

HIRSCHMANN

A **BELDEN** BRAND

Leading Networking Solutions for
Industrial & Mission Critical Applications



เอิร์ชแมนน์

อุปกรณ์เครือข่าย Ethernet สำหรับมืออาชีพ



SYSTRONICS CO.,LTD.

บริษัท ซิสตรอนิกส์ จำกัด

Authorized Distributor



HIRSCHMANN

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Ethernet Products at a Glance ด้วยความเชี่ยวชาญที่มีต่อระบบควบคุมอัตโนมัติและเทคโนโลยีด้านเครือข่าย, เรา Hirschmann™ จึงได้พัฒนาโซลูชั่นและนวัตกรรมที่มุ่งตอบสนองความต้องการของลูกค้า ทั้งในแง่ของประสิทธิภาพและความน่าเชื่อถือ

Unmanaged DIN Rail Mount Switches



SPIDER, SPIDER II

Cost-effective, plug & play unmanaged switches

- SPIDER 2, 3 and 5 ports
- SPIDER II 8, 9 and 10 ports
- SPIDER II PoE 4 PoE and 4 standard ports
- SPIDER II GIGA 5 and 7 ports, all Gigabit



RS, RS20, RS30

Feature-rich unmanaged switches with selectable port types, features and approvals

- RS2 5 and 8 ports
- RS20 4, 8, 9, 16, 17, 24 or 25 ports
- RS30 10, 18, or 26 ports, two of which are Gigabit

Managed DIN Rail Mount Switches



RS20, RS30, RS40

Managed switches with selectable features and approvals

- RS20 4, 8, 9, 16, 17, 24 or 25 ports
- RS30 10, 18, or 26 ports, two of which are Gigabit
- RS40 9 ports, all Gigabit

RS22, RS32

Managed PoE switches with selectable features and approvals

- RS22 4, 8, 9, 16, 17, 24 or 25 ports, four ports are PoE
- RS32 10, 18, or 26 ports, four of which are PoE and two are Gigabit



MS20, MS30, MS4128

Managed modular switches with selectable features and approvals as well as user hotswappable Media modules for almost limitless copper/fiber combinations

- MS20 up to 24 ports
- MS30 up to 26 ports, two of which can be Gigabit
- MS4128 optional Layer 3/ routing, up to 28 ports, four of which can be Gigabit

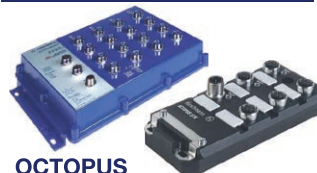


RSR20, RSR30

Ultra-hardened switches w/ -40 to +85°C operating range , DC or mains/AC power input

- RSR20: 8 or 9 ports
- RSR30: 9 or 10 ports, two or three of which are Gigabit

IP 67/Waterproof Switches



OCTOPUS

Ideally suited for applications subject to moisture and vibrations or where a protective panel is not practical

- OCTOPUS 5TX and 10TX unmanaged, 5- and 10-ports, M12 D-code
- OCTOPUS 8M/16M/24M managed, 8, 16 and 24 ports M12 D-code
- OCTOPUS 8M-6POE and 8M-8POE managed, 8 ports, M12 D-code, 6 and 8 of which are PoE
- OCTOPUS 16M-8POE and 24M-8POE managed, 16 and 24 ports, M12 D-code, 8 of which are PoE
- OCTOPUS OS20, 8 ports of M12 D-code and 2 multimode or singlemode ports
- OCTOPUS OS30, 8 ports of M12 D-code and 2 Gigabit multimode or singlemode ports

Ethernet Cord Sets



Ethernet Cord Sets

Hardened pre-terminated and factory tested cordsets using Belden's patented Bonded-Pair technology complement the active hardware

- RJ45-RJ45, RJ45-M12, M12-M12
- Unshielded and Shielded Versions
- PVC, TPE and TPE High-Flex Cat 5e UTP
- 17 lengths - from 0.3 to 50 meters
- M12 bulkhead termination also available

19" Rack Mount Switches



MACH100

Hardened Enterprise-grade switches with Hirschmann interface and MTBF

- MACH102-8TP modular switch, up to 26 ports, 10 fixed ports, two of which are Gigabit (modules available for MM/SM fiber, RJ45 and PoE/PoE+)
- MACH102-8TP F10 Fixed ports, two of which are Gigabit
- MACH102-24TP F26 Fixed ports, two of which are Gigabit
- MACH104 - All Gigabit, 4 RJ45/SFP combo ports and 20 RJ45 ports (4 of which can be PoE)



19" Rack Mount Switches (Continued)



MACH1000

Ultra-hardened switches w/ -40 to +85°C operating range

- MAR1020, up to 24 ports, optionally 4 can be PoE (MAR1022)
- MAR1030, up to 28 ports, up to four of which are Gigabit, optionally 4 of the 10/100 ports can be PoE (MAR1032)
- MAR1120, up to 20 ports on rear of switch, with 4 being optional PoE (MAR1122)
- MAR1130, up to 24 ports on rear of switch, with 4 being optional PoE (MAR1132) plus 2 or 4 ports Gigabit
- MAR1040, 16 Gigabit RJ45/SFP combo ports, with optional Layer 3



MACH4000

High density and high speed back-bone switch w/ Layer 3/routing and speeds up to 10 Gigabit

- MACH4002-48+4G up to 48 ports, are 100 mbps max with 4 Gigabit ports
- MACH4002-24G up to 24 Gigabit ports
- MACH4002-24G+3X, up to 24 Gigabit ports and three 10 Gigabit XFP ports
- MACH4002-48G up to 48 Gigabit ports
- MACH4002-48G+3X up to 48 Gigabit ports and three 10 Gigabit XFP ports

Security, Firewall and VPN Appliance



EAGLE / EAGLE Tofino

Network segmentation, VPN and deep packet inspection

- EAGLE20 - web-managed and ideal for smaller/localized deployment
- EAGLE Tofino - Software managed and ideal of large-scale, multi-zone deployment and deep packet inspection

Wireless Ethernet



BAT Access Point/Client/Bridge

- BAT54 DIN Rail or IP67 mount Access Point/Client/ Bridge, one or two integrated radios, 802.11 a/b/g
- BAT300 DIN Rail or IP67 mount Access Point/Client/Bridge, one integrated radio, 802.11 a/b/g/n

Network Management Software



- Industrial HiVision network visualization and management software with integrated OPC server

Fiber Transceivers/Modems



FiberINTERFACES

Extending the reach of copper for serial and fieldbus protocols via fiber

- OZDV RS232, one copper connection and one fiber port
- OZD485 RS485, one copper connection and up to two fiber ports
- OZD PROFI Profibus protocol, one copper connection and up to two fiber ports
- OZD PROFI PLUG Profibus protocol, one fiber port connection and up to two copper connections
- OZD GENIUS GeniusBus protocol, one copper connection and up to two fiber ports
- OZD MODBUS Modbus+ protocol, one copper connection and two fiber ports
- OZD FIP WorldFIP protocol, one copper connection and two fiber ports



HIRSCHMANN

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Unmanaged DIN Rail Mount Switches



Entry-level Unmanaged Switches SPIDER Family: SPIDER, SPIDER II



อุปกรณ์สวิตช์ สำหรับการเริ่มต้นใช้งาน รองรับ Gigabit และ PoE มีช่องต่อตั้งแต่ 3 ports ถึง 10 ports ทั้งแบบ RJ45 และไฟเบอร์ออปติก ใช้งานได้ทั้ง Multimode (MM), Singlemode (SM) และ Small form factor (SFP) ด้วยหัวต่อที่เลือกได้ทั้งแบบ SC หรือ ST ทำงานที่อุณหภูมิได้สูงถึง +60 องศาเซลเซียส สามารถติดตั้งบนราง DIN ได้ทันที ใช้ไฟเลี้ยง 24VDC และมีค่าเฉลี่ยอายุการใช้งาน (MTBF) ถึง 100,000 ชั่วโมง จึงมั่นใจได้ถึงคุณภาพ, ความคงทน และเสถียรภาพการทำงาน

