDC
MS20-1600SAAE	943 435-003	4 x any MM2/MM3 (6 slots max. 16 x 10/100 Mbps ports/24 ports w/ MB-2T)
MS20-1600SAAP	943 435-004	4 x any MM2/MM3 (6 slots max. 16 x 10/100 Mbps ports/24 ports w/ MB-2T)
MS20-1600ECCP	943 956-002	4 x any MM2/MM3 (6 slots max. 16 x 10/100 Mbps ports/24 ports w/ MB-2T), -40 to +70 deg, conformal coated, 24/48 VDC

MS30 Modular Switches



Uplink ports are 10/100/1000 Mbps. All other ports are 10/100 Mbps. Same functionality and features as MS20, with the exception of an added slot for a Gigabit Media Module (for 2 x 10/100/1000 Mbps uplinks).

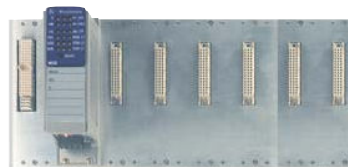
- MS30-08 can have a max of 8 x 10/100 Mbps ports and 2 x 10/100/1000 Mbps ports
- MS30-16 can have 16 x 10/100 Mbps ports (24 ports max w/ MB-2T) and 2 x 10/100/1000 Mbps ports
- Ports can be any combination of copper and/or fiber. Gigabit RJ45/SFP combo ports compatible with Gigabit and 100 mbps SFPs.



MS30-08



MS30-16



MS30-24 (including backplane extension MB-2T)

MS30 Modular Switches / Uplink Ports are 10/100/1000 Mbps - All Other Ports are 10/100 Mbps

Part No.	Order No.	Ports
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)
MS30-1602SAAP	943 435-008	4 x any MM2/MM3 (6 x w/MB-2T) and 1 x MM4-2TX/SFP (max 26 ports)

Managed Modular DIN Rail Mount Switches



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.

MS Backplane Extensions		
Part No.	Order No.	Extensions for Use With
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



PowerMICE Gigabit Layer 2/3 Switches



For applications that require a more powerful and feature-rich switch, Hirschmann offers its PowerMICE modular switches. Similar in functionality and features to the MS30-16 on the previous page, the PowerMICE offers up to 24 ports of any copper/fiber mix, but adds two additional Gigabit ports (for a total of four) and an option to have Layer 3 routing capabilities.

MICE Modular Managed Industrial Ethernet Layer 2/3 Switches with Professional or Enhanced Management					
Part No.	Order No.	Layer/Management	Ports	Configurations	
MS4128-L2P	943 009-002	Layer 2/Professional	28	4 x any MM2/MM3 (6 x w/MB-2T) and 1 x any MM4 (max 28 ports)	
MS4128-L2P EEC	943 009-103	Layer 2/Professional	28	Same as 002 except extended temperature range	
MS4128-L3E	943 009-202	Layer 3/Enhanced	28	4 x any MM2/MM3 (6 x w/MB-2T) and 1 x any MM4 (max 28 ports)	
MS4128-L3E EEC	943 009-203	Layer 3/Enhanced	28	Same as 202 except extended temperature range	
MS4128-L3P	943 009-302	Layer 3/Professional	28	4 x any MM2/MM3 (6 x w/MB-2T) and 1 x any MM4 (max 28 ports)	
MS4128-L3P EEC	943 009-303	Layer 3/Professional	28	Same as 302 except extended temperature range	



MICE Media Modules

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

MICE Modules: Maximum Module Density	
MS20-08	2 x any MM2/MM3
MS20-16	4 x any MM2/MM3 (6 x using MB-2T backplane extension)
MS30-08	2 x any MM2/MM3 plus 1 x MM4-2TX/SFP
MS30-16	4 x any MM2/MM3 (6 x using MB-2T backplane extension), plus 1 x MM4-2TX/SFP
MS4128	4 x any MM2/MM3 (6 x using MB-2T backplane extension), plus 1 x any MM4

NOTE: SFPs are needed for MM4 fiber functionality.