ALL COPPER/RJ45

Part No.	Order No.	Ports
SPIDER 3TX-TAP	943 899-001	3 x RJ45
SPIDER 5TX	943 824-002	5 x RJ45
SPIDER 5TX EEC	943 824-102	5 x RJ45
SPIDER II 8TX	943 957-001	8 x RJ45
SPIDER II 8TX EEC	943 958-001	8 x RJ45
SPIDER II 8TX POE	942 008-001	8 x RJ45 and 4 x PoE, with metal housing and 24 VDC input

COPPER/RJ45 and FIBER

Part No.	Order No.	Ports
SPIDER 4TX/1FX	943 221-001	4 x RJ45 and 1 x MM, SC
SPIDER 4TX/1FX EEC	943 221-101	4 x RJ45 and 1 x MM, SC
SPIDER 4TX/1FX-ST EEC	943 914-001	4 x RJ45 and 1 x MM, ST
SPIDER 4TX/1FX SM EEC	943 880-001	4 x RJ45 and 1 x SM, SC
SPIDER 1TX/1FX	943 890-001	1 x RJ45 and 1 x MM, SC
SPIDER 1TX/1FX EEC	943 927-101	1 x RJ45 and 1 x MM, SC
SPIDER 1TX/1FX-SM	943 891-001	1 x RJ45 and 1 x MM, SC
SPIDER 1TX/1FX SM EEC	943 928-001	1 x RJ45 and 1 x SM, SC
SPIDER II 8TX/1FX EEC	943 958-111	8 x RJ45 and 1 x MM, SC
SPIDER II 8TX/1FX-ST EEC	943 958-121	8 x RJ45 and 1 x MM, ST
SPIDER II 8TX/2FX EEC	943 958-211	8 x RJ45 and 2 x MM, SC
SPIDER II 8TX/2FX-ST EEC	943 958-221	8 x RJ45 and 2 x MM, ST
SPIDER II 8TX/1FX-SM EEC	943 958-131	8 x RJ45 and 1 x SM, SC
SPIDER II 8TX/2FX-SM EEC	943 958-231	8 x RJ45 and 2 x SM, SC

FULL GIGABIT

Part No.	Order No.	Ports
SPIDER II Giga 5T EEC	943 962-002	5 x RJ45 (10/100/1000)
SPIDER II Giga 5T/2S EEC	943 963-002	5 x RJ45 (10/100/1000), and 2 x SFP Socket (1000)

NOTE: EEC stands for extended environmental conditions (-40°C to +70°C).



Feature-rich Unmanaged Switches

RS2 Switches

อุปกรณ์สวิตช์ ที่เพิ่มเติมฟังก์ชันด้านการ Redundant power และการแจ้งเตือน “Fault” ผ่านระบบ Relay output โดยสามารถแจ้งเตือน “Fault” ได้ 2 แบบ คือ Link loss และ power loss มีช่องต่อ (Ports) ตั้งแต่ 4 ports ถึง 8 ports ทั้งแบบ RJ45 และไฟเบอร์ออปติก ใช้งานได้ทั้ง Multimode (MM) และ Singlemode (SM) ด้วยหัวต่อที่เลือกได้ทั้งแบบ SC หรือ ST ทำงานที่อุณหภูมิได้สูงถึง +60 องศาเซลเซียส และรุ่นพิเศษที่ทนอุณหภูมิได้ถึง +70 องศาเซลเซียส และมีค่าเฉลี่ยอายุการใช้งาน (MTBF) ถึง 100,000 ชั่วโมง จึงมั่นใจได้ถึงคุณภาพ, ความคงทน และเสถียรภาพการทำงาน





ALL COPPER/RJ45 / RS2		
Part No.	Order No.	Ports/Features
RS2-4TX EEC	943 819-001	4x10/100 Mbps RJ45, link loss alarm, power loss alarm, fault relay output, ext. temp. –40°C to +70
RS2-5TX	943 732-003	5x10/100 Mbps RJ45, rugged die-cast metal housing offering wall-mount option
RS2-TX	943 686-003	8x10/100 Mbps RJ45, link loss alarm, power loss alarm, fault relay output
COPPER/RJ45 and FIBER MIX		
Part No.	Order No.	Ports/Features
RS2-3TX/2FX EEC	943 771-001	3x10/100 Mbps RJ45 and 2x100 Mbps MM-SC, link loss alarm, power loss alarm, fault relay output, ext. temp. –40°C to +70°C
RS2-3TX/2FX-SM EEC	943 772-001	3x10/100 Mbps RJ45 and 2x100 Mbps SM-SC, link loss alarm, power loss alarm, fault relay output, ext. temp. –40°C to +70°C
RS2-5TX/FX	943 732-103	4x10/100 Mbps RJ45 and 1x100 Mbps MM-MTRJ, rugged die-cast metal housing offering wall-mount option
RS2-4TX/1FX EEC	943 773-001	4x10/100 Mbps RJ45 and 1x100 Mbps MM-SC, link loss alarm, power loss alarm, fault relay output, ext. temp. –40°C to +70°C
RS2-4TX/1FX-ST EEC	943 119-002	4x10/100 Mbps RJ45 and 1x100 Mbps MM-ST, link loss alarm, power loss alarm, fault relay output, ext. temp. –40°C to +70°C
RS2-4TX/1FX-SM EEC	943 774-001	4x10/100 Mbps RJ45 and 1x100 Mbps SM-SC, link loss alarm, power loss alarm, fault relay output, ext. temp. –40°C to +70°C

RS20 and RS30 DIN Rail Mount Switches



Standard and Customizable Unmanaged Switches RS20 and RS30 Unmanaged Switches

อุปกรณ์สวิตช์ ที่เพิ่มเติมฟังก์ชันต่างๆ ให้มีความหลากหลายมากขึ้น เพื่อให้เข้ากับ Application ที่หลากหลายจากความต้องการของลูกค้า รายละเอียดดังนี้

- 8 x, 9 x, 16 x, 17 x, 24 x and 25 x ports in a 4.25" footprint
- Up to 4X fiber ports
- Redundant power inputs via dual 24 VDC
Fault relay (triggerable by loss of one power input and/or the loss of the link(s) specified)
- 10/100/1000 auto-negotiating and auto-crossing (either patch or crossover cables will work in the ports)
- Variety of connector options for Multimode (MM) and Singlemode (SM) fiber optic ports
- Choice of operating temperatures and conformal coating (standard is 0° C to +60°C, with –40° C to +70° C also available)
- Variety of approvals including IEC 61850-3, IEEE 1613, EN 50121-4 and ATEX 100a Zone 2

ALL COPPER/RJ45 / RS20		
Part No.	Order No.	Ports/Features
RS20-1600T1T1SDAU	943 434-047	16x10/100 Mbps RJ45
MULTIMODE		
Part No.	Order No.	Ports/Features
RS20-0900NNM4TDAU	943 434-058	3x100 Mbps MM fiber (ST) and 6x10/100 Mbps RJ45
RS20-0900MMM2TDAU	943 434-059	3x100 Mbps MM fiber (SC) and 6x10/100 Mbps RJ45
RS20-1600M2T1SDAU	943 434-049	1x100 Mbps MM fiber (SC) and 15x10/100 Mbps RJ45
RS20-1600M2M2SDAU	943 434-048	2x100 Mbps MM fiber (SC) and 14x10/100 Mbps RJ45
RS20-1600S2M2SDAU	943 434-052	1x100 Mbps MM fiber (SC) 1x100 Mbps SM fiber (SC) and 14x10/100 Mbps RJ45
RS20-1600L2M2SDAU	943 434-055	1x100 Mbps MM fiber (SC) 1x100 Mbps Long Haul SM fiber (SC) and 14x10/100 Mbps RJ45
SINGLEMODE		
Part No.	Order No.	Ports/Features
RS20-0900VVM2TDAU	943 434-060	3x100 Mbps SM fiber (SC) and 6x10/100 Mbps RJ45
RS20-1600S2T1SDAU	943 434-051	1x100 Mbps SM fiber (SC) and 15x10/100 Mbps RJ45
RS20-1600S2S2SDAU	943 434-053	2x100 Mbps SM fiber (SC) and 14x10/100 Mbps RJ45
RS20-1600L2T1SDAU	943 434-054	1x100 Mbps Long Haul SM fiber (SC) and 15x10/100 Mbps RJ45
RS20-1600L2S2SDAU	943 434-056	1x100 Mbps Long Haul SM fiber (SC) 1x100 Mbps SM fiber (SC) and 14x10/100 Mbps RJ45
RS20-1600L2L2SDAU	943 434-057	2x100 Mbps Long Haul SM fiber (SC) and 14x10/100 Mbps RJ45
RS20-1600S2M2SDAU	943 434-052	1x100 Mbps MM fiber (SC), 1x100 Mbps SM fiber (SC) and 14x10/100 Mbps RJ45
RS20-1600L2M2SDAU	943 434-055	1x100 Mbps MM fiber (SC) 1x100 Mbps Long Haul SM fiber (SC) and 14x10/100 Mbps RJ45

NOTE: Don't see what you're looking for? Need an unmanaged switch with Gigabit uplinks? Custom configure your unmanaged RS20 or RS30 switch using the configuration table on page 11!