MICE Modules: ALL COPPER			
Type	Part No.	Order No.	Ports/Speed
ALL COPPER	MM2-4TX1	943 722-101	4x10/100 Mbps RJ45
ALL COPPER	MM2-4TX1-EEC	943 722-151	4x10/100 Mbps RJ45, ext. temperature range*



Managed Modular DIN Rail Mount Switches

MICE Modules: MULTIMODE			
MM	MM2-2FXM2	943 718-101	2 x 100 Mbps MM SC
MM	MM3-4FXM2	943 764-101	4 x 100 Mbps MM SC
MM	MM3-4FXM4	943 835-101	4 x 100 Mbps MM ST
MM	MM3-1FXM2/3TX1	943 839-101	1 x 100 Mbps MM SC, 3 x RJ45
MM	MM3-2FXM4/2TX1	943 837-101	2 x 100 Mbps MM ST, 2 x RJ45
MM	MM3-4FLM4	943 760-101	4 x 10 Mbps MM ST
MM	MM3-2FXM2/2TX1	943 761-101	2 x 100 Mbps MM SC, 2 x RJ45
MM	MM3-2FXM2/2TX1-EEC	943 761-151	2 x 100 Mbps MM SC, 2 x RJ45, ext. temperature range*
MM	MM3-1FXM2/1FXS2/2TX1	943 929-101	2 x 100 Mbps SC (1 x MM and 1 x SM), 2 x RJ45
MM	MM2-4FXM3	943 721-101	4 x 100 Mbps MM MTRJ
MM	MM2-2FXM3/2TX1	943 720-101	2 x 100 Mbps MM MTRJ, 2 x RJ45
SFP	MM20-Z6Z6Z6SAHH	943 938-001	4 x 100 Mbps SFP sockets (SFPs need to be purchased separately), for MS20, MS30 and MS4128

NOTE: EEC media modules have an extended temperature range of -40°C to $+70^{\circ}\text{C}$. Additional EEC modules are available. Please consult your Hirschmann representative or www.beldensolutions.com

MICE Modules: SINGLEMODE			
Type	Part No.	Order No.	Ports/Speed
SM	MM 2-2FXS2	943 719-101	2 x 100 Mbps SM SC
SM	MM 3-2FXS2/2TX1	943 762-101	2 x 100 Mbps SM SC, 2 x RJ45
SM	MM 3-2FXS2/2TX1-EEC	943 762-151	2 x 100 Mbps SM SC, 2 x RJ45, ext. temp.*
SM	MM 3-1FXS2/3TX1	943 838-101	1 x 100 Mbps SM SC, 3 x RJ45
SM	MM 3-4FXS2	943 836-101	4 x 100 Mbps SM SC
SM	MM 3-1FXL2/3TX1	943 763-101	1 x 100 Mbps SM, SC Long Haul, 3 x RJ45
SM	MM3-1FXLH+/3TX1	943 930-101	1 x 100 Mbps SM SC Long Haul+, 3 x RJ45
SM	MM 3-1FXS2/3TX1-EEC	943 838-151	1 x 100 Mbps SM SC, 3 x RJ45, ext. temp.*
SFP	MM20-Z6Z6Z6SAHH	943 938-001	4 x 100 Mbps SFP sockets (SFPs need to be purchased separately), for MS20, MS30 and MS4128