As an example, the below configuration is a 24-port switch (23x10/100 RJ45 and 1x100 Mbps multimode SC). The "U" designates this as an unmanaged switch.

RS20-2400M2T1SDAU

Please refer to the online Configurator for online assistance.

**HIRSCHMANN**A **BELDEN** BRAND**Compact Managed DIN Rail Mount Switches**

สวิตช์แบบจัดการได้ มาพร้อมฟังก์ชันครบครัน มีให้เลือกใช้งาน 4 – 25 พอร์ต

EtherNet/IP™
conformance tested**PROFI**
BUS**RS20 Series
Compact Switches**300ms
HiPer-Ring**All ports are 100 Mbps max.**

- Available in 4 to 25-port densities, with and without fiber
- Fiber ports are available in multimode and/or singlemode
- 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
- Dual power inputs, integrated fault relay and automated configuration recovery for fast device replacement
- 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 page 27 for details.

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**Two ports are Gigabit, balance are 100 Mbps max.**

- Available in 2x Gigabit plus 8 x, 16 x and 24 x 10/100 Mbps ports
- Identical management and feature options as RS20
- Gigabit multimode or singlemode fiber via SFP socket

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

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
RS30-0802O6O6SDAE	943 434-031	8x 10/100 RJ45, 2x Gigabit SFP
RS30-0802O6O6SDAP	943 434-032	8x 10/100 RJ45, 2x Gigabit SFP
RS30-1602O6O6SDAE	943 434-035	16x 10/100 RJ45, 2x Gigabit SFP
RS30-1602O6O6SDAP	943 434-036	16x 10/100 RJ45, 2x Gigabit SFP
RS30-2402O6O6SDAE	943 434-039	24x 10/100 RJ45, 2x Gigabit SFP
RS30-2402O6O6SDAP	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
- 5 x 10/100/1000 RJ45 and 4 x 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 transceivers

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 11!

สวิตช์รุ่นประหยัด พลังงานต่ำสัจพจน์ พร้อมให้เลือกรุ่นได้อีกหลายแบบ

Compact Managed DIN Rail Mount Switches



RSB20 Series, Compact Basic Managed Switches

All ports are 100 Mbps max

RSB20 Series ออกแบบมาให้มีฟังก์ชันขนาดเล็ก พลังงานต่ำ พร้อมเพิ่มฟังก์ชัน IGMP snooping (Multicast filtering) ทำให้ลูกค้าไม่ต้องจ่ายส่วนเกิน สำหรับฟังก์ชันที่ไม่ได้ใช้งาน เหมาะสำหรับงานที่ไม่ต้องฟังก์ชันมากนัก มีช่องต่อตั้งแต่ 8 - 9 ports ทั้งแบบ RJ45 และไฟเบอร์ออฟติก ใช้งานได้ถึง Multimode (MM), Singlemode (SM) และ Small form factor (SFP) ทำงานที่อุณหภูมิได้สูงถึง +60 องศาเซลเซียส และรุ่นพิเศษที่ทนอุณหภูมิได้ถึง +70 องศาเซลเซียส

Product Features

- Available in 8 and 9 port versions.
- Variety of multimode (SC), singlemode (SC) and SFP socket options.
- 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 27 for details)
- Various configuration and functionality — standard
- Industrial standards: cUL508 and cUL1604 Class I Div. 2 and NEMA TS 2 (EEC version)

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.	Ports	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
RSB20-0900M2TTTAAE	942 014 029	9	8TX/1FX MM E, pre-configured multicast filtering for EtherNet/IP use
RSB20-0900M2TTTAAAB	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.	Ports	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
RSB20-0900S2TTTAAE	942 014 030	9	8TX/1FX SM E, pre-configured multicast filtering for EtherNet/IP use
RSB20-0900S2TTTAAAB	942 014 014	9	8TX/1FX SM EEC
Singlemode/Multimode (Copper & Fiber)			
Part No.	Order No.	Ports	Port Configurations
RSB20-0900VVM2SAAB	942 014 008	9	6TX/2FX SM/1 FX MM
RSB20-0900VVM2SAABE	942 014 024	9	6TX/2FX SM/1 FX MM E, pre-configured multicast filtering for EtherNet/IP
RSB20-0900VVM2TAABE	942 014 032	9	6TX/2FX SM/1 FX MM E, pre-configured multicast filtering for EtherNet/IP
RSB20-0900VVM2TAAB	942 014 016	9	6TX/2FX SM/1 FX MM EEC
SFP			
Part No.	Order No.	Ports	Port Configurations
RSB20-0900ZZZ6SAAB	942 014 004	9	6TX/3SFP
RSB20-0900ZZZ6SAABE	942 014 020	9	6TX/3SFP E, pre-configured multicast filtering for EtherNet/IP use
RSB20-0900ZZZ6TAABE	942 014 028	9	6TX/3SFP E, pre-configured multicast filtering for EtherNet/IP use
RSB20-0900ZZZ6TAAB	942 014 012	9	6TX/3SFP EEC



HIRSCHMANN

A Belden Brand

Managed Modular DIN Rail Mount Switches

EtherNet/IP™
conformance tested

PROFI
BUS

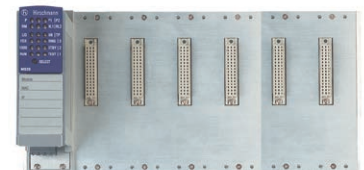
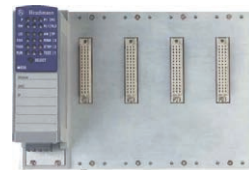


MS20 Modular Switches



Four to twenty-four 100 Mbps 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.

- 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 27 for details.



MS20-08

MS20-16

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

MS20 - All Ports are 10/100 Mbps

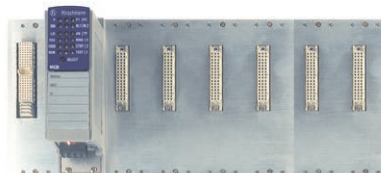
Part No.	Order No.	Ports
MS20-0800SAAE	943 435-001	2 x any MM2/MM3 (2 slots, max. 8x 10/100 Mbps ports)
MS20-0800SAAP	943 435-002	2 x any MM2/MM3 (2 slots, max. 8x 10/100 Mbps ports)
MS20-0800ECCP	943 956-001	2 x any MM2/MM3 (2 slots, max. 8x 10/100 Mbps ports), -40 to +70 deg, conformal coated, 24/48 VDC
MS20-1600SAAE	943 435-003	4 x any MM2/MM3 (6 slots max. 16x 10/100 Mbps ports/24 ports w/ MB-2T)
MS20-1600SAAP	943 435-004	4 x any MM2/MM3 (6 slots max. 16x 10/100 Mbps ports/24 ports w/ MB-2T)
MS20-1600ECCP	943 956-002	4 x any MM2/MM3 (6 slots max. 16x 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 RJ45 / Gigabit SFP combo ports).

- MS30-08 can have a max of 8 x 10/100 Mbps ports and 2 x 10/100 RJ45 / Gigabit SFP combo ports
- MS30-16 can have 16 x 10/100 Mbps ports (24 ports max w/ MB-2T) and 2 x 10/100 RJ45 / Gigabit SFP combo 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

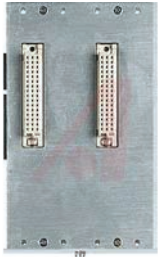
MS30-24 (including backplane extension MB-2T)

MS30, 2x 10/100 RJ45 / Gigabit SFP combo ports - All Other Ports are 10/100 Mbps

Part No.	Order No.	Ports
MS30-0802SAAE	943 435-005	2x any MM2/MM3 and 1x MM4-2TX/SFP (max 10 ports)
MS30-0802SAAP	943 435-006	2x any MM2/MM3 and 1x MM4-2TX/SFP (max 10 ports)
MS30-1602SAAE	943 435-007	4x any MM2/MM3 (6x w/MB-2T) and 1x MM4-2TX/SFP (max 26 ports)
MS30-1602SAAP	943 435-008	4x any MM2/MM3 (6x w/MB-2T) and 1x MM4-2TX/SFP (max 26 ports)



MS 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



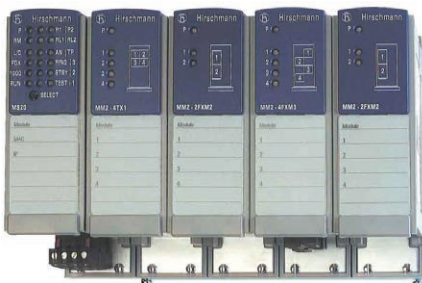
For applications that require a more powerful and feature-rich switch, Hirschmann offers its MS4128 modular switches. Similar in functionality and features to the MS30-16 on the previous page, the MS4128 offers up to 24 ports of any copper/fiber mix, but adds two additional Gigabit ports (for a total of four) and an option to have Layer 3 routing capabilities.

MS 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

MS Media Modules

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).



MS 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.

MS 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*



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IP67 Switches

สวิตช์ที่ได้มาตรฐาน IP67 ในทุกสภาวะการใช้งาน



Gigabit Ethernet with Fiber Optic Ports



Industrial On-Machine Switches

OCTOPUS Series - IP 67 - Now with Fiber Optic Ports



The OCTOPUS family of switches meet all relevant industry standards and are the most robust switches in the market. With Power over Ethernet, Professional firmware standard on all models and Gigabit connectivity for where a higher bandwidth connection is required, Hirschmann has complemented its IP67 solutions with an absolutely future-proof technology. This is deployed in all situations where new end devices such as IP cameras or IP telephones require electrical power without additional installation work.

All products in the OCTOPUS family can be mounted on the wall or directly on the machine. The IP67 variants offer 8/16/24 Twisted Pair ports (each with up to 8 PoE ports), using ODVA-standardized 4-pin M12 D-code technology. As the switches are freely cascadable, it is simple to build decentralized structured networks with the shortest possible patch cables to the end devices. The OS20 and OS30 switches utilize IP67 fiber connections per the IEC 61076-3-106 standard - Variant 1 is approved by ODVA for use with EtherNet/IP, Variant 4 is approved for use with PROFINET.

Standard features include: Totally enclosed IP67 design, ODVA-standardized 4-pin M12 D-code IP67 Ethernet connector, OCTOPUS M is the industry's first managed IP67 switch, Management via SNMP v1, v2, v3, web GUI or TELNET, Redundancy via HIPER-Ring and Rapid Spanning Tree, Redundant power supply for high availability, Operating temperatures as low as - 40° C to + 70° C, and External signaling of alarms via signal contact or network messaging.

OCTOPUS IP 67 Unmanaged and Managed Switches

Part No.	Order No.	Ports/configurations
OCTOPUS 5TX EE	943 892-001	5x 10/100 Mbps M12-coding, Unmanaged IP 67 Switch
OCTOPUS 8M	943 931-001	8x 10/100 Mbps M12, Managed IP 67 Switch
OCTOPUS 8M	943 912-001	16x 10/100 Mbps M12, Managed IP 67 Switch
OCTOPUS 16M-Train	943 984-001	16x 10/100 Mbps M12, EN 50155, Managed IP 67 Switch
OCTOPUS 24M	943 923-001	24x 10/100 Mbps M12, Managed IP 67 Switch
OCTOPUS 8M-6PoE	943 967-101	8x 10/100 Mbps M12 with 6 PoE ports, Managed IP 67 Switch
OCTOPUS 8M-8PoE	943 967-001	16x 10/100 Mbps M12 with 8 PoE ports, Managed IP 67 Switch
OCTOPUS 16M-8PoE	943 960-001	24x 10/100 Mbps M12 with 8 PoE ports, Managed IP 67 Switch
OCTOPUS OS20-0010001M1MTREPHH	943 988-001	8x 10/100 mbps, 2x 100mbps singlemode (Variant 1)
OCTOPUS OS20-0010001S1STREPHH	943 988-002	8x 10/100 mbps, 2x 100mbps singlemode (Variant 1)
OCTOPUS OS20-0010004M4MTREPHH	943 988-003	8x 10/100 mbps, 2x 100mbps multimode (Variant 4)
OCTOPUS OS20-0010004S4STREPHH	943 988-004	8x 10/100 mbps, 2x 100mbps singlemode (Variant 4)
OCTOPUS OS30-0008021A1ATREPHH	943 988-005	8x 10/100 mbps, 2x Gigabit singlemode (Variant 1)
OCTOPUS OS30-0008021B1BTREPHH	943 988-006	8x 10/100 mbps, 2x Gigabit singlemode (Variant 1)
OCTOPUS OS30-0008024A4ATREPHH	943 988-007	8x 10/100 mbps, 2x Gigabit multimode (Variant 4)
OCTOPUS OS30-0008024B4BTREPHH	943 988-008	8x 10/100 mbps, 2x Gigabit singlemode (Variant 4)

OCTOPUS IP 67 Connectivity Solutions

Part No.	Order No.	Ports/Functions
EM12S OCTOPUS	934 445-001	Field-installable M12 (IP67) Ethernet connector
EF12RJ45 OCTOPUS	934 498-001	Bulkhead M12 to RJ45
ACA21-M12 EEC	943 913-002	ACA 21 auto configuration adapter for OCTOPUS managed switches
OCTOPUS Terminal Cable	943 902-001	M12 4-pin to Sub-D- 9-pin terminal cable

NOTE: See page 19 and 20 for patch cables



OCTOPUS 5TX EEC



OCTOPUS 8M



OCTOPUS 8M-8PoE



OCTOPUS 16M-2FX



OCTOPUS 16M-8PoE



OCTOPUS 24M



Industrial Ethernet Media Cordsets

สาย LAN ชนิดพิเศษสำหรับงาน IP67 ทุกสภาวะการใช้งาน



Industrial Ethernet Media Cordsets Hirschmann by Belden Brand

Prior to the advent of Industrial Ethernet (standardized Ethernet communications via hardened networking infrastructure), office grade Ethernet cabling and connectors were the only available options. Unfortunately, these traditional media solutions proved unable to withstand the harsh environment of the factory floor or other industrial applications. The Hirschmann product family of Industrial Ethernet Media Solutions eliminates these issues by combining standard RJ45 connection technology with the proven industrial Micro (M12) connection technology typically found in sensor/actuator machine applications - also available on all OCTOPUS, MICE, and MACH1000 Switches. With the integration of Bonded-Pair technology by Belden, these industrial ethernet media cordsets have the highest level of signal quality making them one-of-a-kind.



RJ45 to RJ45



RJ45 to M12



M12 to M12



RJ45 to M12 (Panel Receptacle)

Industrial Ethernet Media Cordsets - TPE - Bonded-Pair, CAT 5e, 24 AWG Unshielded, 2- and 4-Pair

Part No.	Configuration	Description
J424TPESTJT...M	RJ45 to RJ45	Industrial Ethernet CAT 5E, TPE unshielded, 2- and 4-pair, 24 AWG cable, bonded-pairs, stranded (7x32) tinned copper conductors, polyolefin insulation, and industrial grade sunlight and oil-resistant, teal jacket.
M224TPESTJT...M	RJ45 to M12	
M224TPESTMT...M	M12 to M12	
J224TPESTPT...M	RJ45 to M12 (Panel Receptacle)	

Example of completed part number: J424TPESTJT00.3M is a 00.3 meter cable.