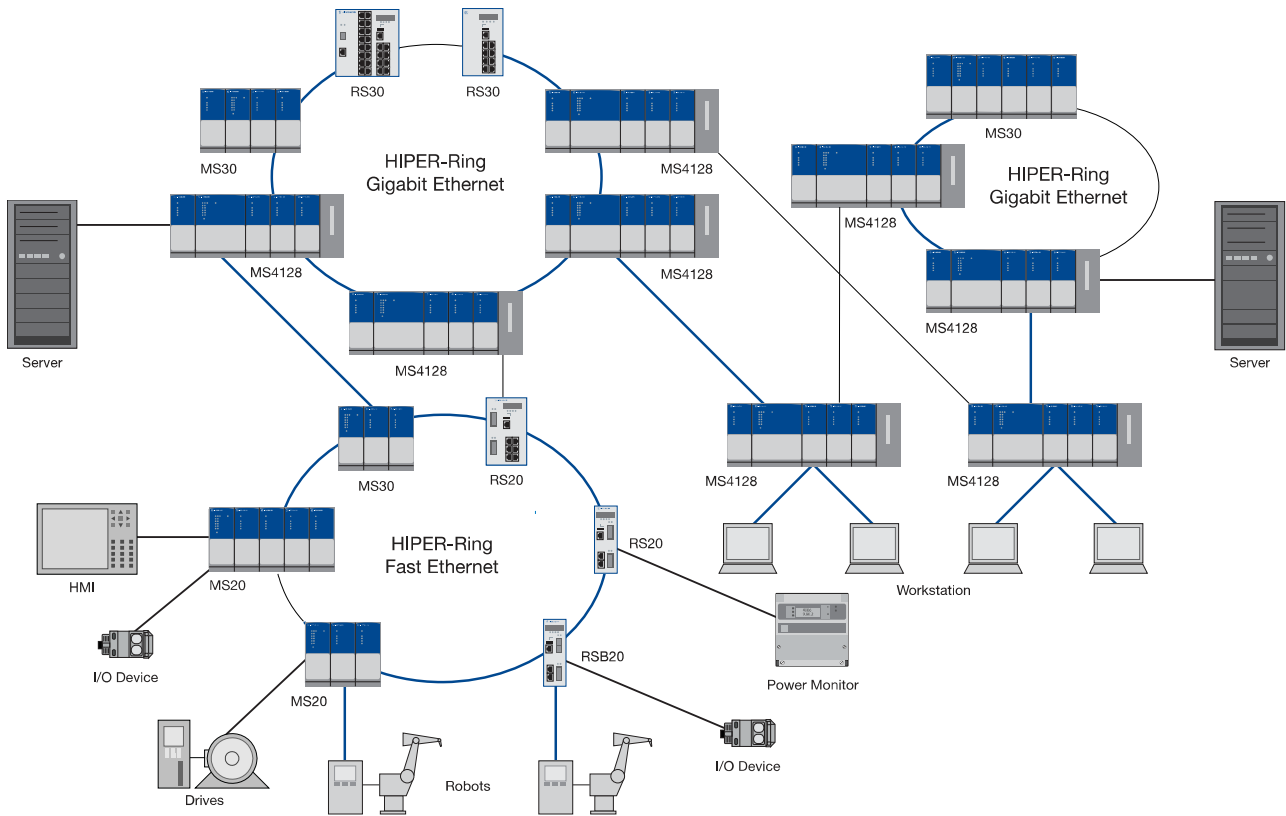
MICE Modules: GIGABIT			
Type	Part No.	Order No.	Ports/Speed
GIGABIT	MM 4-2TX/SFP	943 622-001	2 x Gigabit RJ45/SFP combo ports** for use with MS30 and MS4128
GIGABIT	MM 4-4TX/SFP	943 010-001	4 x Gigabit RJ45/SFP combo ports** for use with MS4128 only

NOTE: **For every SFP used, one copper port is lost. SFPs need to be purchased separately.

MICE Modules: SPECIAL PURPOSE			
Type	Part No.	Order No.	Ports/Speed
REALTIME	MM3-4TX1-RT	943 117-001	4 x RJ45, IEEE 1588 realtime modules
REALTIME	MM3-2FXM2/2TX1-RT	943 117-002	2 x 100 Mbps MM SC, 2 x RJ45,
REALTIME	MM3-2FXS2/2TX1-RT	943 117-003	2 x 100 Mbps SM SC, 2 x RJ45,
REALTIME	MM3-2FLM4/2TX1-RT	943 117-004	2 x 10 Mbps MM ST, 2 x RJ45,
REALTIME	MM3-4TX1-RT-EEC	943 955-001	4 x RJ45, railway certifications EN 50155, EN 50121-4
REALTIME	MM3-2FXM2/2TX1-RT-EEC	943 955-002	2 x 100 Mbps MM SC, 2 x RJ45, IEEE 1588, railway certifications EN 50155, EN 50121-4
REALTIME	MM3-2FXS2/2TX1-RT-EEC	943 955-003	2 x 100 Mbps SM SC, 2 x RJ45, IEEE 1588, railway certifications EN 50155, EN 50121-4
AUI	MM3-2AUI	943 840-101	2 x AUI SUB-D 15-pin male D-sub
IP67	MM3-4TX5	943 841-101	4 x M12 socket (D-code), for connectors see OCTOPUS family
POE	MM22-T1T1T1T1SAHH	943 938-002	4 x RJ45 PoE (external PoE power supply)
SFP	MM20-Z6Z6Z6SAHH	943 938-001	4 x 100 Mbps SFP sockets (SFPs need to be purchased separately), for MS20, MS30 and MS4128

NOTE: *All media modules are available (special order) with extended temperature range of -40°C to $+70^{\circ}\text{C}$.