Industrial Ethernet Media Cordsets - TPE High-Flex - Bonded-Pair, CAT 5e, 24 AWG Unshielded, 2- and 4-Pair

Part No.	Configuration	Description
J424THFSTJT...M	RJ45 to RJ45	Industrial Ethernet High-Flex CAT 5E, TPE High-Flex, unshielded, 2- and 4 pair, 24 AWG cable, stranded copper alloy conductors, polyolefin insulation, teal jacket. Warranted to 10 million flex cycles @ 20X OD and 1M flex cycles @ 10X OD.
M224THFSTJT...M	RJ45 to M12	
M224THFSTMT...M	M12 to M12	
J224THFSTPT...M	RJ45 to M12 (Panel Receptacle)	

Example of completed part number: J424THFSTJT00.3M is a 00.3 meter cable.

Industrial Ethernet Media Cordsets - PVC - Bonded-Pair, CAT 5e, 24 AWG Unshielded, 2- and 4-Pair

Part No.	Configuration	Description
J424PVCSTJT...M	RJ45 to RJ45	Industrial Ethernet CAT 5E, PVC unshielded, 2- and 4-pair, 24 AWG cable, bonded-pairs, stranded (7x32) tinned copper conductors, polyolefin insulation, and industrial grade sunlight and oil-resistant, teal jacket.
M224PVCSTJT...M	RJ45 to M12	
M224PVCSTMT...M	M12 to M12	
J224PVCSTPT...M	RJ45 to M12 (Panel Receptacle)	

Example of completed part number: J424PVCSTJT00.3M is a 00.3 meter cable.

Industrial Ethernet Media Cordsets - TPE - Bonded-Pair, CAT 5e, 24 AWG Shielded, 2-Pair

Part No.	Configuration	Description
J224TPETLJT...M	RJ45 to RJ45	Industrial Ethernet CAT 5E, TPE Shielded, 2-pair, 24 AWG cable, bonded-pairs, stranded (7x32) tinned copper conductors, polyolefin insulation, and industrial grade sunlight and oil-resistant, teal jacket.
M224TPETLJT...M	RJ45 to M12	
M224TPETLMT...M	M12 to M12	
J224TPETLPT...M	RJ45 to M12 (Panel Receptacle)	

Example of completed part number: J224TPETLJT00.3M is a 00.3 meter cable.



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Workgroup Rack-mount Switches

สวิตช์ชนิดเวิร์กกรุป สำหรับงานขั้นสูงและงานอุตสาหกรรมทั่วไป



Industrial Workgroup Switches MACH100 Switches



Hirschmann has expanded its 19" rack-mount switch product portfolio with the release of the MACH100 family, allowing workgroups to be networked by either copper and/or fiberoptic cable. The switches are offered in versions with 8 or 24 permanently installed 10/100 Mbps RJ45 Ethernet ports, or as modular switches with 8 permanent ports and slots for 2 additional 8-port media modules. Both versions offer two RJ45/SFP Gigabit Combo ports for connection to the network backbone. An all-Gigabit version with 24 10/100/1000 ports is also available. The switches are designed for a temperature range of 0° C to + 50° C and support a large range of management

features are fanless cooling as well as an optional power supply. As a result the devices of the MACH100 family offer a high level of security and flexibility for Ethernet network design or upgrade in production-related areas, and redundancy modes, as well as several functions for configuration and diagnostics. Further

Features and Benefits

- Fanless design
- Hot-swappable modules
- Optional redundant power inputs
- ACA 21 USB configuration backup
- CLI and WEB management interface
- L2P firmware - DHCP Option 82, HiDiscovery, HIPER-Ring, MRP, RSTP, disable learning, STNP, Industrial Profiles (Ethernet/IP, PROFINET)
- Fully integrated in Industrial HiVision
- Temperature range: 0° C to + 50° C

NOTE: *SFPs need to be purchased separately (see accessories on page 36 for SFPs).

MACH100 MODULAR		
Part No.	Order No.	Ports
MACH102-8TP	943 969-001	8x10/100BASE-TX RJ45 ports, 2x GE combo ports (100 or 1000 Mbps SFPs) and 2x 8 port media module slots
MACH102-8TP-R	943 969-101	Same as -001 above, but w/ redundant 110/220 VAC power supply
FIXED PORTS		
Part No.	Order No.	Ports
MACH102-8TP-F	943 969-201	8x10/100BASE-TX RJ45 ports and 2x GE combo ports (100 or 1000 Mbps SFPs)
MACH102-8TP-FR	943 969-301	Same as -201, but w/ redundant 110/220 VAC power supply
MACH102-24TP-F	943 969-401	24x10/100BASE-TX RJ45 ports and 2x GE combo ports (100 or 1000 Mbps SFPs)
MACH102-24TP-FR	943 969-501	Same as -401, but w/ redundant 110/220 VAC power supply
MACH104-20TX-F	942 003-001	20 x GE TX Ports, 4 x GE RJ45/SFP combo ports
MACH104-20TX-F-4PoE	942 003-201	Same as MACH104-20TX-F, 4 of the 20 10/100/1000 ports are 802.11af PoE
MACH104-20TX-FR	942 003-101	Same as MACH104-20TX-F, redundant power supply
MEDIA MODULES (2 Max. per Modular MACH 100)		
Part No.	Order No.	Ports
M1-8TP-RJ45	943 970-001	8x10/100BASE-TX, RJ45 media module
M1-8TP-RJ45 PoE	942 028-001	8x10/100BASE-TX, RJ45 media module PoE
M1-8MM-SC	943 970-101	8x100BASE-FX MM, SC media module
M1-8SM-SC	943 970-201	8x100BASE-FX SM, SC media module
M1-8SFP	943 970-301	8x100BASE-X SFP media module

Über-Rugged™ Rack-mount Switches



Über-Rugged™ Switches

MACH1000 - 19" Rack-mount Switches



Why Über-Rugged™?

This is the only way to describe a switch that goes above and beyond the already rugged capabilities of Hirschmann's switches by being extremely immune to noise and able to provide maximum uptime in extreme environmental conditions. The MACH1000 is available in a 24-port custom configurable design with two or four 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.

Features and Benefits

- 19" rack-mount, fanless design
- - 40° C to + 85° C operating temperature (conformal coating available)
- Exceeds IEC 61850-3 and IEEE 1613 standards for electric power substation communication equipment
- Exceeds NEMA TS-2 standard for traffic control equipment
- Redundant 24/36/48 VDC or 120/250 VDC and 110/230 VAC
- Extremely efficient components for minimal heat generation and high MTBF (mean time between failure)
- Ultra-fast ring recovery time < 10 ms



Gigabit Backbone Layer 2/3 Rack-mount Switches

สวิตช์ชนิดเบ็คโบน เลเยอร์ 2/3 สำหรับงานชั้นสูงและงานอุตสาหกรรมทั่วไป



High Density Layer 2/3 Gigabit Backbone Switch MACH4000 Switch



Capable of providing as many as 48 Gigabit ports and three 10Gigabit ports, the MACH4000 is the ultimate high-density Layer 2/3 Gigabit backbone switch for mission-critical applications requiring high-availability and high port densities.

The MACH4000 comes standard with up to 16 + ports and can be configured with as many as 32 additional ports (via hot-plug copper/fiber modules).

Standard features include:

- 19" rack-mount
- Two user-definable fault relays
- Hot-swappable media modules for continuous operation – up to 4 Media Modules (8 ports max. each)
- HIPER-Ring, redundant coupling and link aggregation capable
- Flexible power options: 100 – 240 VAC, 24 VDC and 48 VDC
- 0° C to + 60° C operating temperature

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 - High Density Layer 2/3 Gigabit Backbone Switch		
Part No.	Order No.	Ports
MACH4002 48+4G-L2P	943 859-101	Layer 2, Professional Management chassis
MACH4002 48+4G-L3E	943 859-201	Layer 3, Enhanced Management chassis
MACH4002 48+4G-L3P	943 859-301	Layer 3, Professional Management chassis
<ul style="list-style-type: none"> • Fixed ports: 4 x Gigabit Ethernet combo ports* (1000 Mbps SFP socket or 10/100/1000 Mbps RJ45) and 16 x RJ45 10/100 Mbps • Media modules: 4 sockets (8 ports max each) for total 32 ports 10/100 Mbps (Media modules sold separately – see page 26. For software functionality – see page 27) 		
MACH4002-24G-L2P	943 916-101	Layer 2, Professional Management chassis
MACH4002-24G-L3E	943 916-201	Layer 3, Enhanced Management chassis
MACH4002-24G-L3P	943 916-301	Layer 3, Professional Management chassis
<ul style="list-style-type: none"> • Fixed ports: 8 x Gigabit Ethernet combo ports* (SFP dual speed socket or TP 10/100/1000 Mbps) • Media modules: 2 x sockets (8 ports max each) for total 16 ports 10/100/1000 Mbps (Media modules sold separately – see page 26. For software functionality – see page 27) 		
MACH4002-24G+3X-L2P	943 915-101	Layer 2, Professional Management chassis
MACH4002-24G+3X-L3E	943 915-201	Layer 3, Enhanced Management chassis
MACH4002-24G+3X-L3P	943 915-301	Layer 3, Professional Management chassis
<ul style="list-style-type: none"> • Fixed ports: 3 x 10Gigabit Ethernet XFP socket and 8 Gigabit Ethernet ports TP/RJ45 10/100/1000 Mbps • Media modules: 2 x sockets (8 ports max each) for total 16 ports 10/100/1000 Mbps (Media modules sold separately – see page 26. For software functionality – see page 27) 		
MACH4002-48G-L2P	943 911-101	Layer 2, Professional Management chassis
MACH4002-48G-L3E	943 911-201	Layer 3, Enhanced Management chassis
MACH4002-48G-L3P	943 911-301	Layer 3, Professional Management chassis
<ul style="list-style-type: none"> • Fixed ports: 16 Gigabit Ethernet (8 Gigabit Ethernet combo ports* 100/1000 Mbps SFP dual speed socket or 10/100/1000 Mbps + 8 Gigabit 10/100/1000 Mbps RJ45) • Media modules: Four sockets (8 ports max each) for total 32 ports 10/100/1000 Mbps (Media modules sold separately – see page 26. For software functionality – see page 27) 		
MACH4002-48G+3X-L2P	943 878-101	Layer 2, Professional Management chassis
MACH4002-48G+3X-L3E	943 878-201	Layer 3, Enhanced Management chassis
MACH4002-48G+3X-L3P	943 878-301	Layer 3, Professional Management chassis
<ul style="list-style-type: none"> • Fixed ports: Three 10Gigabit Ethernet XFP sockets and 16 Gigabit Ethernet ports (100/1000 Mbps SFP dual speed socket or 10/100/1000 Mbps RJ45) • Media modules: Four sockets (8 ports max each) for total 32 ports 10/100/1000 Mbps (Media modules sold separately – see page 26. For software functionality – see page 27) 		

Wireless Ethernet

อุปกรณ์เครือข่ายไร้สาย เครือข่ายอุตสาหกรรม



Wireless Ethernet Access Point/Clients BAT Series



With applications where the reliability of a hard-wired connection is not practical (or feasible), a wireless solution may be the best solution. The new line of BAT wireless Ethernet access points/clients/bridges has an extensive feature list that sets it apart from your average commercially-available options - **now supporting 802.11n**.

All BATs can be powered via 24 VDC and/or PoE (the RAILs even include a 110/220VAC wall adapter).



BAT54



BAT300



BAT54-F

BAT300-F

BAT54-Rail and -Rail Client

- 802.11b/g (2.4 GHz) and 802.11a/h (5 GHz)
- Simultaneous 2.4/5 GHz communication and redundant WLAN for BAT54-Rail
- Redundant WLAN connections (BAT54-Rail)
- Up to 108 Mbps bandwidth
- IEEE 802.11i and 802.1x security
- Redundant 24 VDC power inputs (incl. IEEE 802.3af PoE support)
- Redundant connections using RSTP
- Built-in IP routing, fast roaming and firewall
- Operating temperature of – 30° C to + 50° C
- Includes two 3 dBi dipole dual-band antennas (client: 1 antenna and 1 terminator)

BAT300-Rail

- Same features and functionality as BAT54-Rail above, but as a single WLAN with support for 802.11a/b/g/h/n.
- 802.11b/g (2.4 GHz) and 802.11a/h/n (5 GHz)
- Redundant WLAN connections
- Up to 300 Mbps bandwidth (802.11n draft 2.0 with MSC15)
- Includes three 3 dBi dipole dual-band antennas

BAT300-F and BAT300-F FCC

- IEEE 802.11n (draft 2.0) Waterproof to IP67 standard
- 1 x WLAN interface
- Up-to 8 x SSID's per WLAN interface
- Two LAN ports 10/100BASE-TX
- Autosensing, Power over Ethernet (POE), per IEEE 802.3af - Includes three 3 dBi dipole dual-band antennas

BAT54-F and BAT54-F X2

- Same features and functionality as BAT54-Rail above
- Waterproof to IP67 standard
- BAT54-F X2 also approved for ATEX zone 2
- Rugged design for operation in extreme conditions
- Designed to operate between – 20° C and + 55° C
- Full shock and vibration protection
- Includes two 3 dBi dipole dual-band antennas and two 50 Ohm terminators

BAT SERIES, Access Point/Client/Bridge, 802.11a/b/g/h/i/n - DIN Rail Mount

Part No.	Order No.	Description
BAT54-Rail	943 926-001	DIN rail mounted Access Point/Client Bridge w/antennas (802.11a/b/g/h/i) 4 x RP-SMA connector, (non-U.S. applications only)
BAT54-Rail-FCC	943 926-002	DIN rail mounted Access Point/Client Bridge w/antennas (802.11a/b/g/h/i) 4 x RP-SMA connector, (U.S. applications)
BAT54-Rail Client	943 926-501	DIN rail mounted Access Client w/antennas (802.11a/b/g/h/i) 2 x RP-SMA connector, (non-U.S. applications)
BAT54-Rail Client-FCC	943 926-502	DIN rail mounted Access Client w/antennas (802.11a/b/g/h/i) 2 x RP-SMA connector, (U.S. applications)
BAT300-Rail	943 989-001	DIN rail mounted Access Point/Client Bridge w/antennas (802.11a/b/g/h/i/n) 3 x RP-SMA connector, (non-U.S. applications only)
BAT300-Rail FCC	943 989-101	DIN rail mounted Access Point/Client, Bridge w/antennas (802.11a/b/g/h/i/n) 3 x RP-SMA connector, (U.S. applications)



Wireless Ethernet Antennas

เสาอากาศสำหรับอุปกรณ์เครือข่ายไร้สาย เครดอุตสาหกรรม

BAT SERIES, Access Point/Client, 802.11a/b/g/h/i/n - IP 67 / Hard Mount		
Part No.	Order No.	Description
BAT54-F	943 959-111	IP67 Access Point, Client, Bridge w/out antennas (802.11a/b/g/h/i) 4 x N connector (non-U.S. applications only)
BAT54-F FCC	943 959-011	IP67 Access Point, Client, Bridge w/out antennas (802.11a/b/g/h/i) 4 x N connector (U.S. applications only)
BAT54-F X2	943 959-101	IP67 ATEX Zone II - Access Point, Client, Bridge w/out antennas (802.11a/b/g/h/i) 4 x N connector (non-U.S. applications only)
BAT54-F X2 FCC	943 959-001	IP67 ATEX Zone II - Access Point, Client, Bridge w/out antennas (802.11a/b/g/h/i) 4 x N connector (U.S. applications only)
BAT300-F	943 959-118	Dualband Ruggedized Hard Mount Access Point, Client, w/ single independent radio modules w/ IEEE 802.11n (draft 2.0) for Harsh Environments
BAT300-F FCC	943 959-018	Dualband Industrial Performance Hard Mount Access Point, Client, w/ IEEE 802.11n (draft 2.0) for Harsh Environments