Managed Modular DIN Rail Mount Switches



Example of managed compact and modular switches used in a HIPER-Ring featuring Fast and Gigabit Ethernet.

NOTE: All of Hirschmann's managed switches have the ability of being designed into a redundant ring with 300ms resiliency at 100 Mbps and 30 ms at 1000 Mbps (each with 100 switches in the ring).



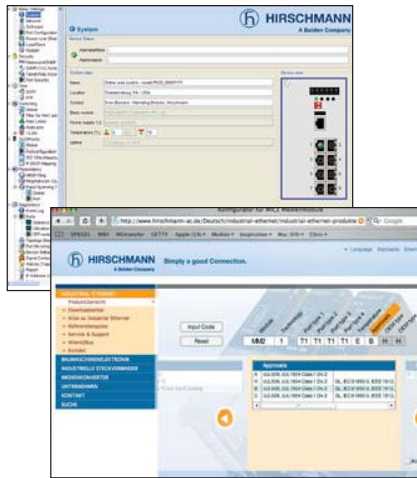
Management Software Functionality

Technical Tips and Tools

An excellent documentation resource for everything pertaining to Hirschmann's hardware and software can be found on our ftp server - ftp.hirschmann-usa.com

The different management versions are listed and explained on the tabel to the right. Alternatively, you may also access our online switch at <http://demo.hirschmann-usa.com> to see the management functionality live in one of our switches.

Please note that you will need the Java Runtime Environment (JRE) to view the content. If you experience difficulties accessing the switch, it may be due to the policies of some companies to have their firewalls block this two-way data traffic.



EtherNet/IP (Allen-Bradley) and PROFINET (Siemens) users please note that Hirschmann's managed switches are easily integrated into the respective PLCs/HMIs, enabling switch management from/by the PLC/HMI. The seamless integration also provides network/switch status to the PLC/HMI for alarming and network statistics. Please refer to page 37 for more information on the industrial profiles. Enjoy the benefits of direct, hassle-free configuration with our online tool at www.beldensolutions.com

Management Software Functionality					
Basic	L2 Enhanced	L2 Professional	L3 Enhanced	L3 Professional	Plug & Play
		●	●	●	DHCP server per port
	●	●	●	●	IP address conflict detection
		●	●	●	Multiple stored firmware versions
●	●	●	●	●	Automatic configuration undo
●	●	●	●	●	DHCP relay agent, option 82
●	●	●	●	●	External flash memory
Security					
		●	●	●	Radius - IEEE 802.1x
		●	●	●	SSH
		●	●	●	SNMP v2c, v3 encryption
	●	●	●	●	Port security IP, multiple addresses
	●	●	●	●	Port security MAC
	●	●	●	●	Port security IP
●	●	●	●	●	SNMP v2c, v3 (password encryption)
Switching					
		●	●	●	GVRP
		●	●	●	Multicast GMRP – 802.1D
		●	●	●	Optimized for video multicasting
	●	●	●	●	Static VLAN, Q-MIB – 802.3ac, 802.1Q
●	●	●	●	●	Broadcast, unicast, multicast limiter
●	●	●	●	●	Multicast IGMP querier
●	●	●	●	●	Multicast IGMP snooping
	●	●	●	●	Port priority – 802.1D/p
Redundancy					
		●	●	●	Link aggregation – 802.3ad
●	●	●	●	●	RSTP – 802.1w
	●	●	●	●	Redundant net coupling
●	●	●	●	●	HIPER-Ring redundancy manager
●	●	●	●	●	HIPER-Ring
●	●	●	●	●	MRP-Ring
Industrial Profile					
	●	●	●	●	PROFINET Profile
	●	●	●	●	EtherNet/IP Profile
Routing					
				●	DVMRP/PIM DM multicast routing
				●	OSPF
			●	●	RIP v1/v2
			●	●	Static routing
			●	●	VRP, HiVRRP (< 500 ms) router redundancy
			●	●	Layer 3 ACL
Diagnostic					
		●	●	●	Text configuration file
		●	●	●	Cable diagnostic TX
	●	●	●	●	Automatic configuration check
	●	●	●	●	HUB functionality (disable learning)
	●	●	●	●	Syslog
●	●	●	●	●	Log file
●	●	●	●	●	Port mirroring
●	●	●	●	●	Topology discovery 802.1ad

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