Wireless Ethernet Antennas



BAT-ANT-N-6ABG-IP65



BAT-ANT-N-MiMoDB-5N-IP65



BAT-ANT-N-MiMo5-9N-IP65



BAT-ANT-N-8G-DS-IP65

BAT SERIES, Dual-Frequency Antennas / 802.11a/b/g/n (2.4 GHz and 5 GHz)				
Part No.	Order No.	Type	Standards	Est. Max Outdoor Range
BAT-ANT-N-6ABG-IP65	943 981-004	Dual Band Omni-Directional	802.11a/b/g	2.99km
BAT-ANT-N-MiMoDB-5N-IP65	943 981-012	Dual Band Omni-Directional, 2.4GHz 3.5dBi, 5GHz 5.5 dBi, MiMo	802.11a/b/g/n	0.5km
BAT-ANT-6ABG-IP65	943 981-007	Dual Band Omni-Directional, 2.4GHz 6dBi, 5GHz 8dBi	802.11a/b/g	0.89km
BAT SERIES, Antennas / 802.11a/n (5 GHz)				
Part No.	Order No.	Type	Standards	Est. Max Outdoor Range
BAT-ANT-N-5A-IP65	943 981-003	5GHz Omni-Directional, 5dBi gain	802.11a	0.45km
BAT-ANT-N-9A-DS-IP65	943 981-010	5GHz, Directional antenna, 8dBi gain w/polarization diversity	802.11a/n	1.12km
BAT-ANT-N-MiMo5-9N-IP65	943 981-013	5GHz, Directional antenna, 9dBi gain, MiMo	802.11a/n	1.2km
BAT-ANT-N-18A-IP65	943 981-006	5GHz, Directional antenna, 18dBi gain	802.11a	8.91km
BAT-ANT-N-23A-V-IP65	943 981-007	5GHz, Directional antenna, 23dBi gain	802.11a	15.84km
BAT-ANT-N-23A-VH-IP65	943 981-008	5GHz, Directional antenna, 23dBi gain w/polarization diversity	802.11a/n	15.84km
BAT SERIES, Antennas / 802.11b/g/n (2.4 GHz)				
Part No.	Order No.	Type	Standards	Est. Max Outdoor Range
BAT-ANT-N-6G-IP65	943 981-002	2.4GHz Omni-Directional, 6dBi gain	802.11b/g	2.98km
BAT-ANT-N-8G-DS-IP65	943 981-009	2.4GHz Directional, 8dBi gain w/polarization diversity	802.11b/g/n	3.75km
BAT-ANT-N-14G-IP65	943 981-005	2.4GHz Directional, 14dBi gain	802.11b/g	7.49km
BAT-ANT-N-LC-G-50m-IP65	943 981-001	2.4GHz Leaky Coax, 50 meter (1 x N connector)	802.11b/g	
BAT-ANT-N-LC-G-100m-IP65	943 981-101	2.4GHz Leaky Coax, 100 meter (2 x N connectors)	802.11b/g	
BAT SERIES, Accessories				
Part No.	Order No.	Type	Standards	
BAT54-F MAST MOUNT	943 966-001	Mast Mounting Kit for BAT (IP67) products		
BAT-CLB-2 N (m-m)	943 903-513	Antenna cable 2m, N Male to N Male	802.11a/b/g/n	
BAT-CLB-2 N m-f	943 903-514	Antenna cable 2m, N male - N Female	802.11a/b/g/n	
BAT-CLB-15 N m-f	943 903-515	Antenna cable 15m, N Male - N Female	802.11a/b/g/n	
BAT-PIGTAIL	943 903-360	Used to adapt BAT Rail products to N-style connector	802.11a/b/g/n	
BAT-ANT Protector m-f	943 903-373	RF Surge Arrestor, N male - N Female	802.11a/b/g/n	
BAT-LAN Protector IP68	943 903-374	IP68 RF Surge arrestor, N male to N female	802.11a/b/g/n	



HIRSCHMANN

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Wireless LAN Contollers

อุปกรณ์ควบคุมระบบเครือข่ายไร้สาย






Wireless Local Area Network (WLAN) Contollers BAT-Controller

Wireless Local Area Network (WLAN) applications are becoming more prevalent in the field of industrial automation. The new IEEE 802.11n standard enables data rates of up to 300 Mbit/s while simultaneously extending the range and stability of wireless transmissions. Centralized management guarantees secure operation in an industrial network and provides the necessary overview. The new Hirschmann BAT-Controller Wireless LAN Controller (WLC) was especially developed for this purpose.

Product Features

- Automatic configuration and central management of all the access points in the WLAN
- Compatible with all Hirschmann access points in the BAT families BAT-rail and F
- Full throughput of payload data as per IEEE 802.11n for each access point
- Integrated IP router with firewall
- User authentication compliant with IEEE 802.1x, RADIUS and LEPS
- Roaming possible across a number of subnetworks (in preparation)
- Automatic frequency management in the 2.4 and 5 GHz waveband
- High availability achieved through redundancy and backup mechanisms
- A number of WLAN networks can be linked using the VPN gateway function
- 19" unit for use in control rooms

Port-Type and Number

			
Type	BAT-Controller WLC25	BAT-Controller WLC50	BAT-Controller WLC100
Order Number	942 034-001	942 034-002	942 034-003
Smart Controller Technology	The WLAN Controller uses wireless cell or SSID to support a number of ways of transmitting user data: <ul style="list-style-type: none"> • Bridged directly to the LAN (maximum performance e.g. for 802.11n-based access points) • Strictly separated from the LAN via VLAN (e.g. for WLAN guest access) • Tunneled centrally to the controller * (layer 3 tunneling across IP networks) 		
Supported Access Points	All BAT54 and BAT300 access points		
Interfaces	4 individual ports, 10/100/1000 Mbit/s Ethernet		
USB 2.0 Host Port	USB 2.0 high-speed host port for connecting USB printers (USB print server) or serial devices (COM port server) Bidirectional data exchange is also possible (max. 480 Mbit /s)		
Management Software Included	Serial configuration interface / COM port (8 pole mini-DIN): 9,600–115,000 Baud, can be used to connect an analog /GPRS modem		
LANconfig	<ul style="list-style-type: none"> • Configuration program for Microsoft Windows, including a convenient Setup Wizard. Possibilities for group configuration, simultaneous remote configuration and management of several devices via an IP connection (HTTPS, HTTP, TFTP). Project-related, user-related or global default settings for the configuration program. Automatic storage of the current configuration prior to every firmware update. Exchange of configuration files between similar devices, e.g. for migrating old configurations to new BAT products. 		
LANmonitor	<ul style="list-style-type: none"> • Monitoring application for Microsoft Windows for (remote) monitoring and logging of equipment and connection status of BAT devices, including PING diagnostics and TRACE with filters and provision for storing the results in a file. Search and comparison functions for TRACE output. Wizards for standard diagnostics. Export of diagnostic files for support purposes (contain bootlog, system info and device configuration without passwords). Graphical representation of parameters (indicated by appropriate symbols in the LANmonitor view) plus chronological sequence and tabular comparison of minimum, maximum and average values in a separate window, e.g. for transmission and receiving speeds, CPU load, available memory. 		
WLANmonitor	<ul style="list-style-type: none"> • Monitoring application for Microsoft Windows for visualizing and monitoring BAT WLAN installations, including Rogue AP and Rogue Client visualizations 		

* Feature currently in preparation



Security

อุปกรณ์รักษาความปลอดภัยในระบบเครือข่าย



Firewall/VPN Router EAGLE20 Series

A high speed VPN, firewall, and routing solution all in one package, the EAGLE20 allows users to achieve the highest level of security for Industrial Ethernet networks. All security functions are integrated into the self-contained independent EAGLE20 platform, eliminating the need to reconfigure the system being protected or install additional drivers or software. Integration, regardless of the application or operating system, is easily done with the learning mode and default one-way communication.

Features & Benefits

- Scalable security functionality: pure firewall, and VPN router
- Easy integration: no need to change IP addresses in existing networks
- Simple deployment: visible in HiDiscovery and support for the USB auto configuration adapter
- Extensive diagnostics: web-based management, status LEDs, relay contact, logging to a Syslog server, integrated in HiVision
- Support for redundancy mechanisms: firewall redundancy, redundant ring coupling and network segmentation (router mode)
- Faster deployment via offline management that allows users to create EAGLE20 configuration files without having the hardware present

EAGLE SERIES, Firewall/VPN Router

Part No.	Order No.	Trusted Port	Untrusted/Public Port
EAGLE20 TX/TX	943 987-001	10/100BASE-TX, RJ45	10/100BASE-TX, RJ45
EAGLE20 TX/MM	943 987-002	10/100BASE-TX, RJ45	100BASE-FX-MM, SC
EAGLE20 TX/SM	943 987-003	10/100BASE-TX, RJ45	100BASE-FX-MM, SC
EAGLE20 MM/TX	943 987-004	100BASE-FX-MM, SC	10/100BASE-TX, RJ45
EAGLE20 MM/MM	943 987-005	100BASE-FX-MM, SC	100BASE-FX-MM, SC

Interfaces

Item	Description
• Supply fault relay output	1 x pluggable terminal block, 6 pin
• V. 24 Port	1 x RJ11 socket, serial interface for device configuration
• USB interface	1 x USB for connection to ACA 21-USB

Security

Item	Description
• Stateful Inspection Firewall	Firewall rules (incoming/outgoing, modem access, management), IP Masquerading, 1-to-1 NAT, DoS Limiter, MAC-Filter, user firewall for ext. activation of FW-rules
• Multipoint VPN	IPSec, IKEv2, DES, 3DES, AES (-128, -192, -256), Pre-Shared Key, X.509v3 Certificate, MD5, SHA-1, NAT-T, firewall rules for each VPN connection, configuration assistance via web interface, remote-controlled activate/deactivate connection.

Service

Item	Description
• Management	Command Line Interface (CLI), web interface, auto configuration adapter (ACA 21-USB), DHCP, HiDiscovery, Industrial HiVision
• Diagnostics	LEDs (power, link status, data, fault, ACA (V24), relay contact (24 VDC/1 A), Log file, Syslog, series configuration check
• Protocols	serial, HTTPS, SSH, SNMP v1/v2/v3, LLDP
• Further features	DHCP server/client, DHCP relay/option 82, DynDNS, firewall-access via V.24 (PPP), SNTP, VLAN support (IEEE 802.1pQ), port-forwarding

Redundancy

Item	Description
• Redundancy functions	Use in redundant network-/ring coupling, firewall redundancy (layer 4), redundant 24 V power supply

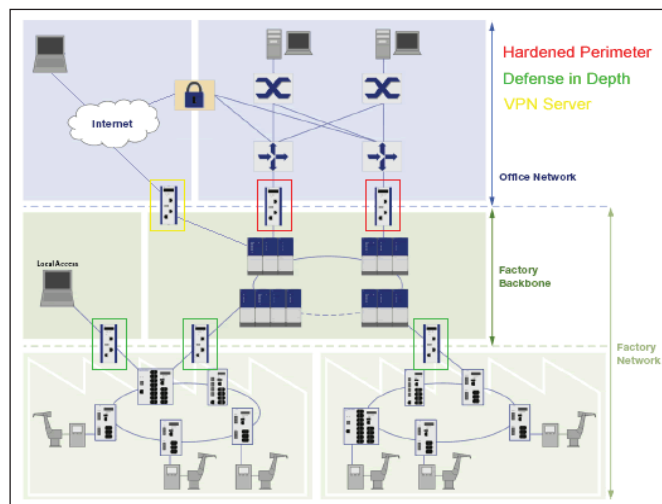


Illustration: Example of firewall/VPN router installation (EAGLE20) in a factory setting.



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Accessories

Power Supplies and Programming/Configuration Tools

Power Supplies		
Part No.	Order No.	Description
RPS15	943 662-015	24 V DC rail power supply unit 1.3 A at 100 – 240 V AC
RPS30	943 662-003	24 V DC rail power supply unit 1.3 A
RPS80 EEC	943 662-080	24 V DC rail power supply unit 3.0 A, – 25°C up to + 70°C
RPS120 EEC	943 662-120	24 V DC rail power supply unit 4.5 A, – 25°C up to + 70°C
RPS120 EEC (CC)	943 662-121	Same as RPS120 EEC, accept with Conformal Coating
RPS60/48V EEC	943 952-001	48 V DC rail power supply unit 1.25 A, – 10°C up to + 70°C
RPS90/48V HV, PoE	943 979-001	48 V DC PoE rail power supply unit 1.9 A, – 40°C up to + 50°C
RPS90/48V LV, PoE	943 980-001	48 V DC PoE rail power supply unit 1.9 A, – 25°C up to + 60°C
PSW5-24	943 008-001	5 V DC Plug-in rail power supply 0°C up to + 40°C
PC150/36V/48V-IP67	943 968-001	DC/DC converter with 36 V/48 V power output, IP 67 rated
PC150/72V/48V-IP67	943 968-001	DC/DC converter with 72 V/48 V power output, IP 67 rated



ACA - Programming and Configuration Backup

Programming and Configuration Backup		
Part No.	Order No.	Description
ACA 21-USB EEC	943 271-002	USB configuration adapter for storage/backup and device replacement of (managed) RS, MS and MACH switches as well as EAGLE firewalls
ACA21-M12 EEC	943 913-002	M12 configuration adapter for storage/backup and device replacement of (managed) Octopus switches devices
ACA11 EEC	943 751-002	Similar to above ACA adapters, but communication via the device's RJ11 RS232 interface
ACA11-M12 (EEC)	943 972-001	M12 configuration adapter for storage/backup and device replacement of IP67 BAT (wireless) devices
ACA11-miniDIN (EEC)	943 973-001	Mini DIN configuration adapter for storage/backup and device replacement of DIN rail mounted BAT (wireless) devices
Serial/Terminal Cable	943 301-001	Terminal cable for managing and configuring managed switches via the RJ11 RS232 interface



ACA 21-USB EEC

ACA11-M12 (EEC)

ACA11 EEC

ACA11-miniDIN (EEC)

Serial/Terminal Cable

Be Certain with Belden

Switch and Network Management

Industrial Profiles

Switch management within EtherNet/IP and PROFINET

Available for OpenRail, MACH and OCTOPUS, Hirschmann's Industrial Profiles are a valuable addition to the managed switches' firmware.

The functionality provides an almost seamless integration between Hirschmann's managed switches and either EtherNet/IP (Allen-Bradley) or PROFINET (Siemens) platforms. Using this functionality, all switch data will be readily accessible to the PLC/HMI for easier network management, security and safety. The industrial profiles also permit PLC/HMI access to switch status, port link status, IGMP settings, network statistics – even the automatic enabling and disabling of individual ports.

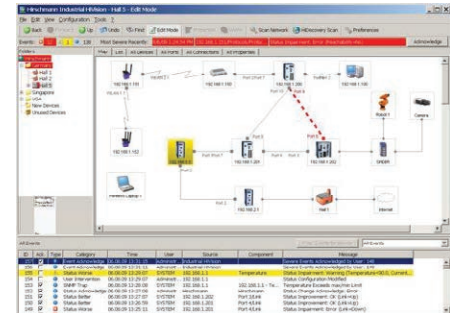
OpenRail users with firmware prior to 3.0 can upgrade simply by downloading and flashing the updated firmware onto the switch.

For more information or for access to the firmware, please contact your local Hirschmann representative.



Industrial HiVision Network Visualization and Management Software

Ideally suited for auditing and monitoring network connections and throughputs, Industrial HiVision permits users to have realtime feedback from multiple switches regarding the network and link status. The application's GUI illustrates the network as it is, while providing network statistics (including bandwidth utilization) and live/lost links. Compatible with most brands of managed Ethernet devices that have an IP address.



Industrial HiVision

Part No.	Order No.
943 156-025	Industrial HiVision, to view up to 25 nodes
943 156-050	Industrial HiVision, to view up to 50 nodes
943 156-100	Industrial HiVision, to view up to 100 nodes
943 156-250	Industrial HiVision, to view up to 250 nodes
943 156-500	Industrial HiVision, to view up to 500 nodes

Integration of third-party devices

Industrial HiVision makes it simple for network administrators to integrate any manageable third-party products, no matter whether these are network infrastructure products or end devices. All managed products offer a standard feature set which can be supervised, for example the status of a connection to a device. In addition, options such as device-specific functions, status propagation and long term history can be made available using the standard intuitive interface. Users decide the level of supervision detail to suit their own requirements.

Enhanced auto-topology discovery

Industrial HiVision is able to detect unmanaged switches and hubs and display their position within the network topology. The software is also able to determine the network topology of devices which are located behind a router. This results in an unprecedented level of topology detail.

MultiConfig™

Not only will MultiConfig™ allow you to configure the same parameters across multiple devices simultaneously, but it will also show you where there is an inconsistency between parameter configurations. It even works across different types of devices, where those devices have parameters in common.



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